Search history

Search 1: ft=sweep* and (bike or bycicle) and street (Results 5)

Search 2: ft=sweeper and bike (Results 5)

Search 3: ft=sweep* and bicycle (Results 448)

Search 4: ft=sweep* and manpower* and wheel and friction (Results 4)

Search 5: ft=adjust* and lever and cam (Results 89075)

Search 6: ft=adjust* and lever and cam and sweep* (Results 755)

Search 7: ft=adjust* and lever and cam and sweeper (Results 46)

Search 8: ft=lift and lever and cam and sweeper (Results 18)

- session log created:14 March 2017 04:11:24
- Update information:

PatBase Coverage at Update 2017 Week 10 (Year 2017 Week 10)

PatBase Coverage includes 100+ million documents from over 100 patent–issuing authorities and includes patent applications, granted patents, utility models and designs â€“ detailed in the below coverage listings.

Major countries

Publishing body	Document type	Bibliographic publication date		Full–Text publication date	
		Earliest	Latest	Earliest	Latest
CN China	Patent Applications	19850910	20170308	19850910	20170308
	Patents	19930106	20170308	19930106	20170308
	Utility Model Applications	19850409	19921230	19850409	19921230
	Utility Models	19930106	20170308	19930106	20170308
	Designs	19850910	20170308	19850910	20150819
DE Germany	Patent Applications	19211221	20170309	19650317	20170309
	Patents	18770101	20170309	19200113	20170309
	Utility Models	19280626	20170309	19610831	20170309
	EP/WO Patents	19871217	20140410		
EP European Patent Office	Patent Applications	19781220	20170308	19781220	20170308
	Patents	19800109	20170308	19800109	20170308
FR France	Patent Applications	19690307	20170310	19810102	20170217
	Patents	18550227	20170310	19600502	20170310
	Utility Model Applications	19720107	20170310	19800104	20170217
	Utility Models	19730112	20170310	19690802	20170310

GB United Kingdom	Unpublished Patent Applications	19830209	20170111		
	Patent Applications	19790104	20170308	19790104	20170222
	Patents	17820704	20170308	19020911	19811216
JP Japan	Patent Applications	19710116	20170302	19930108	20170216
	Patents	19281026	20170222	19960529	20170222
	Utility Model Applications	19710723	20060209	19990817	20031107
	Utility Models	19640805	19960329		
	Registered Utility Models	19940726	20170223	19940726	20101216
KR Republic of Korea	Patent Applications	19781209	20170310	19940103	20170310
	Patents	19700820	20170310	19970104	20170310
	Utility Model Applications	19781127	20170310	19940730	20170310
	Utility Models	19780110	20170310	19970104	20170310
US United States of America	Patent Applications	20010315	20170309	20010315	20170309
	Patents	18360101	20170307	18560617	20170307
	Designs	18650912	20170307	19770719	20170307
WO World Intellectual Property Organization (WIPO)	Patent Applications	19781019	20170309	19781019	20170309
	Designs	20151127	20170310	20151127	20170310

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- Login to Patbase:14 March 2017 04:11:24
- **search:** SS1 ft=sweep* and (bike or bycicle) and street (Results 5)
- List: SS1 1–50 (ft=sweep* and (bike or bycicle) and street) (Results 5)

0) US2012062395A – PARKING INFORMATION COLLECTION SYSTEM AND METHO...

1) Family number: 49956156 (US2012062395A) © PatBase

Title: PARKING INFORMATION COLLECTION SYSTEM AND METHOD

Priority: US20100369675P 20100731 US20110194896 20110729 US20110271016 20111011 US20130854470 20130401

Family:

Publication number	Publication date	Application number	Application date
US2012062395 AA	20120315	US20110271016	20111011
US2014132767 AA	20140515	US20130854470	20130401
US8063797 BA	20111122	US20110194896	20110729
US8432297 BB	20130430	US20110271016	20111011

Probable Assignee: PARKME LLC

Assignee(s):(std)**:** ELIAS RIMON ; HANSEN STEVEN ; LANDMAN MARC ; PARKME LLC ; SONNABEND ERIC

Inventor(s):(std)**:** ELIAS RIMON ; HANSEN STEVEN ; LANDMAN MARC ; SONNABEND ERIC

Agent(s): AMERICAN PATENT AGENCY PC; DANIAR; ALBERT; NOAH

International class (IPC 8–9)**:** B60Q1/48 G06K9/00 G08G1/14 (Advanced/Invention)

CPC: G06K9/00818 G08G1/144 G08G1/147 G08G1/207 G06K9/00791 G08G1/0112 G08G1/0129 G08G1/0141 G08G1/04 G08G1/143 G08G1/146 G06K9/00476 G06K9/3258 G08G1/096716 G08G1/09675 G08G1/096775

European class: G08G1/0967A1 G08G1/0967B2 G08G1/0967C1

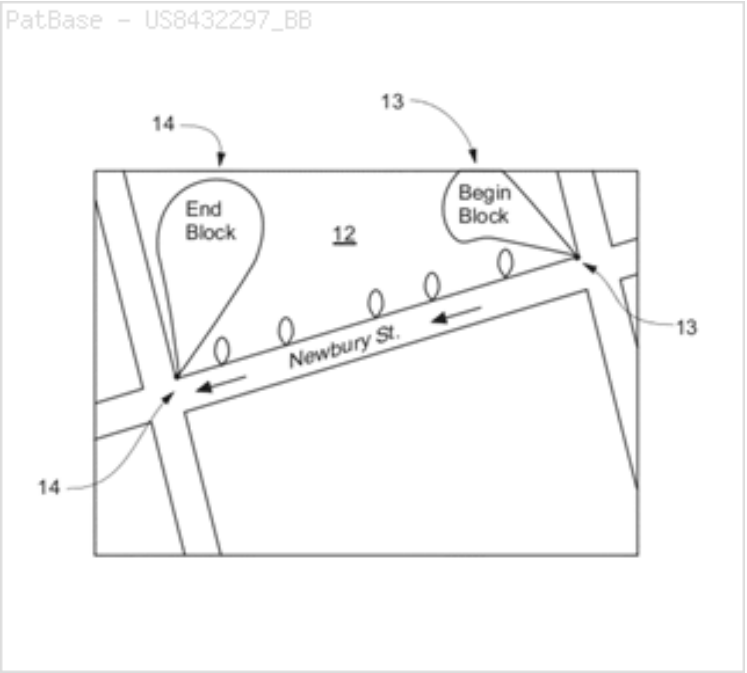
US class: 340/932.2 340/932.200P 348/148 348/159 382/103

Classification Explorer

Cited documents: US8063797 BA, US7714742 BA, US7538690 BA, US6587601 BA, US6453056 BB, US6081206 A, US5696503 A, US5633946 A, US5465115 A, US2013057686 AA, US2011261200 AA, US2010328104 AA, US2010060485 AA, US2010042318 AA, US2008101656 AA,

Forward Citations: WO16156023, WO16127165, WO16088069, WO16053072, WO15172161, WO15013217, WO14204483, WO13163282, US9567007, US9563199, US9562782, US9558665, US9489839, US9488986, US9478134, US9472101, US9420189, US9418552, US9390319, US9330303, US9323993, US9299257, US9291466, US9277370, US9275546, US9273976, US9262915, US9262749, US9225782, US9224062, US9208619, US9208392, US9202376, US9200921, US9177475, US9171382, US9165467, US9154900, US9102330, US9093021, US9083581, US9064415, US9064414, US9036509, US9036027, US9026351, US9020761, US9002645, US8989954, US8982215, US8982214, US8982213, US8937660, US8903593, US8878936, US8863256, US8848608, US8836788, US8831970, US8830323, US8830322, US8825535, US8817100, US8781958, US8718797, US8705527, US8698896, US8698895, US8625853, US8600665, US8514825, US8479258, US8471732, US8432297, US2016229404, US2016104378, US2016034493, US2015365602, US2015254721, US2015161446, US2015153201, US2015123818, US2015063646, US2015043771, US2015031401, US2014371950, US2014337153, US2014309855, US2014278096, US2014278046, US2014253582, US2014236786, US2014088872, US2013307704, US2013262160, US2013231128, US2013226915, US2013191189, US2013071035, US2013057686, US2013039532, US2012316778, US2012232965, US2012180103, US2012062395, US2012056758, US2011214070, US2011140928, US2009171566, US2009171563, EP2767803, DE102013212523, DE102013209298, DE102013001308, CN104952276, CN103594000, CN102592474,

Abstract:
Source: US2012062395A An integrated parking information system is disclosed. The system includes a collection system and a means for collection of parking data, and an information provision system and a method for the provision of parking information, for instance, enabling a driver to know exactly which city parking rules and fines apply for any given street parking space, as well as other associated information. The system can notify members about available parking spots through a GPS application that is integrated with phones and in dash Navigation Systems. The system can provide alerts to protect members against parking violations.



0) IN00549MU2010A – AN APPARATUS, SYSTEM, AND METHOD FOR AUTOMATED ...

2) Family number: 45954294 (IN00549MU2010A) © PatBase

Title: AN APPARATUS, SYSTEM, AND METHOD FOR AUTOMATED PRODUCTION OF RULE BASED NEAR LIVE SPORTS EVENT IN THE FORM OF A VIDEO FILM FOR ENTERTAINMENT

Family:

Publication number	Publication date	Application number	Application date
IN00549MU2010 A	20100709	IN2010MU00549	20100303

Probable Assignee: RATHOD YOGESH CHUNILAL

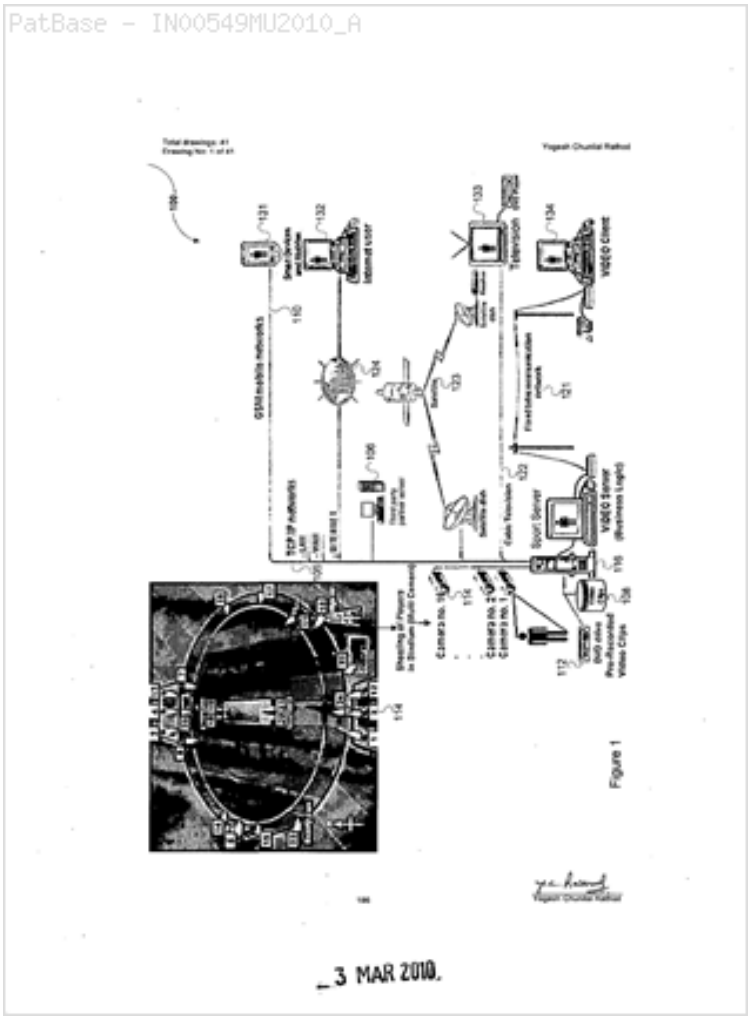
Assignee(s): RATHOD YOGESH CHUNILAL

Inventor(s): RATHOD YOGESH CHUNILAL

International class (IPC 8–9): G06T17/00 H04N5/445 H04N5/765 (Advanced/Invention)

Classification Explorer

Abstract:
Source: IN00549MU2010A An apparatus, system, and method for automated production of sport video using expert sports video production rules. Methods and systems for automated rule based real and live sports video or film or movie productions by merging pre−created standardize video clips as per administrator score or points or goal settings and domain or subject specific film or movie production rules by domain and subject specific rule engine and real time or near real time live broadcasting or telecasting or streaming or screening or transmission or playing or recording live or real sports match event via multiple communication networks on multiple types of user(s) device(s) to viewers, e.g. real and live sports comprising cricket, baseball, golf, football, soccer, basketball, hockey, tennis, racing.



0) US2013301285A – BICYCLE LIGHT

3) Family number: 55129428 (US2013301285A) © PatBase

Title: BICYCLE LIGHT

Priority: US20120470178 20120511

Family:

Publication number	Publication date	Application number	Application date
EP2662270 A2	20131113	EP20130167012	20130508
EP2662270 A3	20140212	EP20130167012	20130508
US2013301285 AA	20131114	US20120470178	20120511
US8974098 BB	20150310	US20120470178	20120511

Probable Assignee: LIGHT AND MOTION IND

Assignee(s):(std)**:** LIGHT AND MOTION IND ; LO ROXANNE ; WEISENFELD GREG ; ROBERTSON BEAU JESSE ; MCCASLIN CHRISTOPHER

Inventor(s):(std)**:** LO ROXANNE ; MCCASLIN CHRISTOPHER ; ROBERTSON BEAU JESSE ; WEISENFELD GREG

Agent(s): BROPHY DAVID TIMOTHY; THOMAS M

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9)**:** B62J6/00 B62J6/02 F21L4/00 F21L4/02 F21S4/00 F21S8/10 F21V21/00 F21V21/08 F21V33/00 F21V7/00 H04M1/22 (Advanced/Invention)

CPC: B62J6/003 B62J6/02

US class: 362/103 362/184 362/190 362/191 362/249.02 362/297 362/346 362/473 362/474 362/476 362/545

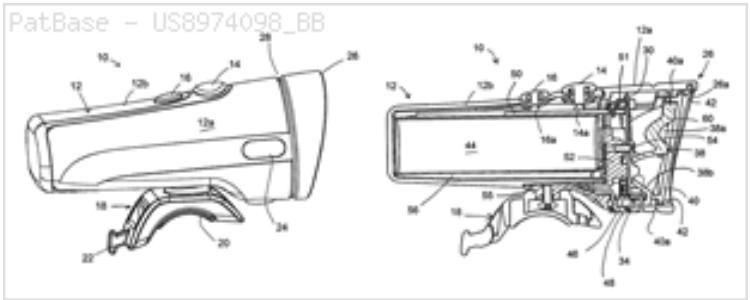
Classification Explorer

Cited documents: US8325027 BB, US7461944 BB, US7121679 BB, US5567036 A, US4510557 A, US2521251 A, US2009097257 AA, US2007159819 AA, US2004095763 AA, JP2003291870 A2,

DE102005052179 A1

CN201680161 U, CN201680161 A,

Forward Citations: WO17017396, USD759860, USD759859, USD756027, USD753333, USD751739, USD746501, USD735381, US2016175693, US2015197299, US2015023034, US2013229791,



Abstract:
Source: US2013301285A A bicycle light for securing to a handlebar or other part of a bike, or to a rider's helmet, has an angled front face that allows use of a single, flat LED circuit board with one or more deep conic or parabolic reflectors positioned in front of the upper part of the board and one or more shallow reflectors in front of the bottom part of the board. This provides for both a spot beam produced by the deep reflector and flood light produced by the shallow reflector, in a compact and efficient assembly. Another important feature of the device is side lighting which can be independently controlled, important in affording the rider side lighting while in street traffic but the option to pulse or switch off the side lighting when riding on a trail.

0) US2013073336A – SYSTEM AND METHOD FOR USING GLOBAL LOCATION INF...

4) Family number: 53204710 (US2013073336A) © PatBase

Title: SYSTEM AND METHOD FOR USING GLOBAL LOCATION INFORMATION, 2D AND 3D MAPPING, SOCIAL MEDIA, AND USER BEHAVIOR AND INFORMATION FOR A CONSUMER FEEDBACK SOCIAL MEDIA ANALYTICS PLATFORM FOR PROVIDING ANALYTIC MEASFUREMENTS DATA OF ONLINE CONSUMER FEEDBACK FOR GLOBAL BRAND PRODUCTS OR SERVICES OF PAST, PRESENT, OR FUTURE CUSTOMERS, USERS OR TARGET MARKETS

Priority:

US20110233352	20110915	US20110233552	20110915	US20110337271	20111226
US20110337275	20111226	US20120359498	20120127	US20120369244	20120208
US20120749735	20120404	US20120430600	20120326	US20120439761	20120404
US20120594842	20120826	US20120543871	20120708	US20120551556	20120717
US20120439735	20120404	US20120712919	20121212	WO2012US36896	20120508

Family:

Publication number	Publication date	Application number	Application date
US2013073336 AA	20130321	US20120594842	20120826
US2013073366 AA	20130321	US20120359498	20120127
US2013073374 AA	20130321	US20110233352	20110915
US2013073376 AA	20130321	US20110337271	20111226
US2013073377 AA	20130321	US20110337275	20111226
US2013073387 AA	20130321	US20120439761	20120404
US2013073388 AA	20130321	US20120543871	20120708
US2013073389 AA	20130321	US20120439735	20120404
US2013073400 AA	20130321	US20120430600	20120326
US2013073473 AA	20130321	US20120369244	20120208
US2013268357 AA	20131010	US20120712919	20121212
US2014006129 AA	20140102	US20120551556	20120717
US8745245 BA	20140603	US20110233552	20110915
US8909771 BB	20141209	US20120594842	20120826
WO13039573 A2	20130321	WO2012US36896	20120508
WO13039573 A3	20140508	WO2012US36896	20120508

Probable Assignee: GOOGLE INC

Assignee(s):(std)**:** BULLOCK NATHAN ; GOOGLE INC ; HEATH STEPHAN

Inventor(s):(std)**:** HEATH STEPHAN ; BULLOCK NATHAN

Agent(s): MCDONNELL BOEHNEN HULBERT AND BERGHOFF LLP; PETER B; HAMILTON DESANCTIS AND CHA LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G06F15/16 G06F15/173 G06F17/00 G06F3/01 G06Q10/10 G06Q20/00 G06Q30/02 G06Q50/00 G06Q99/00 H04L12/26 H04L29/06 (Advanced/Invention)

CPC: H04L63/00 G06Q30/0207 G06Q30/0201 G06Q30/0241 G06Q30/06 G06Q30/08 G06Q50/01 G06Q30/0224 G06Q30/0239 G06Q30/0253 G06Q30/0267 G06Q30/0271 G06Q30/0222 G06Q30/02 G06Q30/0259 G06Q30/0261 G06Q10/10 H04L12/2647 G06F17/60 H04L43/0811 G06F17/30241 G06F17/3087

US class: 705/14 705/14.23 705/14.25 705/14.39 705/14.53 705/14.54 705/14.73 705/26 705/319 705/39 705/7.29 709/204 709/220 709/224 709/227 709/228 715/738 726/26

Classification Explorer

Cited documents: US8725399 BB, US8495222 BB, US8468196 BA, US8209220 BB, US7980466 BB, US7970665 BA, US7953870 BA, US7933897 BB, US7908263 BA, US7860852 BB,

US7831476 BB, US7756756 BA, US7630936 BB, US7493394 BB, US7484011 BA, US7219268 BB, US7124181 BA, US6606661 BA, US6526433 BA, US6073124 A, US6018516 A, US2014006129 AA, US2013268357 AA, US2013073473 AA, US2013073400 AA, US2013073389 AA, US2013073388 AA, US2013073387 AA, US2013073377 AA, US2013073376 AA, US2013073374 AA, US2013073366 AA, US2012254804 AA, US2012245990 AA, US2012158471 AA, US2012096525 AA, US2012066037 AA, US2012054014 AA, US2012036015 AA, US2011313781 AA, US2011276628 AA, US2011276396 AA, US2011270701 AA, US2011258073 AA, US2011246305 AA, US2011238762 AA, US2011231363 AA, US2011208822 AA, US2011208724 AA, US2011196776 AA, US2011191432 AA, US2011191417 AA, US2011173066 AA, US2011106940 AA, US2011082736 AA, US2011066615 AA, US2011041168 AA, US2011035284 AA, US2011029360 AA, US2011004515 AA, US2010325563 AA, US2010306066 AA, US2010226535 AA, US2010198684 AA, US2010169161 AA, US2010145800 AA, US2010119053 AA, US2010094752 AA, US2010042923 AA, US2009198607 AA, US2009187486 AA, US2009163187 AA, US2009144144 AA, US2009070204 AA, US2009070129 AA, US2008307498 AA, US2008307003 AA, US2008300979 AA, US2008222295 AA, US2008214148 AA, US2008201156 AA, US2008177603 AA, US2008172288 AA, US2008086356 AA, US2008028341 AA, US2007299965 AA, US2007265006 AA, US2007219712 AA, US2007174259 AA, US2007143345 AA, US2007043766 AA, US2006265197 AA, US2006238380 AA, US2006170670 AA, US2006031553 AA, US2005288959 AA, US2005027705 AA, US2005004822 AA, US2004260831 AA, US2003195834 AA, US2003158796 AA, US2002120727 AA, US2002094868 AA, US2002055924 AA,

Forward Citations: WO17003340, WO16187036, WO16154153, WO16145422, WO16123441, WO16115329, WO16094584, WO16092352, WO16073769, WO16073519, WO16064888, WO16059529, WO16053860, WO16036293, WO16035072, WO15200414, WO15184335, WO15175854, WO15160415, WO15143420, WO15119648, WO15116309, WO15108964, WO15103068, WO15102677, WO15084654, WO15079428, WO15066083, WO15061689, WO15054486, WO15050503, WO15039858, WO15034524, WO15023546, WO15017836, WO15015413, WO14190213, WO14186385, WO14182580, WO14165306, WO13184683, WO13184683, WO13155635, USD735225, USD732559, US9591690, US9591432, US9591008, US9590938, US9590733, US9589299, US9589054, US9584834, US9584729, US9584465, US9582917, US9582681, US9582572, US9582156, US9578094, US9578044, US9577975, US9576425, US9576294, US9576272, US9576135, US9569801, US9569789, US9569538, US9569530, US9564018, US9564007, US9563900, US9563704, US9563695, US9563627, US9560085, US9558519, US9558505, US9558352, US9558269, US9558242, US9557882, US9556593, US9553923, US9553838, US9552615, US9552495, US9552274, US9547856, US9547698, US9547688, US9544636, US9544325, US9542695, US9542690, US9542451, US9537966, US9532167, US9531808, US9531637, US9529851, US9525776, US9524514, US9519914, US9519895, US9519703, US9514656, US9514492, US9514484, US9514483, US9514357, US9514218, US9514200, US9514161, US9514133, US9503784, US9503546, US9503541, US9501951, US9501915, US9501851, US9501499, US9497275, US9497145, US9497090, US9495694, US9491257, US9491192, US9489694, US9489680, US9489580, US9486704, US9486697, US9485790, US9485318, US9483901, US9483794, US9483520, US9483498, US9483162, US9479822, US9479583, US9479557, US9479466, US9477694, US9477672, US9471939, US9467723, US9465848, US9465788, US9462459, US9462313, US9460394, US9460205, US9460175, US9455945, US9454785, US9454674, US9454281, US9451481, US9451325, US9450900, US9450784, US9449336, US9449229, US9449054, US9449035, US9448988, US9445232, US9444820, US9444819, US9443195, US9443090, US9443087, US9443024, US9442906, US9436965, US9436690, US9430773, US9424597, US9420470, US9420331, US9418056, US9414195, US9414192, US9413463, US9412102, US9408035, US9407676, US9407543, US9405659, US9402050, US9398404, US9397878, US9396388, US9396253, US9391853, US9391810, US9390711, US9390454, US9390453, US9386235, US9386111, US9384514, US9384494, US9384493, US9383911, US9380431, US9380329, US9378524, US9378510, US9374461, US9369572, US9369533, US9367872, US9367568, US9363223, US9361634, US9361627, US9357019, US9355412, US9355392, US9355312, US9355138, US9354794, US9349144, US9349142, US9348979, US9348932, US9344518, US9344447, US9344410, US9344387, US9344343, US9342839, US9342783, US9342742, US9342623, US9338195, US9336534, US9336524, US9336521, US9335911, US9335897, US9332065, US9332035, US9332032, US9330421, US9330209, US9330188, US9330132, US9329748, US9325646, US9325203, US9324115, US9324114, US9324110, US9323852, US9319834, US9317996, US9317600, US9313294, US9313100, US9311683, US9311531, US9311412, US9311347, US9307354, US9307353, US9307317, US9307035, US9305053, US9304647, US9298779, US9298678, US9294368, US9292625, US9292174, US9292164, US9292163, US9288123, US9282094, US9280561, US9277360, US9275114, US9274747, US9274595, US9270719, US9269110, US9268950, US9264890, US9264554, US9262991,

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Abstract:
Source: US2013073336A A method, apparatus, non−transitory computer readable storage medium, computer system, network, or system, is provided for using location information, 2D and 3D mapping, social media, and user behavior and information to provide alternative a consumer feedback social media analytics platforms for providing analytic measurements data of online consumer feedback for global brand products or services of past, present or future customers, users, and/or target markets, for companies, organizations, government agencies, and the like, by electronically collecting and analyzing, on a networked computer system using a processor, qualitative or quantitative online social media online communications, activity, and online communications and activity relevant to consumer products or services, or promotions thereof, of interest, in order to provide targeted, location based, 2D or 3D mapped, or impressions to generate online location information data or promotions to provide improved or desired customer perception or sentiment regarding a company's products, services or promotions thereof

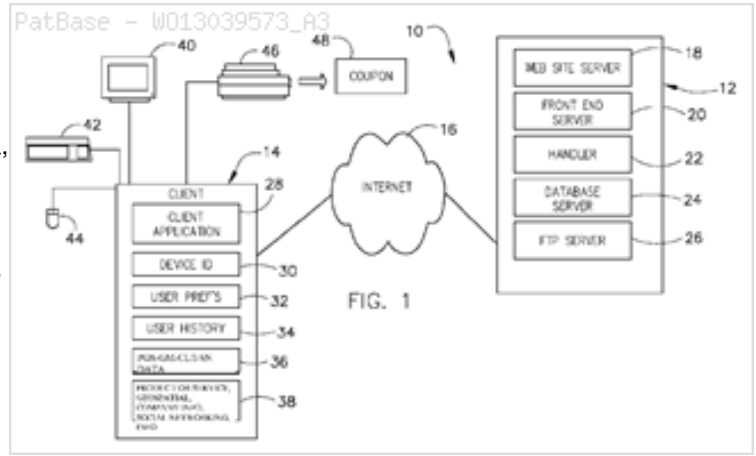


FIG. 1

0) DE102012022609A1 – KLEIDUNG ZUM SCHUTZ VON LANGSAM FAHRENDEN ZWEIR...

5) Family number: 56478208 (DE102012022609A1) © PatBase

Title: KLEIDUNG ZUM SCHUTZ VON LANGSAM FAHRENDEN ZWEIRADFAHRERN VOR REGEN UND WIND PROTECTIVE CLOTHING FOR PROTECTING SLOW DRIVING BICYCLE DRIVER AGAINST E.G. RAIN, HAS CAPE COMPRISING HANDLE IN HAND AREA FOR FINGER, AND OPENINGS REVERSIBLY OPENED PARALLEL TO UPPER ARMS, WHERE CAPE IS FIXED TO HANDLE OF STEERING WHEEL

Priority: DE201210022609 20121119

Family:

Publication number	Publication date	Application number	Application date
DE102012022609 A1	20140522	DE201210022609	20121119

Probable Assignee: WEIRAUCH SEBASTIAN

Assignee(s):(std)**:** WEIRAUCH SEBASTIAN

Inventor(s):(std)**:** WEIRAUCH SEBASTIAN

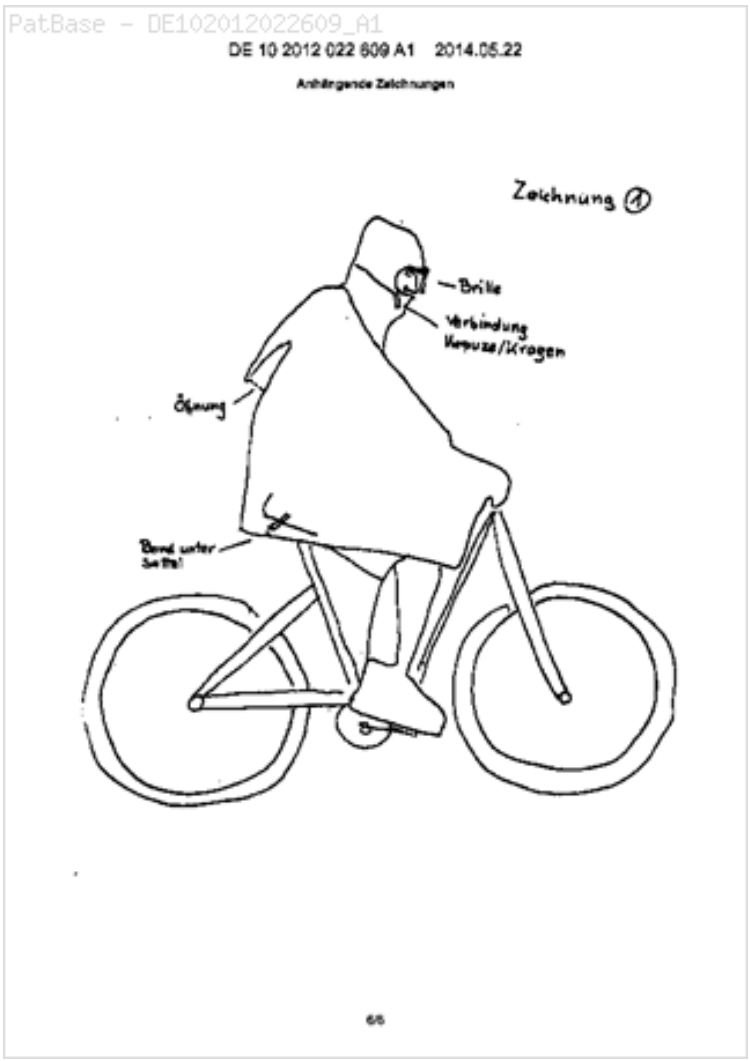
International class (IPC 8–9): A41D13/05 A41D3/08 A44B18/00 A44B19/00 (Advanced/Invention)

CPC: A41D3/08 A41D13/081 A41D2600/104

Classification Explorer

Cited documents: DE8507865 U,

Abstract:
Source: DE102012022609A1 Die Erfindung betrifft eine Schutzkleidung, die langsam fahrende Zweiradfahrer vor Witterungseinfluesse, insbesondere Regen und kaltem Wind, schuetzt. Die Schutzkleidung besteht aus einem Umhang, Gamaschen, einer Schutzbrille und einer Tasche. Der Umhang sowie die nach hinten offenen Gamaschen ermoeglichen es, die Kleidung unproblematisch ueber die Strassenkleidung zu ziehen. Der Umhang hat dabei zwei Durchgriffe fuer die Finger, mit denen der Umhang waehrend der Fahrt mit den Haenden am Lenkergriff fixiert wird. Scheinwerfer und Armaturen am Lenker werden somit nicht durch ueberhaengende Teile des Umhangs beeinflusst. An der Vorderseite des Umhangs sind 3 Reissverschluesse parallel der Arme eingearbeitet, die bei Bedarf eine zusaetzliche Belueftung des Koerpers ermoeglichen. Auf der Rueckseite ist eine grosse oeffnung in den Umhang eingearbeitet, um ein Durchstroemen des Windes zu ermoeglichen. Diese oeffnung ist durch sich ueberlappenden Stoff vor dem Eindringen von Regen geschuetzt. Ein bis zum Mund hoch gezogener Kragen sowie eine Kapuze reduzieren die vom Umhang ungeschuetzt bleibende auf das Sichtfeld. Dieses wird durch eine Brille vor Regen geschuetzt. Die Sichtflaeche der Brille hat hydrophile Eigenschaften und verwandelt Atem– und Regentropfen zu einen durchsichtigen Film, damit keine Einschraenkung der Sicht erfolgt. Alle Utensilien werden in eine Tasche verstaut, die am Lenker reversibel und diebstahlsicher befestigt ist. Durch die Position der Tasche reduzieren sich die Verwirbelungen des Umhangs und die Beine sind zusaetzlich vor Regen geschuetzt. The clothing has a cape



comprising a handle in a hand area for finger, where the cape is fixed to a handle of a steering wheel. Three openings are reversibly opened parallel to upper arms and formed in a front area of the cape, where a rear side of the cape is widely opened. A flexible band is formed at the rear side of the cape and stressed under a saddle during driving of a bicycle. A collar of the cape projects till to mouth, and a hood is secured at the collar by a Velcro (RTM: hook and loop fastener) strip. A bag is reversibly fastened to the steering wheel.

- **search:** SS2 ft=sweeper and bike (Results 5)
- List: SS2 1–50 (ft=sweeper and bike) (Results 5)

0) CN202107064U – CONNECTING DEVICE OF ROLLING TYPE SWEEPING DUST...

1) Family number: 50484942 (CN202107064U) © PatBase

Title: Connecting device of rolling type sweeping dust cart and bike

Priority: CN201120201957U 20110615

Family:

Publication number	Publication date	Application number	Application date
CN202107064 U	20120111	CN201120201957U	20110615

Probable Assignee: BAOXING HAN

Assignee(s):(std)**:** BAOXING HAN

Assignee(s): HAN BAOXING

Inventor(s):(std)**:** BAOXING HAN

Inventor(s): HAN BAOXING

International class (IPC 8–9): B62K27/00 E01H1/04 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN202107064U The utility model relates to a connecting device of a rolling type sweeping dust cart and a bike, which is an attachment of a hand–pushed rolling type sweeping dust cart. When two TT–shaped attachment bodies are inserted into and fastened on a long side rod of a backseat frame of the bike, two lifting bolts are respectively fastened on the two TT–shaped attachment bodies; a connecting element has sliding connection with a hole on the lifting bolt and is fixed on the lifting bolt; and a stretching part of the connecting element is fixedly connected with a handle of the rolling type sweeping dust cart. By the connection, the bike and the hand–pushed rolling type sweeping dust cart are integrally connected with each other. When the bike is ridden or pushed, the rolling type sweeping dust cart moves with the bike so as to perform the operation of sweeping garbage. Therefore, the connecting device of the rolling type sweeping dust cart and the bike can widen the sweeping range of the sweeper, increase the sweeping efficiency, reduce the labour intensity of the sweeper and reduce the labour cost.

0) ES480745A – MAQUINA BARREDORA. SWEEPER. (MACHINE TRANSLA...

2) Family number: 30810657 (ES480745A) © PatBase

Title: MAQUINA BARREDORA. Sweeper. (Machine translation)

Priority: ES19790480745 19790504

Family:

Publication number	Publication date	Application number	Application date
ES480745 A1	19800116	ES19790480745	19790504
ES480745 A2	19800216	ES19790480745	19790504

Probable Assignee: NICOLAU TORRES JOSEP

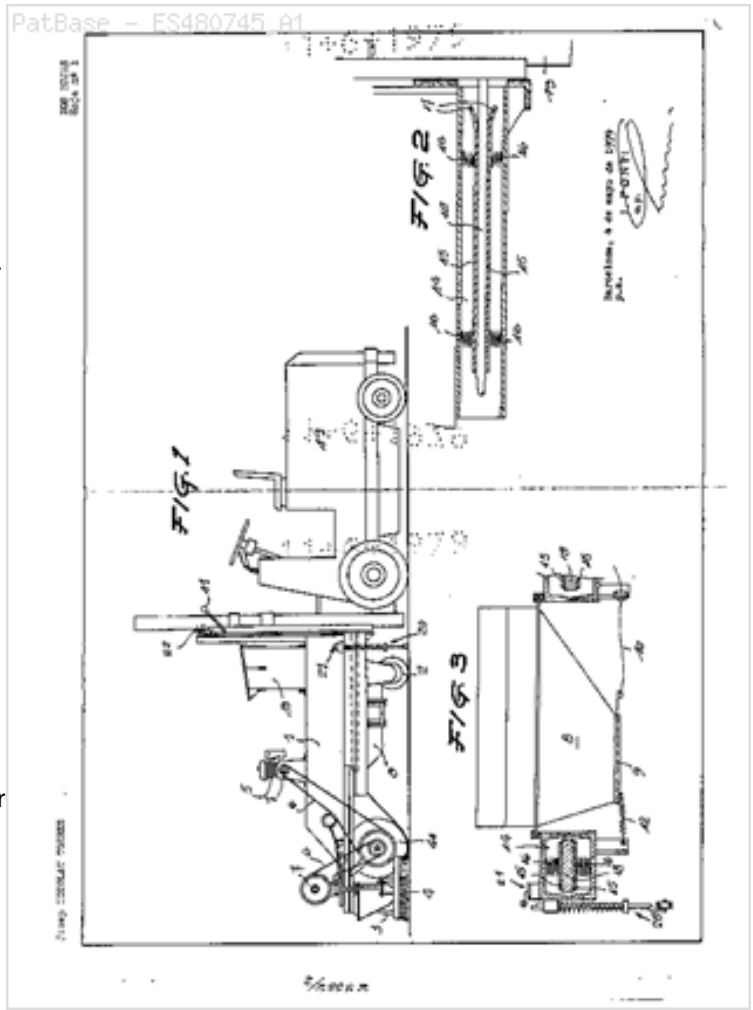
Assignee(s):(std)**:** NICOLAU TORRES JOSEP

International class (IPC 8–9): E01H1/05 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7): E01H1/05

Classification Explorer

Abstract:
Source: ES480745A Maquina barredora, caracterizada esencialmente por el hecho de que comprende un bastidor rodante en el cual esta montado un grupo barredor propiamente dicho, compuesto por varios cepillos giratorios de tipo convencional situados frente a una boca de recogida de polvo y basuras, las cuales son depositadas en una tolva de recogida de polvo y basuras barridas por la maquina, y disponiendo de un grupo aspirador montado en el propio bastidor, con un filtro depurador de salida de aire para evitar el polvo, cuyos grupos barredor y aspirador son accionados mediante un motor convencional optativamente montado en el propio bastidor, en tanto que la tolva de recogida es portadora de una trampilla de descarga con mando de accionamiento, cuyo bastidor esta dotado de unos soportes en disposicion longitudinal, con acceso por un extremo de la maquina, receptores de las palas de una moto carretilla elevadora, con posibilidad de colocacion y extraccion a voluntad, habiendose previsto en los soportes mediosapropiados de amortiguacion. Sweeper, characterized essentially by the fact that it comprises a rolling frame in which is mounted a scanning group itself, comprises several rotating brushes of conventional type located opposite a mouth dust collection and disposal, the which they are deposited in a collection hopper dust and debris swept by the machine, and having a vacuum cleaner mounted on the frame itself, with a debugger output filter air group to avoid dust, whose scavenger groups and vacuum cleaner are driven by optionally a conventional engine mounted on the frame itself, while the collection hopper carries a discharge flap with remote drive, which frame is provided with supports in longitudinal arrangement, with access from one end of the machine, Receivers the blades of a forklift bike, with the possibility of placement and removal at will, having been provided for in mediosapropiados damping supports.



0) IN00549MU2010A – AN APPARATUS, SYSTEM, AND METHOD FOR AUTOMATED ...

3) Family number: 45954294 (IN00549MU2010A) © PatBase

Title: AN APPARATUS, SYSTEM, AND METHOD FOR AUTOMATED PRODUCTION OF RULE BASED NEAR LIVE SPORTS EVENT IN THE FORM OF A VIDEO FILM FOR ENTERTAINMENT

Family:

Publication number	Publication date	Application number	Application date
IN00549MU2010 A	20100709	IN2010MU00549	20100303

Probable Assignee: RATHOD YOGESH CHUNILAL

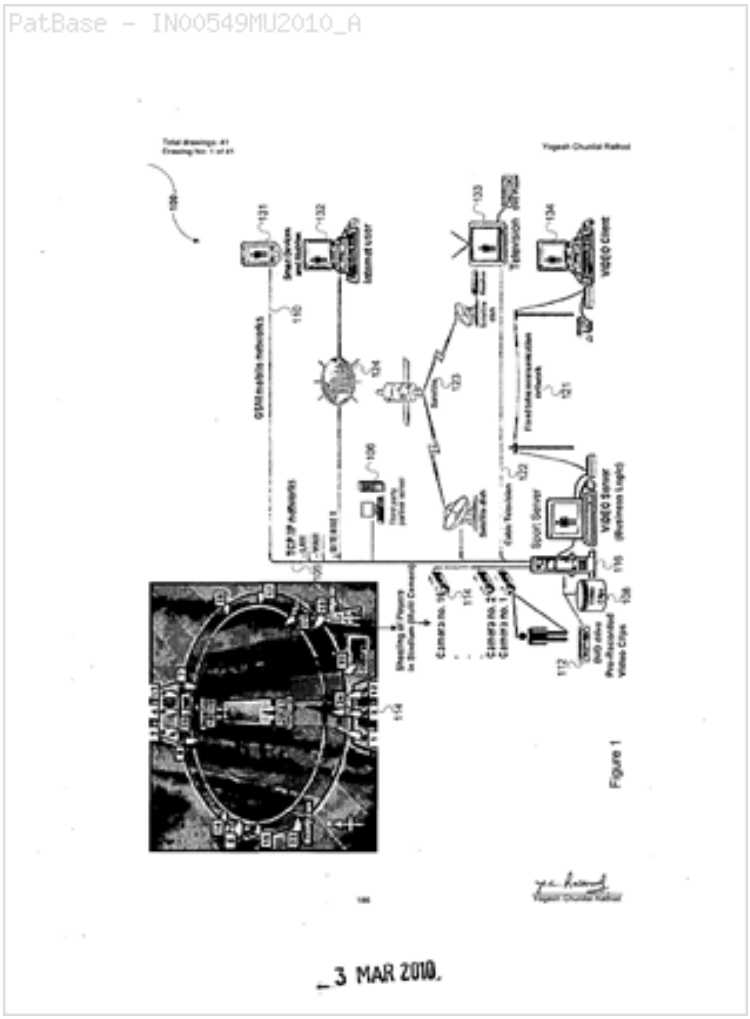
Assignee(s): RATHOD YOGESH CHUNILAL

Inventor(s): RATHOD YOGESH CHUNILAL

International class (IPC 8–9): G06T17/00 H04N5/445 H04N5/765 (Advanced/Invention)

Classification Explorer

Abstract:
Source: IN00549MU2010A An apparatus, system, and method for automated production of sport video using expert sports video production rules. Methods and systems for automated rule based real and live sports video or film or movie productions by merging pre−created standardize video clips as per administrator score or points or goal settings and domain or subject specific film or movie production rules by domain and subject specific rule engine and real time or near real time live broadcasting or telecasting or streaming or screening or transmission or playing or recording live or real sports match event via multiple communication networks on multiple types of user(s) device(s) to viewers, e.g. real and live sports comprising cricket, baseball, golf, football, soccer, basketball, hockey, tennis, racing.



0) DE3102659A1 – SNOW–CLEARING APPLIANCE "SCHNEERAEUMGERAET"

4) Family number: 2092991 (DE3102659A1) © PatBase

Title: Snow–clearing appliance

Priority: DE19813102659 19810128

Family:

Publication number	Publication date	Application number	Application date
DE3102659 A1	19820923	DE19813102659	19810128

Probable Assignee: LADOG FAHRZEUGBAU KG

Assignee(s):(std)**:** LADOG FAHRZEUGBAU KG

Inventor(s):(std)**:** GESCH JUERGEN ; GUGGENBUEHLER WALTER

International class (IPC 8–9)**:** E01H5/06 E01H5/09 (Advanced/Invention); E01H5/04 (Core/Invention)

International class (IPC 1–7)**:** E01H5/04

CPC: E01H5/066 E01H5/092

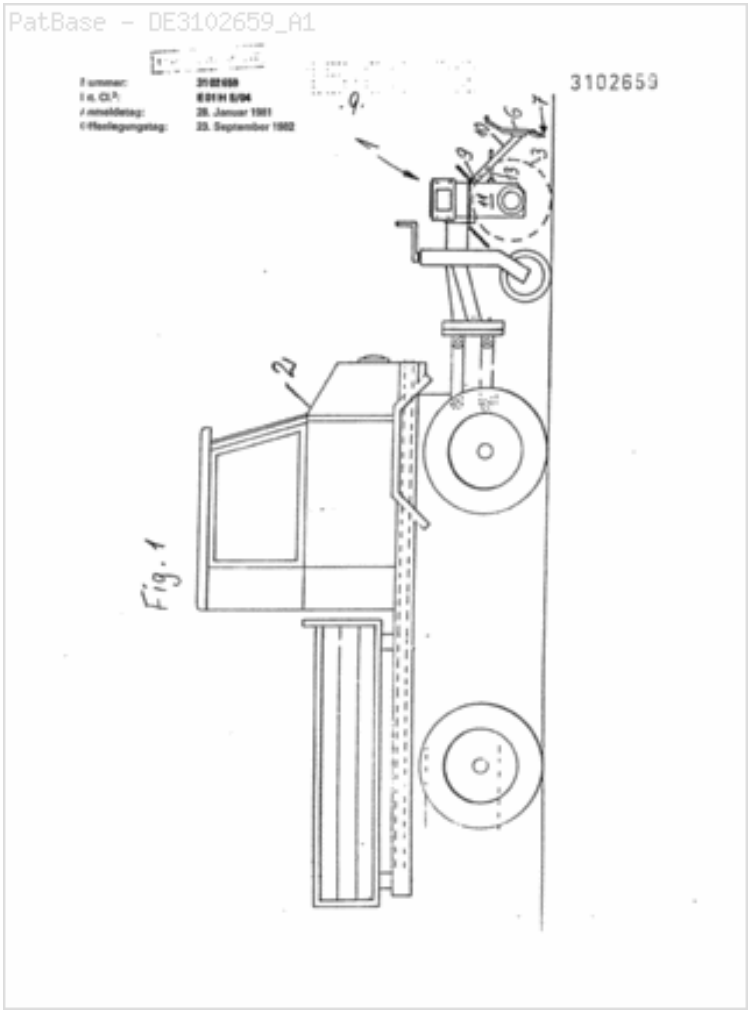
European class: E01H5/06D2 E01H5/09B

Classification Explorer

Cited documents: DE1951150 U, DE1883437 U,

Forward Citations: EP0197258, DE4016153, DE3928914, DE3703470, DE3643080, DE3315717, DE29516479, DE19745887, DE19642788,

Abstract:
Source: DE3102659A1 A snow−clearing appliance having at least one motor−driven snow−sweeping brush possesses additionally at least one snow pusher in front of the sweeping brush in the direction of travel. An area to be cleaned can thereby be cleared of snow virtually completely in one operation even when the snow is relatively high.



0) BRMU8702875U – CHURRASQUEIRA QUE USA CORRENTE ELETRICA PARA FA...

5) Family number: 43552507 (BRMU8702875U) © PatBase

Title: churrasqueira que usa corrente eletrica para fazer o carvao pegar fogo na presenca de oxigenio produzido por eletrolise, suga a fumaca produzida na queima do carvao e a manda para o esgoto, uma especie de "vassoura" varrem as cinzas no final do churrasco para um triturador que as lancam tambem para o esgoto Barbecue that uses electric current to the coal catches fire in the presence of oxygen produced by electrolysis, sucks the smoke produced in coal burning and sends it to the sewer, a sort of "broom" sweeping the ashes on the barbecue the end to a grinder the cast also for sewage (Machine translation)

Priority: BR2007MU02875U 20070110

Family:

Publication number	Publication date	Application number	Application date
BRMU8702875 U2	20090721	BR2007MU02875U	20070110

Probable Assignee: DA SILVA DANIEL SILVERIO

Assignee(s):(std)**:** DA SILVA DANIEL SILVERIO

Assignee(s): DANIEL SILVERIO DA SILVA

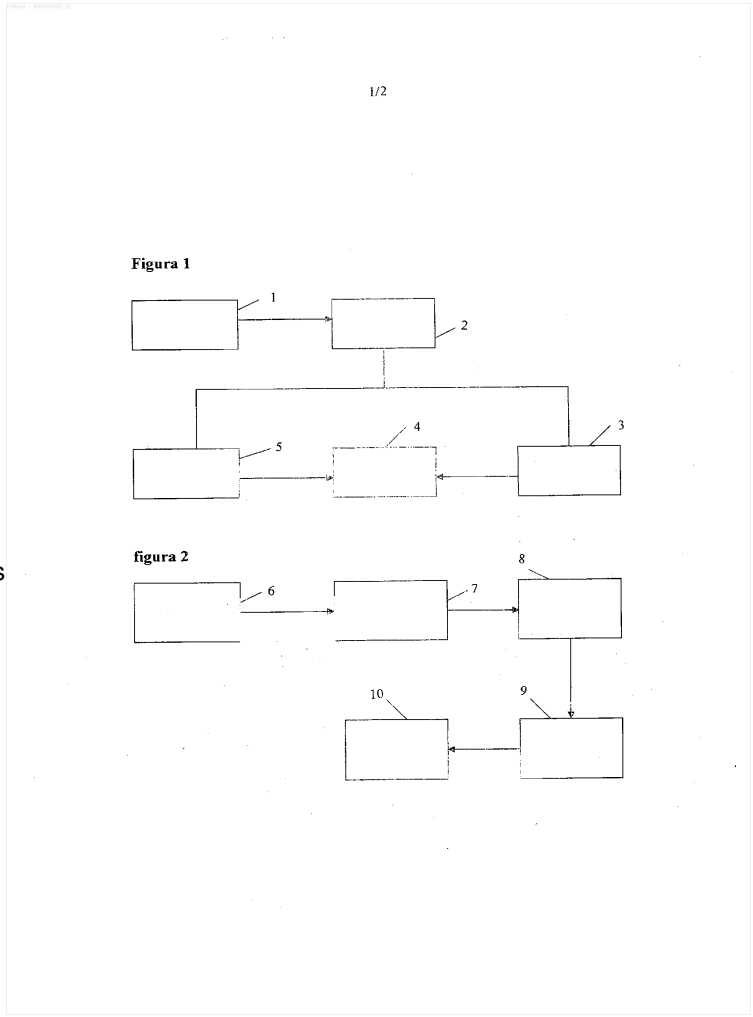
Inventor(s):(std)**:** DA SILVA DANIEL SILVERIO

Inventor(s): DANIEL SILVERIO DA SILVA

International class (IPC 8–9): A47J37/07 F27D11/12 H05B3/08 (Advanced/Invention); A47J37/07 F27D11/00 H05B3/06 (Core/Invention)

Classification Explorer

Abstract:
Source: BRMU8702875U 1 Resumo ¦ "Churrasqueira que usa corrente eletrica para fazer o carvao pegar fogo na presenca de oxigenio produzido por eletrolise, suga a fumaca produzida na queima do carvao e a manda para o esgoto, uma especie de "vassoura" varrem as cinzas no final do churrasco para um 5 triturador que as lancam tambem para o.esgoto." Nessa, churrasqueira coloca–se fogo no carvao quando uma corrente eletrica perqorre o carvao(4), o circuito que coloca fogo no carvao(4), tem uma bobina de iesla(2) paia produzir elevada tensao em duas placas meiaiicasp.S) que fica no func.o da churrasqueira/ tipo capacitor)(3,–5), uma cuba eletrolitica acoplada ra churrasqueira, fornece oxigenio como comburente 10 para o carvao, na parte de cima uma correia de bicicleta envolve uma roda dentada com eixo que tem outra roda dentada na outra extremidade ligada a outra roda dentada que vai ao unico motor, assim os espetos com a came giram durante o churrasco, um sugar(7), semelhante ao aspirador de po esta acoplado na parte superior da churrasqueira ao qual puxa a fumaca da queima do carvao e as lancam no esgoto atraves 15 de um cano, no final do churrasco uma "vassoura" acoplada a churrasqueira recebe movimento de uma roda dentada que vem do unico motor, varre as cinzas para um triturador que junto com agua manda essas cinzas para o esgoto. 1 Summary | "BBQ that uses electric current to the coal catches fire in the presence of oxygen produced by electrolysis, sucks the smoke produced in coal burning and sends it to the sewer, a sort of" broom "sweeping the ashes at the end the barbecue for a 5 crusher that also cast for o.esgoto. " This grill is placed in the coal fire when an electric current perqorre the coal (4), the circuit that puts fire in coal (4) has a coil iesla (2) Paia produce high voltage in two meiaiicasp.S plates) func.o which is on the grill / capacitor type) (3, –5), an electrolytic vessel coupled ra grill provides oxygen as an oxidant for the coal 10 in the top belt involves a bicycle wheel with a toothed shaft which It has another toothed wheel on another end connected to another sprocket going to the single motor, so the skewers with meat rotate during the barbecue, a sugar (7), similar to vacuum cleaner is coupled at the top of the barbecue which pulls the smoke from coal burning and throw in the sewer through 15 a barrel at the end of BBQ one "broom" coupled barbecue gets movement of a sprocket that comes from single engine, sweeps the ashes to a crusher which along with water sends these ashes into the sewer.



- **search:** SS3 ft=sweep* and bicycle (Results 448)
- List: SS3 1–50 (ft=sweep* and bicycle) (Results 448)

0) US5975549A – SYSTEM FOR SIMULTANEOUSLY MOUNTING A PLURALITY ...

1) Family number: 32382403 (US5975549A) © PatBase

Title: System for simultaneously mounting a plurality of bicycle accessories to a bicycle frame

Priority: US19970790846 19970130 US19980127049 19980731 WO1999US17453 19990730 US19990356135 19990717 US19990359455 19990722 WO1998US01040 19980121

Family:

Publication number	Publication date	Application number	Application date
AU199862439 A1	19980825	AU19980062439	19980121
AU199955460 A1	20000221	AU19990055460	19990730
AU199955460 A5	20000221	AU19990055460	19990730
CN1118404 C	20030820	CN19988003556	19980121
CN1158205 C	20040721	CN19998011459	19990730
CN1251070 A	20000419	CN19988003556	19980121
CN1320092 A	20011031	CN19998011459	19990730
CN1565918 A	20050119	CN200410047412	19990730
EP0956233 A1	19991117	EP19980904600	19980121
EP0956233 A4	20000202	EP19980904600	19980121
EP1098811 A1	20010516	EP19990941991	19990730
EP1098811 A4	20051221	EP19990941991	19990730
IN00115KN2001 A	20160826	IN2001KN00115	20010130
PL345795 A1	20020102	PL19990345795	19990730
TW457198 B	20011001	TW19990121789	19991213
US5975549 A	19991102	US19970790846	19970130
US6227556 BA	20010508	US19990359455	19990722
US6234503 BA	20010522	US19980127049	19980731
US6554307 BA	20030429	US19990356135	19990717
WO0006447 A1	20000210	WO1999US17453	19990730
WO9833699 A1	19980806	WO1998US01040	19980121

Probable Assignee: TRANSBIKE SYSTEMS INC AKA E AND O INC

Assignee(s):(std)**:** LYNN M OCKENDEN ; LYNN MARIE OCKENDEN ; LYNN MARINE OCKENDEN ; LYNN MARINE OKENDEN ; OCKENDEN LYNN MARIE ; TRANSBIKE SYSTEMS INC ; OCKENDEN LYNN M ; MARIE OCKENDEN LYNN

Assignee(s): TRANSBIKE SYSTEMS INC AKA E AND O INC ; LYNNMARINE OKENDEN

Inventor(s):(std)**:** OKENDEN LYNN MARINE ; OCKENDEN LYNN MARINE ; LYNN MARIE OCKENDEN ; LYNN M OCKENDEN ; OCKENDEN LYNN MARIE ; OCKENDEN LYNN M ; MARIE OCKENDEN LYNN

Inventor(s): LYNN MARINE OCKENDEN ; LYNN MARINE OKENDEN

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZA ZW

International class (IPC 8–9): B62J11/00 B62J7/04 B62J7/08 B62J9/00 B62K25/02 B62K25/04 B62K27/00 (Advanced/Invention); B62J11/00 B62K25/04 (Advanced/Non–invention); B62J11/00 B62J7/00 B62J9/00 B62K27/00 (Core/Invention)

International class (IPC 1–7): B62J11/00 B62J7/00 B62J7/04 B62J9/00 B62K25/02 B62K25/04 B62K27/00

CPC: B62J7/08 B62J9/00 B62J11/00 B62K27/003 B62K2005/002 B62J7/04 B62K25/02

European class:

B62J11/00 B62J7/04 B62J7/08 B62J9/00 B62K25/02 B62K25/04 B62K27/00 B62K27/00B L62K5/00C

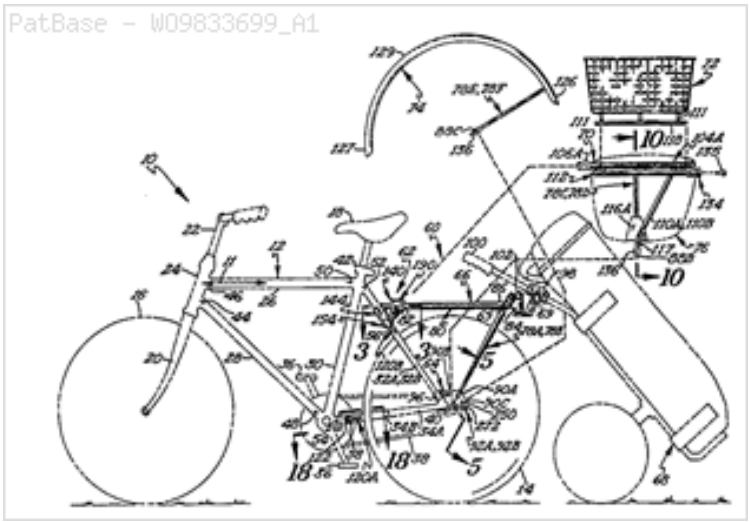
US class: 280/204 280/240

Classification Explorer

Cited documents: USRE35335 E, US5975549 A, US5842535 A, US5678839 A, US5588661 A, US5542587 A, US5470092 A, US5470088 A, US5410893 A, US5395130 A, US5332134 A, US5240266 A, US5092142 A, US5090717 A, US5039120 A, US4928985 A, US4883283 A, US4840298 A, US4721320 A, US4690420 A, US4577786 A, US4545224 A, US4479662 A, US4440331 A, US4418850 A, US4342467 A, US4328915 A, US4155231 A, US4023820 A, US3827613 A, US3795354 A, US2755103 A, US2583550 A, DE4416124 A1, DE4101745 A1,

Forward Citations: US9315206, US8424894, US8356789, US8087686, US8070182, US7854441, US7669828, US7661691, US7591627, US7585010, US7547029, US7273221, US7252305, US6976690, US6749212, US6712376, US6695335, US6634664, US6592147, US6554307, US6227556, US2010133308, US2010007107, US2009322114, US2009236819, US2008296329, US2008238027, US2008179473, US2008067787, US2007257467, US2007152463, US2006226187, US2006076380, US2005224539, US2005058727, US2004258510, US2003080534, TWI304033,

Abstract:
Source: US5975549A A system for simultaneously mounting a plurality of accessories such as panniers, baskets, trailer hitch and trailer, luggage carrier, wheel fender, etc. to a bicycle frame includes an upper mounting block rigidly attachable to the frame below the bicycle seat, and two lower stirrup members rigidly attachable to the frame adjacent the wheel axle on either side of the wheel. The upper mounting block has a socket for holding a tow bar and slots for mounting a luggage carrier, both of which have legs which are lockably inserted into receiving slots in the stirrup members. A key lock locks the mounting block to the bicycle frame and the accessories to the mounting block. Accessories may be locked to the carrier.



0) US2011158331A – EMULATING INCREASED SAMPLE FREQUENCY IN A WIREL...

2) Family number: 49149271 (US2011158331A) © PatBase

Title: EMULATING INCREASED SAMPLE FREQUENCY IN A WIRELESS SENSOR NODE AND/OR A WIRELESS SENSOR NETWORK

Priority: US20090291595P 20091231 US20100428820P 20101230 US20100982836 20101230 US20110478226P 20110422 US20110092636 20110422 US20110539909P 20110927 US20110582157P 20111230 US20110581620P 20111229 US20120623044P 20120411 US20120452892 20120422 US20110824320 20111230 US20120348443 20120927 US20120539909P 20120927 US20120561112 20120730 US20120676893P 20120728 US20120671630P 20120713 US20120706709P 20120927 US20120669643P 20120709 WO2011US68232 20111230 WO2012US57665 20120927

Family:

Publication number	Publication date	Application number	Application date
EP2659471 A2	20131106	EP20110852977	20111230
EP2659471 A4	20140723	EP20110852977	20111230
US2011158331 AA	20110630	US20100982836	20101230
US2012173171 AA	20120705	US20110092636	20110422
US2013314273 AA	20131128	US20110824320	20111230
US2014225763 AA	20140814	US20120348443	20120927
US8264401 BA	20120911	US20120452892	20120422
US8990032 BB	20150324	US20110092636	20110422
US9418551 BB	20160816	US20120348443	20120927
US9488717 BA	20161108	US20120561112	20120730
WO12092609 A2	20120705	WO2011US68232	20111230
WO12092609 A3	20121018	WO2011US68232	20111230
WO13049418 A2	20130404	WO2012US57665	20120927
WO13049418 A3	20130711	WO2012US57665	20120927

Probable Assignee: SENSYS NETWORKS INC

Assignee(s):(std)**:** BAJWA RAVNEET ; KAVALER ROBERT ; KAVALER ROBERT A ; RAJAGOPAL RAM ; RAMAN AKHILA ; SENSYS NETWORKS INC ; VARAIYA PRAVIN

Assignee(s): SENSYS NETWORKS

Inventor(s):(std)**:** AKHILA RAMAN ; BAJWA RAVNEET ; FUSINA LUCA ; KAVALER ROBERT ; KAVALER ROBERT A ; PRAVIN VARAIYA ; RAJAGOPAL RAM ; RAM RAJAGOPAL ; RAMAN AKHILA ; RAVNEET BAJWA ; ROBERT KAVALAR ; VARAIYA PRAVIN

Agent(s): POPP EUGEN; EARLE; EARLE JENNINGS; JENNINGS EARLE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B60W30/06 G01F17/00 G01H11/00 G01H11/06 G01K1/00 G01S13/02 G01S13/08 G01S13/28 G01S13/88 G01S13/91 G01S13/92 G01S13/93 G01S7/00 G01S7/288 G06F19/00 G06F9/445 G07B15/00 G08G1/01 G08G1/015 G08G1/017 G08G1/052 G08G1/14 H04L27/00 (Advanced/Invention); G01S13/00 G08G1/00 (Advanced/Non–invention)

CPC: G08G1/00 H04L7/00 H04L25/0266 G01S13/886 G01S13/92 G08G1/017 G08G1/052 B60W30/06 G01S13/931 G01S2013/9314 G08G1/142 G08G1/146 G08G1/015 G01H11/06 G08G1/01 G01S13/0209 G01S13/28 G01S13/91 G01S7/003 G01S7/288 G01S7/4004 G01S13/14 G01S13/20 G01S13/26 G01S13/88

European class: G01S13/14 G01S13/20 G01S13/26 G01S13/88 G01S7/288 G01S7/40A G08G1/01 H04L27/26M5C5 S01S7/00R T04L25/02K1

US class:

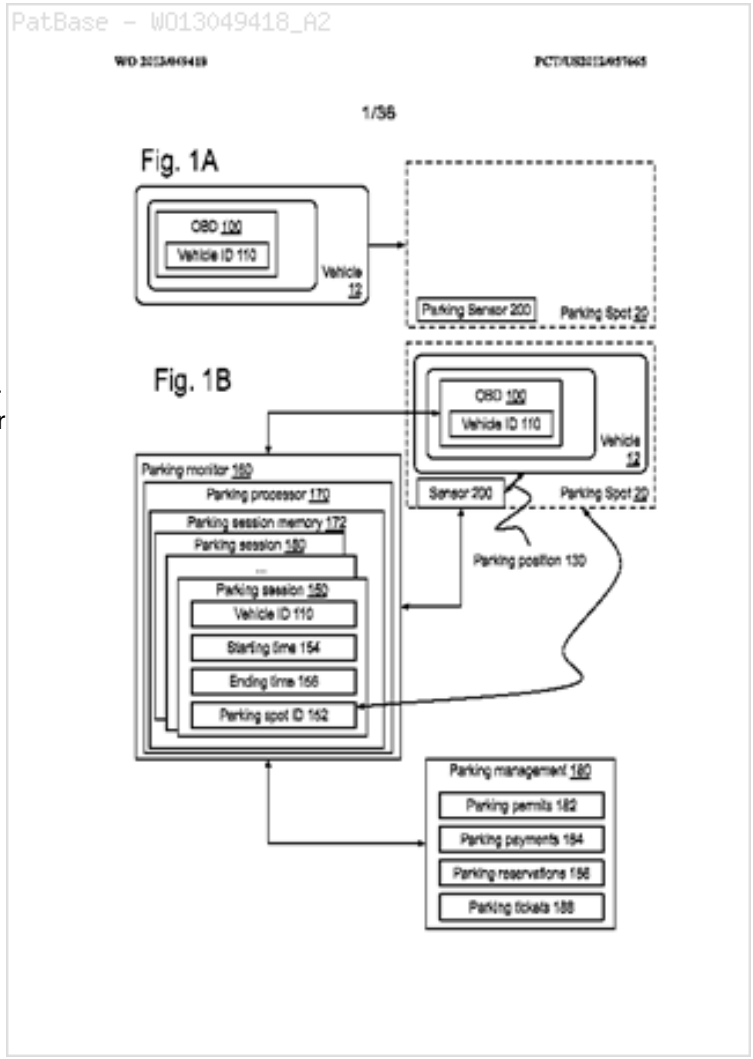
1/1 342/128 342/136 342/70 342/90 375/259 375/259P 702/130 702/130S 702/176 702/176S 702/56 702/56P 717/176 717/176S 73/649 73/649S

Classification Explorer

Cited documents: WO11003674 A1, WO09078356 A1, WO08029038 A1, US9013326 BB, US9000949 BB, US8779939 BB, US8560169 BB, US8494790 BB, US8330623 BB, US8264401 BA, US8164508 BB, US8115673 BA, US8059629 BA, US7994968 BB, US7983835 BB, US7952515 BB, US7881239 BB, US7864100 BB, US7860639 BB, US7834778 BB, US7825827 BB, US7797367 BA, US7739000 BB, US7694579 BB, US7652560 BB, US7592944 BB, US7551703 BB, US7529217 BB, US7446699 BB, US7446695 BB, US7440842 BA, US7388517 BB, US7379016 BA, US7345623 BB, US7324559 BB, US7321317 BB, US7224944 BB, US7221686 BA, US7180428 BA, US7170440 BA, US7148791 BB, US7138938 BA, US7046166 BB, US7026954 BB, US6943726 BB, US6914552 BA, US6885312 BA, US6876296 BB, US6826607 BA, US6804503 BB, US6785606 BB, US6750787 BB, US6747599 BB, US6671525 BB, US6662099 BB, US6644114 BA, US6642854 BB, US6615130 BB, US6600103 BA, US6587778 BB, US6583753 BA, US6559776 BB, US6535161 BA, US6531977 BB, US6492933 BA, US6486825 BA, US6483443 BA, US6480783 BA, US6466168 BA, US6462705 BA, US6462697 BA, US6456231 BA, US6452467 BA, US6426716 BA, US6414627 BA, US6373428 BA, US6359583 BA, US6345228 BA, US6344806 BA, US6342845 BA, US6337640 BB, US6333701 BA, US6278965 BA, US6191724 BA, US6137438 A, US6072427 A, US6060915 A, US6055287 A, US6031504 A, US6031421 A, US5986600 A, US5966090 A, US5883591 A, US5805110 A, US5804921 A, US5774091 A, US5767953 A, US5766208 A, US5764189 A, US5757320 A, US5754144 A, US5754123 A, US5748108 A, US5682164 A, US5661490 A, US5609059 A, US5589838 A, US5581256 A, US5576627 A, US5573012 A, US5563605 A, US5555036 A, US5523760 A, US5521600 A, US5519618 A, US5519400 A, US5519342 A, US5517198 A, US5512834 A, US5510800 A, US5497100 A, US5479120 A, US5471162 A, US5465094 A, US5461384 A, US5457394 A, US5422607 A, US5381155 A, US5374932 A, US5361070 A, US5345471 A, US5337082 A, US5274271 A, US5189425 A, US5075680 A, US5019825 A, US4167735 A, US3838421 A, US3739379 A, US3626413 A, US3582620 A, US3241106 A, US3182312 A, US3174146 A, US2709252 A, US2284850 A, US2181728 A, US2150776 A, US2011237939 AA, US2011221624 AA, US2011080304 AA, US2010245161 AA, US2010214158 AA, US2010214157 AA, US2010152972 AA, US2010073221 AA, US2010073154 AA, US2010017103 AA, US2009271100 AA, US2009251362 AA, US2009080501 AA, US2008287144 AA, US2008278366 AA, US2008238720 AA, US2008048905 AA, US2007276600 AA, US2007210955 AA, US2007200749 AA, US2007192391 AA, US2007177704 AA, US2007129863 AA, US2007050240 AA, US2006212344 AA, US2006202862 AA, US2006132298 AA, US2006109104 AA, US2006103568 AA, US2006097894 AA, US2006074546 AA, US2006029061 AA, US2006017549 AA, US2005280555 AA, US2005213612 AA, US2005168352 AA, US2005164643 AA, US2004168512 AA, US2003071754 AA, US2003025626 AA, US2002189336 AA, US2002177942 AA, US2002175829 AA, US2002158776 AA, US2002145541 AA, US2002116118 AA, KR100909436 B1, JP9210721 A2, JP8096298 A2, JP2007219738 A2, JP2007188340 A2, JP2006040086 A2, JP2002298206 A2, JP1035699, FR2916539 A1, EP2299409 A1, EP1321915 A2, DE19949737 A1, CN1417756 A,

Forward Citations: USD716157, USD705090, US9531428, US9501916, US9494922, US9489840, US9488717, US9443236, US9415721, US9412270, US9410823, US9406056, US9318011, US9257036, US9201137, US9111450, US9111443, US9086266, US9081081, US9035255, US9020742, US8878697, US8872674, US8855902, US8825216, US8807317, US8770371, US8742976, US8727207, US8636133, US2016261303, US2015256630, US2015039211, US2014293853, US2014125514, US2014015522, US2013314274, US2013138331, US2013069795, US2012165963, CN104637341, CN103236190, CN103236190,

Abstract:
Source: US2011158331A Apparatus and processors for wireless sensor nodes are disclosed emulating increasing the sampling frequency of the sensors of the wireless sensor nodes. Apparatus and processors are disclosed using the improved sensor readings to generate vehicle parameters for vehicles passing near one of the nodes, movement estimates and traffic ticket messages, any of which may be sent to other systems. Some of these embodiments may be used with and/or in the wireless sensor nodes and/or with or in an access point for the wireless sensor nodes. Installation devices and/or servers and/or computer readable memories are disclosed for delivering the operational configurations and/or installation packages and/or program systems to the various embodiments of the apparatus and/or processors.



0) US2007145813A – BICYCLE WHEEL AND HUB

3) Family number: 34609970 (US2007145813A) © PatBase

Title: BICYCLE WHEEL AND HUB

Priority: US20050754026P 20051222 US20060404127 20060414 WO2006US48512 20061220 US20060404128 20060414

Family:

Publication number	Publication date	Application number	Application date
DE602006010438 D1	20091224	DE200660010438T	20061220
EP1968807 A2	20080917	EP20060845863	20061220
EP1968807 B1	20091111	EP20060845863	20061220
US2007145813 AA	20070628	US20060404127	20060414
US2007145814 AA	20070628	US20060404128	20060414
US7562940 BB	20090721	US20060404127	20060414
US7562942 BB	20090721	US20060404128	20060414
WO07075735 A2	20070705	WO2006US48512	20061220
WO07075735 A3	20071018	WO2006US48512	20061220

Probable Assignee: SPECIALIZED BICYCLE COMPONENTS INC

Assignee(s):(std)**:** D ALUISIO CHRIS ; SPECIALIZED BICYCLE COMPONENTS

Assignee(s): SPECIALIZED BICYCLE COMPONENTS INC

Inventor(s):(std)**:** D ALUISIO CHRIS

Agent(s): NORDMEYER PHILIPP WERNER; KNOBBE MARTENS OLSON AND BEAR LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B60B1/00 B60B1/02 B60B21/06 B60B27/00 B60B27/06 B60B35/00 (Advanced/Invention); B60B1/00 B60B21/00 B60B27/00 B60B35/00 (Core/Invention)

CPC: B60B1/0223 B60B1/023 B60B1/041 B60B1/042 B60B5/02 B60B27/026 B60B2310/305 B60B2310/307 B60B2360/104 B60Y2200/13 Y02T10/86 B62K25/02 B62K2206/00

European class: B60B1/02D2 B60B1/02D2A B60B1/04B B60B1/04H B60B27/02B2 B60B5/02 B62K25/02 L60B310/305 L60B310/307 L60B360/104 L60Y200/13 L62K206/00 Y02T10/86

US class: 280/279 301/110.5 301/111.06 301/111.060P 301/124.2 301/59 301/59P

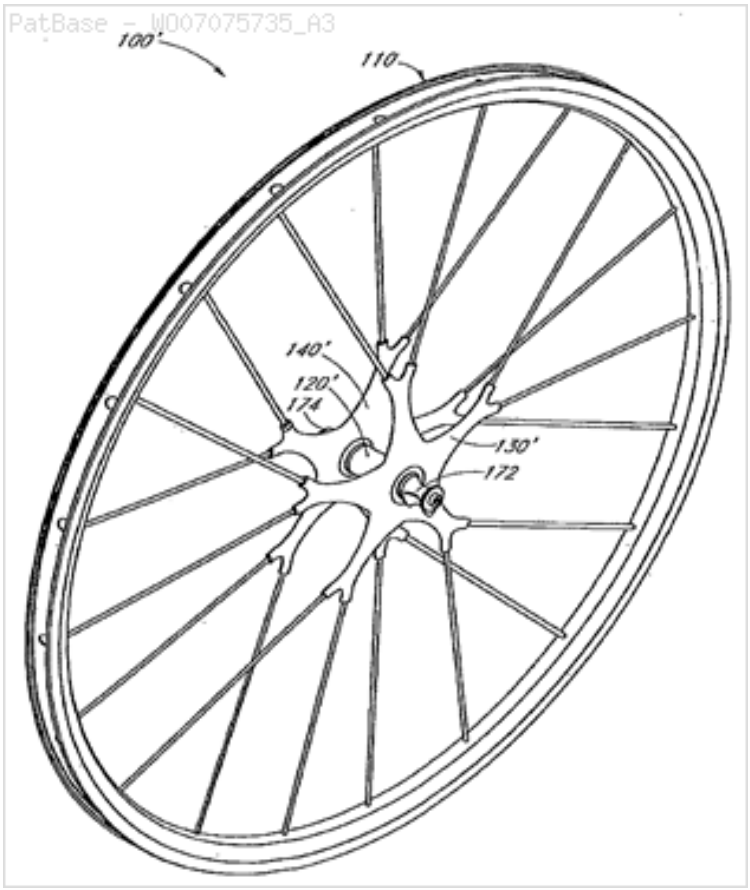
Classification Explorer

Cited documents: USD436337 S1, USD430093 S1, USD364842 S1, USD350088 S1, USD255772 S1, USD157539 S1, US7237849 BB, US7090308 BB, US6899401 BB, US686463 A, US6722743 BB, US6679561 BB, US6652037 BB, US6588853 BB, US6517169 BA, US6511133 BA, US6497314 BB, US6443532 BA, US6431658 BA, US6428113 BB, US6409282 BA, US6409279 BA, US6409278 BA, US6382734 BA, US6354669 BA, US6244667 BA, US6238008 BA, US6196638 BA, US6145938 A, US6036281 A, US6010197 A, US5947565 A, US5931544 A, US5882088 A, US5813258 A, US5810453 A, US5673925 A, US5487592 A, US5445439 A, US5332295 A, US5301778 A, US5090855 A, US5061013 A, US4930843 A, US4626036 A, US459699 A, US456815 A, US364842 A, US3241894 A, US300737 A, US2005067881 AA, US2005012384 AA, US2004262983 AA, US2004227391 AA, US2004113484 AA, US2003057763 AA, EP1122091 A2,

Forward Citations: WO16127202, WO13156692, USRE45684, US9573648, US9561836, US9540068, US9505261, US9457630, US9409619, US9393832, US9359036, US9346514, US9340251, US9315071, US9308961, US9290229, US9290227, US9284015, US9150272, US8905492, US8794714, US8678519, US8113594, US8075065, US8056987, US7874625, US7823981, US7722129, US7635170, US2016052588, US2016016634, US2014145496, US2013169026, US2013033094, US2012280469, US2011193402, US2010194184, US2010052411, US2009261648, US2009102276,

US2009085397, US2008088175, TWI562907, TWI386342, GB2485630, GB2485630, FR2924641, EP3040259, EP2679404, EP2070725, CN103129312,

Abstract:
Source: US2007145813A A bicycle wheel and hub can be configured to provide enhanced stiffness, reduced aerodynamic drag, and reduced weight. For enhanced lateral stiffness, the bicycle wheel comprises a hub having a central body bounded by a first hub flange and a second hub flange. Each of the hub flanges includes a plurality of extensions protruding radially outward from the central body towards a wheel rim. The extensions extend at least one−fifth of the distance from the central body to the rim. A pair of spokes spans between each hub flange extension to the rim. The hub of drive side of a driven wheel may further include a reinforcing member such as a reinforcing ring to accommodate forces and loads imparted by a bicycle drive mechanism. For reduced drag while retaining sufficient lateral stiffness, the central body of the hub may be narrowed and the hub flanges correspondingly repositioned laterally inward.



0) US2002151414A – EXERCISE BICYCLE

4) Family number: 28312726 (US2002151414A) © PatBase

Title: EXERCISE BICYCLE

Priority: EP20020701070 20020118 US20010262768P 20010119 US20020051602 20020117 US20040890617 20040713 US20040891345 20040713 US20070757735 20070604 WO2002US01821 20020118

Family:

Publication number	Publication date	Application number	Application date
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DE60245916 D1	20140220	DE20026045916	20020118
EP1359981 A1	20031112	EP20020701070	20020118
EP1359981 A4	20090819	EP20020701070	20020118
EP1359981 B1	20140108	EP20020701070	20020118
ES2220246 T1	20041216	ES20020701070T	20020118
TW200404588 A	20040401	TW20020134280	20020118
TW200405821 A	20040416	TW20030134279	20020118
TW200418545 A	20041001	TW20040112631	20020118
TWI224974 B	20041211	TW20020100899	20020118
TWI224975 B	20041211	TW20030134279	20020118
TWI251497 B	20060321	TW20030134280	20020118
TWI303178 B	20081121	TW20040112631	20020118
US2002151414 AA	20021017	US20020051602	20020117
US2004248701 AA	20041209	US20040890617	20040713
US2004248702 AA	20041209	US20040891345	20040713
US2007281835 AA	20071206	US20070757735	20070604
US7172532 BB	20070206	US20040890617	20040713
US7226393 BB	20070605	US20020051602	20020117
US7364533 BB	20080429	US20040891345	20040713
US7771325 BB	20100810	US20070757735	20070604
WO02056972 A1	20020725	WO2002US01821	20020118

Probable Assignee: NAUTILUS INC

Assignee(s):(std)**:** NAUTILUS INC

Assignee(s): NAUTILUS INC VANCOUVER ; AVAYA TECHNOLOGY LLC ; BAKER WILLIAM A ; BANK OF AMERICA NA ; BANK OF AMERICA NA ADMINISTRATIVE AGENT AS ; BANK OF WEST ; DASHAMERICA INC

Inventor(s):(std)**:** WILLIAM A BAKER ; BAKER WILLIAM A ; BAKER A

Inventor(s): A WILLIAM A BAKER ; BAKER WILLIAM ; BAKER WILLIAM A LOUISVILLE

Agent(s): MARKHAM JONATHAN; DORSEY AND WHITNEY LLP, INTELLECTUAL PROPERTY DEPARTMENT; DORSEY AND WHITNEY LLP INTELLECTUAL PROPERTY DEPARTMENT; DORSEY AND WHITNEY LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

International class (IPC 8–9):
A63B21/00 A63B22/04 A63B22/06 A63B22/08 A63B69/16 F16D1/00 F16M11/04 (Advanced/Invention);
A63B21/015 A63B22/00 (Advanced/Non–invention);
A63B21/00 A63B22/06 A63B69/16 F16D1/00 F16M11/02 (Core/Invention);
A63B21/012 A63B22/00 (Core/Non–invention)

International class (IPC 1–7): A63B21/00 A63B22/04 A63B22/06 A63B69/16

CPC: A63B22/0605 Y10T403/32467 Y10T403/598 A63B21/015 A63B21/225 A63B2225/09 A63B2225/093

European class: A63B22/08 K63B21/015 K63B21/22F K63B225/09 K63B225/09H

US class: 248/408 280/288.3 403/109.1 403/324 411/347 482/57

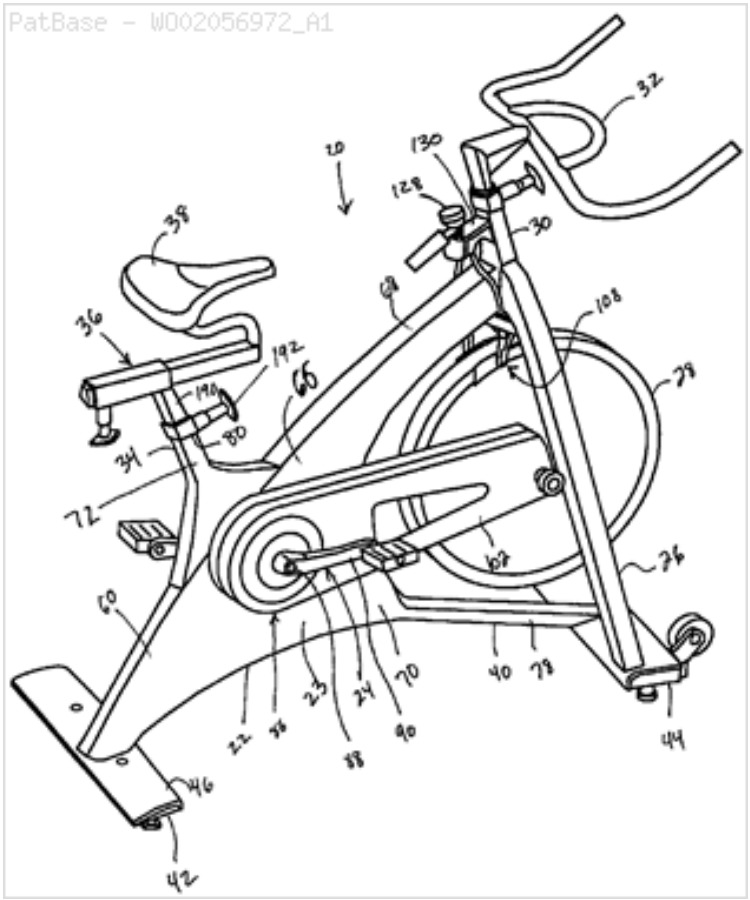
Classification Explorer

Cited documents: WO9625984 A1, USRE34478 E, USRE29404 E, USD53150 S1, USD474252 S1, USD473273 S1, USD460794 S1, USD460133 S1, USD415083 S1, USD407767 S1, USD385228 S1, USD382925 S1, USD382924 S1, USD380796 S1, USD380024 S1, USD372284 S1, USD368678 S1, USD357953 S1, USD353422 S1, USD346145 S1, USD337748 S1, USD334042 S1, USD325946 S1, USD323863 S1, USD323805 S1, USD318086 S1, USD313055 S1, USD310253 S1, USD309485 S1, USD309167 S1, USD307782 S1, USD307615 S1, USD307614 S1, USD306626 S1, USD299732 S1, USD299504 S1, USD296457 S1, USD292304 S1, USD292225 S1, USD291713 S1, USD291462 S1, USD289782 S1, USD289670 S1, USD289669 S1, USD285953 S1, USD285816 S1, USD284596 S1, USD283431 S1, USD280118 S1, USD280117 S1, USD279206 S1, USD275589 S1, USD273882 S1, USD262302 S1, USD257515 S1, USD254697 S1, USD254679 S1, USD251747 S1, USD243165 S1, USD243028 S1, USD234305 S1, USD233160 S1, USD229077 S1, USD225070 S1, USD220024 S1, USD218338 S1, US998365 A, US763095 A, US747294 A, US7226393 BB, US7175570 BB, US7172532 BB, US7017872 BB, US6913560 BB, US6901879 BB, US6817968 BB, US681565 A, US671785 A, US6695581 BB, US6669603 BA, US6641507 BA, US6612970 BB, US6612600 BB, US6585215 BB, US6564673 BA, US6561952 BB, US6557679 BA, US6551226 BA, US6511097 BB, US645482 A, US642929 A, US642919 A, US6413191 BA, US6383121 BA, US6354557 BA, US635082 A, US633534 A, US6264878 BA, US6234939 BA, US6233898 BA, US6176459 BA, US6176459 B1, US6155958 A, US6155958, US6146313 A, US6022077 A, US6001046 A, US5996145 A, US5961424 A, US5957425 A, US5947873 A, US5934631 A, US5928115 A, US5904638 A, US588166 A, US5873589 A, US5857943 A, US585719 A, US5836856 A, US5833575 A, US5816372 A, US581095 A, US5795026 A, US5772916 A, US5758548 A, US5722916 A, US5722916, US572273 A, US5685553 A, US5660085 A, US562198 A, US5580337 A, US5569128 A, US5533953 A, US5499961 A, US5472396 A, US5464240 A, US5451071 A, US5439267 A, US5433552 A, US5423728 A, US5351980 A, US5342262 A, US5336147 A, US5330402 A, US5319995 A, US5319994 A, US5310392 A, US5295928 A, US5284462 A, US5279529 A, US5269736 A, US5247853 A, US5232422 A, US5211613 A, US5203826 A, US5186697 A, US518411 A, US5178593 A, US5149312 A, US5145479 A, US5145477 A, US5125648 A, US5114391 A, US5094124 A, US5092588 A, US5067710 A, US5048824 A, US5046723 A, US5044627 A, US5031912 A, US5016870 A, US5014980 A, US5000469 A, US5000444 A, US4981294 A, US4976424 A, US4971316 A, US4962925 A, US4961570 A, US4955599 A, US4951937 A, US4936570 A, US4934688 A, US4932650 A, US4923193 A, US4915375 A, US4915374 A, US4902002 A, US4902001 A, US4880225 A, US4878397 A, US4844451 A, US4826150 A, US4824102 A, US4822032 A, US4800310 A, US4798379 A, US4790528 A, US4786049 A, US4775145 A, US4772069 A, US4768777 A, US4762317 A, US4757988 A, US4752066 A, US4743011 A, US4712790 A, US4712789 A, US4705269 A, US4693468 A, US4673177 A, US4671396 A, US4660828 A, US4657244 A, US4647036 A, US4645472 A, US4642769 A, US4636001 A, US4632386 A, US4613146 A, US4603856 A, US4589656 A, US4587960 A, US4577860 A, US4571682 A, US4569518 A, US4566692 A, US4561318 A, US4556216 A, US4555109 A, US4550927 A, US4542897 A, US4537396 A, US4533136 A, US4519603 A, US4513986 A, US4509742 A, US4500103 A, US4493485 A, US4456276 A, US4452445 A, US4441705 A, US4438921 A, US4436097 A, US4408613 A, US4379566 A, US4372551 A, US4371185 A, US4358105 A, US4355958 A, US4354676 A, US4340125 A, US4339104 A, US4338798 A, US4313602 A, US4298893 A, US4291872 A, US4291787 A, US4289309 A, US4286701 A, US4286696 A, US4285515 A, US4278095 A, US4266794 A, US4261562 A, US4244021 A, US4220232 A, US4188030 A, US4184678 A, US4169591 A, US4165854 A, US4150851 A, US4140312 A, US4113221 A, US4112928 A, US4108462 A, US4082264 A, US4060239 A, US4053173 A, US4037989 A, US402926 A, US4009769 A, US4007927 A, US4003168 A, US3995491 A, US3979113 A, US3966201 A, US3952987 A, US3940128 A, US3939932 A, US3929209 A, US3882971 A, US3870127 A, US3869121 A, US3861715 A, US3854561 A, US3848467 A, US3845756 A, US3833216 A, US3822599 A, US3809402 A, US3808402 A, US3784194 A, US3767195 A, US3758111 A, US3751033 A, US3712613 A, US3708937 A, US3664027 A, US3643943 A, US3623582 A, US3603609 A, US3596921 A, US3581663 A, US3578800 A, US3554585 A, US3550523 A, US3526042 A, US3511097 A, US3495475 A, US3494616 A, US3432164 A, US3382971 A, US334635 A, US3283997 A, US3275339 A, US326247 A, US3233916 A, US3216722 A, US3112108 A, US3062204 A, US2872191 A, US2866358 A, US2826135 A, US2825563 A, US2788211 A, US2784591 A, US2758532

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Forward Citations: WO10034078, WO06015210, WO06015210, USD748210, USD703474, USD677350, USD676508, USD659778, USD656566, USD649607, USD649204, USD649203, USD643887, USD625762, USD624612, USD616050, USD586409, US9533186, US9486662, US9403052, US9155932, US9101218, US9051020, US8967563, US8950256, US8926479, US8827871, US8752810, US8585561, US8496297, US8453992, US8418974, US8408094, US8052581, US7980519, US7905817, US7850577, US7785236, US7771325, US7762931, US7758475, US7708251, US7686096, US7544154, US7467478, US7413530, US7364533, US7258039, US7226393, US7175570, US7172532, US2016317860, US2015023758, US2015001777, US2014311717, US2014283891, US2014158843, US2014042725, US2013237385, US2013237381, US2013065733, US2013015685, US2012187649, US2012152665, US2012122633, US2012061536, US2012055282, US2011319231, US2011251020, US2011224046, US2010288901, US2010273612, US2010234185, US2010229676, US2010155636, US2010140436, US2010077564, US2010036736, US2010035726, US2009291811, US2009156371, US2009118099, US2009048073, US2008261774, US2008210831, US2008207402, US2008156962, US2008058170, US2007281835, US2007281834, US2007215781, US2007163790, US2007042868, US2006172866, US2006021830, US2006003870, US2005221962, US2005132838, US2005096192, US2004261221, US2004248702, US2004116182, EP2263760, DE202009007407, DE102009022544, DE102009022544, CN104368128, CN103405895, CN103405895,

Abstract:
Source: US2002151414A A unique structure for an indoor exercise bike that provides strength in its design, as well as the flexibility to create an aesthetically appealing frame structure. The monocoque frame design, including two symmetrical halves joined together, forms a very strong, light shell that can take on a variety of shapes and sizes. The seat structure, handlebar structure, drive train and support platforms are all able to be readily attached to the primary frame structure to provide an exercise bicycle that is sturdy, easy to manufacture, and light enough to easily move when necessary.



0) US2002168792A – STATIONARY EXERCISE BICYCLE

5) Family number: 42646216 (US2002168792A) © PatBase

Title: STATIONARY EXERCISE BICYCLE

Priority:

AU20010293127 20010926 AU20070240163 20071206 US19960736976 19961025
US19950391438 19950221 US19920969765 19921030 RU20030112225 20010926
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Family:

Publication number	Publication date	Application number	Application date
AU2001293127 AA	20020408	AU20010293127	20010926
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AU200193127 A5	20020408	AU20010093127	20010926
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EP1660202 A4	20090909	EP20040782952	20040901
HK1062152 A3	20041021	HK20040105122	20040714
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IN02477KN2007 A	20080801	IN2007KN02477	20070704
JP2004509715 T2	20040402	JP20020530160T	20010926
KR20030059156 A	20030707	KR20037004411	20030327
MXPA03002637 A1	20040910	MX2003PA02637	20010926
NO20031368 A	20030526	NO20030001368	20030326
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NZ524955 A	20050128	NZ20010524955	20010926
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US2003060257 AA	20030327	US20010965620	20010926
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US5423728 A	19950613	US19920969765	19921030	
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Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): A63B21/00 A63B22/06 A63B22/08 A63B71/00 A63F13/00 A63F13/10 A63F13/12 A63F3/00 A63F3/06 A63F9/24 G06F17/00 G06F19/00 G07F17/32 (Advanced/Invention); A63B22/00 A63F3/08 G06Q50/00 (Advanced/Non–invention); A63B22/06 A63F13/00 A63F13/10 A63F13/12 A63F3/00 A63F3/06 (Core/Invention); A63F3/08 (Core/Non–invention); A63F (Subclass/Invention)

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US class: 273/138.1 273/138.100P 273/139 273/139S 273/236 273/236S 273/241 273/241S 273/269 273/285 273/285S 428/29 438/57 438/57P 463/12 463/13 463/13S 463/16 463/16P 463/16S 463/17 463/17P 463/18 463/2 463/20 463/20S 463/21 463/25 463/25P 463/25S 463/29 463/31 482/57 482/57P 482/63 74/551.1 D21/663

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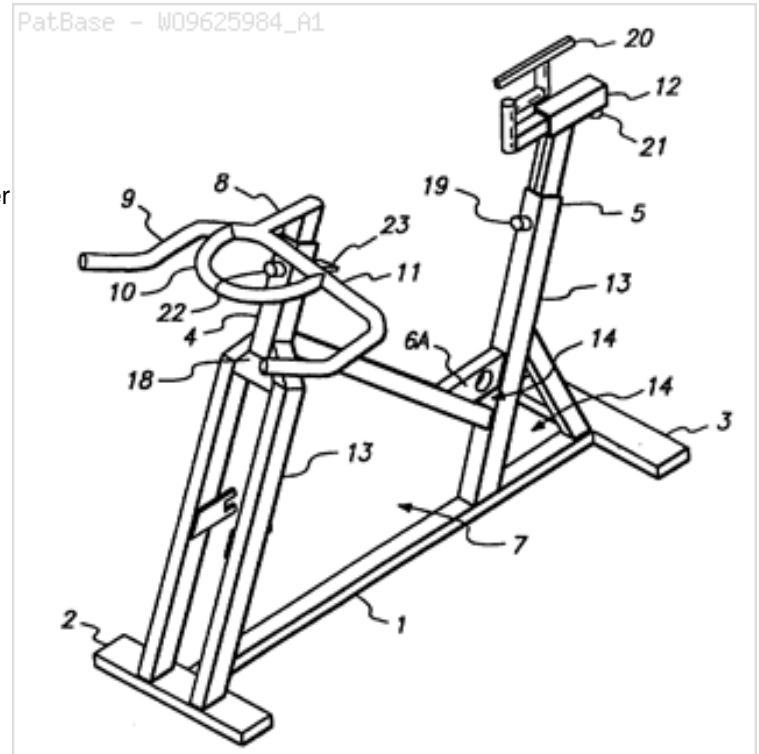
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Abstract:
Source: US2002168792A A novel stationary exercise bicycle and method for exercising on that bicycle is disclosed. The novel bicycle, comprising a frame having front and rear sockets, a seat mounted into the rear socket, and a handlebar mounted in the front socket, can advantageously be adjusted so that a rider can adopt different riding positions to simulate outdoor bicycle riding conditions.



0) US2004046736A – NOVEL MAN MACHINE INTERFACES AND APPLICATIONS

6) Family number: 11839475 (US2004046736A) © PatBase

Title: NOVEL MAN MACHINE INTERFACES AND APPLICATIONS

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): A61B3/02 A61B5/11 A61B5/12 A61B6/00 A63B24/00 A63B71/00 A63F13/00 A63F13/02 A63F13/04 A63F13/06 A63F3/00 A63F3/02 A63F7/02 A63F9/24 B60K1/00 B60K35/00 B60K37/02 B60K37/06 B60Q1/00 B60R11/02 G01C21/36 G01D1/00 G01D13/00 G01F1/708 G01S5/16 G05B11/01 G05B15/00 G05B19/042 G06F15/00 G06F15/16 G06F17/00 G06F17/30 G06F19/00 G06F3/00 G06F3/01 G06F3/03 G06F3/033 G06F3/0354 G06F3/038 G06F3/041 G06F3/042 G06F3/043 G06F3/045 G06F3/048 G06F3/0484 G06F3/0488 G06K11/06 G06K9/00 G06M11/04 G06T17/40 G06T7/00 G08B21/00 G08B6/00 G08C21/00 G09G5/00 G09G5/08 G09G5/10 G10H1/00 G10L21/00 H04B3/36 H04N5/225 H04N5/64 H04N7/18 H04N9/31 H04Q9/00 (Advanced/Invention); A63F9/24 B60R11/00 G06F3/041 (Advanced/Non–invention); A63B71/00 A63F3/02 A63F7/02 B60K37/04 B60Q1/00 G01D1/00 G01S5/00 G05B11/01 G05B15/00 G06F15/00 G06F15/16 G06F17/00 G06F17/30 G06F19/00 G06F3/033 G06F3/041 G06F3/048 G06K9/00 G06M11/00 G09G5/00 G09G5/08 G10L21/00 H04N5/225 H04N5/64 H04N7/18 H04N9/31 (Core/Invention); A63F9/24 G06F3/041 (Core/Non–invention); B60K (Subclass/Invention)

International class (IPC 1–7): A63F9/24 B60K1/00 G06F19/00 G06K9/00 G09G5/00 G09G5/08

CPC: A63F7/027 A63F2003/00974 A63F2009/243 A63F2009/2435 A63F2009/2457 G06F3/0423 G06F2203/0381 G06F3/0426 H04N9/3129 G06F2203/04808 Y10S128/92 Y10S128/921 Y10S128/922 A63F2300/8023 G06F3/01 G06K9/00335 G06K9/2018 G06T2207/10021 G06T2207/30196 G06T2207/30204 A63B24/0062 A63B71/06 A63B24/0075 G06F19/3475 G06F19/3481 G06Q30/06 A63F13/02 A63F13/04 A63F13/10 A63F2300/1043 A63F2300/1062 A63F2300/1081 A63F2300/6045 A63F2300/69 G06F3/038 G06F3/0428 G06F19/3406 G06F19/3418 G06F19/3437 G10H1/0008 G10H2220/321 B60K2350/1004 B60K2350/901 G06T2219/2016 G06T2219/2021 G06F3/0346 G06F17/5095 G06F2217/32 G05B19/0423 A47L15/0063 G01F23/292 G05B2219/23031 G05B2219/2643 G05B2219/31048 A63F2300/1093 B60K2350/2052 F24C7/082 H05B6/6435 H05B2213/04 B60K2350/1044 B60K2350/1052 B60K2350/355 Y10S482/90 Y10S482/901 B60R11/02 B60R11/0235 B60R2011/0005 B60R2011/0007 B60R2011/0012 B60R2011/0028 B60R2011/0029 B60R2011/0042 B60R2011/0094 G06F3/042 B60K37/02 B60K2350/106 B60K2350/1072 G06F3/0416 G06F3/0421 G06F3/04883 G06F3/04886 G01C21/365 B60K2350/2013 B60K2350/925 B60K2350/962 G01C21/265 G06T19/20 G06F3/016 G06F2203/04109 G06F3/012 G06F3/014 A63F13/213 A63F13/245 A63F13/803 A63F13/428 A63F13/2145 A63F13/00 A63F2300/1075 A63F2300/1087 A63F2300/30 A63F2300/308 A63F2300/8011 G07F17/3297 G06F3/017 G06F3/0304 G06F3/0325 G06F3/011 A63F3/00643 A63F7/0005 A63F13/06 A63F2009/0012 A63F2009/2419 A63F2009/2433 A63F2250/50 A63F2300/1068 G06F2203/04101 G01S5/16 G05G1/105 B60K35/00 B60K2350/1016 B60K2350/1028 G06F3/0425 B60K37/06 B60K2350/102 B60K2350/1024 B60K2350/104 G01C21/3664 G06F3/0312 G06F3/03545 G06F3/04847 G06F3/0488 G06F2203/04108 G06F2203/04809 G06T7/246 G06T7/593 G06T7/73 B33Y50/00

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US class: 116/205 116/205S 128/920 128/921 128/922 178/18.01 178/18.09 273/237 273/274 307/10.1 340/407.1 340/407.100P 340/407.2 340/407.200P 340/425.5 340/425.500P 345/156 345/156P 345/156S 345/157 345/157P 345/158 345/158P 345/161 345/173 345/173P 345/173S 345/174 345/174P 345/175 345/175P 345/175S 345/177 345/177P 345/184 345/184S 345/419 345/690 345/7 345/7S 348/143 348/169 348/207.1 348/207.100S 348/373 348/373P 348/744 348/744P 348/744S 348/77 348/77S 348/837 348/837S 348/E5.024 348/E5.128 348/E5.137 348/E50.24S 348/E51.28S 348/E51.37S 348/E7.085 348/E70.85S 348/E9.025 348/E9.026 348/E90.25S 348/E90.26S 358/1.12 382/103 382/103P 382/104 382/107 382/154 382/176 382/181 382/312 463/1 463/10 463/16 463/30 463/31 463/31P 463/32 463/34 463/36 463/36P 463/36S 463/37 463/4 463/5 463/7 463/8 482/5 482/8 482/8P 482/9 482/900 482/901 600/476 600/558 600/559 600/595 700/17 700/18 700/19 700/20 700/83 702/127 704/275 704/275S 704/E21.001 704/E21.001S 707/802 707/802S 707/E17.044 707/E17.044S 709/206 709/206S 715/702 715/702S 715/709 715/744 715/745 715/764 715/764P 715/788 715/789 715/810 715/811 715/833 715/833S 715/863 715/865

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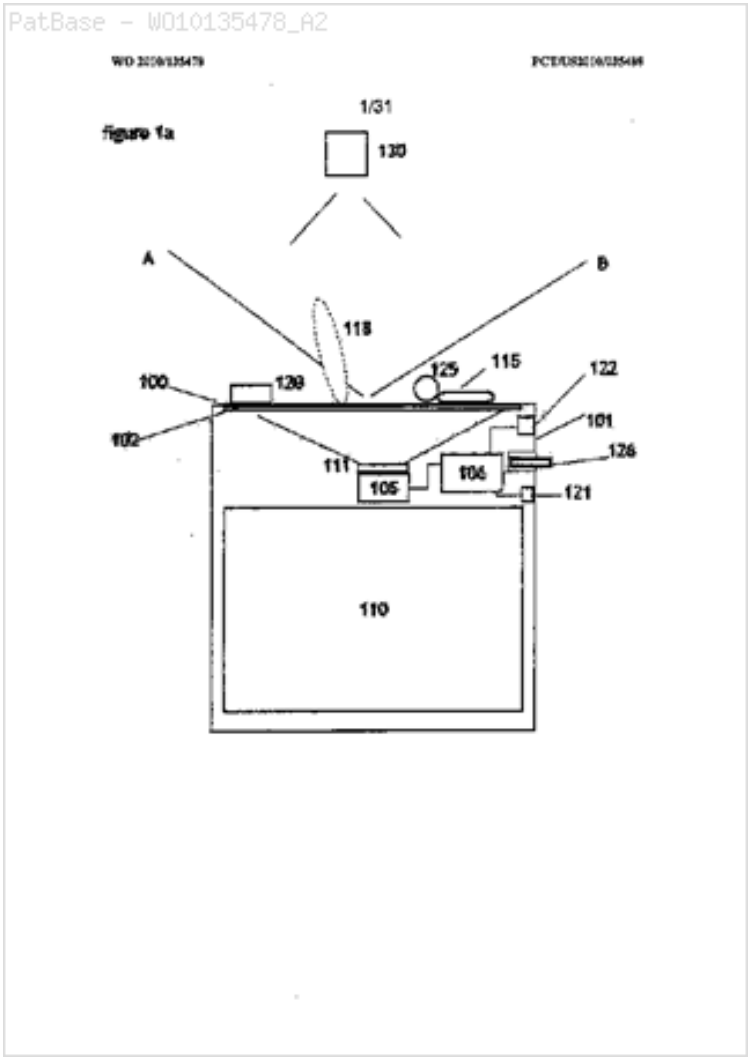
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Abstract:
Source: US2004046736A Affordable methods and apparatus are disclosed for inputting position, attitude (orientation) or other object characteristic data to computers for the purpose of Computer Aided Design, Painting, Medicine, Teaching, Gaming, Toys, Simulations, Aids to the disabled, and internet or other experiences. Preferred embodiments of the invention utilize electro−optical sensors, and particularly TV Cameras, providing optically inputted data from specialized datum's on objects and/or natural features of objects. Objects can be both static and in motion, from which individual datum positions and movements can be derived, also with respect to other objects both fixed and moving. Real−time photogrammetry is preferably used to determine relationships of portions of one or more datums with respect to a plurality of cameras or a single camera processed by a conventional PC.



0) US2002177498A – FRONT DERAILLEUR WITH ANNULAR CHAIN GUIDE, BICY...

7) Family number: 28262507 (US2002177498A) © PatBase

Title: FRONT DERAILLEUR WITH ANNULAR CHAIN GUIDE, BICYCLE AND METHOD OF OPERATION

Priority: US20000488657 20000120 US20020201849 20020723 US20050155311 20050617 WO2003US20104 20030624 WO2001US01557 20010116

Family:

Publication number	Publication date	Application number	Application date
AU2001229560 AA	20010731	AU20010229560	20010116
AU2003249379 AA	20040209	AU20030249379	20030624
AU2003249379 AH	20040209	AU20030249379	20030624
EP1407168 A1	20040414	EP20010942702	20010116
EP1407168 A4	20060412	EP20010942702	20010116
US2002177498 AA	20021128	US20020201849	20020723
US2006019782 AA	20060126	US20050155311	20050617
US6454671 BA	20020924	US20000488657	20000120
US7025698 BB	20060411	US20020201849	20020723
US7951028 BB	20110531	US20050155311	20050617
WO0153718 A1	20010726	WO2001US01557	20010116
WO04009432 A2	20040129	WO2003US20104	20030624
WO04009432 A3	20040819	WO2003US20104	20030624

Probable Assignee: WICK WERKS LLC

Assignee(s):(std)**:** WICKLIFF CHRISTOPHER ALAN ; WICKLIFFE CHRISTOPHER A ; WICKLIFFE CHRISTOPHER ALAN

Assignee(s): CHRISTOPHER ALAN WICKLIFFE ; WICK WERKS LLC

Inventor(s):(std)**:** WICKLIFF CHRISTOPHER ALAN ; WICKLIFFE CHRISTOPHER A ; WICKLIFFE CHRISTOPHER ALAN

Inventor(s): WICKLIFFE CHRISTOPHER ; CHRISTOPHER ALAN WICKLIFFE

Agent(s): MORRISS OBRYANT COMPAGNI PC; MORRISS OBRYANT COMPAGNI; MORRISS O'BRYANT COMPAGNI

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B62M9/134 B62M9/1342 B62M9/1344 B62M9/1346 B62M9/1348 B62M9/136 B62M9/137 F16H59/00 F16H61/00 F16H63/00 F16H7/18 F16H7/22 (Advanced/Invention); B62M9/00 F16H61/00 (Core/Invention)

International class (IPC 1–7): B62M F16H59/00 F16H61/00 F16H63/00 F16H7/00 F16H7/22 F16H9/00

CPC: B62M9/134 B62M9/1342 B62M9/1346 B62M9/136 B62M9/137 B62M9/16 F16H7/18 F16H7/22

European class: B62M9/12B B62M9/134 B62M9/1342 B62M9/1346 B62M9/136 B62M9/137 B62M9/16 F16H7/18 F16H7/22

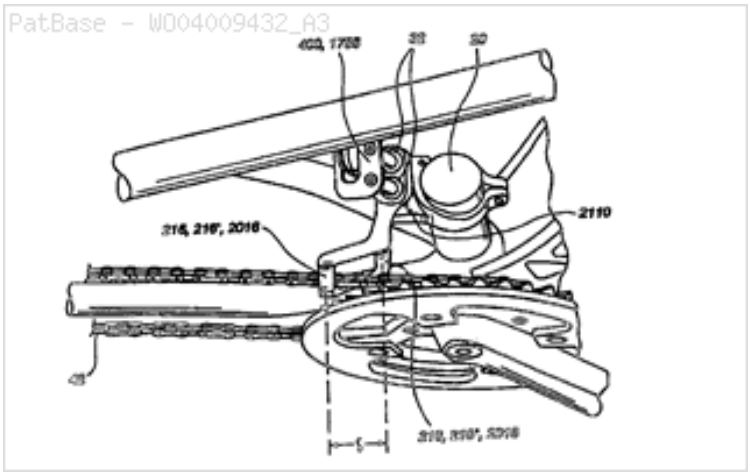
US class: 474/80 474/80P 474/82 474/82S

Classification Explorer

Cited documents: US6471610 BA, US5846148 A, US5782714 A, US5779581 A, US5728018 A, US5688200 A, US5649877 A, US5624336 A, US5607367 A, US5312301 A, US4832667 A, US4743083 A, US4734083 A, US4618332 A, US4599079 A, US4573950 A, US4551121 A, US4437848 A, US4433963 A, US4223562 A, US4194409 A, US4078444 A, US3890847 A, US3813955 A, US3742777 A, JP5254481 A2, JP(05254481, IT454769 A,

IT452463 A, GB470737 A, FR2621968 A3, FR2605969 A1, DE4447043 A1,

Forward Citations: WO14151765, WO14145415, WO08108641, USD599719, USD599718, USD599717, USD599716, USD599255, USD510548, US9327792, US9216793, US9033833, US9008923, US8857839, US8845467, US8506436, US8475306, US8092329, US7955205, US2014378252, US2014303857, US2014274507, US2014265220, US2014155206, US2013137541, US2012258826, US2011028252, US2010190593, US2009111631, US2008176692, US2007265121, US2006240920, NL2000519, FR2964082, EP2540609, EP1767449,



Abstract:
Source: US2002177498A A front derailleur including an annular chain guide for engagement and disengagement of a bicycle chain with multiple chain rings of a crankset. The annular chain guide may be positioned by linear guide rods. The annular chain guide may have an inner lifting surface and an outer pulling surface for engaging diametrically opposed corners of a chain when viewed in cross−section. The annular chain guide may have an opening defined by a polygon having at least five sides. The motion of the annular chain guide during a up−shift, i.e., displacement of the chain from a smaller chain ring to a next larger chain ring includes an upward, outward and rearward linear motion relative to a bicycle frame including upward force exerted by the annular chain guide against the chain. The motion of the annular chain guide during a down−shift is exactly opposite whereby the annular chain guide exerts a pulling down force against the chain.

0) US2001045765A – BICYCLE SEAT

8) Family number: 28137598 (US2001045765A) © PatBase

Title: Bicycle seat

Priority: AU1996PO04055 19961209 AU1997PO05579 19970312 AU19980051110 19971202 AU1997PP00315 19971112 US20010891824 20010626 US19990319683 19990609 WO1997AU00818 19971202

Family:

Publication number	Publication date	Application number	Application date
AT269246 E	20040715	AT19970945671T	19971202
AU199851110 A1	19980703	AU19980051110	19971202
AU31597 A0	19971204	AU1997PP00315	19971112
AU405596 A0	19970109	AU1996PO04055	19961209
AU557997 A0	19970410	AU1997PO05579	19970312
AU741652 B2	20011206	AU19980051110	19971202
BRPI9713879 A	20000229	BR1997PI13879	19971202
CA2273357 AA	19990601	CA19972273357	19971202
CA2273357 C	20080729	CA19972273357	19971202
CN1113770 C	20030709	CN19971081107	19971202
CN1241973 A	20000119	CN19971081107	19971202
DE69729574 D1	20040722	DE19976029574	19971202
DE69729574 T2	20050630	DE19976029574T	19971202
EP0941196 A1	19990915	EP19970945671	19971202
EP0941196 A4	20000202	EP19970945671	19971202
EP0941196 B1	20040616	EP19970945671	19971202
ES2224276 T3	20050301	ES19970945671T	19971202
ID24330 A	20000713	ID19990000666D	19971202
IN195149 B	20090724	IN1997CA02301	19971205
JP2001505510 T2	20010424	JP19980526007T	19971202
KR100568693 B1	20060407	KR20057021307	19971202
KR20050111652 A	20051125	KR20057021307	20051109
MY118996 A	20050228	MY19970005888	19971208
NZ336007 A	20021126	NZ19970336007	19971202
TW385287 B	20000321	TW19970118478	19971208
TW526825 Y	20030401	TW19970216667U	19971208
US2001045765 AA	20011129	US20010891824	20010626
US6254180 BA	20010703	US19990319683	19990609
US6254180 C1	20071023	US19990319683	19990609
WO9825810 A1	19980618	WO1997AU00818	19971202
ZA9710982 A	19980623	ZA19970010982	19971208

Probable Assignee: ICON IP PTY LTD

Assignee(s):(std)**:** NELSON P D ; NELSON PAUL D ; NELSON PAUL DAMIAN ; PAUL DAMIAN NELSON ; PAUL D NELSON ; NELSON SEATING PTY LTD ; NELSON PAUL DAMIEN

Assignee(s): FAZIO RICHARDS PTY LTD WAS KNOWN AS NELSON SEATING PTY LTD.. ; ICON IP PTY LTD

Inventor(s):(std)**:** HENRY WILSON STEPHEN ; NELSON PAUL D ; NELSON PAUL DAMIAN ; NELSON PAUL DAMIEN ; PAUL D NELSON ; PAUL DAMIAN NELSON ; WILSON STEPHEN HENRY

Agent(s): GRIFFITH HACK; OGILVY RENAULT LLP SENCRL SRL

Designated states:

AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CZ DE DK EE ES FI FR GA GB GE GH GR HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TG TJ TM TR TT UA UG US UZ VN YU ZW

International class (IPC 8–9): B60J1/00 B62J1/00 B62J1/04 B62J1/18 B62J1/24 (Advanced/Invention); B62J1/18 (Advanced/Non–invention); B62J B62K (Subclass/Invention)

International class (IPC 1–7): B60J1/00 B62J B62J1/00 B62J1/04 B62J1/18 B62J1/24 B62K

CPC: B62J1/002

European class: B62J1/00B

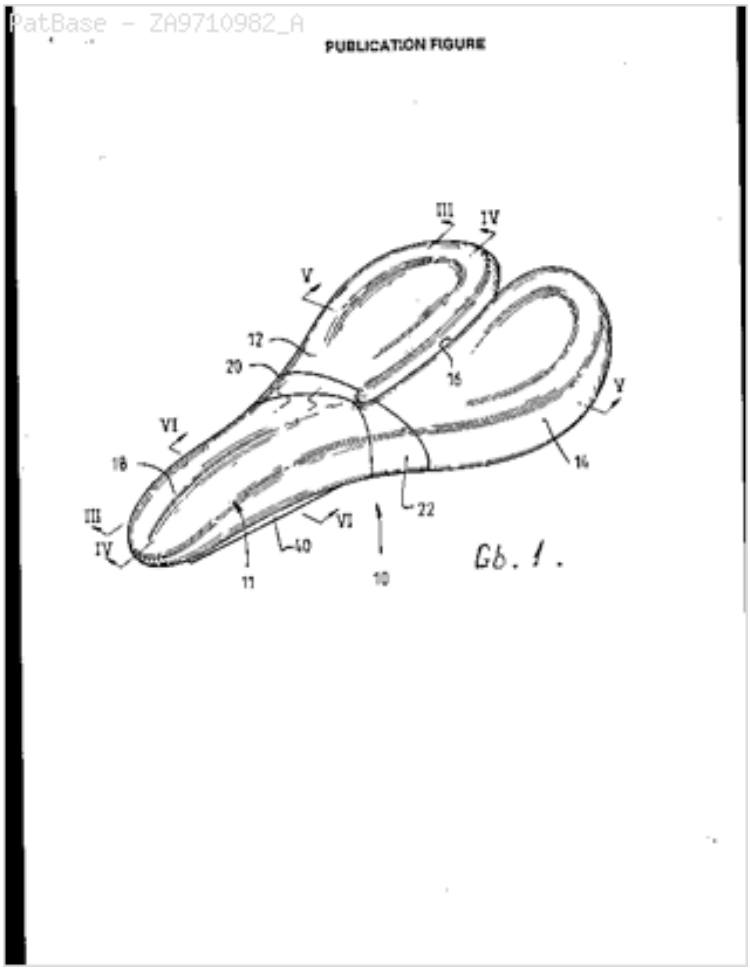
US class: 297/201 297/201P 297/202

Classification Explorer

Cited documents: WO9700192 A1, WO9427858 A1, WO9425331 A2, WO9218373 A1, WO9101244 A1, WO8809738 A1, US689664 A, US656854 A, US5927802 A, US5823618 A, US5011222 A, GB611899 A, GB25463 A, GB189625463 A, FR2723905 A1, EP0734943 A2, EP0603138 A1, DE689664 A, DE4424824 A1, DE4242824 A1, AU1321383 A1,

Forward Citations: WO9920517, WO04069636, WO0210008, WO0128486, USD463676, USD446031, US9586809, US9573643, US9493203, US9440695, US9422019, US9290222, US9284003, US9233725, US9073593, US9050236, US8973986, US8951151, US7537281, US7537280, US7441836, US7341308, US7025417, US6827397, US6672660, US6669283, US6244655, US6106059, US2015251717, US2014311105, US2014265467, US2011288454, US2011260510, US2011193376, US2009079237, US2008234077, US2007069556, US2006208542, US2006119146, US2006061158, US2005236875, US2005046246, US2005017552, KR101359816, JP2006516506, EP1837270, EP1590229, EP1100695, DE202012008122, DE202012001583, DE202004013746, DE19932031, DE19932031, CN102573572,

Abstract:
Source: US2001045765A A bicycle seat is shown which includes a shell (11) formed from plastics material which has two buttock support portions (12 and 14) separated by a slot (16). The shell (11) includes a nose portion (18) and the transition between the support portions (12 and 14) and the nose portions (18) formes hinges (20 and 22) for allowing the support portions (12 and 14) to move independently with respect to one another in arcuate fashion during pedalling motion of the bicycle. A support rail (40) is coupled to the underside of the shell (11) and may have free ends (145) which act as stops to limit the amount of movement of the support portions (12 and 14). Springs (184, 190) may be provided between the mounting rail (40) and the shell (11). In other embodiments, FIGS. 42 to 80, the seat may include chambers for receiving air to cushion and provide support for a rider.



0) US5253544A – SHOCK ABSORBING BICYCLE HANDLEBAR ASSEMBLY

9) Family number: 12504711 (US5253544A) © PatBase

Title: SHOCK ABSORBING BICYCLE HANDLEBAR ASSEMBLY

Priority: US19910648173 19910130 US19910760621 19910919 WO1992US00781 19920129 US19930045984 19930409 US19920982229 19921125 US19940196868 19940214

Family:

Publication number	Publication date	Application number	Application date
AT132097 E	19960115	AT19920905850T	19920129
AU199213327 A1	19920907	AU19920013327	19920129
CA2101260 AA	19930728	CA19922101260	19920129
CN1064450 A	19920916	CN19921001451	19920130
DE69207174 D1	19960208	DE19926007174	19920129
DE69207174 T2	19960613	DE19926007174T	19920129
EP0569518 A1	19931118	EP19920905850	19920129
EP0569518 B1	19951227	EP19920905850	19920129
JP6505941 T2	19940707	JP19920506289T	19920129
MX9200411 A1	19920701	MX19920000411	19920130
US5253544 A	19931019	US19920982229	19921125
US5285697 A	19940215	US19930045984	19930409
US5511444 A	19960430	US19940196868	19940214
WO9213749 A1	19920820	WO1992US00781	19920129

Probable Assignee: SOFTRIDE INC

Assignee(s):(std)**:** ALLSOP INC ; SOFTRIDE INC

Assignee(s): SAMAC ROBERT A ; SOFTRIDE INC BELLINGHAM WASH US ; ALLSOP JAMES D ; CLAUSEN EIVIND ; MORGEN JOHN P ; PABON RAYMOND G

Inventor(s):(std)**:** CLAUSEN EIVIND ; CLAUSEN EIVIND NMI ; CLAUSEN ELVIND ; ALLSOP JAMES ; ALLSOP JAMES D ; MORGEN JOHN ; MORGEN JOHN P ; PABON RAYMOND ; PABON RAYMOND G ; SAMAC ROBERT ; SAMAC ROBERT A

Inventor(s): SAMAC ROBERT A DES MOINES WA 98198 US ; PABON RAYMOND G FEDERAL WAY WA 98063 US ; RAYMOND G PABON ; ROBERT A SAMAC ; MORGEN JOHN P SAN FRANCISCO CA 94116 US ; ALLSOP JAMES D BELLINGHAM WA 98226 US ; EIVIND CLAUSEN ; ELVIND CLAUSEN ; JAMES D ALLSOP ; JOHN P MORGEN ; CLAUSEN EIVIND NMI WHITE ROCK BRITISH COLUMBIA V ; CLAUSEN EIVIND NMI WHITE ROCK BRITISH COLUMBIA...

Agent(s): SMART AND BIGGAR

Designated states: AT AU BB BE BF BG BJ BR CA CF CG CH CI CM CS DE DK ES FI FR GA GB GN GR HU IT JP KP KR LI LK LU MC MG ML MN MR MW NL NO PL RO RU SD SE SN TD TG US

International class (IPC 8–9): B62K21/14 (Advanced/Invention); B62K21/00 (Core/Invention)

International class (IPC 1–7): B62K21/12 B62K21/14 B62K21/16

CPC: B62K21/14 Y10T74/2078 Y10T74/20786 Y10T403/32614

European class: B62K21/14

US class: 280/234 280/276 280/279 403/120 74/551.1 74/551.2

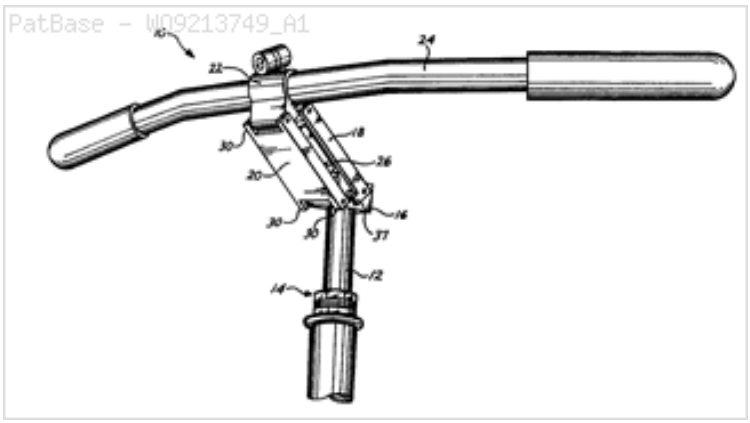
Classification Explorer

Cited documents: WO9003302 A1, US897579 A, US626602 A, US5385070 A, US5287765 A, US5285697 A, US5253544 A, US5220851 A, US5186074 A, US5138900 A, US5082302 A, US4726600 A, US4600207 A, US423249 A, US402143 A, US367368 A, US3388612 A, US2324403 A, US1719007 A, US1211303 A, US1060442 A, US1051773 A, SU713755 T, IT448852 A, IT444593 A, IT399794 A, GB717377 A, GB578161 A, GB281209 A,

GB189703707 A, FR641997 A, FR633091 A, FR482523 A, FR428563 A, FR364759 A, FR2265604 A1, FR1064402 A, FR1050197 A, EP0235040 A2, DK67343 C, DK67343 A, DK67343, DE666499 A, DE169701 A,

Forward Citations: WO9418057, WO14123502, WO13033674, WO06130324, WO05035350, USD712995, USD658098, US9360271, US9334010, US9242609, US8888117, US8739653, US8490996, US8317214, US8038133, US7896379, US7699331, US7610657, US7540457, US7475896, US7389965, US7380808, US7146877, US7134359, US7125030, US7125030, US7017930, US6988740, US6874385, US6860500, US6546807, US6485039, US6467787, US6349957, US6325402, US6244131, US6206396, US6032934, US5921145, US5887490, US5836213, US5752711, US5678457, US5660406, US5511444, US5501477, US5492033, US5361647, US2014291373, US2013042719, US2011215549, US2010096207, US2009072455, US2008284129, US2008275179, US2008247723, US2008217090, US2008203699, US2007277347, US2006260432, US2006219046, US2006130606, US2006119069, US2006064223, US2006049610, US2005248119, US2005248118, US2005247160, US2005236802, US2005193858, US2005179228, US2005150321, US2005109152, US2005066766, US2005061103, US2004112168, US2003121358, US2002084619, FR2959721, FR2717145, EP2119950, EP1719694, EP1719694, EP0897857, DE4230954, DE202012002600, CN105210480,

Abstract:
Source: US5253544A A bicycle handlebar assembly for dampening and reducing the shock to which a cyclist is normally exposed is disclosed. The assembly includes a mounting block attached to the head of a bicycle front fork assembly. An upper linkage member and a lower linkage member that are parallel and spaced apart from each other are pivotally attached at their tail ends to the mounting block. A handlebar clamp for securing a handlebar thereto is pivotally attached to the front ends of the upper and lower linkage members. A dampening element is disposed against one of the linkage members for slowing the downward movement of the linkage members and serving as a sink for a downward force applied to the linkage members when the handlebars are urged downwards. In some preferred embodiments of the invention the dampening member is a layer of elastomeric material disposed between the upper and lower linkage members. In other embodiments of the invention the dampening members include a spring element.



0) US2010204823A – AUTOMATED BIKE PARKING SYSTEM

10) Family number: 46548793 (US2010204823A) © PatBase

Title: AUTOMATED BIKE PARKING SYSTEM

Priority: US20090150782P 20090208 US20090261410P 20091116 US20100701239 20100205

Family:

Publication number	Publication date	Application number	Application date
US2010204823 AA	20100812	US20100701239	20100205
US8437873 BB	20130507	US20100701239	20100205
WO10091275 A2	20100812	WO2010US23354	20100205
WO10091275 A3	20140313	WO2010US23354	20100205

Probable Assignee: NORTH PERRY

Assignee(s):(std)**:** NORTH PERRY

Inventor(s):(std)**:** NORTH PERRY

Agent(s): MEREDITH AND KEYHANI PLLC; JENNIFER; MEREDITH JENNIFER

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B62H3/12 B66F11/00 G06F17/00 G06F7/00 (Advanced/Invention); G06F17/00 G06F7/00 (Core/Invention)

CPC: B62H3/12

European class: B62H3/12

US class: 235/380 235/380S 235/382 235/382S 340/427 340/432 52/79.4 700/215 700/218 700/218P

Classification Explorer

Cited documents: WO02067210 A1, US7133740 BA, US713374 A, US6823236 BB, US6729478 BA, US672947 A, US6637602 BB, US6371717 BA, US637171 A, US6164459 A, US5845788 A, US584578 A, US5841351 A, US584135 A, US5641951 A, US564195 A, US5278538 A, US5265667 A, US526566 A, US5024318 A, US502431 A, US2008042811 AA, US2007107322 AA, US2007065259 AA, EP1122194 B1, EP1122194 A1, EP1031679 B1, EP1031679 A1, EP0677628 B1, EP0677628 A1,

Forward Citations: USD776576, USD766138, USD746760, USD738276, USD730781, USD730780, USD730779, US9004295, US8893898, US2015074004, US2014341683, US2012298605, US2012024802, EP3085856, CN104123606,

Abstract:
Source: US2010204823A System, device and method for providing public, high−density bicycle storage and protection from elements and theft. System includes overhead conveyors from which bicycles are hung in a near side/far side arrangement where handlebars of only every other bicycle are aligned. Bicycles are rolled into a loading station on their back wheels by user and secured, from the front wheel, to a hook that is removably coupled to a load hoist. Access to loading station is controlled by an access control panel. Load hoist lifts the hook to place the bicycle in a hanging position. Robotic arm of a robotic elevator grasps, retracts and lowers (or raises) the bicycle into a multilevel storage area and onto overhead conveyors. Users may be bike−share users or storage users who store the particular bicycle they own.

PatBase - WO10091275_A2

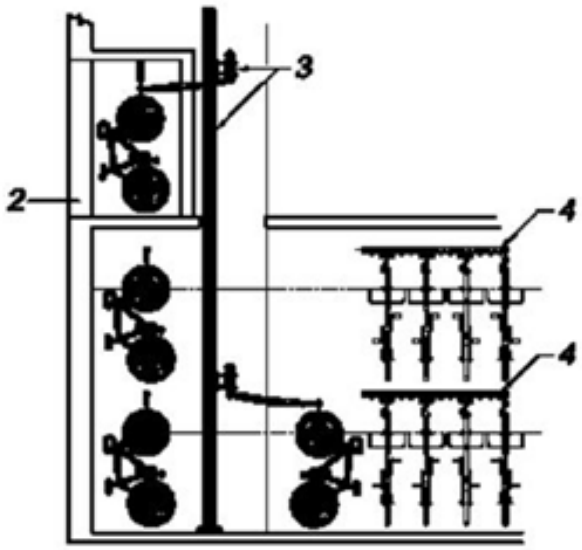


Figure - 2

0) US2007221008A – BICYCLE SHIFTER

11) Family number: 37088224 (US2007221008A) © PatBase

Title: BICYCLE SHIFTER

Priority: EP20070005919 20070322 US20060277249 20060323

Family:

Publication number	Publication date	Application number	Application date
CN101092157 A	20071226	CN200710089449	20070323
CN101092157 B	20110831	CN200710089449	20070323
DE602007033992 D1	20140123	DE200760033992T	20070322
EP1837275 A2	20070926	EP20070005919	20070322
EP1837275 A3	20090617	EP20070005919	20070322
EP1837275 B1	20131127	EP20070005919	20070322
TW200800716 A	20080101	TW20070109908	20070322
TWI333918 B	20101201	TW20070109908	20070322
US2007221008 AA	20070927	US20060277249	20060323
US9446813 BB	20160920	US20060277249	20060323

Probable Assignee: SRAM LLC

Assignee(s):(std)**:** SRAM CORP ; SRAM LLC ; SHIPMAN CHRISTOPHER ; WESLING KEVIN

Assignee(s): SRAM LLC CHICAGO ; GENERAL ELECTRIC CAPITAL CORP ; JPMORGAN CHASE BANK NA ; JPMORGAN CHASE BANK NA AGENT AS ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS ; COMPOSITECH INC ; GENERAL ELECTRIC CAPITAL ADMINISTRATIVE AGENT AS CORP ; GENERAL ELECTRIC CAPITAL ADMINISTRATIVE AGENT C AS ; GENERAL ELECTRIC CAPITAL ADMINISTRATIVE AGENT CORP AS

Inventor(s):(std)**:** WESLING KEVIN ; SHIPMAN CHRISTOPHER ; KEVIN WESLING ; CHRISTOPHER SHIPMAN

Inventor(s): SHIPMAN CHRISTOPHER 4

Agent(s): WUESTHOFF AND WUESTHOFF PATENTANWAELTE PARTG MBB; THUM BERNHARD; SRAM CORP; MILAN; LISA

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL PL PT RO RS SE SI SK TR YU

International class (IPC 8–9): B62K23/06 B62M11/14 B62M25/04 F16C1/10 (Advanced/Invention); B62M25/00 F16C1/10 (Core/Invention); B62M11/14 (Core/Non–invention)

CPC: B62K23/06 B62M25/04 Y10T74/20438

European class: B62K23/06 B62M25/04

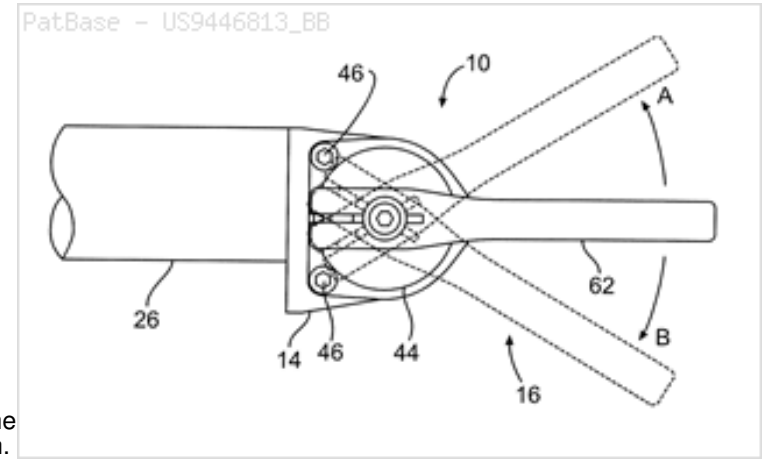
US class: 1/1 74/502.2 74/502.200P

Classification Explorer

Cited documents: US7698967 BB, US7565848 BB, US7305903 BB, US6494662 BA, US6145407, US6095309 A, US5921139 A, US5799542 A, US5799542, US5737967 A, US5678455 A, US5676022 A, US5287766 A, US5285696 A, US5095768 A, US5095768, US5052241 A, US5044213 A, US4938733 A, US4771649 A, US4462267 A, US2999706 A, US2583609 A, US2006130602 AA, US2002012559 AA, EP1264763 A2, EP0810150 A2, EP0601211 A1, DE4413610 A1,

Forward Citations: US9327794, US9327792, US9266581, US9033833, US8978511, US8443697, US2013220062, US2012111136, TWI495595, JP6084400, JP2013043642, EP2562070, EP2468614, EP2460716, EP2165924, CN102951253, CN102556279, CN101683889,

Abstract:
Source: US2007221008A A bicycle shifter for pulling and releasing a control cable connected to a gear change mechanism mountable at or near an end of the handlebar that returns to a neutral position after each shift operation to decrease aerodynamic drag encountered by the rider. The shifter includes a takeup member, a control mechanism, a holding mechanism and a return assembly. The takeup member is rotatable about a shift axis for winding and unwinding the control cable thereon in a cable−pull direction and a cable−release direction. The control mechanism is movable in a first direction to rotate the takeup member in the cable−pull direction and in a second direction to rotate the takeup member in the cable−release direction. The holding mechanism retains the takeup member in a selected position and the return assembly returns the control mechanism to the neutral position after each shift operation.



0) US5405159A – HIGH EFFICIENCY BICYCLE SUSPENSION

12) Family number: 11321125 (US5405159A) © PatBase

Title: HIGH EFFICIENCY BICYCLE SUSPENSION

Priority: US19920946060 19920918 US19940268883 19940630 WO1993US08619 19930917 US19940313928 19940928

Family:

Publication number	Publication date	Application number	Application date
AU199351274 A1	19940412	AU19930051274	19930917
DE69329716 D1	20010104	DE19936029716	19930917
DE69329716 T2	20010802	DE19936029716T	19930917
EP0757644 A1	19970212	EP19930922183	19930917
EP0757644 A4	19960125	EP19930922183	19930917
EP0757644 B1	20001129	EP19930922183	19930917
US5405159 A	19950411	US19940268883	19940630
US5586780 A	19961224	US19940313928	19940928
WO9406672 A1	19940331	WO1993US08619	19930917

Probable Assignee: TREK BICYCLE CORP

Assignee(s):(std): KLEIN BICYCLE CORP

Assignee(s): KLEIN BICYCLE CORP CHEHALIS ; TREK BICYCLE CORP ; BANK ONE WISCONSIN ; BANK ONE WISCONSIN A WISCONSIN STATE BANKING CORP

Inventor(s):(std): KLEIN G ; KLEIN GARY G ; PAULS LONNEY ; VOSS DARRELL W ; VOSS W

Designated states: AT AU BE CA CH DE DK ES FR GB GR IE IT JP LU MC NL PT SE

International class (IPC 8–9): B62J1/02 B62K21/14 B62K25/04 F16F9/14 (Advanced/Invention)

International class (IPC 1–7): B62J1/02 B62K19/16 B62K21/14 B62K25/04 B62K25/28 F16F1/20 F16F9/14

CPC: Y10T74/20786 F16F9/145 B62J1/02 B62K21/14 B62K25/04 B62K2025/041 B62K2025/048

European class: B62J1/02 B62K21/14 B62K25/04 F16F9/14B L62K25/04B L62K25/04G

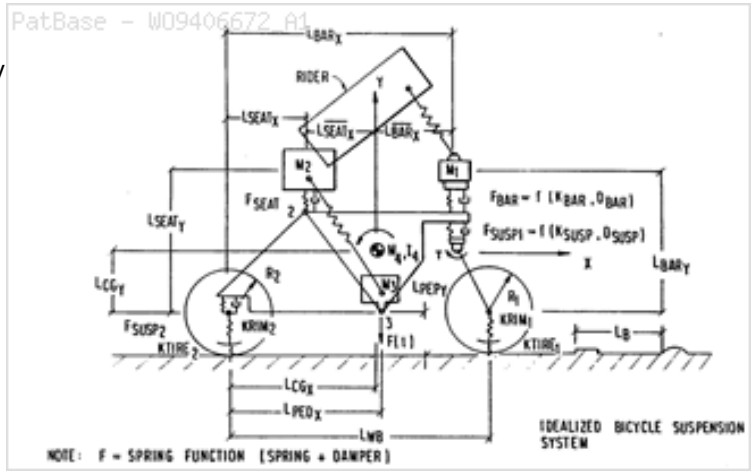
US class: 280/275 280/283 280/288.4 74/551.2

Classification Explorer

Cited documents: US651591 A, US651591, US589820 A, US589820, US524389 A, US5186074 A, US5181436 A, US5098114 A, US4934724 A, US4856801 A, US4773514 A, US4768630 A, US4723639 A, US4519591 A, US4420989 A, US3625539 A, US3598424 A, US2790520 A, US2324403 A, US1622912 A, US1468835 A, US1358315 A, US1318052 A, US1318052, US1171169 A, US1171169, IT423267 A,

Forward Citations: WO0103995, US9541154, US9079628, US8882127, US8733774, US8641072, US8585070, US8424893, US8365699, US8272657, US8235409, US7837213, US7677116, US7581743, US7390004, US7380808, US7267350, US7168726, US7162399, US7146877, US6932371, US6907968, US6863291, US6827397, US6698780, US6619684, US6612599, US6595537, US6543799, US6505719, US6494302, US6450520, US6406048, US6360858, US6354577, US6244398, US6241060, US6220407, US6203042, US6164676, US6164424, US6070895, US6032934, US6026939, US5996745, US5816356, US5752711, US5720491, US5660406, US2014360825, US2014345958, US2012304810, US2011114057, US2010299028, US2010102531, US2008252040, US2007137916, US2007108725, US2006225531, US2006219045, US2006207845, US2006130606, US2006119069, US2005225132, US2004239069, US2004160036, US2004145148, US2004007432, US2003132603, US2003069720, JP2010269789, EP2990685, EP2960145, EP1481882, EP1323946, EP1323946, EP1323625, EP1241087, EP0905407, DE202004013746,

Abstract:
Source: US5405159A A bicycle having an improved suspension system including a rotary damper and composite springs. Springs which closely control the direction of allowable movement in the suspension preclude rocking, twisting or unwanted lateral deflections.



0) US6158806A – BICYCLE SEAT ASSEMBLY

13) Family number: 23243023 (US6158806A) © PatBase

Title: Bicycle seat assembly

Priority: US19980094021P 19980724 US19990360860 19990723 WO1999US16643 19990723 US20000695763 20001024

Family:

Publication number	Publication date	Application number	Application date
AT345967 E	20061215	AT19990935867T	19990723
AU199951252 A1	20000214	AU19990051252	19990723
AU199951252 A5	20000214	AU19990051252	19990723
AU746672 B2	20020502	AU19990051252	19990723
CA2338340 AA	20010122	CA19992338340	19990723
CA2338340 C	20071127	CA19992338340	19990723
DE69934121 D1	20070104	DE19996034121	19990723
DE69934121 T2	20070920	DE19996034121T	19990723
EP1100695 A1	20010523	EP19990935867	19990723
EP1100695 A4	20030709	EP19990935867	19990723
EP1100695 B1	20061122	EP19990935867	19990723
ES2276521 T3	20070616	ES19990935867T	19990723
US6158806 A	20001212	US19990360860	19990723
US6361108 BA	20020326	US20000695763	20001024
WO0005098 A1	20000203	WO1999US16643	19990723

Probable Assignee: ERGO LLC

Assignee(s):(std)**:** THOMAS H WHITE ; WHITE THOMAS H

Assignee(s): ERGO LLC

Inventor(s):(std)**:** THOMAS H WHITE ; WHITE THOMAS H

Agent(s): PHILLIPS ORMONDE FITZPATRICK; GOWLING LAFLEUR HENDERSON LLP

Designated states: AE AL AM AT AU AZ BA BB BE BG BR BY CA CH CN CU CY CZ DE DK EE ES FI FR GB GD GE GH GM GR HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

International class (IPC 8–9): B62J1/00 (Advanced/Invention)

International class (IPC 1–7): B60N2/38 B62J1/00

CPC: B62J1/007

European class: B62J1/00D

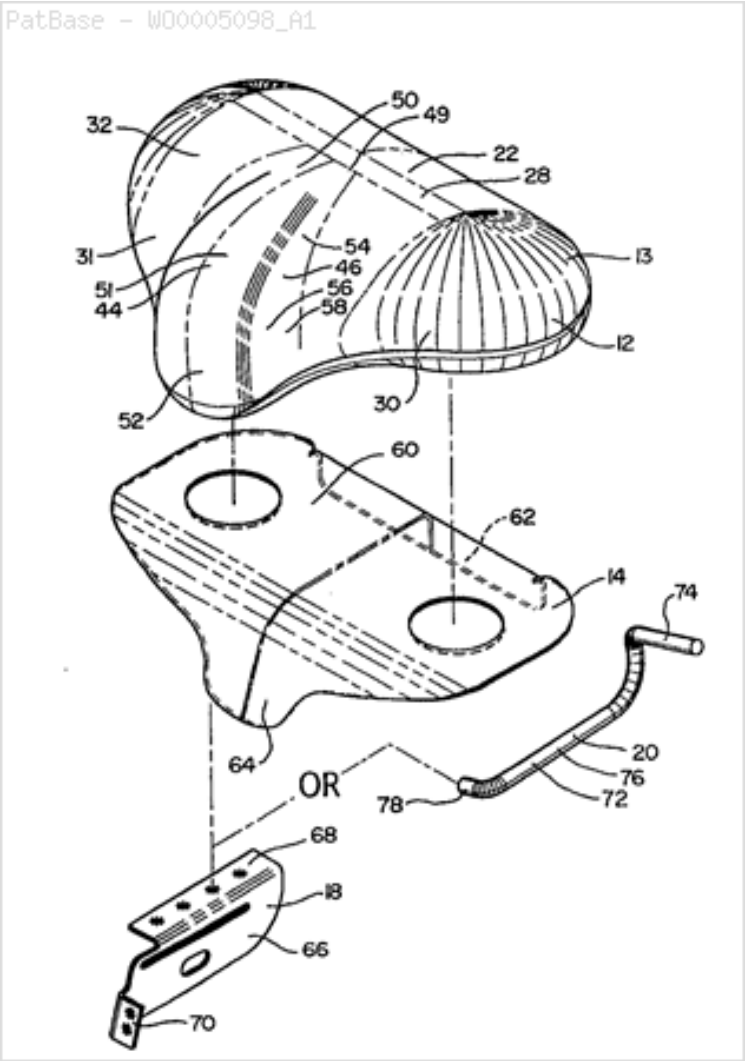
US class: 297/195.1 297/202 297/452.21 D6/354

Classification Explorer

Cited documents: WO9825810 A1, WO9101244 A1, WO91001244, WO9100124 A2, USD429905, USD348785, US6158806 A, US613050 A, US584637 A, US584637, US5791736 A, US5670232 A, US5317773 A, US4387925 A, US4132228 A, US3503649 A, US348758 A, US348758, US2303567 A, US1479620 A,

Forward Citations: WO11060581, WO09031962, US8668259, US7055900, US7044542, US6854804, US6629728, US6361108, US2012242121, US2010033003, US2004239159,

Abstract:
Source: US6158806A A bicycle seat assembly having a functional surface area comprising a main support surface region and a center tactile surface region. At the center tactile surface region there is a raised center surface portion and outwardly facing side tactile surface portions to engage upper rear and side thigh surface portions of the person. There are right and left and primary support zones spaced on opposite sides of the longitudinal axis to support the right and left ischial−tuberosities of the person who is in a seated pedaling position. The forward support surface portions on opposite sides of the center tactile surface region are contoured so that the leading edge thereof has an upward and rearward slope. The seat is arranged to accommodate 95 percent of the adult population in the U.S., and enables the cyclist to operate effectively in the seated pedaling mode, the seated non−pedaling mode and the stand−up pedaling mode. The seat provides proper support and hygienic safety by alleviating a load bearing relationship between the lower center body portion with the seat and yet providing for clearance, mobility, and comfort for the person.



14) Family number: 28195779 (US2002058558A) © PatBase

Title: Compact hydraulically–operated derailleur shifting system for bicycles

Priority: US19970997973 19971224 US19980137219 19980820 US20000519200 20000306 US20010054107 20011113 WO1998US27262 19981222

Family:

Publication number	Publication date	Application number	Application date
AU199920901 A1	19990719	AU19990020901	19981222
US2002058558 AA	20020516	US20010054107	20011113
US6012999 A	20000111	US19970997973	19971224
US6042495 A	20000328	US19980137219	19980820
US6325733 BA	20011204	US20000519200	20000306
US6638190 BB	20031028	US20010054107	20011113
WO9933698 A1	19990708	WO1998US27262	19981222

Probable Assignee: PATTERSON RICHARD A

Assignee(s):(std)**:** PATTERSON RICHARD A ; PATTERSON ROY M

Assignee(s): RICHARD A PATTERSON ; ROY M PATTERSON

Inventor(s):(std)**:** PATTERSON RICHARD A ; PATTERSON ROY M

Inventor(s): RICHARD A PATTERSON ; ROY M PATTERSON

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HR HU ID IE IL IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZW

International class (IPC 8–9): B62M25/08 B62M9/122 B62M9/123 B62M9/1244 B62M9/132 B62M9/133 F16H7/08 (Advanced/Invention); F16H7/08 (Advanced/Non–invention)

International class (IPC 1–7): B62M25/08 B62M9/12 F16H59/00 F16H61/00 F16H63/00 F16H7/08 F16H7/22 F16H9/00 F16H9/24

CPC: B62M9/122 B62M9/132 B62M25/08 F16H2007/0859

European class: B62M25/08 B62M9/12 B62M9/122 B62M9/12B B62M9/132 R16H7/08R4

US class: 280/216 474/104 474/110 474/70 474/70S 474/78 474/80 474/80S 474/82 474/82P

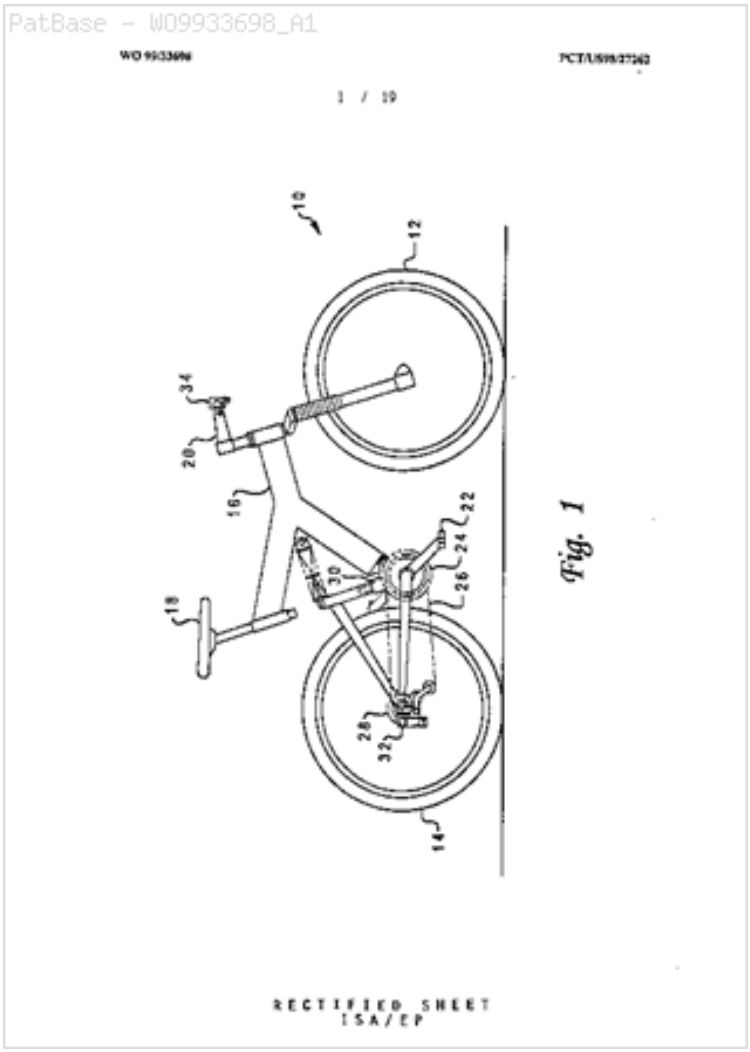
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Cited documents: WO9619376 A1, USRE30758, USRE30524 E, US6159119 A, US5890979 A, US5816966 A, US5779581 A, US5688200 A, US5655982 A, US5653649 A, US5649877 A, US5624336 A, US5624335 A, US5620384 A, US5607367 A, US5605514 A, US5577969 A, US5538477 A, US5514041 A, US5483137 A, US5470277 A, US5456637 A, US5447475 A, US5445567 A, US5407396 A, US5387000 A, US5357177 A, US5356349 A, US5356348 A, US5354243 A, US5302155 A, US5266065 A, US5261858 A, US5254044 A, US5213548 A, US5163881 A, US5152720 A, US5033991 A, US4946425 A, US4938324 A, US4887990 A, US4836046 A, US4824420 A, US4693700 A, US4688815 A, US4684143 A, US4605240 A, US4571219 A, US4546990 A, US4500302 A, US4490127 A, US4412828 A, US4352503 A, US4164153 A, US4061046 A, US4041788 A, US3934492 A, US3929025 A, US3919891 A, US3742777 A, US3181383 A, US30758 A, US2862401 A, US2508181 A, EP0875446 A2, EP0826591 A2, EP0601591 A1, EP0120571 A1, DE3938454 A1, DE29703512 U1, DE19514267 A1,

Forward Citations: WO16094717, WO06033080, US9545337, US9511820, US9499234, US9453546, US9377089, US9327792, US9228643, US9216793, US9126219, US9097297, US9090311, US9033833, US9005060, US8874338, US8790096, US8760637, US8512182, US8465467, US8398582, US8387963, US8277346, US8202243, US8079836, US8025598, US8012052, US8007383, US7942853, US7891484, US7775780, US7744498, US7614633, US7553247, US7520380, US7393189, US7219574, US7204349, US7137314, US7032475, US6962488, US6908451, US6692389, US6640938, US6572349, US6491137, US6293926, US6276046, US2016152301, US2015204396, US2015072817, US2015072816, US2014378252,

US2014318306, US2014243129, US2014155206, US2013252772, US2013137541, US2012329589, US2012088618, US2012018976, US2010244349, US2009232436, US2009057592, US2008312799, US2008203697, US2008200878, US2008125697, US2008103000, US2008096706, US2007219029, US2007207886, US2007207041, US2007205574, US2007202978, US2007202977, US2007172368, US2007161954, US2007098579, US2007098578, US2007095143, US2006163043, US2005186098, US2005178233, US2005176537, US2005155447, US2005115777, US2003220163, US2003190244, US2002187867, EP2540609, EP1264764,

Abstract:
Source: US2002058558A A derailleur utilizes a 4−bar linkage, including a housing which acts as one bar of the 4−bar linkage. A hydraulic assembly located within the housing moves the housing relative to the mounting shaft in response to hydraulic pressure to define a chain guide operating path. The derailleur device may include a detent mechanism formed on one of the three other bars. In one embodiment, the 4−bar linkage includes an input shaft rotatably attached to the housing at a one end, and an output shaft rotatably attached to the housing at the other end, and the housing rotates around the first shaft in response to the actuation force. The hydraulic assembly may include a piston which moves within a cylindrical bore, with one of the three other bars of the 4−bar linkage being attached to the piston. The resulting hydraulic derailleur design is comparable to mechanical (cable−pull type) derailleurs in size and weight.



0) US2015047551A – BELL FOR A BICYCLE

15) Family number: 50918535 (US2015047551A) © PatBase

Title: BELL FOR A BICYCLE

Priority: GB20120001865 20120203 GB20130000864 20130117 WO2013GB50223 20130201

Family:

Publication number	Publication date	Application number	Application date
AU2013213962 AA	20130808	AU20130213962	20130201
AU2013213962 BB	20170223	AU20130213962	20130201
CA2863447 AA	20140731	CA20132863447	20130201
CN104105636 A	20141015	CN201380007971	20130201
EP2809569 A1	20141210	EP20130703124	20130201
GB201201865 A0	20120321	GB20120001865	20120203
GB201300864 A0	20130306	GB20130000864	20130117
JP2015505524 T2	20150223	JP20140555312T	20130201
US2015047551 AA	20150219	US20130376516	20130201
WO13114121 A1	20130808	WO2013GB50223	20130201

Probable Assignee: BUXTON STEPHAN C

Assignee(s):(std)**:** BUXTON STEFAN ; BUXTON STEFAN C ; BUXTON STEFAN CHRISTOPHER ; BUXTON STEPHAN C

Assignee(s): BUXTON STEFAN CHRISTOPHER9 NAPIER TERRACEN1 1TJLONDONGB

Inventor(s):(std)**:** BUXTON STEFAN CHRISTOPHER

Inventor(s): BUXTON STEFAN CHRISTOPHER9 NAPIER TERRACEN1 1TJLONDONGB

Agent(s): FB RICE; GOWLING LAFLEUR HENDERSON LLP; DIXON PHILIP MATTHEW; HIGGS JONATHAN

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B62J3/00 G10K1/26 (Advanced/Invention)

CPC: G10K1/26 Y10T29/49826 B62J3/00

US class: 116/148 29/428

Classification Explorer

Cited documents: USD360159 S1, US9240175 BA, US7806071 BA, US7424863 BB, US7182039 BB, US6945677 BB, US679659 A, US6450115 BA, US632427 A, US616015 A, US599988 A, US574643 A, US559950 A, US550507 A, US5307756 A, US2013255336 AA, US2010236469 AA, US2006096520 AA, US1798444 A, TW200826956 A, TW200824956 A, JP7035277 U, JP6016181 U, JP3102902 B2, JP3053444 B2, JP3010001 B2, JP2008155796 A2, JP2006117127 A2, JP2001278143 A2, GB263720 A,

DE202006014001 U1

DE202004002634 U1

DE19927994 A1, CN2627618 Y, CN2333068 Y, CN100471754 C,

Forward Citations: CN103738433,

Abstract:
Source: US2015047551A A bell for a bicycle including a body portion (12) with a stem (23) for supporting a bell casing (10). The body portion/bell casing is able to be adjusted to at an angle from the handlebars H of a bicycle such that a cyclist can more conveniently access hammer element (16) with a thumb from underneath without the bell housing hindering the free movement of the gear and/or brake mechanism.

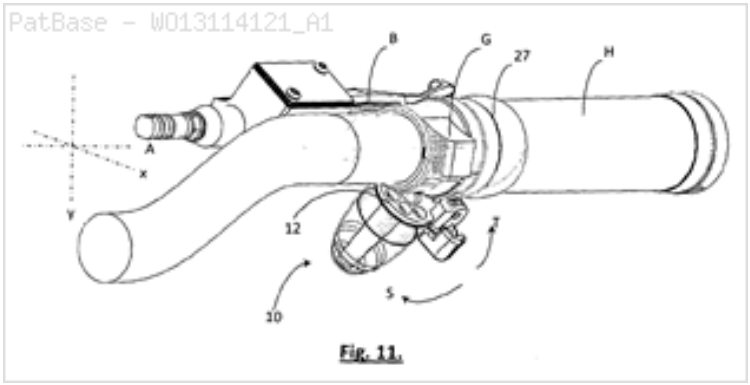


Fig. 11.

0) US2015015125A – BICYCLE WHEEL SYSTEM

16) Family number: 58285060 (US2015015125A) © PatBase

Title: BICYCLE WHEEL SYSTEM

Priority: US20130941025 20130712

Family:

Publication number	Publication date	Application number	Application date
US2015015125 AA	20150115	US20130941025	20130712
US9315071 BB	20160419	US20130941025	20130712
WO15005943 A1	20150115	WO2013US68100	20131101

Probable Assignee: SLIPSTREAM BICYCLES LLC

Assignee(s):(std)**:** SLIPSTREAM BICYCLES LLC ; SLIPSTREAM BYCYCLES LLC

Inventor(s):(std)**:** WEBBER WALTER H

Agent(s): HUSCH BLACKWELL LLP; RUSCHE H FREDERICK

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9)**:** B60B1/04 B60B21/02 B60B21/04 B60B21/06 B60B27/00 B60B27/02 B60B27/04 B60B35/16 B60B35/18 B62J6/12 H02K11/00 H02K11/04 H02K16/00 H02K5/173 H02K7/07 H02K7/08 H02K7/18 (Advanced/Invention); B60B27/06 (Advanced/Non–invention)

CPC: B60B27/023 B60B1/041 H02K7/1846 B62J6/12 B60B27/04 B60B27/047 B60B27/065 H02K5/1732 H02K7/07 H02K7/083 H02K11/0094 H02K11/046 H02K11/20 H02K11/215 H02K11/24 H02K16/00 H02K11/001 H02K11/0021 H02K11/0042

US class: 1/1 301/110.5 301/59 310/67A

Classification Explorer

Cited documents: WO9945350 A1, WO9527628 A1, WO11113161 A1, WO11066075 A1, WO10008440 A1, WO08058164 A2, WO04041552 A2, WO03037650 A1, US8183726 BB, US8141438 BB, US8093771 BB, US8065926 BB, US8006574 BB, US7975561 BA, US7967392 BB, US7926886 BA, US7909412 BB, US7806006 BB, US7658452 BB, US7628518 BB, US7481497 BB, US7448696 BB, US7306292 BB, US7192098 BB, US7047817 BB, US6924569 BB, US6899401 BB, US6605884 BB, US6428113 BB, US6409197 BA, US6386643 BA, US6189978 BA, US6068348 A, US6068347 A, US6036279 A, US6010197 A, US5932943 A, US5931544 A, US5828145 A, US5626401 A, US5549315 A, US5452945 A, US5268602 A, US5246275 A, US5115159 A, US5104199 A, US2013044502 AA, US2012306327 AA, US2012238406 AA, US2011133543 AA, US2009243255 AA, US2008284127 AA, US2008129157 AA, US2008116738 AA, US2007205655 AA, US2007145813 AA, US2007102995 AA, US2006006730 AA, US2004079612 AA, US2003090142 AA, US2003057763 AA, US2002072446 AA, US2002067069 AA, US2002067068 AA, EP2248715 A2, EP1475245 A2, EP1412202 A1, EP1260382 A2, EP1134096 A2, EP0634978 A1, EP0094649 A2,

DE102008048453 A1

DE102004063505 A1

Forward Citations: US9403404, US2015210350, US2015210111,

Abstract:
Source: US2015015125A A bicycle wheel system includes a hub assembly having a body, a collet within the body; a first hub mating member; a second hub mating member; wherein each of the hub mating members have either a surface pattern or an engagement member; and torque transfer flanges at each end of the body. A first axle assembly includes a first axle; either a surface pattern or an engagement member; and a torque transfer flange. A second axle assembly includes a second axle; either a surface pattern or an engagement member; a gear collet; and a ratchet gear drive, with the ratchet gear drive having a torque transfer flange. The surface patterns and engagement members are arranged for selective locking engagement with one another to join the hub assembly, first axle assembly, and second axle assembly together. A locking release mechanism controls the engagement of the surface patterns and engagement members.

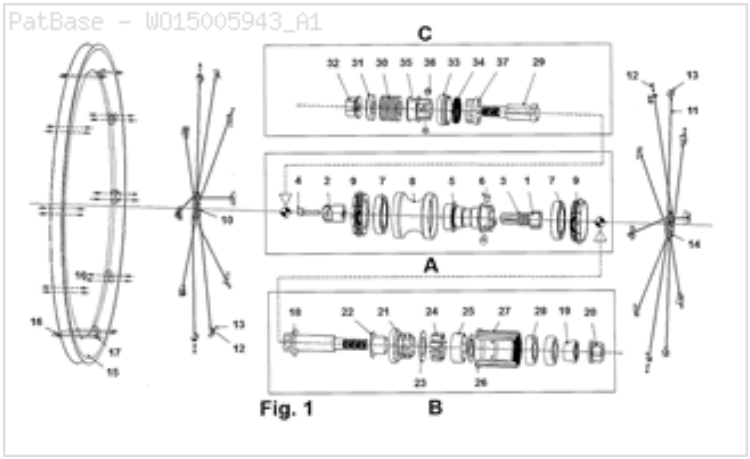


Fig. 1

0) MX2014000682A – MECHANICAL SWEEPER WITH PEDAL LOCOMOTION. BARR...

17) Family number: 59782815 (MX2014000682A) © PatBase

Title: MECHANICAL SWEEPER WITH PEDAL LOCOMOTION.

Priority: MX20140000682 20130903

Family:

Publication number	Publication date	Application number	Application date
MX2014000682 A1	20150303	MX20140000682	20130903

Probable Assignee: HERRERA SERGIO RAMIRO ELIZONDO

Assignee(s):(std)**:** HERRERA SERGIO RAMIRO ELIZONDO

Assignee(s): SERGIO RAMIRO ELIZONDO HERRERA

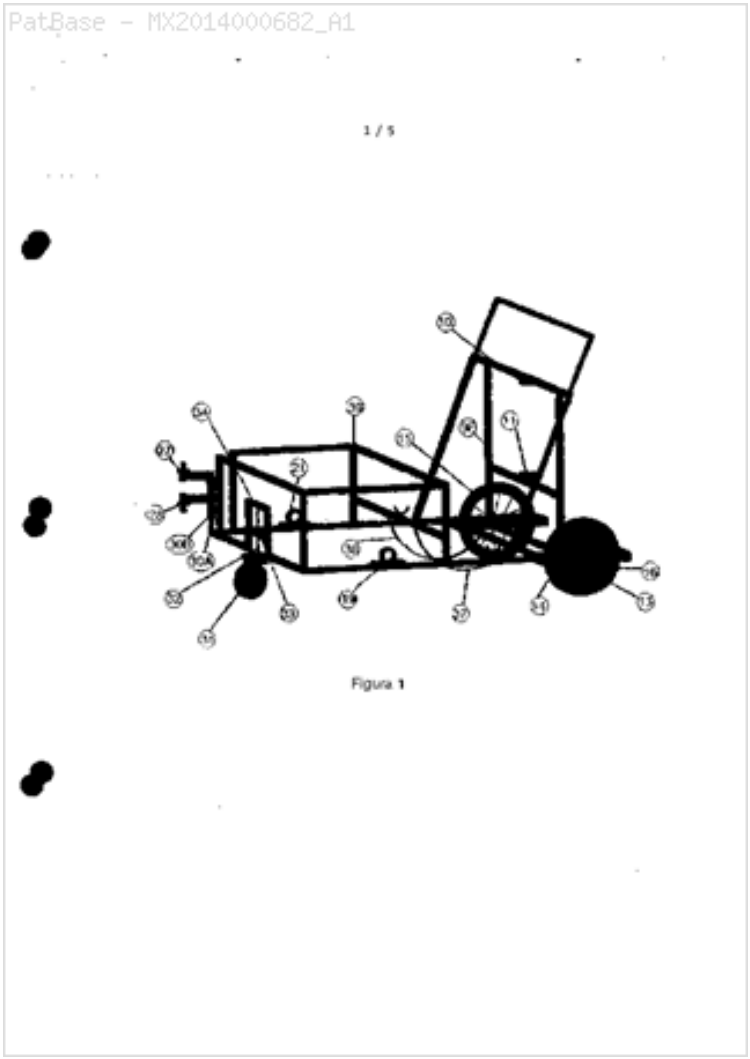
Inventor(s):(std)**:** GARAY EDGAR MAURICIO GARCIA ; GOMEZ LEOBARDO BERNARDINO ; HERRERA SERGIO RAMIRO ELIZONDO ; MAGALLON VICTOR BANUELOS ; SALCEDO HUGO ALBERTO ANGUIANO ; SANTANA JOSE LUIS VILLALOBOS ; SERRANO JAZMIN IVETTE REYES

Inventor(s): VICTOR BANUELOS MAGALLON ; EDGAR MAURICIO GARCIA GARAY ; SERGIO RAMIRO ELIZONDO HERRERA ; HUGO ALBERTO ANGUIANO SALCEDO ; JAZMIN IVETTE REYES SERRANO ; JOSE LUIS VILLALOBOS SANTANA ; LEOBARDO BERNARDINO GOMEZ

International class (IPC 8–9): E01H6/00 (Core/Invention)

Classification Explorer

Abstract:
Described is a mechanical invention of pedal locomotion, which is useful for sweeping surfaces like esplanades, corridors, plazas, corridors, streets, sport courts, etc. In addition, the invention includes a sweeping system for difficult access zones such as corners formed by floor structures and chamfers or floors and walls. The value proposition is coincident with the technological trends required to be ecological, environmentally friendly and user friendly due to the easy handle thereof.



0) US2015203172A – POWER ASSISTANCE BICYCLE USING SENSOR HAVING MU...

18) Family number: 52644303 (US2015203172A) © PatBase

Title: POWER ASSISTANCE BICYCLE USING SENSOR HAVING MULTIPLE MAGNET BLOCKS EVENLY DISTRIBUTED IN HOUSING

Priority: CN201210263521 20120728 WO2013CN76810 20130605

Family:

Publication number	Publication date	Application number	Application date
CN102826180 A	20121219	CN201210263521	20120728
CN102826180 B	20140205	CN201210263521	20120728
IN01069DN2015 A	20150626	IN2015DN01069	20150210
US2015203172 AA	20150723	US20130417792	20130605
US9359043 BB	20160607	US20130417792	20130605
WO14019410 A1	20140206	WO2013CN76810	20130605

Probable Assignee: GAO SONG

Assignee(s):(std): CHENGDU KIND TECHNOLOGY CO LTD ; CHENGDU KUANHE TECHNOLOGY CO ; HUANG QIANG ; OUYANG YANXIONG ; GAO SONG

Assignee(s): CHENGDU KUANHE TECHNOLOGY CO LTD ; CHENGDU KIND TECHNOLOGY CO

Inventor(s):(std): HUANG QIANG

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B62M6/50 B62M6/55 B62M6/65 B62M6/90 G01D5/14 G01D5/244 G01D5/245 G01P3/487 H03M1/12 (Advanced/Invention) ; H03M1/24 (Advanced/Non–invention)

CPC: B62M6/90 G01D5/142 H03M1/12 B62M6/50 B62M6/55 B62M6/65 G01D5/2451 G01P3/487 H03M1/245

US class: 1/1 180/206.3

Classification Explorer

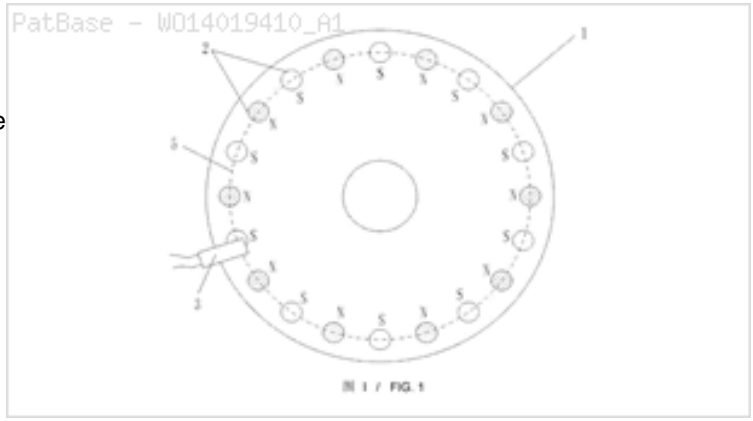
Cited documents: US7191861 BB, US6355996 BA, US6247548 BA, US6163148 A, US5788007 A, US2013054065 AA, US2011285328 AA, US2005246152 AA, US2005077096 AA, JP2012116227 A2, EP2452866 A1,

DE102010011390 A1

CN2675543 Y, CN2462356 Y, CN202847954 U, CN202783642 U, CN202783639 U, CN202783628 U, CN202225989 U, CN102826180 A, CN102826178 A, CN102501940 A,

Forward Citations: WO14019410, US9377326, US2016031524, US2015204695,

Abstract:
Source: US2015203172A A power−assistance bicycle using a sensor having multiple magnet blocks evenly distributed in housing, related to electric power−assistance bicycles that provide a power−assistance signal with multipoint magnetic induction. The sensor comprises: a sensing element, a power assistance model processor (21), a digital−to−analog converter (27) and an operational amplifier (28). The sensing element comprises a rotating disk (1) and an annular−groove fixing disk (40) fitted with each other, and multiple permanent magnetic blocks (2) and the Hall element (3) are provided in a cavity of the rotating disk (1) and the annular−groove fixing disk (40). A plurality of permanent magnetic blocks (2) that are opposite in adjacent magnetic polarities are fixedly provided on the rotating disk (1). The Hall element (3) is provided on the fixing disk (40) and in proximity to the permanent magnetic blocks (2). The sensor is sleeved on an exterior of a medial shaft (51). The operational amplifier (28) is connected with the motor controller (29). Due to the relatively fixed positions of the permanent magnetic block (2) and the Hall element (3), the Hall element is capable of obtaining rectangular waves signals, so as to facilitate the sensor to output an adjustable and artificial setting power−assistance model having satisfying assistance power in the beginning and end via digital processing, thus allowing for optimal man−machine matching and for power conservation.



0) US3947912A – MANUALLY OPERATED SWEEPER

19) Family number: 1262976 (US3947912A)

© PatBase

Title:	Manually operated sweeper
Priority:	US19740505854 19740913

Family:

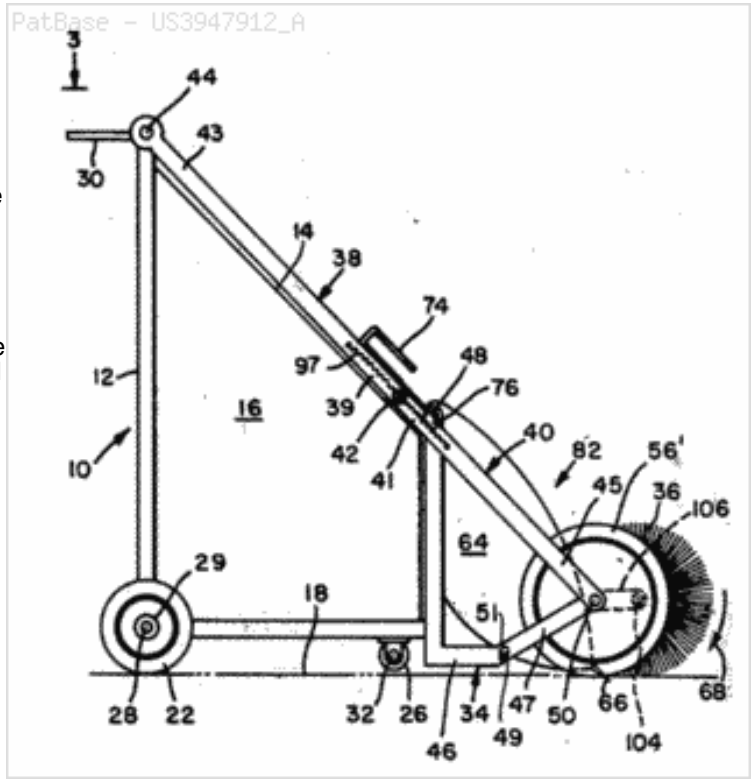
Publication number	Publication date	Application number	Application date
US3947912 A	19760406	US19740505854	19740913

Probable Assignee:	MICHAELS ABRAHAM
Assignee(s):(std):	MICHAELS ABRAHAM
Inventor(s):(std):	MICHAELS ABRAHAM
International class (IPC 1–7):	E01H1/04
CPC:	E01H1/045
European class:	E01H1/04C
US class:	15/79.1 15/79R 56/400.02

Classification Explorer

Cited documents:	US810547 A, US684812 A, US667132 A, US593086 A, US581196 A, US1232294 A,
Forward Citations:	WO9504452, WO07019586, WO07019586, US9469953, US9187870, US8156596, US8117705, US7967317, US7540053, US7500284, US5743076, US5390387, US5274989, US5222348, US2014345241, US2014189967, US2011203062, US2010095466, US2009293213, US2009203293, US2008178410, US2008060151, US2007000222, US2006185118, EP0935027, EP0060367, DE3142271,

Abstract:
Source: US3947912A A manually operated mechanical street cleaning apparatus comprising a wheeled frame suitable to retain a trash container thereon. A height adjustable axle mounted rotary broom is mounted forwardly of the frame and is rotated by action of ground contacting wheels through a suitable drive mechanism when the vehicle is moved. The rotary brush sweeps into a rearwardly positioned hopper which is adapted to be pivoted to a dumping position to empty the swept debris into the trash container. In an embodiment of the device, the wheeled vehicle is propelled by an attached, manually actuated bicycle which is laterally affixed to the vehicle.



0) US2002002103A – SYSTEM AND METHODS FOR PROVIDING AN IMPROVED EX...

20) Family number: 32626402 (US2002002103A) © PatBase

Title: SYSTEM AND METHODS FOR PROVIDING AN IMPROVED EXERCISE DEVICE WITH MOTIVATIONAL PROGRAMMING

Priority:

EP20060849195	20061116	EP20100156551	20100315	US20000641220	20000818
US19990349608	19990708	US20000496560	20000202	US20000096416	20000818
US20010776410	20010202	US20010907846	20010718	US20000641600	20000818
US20000641627	20000818	US20010099337	20010820	US20010933701	20010820
US20010947193	20010905	US20010947193	20010905	US20050314133	20051221
US20070918250P	20070314	US20070849068	20070831	US20080276900	20081124
US20090467776	20090518	US20090413362	20090327	US20040856676	20040528
US20060429858	20060508	US20050315682	20051221	US20060429725	20060508
US20030674911	20030929	US20040916687	20040811	US20050113921	20050425
US20050132740	20050518	US20020106842	20020326	US20090413330	20090327
WO2006US60989	20061116	WO2001US10582	20010330	WO2001US15530	20010515
WO2001US09573	20010326	WO2000US41600	20001026	WO2002US34083	20021018
WO2000US09295	20000407	WO2001US10952	20010404	WO2002US24366	20020731
US20100684605	20100108	US20100876732	20100907	US20110044801	20110310
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Family:

Publication number	Publication date	Application number	Application date
AT411088 E	20081015	AT20000921857T	20000407
AT474631 E	20100815	AT20010933338T	20010515
AT500869 E	20110315	AT20010924665T	20010404
AT522254 E	20110915	AT20010924323T	20010326
AU2001226187 AA	20010814	AU20010226187	20001026
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AU2001259771 AA	20020819	AU20010259771	20010515
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AU2002349911 AA	20031013	AU20020349911	20021018
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BRPI0115716 A	20030909	BR2001PI15716	20010515
BRPI0209374 A	20040608	BR2002PI09374	20020731
CA2378156 AA	20020103	CA20002378156	20000407
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CA2418635 AA	20030206	CA20012418635	20010326
CA2418635 C	20071106	CA20012418635	20010326
CA2428812 AA	20030507	CA20012428812	20010515
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CA2446674 AA	20031105	CA20022446674	20020731
CN100512911 C	20090715	CN200510116390	20010515
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CN101066495 B	20120822	CN200710108125	20020731	
CN101346161 A	20090114	CN200680048743	20061116	
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CN1263527 C	20060712	CN20018014297	20010404	
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CN1368896 A	20020911	CN20008010090	20000407	
CN1438907 A	20030827	CN20018009629	20010326	
CN1447706 A	20031008	CN20018014297	20010404	
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CN1622845 A	20050601	CN20028028616	20021018	
CN1788814 A	20060621	CN200510116390	20010515	
DE10156551 T1	20140508	DE20100156551T	20100315	
DE202010018235 U1	20141224	DE201020018235U	20100315	
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EP1962971 A2	20080903	EP20060849195	20061116	
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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): A61B5/00 A63B15/02 A63B21/00 A63B21/005 A63B21/02 A63B21/06 A63B21/22 A63B22/00 A63B22/02 A63B22/04 A63B22/06 A63B22/08 A63B22/20 A63B23/04 A63B23/16 A63B24/00 A63B69/06 A63B69/16 A63B69/18 A63B71/00 A63B71/06 G01C22/00 G01N21/35 G01P15/00 G06F15/16 G06F19/00 H04L29/08 (Advanced/Invention); A63B21/00 A63B21/015 A63B21/22 A63B22/00 A63B22/02 G06F19/00 (Advanced/Non–invention); A63B21/00 A63B21/005 A63B21/02 A63B22/00 A63B24/00 A63B71/00 A63B71/06 (Core/Invention); A63B21/00 A63B22/00 (Core/Non–invention); A63B (Subclass/Invention)

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Abstract:
Source: US2002002103A The present invention is directed to systems and methods for providing exercise devices with motivational programming. The programming includes motivational content and control signals, synchronized with the motivational content, for controlling operation of the exercise device. The motivational content preferably includes audio and/or video designed to simulate a group exercise setting and optionally instructional and educational content for the benefit of the user. The control signals can be carried in a carrier signals and can include bytes of data that define changes to the value of one or more operating parameters of an exercise device. The control signals can be audible to a listener and therefore act as an audible warning of upcoming changes in the one or more operating parameters of the exercise device.

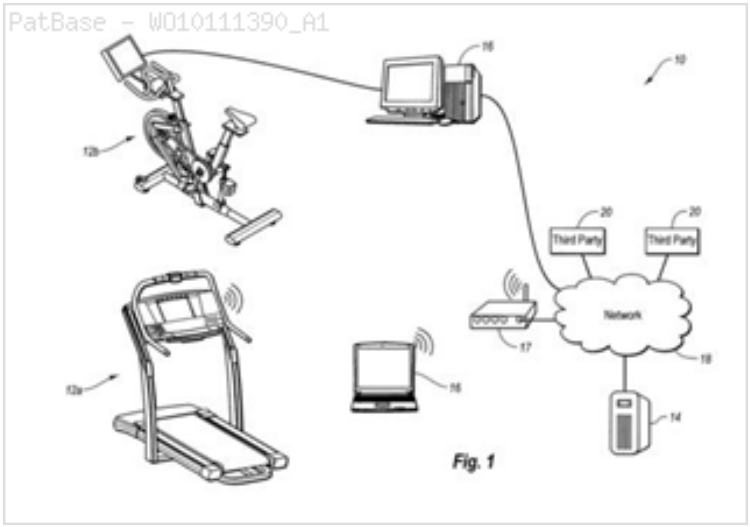


Fig. 1

0) US2010252389A – HIGH EFFICIENCY BICYCLE HUB

21) Family number: 44352107 (US2010252389A) © PatBase

Title: HIGH EFFICIENCY BICYCLE HUB

Priority: TW20080112328 20080403 US20090418543 20090403 US20120656579 20121019

Family:

Publication number	Publication date	Application number	Application date
TW200942422 A	20091016	TW20080112328	20080403
TWI346053 B	20110801	TW20080112328	20080403
US2010252389 AA	20101007	US20090418543	20090403
US2013043102 AA	20130221	US20120656579	20121019
US8312976 BB	20121120	US20090418543	20090403
US8544626 BB	20131001	US20120656579	20121019
WO10114689 A1	20101007	WO2010US27105	20100312

Probable Assignee: BEAR CORP

Assignee(s):(std)**:** BEAR CORP ; FRENCH GEORGE ; ODYSSEY BEAR CORP ; TEDDY FORMOSA CO LTD

Assignee(s): TEDDY FORMOSA CO

Inventor(s):(std)**:** FRENCH GEORGE ; WANG JIAN JUN

Agent(s): CISLO AND THOMAS LLP; CISLO DANIEL M

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B60B27/02 B60B27/04 B62M1/08 F16D15/00 F16D41/24 F16D41/26 F16D41/30 F16D41/32 (Advanced/Invention); B60B27/04 B62M1/08 (Core/Non–invention)

CPC: F16D41/24 F16D41/30

European class: F16D41/24 F16D41/30

US class: 192/46 192/54.51 192/64 192/64P 192/69.81 74/576

Classification Explorer

Cited documents: US7938242 BB, US7938241 BA, US7562755 BB, US7559416 BB, US7445105 BB, US6607465 BA, US6516931 BB, US6502679 BA, US6202813 BA, US6155394 A, US5964332 A, US5515957 A, US5458223 A, US5433306 A, US5024121 A, US4711331 A, US4229997 A, US3557922 A, US3113472 A, US2799183 A, US2007240960 AA, US2007024960 A1, TWI291420, TW200716880 A, JP2006300326 A, DE741943 A, CN1325289 C,

Forward Citations: US9327792, US9182016, US9033833, US8827061, US8733524, US8641151, US8443951, US8276731, US8127909, US2016186821, US2013299295, US2013225343, US2013037369, US2012119565, US2011148183, US2011061490, TWI542481, TWI447318, TWI393652, CN103507562,

Abstract:
Source: US2010252389A A high efficiency bicycle hub for near frictionless free wheeling comprising a hub having a toothed engagement ring, a driver having a retractable engagement member that can engage and disengage from the hub, and a retraction device to facilitate a disengaged configuration. The retraction device comprises a retaining ring having retraction members and the retractable engagement member comprises reciprocal retraction members to "catch" the retraction member to maintain a disengaged configuration. In use, forward rotation of the driver engages the retractable engagement member with the toothed engagement ring of the hub to drive the hub. Reverse rotation of the driver rotates the reciprocal retraction members underneath or behind the retraction member thereby disengaging the driver from the hub.

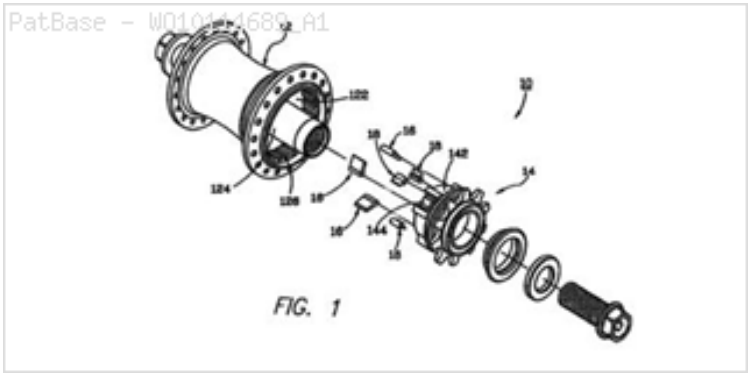


FIG. 1

22) Family number: 49151794 (US2011159921A) © PatBase

Title: METHODS AND ARRANGEMENTS EMPLOYING SENSOR–EQUIPPED SMART PHONES

Priority: US20090255817P 20091028 US20090261028P 20091113 US20090266965P 20091204 US20090263318P 20091120 US20090264639P 20091125 US20090285726P 20091211 US20090291812P 20091231 US20100982470 20101230 US20100318217P 20100326 US20100315475P 20100319 US20100797503 20100609 US20100821974 20100623 US20100712176 20100224 US20090640386 20091217 US20100982680 20101230 US20110471651P 20110404 US20110299127 20111117 WO2010US62549 20101230 WO2011US29038 20110318 US20140189236 20140225 US20140242417 20140401 US20120708434 20121207 US20120401332 20120221 US20140337607 20140722 US20150861758 20150922

Family:

Publication number	Publication date	Application number	Application date
CA2792336 AA	20110922	CA20112792336	20110318
CN102782733 A	20121114	CN201080065015	20101230
CN102782733 B	20151125	CN201080065015	20101230
CN102893327 A	20130123	CN201180024228	20110318
CN102893327 B	20150527	CN201180024228	20110318
EP2519934 A1	20121107	EP20100841737	20101230
EP2519934 A4	20151216	EP20100841737	20101230
EP2559030 A1	20130220	EP20110757077	20110318
EP2559030 A4	20130828	EP20110757077	20110318
JP2013527947 T2	20130704	JP20130500235T	20110318
JP5843207 B2	20160113	JP20130500235T	20110318
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US2011159921 AA	20110630	US20100982470	20101230
US2011161076 AA	20110630	US20100797503	20100609
US2011165917 AA	20110707	US20100982680	20101230
US2011244919 AA	20111006	US20100821974	20100623
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US9256806 BB	20160209	US20140189236	20140225
WO11082332 A1	20110707	WO2010US62549	20101230
WO11116309 A1	20110922	WO2011US29038	20110318

Probable Assignee: DIGIMARC CORP

Assignee(s):(std)**:** ALLER JOSHUA V ; CONWELL WILLIAM Y ; DAVIS BRUCE L ; RODRIGUEZ TONY F ; RHOADS GEOFFREY B ; DIGIMARC CORP ; TAYLOR MARY ELIZABETH ; SHAW GILBERT B

Assignee(s): DIGIMAR CORP

Inventor(s):(std)**:** ALLER JOSHUA V ; CONWELL WILLIAM ; CONWELL WILLIAM Y ; DAVIS BRUCE L ; ELIZABETH TAYLOR MARY ; RHOADS GEOFFREY B ; RODRIGUEZ TONY F ; SHAW GILBERT B ; STACH JOHN ; TAYLOR MARY ELIZABETH

Agent(s):

OYEN WIGGS GREEN AND MUTALA LLP; HOARTON LLOYD DOUGLAS CHARLES; Hoarton Lloyd Douglas Charles; DIGIMARC CORP; CONWELL WILLIAM Y

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G01C22/00 G01D21/00 G01D21/02 G01S3/802 G01V3/08 G06F17/30 G06F3/048 G06F3/0484 G06F3/0488 G06F3/16 G06F9/50 G06K9/00 G06K9/18 G06K9/20 G06K9/36 G06K9/62 G06Q30/02 G06Q30/06 G08B1/08 G10L15/00 G10L15/22 G10L15/24 G10L15/26 G10L17/00 G10L21/00 G10L21/02 G10L21/0208 H04M1/00 H04M1/02 H04M1/725 H04N5/225 H04N5/232 H04N5/335 H04N5/351 H04N7/00 H04R3/00 H04W4/02 H04W72/02 H04W88/02 (Advanced/Invention); G06F17/27 G06F17/28 G06F17/30 G06F7/04 G06T15/00 G08B13/00 G08B21/00 G08B23/00 G09G5/00 G10L13/00 G10L21/00 H04M19/04 H04N5/225 H04N5/232 H04N5/76 H04N7/14 (Advanced/Non–invention)

CPC: G06K9/6253 G10L15/24 G10L21/0208 G10L19/018 G06K9/6217 G06K9/00268 H04M1/72569 H04M19/047 H04M2250/02 H04M2250/10 H04M2250/12 H04M2250/52 H04M2250/74 G10L15/26 G06K9/00973 G06Q30/0281 G06Q30/06 H04M1/72563 G06F3/04842 G06F3/04847 G06F3/0488 G06F9/50 G06K9/00335 G06K9/6202 G10L15/22 G10L17/005 H04M1/72583 H04W72/02 G06Q10/109 G06F3/167 G06F17/30244 G06F2200/1636 H04W4/028 H04N5/23203 G06K9/00671 H04N5/23293 G10L2015/223 H04W88/02

European class: G06K9/00Y G06K9/62B5 G06Q30/0281 G06Q30/06 G10L15/22 G10L15/24 G10L15/26A G10L21/0208 H04M1/725F2E S10L15/26 S10L19/018 T04M19/04T T04M250/02 T04M250/10 T04M250/12 T04M250/52 T04M250/74

US class: 1/1 348/231.99 348/231.990P 382/100 382/100S 382/118 382/165 382/165S 382/181 382/183 382/190 382/286 382/321 455/452.1 455/550.1 455/550.100S 455/556.1 455/556.100P 455/566 455/566P 704/231 704/231P 704/270 704/275 704/E15.001 704/E15.001S 707/769 707/769S 707/822 707/822S 707/E17.005 707/E17.005S 707/E17.014 707/E17.014S 715/718 718/104

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Cited documents: WOWO2011116309, WOWO2011082332, WOWO2011059761, WO11116309 A1, WO11082332 A1, WO11059761 A1, WO10022185 A1, WO07021996 A2, US9049309 BB, US8660355 BB, US8508471 BB, US8487867 BB, US8229160 BB, US8165409 BB, US8156115 BA, US8106752 BB, US8090579 BB, US8020770 BB, US7890386 BA, US7792678 BB, US7787697 BB, US7739221 BB, US7707035 BB, US7702681 BB, US7627477 BB, US7575171 BB, US7516074 BB, US7486201 BB, US7084903 BB, US7027975 BA, US6990453 BB, US6988070 BB, US6947571 BA, US6928031 BA, US6738494 BA, US6722569 BB, US6546262 BA, US64038609, US6369907 BA, US6243713 BA, US6199044 BA, US6175922 BA, US6108640 A, US5781633 A, US2014247927 AA, US2013341494 AA, US2013304457 AA, US2013262107 AA, US2013239046 AA, US2012242844 AA, US2012148115 AA, US2012084078 AA, US2011289098 AA, US2011196859 AA, US2011191840 AA, US2011167053 AA, US2011158558 AA, US2011157184 AA, US2011138286 AA, US2011135207 AA, US2011131241 AA, US2011131235 AA, US2011128288 AA, US2011125735 AA, US2011085739 AA, US2011038512 AA, US2011035406 AA, US2011022629 AA, US2010312547 AA, US2010260426 AA, US2010241946 AA, US2010205628 AA, US2010174544 AA, US2010146445 AA, US2010145976 AA, US2010119208 AA, US2010082431 AA, US2010070501 AA, US2010069054 AA, US2010046842 AA, US2010045816 AA, US2009319388 AA, US2009313269 AA, US2009310814 AA, US2009292716 AA, US2009285492 AA, US2009237546 AA, US2009234773 AA, US2009204410 AA, US2009203355 AA, US2009167787 AA, US2009158318 AA, US2009122157 AA, US2009110245 AA, US2009063279 AA, US2009049100 AA, US2009031381 AA, US2009018828 AA, US2009016645 AA, US2009006452 AA, US2009002497 AA, US2008278481 AA, US2008268876 AA, US2008267504 AA, US2008248797 AA, US2008239350 AA, US2008235570 AA, US2008235031 AA, US2008193011 AA, US2008184322 AA, US2008165022 AA, US2008136587 AA, US2008122796 AA, US2008071750 AA, US2008071749 AA, US2008066080 AA, US2008036869 AA, US2008005091 AA, US2007300267 AA, US2007274537 AA, US2007200912 AA, US2007174043 AA, US2007168289 AA, US2007054696 AA, US2007043687 AA, US2006272536 AA, US2006223043 AA, US2006217199 AA, US2006191995 AA, US2006158330 AA, US2006106581 AA, US2006097983 AA, US2006075230 AA, US2006067575 AA, US2006049940 AA, US2006047584 AA, US2006013446 AA, US2006012677 AA, US2006007005 AA, US2005283379 AA, US2005277872 AA, US2005253713 AA, US2005195309 AA, US2005159955 AA, US2005132420 AA, US2005096902 AA, US2005091604 AA, US2005038814 AA,

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Forward Citations: WO17027339, WO16199488, WO16176470, WO16025808, WO16005968, WO15153261, WO14199596, WO14197730, WO14155153, WO14143424, WO14112973, WO14110484, WO14089417, WO14089417, WO14085336, WO14070556, WO14070556, WO14070409, WO14070409, WO14058357, WO14035366, WO13137789, WO13128284, WO13109934, USRE46139, USD759668, USD737323, US9591447, US9591347, US9583105, US9582755, US9582608, US9579789, US9576574, US9575997, US9571757, US9566710, US9558526, US9554064, US9554063, US9553910, US9552617, US9549124, US9549090, US9548053, US9548050, US9547716, US9547669, US9547647, US9547316, US9544485, US9538083, US9537968, US9537889, US9536251, US9535906, US9531600, US9530408, US9514100, US9510154, US9509403, US9508009, US9502031, US9501741, US9501498, US9496922, US9495129, US9489745, US9489401, US9488492, US9485089, US9484046, US9483461, US9479914, US9479568, US9477884, US9463805, US9463571, US9462433, US9460204, US9454964, US9454820, US9444924, US9442687, US9434332, US9431006, US9430463, US9426606, US9426270, US9412392, US9412387, US9412371, US9402099, US9401153, US9401147, US9389831, US9389729, US9380976, US9373042, US9369349, US9368114, US9367886, US9367365, US9366862, US9361886, US9355496, US9355123, US9354778, US9348673, US9342396, US9341843, US9338493, US9338063, US9332522, US9330720, US9330427, US9330381, US9329689, US9324327, US9323902, US9318129, US9318108, US9317345, US9311640, US9311639, US9311043, US9306868, US9305402, US9305101, US9300784, US9298891, US9292895, US9292738, US9292102, US9288102, US9285589, US9283910, US9280680, US9280610, US9270807, US9269022, US9265458, US9262794, US9262793, US9262612, US9256806, US9253434, US9253433, US9253282, US9251549, US9251322, US9248819, US9240021, US9232137, US9229227, US9225822, US9223893, US9223134, US9218530, US9218364, US9217650, US9208334, US9204386, US9202254, US9202136, US9201581, US9197736, US9196100, US9196028, US9195649, US9190062, US9189955, US9183849, US9183580, US9183261, US9183215, US9182596, US9168882, US9166895, US9158760, US9154304, US9153006, US9143603, US9137415, US9135631, US9134534, US9132839, US9131143, US9129295, US9128981, US9128281, US9117447, US9117270, US9116880, US9110989, US9106964, US9104670, US9097891, US9097890, US9092853, US9092061, US9091851, US9075783, US9064398, US9059996, US9058539, US9053706, US9053089, US9052819, US9052213, US9046996, US9037600, US9035877, US9030505, US9026441, US9026303, US9025860, US9025810, US9009482, US9008315, US8997564, US8996376, US8990638, US8989434, US8977293, US8977255, US8971651, US8970960, US8966515, US8965730, US8960002, US8959071, US8959066, US8957901, US8952832, US8949378, US8943089, US8942986, US8942415, US8938393, US8935167, US8933925, US8930191, US8909545, US8903716, US8898568, US8892446, US8890999, US8886992, US8885882, US8879735, US8869095, US8868509, US8862252, US8860818, US8855849, US8826210, US8814691, US8812425, US8812294, US8805653, US8799354, US8799000, US8798613, US8787171, US8782155, US8781836, US8775442, US8768702, US8762852, US8762469, US8762156, US8752761, US8751238, US8737985, US8731942, US8731833, US8719014, US8719006, US8718369, US8718047, US8713119, US8713021, US8712776, US8712181, US8706503, US8706472, US8700069, US8698835, US8688446, US8682667, US8682649, US8677377, US8676904, US8676623, US8675049, US8670985, US8670979, US8666768, US8660849, US8660581, US8645137, US8639716, US8639516, US8638937, US8625018, US8620662, US8620021, US8614431, US8600761, US8600759, US8600743, US8600102, US8595197, US8583418, US8578205, US8564684, US8560238, US8527861, US8521818, US8521531, US8515479, US8504400, US8504077, US8498627, US8493204, US8489115, US8488246, US8482859, US8477425, US8472120, US8471914, US8467133, US8463285, US8458278, US8457885, US8457626, US8442835, US8400548, US8396714, US8381208, US8380507, US8364694, US8359234, US8359044, US8355919, US8355737, US8352272, US8352268, US8345665, US8311838, US8296383, US8290311, US8289283, US8266551, US8265618, US8244236, US8233741, US8195699, US8183997, US8175617, US8121618, US8064947, US2017001113, US2016196726, US2016191757, US2016189712, US2016188941, US2016142137, US2016140971, US2016134741, US2016121962, US2016096270, US2016044448, US2016041811, US2016027430, US2015373484, US2015362986, US2015348535, US2015347818, US2015331486,

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Abstract:
Source: US2011159921A The present technology concerns improvements to smart phones and related sensor−equipped systems. Some embodiments relate to smart phone−assisted commuting, e.g., by bicycle. Some involve novel human−computer interactions, e.g., using tactile grammars−some of which may be customized by users. Others involve spoken clues, e.g., by which a user can assist a smart phone in identifying what portion of imagery captured by a smart phone camera should be processed, or identifying what type of image processing should be conducted. Some arrangements include the degradation of captured content information in accordance with privacy rules, which may be location−dependent, or based on the unusualness of the captured content, or responsive to later consultation of the stored content information by the user. A great variety of other features and arrangements are also detailed.

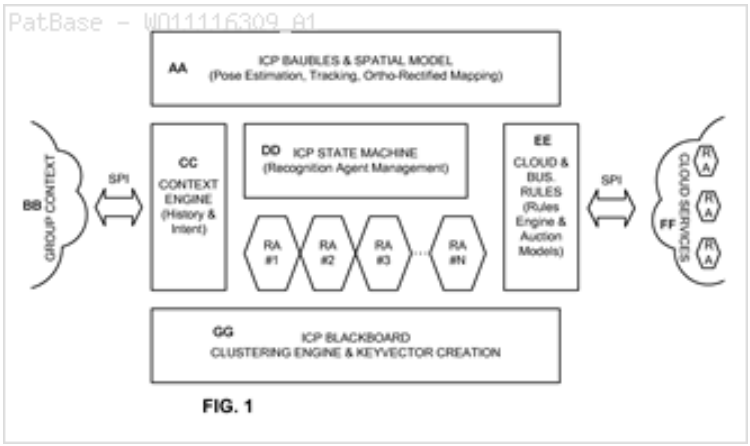


FIG. 1

0) US2013301285A – BICYCLE LIGHT

23) Family number: 55129428 (US2013301285A) © PatBase

Title: BICYCLE LIGHT

Priority: US20120470178 20120511

Family:

Publication number	Publication date	Application number	Application date
EP2662270 A2	20131113	EP20130167012	20130508
EP2662270 A3	20140212	EP20130167012	20130508
US2013301285 AA	20131114	US20120470178	20120511
US8974098 BB	20150310	US20120470178	20120511

Probable Assignee: LIGHT AND MOTION IND

Assignee(s):(std)**:** LIGHT AND MOTION IND ; LO ROXANNE ; WEISENFELD GREG ; ROBERTSON BEAU JESSE ; MCCASLIN CHRISTOPHER

Inventor(s):(std)**:** LO ROXANNE ; MCCASLIN CHRISTOPHER ; ROBERTSON BEAU JESSE ; WEISENFELD GREG

Agent(s): BROPHY DAVID TIMOTHY; THOMAS M

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9)**:** B62J6/00 B62J6/02 F21L4/00 F21L4/02 F21S4/00 F21S8/10 F21V21/00 F21V21/08 F21V33/00 F21V7/00 H04M1/22 (Advanced/Invention)

CPC: B62J6/003 B62J6/02

US class: 362/103 362/184 362/190 362/191 362/249.02 362/297 362/346 362/473 362/474 362/476 362/545

Classification Explorer

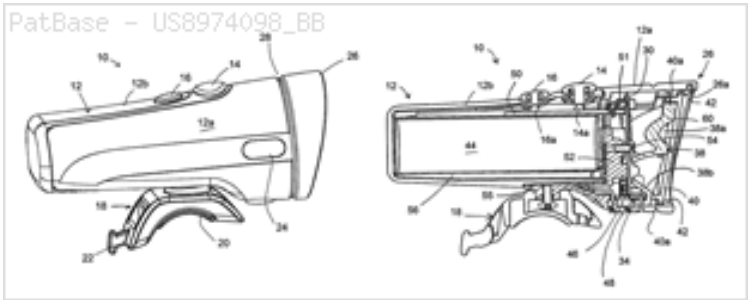
Cited documents: US8325027 BB, US7461944 BB, US7121679 BB, US5567036 A, US4510557 A, US2521251 A, US2009097257 AA, US2007159819 AA, US2004095763 AA, JP2003291870 A2,

DE102005052179 A1

CN201680161 U, CN201680161 A,

Forward Citations: WO17017396, USD759860, USD759859, USD756027, USD753333, USD751739, USD746501, USD735381, US2016175693, US2015197299, US2015023034, US2013229791,

Abstract:
Source: US2013301285A A bicycle light for securing to a handlebar or other part of a bike, or to a rider's helmet, has an angled front face that allows use of a single, flat LED circuit board with one or more deep conic or parabolic reflectors positioned in front of the upper part of the board and one or more shallow reflectors in front of the bottom part of the board. This provides for both a spot beam produced by the deep reflector and flood light produced by the shallow reflector, in a compact and efficient assembly. Another important feature of the device is side lighting which can be independently controlled, important in affording the rider side lighting while in street traffic but the option to pulse or switch off the side lighting when riding on a trail.



0) US2012001402A – BICYCLE AERO HANDLEBAR ASSEMBLY

24) Family number: 50430988 (US2012001402A) © PatBase

Title: BICYCLE AERO HANDLEBAR ASSEMBLY

Priority: EP20110172519 20110704 US20100361004P 20100702 US20110175310 20110701

Family:

Publication number	Publication date	Application number	Application date
DE602011001992 D1	20130808	DE201160001992T	20110704
DK2402240 T3	20130923	DK20110172519T	20110704
EP2402240 A1	20120104	EP20110172519	20110704
EP2402240 B1	20130612	EP20110172519	20110704
ES2422417 T3	20130911	ES20110172519T	20110704
US2012001402 AA	20120105	US20110175310	20110701
US8172247 BB	20120508	US20110175310	20110701

Probable Assignee: TREK BICYCLE CORP

Assignee(s):(std)**:** TREK BICYCLE CORP ; WEBER JENNIFER ; CUSACK DOUGLAS A

Assignee(s): JPMORGAN CHASE BANK NA COLLATERAL AGENT FOR LENDER ; JPMORGAN CHASE BANK NA COLLATERAL AGENT FOR LENDERS AND FOR HOLDERS OF NOTES AS ; TREK BICYCLE WATERLOO CORP

Inventor(s):(std)**:** CUSACK DOUGLAS A ; WEBER JENNIFER

Inventor(s): WEBER JENNIFER MADISON ; CUSACK DOUGLAS A COTTAGE GROVE

Agent(s): KROHER STROBEL RECHTS U PATENTANWAELTE PARTMBB; CASPARY KARSTEN; PONTI ADELAIDA; BOYLE FREDRICKSON SC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): B62J9/00 B62K21/12 B62K21/16 (Advanced/Invention)

CPC: B62K21/125 B62K21/16 Y10T74/20822

European class: B62K21/12B B62K21/16

US class: 280/278 280/288.4 280/288.400P 74/551.8 74/551.800S

Classification Explorer

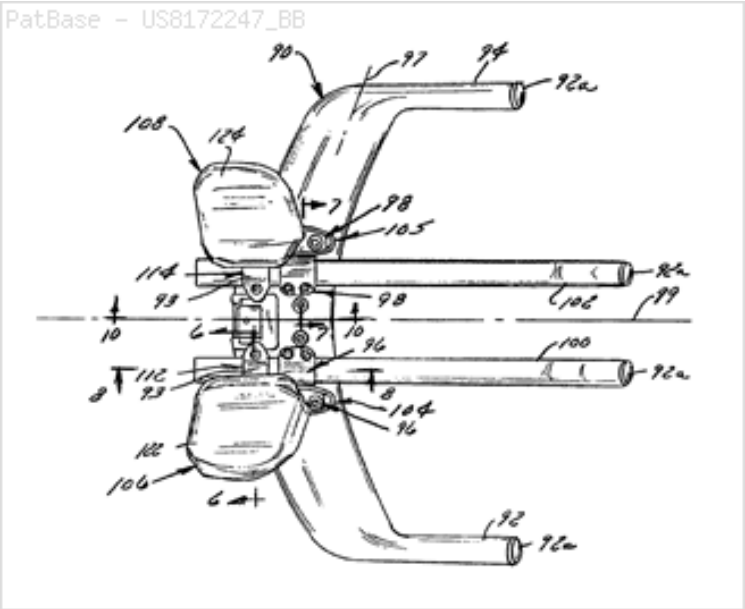
Cited documents: WO10048133 A1, WO07104943 A2, WO06050030 A2, USD334164 S1, US7698967 BB, US7571920 BB, US7490531 BB, US7213485 BB, US7207237 BB, US7127966 BB, US7077029 BB, US6928897 BB, US6092438 A, US5782139 A, US5235872 A, US5163339 A, US5154095 A, US5154094 A, US2010000369 AA, US2010000368 AA, US2009095116 AA, US2009013819 AA, US2008219760 AA, US2008168857 AA, US2008053266 AA, US2008036170 AA, US2007277641 AA, US2007245849 AA, US2007175292 AA, US2007151403 AA, US2007039409 AA, US2005132839 AA, US2005109151 AA, US2005044981 AA, US2004089 A, US2003150292 AA, US2003084746 AA, EP1886911 A2,

DE202005007451 U1

DE202004004022 U1

Forward Citations: WO17007834, WO15071480, US9580137, US9498034, US9415825, US9383774, US9185953, US8850923, US8708151, US2016176468, US2015298761, US2015145230, US2013220066, EP2860095, DE102013112665,

Abstract:
Source: US2012001402A A bicycle handlebar assembly that includes a number of grip sites, forearm supports, and a number of structures that have airfoil shaped cross−sections and that provide a highly adjustable handlebar assembly with improved aerodynamic performance across the range of adjustment of the handlebar assembly. The handlebar assembly includes a pair of shim stacks that each includes a number of shims that are selectively mountable to the handlebar assembly to adjust a relative vertical height of left hand and right hand aerobars and arm pads. The aerobars and arm pads are secured to the handlebar by way of corresponding clamping assemblies such that the aerobars and arm pads are movably secured to the handlebar assembly to provide the highly adjustable aero handlebar assembly.



0) US2002066336A – TRIANGULATED BICYCLE PEDAL SUPPORT STRUCTURE

25) Family number: 23174478 (US2002066336A) © PatBase

Title: TRIANGULATED BICYCLE PEDAL SUPPORT STRUCTURE

Priority: US20000489602 20000120 US20010997528 20011130

Family:

Publication number	Publication date	Application number	Application date
US2002066336 AA	20020606	US20010997528	20011130
US6637291 BB	20031028	US20010997528	20011130
US6925907 BA	20050809	US20000489602	20000120

Probable Assignee: ODOM PAUL

Assignee(s): ODOM PAUL

Inventor(s):(std)**:** ODOM PAUL

Agent(s): PAULEY PETERSEN AND ERICKSON

International class (IPC 8–9): B62M3/00 (Advanced/Invention); B62M3/00 (Core/Invention)

International class (IPC 1–7): G05G1/14

CPC: Y10T74/2164 B62M3/00

European class: B62M3/00

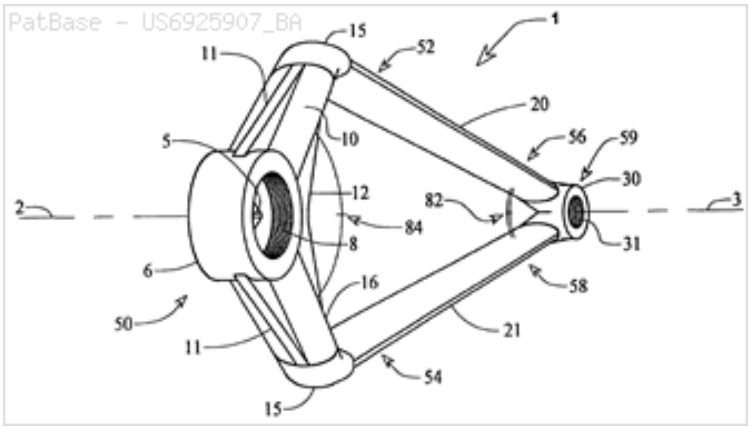
US class: 74/594.1 74/594.100P

Classification Explorer

Cited documents: USD32702, US721943, US5946982, US5924336, US5911792, US5904072, US5819600, US5336147, US5179873, US5157988, US515421, US5095772, US5070744, US4816009, US4811626, US4309043, US4281845, US4271719, IT512306, GB189710556, GB10556, FR765602, FR744531, FR697361, CH163752 A3, CH163752,

Forward Citations: USD578583, US7455628,

Abstract:
Source: US2002066336A A bicycle is disclosed with a triangulated crank structure that replaces the single span crank arm which connects the spindle to the foot pedal on bicycles today. Said triangulated crank structure is typically comprised of several sections including two linear spans of structural material arranged so that one end of each linear span connects with the other to form the vertex of an acute angle, proximate to a pedal attachment area. From said vertex, said linear spans diverge and each connects at its opposite end to separate locations on a structural element attached to an end of the bicycle's crankshaft or spindle.



0) US5213549A – DERAILLEURS FOR MULTI–SPEED BICYCLES

26) Family number: 8347244 (US5213549A) © PatBase

Title: DERAILLEURS FOR MULTI–SPEED BICYCLES

Priority: US19910733624 19910722 WO1992CA00314 19920721

Family:

Publication number	Publication date	Application number	Application date
AU199223404 A1	19930223	AU19920023404	19920721
AU655064 B2	19941201	AU19920023404	19920721
CA2103267 AA	19931115	CA19922103267	19920721
CN1074877 A	19930804	CN19921008759	19920722
EP0595918 A1	19940511	EP19920915800	19920721
JP6505454 T2	19940623	JP19930502507T	19920721
JP8029744 B4	19960327	JP19930502507T	19920721
US5213549 A	19930525	US19910733624	19910722
WO9301967 A1	19930204	WO1992CA00314	19920721

Probable Assignee: BLANCHARD PIERRE

Assignee(s):(std)**:** BLANCHARD PIERRE ; PIERRE BLANCHARD

Assignee(s): BURANCHAADO PIEERU

Inventor(s):(std)**:** BLANCHARD PIERRE

Inventor(s): BURANCHAADO PIEERU ; PIERRE BLANCHARD

Agent(s): HALFORDS IP

Designated states: AT AU BB BE BG BR CA CH DE DK ES FI FR GB GR HU IT JP KP KR LI LK LU MC MG MW NL NO RO RU SD SE US

International class (IPC 8–9): B62M9/12 B62M9/121 B62M9/125 B62M9/126 B62M9/131 B62M9/16 (Advanced/Invention); B62M9/00 (Core/Invention)

International class (IPC 1–7): B62M9/12 B62M9/16 F16H61/00

CPC: B62M9/12 B62M9/16

European class: B62M9/12 B62M9/16

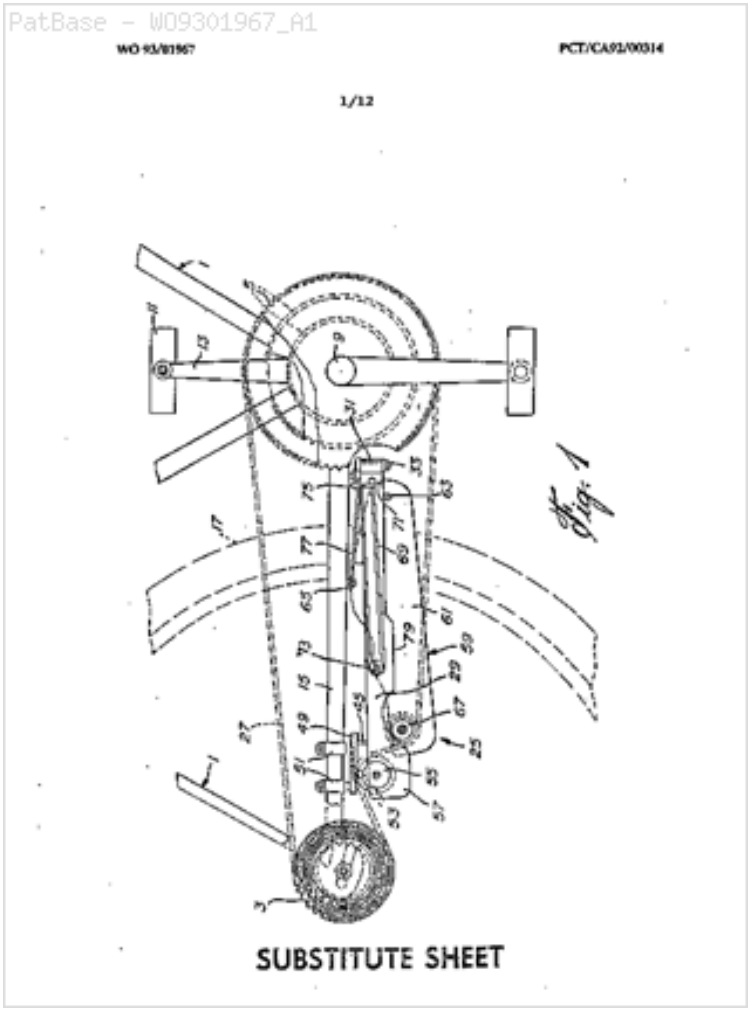
US class: 474/81 474/82

Classification Explorer

Cited documents: US4842568 A, US4439171 A, US4349342 A, US4331433 A, US4305711 A, US4231264 A, US4215872 A, US4061048 A, US4023424 A, US3847028 A, US3785219 A, US2590975 A, AU7193191 A1,

Forward Citations: WO05021369, US9400037, US9334015, US9327792, US9090311, US9033833, US9005060, US8998756, US7905805, US7736253, US7722488, US7686716, US7264256, US7059983, US6159118, US6135903, US5803848, US5611744, US5597366, US5473378, US5425678, US2014357437, US2014265220, US2014265219, US2009258738, US2008125259, US2006046881, US2005227798, US2005176535, US2004009835, US2001046916, TWI558616, TWI353948, EP2108580, EP1584551, DE102014008072, CN104210611,

Abstract:
Source: US5213549A The derailleur includes a relatively long, torsion−resisting bar extending below and generally along one of the two rear wheel−supporting bicycle frame members. The front end of said bar is held by a fastener secured to the bicycle frame adjacent the housing of the pedalling axle. The holder prevents the bar from rotating about its long axis. The rear end of the bar is movable transversely of the frame member by a remote control actuator. The rear end of said bar carries a drive chain idle transfer and a chain take−up device which serve to transfer the drive chain from one to another rear drive sprocket, while taking up the slack in the chain. The chain take−up device preferably comprises an elongated member supported by and extending alongside the bar, movable longitudinally along said bar and carrying at its rear end a drive chain engaging idle sprocket. The elongated member is biased rearwardly. The rear end of the bar carries a hook selectively engaging anyone of several positioning recesses made in a plate fixed to the frame member, whereby the bar can be positioned transversely of the frame member to maintain the drive chain transfer member in alignment with the selected drive sprocket socket. The invention is also directed to two types of derailleurs for the front crank sprockets and to combined front and rear derailleurs.



0) US6282976B – DISCONTINUOUS MECHANICAL ADVANTAGE FRONT SHIFTI...

27) Family number: 20646252 (US6282976B) © PatBase

Title: DISCONTINUOUS MECHANICAL ADVANTAGE FRONT SHIFTING FOR BICYCLES

Priority: US19970038667P 19970220 US19990380054 19990820 WO1998US03230 19980219

Family:

Publication number	Publication date	Application number	Application date
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DE69824393 D1	20040715	DE19986024393	19980219
DE69824393 T2	20050616	DE199860243931	19980219
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Probable Assignee: SRAM LLC

Assignee(s):(std)**:** SRAM INC ; SRAM CORP ; JORDAN BRIAN T ; CHEEVER JOHN D

Assignee(s): SRAM CORP CHICAGO ; GENERAL ELECTRIC CAPITAL ADMINISTRATIVE AGENT CORP AS ; COMPOSITECH INC ; GENERAL ELECTRIC CAPITAL ADMINISTRATIVE AGENT AS CORP ; BANK OF AMERICA NA ; BANK OF AMERICA NA AGENT A NATIONAL BANKING ASSOCI ; BANK OF AMERICA NA AGENT A NATIONAL BANKING ASSOCIATION AS ; BANK OF AMERICA NA AGENT AS ; JPMORGAN CHASE BANK NA ; SRAM LLC ; GENERAL ELECTRIC CAPITAL CORP ; GENERAL ELECTRIC CAPITAL ADMINISTRATIVE AGENT C AS ; JPMORGAN CHASE BANK NA AGENT AS ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS

Inventor(s):(std)**:** CHEEVER D ; CHEEVER J D ; CHEEVER JOHN D ; JORDAN B T ; JORDAN BRIAN T ; JORDAN T

Inventor(s): B T JORDAN ; BRIAN T JORDAN ; J D CHEEVER ; JOHN D CHEEVER

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CZ DE DK EE ES FI FR GA GB GE GH GM GN GR HU IE IL IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG US UZ VN YU ZW

International class (IPC 8–9): B62K23/04 B62M25/02 B62M25/04 B62M9/10 B62M9/12 B62M9/131 B62M9/1342 B62M9/137 B62M9/138 F16H7/22 (Advanced/Invention)

International class (IPC 1–7): B62M25/02 B62M25/04 F16C1/10 F16H59/00 F16H61/00 F16H7/22 G05G13/00

CPC: Y10T74/20287 Y10T74/20438 B62M25/04 B62K23/04 B62M9/131 B62M9/1342 B62M9/137

European class: B62K23/04 B62M25/04 B62M9/12B B62M9/131 B62M9/1342 B62M9/137

US class: 474/82 74/489 74/502.2

Classification Explorer

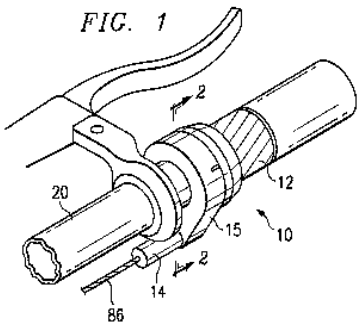
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Forward Citations: US9127766, US8282519, US7704173, US7503863, US7442136, US7341532, US7331890, US7306531, US7291079, US6979009, US6634253, US6588296, US2014128189, US2007137389, US2006189422, US2006189421, US2005239587, US2005205323, US2005197222, US2005192139, US2005192137, US2005189158, US2003230160, TWI547416, EP3000711, EP2151248, EP2068152, DE202016103391, DE19932513, DE19932511, CN103803011, CN103803011,

Abstract:
Source: US6282976B A rotatable handgrip twistshifter (10) mountable coaxially about a bicycle handlebar (20) that abruptly or discontinuously increases the mechanical advantage when shifting a front derailleur from a smaller to a larger chainring. A control cable (86) is slidably connected to the handgrip (12) such that during rotation of the handgrip (12) to effect gear shifts from the middle to larger chainrings of a triple chainring crankshaft (40, 41, 42), the cable (86) is abruptly dropped toward the handgrip axis of rotation thereby increasing the mechanical advantage or leverage of the shifter (10). Alternatively, the control cable (86) is slidably connected to the pivot arm (114) of a front derailleur such that during rotation of the handgrip (12) the cable (86) is deflected away from the derailleur pivot axis (207), likewise, increasing the mechanical advantage of the derailleur.

PatBase - WO9837340_A1

FIG. 1



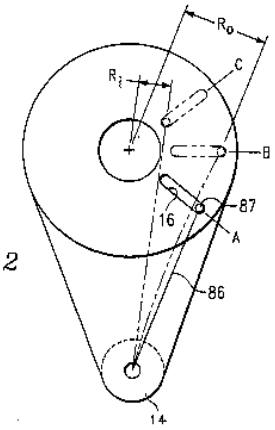


FIG. 2

0) US2001034583A – SPEEDOMETER FOR A MOVING SPORTSMAN

28) Family number: 29953458 (US2001034583A) © PatBase

Title: SPEEDOMETER FOR A MOVING SPORTSMAN

Priority:

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Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: PHATRAT TECHNOLOGY INC

Assignee(s):(std)**:** BURKE SHAWN ; FLENTOV PETER ; DARCY DENNIS M ; DARCY DENNIS ; HOLME ROBERT MUIR ; EDSTROM ERIC R ; HOLME ROBERT M ; DARCY DENTIS ; JOHJAK PAUL ; VOCK CURTIS A ; YOUNGS PERRY ; LARKIN ADRIAN F ; PHATRAT TECHNOLOGIES INC ; JONJAK PAUL ; PHATRAT TECHNOLOGY INC ; LARKIN ADRIAN ; AMSBURY BURL W ; APPLE INC ; PHATRAT TECHNOLOGY LLC ; PHATRAT TECH INC ; PHATRATH TECHNOLOGY LLC ; NIKE INC ; SARCY DENNIS ; PHATRAT TECHNOLOGY LLP ; TVIPR LLC

Assignee(s): COMERICA BANK ; GARMIN INT INC ; RECON INSTRUMENTS INC ; INTEL CORP ; MARSHALL CHARLES ; BODKIN ANDREW ; BROWNSTEIN HYATT FARBER SCHRECK LLP ; PHATRAT TECHOLOGY LLC ; GREALISH KEVIN J ; FINBERG STEVEN

Inventor(s):(std)**:** AMSBURY BURL E ; AMSBURY BURL W ; ANDREW BODKIN ; BODKIN ANDREW ; BURKE SHAWN ; CHARLES MARSHALL ; CURTIS A VOCK ; DARCY DENNIS ; DARCY DENNIS M ; DENNIS DARCY ; HOLME ROBERT M ; HOLME ROBERT MUIR ; JONJAK PAUL ; LARKIN ADIRAN ; LARKIN ADRIAN F ; MARSHALL CHARLES ; PERRY YOUNGS ; SARCY DENNIS ; SHAWN BURKE ; STEVEN FINBERG ; EDSTROM ERIC R ; FINBERG STEVEN ; FLENTOV PETER ; GREALISH KEVIN J ; VOCK CURTIS A ; YOUNGS PERRY ; ADRIAN F LARKIN ; JOHJAK PAUL ; LARKIN ADRIAN ; DARCY DENTIS

Inventor(s): ERIC R EDSTROM ; BURL W AMSBURY ; ADRIAN LARKIN ; AMSBURY BURL ; ROBERT MUIR HOLME ; PAUL JOHJAK ; HOLME ROBERT ; VOCK CURTIS ; EDSTROM ERIC

Agent(s): SMART AND BIGGAR; LATHROP AND GAGE LC; BANNER AND WITCOFF LTD; KRAMER LEVIN NAFTALIS AND FRANKEL LLP; LATHROP AND GAGE LLP; LATHROP AND GAGE; KRAMER LEVIN NAFTALIS AND FRANKEL; WOMBLE CARLYLE SANDRIDGE AND RICE LLP; VAN COURT AND ALDRIDGE LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZM ZW

International class (IPC 8–9): A43B3/00 A43B5/06 A61B5/00 A61B5/024 A61B5/08 A61B5/103 A61B5/11 A61B5/145 A61B5/22 A61F5/14 A63B24/00 A63B71/06 A63C11/00 A63C5/06 A63F13/798 A63K3/00 G01B21/00 G01B21/16 G01B5/02 G01B5/10 G01B7/004 G01C17/38 G01C21/16 G01C22/00 G01C22/02 G01C5/00 G01C9/00 G01G19/44 G01G23/00 G01G23/37 G01G7/00 G01G9/00 G01K13/00 G01L1/00 G01L1/04 G01L1/16 G01L1/22 G01L3/24 G01L5/00 G01P1/12 G01P11/00 G01P13/00 G01P15/00 G01P15/02 G01P15/08 G01P15/18 G01P21/00 G01P3/00 G01P3/36 G01P3/42 G01P3/50 G01P3/62 G01P5/08

G01P5/24 G01P7/00 G01S1/08 G01S11/14 G01S17/02 G01S17/58 G01S19/00 G01S19/19 G04F1/00 G04F10/00 G04F5/00 G04F8/08 G06F11/00 G06F11/30 G06F11/34 G06F15/00 G06F17/00 G06F17/40 G06F19/00 G06K9/36 G06Q10/00 G06Q10/08 G06Q30/00 G07C1/22 G07C1/24 G07F17/32 G08B1/08 G08B13/14 G08B5/36 G08G1/123 G08G9/00 G21C17/00 H04L12/26 H04M1/00 H04M1/725 H04N5/38 H04N7/16 H04N7/18 H04Q9/00 H04W4/00 H04W4/02 H04W76/02 H05K5/02 (Advanced/Invention);
A61B5/00 A61B5/113 A63B24/00 A63B69/00 A63B69/16 A63B69/18 A63B69/26 A63B71/06 A63K3/00 G01S11/14 G01S15/60 H04N5/38 H04W4/00 (Advanced/Non–invention);
A63B71/06 A63K3/00 G01B5/02 G01B5/08 G01C22/00 G01P13/00 G01P15/00 G01P3/42 G01S19/00 G06F11/34 G06F15/00 G06F19/00 G07C1/00 G08B13/14 H04N7/16 H04N7/18 (Core/Invention);
A63B24/00 G01S11/00 (Core/Non–invention)

International class (IPC 1–7): A63B71/06 G01C22/00 G01L1/00 G01L3/00 G01L3/24 G01L5/00 G01P11/00 G01P13/00 G01P3/00 G01P3/50 G01P5/00 G01P7/00 G01P9/00 G04F1/00 G04F10/00 G04F8/08 G06F11/00 G06F11/30 G06F11/32 G06F15/00 G06F17/00 G06F17/40 G06F19/00 G08C19/06 H04N17/00

CPC: A63B71/0616 G07C1/22 A42B3/046 A61B5/6804 A61B5/681 A63B2071/0663 A63B2220/51 A63B2220/53 A63B2230/75 A63C5/03 A63C2203/24 A63B71/10 G01P15/00 A63B5/00 A63B69/182 A63B2024/0071 A63B2220/14 A63B2220/44 A63B2220/64 A63B2220/801 A63B2220/808 G01C21/10 G01C21/20 G01S19/19 A63B2220/74 G01B7/004 G01P21/00 G01P7/00 G01L1/00 G01C9/00 G01P3/00 A63B71/0622 A63B2071/065 A63B2220/803 A63B2225/15 G06F19/00 G01L1/22 G01L1/16 G01S1/08 H05K5/0247 H04L43/00 G07F17/3218 A63B24/0003 A63B24/0006 A63B69/0022 A63B69/0093 A63B69/18 A63B71/06 A63B2071/0647 A63B2208/14 A63B2220/05 A63B2220/12 A63B2220/16 A63B2220/18 A63B2220/34 A63B2220/52 A63B2220/56 A63B2220/62 A63B2220/806 A63B2220/807 A63B2220/833 A63B2220/836 A63B2244/24 A63C17/26 H04N5/38 H04N7/185 A61B5/11 A61B5/6895 A63B24/0021 A63B2024/0025 A63B2069/185 A63B2220/13 A63B2244/08 A63B2244/19 A63C11/00 G01C22/002 G01C22/02 G01P3/366 G01P3/62 G01P5/08 G01S17/023 G01S17/58 A42B3/0433 G01P1/08 G01P1/16 A63C5/06 A63C2203/18 G01S15/60 G04F8/08 G01P1/122 G01P3/42 G01S11/14 G01S19/00 A61B5/1118 A61B5/4866 A61B5/22 H04W76/023 A61B5/14532 A61B5/14542 A61B5/0816 A61B5/721 A61B5/0022 H04Q9/00 H04Q2209/40 A61B5/02438 G01L1/04 H04M1/7253 A43B3/00 A43B5/06 A61B5/1126 A61B5/113 A61B5/6807 A61B2562/0219 A61B2562/08 A61B2562/242 A63B24/0062 A63B69/00 A63B71/0605 A63B2220/20 A63B2230/01 A63B2244/10 G01C22/006 G06Q10/083 G06Q10/0833 H04L43/04 G06F11/3089 H04W4/02 G08B5/36 A63F13/798 G01B21/16 G01P15/02 G01B21/00 G06K9/00342 G01L5/00 A43B3/0005 A61B5/0002 A61B5/1112 A61B5/1113 A61B5/1114 A61B5/1117 A61B5/112 A61B5/1122 A61B5/6833 A61B5/7242 A61B2503/04 A61B2503/10 A61B2560/0214 A61B2560/0242 A61B2560/0285 A61B2560/0412 A61B2560/0456 A61B2562/166 A63B24/00 A63B69/0028 A63B69/004 A63B69/16 A63B69/26 A63B2208/12 A63B2220/30 A63B2220/40 A63B2225/50 G01C21/16 G01G19/44 G01G23/00 G01G23/3728 G01P1/127 G01P3/50 G01P15/0891 G01P15/18 G06Q10/08 G07C1/10 G07C1/24 G08G1/20 G08G9/00 H04W4/027 H04W4/043

European class: A42B3/04B6 A42B3/04B6D A43B3/00 A43B3/00E A43B5/06 A61B5/00B A61B5/11 A61B5/11M A61B5/11N A61B5/11P2 A61B5/11W A61B5/68B1D3 A61B5/68B3D1 A63B23/035G A63B24/00 A63B24/00A A63B24/00A1 A63B24/00E A63B24/00G A63B69/00U A63B69/18 A63B69/18C A63B71/06 A63B71/06B A63B71/06D2 A63B71/10 A63C11/00 A63C17/26 A63C5/06 G01C21/10 G01C21/16 G01C21/20 G01C22/00B G01C22/00P G01C22/02 G01G19/44 G01G23/00 G01G23/37W G01P1/06 G01P1/12C G01P15/00 G01P15/08L G01P15/18 G01P3/36C G01P3/42 G01P3/50 G01P3/62 G01P5/08 G01S11/14 G01S17/02C G01S17/58 G01S19/19 G04F8/08 G06Q10/08 G06Q10/083 G06Q10/0833 G07C1/10 G07C1/22 G07C1/24 G08G1/20 G08G9/00 H04N7/18D2 H04W4/02P4 K61B5/113 K61B5/11M K61B5/11N K61B5/11N2 K61B5/11R K61B5/11S2 K61B503/10 K61B560/04B2 K61B562/02C K61B562/08 K61B562/24B K63B208/12 K63B208/14 K63B220/05 K63B220/12 K63B220/13 K63B220/14 K63B220/16 K63B220/18 K63B220/20 K63B220/30 K63B220/34 K63B220/40 K63B220/44 K63B220/51 K63B220/52 K63B220/53 K63B220/56 K63B220/62 K63B220/64 K63B220/74 K63B220/80A K63B220/80C K63B220/80F K63B220/80G K63B220/80M K63B220/83A K63B220/83C K63B225/15 K63B225/50 K63B230/01 K63B230/75 K63B24/00E1 K63B24/00G3 K63B244/08 K63B244/10 K63B244/19 K63B244/24 K63B5/00 K63B69/00 K63B69/00G K63B69/00J K63B69/00K K63B69/00U K63B69/16 K63B69/18 K63B69/18M K63B69/26 K63B71/06 K63B71/06B K63B71/06C K63B71/06D3 K63B71/06D4 K63B71/06D6B2 K63C203/18 K63C203/24 K63C5/03 S01S11/14 S01S15/60 T04N5/38 T04W4/04B

US class: 1/1 177/245 235/105 235/444 324/109 340/323R 340/539.11 340/539.13 340/539.26 340/539.32 340/539.320P 340/545.6 340/568.1 340/568.100P 340/568.7 340/573.1 340/870.05 340/870.06 340/870.07 340/870.11 340/870.16 342/104 342/357.01 342/357.57 342/357.570S 342/463 346/33.00R 346/33R 348/148 348/148P 36/140

361/679.01 364/565 364/569 368/10 368/11 368/14 382/103 382/103P 455/3.01 455/30.1 455/418 455/456.1 455/552.1 455/552.100P 463/42 482/8 482/9 600/300 600/364 600/365 600/508 600/528 600/587 600/595 700/91 701/3 701/7 701/70 702/104 702/108 702/124 702/127 702/127S 702/130 702/138 702/138S 702/139 702/141 702/141P 702/141S 702/142 702/142P 702/142S 702/144 702/149 702/149P 702/149S 702/150 702/150P 702/160 702/160P 702/160S 702/164 702/165 702/166 702/166S 702/173 702/173S 702/176 702/176P 702/178 702/178P 702/178S 702/179 702/182 702/182P 702/182S 702/183 702/187 702/187P 702/188 702/188P 702/189 702/19 702/19P 702/2 702/2P 702/33 702/33S 702/39 702/41 702/41S 702/44 702/44P 702/5 702/55 702/56 702/57 702/5S 702/66 702/67 702/68 702/75 702/76 702/81 702/94 702/94P 702/96 705/330 705/330P 705/333 705/333P 709/224 725/9 725/9P 73/12.01 73/172 73/172S 73/379.01 73/488 73/489 73/514.01 73/862.53 73/862.621 73/862.625 73/862.627

Classification Explorer

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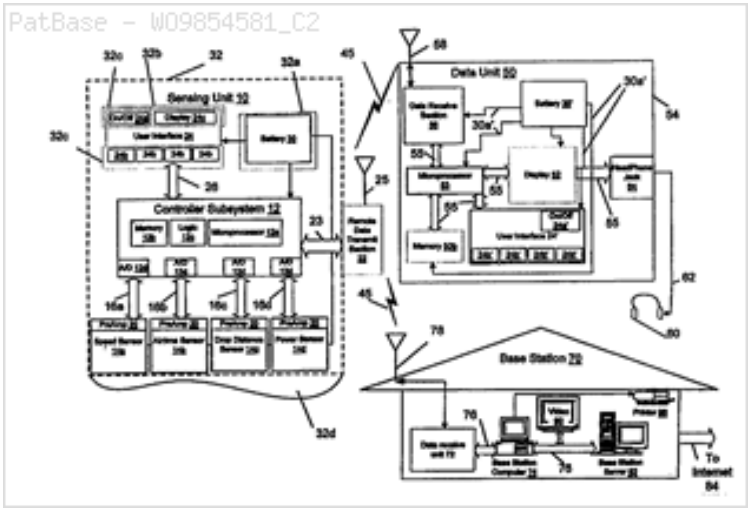
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Abstract:
Source: US2001034583A The invention detects the loft time and/or speed of a vehicle, such as a sporting vehicle, during activities of moving and jumping. A loft sensor detects when the vehicle leaves the ground and when the vehicle returns to the ground. A microprocessor subsystem converts the sensed information to determine a loft time. A display shows the recorded loft time to a user of the system. In addition, a speed sensor can detect the vehicle's speed for selective display to the user. The invention is particularly well−suited to sporting activities such as snowboarding where users loft into the air on ski jumps and catch "air" time but have no quantitative measure of the actual time lapse in the air. Therefore, users in skiing can use invention to record, store, and playback selected information relating to their sporting day, including the total amount of "air" time for the day and information such as dead time, i.e., time not spent on the slopes.



0) GB9206670A – IMPROVEMENTS IN AND RELATING TO APPARATUS FOR P...

29) Family number: 3874230 (GB9206670A) © PatBase

Title: IMPROVEMENTS IN AND RELATING TO APPARATUS FOR PARKING OR STORING BICYCLES

Priority: CA19912039435 19910328

Family:

Publication number	Publication date	Application number	Application date
CA2039435 AA	19920929	CA19912039435	19910328
CA2039435 C	20010814	CA19912039435	19910328
DE4210155 A1	19921001	DE19924210155	19920327
GB2254305 A1	19921007	GB19920006670	19920327
GB2254305 B2	19940727	GB19920006670	19920327
GB9206670 A0	19920513	GB19920006670	19920327

Probable Assignee: TERRANCE RAYMOND SMITH

Assignee(s):(std)**:** SMITH TERRANCE R ; SMITH TERRANCE RAYMOND

Assignee(s): SMITH TERRANCE RAYMOND NEPEAN ONTARIO CA ; TERRANCE RAYMOND SMITH

Inventor(s):(std)**:** SMITH TERRANCE R ; SMITH TERRANCE RAYMOND

Inventor(s): TERRANCE RAYMOND SMITH ; SMITH TERRANCE RAYMOND NEPEAN ONTARIO CA

Agent(s): RIDOUT AND MAYBEE LLP

International class (IPC 8–9): B62H3/08 B62H3/12 (Advanced/Invention); B62H3/00 (Core/Invention)

International class (IPC 1–7): B62H3/00 B62H3/08 B62H3/12

CPC: B62H3/12

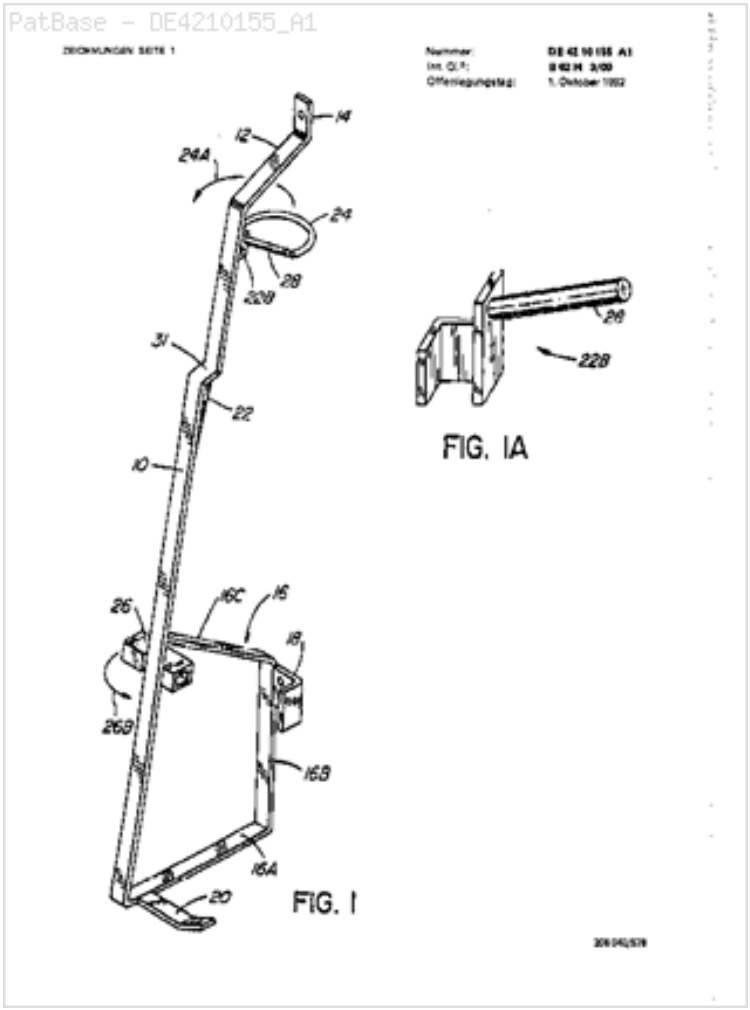
European class: B62H3/12

Classification Explorer

Cited documents: US4352432 A, GB1381576 A,

Forward Citations: US9076136, US7898439, GB2314821, GB2306929, GB2306929, DE19620211, DE10055988,

Abstract:
Source: DE4210155A1 A bicycle parking and storage rack is designed to receive one or mare bicycles in vertical position. Locking means (22, 28, 24), permit the frame and front and rear wheels of a bicycle to be secured to the rack and include a pivotable means (18) to selectively open and close the upper locking means. The rack according to the invention occupies a minimum of space and can be conveniently mounted on a wall or the like, or in a radial arrangement to accommodate up to ten bicycles.



0) US2015204695A – POWER–ASSISTED BICYCLE HAVING SENSOR WITH MULTI...

30) Family number: 52429308 (US2015204695A) © PatBase

Title: POWER–ASSISTED BICYCLE HAVING SENSOR WITH MULTIPLE MAGNET POSITIONS AND MAGNETIC FLUXES UNEVENLY DISTRIBUTED IN SHELL

Priority: CN201210263504 20120728 WO2013CN76822 20130605

Family:

Publication number	Publication date	Application number	Application date
CN102785744 A	20121121	CN201210263504	20120728
CN102785744 B	20140205	CN201210263504	20120728
IN01071DN2015 A	20150626	IN2015DN01071	20150210
US2015204695 AA	20150723	US20130417794	20130605
US9377326 BB	20160628	US20130417794	20130605
WO14019413 A1	20140206	WO2013CN76822	20130605

Probable Assignee: GAO SONG

Assignee(s):(std)**:** CHENGDU KUANHE TECHNOLOGY CO ; CHENGDU KUANHE TECHNOLOGY CO LTD ; GAO SONG ; HUANG QIANG ; OUYANG YANXIONG ; QIANG HUANG

Inventor(s):(std)**:** HUANG QIANG ; QIANG HUANG

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B62M6/50 B62M6/55 B62M6/65 G01D5/14 G01D5/244 G01D5/245 G01D5/249 (Advanced/Invention); B62M6/55 (Advanced/Non–invention)

CPC: G01D5/145 B62M6/50 B62M6/65 G01D5/244 G01D5/2455 G01D5/2492

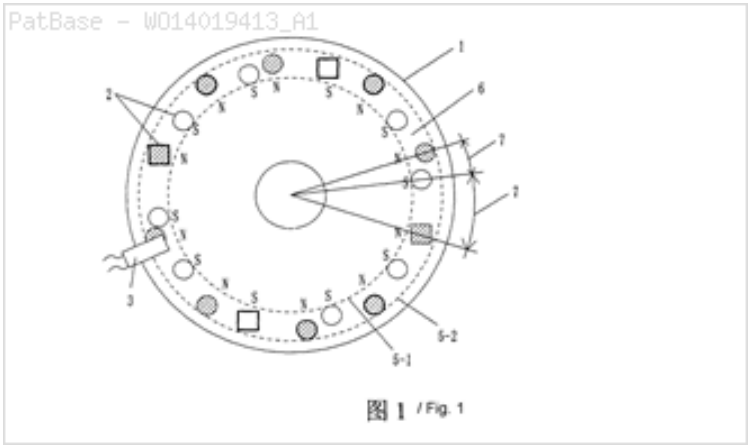
US class: 1/1 180/206.3

Classification Explorer

Cited documents: US7191861 BB, US6247548 BA, US6163148 A, US6131683 A, US5788007 A, US2015203172 AA, US2015077096 AA, US2014365013 AA, US2014252923 AA, US2012010036 AA, JP2012116227 A2, JP2002154474 A2, EP2452866 A1, CN202847956 U, CN202783640 U, CN202225989 U, CN1243947 A, CN102826183 A, CN102795307 A, CN102785744 A, CN102501940 A,

Forward Citations: WO14019413, WO14019406, US2016272278,

Abstract:
Source: US2015204695A A power–assisted bicycle having a sensor with multiple magnet positions and magnetic fluxes unevenly distributed in a shell includes a sensor which includes a sensing element, a power assistance model processor (21), a digital–to–analog converter (DAC, 27) and an operational amplifier (OPA, 28) which are connected successively. The sensing element includes a rotary wheel (1), a static wheel (40), permanent magnets (2) and a Hall component (3) which are embedded within a hollow internal of the rotary wheel and said static wheel. On the rotary wheel (1), magnetic poles of the neighboring permanent magnets (2) are opposite; the permanent magnets (2) are spaced differently and have different magnetic fluxes. The Hall component (3) on the static wheel (40) is provided in proximity to the permanent magnets. The sensor is sleeved onto a middle shaft (51); the OPA (28) is connected to a motor controller (29). Relative positions



between the permanent magnets (2) and the Hall component (3) are fixed; the Hall component (3) obtains a rectangular wave signal, which facilitates outputting a manually manipulated power assistance model by the sensor via digitization, providing a reasonable origin, end and strength of power assistance and accomplishing an optimized man−machine match to save electricity.

0) US5626354A – BICYCLE TRANSMISSION AND THE METHOD OF UTILIZIN...

31) Family number: 9939523 (US5626354A) © PatBase

Title: Bicycle transmission and the method of utilizing the same

Priority: US19940254611 19940606 US19950444032 19950518

Family:

Publication number	Publication date	Application number	Application date
US5626354 A	19970506	US19950444032	19950518
WO9636527 A1	19961121	WO1996US07209	19960517

Probable Assignee: ELLIOTT DAVID H

Assignee(s):(std)**:** ELLIOTT DAVID H

Inventor(s):(std)**:** ELLIOTT DAVID H

Designated states: AT BE CA CH DE DK ES FI FR GB GR IE IT JP LU MC NL PT SE

International class (IPC 8–9): B62M13/02 (Advanced/Invention)

International class (IPC 1–7): B62M11/04 B62M25/00

CPC: B62M13/02

European class: B62M13/02

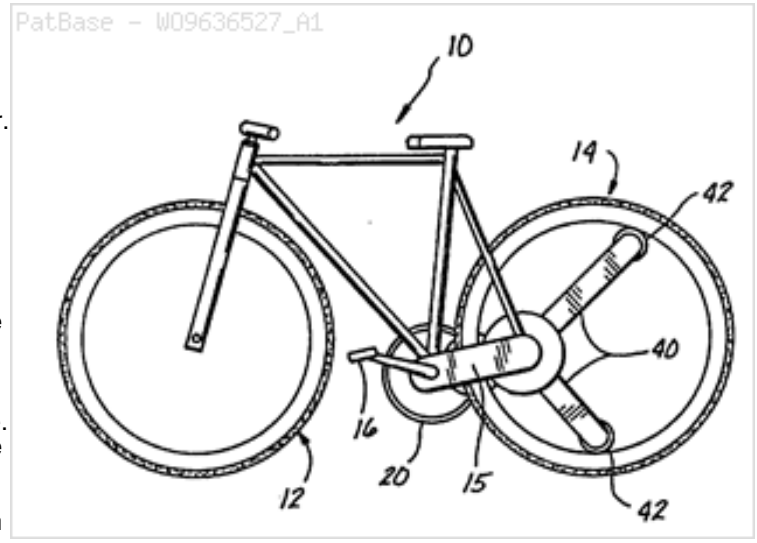
US class: 280/236 280/259 476/18 476/22 476/39 476/51 476/63

Classification Explorer

Cited documents: US5136892, US4856357, US4447068, US2917934, US1116373, GB2251586,

Forward Citations: US7594870, US2006287153, NL1008984,

Abstract:
Source: US5626354A A continuously variable friction drive transmission for a bicycle is provided by driving the rear bicycle wheel by frictional engagement with a rotating rim driver. The rim driver has a lateral conical surface matching a lateral conical surface of a driver plate. A transmission driver wheel is selectively positioned between the lateral conical surfaces of the rim driver and driver plate. The position along a shifting arm of the transmission driver wheel determines the speed ratios obtained between the driver plate and rim driver. The driver plate is then rotated by the pedal assembly through a speed increasing coupling. The transmission driver wheel is always in contact with the driver plate. When the driver plate ceases to rotate and the rear wheel and rim driver continue to rotate, the force on the transmission driver wheel automatically rotates the shifting arm on which the transmission driver wheel is coupled to kick the transmission driver wheel out of engagement with the conical surface of the rim driver thereby allowing the rear bicycle wheel to freewheel. The transmission driver wheel is returned into mutual engagement between the conical surfaces of the driver plate and rim driver, when the driver plate again rotates at a speed fast enough to couple the driver plate and rim driver again into a force transmitting relationship.



32) Family number: 50904323 (US2012083705A) © PatBase

Title: ACTIVITY MONITORING SYSTEMS AND METHODS OF OPERATING SAME

Priority:

CN201410243178	20140603	CN201410243180	20140603	US20100388595P	20100930
US20100338595P	20100222	CN201410243248	20140603	CN201410243403	20140603
US20110251270	20111002	US20110167742	20110624	US20110297165	20111115
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International class (IPC 8–9): A44C5/00 A45C11/00 A61B17/068 A61B19/00 A61B5/00 A61B5/01 A61B5/02 A61B5/0205 A61B5/021 A61B5/024 A61B5/0245 A61B5/04 A61B5/0402 A61B5/0488 A61B5/05 A61B5/053 A61B5/08 A61B5/103 A61B5/11 A61B5/145 A61B5/1455 A61B5/22 A61B7/00 A61M21/00 A63B24/00 A63B69/12 A63B71/00 A63B71/06 B65D25/22 F16M13/04 G01B21/16 G01C19/02 G01C19/56 G01C21/00 G01C22/00 G01C23/00 G01C5/00 G01C5/06 G01D21/02 G01D4/00 G01J1/00 G01L9/00 G01P13/00 G01P13/04 G01P15/00 G01P15/14 G01R33/00 G01S19/34 G01S19/48 G04B25/00 G04G13/02 G06F1/16 G06F1/32 G06F11/00 G06F13/14 G06F13/38 G06F15/00 G06F15/16 G06F17/00 G06F17/21 G06F17/24 G06F17/30 G06F17/40 G06F19/00 G06F3/00 G06F3/01 G06F3/038 G06F3/041 G06F3/0481 G06F3/0482 G06F3/0484 G06F3/0485 G06F3/0486 G06F3/0487 G06F3/0488 G06F3/14 G06K9/00 G06K9/22 G06M3/00 G06N3/08 G06Q10/10 G06Q30/02 G06T11/20 G08B21/00 G08B21/02 G08B21/04 G08B21/18 G08B25/00 G08B25/10 G08B3/10 G08B5/22 G08B5/36 G08B6/00 G08C17/02 G09B19/00 G09B5/00 G09F3/14 G09F3/18 G09F3/20 G11B27/10 H01L41/04 H01L41/08 H01L41/25 H01L41/312 H01Q1/00 H01Q1/22 H01Q1/24 H01Q1/27 H01Q1/48

H01Q21/28 H01Q9/04 H02J7/02 H04B5/00 H04B7/26 H04L12/18 H04L12/24 H04L12/26 H04L12/58 H04L29/06 H04L29/08 H04M1/725 H04W12/02 H04W24/00 H04W4/00 H04W4/02 H04W4/20 H04W64/00 H04W76/02 (Advanced/Invention); A45C13/42 A61B5/00 A61B5/0205 A61B5/021 A61B5/024 A61B5/0245 A61B5/0402 A61B5/05 A61B5/08 A61B5/11 A61B5/145 A61B5/1455 A61B5/22 B42D15/00 G01C21/20 G01C22/00 G01P15/00 G01S5/02 G06F17/30 G06F19/00 G06F3/00 G08B21/02 G08B21/18 G08C17/02 G09F3/00 G09F3/04 G09F3/14 H01L41/22 H02J7/34 H04L29/08 H04W4/00 H04W4/08 (Advanced/Non-invention)

CPC: G01C21/00 G04G13/021 G01D21/02 G06F3/14 G06F11/00 G06F3/0416 G06F1/3215 G06F3/0412 A61B5/746 G06F3/00 F16M13/04 G06F3/04883 H04L67/141 G06F1/3262 B42D15/00 G09F3/00 G06F17/30 G01C5/06 G08B21/02 G06F1/3231 G06K9/22 A45C11/00 H04W4/025 A61B2220/72 H04W64/00 G04B25/00 G06T11/206 G06Q10/10 H04W24/00 G06F17/21 H04W4/028 G06Q10/1095 G01C21/20 H04B7/26 A61B5/0245 A63B71/0686 A63B2220/73 G09F3/04 G09F3/14 A61B5/6826 A61B71/0686 A61B2220/73 G06F19/322 A61B5/6898 A61B5/725 A63B71/06 G01C23/00 H04W4/02 G06K9/00342 A61B5/6831 A61B5/6844 G01S19/34 A61B5/0402 A61B5/6886 A61B5/6802 G06F17/30312 G08B21/18 A63B24/0003 A61B5/6885 A61B2503/10 G06F17/30424 G01P13/00 A61B5/1117 G06F17/30241 A45C13/42 A61B5/4806 A63B2209/10 A63B2220/44 A63B2220/80 A63B2220/836 A63B2225/50 A63B2244/20 G01C5/005 G01R33/00 G01L9/008 G01J1/00 A63B24/00 A61B2560/045 A61B5/1121 G11B27/105 A61B2560/0443 G01P15/14 G01B21/16 H04N21/42201 H04N21/44218 A61B5/6843 A61B5/0082 A61B5/0075 A61B5/7271 A61B5/721 A61B2505/09 A61B5/7235 A61B2562/0233 G08B3/10 G08B5/36 G08B6/00 G08B21/182 H04L51/32 H04L65/403 A61B5/7203 G01S19/48 A61B5/0488 A61B5/0533 A61B5/0537 A61B2560/0209 H04W4/08 A61B5/002 A61B2560/0456 H04L63/0471 A61B5/165 G06F3/0486 Y10T29/42 G08B5/22 A61B5/683 A61B5/7445 A61B5/7405 A61B5/7455 A61B7/00 A61B2562/164 G09B19/00 A61B5/05 A61B2560/0257 A61B2562/0247 B65D25/22 A63B2024/0068 G01P9/02 G01D4/002 G06F17/40 G06M3/00 G08C17/02 H04L51/00 H02J7/025 H02J7/345 H01Q1/48 H01L41/08 H01L41/25 H01L41/312 H01Q1/273 H01Q21/28 H01Q1/22 H01Q9/0407 A61B5/486 A61B2560/0475 A61B2562/0223 A61B2560/0252 A61B2562/0214 G06F1/163 G06F1/1694 A61B2560/0271 H04L43/50 A61B5/0004 A61B5/02007 A61B5/14546 A61B5/4866 A61B5/6801 A61B5/7278 A63B2220/72 A63B2230/06 A63B2230/50 A63B2230/70 A63B2230/75 A63B24/0075 A61B5/14551 H04L12/1895 H04L51/38 A61B5/0008 A61B5/1455 A61B5/1116 A61B5/1122 A63B71/00 G01S19/14 G01S19/49 H04L63/0464 H04W12/02 G08B21/0453 A63B2230/04 G01C22/00 A61B17/0686 G01C5/00 A61B2562/185 A61B5/7207 A61B5/7246 A61B5/7282 G08B21/0415 G06F3/038 G06F3/0485 G06F3/0482 A61B5/7435 A61B5/7475 A61B5/7425 H04L51/046 G06F17/248 G06F17/3053 H04L67/26 A61B5/02405 G06F3/041 A61B5/7267 A63B24/0062 H01Q9/0421 G01S5/02 H04L67/18 H04W4/026 G06F3/017 H04L67/306 H04L67/42 A61B5/0022 A61B5/02055 A61B5/021 A61B5/024 A61B5/1118 A61B5/222 A61B5/4815 A61B5/7264 A61B5/744 A61B2560/0214 A61B2560/0242 A61B2562/0219 G01C22/006 G06F19/3406 G06F19/3481 G08B25/008 G06F19/3418 A61B5/01 G06F3/011 A61B5/6838 A61B5/743 H04L41/22 A61B5/0059 A61B5/112 G08B21/0446 G08B25/10 H04L67/10 A61B5/742 H04L67/22 H04L43/0876 A61B5/14552 A61B5/7225 A61B5/14539 H04L65/1069 H04W76/02 H04L67/02 G08B21/0423 A61B5/1112 H04M1/72519 H04M1/72566 H04M1/72569 A61B5/4809 G06Q30/02 H04W4/023 A63B2220/14 A61B5/0816 A61B5/14532 G06F15/00 G06F3/04842 G06F3/0488 G06F19/00 A61B5/0024 A61B5/0205 A61B5/11 A61B5/681 A61B5/6824 A61B5/6829 H04L63/0281 H04W12/00 A61B5/0002 A61B5/02427 A61B5/02433 A61B5/02438 A61B5/1123 A61B5/4812 H04L67/12 H04W4/008 H04W4/027 Y10T29/49016 H04B5/0031 H04B5/0075 H04B5/02 H04M1/7253 H04M2250/02 H04W76/023 H04W76/026 A61B5/22 A61B5/441 B06B1/0644 H01L41/09 G09B5/125 G01P15/00 A61B5/02416 H04W4/206 Y02B60/50

European class: A61B5/00B A61B5/11Q A61B5/22B2 A61B5/68B3L A63B24/00G A63B71/06F K61B5/0205B K61B5/11M K61B560/02B4 K61B560/02F K61B560/04J K61B562/02C K63B220/72 K63B220/73 K63B230/06 K63B230/50 K63B230/70 K63B230/75 S06F19/34A S06F19/34N

US class: 1/1 150/147 206/37 206/38 220/676 224/164 224/165 224/166 224/167 224/170 224/171 224/173 224/222 224/257 235/105 248/682 250/200 29/25.35 29/600 29/601 324/244 340/527 340/539.11 340/539.12 340/539.13 340/573.1 340/870.01 340/870.02 340/870.07 340/870.09 342/357.31 343/700MS 343/702 343/720 343/729 345/156 345/173 345/173 345/173 345/440 368/250 368/251 377/13 377/24.2 40/306 40/310 40/329 40/6 40/633 40/636 40/640 40/654.01 40/665 434/236 434/247 455/41.2 455/456.3 455/457 600/300 600/301 600/309 600/310 600/323 600/324 600/382 600/384 600/407 600/409 600/473 600/476 600/479 600/481 600/483 600/484 600/485 600/500 600/502 600/503 600/508 600/508P 600/509 600/529 600/546 600/547 600/586 600/587 600/587P 600/595 600/595P 63/21 700/91 701/500 701/500S 702/1 702/104 702/127 702/138 702/141 702/149 702/150 702/151 702/155 702/160 702/160P 702/166 702/178 702/179 702/182 702/186 702/187 702/188 702/189 702/19 702/19S 705/7.19 707/609 707/722 709/203 709/204 709/206 709/224 709/227 713/153 715/736 73/384 73/504.02 73/504.08

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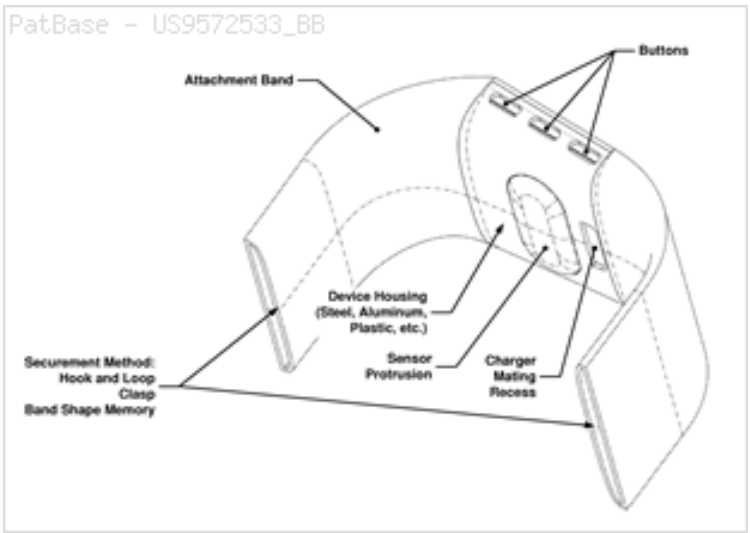
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Forward Citations: WO17025905, WO17023558, WO17023557, WO17023540, WO17019299, WO17016247, WO17015661, WO17006278, WO17005130, WO16209491, WO16206921, WO16203002, WO16199036, WO16198030, WO16197043, WO16195805, WO16193106, WO16191580, WO16188106, WO16183989, WO16183515, WO16176067, WO16168315, WO16167923, WO16166290, WO16165666, WO16164485, WO16164374, WO16162219, WO16160150, WO16153414, WO16151445, WO16151433, WO16150981, WO16149832, WO16149830, WO16149829, WO16148770, WO16146364, WO16144077, WO16142666, WO16142360, WO16141473, WO16140732, WO16139390, WO16138432, WO16138307, WO16137689, WO16134306, WO16132177, WO16125034, WO16113143, WO16112024, WO16112021, WO16111592, WO16109807, WO16106027, WO16105275, WO16097376, WO16096454, WO16089972, WO16088027, WO16087614, WO16087476, WO16087381, WO16080986, WO16077765, WO16077489, WO16077104, WO16071325, WO16069082, WO16066888, WO16061056, WO16060863, WO16060848, WO16053942, WO16053500, WO16052955, WO16050639, WO16048500, WO16048345, WO16045453, WO16040137, WO16039794, WO16037012, WO16032170, WO16025061, WO16011460, WO16010652, WO16007425, WO16005911, WO15196298, WO15190993, WO15187444, WO15184029, WO15183178, WO15174793, WO15151639, WO15144851, WO15140043, WO15131065, WO15126459, WO15114223, WO15113915, WO15103335, WO15103330, WO15092148, WO15083896, WO15066560, WO15058923, WO15042144, WO15031127, WO15029043, WO15017712, WO15006617, WO15006108, WO14207294, WO14200670, WO14161028, WO14153665, WO14146002, WO14146002, WO14145985, WO14145985, WO14133920, WO14133920, WO14120831, WO14120649, WO14117252, WO14113874, WO14110176, WO14074358, WO13163627, USD777331, USD772941, USD772256, USD771657, USD771109, USD771064, USD770532, USD768028, USD766758, USD763850, USD760395, USD759826, USD757802, USD757001, USD755196, USD753697, USD753057, USD752063, USD751584, USD751583, USD751582, USD750624, USD750623, USD749002, USD746776, USD746477, USD744110, USD744109, USD741855, USD737709, USD733130, USD727759, USD727183, USD725512, USD725511, USD721701, US9591456, US9589445, US9589107, US9588582, US9588581, US9586021, US9585616, US9585584, US9584956, US9584610, US9584609, US9584402, US9582749, US9582748, US9582263, US9582080, US9582072, US9582035, US9579062, US9578903, US9578117, US9577864, US9576245, US9576105, US9575591, US9575466, US9574896, US9574877, US9572682, US9572533, US9572503, US9572499, US9570808, US9570094, US9569719, US9569426, US9568891, US9565521, US9565263, US9563258, US9560751, US9560449, US9560432, US9558660, US9554252, US9554239, US9553486, US9547419, US9547316, US9545214, US9543636, US9542685, US9541904, US9539486, US9538923, US9538921, US9536449, US9536361, US9532723, US9532716, US9532176, US9531859, US9531824, US9530089, US9529396, US9529385, US9526422, US9524631, US9524597, US9521962, US9521868, US9520638, US9519672, US9518821, US9516489, US9516113, US9510790, US9510688, US9505402, US9504425, US9504416, US9504414, US9504408, US9503144, US9501916, US9501735, US9498161, US9497703, US9495881, US9494567, US9493112, US9492086, US9491991, US9491562, US9488980, US9486167, US9483997, US9483763, US9483134, US9475502, US9474955, US9473593, US9471117, US9470763, US9467795, US9462856, US9462570, US9456916, US9456787, US9451892, US9449409, US9449365, US9445923, US9445768, US9445751, US9444503, US9443410, US9442100, US9440646, US9439567, US9439566, US9438044, US9436903, US9433371, US9433357, US9432923, US9432091, US9430938, US9430617, US9427191, US9427190, US9427189, US9427160, US9427053, US9426551, US9425627, US9424722, US9424508, US9421448, US9421422, US9420956, US9420857, US9420856, US9420083, US9417073, US9415266, US9414776, US9414651, US9413872,

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Abstract:
Source: US2012083705A The present inventions, in one aspect, is an activity monitoring system comprising a fixture having size/shape adapted to couple to a location on the user's body and a particular signature; and a portable monitoring device adapted to detect the fixture's particular signature. The monitoring device includes a housing that is adapted to engage the fixture; activity sensors, disposed in the housing, to detect activity of the user and to generate data which is representative of the activity of the user; and processing circuitry, disposed in the housing, to calculate an activity−related quantity of the user using the data which is representative of the activity of the user, wherein the processing circuitry: determines the monitoring device is engaging the fixture by detecting the fixture's particular signature, and, in response thereto, calculates the activity−related quantity using



data from a set of the activity sensors.

0) US2012166105A – APPARATUS FOR MEASURING AND DETERMINING THE FOR...

33) Family number: 43225734 (US2012166105A) © PatBase

Title: APPARATUS FOR MEASURING AND DETERMINING THE FORCE, THE TORQUE AND THE POWER ON A CRANK, IN PARTICULAR THE PEDAL CRANK OF A BICYCLE

Priority: DE200910001463 20090206 DE200920001463U 20090206 EP20100722525 20100205 WO2010DE000121 20100205

Family:

Publication number	Publication date	Application number	Application date
AU2010210239 AA	20100812	AU20100210239	20100205
AU2010210239 BB	20141113	AU20100210239	20100205
DE202009001463 U1	20090430	DE200920001463U	20090206
DE502010006668 D1	20140522	DE201050006668T	20100205
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EP2394151 B1	20140416	EP20100722525	20100205
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US2012166105 AA	20120628	US20100148197	20100205
US9551623 BB	20170124	US20100148197	20100205
WO10088888 A2	20100812	WO2010DE000121	20100205
WO10088888 A3	20101021	WO2010DE000121	20100205
WO10088888 A4	20101209	WO2010DE000121	20100205

Probable Assignee: MOMES GMBH

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Inventor(s):(std)**:** ASFOUR JEAN MICHEL ; BIERMANN MICHAEL ; JEAN MICHEL ASFOUR ; MICHAEL BIERMANN

Agent(s): PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; KOELLE ALEXANDER DIPL ING FH DIPL JUR UNIV; KOELLE ALEXANDER; LEHMANN MARIA ISABEL; BOYLE FREDRICKSON SC

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): A61B5/22 A63B24/00 B62M3/08 B62M6/50 G01L1/00 G01L1/04 G01L1/22 G01L3/10 G01L3/24 G06F19/00 (Advanced/Invention); A61B5/22 G01L1/00 G01L1/04 G01L1/20 G01L3/10 (Core/Invention)

CPC: G01L3/242 A63B24/0062 A63B2220/18 A63B2220/34 A63B2220/54 A63B2220/58 A63B2220/80 A63B2220/833 B62K2207/00 B62M3/08 B62M6/50 G01L3/108 G01L3/247

European class: A63B24/00G B62M3/08 B62M6/50 G01L3/10D G01L3/24B G01L3/24D K63B220/18 K63B220/34 K63B220/54 K63B220/58 K63B220/80 K63B220/83A L62K207/00

US class: 702/42 702/42S 702/43 702/43P

Classification Explorer

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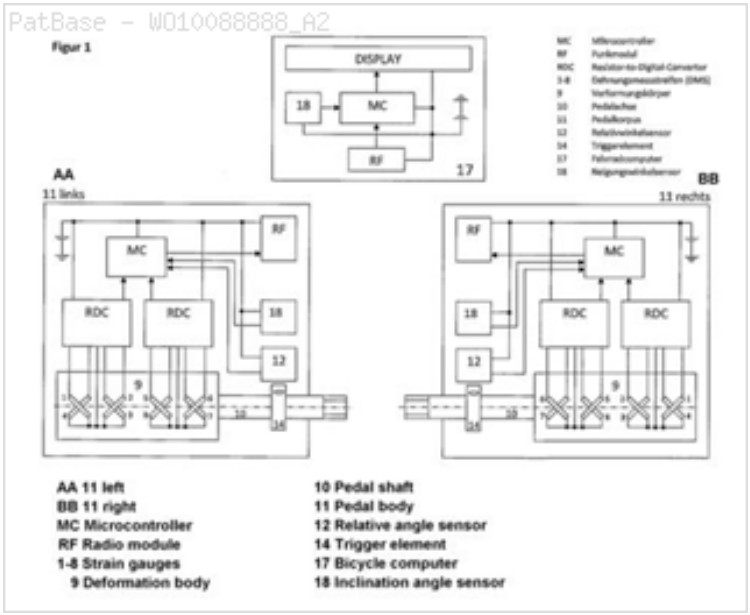
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Forward Citations:

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Abstract:
Source: US2012166105A The invention relates to an apparatus for measuring and determining the force, the torque and the power on a crank, in particular the pedal crank of a bicycle, comprising an evaluation device, in particular a bicycle computer, and at least one pedal, wherein the force and angular speed variables are converted into electrical signals and supplied to the evaluation device, the pedal comprises a pedal body, a deformation element, a pedal shaft and an angle transmitter, and wherein the force variable is determined by measuring the deformation of the deformation element using strain gauges, preferably by measuring the individual normal strains of the strain gauges, and wherein four pairs of strain gauges assigned to each other are arranged at different angles, preferably +/−45, with respect to the pedal shaft.



0) US2012286728A – WIRELESS ENERGY TRANSFER SYSTEM AND METHOD FOR ...

34) Family number: 49149448 (US2012286728A) © PatBase

Title: WIRELESS ENERGY TRANSFER SYSTEM AND METHOD FOR FEEDING AN ELECTRIC LOAD

Priority: EP20100814657 20101229 IT2009TO01060 20091230 WO2010IB03361 20101229

Family:

Publication number	Publication date	Application number	Application date
DE602010019304 D1	20141113	DE201060019304T	20101229
EP2520001 A2	20121107	EP20100814657	20101229
EP2520001 B1	20141001	EP20100814657	20101229
ITTO20091060 A1	20110630	IT2009TO01060	20091230
US2012286728 AA	20121115	US20100519841	20101229
US9071064 BB	20150630	US20100519841	20101229
WO11080577 A2	20110707	WO2010IB03361	20101229
WO11080577 A3	20110901	WO2010IB03361	20101229

Probable Assignee: TELECOM ITALIA SPA

Assignee(s):(std)**:** BELLA VALTER ; FARACI FELICE FULVIO ; TELECOM ITALIA SPA

Assignee(s): TELECOM ITALIA S P A

Inventor(s):(std)**:** BELLA VALTER ; BELLA WALTER ; FARACI FELICE FULVIO

Agent(s): BOEHMERT AND BOEHMERT ANWALTSPARTNERSCHAFT MBB PATENTANWAELTE RECHTSANWAELTE; CAMOLESE MARCO; BANNER AND WITCOFF LTD; CAMOLESE MARCO ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B60C23/04 B60L1/00 G01S13/75 H02J17/00 H02J3/02 H02J5/00 H02J7/00 H04B5/00 (Advanced/Invention); G01S13/75 H04B5/00 (Advanced/Non–invention)

CPC: H02J3/02 H02J7/00 H02J5/005 B60C23/041 B60C23/0413 B60C23/0433 H04B5/0037 H04B5/0093

European class: B60C23/04C3 B60C23/04C3C B60C23/04C6D H02J5/00T H04B5/00P4 H04B5/00W6

US class: 1/1 307/104 307/9.1 320/108

Classification Explorer

Cited documents: WO06031133 A1, US8912687 BB, US8855554 BB, US8461720 BB, US7202778 BB, US2014312802 AA, US2014312706 AA, US2011084658 AA, US2010280568 AA, US2010233958 AA, US2009210035 AA, US2009174263 AA, US2007262856 AA, US2007222571 AA, US2006259215 AA, US2006197655 AA, GB2418541 A1, EP0558316 A1,

Forward Citations: US9490651, US9393878, US9369000, US9199516, US9114719, US8841881, US8725330, US2014266029, US2014266028, US2012049620, KR101430068, CN103052210,

Abstract:
Source: US2012286728A A wireless energy transfer system and an associated method for feeding an electric load are provided. The system includes a transmitter which includes a generator adapted to generate a radiofrequency signal at a first frequency and a first resonant circuit adapted to transmit the radiofrequency signal; and a receiver adapted to receive the radiofrequency signal and comprising a second resonant circuit. The second resonant circuit is adapted to be located in the non−radiative near field generated by the first resonant circuit, and the transmitter includes frequency sweeping functionality, which imposes on the radiofrequency signal generator a cyclic excursion of the first frequency in the neighborhood of a nominal frequency of the generator so that, when the first frequency matches the resonant frequency of the second resonant circuit, a non−radiative energy transfer occurs.

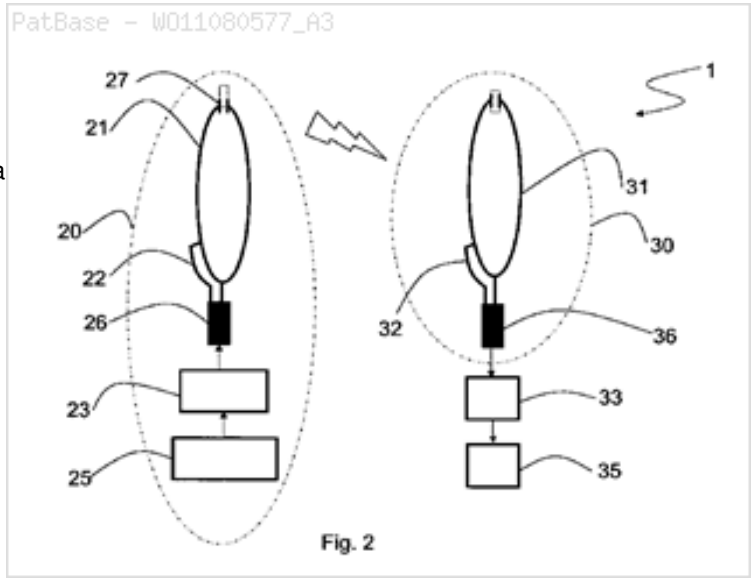


Fig. 2

35) Family number: 59409854 (CN204571416U) © PatBase

Title: BUILDING MASONRY WALL ADHERES TO THREE–DIMENSIONAL GARAGE OF FORMULA

Priority: CN201420466995U 20140819 CN201420590823U 20141014 CN201510081405 20150215 CN201520109863U 20150215 CN201520109900U 20150215 CN201520109951U 20150215 CN201520110008U 20150215

Family:

Publication number	Publication date	Application number	Application date
CN104675163 A	20150603	CN201510081405	20150215
CN104675163 B	20170118	CN201510081405	20150215
CN204571409 U	20150819	CN201520109863U	20150215
CN204571414 U	20150819	CN201520109900U	20150215
CN204571415 U	20150819	CN201520109951U	20150215
CN204571416 U	20150819	CN201520110008U	20150215

Probable Assignee: CHEN XIUHAI

Assignee(s):(std)**:** CHEN XIUHAI

Inventor(s):(std)**:** CHEN XIUHAI

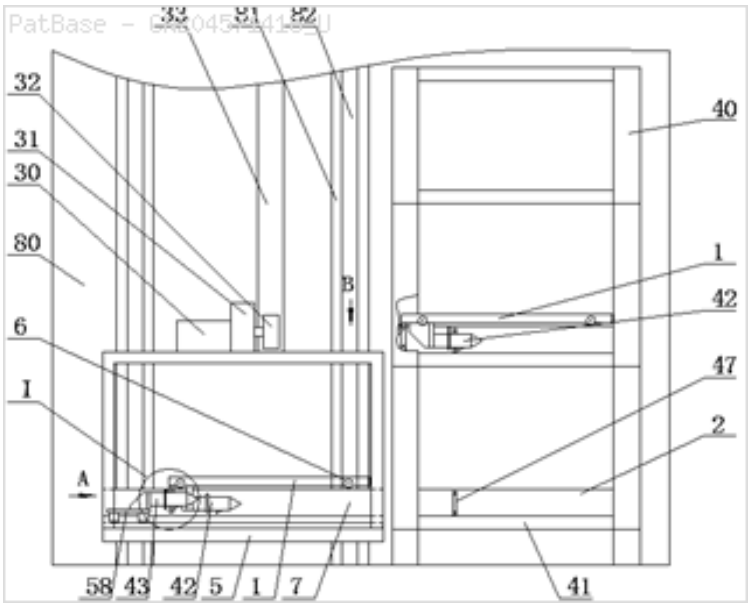
International class (IPC 8–9): E04H6/18 E04H6/22 (Advanced/Invention)

Classification Explorer

Cited documents: JP2001032558 A2, CN204571409 U, CN202788097 U, CN202596224 U, CN103603528 A, CN102359294 A,

Forward Citations: CN104675163, CN104675163,

Abstract:



Source: CN204571416U The utility model provides a building masonry wall adheres to three–dimensional garage of formula, it includes the building, the bicycle parking platform is established to the outer wall mounting skeleton of building masonry wall in, set up lift drive and lift guider between lifter plate and the building masonry wall outer wall, all sets up the parking stall connecting seat in every bicycle parking platform, every carry all install on the sweep sweep connecting seat and with first connector, circuit plug is installed to installation second connector on the sideslip device on the sideslip device, installs circuit socket on carrying the sweep, when the second connector is connected with the sweep connecting seat, circuit plug and circuit socket grafting the utility model discloses can realize building on stereo garage is attached to the building masonry wall, promote the garage height by a wide margin, can be on the bicycle parking platform realize mechanical caging to carrying the sweep, only come to extract at the lifter plate and just can carry out the unblock to carrying a sweep when carrying the sweep, thoroughly eliminate the potential safety hazard of stereo garage existence

0) US5782139A – BICYCLE HANDLEBAR CENTERPIECE

36) Family number: 11025076 (US5782139A) © PatBase

Title: BICYCLE HANDLEBAR CENTERPIECE

Priority: US19950524216 19950906 US19970789736 19970127

Family:

Publication number	Publication date	Application number	Application date
US5782139 A	19980721	US19970789736	19970127
WO9709230 A1	19970313	WO1996US14256	19960905

Probable Assignee: TIEN HSIN IND CO LTD

Assignee(s):(std): FRAIMAN PETER G ; VISIONTECH USA INC

Assignee(s): TIEN HSIN IND ; TIEN HSIN IND CO LTD

Inventor(s):(std): FRAIMAN PETER G

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

International class (IPC 8–9): B62K21/12 (Advanced/Invention); B62K21/00 (Core/Invention)

International class (IPC 1–7): B62K21/12

CPC: Y10T74/2078 B62K21/12

European class: B62K21/12

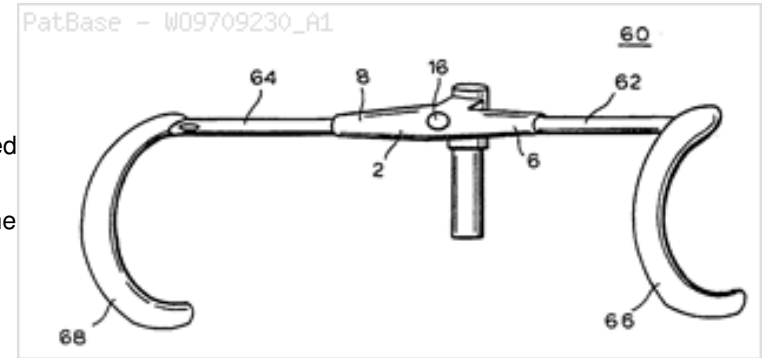
US class: 74/551.1

Classification Explorer

Cited documents: US5275067 A, US5269196 A, US5257552 A, US5221102 A, US5163339 A, US4917397 A, US3834249 A, US2143234 A, US2114733 A, US2034934 A, US2004089 A, GB2224253 A1, FR2654698 A1, FR2550154 A1,

Forward Citations: WO09115806, WO06050030, WO06050030, WO05084316, WO05084316, US9533731, US8739651, US8408574, US8172247, US7837212, US7788992, US7698967, US6928897, US6357769, US6092438, US2010225090, US2010213684, US2010199801, US2009095116, US2008110291, US2008053266, US2007175292, US2007151403, US2006090589, US2005109150, US2005044981, JP2012250706, GB2402659, GB2402659, FR2868388, EP1819580, DE202006013277, DE102004025024, AU2005302582,

Abstract:
Source: US5782139A A centerpiece for a handlebar of a bicycle having left and right wing–shaped handlebar sections. The centerpiece has left and right lugs having a wing–shaped cross–section. The wing–shaped handlebar sections are secured to the lugs. Aerobar supports with threaded arm rest mounts also can be provided integrally with the centerpiece.



0) US2002062207A – COMPUTER–IMPLEMENTED SYSTEM AND METHOD FOR SIMU...

37) Family number: 23169378 (US2002062207A) © PatBase

Title: COMPUTER–IMPLEMENTED SYSTEM AND METHOD FOR SIMULATING MOTOR VEHICLE AND BICYCLE TRAFFIC

Priority: US20000235702P 20000927 US20010963325 20010926

Family:

Publication number	Publication date	Application number	Application date
US2002062207 AA	20020523	US20010963325	20010926
US6950788 BB	20050927	US20010963325	20010926

Probable Assignee: FAGHRI ARDESHIR

Assignee(s):(std)**:** FAGHRI ARDESHIR

Inventor(s):(std)**:** FAGHRI ARDESHIR

Agent(s): CONNOLLY BOVE LODGE AND HUTZ LLP

International class (IPC 8–9)**:** G08G1/00 (Advanced/Invention); G08G1/00 (Core/Invention)

International class (IPC 1–7)**:** G06F17/10 G06F7/48 G06G7/48

CPC: G08G1/00

European class: G08G1/00

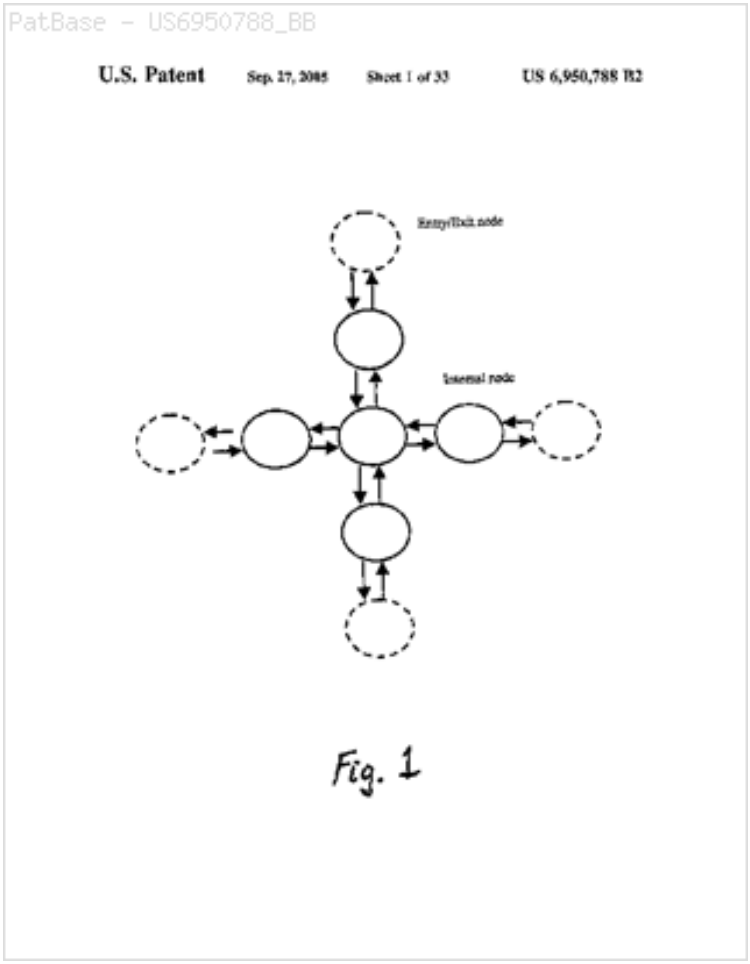
US class: 434/61 434/62 701/300 703/2 703/8

Classification Explorer

Cited documents: US6526352 BA, US6405132 BA, US6370475 BA,

Forward Citations: WO12039861, WO04023347, WO04023347, US9008953, US8894413, US8730059, US8725292, US7487074, US7389210, US7188056, US6822581, US2013103293, US2011121993, US2010042258, US2008154671, US2005261886, US2005192736, US2005065649, US2004199311, US2004176936, US2004075583, US2004059548, EP2450864, CN101791982,

Abstract:
Source: US2002062207A A computer−implemented system and method for simulating the movement of motor vehicle and bicycle traffic in an environment. Among other things, the system and method scan all traffic signals in the environment over a predetermined time interval, and then update parking activity, pedestrian movement, and motor vehicle and bicycle movement in the environment. The system and method also check whether any parking activity was generated for the predetermined time period, and simulates pedestrian movement in the environment. Finally, the system and method simulate motor vehicle and bicycle movement in the environment using predetermined acceleration and deceleration rates, a motor vehicle following model, and a lane changing model.



0) WO06091197A2 – SHIFTER FOR A BICYCLE USING A DUAL ACTION LEVER...

38) Family number: 33295688 (WO06091197A2) © PatBase

Title: SHIFTER FOR A BICYCLE USING A DUAL ACTION LEVER WHICH MOVES IN THE SAME MOTION AS THE NATURAL MOVEMENT OF THE THUMB

Priority: EP20050713995 20050223 EP20100187855 20050223 WO2005US05825 20050223

Family:

Publication number	Publication date	Application number	Application date
CN100537343 C	20090909	CN200580033960	20050223
CN101076474 A	20071121	CN200580033960	20050223
DE112005003398 B4	20160915	DE200511003398T	20050223
DE112005003398 T5	20080306	DE200511003398T	20050223
EP1922244 A2	20080521	EP20050713995	20050223
EP1922244 A4	20100616	EP20050713995	20050223
EP1922244 B1	20111221	EP20050713995	20050223
EP2289795 A2	20110302	EP20100187855	20050223
EP2289795 A3	20110316	EP20100187855	20050223
WO06091197 A2	20060831	WO2005US05825	20050223
WO06091197 A3	20070111	WO2005US05825	20050223

Probable Assignee: TIANXIN INDUSTRY CO LTD

Assignee(s):(std)**:** TIANXIN INDUSTRY CO LTD ; TIEN HSIN IND CO LTD ; CALENDRILLE JOHN L JR ; TIEN HSIN INDUSTRIES CO LTD

Assignee(s): CALENDRILLE JOHN L ; TIANXIN INDUSTRY CO ; TIEN HSIN IND CO ; TIEN HSIN INDUSTRIES CO

Inventor(s):(std)**:** CALENDRILLE JUN JOHN L ; CARANDER II J L ; CALENDRILLE JOHN L JR

Inventor(s): CALENDRILLE JUN ; II J L CARANDER ; TIEN HSIN IND CO LTD ; TIEN HSIN INDUSTRIES CO ; CALENDRILLE JOHN L

Agent(s): BECKER EBERHARD ET AL; HELLMICH WOLFGANG

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B62K23/06 B62M25/04 B62M25/08 F16C1/16 (Advanced/Invention); B62M25/00 (Core/Invention)

CPC: B62K23/06 B62M25/04 B62M25/08

European class: B62K23/06 B62M25/04 B62M25/08

Classification Explorer

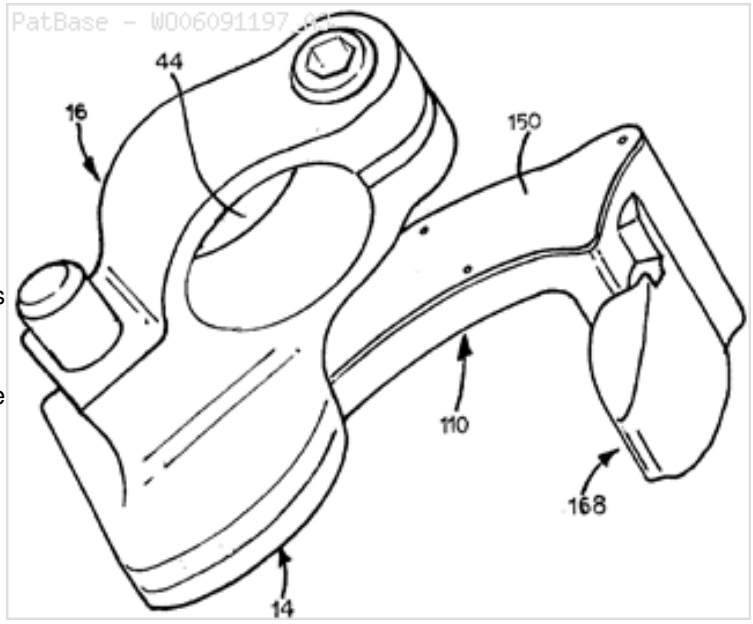
Cited documents: US6862948 BA, US6647823 BB, US5862709 A, US5799542 A, US5609064 A, US5303608 A, EP1484240 A2, EP1457415 A2, EP1327576 A2, EP1264764 A2, EP1134158 A2, EP0939026 A2, EP0352733 A2, DE69925059 T2, DE69624620 T2, DE69014159 T2, DE68917546 T2, DE60224609 T2,

DE602004009488 T2

DE20122305 U1,

Forward Citations: WO08047056, WO08047056, US8297143, US8256323, TWI375638, FR2907561, EP2374704, EP2253531, EP2075187, DE202008018454, DE102014017714,

Abstract:
A shift lever for a bicycle having a derailleur, includes a housing including a clamp head for mounting the housing on a handlebar of the bicycle and a cavity therein; a gear connected with the cable, rotatably mounted in the cavity and having first and second sets of teeth; a major pawl element mounted to the housing and biased by a spring into engagement with the first set of teeth; a main lever rotatably mounted to the housing, having a thumb engaging end and a substantially common axis of movement with a person's thumb during a shifting operation, such that the main lever moves in a natural direction of movement of the thumb to tighten a grip of the person on the handlebar on which the shift lever is mounted; and a minor pawl element for engaging the second set of teeth.



39) Family number: 51935300 (US2012238406A) © PatBase

Title: APPARATUS, SYSTEM, AND METHOD FOR GENERATING POWER FOR EXERCISE EQUIPMENT

Priority: EP20120757907 20120314 US20110048860 20110315 US20120418284 20120312 WO2012US29095 20120314 WO2012US29092 20120314 US20160082446 20160328

Family:

Publication number	Publication date	Application number	Application date
CA2830221 AA	20130913	CA20122830221	20120314
CA2830227 AA	20130913	CA20122830227	20120314
CN103687784 A	20140326	CN201280023201	20120314
CN103717268 A	20140409	CN201280023187	20120314
DE602012022436 D1	20161013	DE201260022436T	20120314
EP2686078 A1	20140122	EP20120757857	20120314
EP2686078 A4	20141008	EP20120757857	20120314
EP2686228 A1	20140122	EP20120757907	20120314
EP2686228 A4	20140917	EP20120757907	20120314
EP2686228 B1	20160831	EP20120757907	20120314
US2012238406 AA	20120920	US20120418284	20120312
US2012238410 AA	20120920	US20110048860	20110315
US2016206916 AA	20160721	US20160082446	20160328
US9067099 BB	20150630	US20120418284	20120312
US9327799 BB	20160503	US20110048860	20110315
WO12125738 A1	20120920	WO2012US29092	20120314
WO12125740 A1	20120920	WO2012US29095	20120314

Probable Assignee: CORE HEALTH AND FITNESS LLC

Assignee(s):(std): BEARD DAVID ; CORBALIS KEVIN ; CORE HEALTH AND FITNESS LLC ; CORNEJO VICTOR ; LAND AMERICA HEALTH AND FITNESS CO LTD ; MAGAKAT DEO ; MISTRY SHATISH ; LEE SI HYUNG ; MORGAN MICHAEL

Assignee(s): PNC BANK NATIONAL ASSOCIATION ; LAND AMERICA HEALTH AND FITNESS CO LTD XIAMEN ; LAND AMERICA HEALTH AND FITNESS CO

Inventor(s):(std): BEARD DAVID ; CORBALIS KEVIN ; CORNEJO VICTOR ; LEE SI HYUNG ; MAGAKAT DEO ; MISTRY SHATISH ; MORGAN MICHAEL

Agent(s): OYEN WIGGS GREEN AND MUTALA LLP; KORENBERG ALEXANDER TAL; BROWN IP LAW LC; KERRY W; BROWN KERRY W

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): A63B21/005 A63B21/015 A63B21/22 A63B22/06 A63B22/08 A63B24/00 A63B71/06 B23P11/00 B62M1/02 B62M1/36 B62M3/00 B62M3/08 G06F1/16 H02K21/24 H02K7/18 (Advanced/Invention); A63B22/00 H02K7/18 H02M7/06 (Advanced/Non–invention)

CPC: A63B21/0053 A63B21/0056 A63B21/227 A63B22/0046 A63B24/0006 A63B24/0062 A63B24/0084 A63B24/0087 A63B71/0619 A63B71/0622 A63B2071/0644 A63B2071/0655 A63B2220/30 A63B2220/805 A63B2220/833 A63B2225/15 A63B2225/20 A63B2230/045 H02K7/1815 H02K21/24 H02M7/06 A63B21/0055 A63B21/015 A63B2220/34 A63B2220/51 B62M3/003 G06F1/1632 Y10T29/49826 Y10T74/2164 A63B2022/0611 A63B22/0605 B62M3/00

European class: A63B21/005C A63B21/005D A63B21/22F A63B21/22F2 A63B22/06C A63B22/08 A63B24/00A1 A63B24/00G A63B24/00J A63B24/00R A63B71/06D A63B71/06D2

B62M3/00 K63B220/30 K63B220/51 K63B220/80D K63B220/83A K63B225/15 K63B225/20 K63B230/04A K63B71/06D2C3 K63B71/06D5

US class: 1/1 280/259 29/428 482/2 482/57 74/594.1

Classification Explorer

Cited documents: US921100 A, US852447 A, US8439808 BB, US8079273 BB, US7878946 BA, US7874957 BB, US7862476 BB, US7833135 BB, US7770492 BB, US7766798 BB, US7727124 BA, US7650817 BB, US7608015 BB, US7585258 BB, US7562891 BB, US7523685 BB, US7523684 BB, US7507007 BA, US7225703 BB, US7083551 BA, US6923745 BB, US6913564 BB, US6450922 BA, US640649 A, US6014913 A, US5929734 A, US5791203 A, US5771566 A, US5634727 A, US540766 A, US5118205 A, US4770411 A, US4688790 A, US4630818 A, US4438921 A, US4419890 A, US4358967 A, US4318310 A, US4171822 A, US4063107 A, US3995491 A, US3967503 A, US3919898 A, US3710158 A, US2898535 A, US283099 A, US2277748 A, US2013079199 AA, US2012065029 AA, US2010064845 AA, US2009151509 AA, US2009111663 AA, US2007296313 AA, US2007252453 AA, US2007017318 AA, US2006128512 AA, US2006079382 AA, US2005204859 AA, US2003073546 AA, GB2444116 A1, FR1056870 A, EP1669284 A2, EP0849154 A2, CN201478847 U, CN1785742 A, CN101862527 A, CN101104434 A,

Forward Citations: WO15092407, WO15005943, WO14153537, US9550089, US9315071, US9126076, US8884565, US2013274064, US2012306413,

Abstract:
Source: US2012238406A An exercise apparatus with a generator. The exercise apparatus includes a frame, a rotating component, a generator, and a battery. The rotating component is rotatably connected to the frame and the rotating component rotates in response to operation of the exercise apparatus. The generator is connected to the rotating component and the frame. The generator includes a rotor connected to the rotating component and a stator. The rotor rotates in response to rotation of the rotating component. The stator is connected to the frame. The stator interacts with the rotor to produce electric current at an output. In one embodiment, the battery is connected to the output wherein the battery is charged by electric current from the generator.

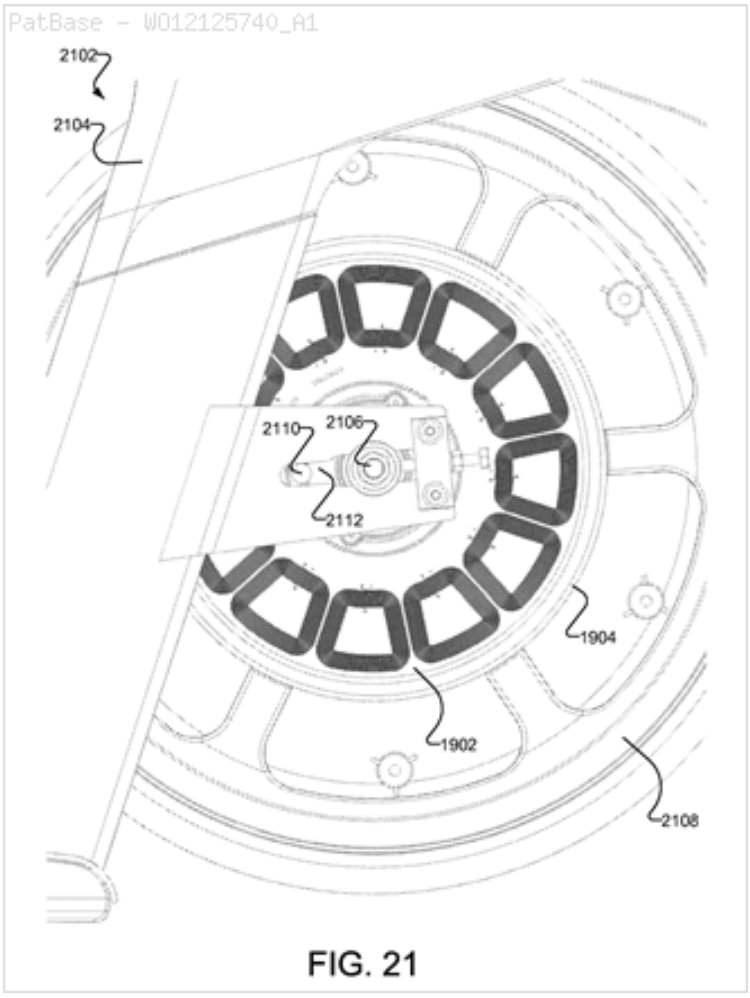


FIG. 21

40) Family number: 55719634 (US2014036076A) © PatBase

Title: METHOD FOR CONTROLLING VEHICLE USE OF PARKING SPACES BY USE OF CAMERAS

Priority:

US20120680268P	20120806	US20120686802	20121127	US20120686831	20121127
US20120686820	20121127	US20120686839	20121127	US20140187300	20140223
US20140187964	20140224	US20140196201	20140304	US20140209375	20140313
US20140214973	20140316	US20140226193	20140326	US20140229688	20140328
US20140244027	20140403	US20140250597	20140411	US20140251399	20140411
US20140263916	20140428	US20140267981	20140502	US20140279272	20140515
US20140280958	20140519	US20140283183	20140520	WO2013US71654	20131125
US20150848335	20150909	US20150856484	20150916	US20150943025	20151117
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Family:

Publication number	Publication date	Application number	Application date
AU2013352495 AA	20140605	AU20130352495	20131125
AU2013352495 BB	20161222	AU20130352495	20131125
CA2891849 AA	20150514	CA20132891849	20131125
CA2891849 C	20170214	CA20132891849	20131125
CN104981377 A	20151014	CN201380062011	20131125
CN104981377 B	20161123	CN201380062011	20131125
EP2925564 A1	20151007	EP20130858745	20131125
EP2925564 A4	20161012	EP20130858745	20131125
HK1210115 A1	20160415	HK20150110936	20151105
HK1215420 A1	20160826	HK20160103309	20160322
IL238803 A0	20150630	IL20130238803	20131125
IL238803 A1	20161130	IL20130238803	20131125
IN04220DN2015 A	20151016	IN2015DN04220	20150518
JP2016506561 T2	20160303	JP20150545144T	20131125
KR20150095713 A	20150821	KR20157017175	20131125
MX2015006597 A1	20160308	MX20150006597	20131125
PE12542015 A1	20150831	PE20150000696	20131125
RU2607043 C1	20170110	RU20150125482	20131125
US2014036076 AA	20140206	US20120686802	20121127
US2014036077 AA	20140206	US20120686820	20121127
US2014036078 AA	20140206	US20120686831	20121127
US2014039987 AA	20140206	US20120686839	20121127
US2014172519 AA	20140619	US20140187300	20140223
US2014172520 AA	20140619	US20140187964	20140224
US2014188580 AA	20140703	US20140196201	20140304
US2014195313 AA	20140710	US20140209375	20140313
US2014200970 AA	20140717	US20140214973	20140316
US2014207541 AA	20140724	US20140226193	20140326
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US2017039424 AA	20170209	US20160331846	20161022	
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US8698896 BB	20140415	US20120686839	20121127	
US8817100 BB	20140826	US20140226193	20140326	
US8830322 BB	20140909	US20120686820	20121127	
US8830323 BA	20140909	US20140279272	20140515	
US8836788 BB	20140916	US20120686831	20121127	
US8878936 BB	20141104	US20140267981	20140502	
US8937660 BB	20150120	US20140244027	20140403	
US8982213 BB	20150317	US20140187300	20140223	
US8982214 BB	20150317	US20140196201	20140304	
US8982215 BB	20150317	US20140209375	20140313	
US9036027 BB	20150519	US20140280958	20140519	
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US9064415 BB	20150623	US20140229688	20140328	
US9165467 BB	20151020	US20140250597	20140411	
US9171382 BB	20151027	US20140283183	20140520	
US9208619 BA	20151208	US20150848335	20150909	
US9330303 BB	20160503	US20140214973	20140316	
US9390319 BB	20160712	US20140251399	20140411	
US9489839 BB	20161108	US20150943029	20151117	
WO14085316 A1	20140605	WO2013US71654	20131125	

Probable Assignee: CLOUDPARC INC

Assignee(s):(std)**:** CLOUDPARC INC ; NERAYOFF STEVEN DAVID ; WONG THOMPSON S

Inventor(s):(std)**:** WONG THOMPOSON N ; WONG THOMPSON S S ; WONG THOMPSON S ; NERAYOFF STEVEN DAVID ; NERAYOF STEVEN DAVID

Inventor(s): STEVEN DAVID NERAYOFF ; THOMPSON S WONG

Agent(s): PIZZEYS PATENT AND TRADE MARK ATTORNEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; ROBIC; NGUYEN VAN YEN CHRISTIAN; REINHOLD COHN AND PARTNERS; INO SARI; KURASAWA ICHIRO; MATSUSHITA MITSURU; DESHIMARU TAKESHI; KUMAKURA YOSHIO; BAKER HOSTETLER LLP; BAKER AND HOSTETLER LLP; AKHAVANNIK HUSSEIN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B60Q B60Q1/48 B64C39/02 G01C23/00 G05D1/00 G05D1/10 G06K9/00 G06K9/18 G06K9/32 G06K9/62 G06Q20/02 G06Q20/14 G06Q30/02 G06Q30/04 G06Q50/10 G06Q50/26 G06Q50/30 G06T7/00 G06T7/20 G07B15/00 G07B15/02 G07F17/24 G08G1/00 G08G1/01 G08G1/015 G08G1/017 G08G1/04 G08G1/052 G08G1/054 G08G1/056 G08G1/133 G08G1/14 H04N5/00 H04N5/232 H04N5/247 H04N7/18 (Advanced/Invention);
G07B15/02 H04N7/18 (Advanced/Non–invention);
B60Q G08G (Subclass/Invention)

CPC: G06Q50/30 G06T2207/10016 G06Q2240/00 G06K9/00 G08G1/00 G08G1/017 G08G1/14 G08G1/146 G08G1/015 G08G1/054 G08G1/147 G08G1/149 H04N5/23206 H04N5/247 B60Q1/48 G08G1/01 G06K9/0063 G07F17/24 G05D1/0094 G05D1/101 G06Q20/02

G06Q30/0284 G06T7/20 G06T2207/10004 G06T2207/30236 G06T2207/30264 G06K9/00342 G06K9/00624 G06K9/00771 G06K9/00785 G06K9/00791 G06K9/00838 G06K9/18 G06K9/325 G06K9/6201 G06Q20/145 G06Q30/04 G06Q50/265 G07B15/00 G07B15/02 G08G1/052 G08G1/056 G08G1/133 G08G1/142 G08G1/143 G08G1/144 G08G1/148 H04N5/23203 H04N5/23216 H04N5/23229 H04N5/23296 H04N7/18 H04N7/181 G06K9/00651 G06K9/6215 G06T7/0026 G06T7/204 G06T7/0044 B64C39/024 G06T2207/10032 G06T2207/30256 G06T2207/30244 B64C2201/127 G06T7/292 G06T7/70 G06T7/73 G06K2209/15 G08G1/0175

US class: 1/1 348/143 348/148 348/149 382/103 382/104 382/104 382/105 701/3 705/13 705/34

Classification Explorer

Cited documents: WOW037109, WOW024161, WOW014799, WO12059705 A1, WO11114799 A1, WO11037109 A1, WO11024161 A1, WO05022485 A1, US9087415 BA, US8982213 BB, US8698895 BB, US8660890 BB, US8626418 BB, US8254633 BA, US8196835 BB, US8139115 BB, US7950570 BB, US7893848 BB, US7821423 BB, US7791501 BB, US7466223 BB, US7339495 BB, US7123166 BA, US7116246 BB, US7104447 BA, US7016518 BB, US6747687 BA, US6437919 BA, US6437819 BA, US5948038 A, US5757286 A, US5351187 A, US5173692 A, US2015339924 AA, US2014213176 AA, US2014020635 AA, US2014009612 AA, US2013335611 AA, US2013266190 AA, US2013266188 AA, US2013266187 AA, US2013266185 AA, US2013265426 AA, US2013265423 AA, US2013265419 AA, US2013120160 AA, US2013100286 AA, US2012287278 AA, US2012280836 AA, US2012274482 AA, US2012215596 AA, US2012166240 AA, US2012162431 AA, US2012162416 AA, US2012143657 AA, US2012130872 AA, US2012092503 AA, US2012092192 AA, US2012092191 AA, US2012062395 AA, US2012056758 AA, US2012007983 AA, US2011267469 AA, US2011233274 AA, US2011218940 AA, US2011148662 AA, US2011099126 AA, US2011060653 AA, US2011057815 AA, US2011010025 AA, US2010271497 AA, US2010265104 AA, US2010245125 AA, US2010201815 AA, US2010191584 AA, US2010157064 AA, US2010157049 AA, US2010117863 AA, US2010060485 AA, US2010057338 AA, US2010030628 AA, US2010026522 AA, US2009309760 AA, US2009294573 AA, US2009288011 AA, US2009254248 AA, US2009174777 AA, US2009132100 AA, US2009046897 AA, US2008308631 AA, US2008231470 AA, US2008101656 AA, US2008063239 AA, US2007294692 AA, US2007250260 AA, US2007069921 AA, US2007029825 AA, US2006274917 AA, US2006250277 AA, US2006187305 AA, US2006016966 AA, US2005270178 AA, US2005116838 AA, US2005111699 AA, US2005083212 AA, US2005002544 AA, US2004240542 AA, US2004233036 AA, US2004161133 AA, US2004054513 AA, US2002109609 AA, US2002008639 AA, RU2268175, JP4738778 B2, JP2011070304 A2, EP1895486 A1, CN102243813 A, CN101322166,

Forward Citations: WO17019940, WO16168792, WO16166950, WO16150732, WO16145626, WO16142940, WO16053073, WO15179685, US9589299, US9589202, US9589201, US9568335, US9563869, US9563814, US9558419, US9558352, US9557882, US9552615, US9549100, US9541409, US9527515, US9524524, US9519932, US9519924, US9519923, US9514366, US9514200, US9501851, US9497324, US9489839, US9489280, US9483162, US9460175, US9454785, US9454281, US9449035, US9438737, US9433870, US9429398, US9424696, US9412282, US9412031, US9390319, US9384111, US9383911, US9380431, US9367872, US9363483, US9338300, US9335911, US9335897, US9333908, US9332126, US9332125, US9330316, US9325850, US9317752, US9298678, US9282222, US9268741, US9256664, US9224062, US9223773, US9215325, US9172811, US9162621, US9160859, US9148513, US9135580, US9129219, US9124703, US9123086, US9116975, US9043894, US9043696, US9021384, US9009171, US8942880, US8923565, US8896468, US8873807, US8872921, US2017016735, US2016300486, US2016191793, US2016119585, US2016116564, US2016078759, US2016019790, US2016012577, US2015379729, US2015339924, US2015332525, US2015268172, US2015227952, US2015222859, US2015206014, US2015170031, US2015153201, US2015127222, US2015104073, US2015098624, US2015073880, US2015063633, US2015062334, US2015043771, US2015042800, US2014376769, US2014375804, US2014368652, US2014337153, US2014266801, US2014195106, US2014184428, US2014074338, US2013201039, US2012230548, US2012214468, US2012133766, TWI563474, KR101625384, GB2536470, FR3031617, DE102015208161, DE102015205634, CN105185111,

Abstract:
Source: US2014036076A A method of tracking the use of at least one destination location, the method including identifying a vehicle by use of identification images captured by an identification camera, such as by processing of images of license plates, determining characteristics of the vehicle visible in the identification images, and determining usage of a destination location, such as a parking spot, based on a camera monitoring the destination location capturing images of the vehicle having characteristics corresponding to those determined for the identification images.

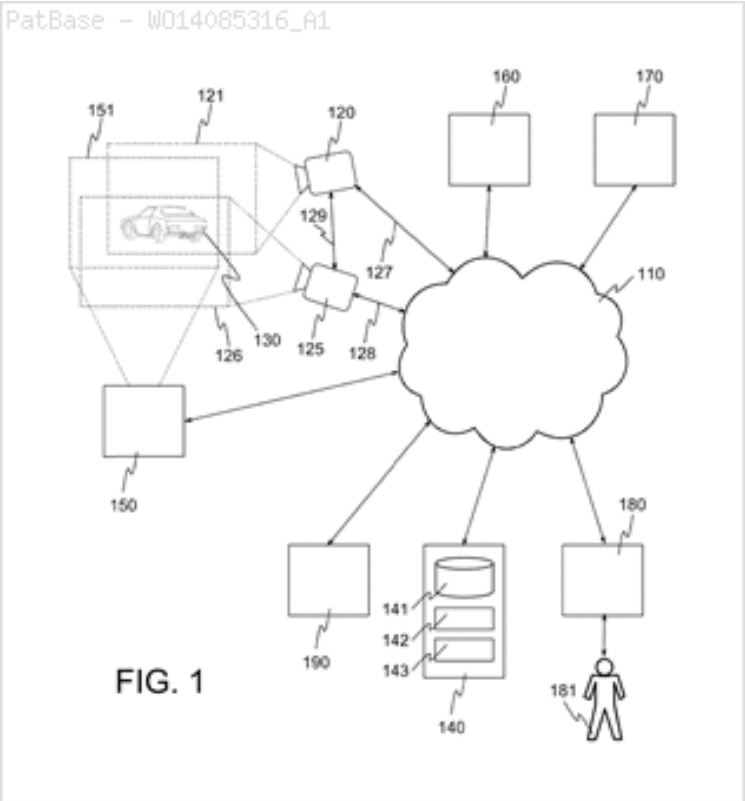


FIG. 1

0) CN203795349U – FLOOR SWEEPING ELECTRIC BICYCLE

41) Family number: 57253102 (CN203795349U) © PatBase

Title: FLOOR SWEEPING ELECTRIC BICYCLE

Priority: CN201420029462U 20140117

Family:

Publication number	Publication date	Application number	Application date
CN203795349 U	20140827	CN201420029462U	20140117

Probable Assignee: XUZHOU FUERWO VEHICLE CO LTD

Assignee(s):(std)**:** XUZHOU FUERWO VEHICLE CO LTD

Assignee(s): CALVO VEHICLE CO LTD XUZHOU RICH ; XUZHOU FUERWO VEHICLE CO

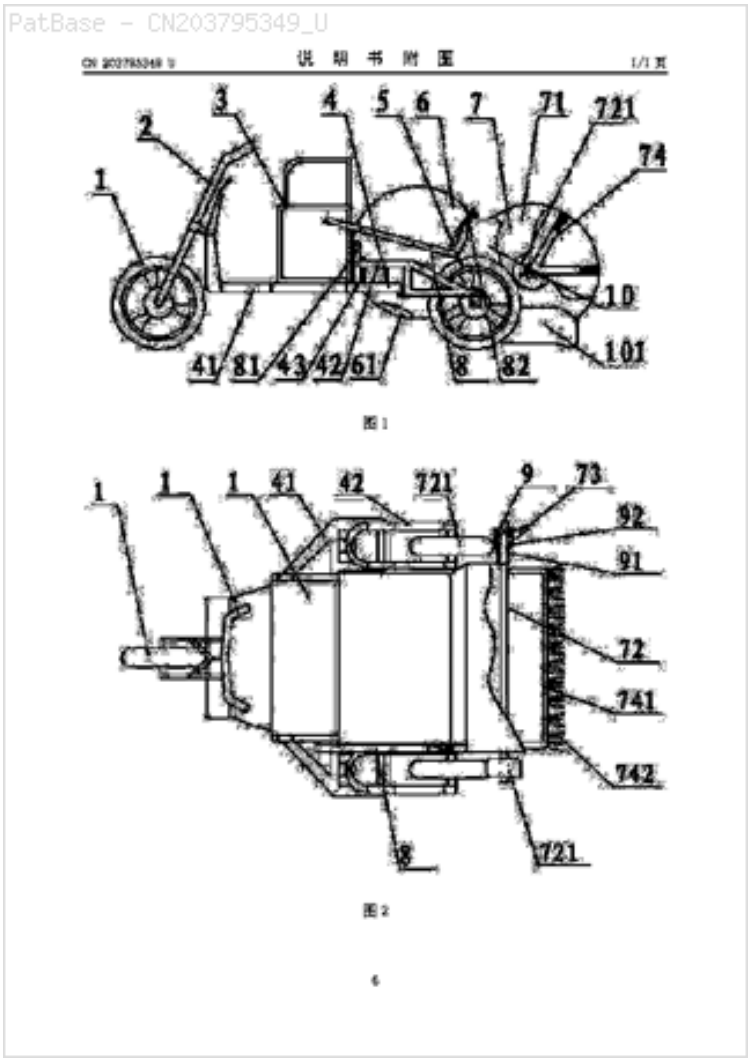
Inventor(s):(std)**:** CAO WANKE ; LOU CHANGSHUN ; LOU XIAOHUI ; LOU ZHONGYONG

International class (IPC 8–9): E01H1/04 (Advanced/Invention)

Classification Explorer

Forward Citations: CN103790125, CN103790125,

Abstract:
Source: CN203795349U The utility model discloses a floor sweeping electric bicycle, and belongs to the technical field of sweepers. The floor sweeping electric bicycle comprises a front wheel, a handle bar, a saddle, a bicycle frame and a rear wheel, wherein the bicycle frame comprises a front bicycle frame and a rear bicycle frame, the middle of the rear bicycle frame is hinged to the rear end of the front bicycle frame, the rear end of the rear bicycle frame and the rear wheel are fixed, a damping spring is arranged between the front end of the rear bicycle frame and the front bicycle frame, a rubbish collecting box is fixed to the front bicycle frame, and a sweeping device is hinged to the rear end of the rear bicycle frame; the sweeping device comprises a shell communicated with the rear of the rubbish collecting box, an opening is formed in the lower portion of the shell, a center rotating shaft is installed on the center axis of the shell, one end of the center rotating shaft is connected with the rear wheel, the other end of the center rotating shaft is provided with an edge–retracting hairbrush assembly, and a main hairbrush assembly is arranged on the center rotating shaft in the shell. The floor sweeping electric bicycle has the advantages of being simple and reliable in structure, convenient to operate, maintain and repair, capable of sweeping dead angles or corners on the two sides of roads and thereby sweeping the roads more cleanly, free of noise or exhaust emission, low in use cost and more environmentally friendly, and the floor sweeping electric bicycle is fully driven by electricity.



42) Family number: 19897427 (GB682174A) © PatBase

Title: Improvements in or relating to internal combustion engines for propelling pedal bicycles

Priority: GB19490012000 19490505

Family:

Publication number	Publication date	Application number	Application date
GB682174 A	19521105	GB19490012000	19490505

Probable Assignee: LOHMANN WERKE AG

Assignee(s):(std)**:** HERMANN TEEGEN ; LOHMANN WERKE AG

Assignee(s): LOHMANN WERKE AKTIENGESELLSCHAFT

International class (IPC 8–9)**:** B62M6/10 B62M6/35 F02B75/04 F02M1/00 (Advanced/Invention)

International class (IPC 1–7)**:** F02B75/40

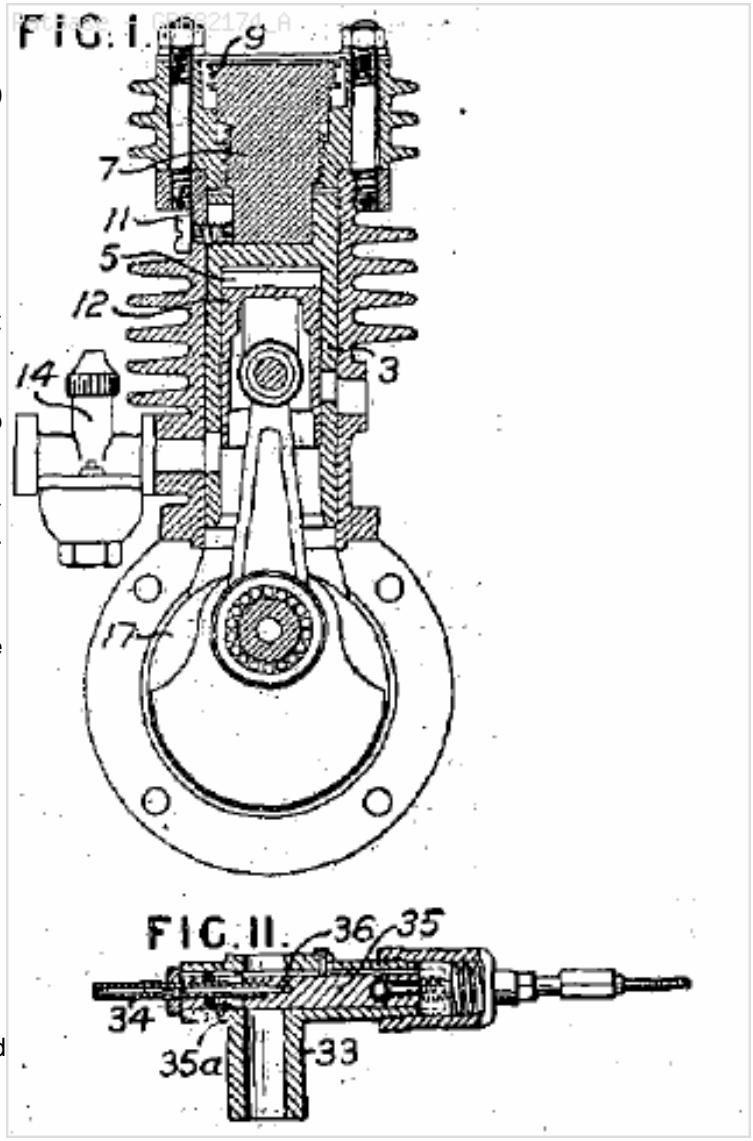
CPC: B62M6/10 B62M6/35 F02B75/041 F02M1/00 F02M2700/4376

European class: B62M23/02 B62M6/10 B62M6/35 F02B75/04A F02M1/00 R02M700/43B17B

Classification Explorer

Forward Citations: EP1903198, DE2441502,

Abstract:
Source: GB682174A 682,174. Cylinders; spray–carburetters. TEEGEN, H., and LOHMANN–WERKE AKT.–GES. Aug. 8, 1950 [May 5, 1949], No. 12000/49. Classes 7 (ii) and 7 (iii) [Also in Group XXXI] In a pedal bicycle fitted with a self–igniting twostroke internal combustion engine having means, such as a carburetter 14, Fig. 1, for admitting fuel/air mixture to the crankcase 17, and means in the form of a cylinder liner 3 for varying the compression ratio, there is provided gearing, such as a friction, chain, belt or shaft drive for connecting the engine to the rear bicycle wheel; the moving parts of the engine within the crankcase may serve to atomize the fuel/air mixture which on its way to the combustion chamber 5 passes along the piston 12 thereby being reheated and also cooling the piston. A Bowden cable 9 around a threaded spindle 7 enables the latter to be rotated in either direction by a lever fitted on or near the handlebars of a bicycle (see also Group XXXI), in order to effect movement of the cylinder liner 3, which is prevented from rotating by a screw 11, and so cause a change in the volume of the combustion chamber 5. Fuel/air mixture from the carburetter 14 is compressed in the crankcase 17 and led by semi–circular transfer passages in the liner 3 into the combustion chamber 5, the shape of the pas; sages being such as to produce loop scavenging of the cylinder. The piston 12, which need not incorporate piston rings, has a hard skin that may be formed by a layer of chromium, for example. In a modification, the variation in the volumes of the combustion chamber 5 is effected by a cam mechanism and the engine may incorporate a fuel vaporizer or a fuel and air control valve. In the latter case the fuel which may be a mixture of low–grade petrol and lubricating oil is atomized in the crankcase by action of the moving parts therein, the crankcase having a serrated, surface to further assist the atomization. The fuel and air control valve comprises a body 33, Fig. 11, a fuel nozzle 34 and a manually–operated slide 35 which carries a needle 36 that extends centrally in an axial bore in the slide and fits within the nozzle, the latter being located in the axial bore of the slide 35 which is provided with an air inlet bore 35a so. that by moving the slide the quantity and strength of the fuel/air mixture can be regulate. The engine may have more than one cylinder but its total capacity will not usually exceed 100 cc. although the preferred embodiment has one cylinder and a capacity of less than 30 c.c. The engine preferably drives the bicycle through reduction gearing, not shown.



0) US2003206097A – MOVING VEHICLE COMFORT, SECURITY AND SAFETY SIG...

43) Family number: 29541017 (US2003206097A) © PatBase

Title: MOVING VEHICLE COMFORT, SECURITY AND SAFETY SIGNALING SYSTEM

Priority: US20020137940 20020502 WO2003US13613 20030502

Family:

Publication number	Publication date	Application number	Application date
AU2003231235 AA	20031117	AU20030231235	20030502
EP1507697 A1	20050223	EP20030724370	20030502
US2003206097 AA	20031106	US20020137940	20020502
US6759947 BB	20040706	US20020137940	20020502
WO03093091 A1	20031113	WO2003US13613	20030502

Probable Assignee: ACEVES MANUEL

Assignee(s):(std)**:** ACEVES MANUEL

Inventor(s):(std)**:** ACEVES MANUEL

Inventor(s): MANUEL ACEVES

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PH PL PT RO RU SC SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B62J27/00 B62J6/00 (Advanced/Invention); B62J27/00 B62J6/00 (Core/Invention)

International class (IPC 1–7): B60Q1/32 B62J3/00 B62J6/00

CPC: B62J6/00 B62J6/003 B62J27/00

European class: B60Q1/32 B62J27/00 B62J6/00 B62J6/00B B62J6/00B1

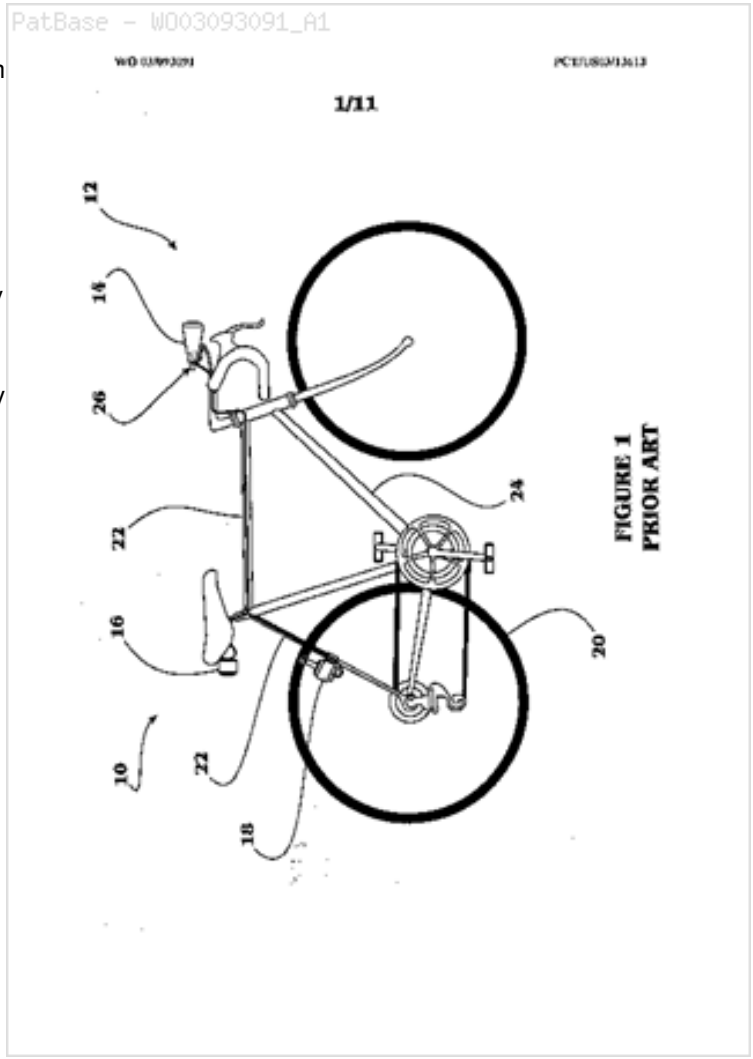
US class: 340/432 340/463 340/468 362/473

Classification Explorer

Cited documents: US6196474 BA, US6018295 A, US5933076 A, US5871269 A, US5617303 A, US5193895 A, US4819135 A, US4204191 A, US4099159 A, US4020458 A, FR2784956 A1,

Forward Citations: WO16046331, WO16024094, WO12040236, WO12040236, WO09095653, US8905611, US8662508, US7944344, US7722231, US2012200402, US2012112635, US2011119062, US2011115614, US2011031711, US2008290999, US2007285934, US2006175784, GB2517593, GB2517593, GB2464671, GB2457028,

Abstract:
Source: US2003206097A A Moving Vehicle Comfort, Security and Safety Signaling System is disclosed. The system may be available as a kit for installation on a conventional vehicle, or it may be integrated into the vehicle (e.g. within a bicycle frame). The system further includes an improved lighted indicator assembly to provide other vehicles and pedestrians with additional information regarding the driver/rider's intentions. The system may be voice−activated or activated by manual switches, or both. The system may further include an anti−theft device for detecting if the vehicle is jostled. Furthermore, the system, when configured for a bicycle, may include a water misting system for dispensing fine water spray onto the rider's face area. A kit for installation on existing bicycles utilizes flat circuit tape for interconnecting the electrical components.



0) US6227068B – BICYCLE CONTROL DEVICE HAVING A ROTATABLE DIAL ...

44) Family number: 17784836 (US6227068B) © PatBase

Title: BICYCLE CONTROL DEVICE HAVING A ROTATABLE DIAL

Priority: JP19960354344 19961219

Family:

Publication number	Publication date	Application number	Application date
CN1081569 C	20020327	CN19971008792	19971219
CN1186036 A	19980701	CN19971008792	19971219
DE69712450 D1	20020613	DE19976012450	19971212
DE69712450 T2	20030116	DE19976012450T	19971212
EP0849158 A1	19980624	EP19970310043	19971212
EP0849158 B1	20020508	EP19970310043	19971212
JP10175585 A2	19980630	JP19960354344	19961219
JP3128116 B2	20010129	JP19960354344	19961219
TW441560 Y	20010616	TW19990220904U	19971009
US6227068 BA	20010508	US19970991255	19971216

Probable Assignee: SHIMANO INC

Assignee(s):(std)**:** SHIMANO INC ; SHIMANO KK

Assignee(s): SHIMANO INC OSAKA

Inventor(s):(std)**:** ABE KENRO ; ABE TAKEO ; ABE TAKERO ; MASUI TAKUJI ; TAKEO ABE ; TAKUJI MASUI

Designated states: DE FR GB IT

International class (IPC 8–9)**:** B62K23/02 B62M25/04 B62M25/08 (Advanced/Invention); B62K23/00 B62M25/00 (Core/Invention)

International class (IPC 1–7)**:** B62K23/02 B62M25/04 B62M25/08 B62M9/00

CPC: Y10T74/2014 B62M25/04 B62K23/02 B62M25/08 B62M2025/003

European class: B62K23/02 B62M25/04 B62M25/08 L62M25/00B

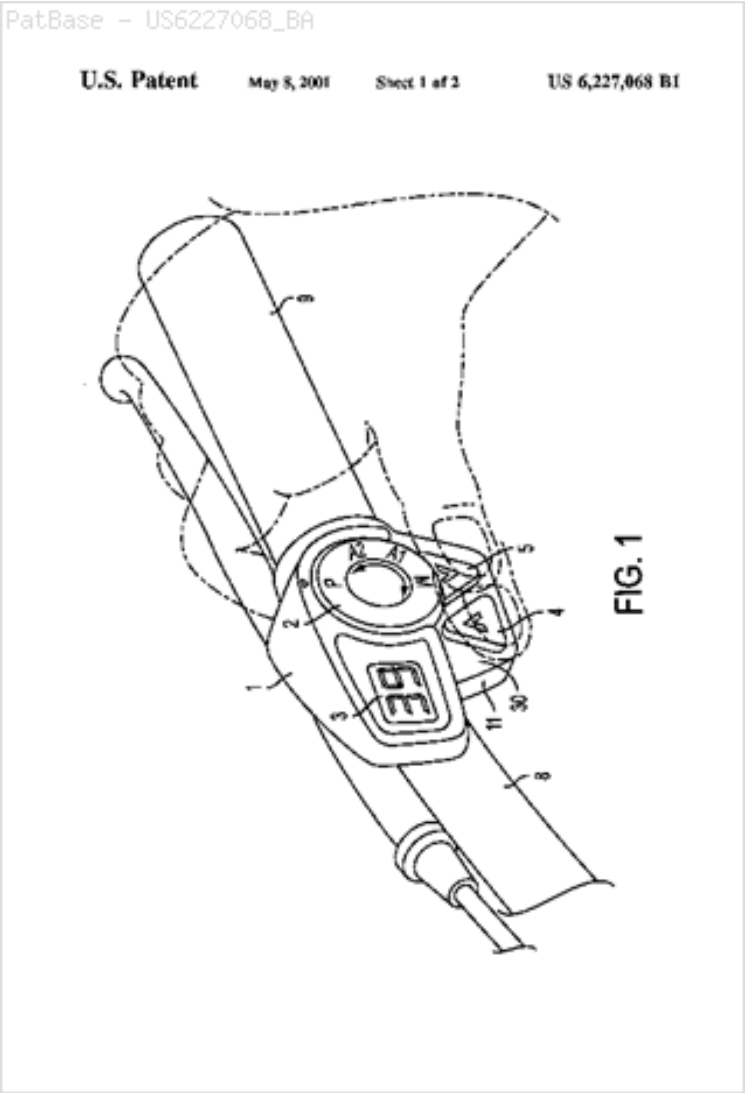
US class: 200/61.85 74/473.3

Classification Explorer

Cited documents: US5676020 A, US5569104 A, US5551315 A, US5483137 A, US5370412 A, US5261858 A, US5186071 A, US5178033 A, US5161422 A, US5086200 A, US5059158 A, US5042314 A, US4859984 A, US4541500 A, US4065983 A, US3996440 A, US3965763 A, JP6298156, JP52137836, JP52112932, JP10316064, EP0566025 A1, DE19642906 A1,

Forward Citations: WO04092885, WO04092885, WO04034371, US9487268, US9310887, US8459143, US8297143, US7947914, US7908940, US7854180, US7841255, US7779724, US7703350, US7565848, US7527120, US7503420, US7402767, US7350436, US7171727, US7080723, US7080723, US7007785, US6991081, US6879863, US6750411, US6698307, US6538221, US6453262, US6352486, US2016011660, US2015274248, US2010294068, US2009235772, US2009188340, US2009031841, US2008168856, US2008127765, US2008121066, US2007235315, US2007193388, US2007193387, US2007193386, US2007178715, US2007175290, US2007137391, US2007137361, US2006054449, US2005211014, US2005145462, US2005109577, US2004204779, US2004184288, US2004159175, US2004084292, US2004070574, US2003121763, KR101488371, JP3321045, JP10230888, EP2706001, EP2682332, EP1188654, EP1103454, DE202016103923, DE10353748, CN102741116, AU2004229963,

Abstract:
Source: US6227068B A bicycle control device includes a base member adapted to be mounted to a structural member of a bicycle, a dial rotatably mounted to the base member, a detent mechanism operatively associated with the dial for providing a detenting force to the dial at a plurality of rotational positions of the dial, and a first electrical contact member operated by the dial for selectively electrically communicating with a second electrical contact member when the dial is positioned at each of the plurality of rotational positions. A button and/or display may be disposed in proximity to the dial to allow the rider to control the bicycle transmission and to view the status of the selected gears, respectively.



0) US2016339985A – RIGID FRAME WITH HIGH–COMPLIANCE SEAT TUBE AND ...

45) Family number: 64049747 (US2016339985A) © PatBase

Title: RIGID FRAME WITH HIGH–COMPLIANCE SEAT TUBE AND INTERNAL CABLE ROUTING

Priority: US20150164926P 20150521 US20160161281 20160522

Family:

Publication number	Publication date	Application number	Application date
US2016339985 AA	20161124	US20160161281	20160522
WO16187612 A2	20161124	WO2016US33752	20160523
WO16187612 A3	20170126	WO2016US33752	20160523

Probable Assignee: TREK BICYCLE CORP

Assignee(s):(std)**:** TREK BICYCLE CORP

Inventor(s):(std)**:** LUND REGGIE ; MOECHNIG STEVEN

Agent(s): HUSTON ERIC

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9)**:** B60T11/04 B62J1/08 B62K19/16 B62K19/30 B62K19/36 B62K19/38 B62K19/48 B62K21/16 B62K21/18 B62K23/02 B62L3/02 F16C1/22 F16L3/02 (Advanced/Invention)

CPC: B62K23/02 B62K21/18 B62J1/08 B62L3/02 B62K19/48 B62K19/36 B62K19/16 B62K19/30 B62K19/38 B62K21/16 F16C1/226 F16L3/02 B60T7/08 B60T11/046 F16D2125/60 G05G1/04

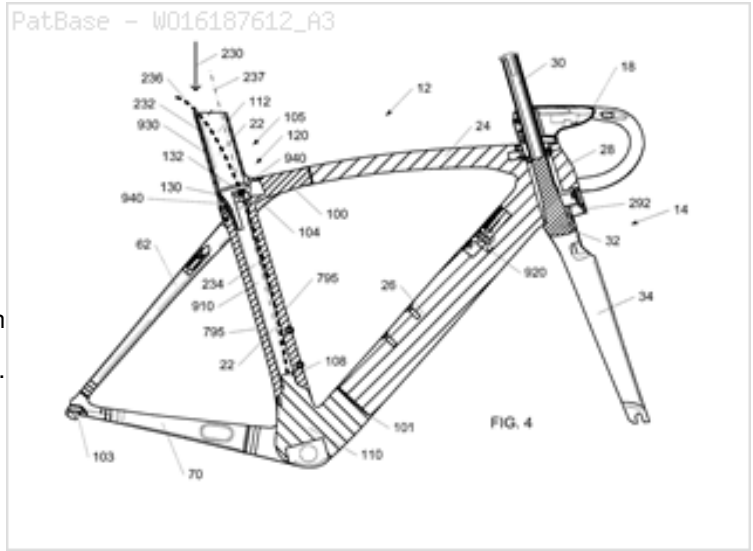
Classification Explorer

Cited documents: WO12020303 A2, US4938733 A, US2014265406 AA, US2012261896 AA, US2011318140 AA, US2011248470 AA, US2006225531 AA, US2006145446 AA, US2003110880 AA, TW200909289 A, GB2494714 A1, FR836294 A, EP2957493 A1, EP2474465 A1, EP1787899 A1,

DE202011103814 U1

DE202007014551 U1

Abstract:
Source: US2016339985A A bicycle can include a forward frame triangle that can include a top tube, a bottom tube, a bottom bracket, a structural seat tube, a compliant seat tube, and a pair of seat stays. The top tube can have a first end connected to a head tube and a second end. The bottom tube can have a first end connected to the head tube. The bottom bracket can be connected to the bottom tube. The structural seat tube can be connected to the bottom bracket and the top tube. The compliant seat tube can extend in an upward direction, from the bottom bracket to the top tube and within the structural seat tube. The compliant seat tube can be coupled to the forward frame triangle such that the compliant seat post can bend within the structural seat tube.



0) US5918931A – BICYCLE SADDLE

46) Family number: 12137538 (US5918931A)

© PatBase

Title: Bicycle saddle

Priority: US19970038474P 19970224 US19980028617 19980224 US19990347939 19990706

Family:

Publication number	Publication date	Application number	Application date
US5918931 A	19990706	US19980028617	19980224
US6039395 A	20000321	US19990347939	19990706

Probable Assignee: WABUCO

Assignee(s):(std)**:** WABUCO

Assignee(s): CULBERTSON RUSSELL D

Inventor(s):(std)**:** CULBERTSON RUSSELL D

International class(IPC 8–9)**:** B62J1/00 (Advanced/Invention)

International class(IPC 1–7)**:** B62J1/00

CPC: B62J1/002 B62J1/005 B62J1/007

European class: B62J1/00B B62J1/00C B62J1/00D

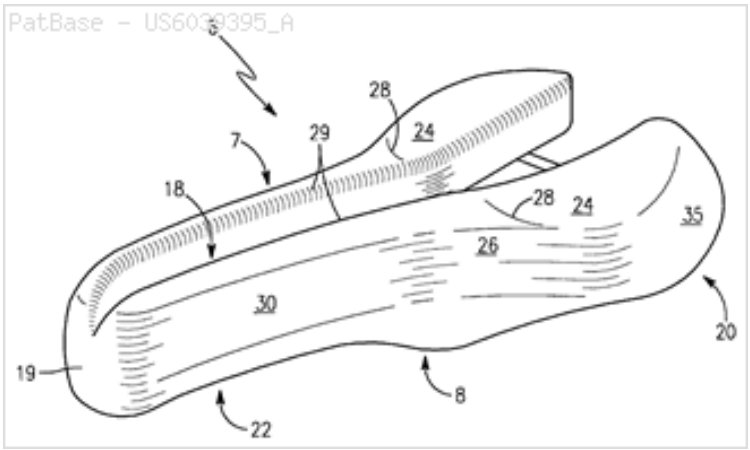
US class: 297/195.1 297/202

Classification Explorer

Cited documents: US5725274 A, US5709430 A, US5203606 A, US5123698 A, US4451086 A,

Forward Citations: WO12010988, USD774791, USD774790, USD769631, USD769008, USD769007, USD767911, USD767910, USD767909, USD764822, USD764821, USD764820, USD762073, USD756675, USD754450, USD753925, USD724330, USD724329, USD722446, USD720939, USD688479, USD688478, USD688477, USD688052, USD688051, USD684781, USD684780, USD677479, USD639081, USD454258, USD431920, USD431919, USD429573, US9314187, US8845018, US7669924, US7661756, US7059674, US6434916, US6422647, US6322139, US6244655, US6149230, US2011018315, US2009124935, US2009108644, US2007210625, US2004021347, ITVI20100202, DE10033793, DE10033793, CN102001377,

Abstract:



Source: US5918931A A bicycle saddle includes two support members preferably supported by a base component which connects the saddle to a bicycle. The support members are positioned on the base component in a laterally spaced apart arrangement about a longitudinal axis of the saddle, leaving an open area between the support members. Each support member includes a nose portion and a back portion. The back portion includes a downwardly sloped front surface and a downwardly sloped aft surface. The front and aft surfaces meet at a ridge or transition surface which is preferably swept rearwardly along with the front surface. The nose portion of each support member extends from an inside edge of the front surface forwardly and generally parallel to the longitudinal axis of the saddle. In this configuration, the saddle supports the cyclist at the tuberosities of the ischium, along the junction of the back of the thigh and the buttocks, and somewhat along the junction of the inner thigh and the torso. The saddle removes substantially all weight from along the perineal opening of the cyclist's pelvic bone.

0) GB2538939A – A BICYCLE LIGHT

47) Family number: 59403002 (GB2538939A)

© PatBase

Title: A BICYCLE LIGHT

Priority: GB20150005199 20150326

Family:

Publication number	Publication date	Application number	Application date
GB201505199 A0	20150513	GB20150005199	20150326
GB2538939 A1	20161207	GB20150005199	20150326

Probable Assignee: FULL WINDSOR LTD

Assignee(s):(std)**:** FULL WINDSOR LTD

Inventor(s):(std)**:** MARK WINDSOR

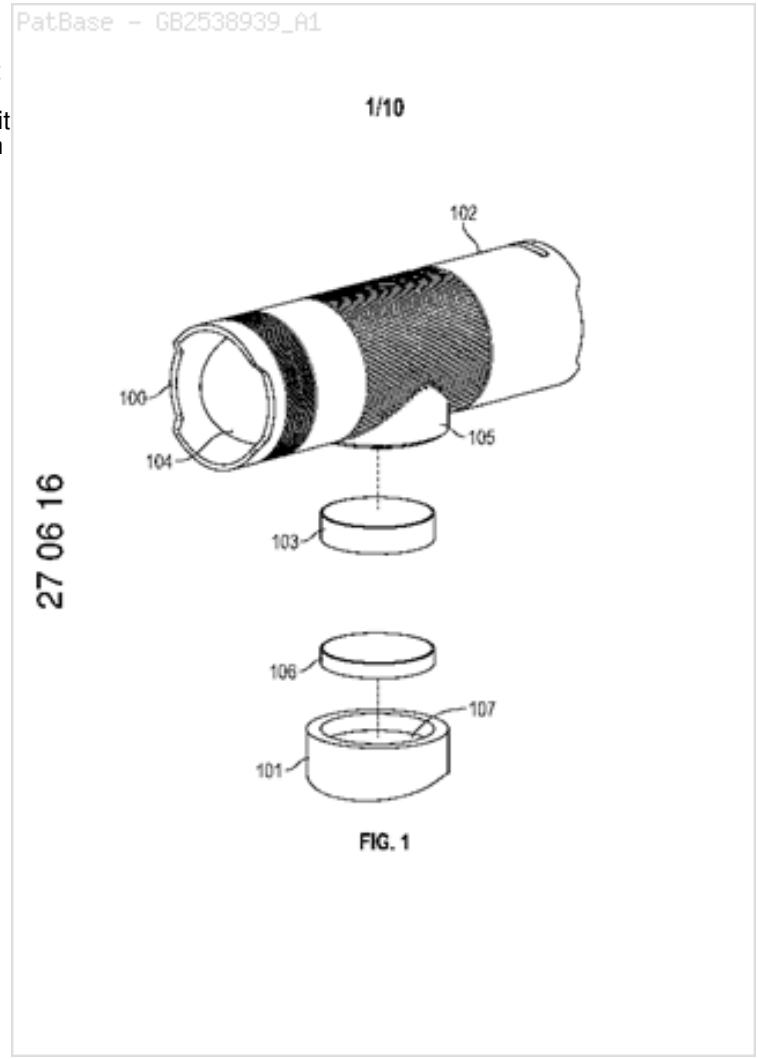
International class (IPC 8–9): B62J11/00 B62J6/02 (Advanced/Invention)

CPC: B62J6/02 B62J11/00

Classification Explorer

Cited documents: US2016201886 AA, US2014360893 AA, US2014355200 AA, US2014308062 AA, JP2001278145 A2, GB976555 A, GB2530144 A1, CN205065362 U, CN204871339 U,

Abstract:
Source: GB2538939A A magnetically mountable bicycle light, comprises a base unit 100, a magnet 103 fixed to the base unit 100 and a light mechanism 104 within the base unit 100 configured to project a beam of light when activated, wherein the bicycle light is configured to releasably engage via the magnet 103 with a mount unit 101 attached to a bicycle. The mount unit 101 may also comprise a magnet 106.



0) US5899117A – BAR END

48) Family number: 11554285 (US5899117A) © PatBase

Title: BAR END

Priority: US19940212209 19940311 US19950501784 19950713 WO1995US03042 19950310 US19970914432 19970819

Family:

Publication number	Publication date	Application number	Application date
AU199519953 A1	19950925	AU19950019953	19950310
BRPI9507029 A	19970923	BR1995PI07029	19950310
CA2190721 AA	19961119	CA19952190721	19950310
CA2190721 C	20001017	CA19952190721	19950310
EP0749383 A1	19961227	EP19950913645	19950310
EP0749383 A4	19991124	EP19950913645	19950310
US5899117 A	19990504	US19970914432	19970819
WO9524333 A1	19950914	WO1995US03042	19950310

Probable Assignee: JOE HARRIS NEWKIRK TRUSTEE JOEL HARRIS NEWKIRK TRUST DATED DECEMBER 27 1999

Assignee(s):(std)**:** JOEL H NEWKIRK ; NEWKIRK JOEL H

Assignee(s): JOEL HARRIS NEWKIRK TRUST ; JOE HARRIS NEWKIRK TRUSTEE JOEL HARRIS NEWKIRK TRU ; JOE HARRIS NEWKIRK TRUSTEE JOEL HARRIS NEWKIRK TRUST DATED DECEMBER 27 1999

Inventor(s):(std)**:** NEWKIRK JOEL H

Inventor(s): JOEL H NEWKIRK

Agent(s): SHAPIRO COHEN

Designated states: AM AT AU BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IT JP KE KG KP KR KZ LI LK LR LT LU LV MC MD MG ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SI SK SN SZ TD TG TJ TT UA UG US UZ VN

International class (IPC 8–9): B62K21/12 (Advanced/Invention); B62K21/00 (Core/Invention)

International class (IPC 1–7): B62K21/12

CPC: B62K21/12 Y10T74/2078 Y10T74/20822 Y10T403/32336

European class: B62K21/12

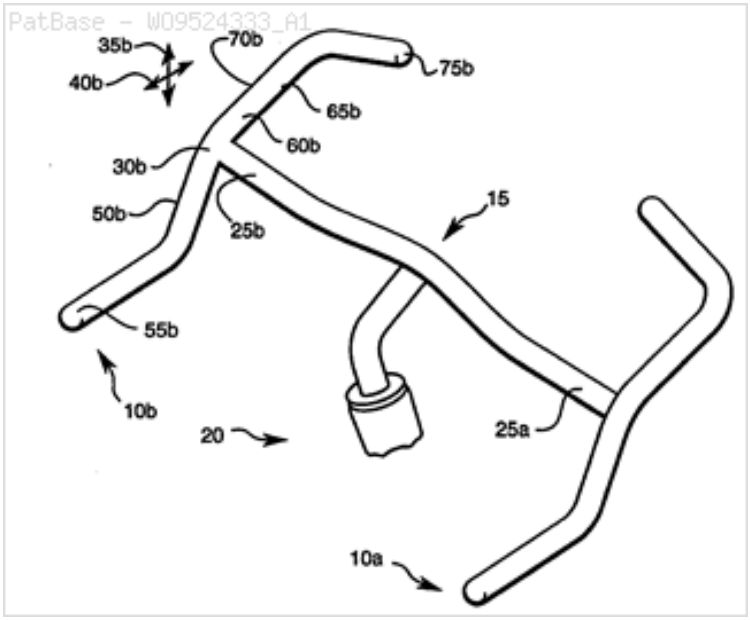
US class: 403/93 74/551.1 74/551.8

Classification Explorer

Cited documents: WO9104903 A1, USD346145 S1, US5570614 A, US5425285 A, US5421220 A, US5319994 A, US5301570 A, US5285698 A, US5285696 A, US5235871 A, US5197350 A, US5165301 A, US5154094 A, US5094322 A, US4750754 A, US282297 A, NL9200652 A, JP4143185 A2, FR886661 A, DE3628649 A1,

Forward Citations: USD658098, USD496892, USD483306, USD457473, USD449260, US8262995, US7819414, US7698967, US7343831, US7331905, US6098493, US2011215549, US2010331149, US2008143067, US2008007026, US2006090589, US2004244526, US2003188601, NL1014038, EP1566329, EP1566329, CN102849163, CN102849163,

Abstract:
Source: US5899117A A bar end for the end of the type of bicycle handlebar which is generally straight and has ends projecting at right angles to the bicycle is disclosed. The preferred embodiment of the bar end comprises a central clamp to which is affixed a generally forward sweeping tube and a generally rearward sweeping tube. The rearward sweeping tube has a downward portion extending downward and rearward from the clamp and a horizontal portion extending rearward, approximately horizontally, from the downward portion. The forward sweeping tube has an upper portion extending upwards and forwards at an angle from the clamp, and an inwards portion extending forwards and inwards at an angle from the upper portion. Variations of this embodiment are provided by varying the angular relationships, lengths and shapes of the segments and by providing a mechanism for vertical, angular adjustment of the forward sweeping tube. In another alternative, the bar end is permanently affixed to the termini thus creating a complete handlebar.



0) US4796493A – APPARATUS AND METHOD FOR UNSCREWING A BICYCLE C...

49) Family number: 2815854 (US4796493A) © PatBase

Title: APPARATUS AND METHOD FOR UNSCREWING A BICYCLE CHAIN SPROCKET

Priority: US19860853857 19860421 US19870015687 19870217

Family:

Publication number	Publication date	Application number	Application date
US4796493 A	19890110	US19870015687	19870217

Probable Assignee: MENARD RICHARD J

Assignee(s):(std)**:** MENARD RICHARD J

Inventor(s):(std)**:** MENARD RICHARD J

International class (IPC 8–9): B25B13/52 B25B27/00 (Advanced/Invention); B25B13/00 B25B27/00 (Core/Invention)

International class (IPC 1–7): B25B13/52

CPC: B25B13/52 B25B27/0071 Y10T29/53687

European class: B25B13/52 B25B27/00G

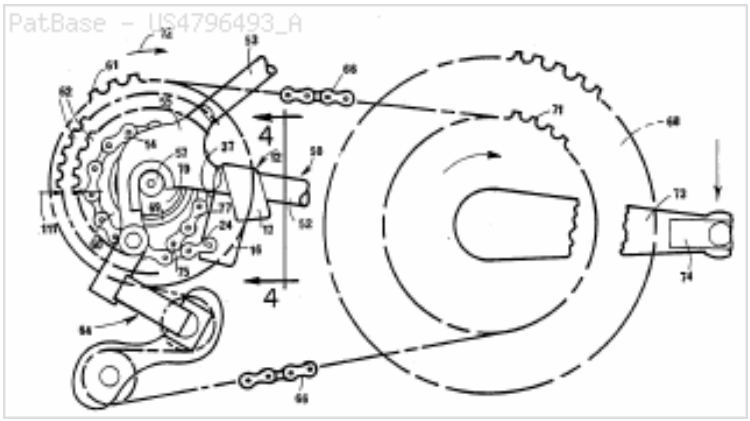
US class: 29/240 81/65.2 81/70

Classification Explorer

Cited documents: US4373240, US412096,

Forward Citations: US2006219063, US2005016200,

Abstract:
Source: US4796493A A tool for unscrewing a bicycle chain sprocket from a bicycle sprocket cluster which can be used for roadside emergency repairs is disclosed. The tool has a hook which engages a portion of the bicycle frame, and a length of engagement chain which engages teeth of a sprocket to be removed. Preferably the hook engages the chain stay of the bicycle frame, and torque is applied to the sprocket cluster by the conventional driving chain. To improve mechanical advantage, the driving chain passes around the largest sprocket of the sprocket cluster, and the smallest sprocket of the chain wheel, and force is applied to the pedals at a mid–sweep position.



0) US2004021278A – WHEELED SKATE WITH STEP–IN BINDING AND BRAKES

50) Family number: 30254701 (US2004021278A) © PatBase

Title: WHEELED SKATE WITH STEP–IN BINDING AND BRAKES

Priority: US19990228206 19990111 US20030628540 20030728 US20060583751 20061019

Family:

Publication number	Publication date	Application number	Application date
US2004021278 AA	20040205	US20030628540	20030728
US2007090613 AA	20070426	US20060583751	20061019
US7175187 BB	20070213	US20030628540	20030728
US7464944 BB	20081216	US20060583751	20061019

Probable Assignee: UBATUBA LLC

Assignee(s):(std)**:** LYDEN ROBERT M

Assignee(s): UBATUBA LLC ; GANZ LAW PC

Inventor(s):(std)**:** LYDEN ROBERT M

Inventor(s): LYDEN ROBERT

Agent(s): ROBERT M LYDEN; NICKOLAS E; WESTMAN CHAMPLIN AND KELLY PA

International class (IPC 8–9): A63C1/00 A63C1/02 A63C1/04 A63C1/22 A63C17/00 A63C17/02 A63C17/04 A63C17/06 A63C17/14 (Advanced/Invention)

International class (IPC 1–7): A63C17/14

CPC: A63C17/004 A63C17/02 A63C17/06 A63C17/1436 A63C2017/0053 A63C2201/02 A63C2203/42

European class: A63C17/00F A63C17/02 A63C17/06 A63C17/14C K63C17/00H K63C201/02 K63C203/42

US class: 280/11.16 280/11.204 280/11.205 280/11.206 280/11.206S 280/11.216 280/11.221 280/11.221P 280/11.223 280/11.232 280/11.26 280/11.27 280/11.28 280/11.3 280/11.31 280/11.310P

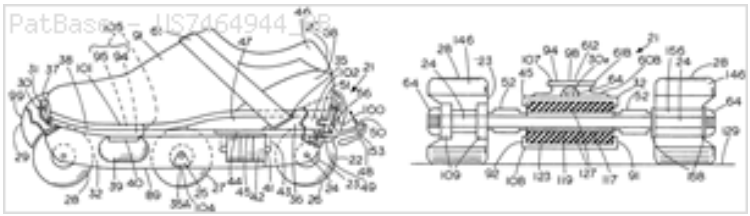
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Cited documents: WO9736655, WO9726054, WO9503101, WO9420176, USRE35993 E, USD374760 S1, USD374759 S1, USD324838 S1, US920848 A, US893341 A, US829900 A, US6955360 BB, US6729629 BB, US6497420 BB, US6494117 BA, US6425304 BA, US6422578 BA, US6341540 BB, US6331007 BA, US6276235 BA, US6270089 BA, US6234046 BA, US6120038 A, US604179 A, US6035743 A, US5992266 A, US5967552 A, US5913530 A, US5908196 A, US5899465 A, US5860492 A, US5855380 A, US5845927 A, US5839734 A, US5820138 A, US5813678 A, US5806379 A, US5799957 A, US579957 A, US5794950 A, US5791663 A, US5787764 A, US5784931 A, US5784930 A, US5778739 A, US5772221 A, US5771757 A, US5769434 A, US5755144 A, US5738360 A, US5727429 A, US5716074 A, US5704619 A, US5699699 A, US5687492 A, US566694 A, US5664794 A, US5655783 A, US5651556 A, US5649715 A, US5641169 A, US5630597 A, US5628129 A, US5615901 A, US5595896 A, US5595396 A, US5566958 A, US5564718 A, US5557985 A, US5551711 A, US5546829 A, US5524912 A, US5522282 A, US5511803 A, US5507506 A, US5505470 A, US5505111 A, US5501474 A, US5497680 A, US5484148 A, US5470085 A, US5465984 A, US5446977 A, US5441287 A, US5437466 A, US5435579 A, US5423233 A, US5415419 A, US5405156 A, US5401040 A, US5397141 A, US5393077 A, US5392537 A, US5382052 A, US5372383 A, US5363526 A, US5357695 A, US5342071 A, US5331752 A, US5330207 A, US5325738 A, US5318310 A, US5316325 A, US5314199 A, US5303940 A, US5299815 A, US5253882 A, US5232231 A, US5224730 A, US5213009 A, US5211409 A, US5211076 A, US5205056 A, US5199726 A, US5199324 A, US5195781 A, US5195397 A, US5192088 A, US5183276 A, US5171033 A, US5142798 A, US5125173 A, US5115692 A, US5108125 A, US5092614 A, US5086576 A, US5068984 A, US5060537 A, US5048848 A, US5003841 A, US4988122 A, US4945658 A, US4943075 A, US4942778 A, US4928549 A, US4907813 A, US4893420 A, US4844491 A, US4842293 A, US4840086 A, US4708352 A, US4686867 A, US4622863 A, US4618158 A, US4418929 A, US4392659 A, US4373736 A, US4351537 A, US4314708 A, US4304417 A, US4298210 A, US4272091 A, US4272090 A, US4185851 A, US4114295 A, US4107856 A, US4072317 A, US4058323 A, US3993318 A, US3963252 A, US3963251 A,

US3936061 A, US3918729 A, US3918728 A, US3865388 A, US3829111 A, US38173 A, US3774924 A, US3689091 A, US3653678 A, US35993 A, US3526976 A, US3387852 A, US3339936 A, US3309098 A, US3292940 A, US3229989 A, US3228707 A, US3224785 A, US320626 A, US3202434 A, US3061325 A, US304949 A, US3026118 A, US2998260 A, US298721 A, US296358 A, US2696989 A, US2679401 A, US2664294 A, US259708 A, US2552987 A, US253784 A, US25295 A, US2470840 A, US2461057 A, US240970 A, US2244719 A, US2168820 A, US2118892 A, US2003201614 AA, US1866134 A, US1835446 A, US181868 A, US1771855 A, US1700058 A, US1640134 A, US1609612 A, US1405951 A, FR2720286, FR2718652, EP0559179 A1, EP0551704 A2, EP0545250, DE9208063 U, DE9208063, DE2745040, DE2507279 A1, DE19654899, DE19613208, CH602147, CAA12071806, CA12071806,

Forward Citations: WO09025798, US9242169, US9085320, US9056241, US8789835, US8684369, US8628099, US8480095, US8348284, US8215660, US8209883, US7984917, US7770306, US7758054, US7752775, US7735165, US7618054, US7614638, US7610972, US7523948, US7497446, US7441786, US7293782, US6955360, US2014131962, US2011193303, US2011175327, US2010242308, US2010139438, US2009256324, US2009200788, US2008191433, US2008185798, US2008164666, US2008136126, US2008129695, US2008099286, US2007170017, US2007124859, US2007035100, US2006197299, US2006027409, US2006022433, US2006022432, US2006022417, US2005258629, US2005035563, GB2467389, GB2467389,

Abstract:
Source: US2004021278A The present invention teaches an apparatus and method for removably securing an article of footwear suitable for walking, running, or bicycling to a wheeled skate. Further, the present invention also teaches a brake device for use with a wheeled skate. In addition, the present invention teaches a wheeled skate that can be propelled with the use of linear or side stroke skating techniques. Moreover, the present invention teaches a quad wheeled skate having advantageous structure and function for recreational skating and aerobic exercise.



0) US2013243518A – ANTI–SWAY DEVICE ADAPTER

51) Family number: 53201864 (US2013243518A) © PatBase

Title: ANTI–SWAY DEVICE ADAPTER

Priority: CA20122790262 20120913 US20110534349P 20110913 US20120613532 20120913 WO2012US54716 20120912 US20120343253 20120912

Family:

Publication number	Publication date	Application number	Application date
CA2790262 AA	20130313	CA20122790262	20120913
CN103042978 A	20130417	CN201210504703	20120913
CN103042978 B	20160504	CN201210504703	20120913
US2013243518 AA	20130919	US20120613532	20120913
US2014223649 AA	20140814	US20120343253	20120912
US9307795 BB	20160412	US20120613532	20120913

Probable Assignee: THULE SWEDEN AB

Assignee(s):(std)**:** THULE SWEDEN AB ; SEMERARO STEWART ; STEVENS JAMES T ; ROBERTS NOEL W ; WIEDEMANN KARL ; ZETUNE KATHLEEN ; WAGNER NORMAN J ; UNIV DELAWARE ; BOGOSLOFSKI KEVIN S ; FOWLER JEREMY N ; FRICK REED E

Assignee(s): OF DELAWARE UNIV

Inventor(s):(std)**:** BOGOSLOFSKI KEVIN S ; FOWLER JEREMY N ; FRICK REED E ; ROBERTS NOEL W ; SEMERARO STEWART ; STEVENS JAMES T ; WAGNER NORMAN J ; WIEDEMANN KARL ; ZETUNE KATHLEEN

Agent(s): RIDOUT AND MAYBEE LLP; STERNE KESSLER GOLDSTEIN AND FOX PLLC

International class (IPC 8–9): A41D13/015 B29C43/18 B32B1/00 B60P7/135 B60R9/048 B60R9/10 F16B7/00 F16B7/04 (Advanced/Invention)

CPC: A41D13/015 B32B1/00 B29C43/18 B29C2043/182 F16B7/044 B60R9/10 Y10T403/32114 Y10T403/42 Y10T428/239

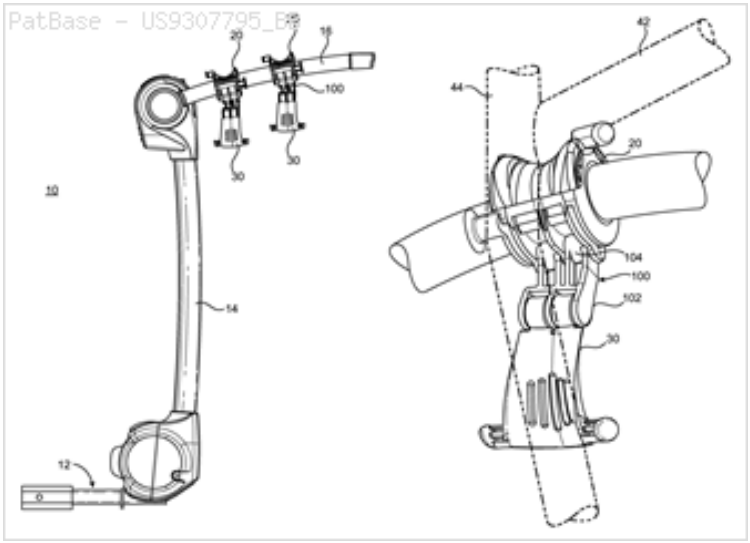
US class: 1/1 2/455 264/257 403/205 403/66 428/76

Classification Explorer

Cited documents: WO09129177 A1, WO03022085 A2, US7213731 BA, US6988645 BA, US6616023 BA, US6516986 BA, US6386407 BA, US6286738 BA, US5259542 A, US3848293 A, US3594853 A, US2011039087 AA, US2010247856 AA, US2010051207 AA, JP6042429 U1, JP2009214647 A2, DE4122823 C2, CN201356088 Y, CA2169574 C,

Forward Citations: US2015119173, US2015033453, US2013298317,

Abstract:
Source: US2013243518A An angled adapter configured for engagement between a carrier–mounted bicycle cradle and a bicycle anti–sway device. The adapter includes an adapter body. The adapter body has a cradle engagement portion at a top end thereof and an anti–sway engagement portion at a bottom end thereof. The adapter body also includes an angled extension portion interconnected between the cradle engagement portion and the anti–sway engagement portion.



0) CN2918529Y – ELECTRIC SWEEPING BICYCLE

52) Family number: 34910301 (CN2918529Y) © PatBase

Title:	ELECTRIC SWEEPING BICYCLE
Priority:	CN200620101587U 20060313

Family:

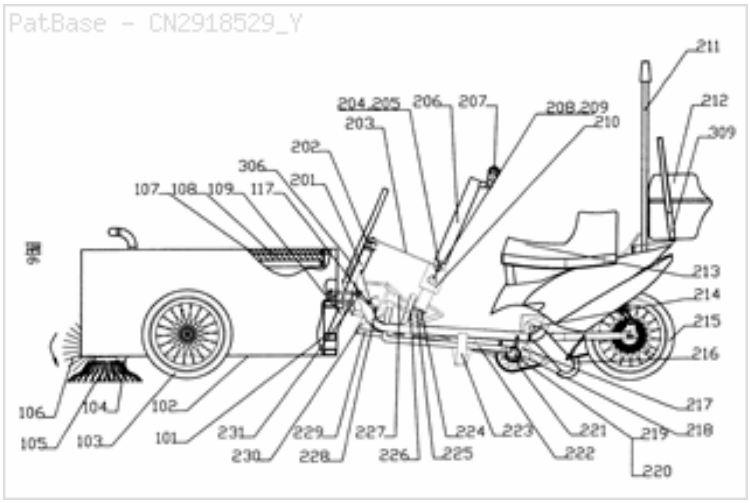
Publication number	Publication date	Application number	Application date
CN2918529 Y	20070704	CN200620101587U	20060313

Probable Assignee:	WANG BAOGEN
Assignee(s):(std)**:**	WANG BAOGEN
Inventor(s):(std)**:**	WANG BAOGEN
Inventor(s):	BAOGEN WANG
International class (IPC 8–9):	B65F3/00 E01H1/05 (Advanced/Invention); B65F3/00 E01H1/00 (Core/Invention)
CPC:	B62M6/40 Y02W30/10 B62J6/00 B62J2017/083 B62J2099/006 B62K5/05 B62K23/08 B62M1/26

Classification Explorer

Forward Citations: CN104261027, CN103224105, CN103204340,

Abstract:
Source: CN2918529Y The utility model relates to an electric ground sweeping bicycle, which is an electric ground sweeping device, in particular to an electric ground sweeping bicycle which is connected with a ground sweeping device with an electric bicycle, the electric bicycle is controlled and pushed to clean the ground used for locations such as roads, streets, squares, auditoria, etc. The electric ground sweeping bicycle comprises an electric bicycle and aground sweeping device, which is characterized in that the ground sweeping device is a stainless steel tank body, a main broom and two auxiliary brooms are arranged at the front end, two front wheels are arranged on the two sides, the front side opening is a garbage inlet, a garbage bag is positioned in the interior, the top opening is a garbage outlet, a turning cover is arranged to cover the garbage outlet, and a front breeches pipe connected with the electric bicycle frame front stand pipe through a nut is arranged at the rear side; a yellow warning lamp is arranged at the rear part of the electric bicycle, a hose fixing element is arranged at the front and the rear part, which can arrange and fix an adumbral and rain–proof shed, which is more favorable for the operation in rainy days and under the burning sun. The utility model solves the problems of the current low manual road sweeping efficiency, easy dust raising, high ground sweeping cart price and large volume causing being incapable to enter into paths for sweeping, etc.



0) DE202016005498U1 – FAHRRADKURBELANORDNUNG

53) Family number: 62975069 (DE202016005498U1) © PatBase

Title: FAHRRADKURBELANORDNUNG

Priority: TW20150215855U 20151002

Family:

Publication number	Publication date	Application number	Application date
DE202016005498 U1	20170119	DE201620005498U	20160907
TWM525893 Y	20160721	TW20150215855U	20151002

Probable Assignee: SHIMANO KK

Assignee(s):(std)**:** SHIMANO INC ; SHIMANO KK

Inventor(s):(std)**:** AKANISHI KENICHI ; NISHIMOTO YUSUKE ; SUGIMOTO AKINOBU ; WATANABE YUUKI

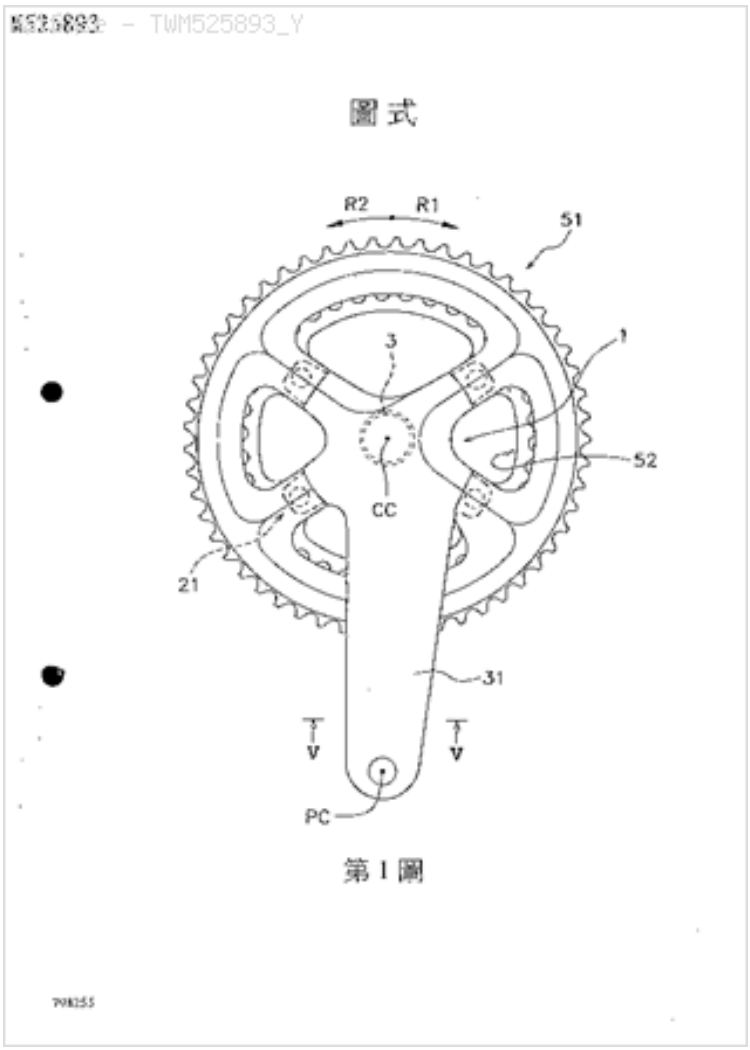
International class (IPC 8–9): B62M1/36 B62M3/00 (Advanced/Invention)

CPC: B62M3/00 B62M1/36

Classification Explorer

Cited documents: TW104215855, JP2004249770 A2,

Abstract:
Source: DE202016005498U1
Fahrradkurbelanordnung aufweisend eine Drehmittelachse, umfassend: einen Kurbelhauptkoerper, aufweisend einen Kurbelwellenbefestigungsabschnitt, an welchem ein Kurbelwellenbefestigungsloch ausgebildet ist/wird, und einen Pedalwellenbefestigungsabschnitt, welcher radialwaerts aussen von dem Kurbelwellenbefestigungsabschnitt positioniert ist/wird und ein Pedalwellenbefestigungsloch aufweist; einen ersten Kettenradbefestigungsabschnitt, welcher sich radialwaerts aussen von dem Kurbelwellenbefestigungsabschnitt erstreckt und ein erstes Kettenradbefestigungsloch aufweist; einen zweiten Kettenradbefestigungsabschnitt, welcher sich radialwaerts aussen von dem Kurbelwellenbefestigungsabschnitt erstreckt und ein zweites Kettenradbefestigungsloch aufweist; einen dritten Kettenradbefestigungsabschnitt, welcher sich radialwaerts aussen von dem Kurbelwellenbefestigungsabschnitt erstreckt und ein drittes Kettenradbefestigungsloch aufweist; einen vierten Kettenradbefestigungsabschnitt, welcher sich radialwaerts aussen von dem Kurbelwellenbefestigungsabschnitt erstreckt und ein viertes Kettenradbefestigungsloch aufweist; und zumindest eine Verstaerkungsrippe, welche sich radialwaerts aussen von dem Kurbelwellenbefestigungsabschnitt erstreckt; wobei der erste Kettenradbefestigungsabschnitt, der zweite Kettenradbefestigungsabschnitt, der dritte Kettenradbefestigungsabschnitt und der vierte Kettenradbefestigungsabschnitt in der Reihenfolge von dem ersten Kettenradbefestigungsabschnitt, dem zweiten Kettenradbefestigungsabschnitt, dem dritten



Kettenradbefestigungsabschnitt und dem vierten Kettenradbefestigungsabschnitt in einer Richtung angeordnet sind/werden, die zu einer Richtung entgegengesetzt ist, in welcher der Kurbelhauptkoerper gedreht wird/ist, wenn ein Fahrrad angetrieben wird/ist, und wobei zumindest eine Verstaerkungsrippe zwischen dem ersten Kettenradbefestigungsabschnitt und dem zweiten Kettenradbefestigungsabschnitt angeordnet ist/wird. Bicycle crank arrangement showing up comprehensive Center of a rotary axis,: a crank main body, showing up a crank shaft mounting section, where a crank shaft mounting hole is trained /, and a pedal shaft mounting section, which radialwaerts is positioned outside of the crank shaft mounting section / is and has a pedal shaft mounting hole; a first sprocket fixing section, which extends radialwaerts outside of the crank shaft mounting section and has a first sprocket mounting hole; a second sprocket fixing section, which stretches radialwaerts outside from the crank shaft mounting section and a second sprocket mounting hole is; a third sprocket mounting section, which stretches radialwaerts outside the crank shaft mounting section and has a third chain wheel mounting hole; a fourth sprocket fixing section, which extends radialwaerts outside of the crank shaft mounting section and has a fourth sprocket mounting hole; and at least a reinforcement bar, which extends radialwaerts outside of the crank shaft mounting section; where the first sprocket fixing section, the second sprocket fixing section, the third section of the sprocket mounting and the fourth sprocket mounting section in the order of the first sprocket fixing section, second sprocket fixing section, the third section of the sprocket mounting and fourth sprocket mounting section in one direction are arranged /, which is opposed to a direction in which the crank main body is rotated / if a bike is powered / is, and where at least a rib between the first sprocket mounting section and the second sprocket fixing section is mapped to / is.

0) GB201219866A – BICYCLE

54) Family number: 52800392 (GB201219866A)

© PatBase

Title: BICYCLE

Priority: GB20120019866 20121105

Family:

Publication number	Publication date	Application number	Application date
GB201219866 A0	20121219	GB20120019866	20121105
GB2500954 A1	20131009	GB20120019866	20121105
GB2500954 B2	20140305	GB20120019866	20121105

Probable Assignee: SHAH VIKRAM

Assignee(s):(std)**:** SHAH VIKRAM

Assignee(s): VIKRAM SHAH

Inventor(s):(std)**:** SHAH VIKRAM

Inventor(s): VIKRAM SHAH

International class (IPC 8–9)**:** B62K19/14 (Advanced/Invention)

CPC: B62K19/14 B62K3/02 B62K3/10 B62M6/65 B62K2700/04 B62K2700/56 B62K2700/60

Classification Explorer

Cited documents: US6139038 A, US6139038, US5211415 A, US5211415, JP2006082697 A2, JP2006082697, ITVA940001 A1, ITVA940001, GB534825 A, GB534825, GB2117333 A1, GB2117333, FR897769 A, FR897769, FR2913659 A1, FR2913659, FR1069997 A, FR1069997,

Forward Citations: US2015076789, ITBO20130598,

Abstract:
Source: GB201219866A A bicycle 10 comprises a frame 12, a front wheel 22, a rear wheel 24, a metallic head tube 14 and a steering column 16 pivotally mounted within the head tube 14, the frame 12 including a pair of lamina members 28, 30 attached to each other and mounted to the head tube 14, the lamina members 28, 30 extending rearwardly from the head tube 14 at an acute angle to each other, the lamina members 28, 30 being adjacent at the head tube 14 and spaced apart at the rear of the bicycle 10. The lamina members 28 may be wooden, and the space formed between them may house a battery and controller for use with an electric drive motor 38.

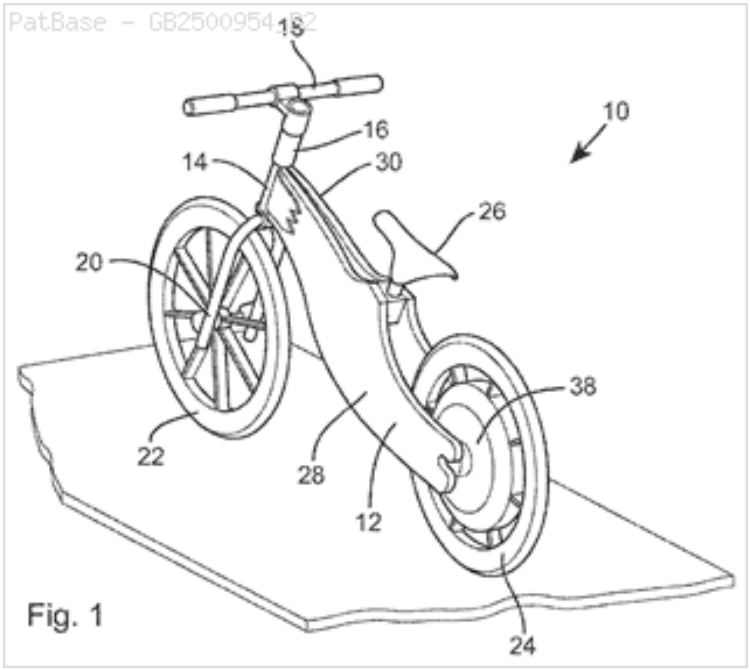


Fig. 1

0) US4041452A – A ROTATING BEACON FOR A BICYCLE

55) Family number: 1428661 (US4041452A) © PatBase

Title: A rotating beacon for a bicycle

Priority: US19750548254 19750210 US19750592754 19750703

Family:

Publication number	Publication date	Application number	Application date
CA1058588 A1	19790717	CA19750238244	19751024
DE2605409 A1	19760826	DE19762605409	19760209
GB1485101 A	19770908	GB19760002890	19760126
JP51105793 A2	19760918	JP19760013124	19760209
US4041452 A	19770809	US19750592754	19750703

Probable Assignee: MOYA C

Assignee(s):(std)**:** KASUTSURO JEI MOYA ; MOYA C ; MOYA CASTULO J

Inventor(s):(std)**:** KASUTSURO JEI MOYA ; MOYA CASTULO J

Inventor(s): J MOYA CASTULO

International class (IPC 8–9)**:** B60Q1/26 B60Q1/46 B62J6/00 G08B25/00 G08B25/04 (Advanced/Invention); B60Q1/26 B62J6/00 G08B25/00 G08B25/01 (Core/Invention)

International class (IPC 1–7)**:** B60Q1/46 B62J3/00 B62J5/00 B62J5/06 B62J5/18 F21Q1/00 F21Q3/00

CPC: B60Q1/2657 B62J6/00

European class: B60Q1/26H B62J6/00

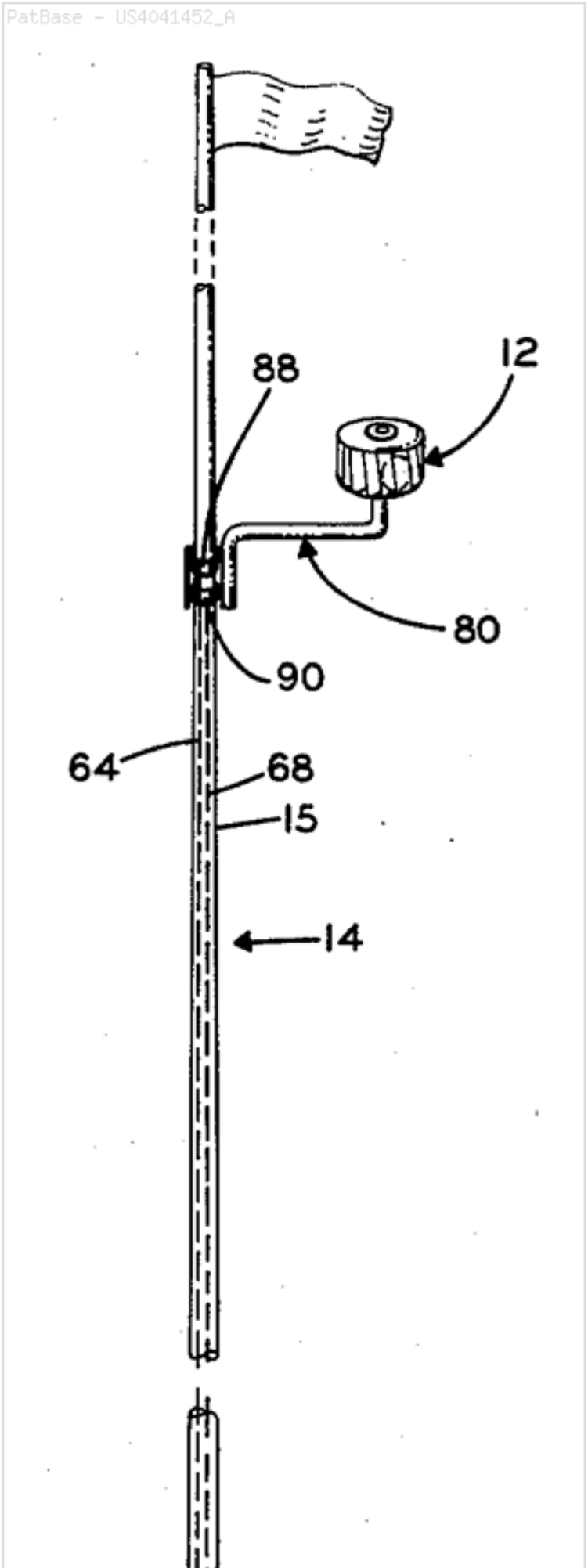
US class: 116/28R 116/41 340/134 340/432 362/193 362/35 362/473 446/440

Classification Explorer

Cited documents: US3974369, US3812815, US3786583, US3374763, US2810065,

Forward Citations: WO8103215, USD581404, US8905611, US7617626, US6760988, US6322233, US6250768, US5893626, US5448402, US5363792, US4633215, US4598339, US4228846, US4200904, US4103924, US2011075403, US2006226625, US2005202746, JP55124388, GB2265452, DE9404532, DE9312685,

Abstract:
Source: US4041452A A visually detectable warning device particularly suited for use by cyclists in attracting the attention of others, particularly motorists. The device is characterized by a flexible staff adapted to be mounted on a bicycle, a transparent housing rotatably mounted on the staff, and a lamp and reflector mounted in the housing for directing therefrom a sweeping beam of light from the housing. The housing is characterized by an annular array of uniformly spaced vanes which serves to impart to the housing rotary motion in response to an impinging stream of air resulting from motion imparted to the bicycle.



0) US2014238200A – BICYCLE REPAIR TOOLS AND KIT

56) Family number: 57266643 (US2014238200A) © PatBase

Title: BICYCLE REPAIR TOOLS AND KIT

Priority: US20130777541 20130226

Family:

Publication number	Publication date	Application number	Application date
US2014238200 AA	20140828	US20130777541	20130226
US8960700 BB	20150224	US20130777541	20130226

Probable Assignee: ELLIS DAVID

Assignee(s):(std)**:** ELLIS DAVID

Inventor(s):(std)**:** ELLIS DAVID

Agent(s): MICHAEL A

International class (IPC 8–9)**:** B60C25/02 B60S5/04 F16M13/02 (Advanced/Invention)

CPC: B60C25/02 B60C23/10

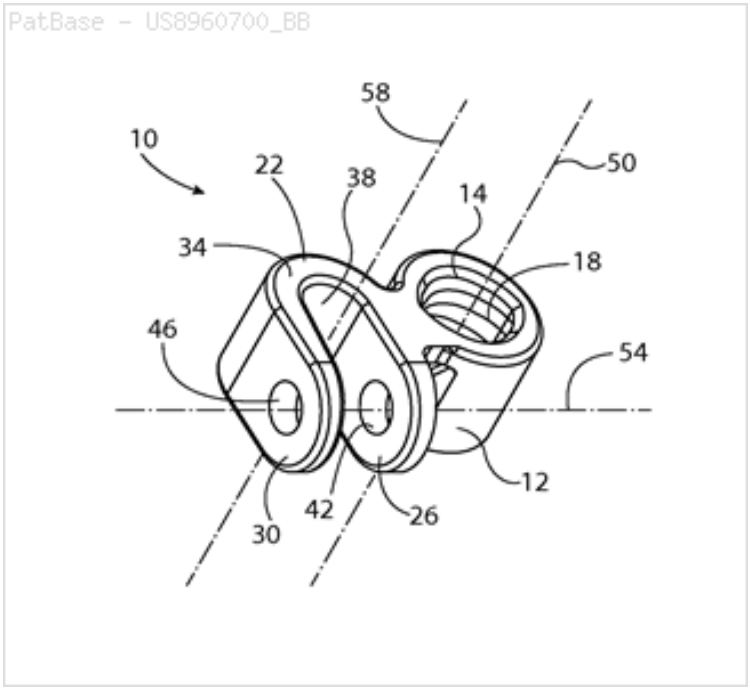
US class: 157/1.3 248/309.1 280/276 81/15.2

Classification Explorer

Cited documents: US8066296 BB, US7654550 BB, US589402 A, US5669492 A, US5217116 A, US4079872 A, US2014109728 AA,

Forward Citations: TWI564177,

Abstract:
Source: US2014238200A A pair of bicycle tire levers comprising: an outside lever, the outside lever having a main body and a tapered end on one end of the main body, the outside lever comprising: an unthreaded compressed gas cartridge clearance hole located on the main body, and an inside lever, the inside lever having a main body and a tapered end on one end of the main body; the inside lever comprising: a threaded compressed gas cartridge hole located on the main body and configured to allow a compressed gas cartridge to screw into the hole. A compressed gas accessory holder comprising: a main orifice body; a threaded main orifice located in the main orifice body, where the threaded main orifice is configured to allow a compressed gas cartridge to screw into the main orifice; a slotted body attached to the main orifice body, the slotted body comprising: a main slot.



0) CN102653940A – THREE–WHEEL ROAD SWEEPER

57) Family number: 51912106 (CN102653940A) © PatBase

Title: Three–wheel road sweeper

Priority: CN201210112119 20120411 CN201310128620 20130402

Family:

Publication number	Publication date	Application number	Application date
CN102653940 A	20120905	CN201210112119	20120411
CN103205948 A	20130717	CN201310128620	20130402

Probable Assignee: ZHAO GUOGUI

Assignee(s):(std)**:** GUOGUI ZHAO ; ZHAO GUOGUI

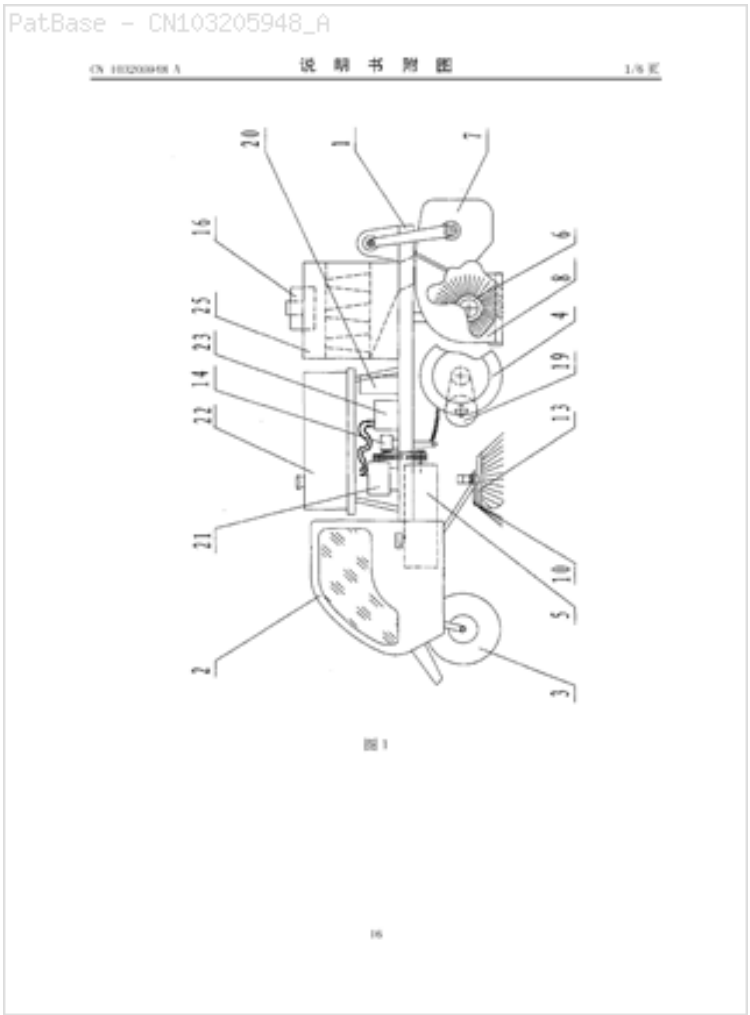
Inventor(s):(std)**:** GUOGUI ZHAO ; ZHAO GUOGUI

International class (IPC 8–9): E01H1/08 E01H1/10 E01H3/02 (Advanced/Invention)

Classification Explorer

Forward Citations: CN105113445, CN104594254, CN104499449,

Abstract:
Source: CN102653940A The invention provides a three–wheel road sweeper driven by mechanical and electric hybrid power. The road sweeper is provided with two power sources, namely an engine and a storage battery; under the condition that a vehicle–mounted working device is driven to work stably, the engine also drives a generator and is connected with a motor A through a motor controller to drive the road sweeper to run at variable speed; the generator is simultaneously connected with the storage battery; the storage battery is also connected with the motor A through the motor controller; the part of the instantaneous power generation quantity of the generator, which is greater than the demand of the motor A, charges the storage battery; the part of the instantaneous power generation quantity of the generator, which is smaller than the demand of the motor A, is supplied by the storage battery; and the storage battery alternates charge and discharge. The road sweeper is small, flexible in turning, strong in working capability and good in dust control effect; compared with a four–wheel road sweeper, the invention has the advantages that the three–wheel road sweeper is suitable for sweeping bicycle lanes and sidewalks and is particularly suitable for sweeping urban laneways; compared with a micro road sweeper, the invention has the advantages that the three–wheel road sweeper is strong in working capability, and an operator is not subjected to pollution of automobile exhaust and dust due to an air conditioner; and compared with a pure electric road sweeper, the invention has the advantages that the three–wheel road sweeper can unlimitedly and continuously work.



0) US2014336015A – RELATED TO, EXERCISE EQUIPMENT

58) Family number: 57785225 (US2014336015A) © PatBase

Title: RELATED TO, EXERCISE EQUIPMENT

Priority: NZ20130610491 20130510

Family:

Publication number	Publication date	Application number	Application date
EP2801394 A1	20141112	EP20140167761	20140509
US2014336015 AA	20141113	US20140274635	20140509

Probable Assignee: GYMGURU IP HOLDINGS LTD

Assignee(s):(std)**:** GYMGURU IP HOLDINGS LTD

Inventor(s):(std)**:** FORSYTH ROGER JAMES

Agent(s): WATSON ROBERT JAMES

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): A63B21/00 A63B21/005 A63B22/00 A63B23/035 (Advanced/Invention)

CPC: A63B21/0051 A63B2225/09 A63B21/00069 A63B21/00076 A63B21/00192 A63B22/0002 A63B22/0058 A63B23/0216 A63B23/03525 A63B23/0355 A63B23/03558 A63B23/03566 A63B23/03583 A63B23/03591 A63B23/0476 A63B23/1218 A63B23/1227 A63B2022/0084 A63B2022/0682 A63B2023/0411 A63B2225/102 A63B21/00047 A63B21/4034 A63B21/4035 A63B21/4047 A63B22/0005 A63B22/001 A63B22/0076 A63B22/0087 A63B2022/0051 A63B2022/0053 A63B22/0605

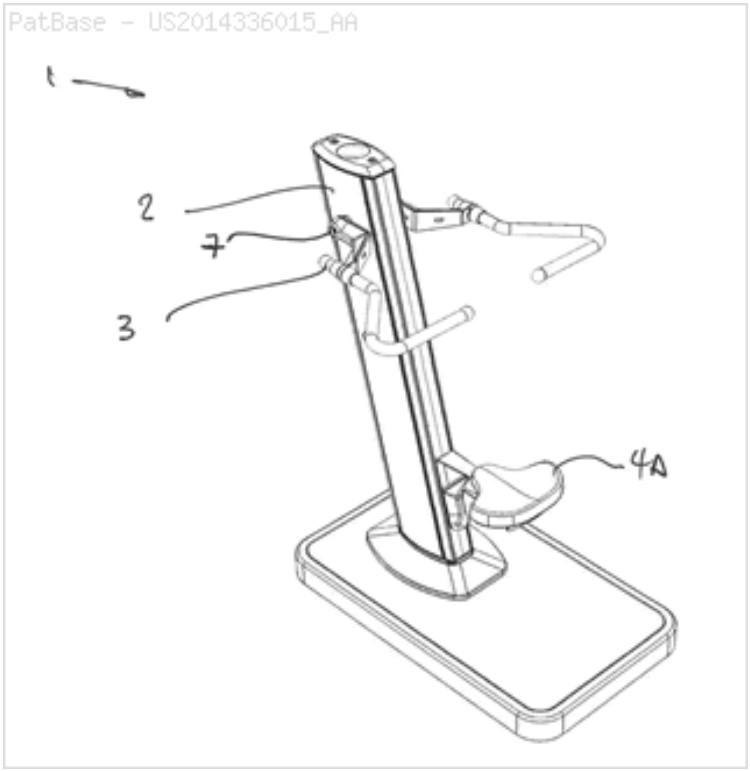
US class: 482/92

Classification Explorer

Cited documents: US7077789 BA, US5749807 A, US4989861 A, US2005239602 AA, US2002155927 AA,

Forward Citations: CN104399227, CN104399227,

Abstract:
Source: US2014336015A Exercise equipment can be used in a wide range of settings by a wide range of users of varying strengths and abilities to gain strength, fitness and mobility using an internally variable resistance.



0) CN2038513U – BICYCLE FOR CLEANING ROAD

59) Family number: 17220984 (CN2038513U)

© PatBase

Title: BICYCLE FOR CLEANING ROAD

Priority: CN19872015975U 19871130

Family:

Publication number	Publication date	Application number	Application date
CN2038513 U	19890531	CN19872015975U	19871130

Probable Assignee: ZHENG XIANGSHENG

Assignee(s):(std)**:** ZHENG XIANGSHENG

Inventor(s):(std)**:** XIANGSHENG ZHENG ; ZHENG XIANGSHENG

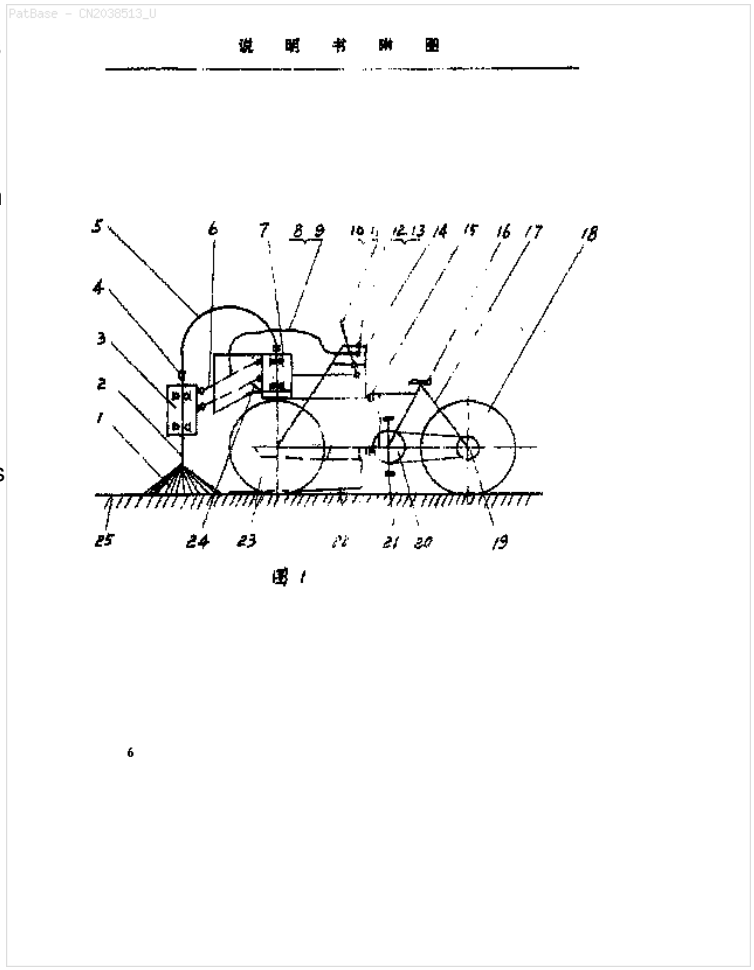
International class (IPC 8–9): E01H15/00 (Advanced/Invention); E01H15/00 (Core/Invention)

International class (IPC 1–7): E01H15/00

Classification Explorer

Forward Citations: CN102644255,

Abstract:
Source: CN2038513U The utility model relates to a cleaning system for cleaning roads, and is a bicycle for cleaning road. The bicycle for cleaning road uses feet to step as dynamic force to drive three bicycle wheels to rotate, making the bicycle body drive and a sweeping wheel rotate. The bicycle for cleaning road can clean the road surface when the sweeping wheel is in the front of the bicycle body; the bicycle for cleaning road can clean the narrow road surface between the trees and the road steps on the pavement when the sweeping wheel rotates to the side face of the bicycle body; simultaneously the sweeping wheel can make positive rotation and reverse rotation according to the requirement, and can also move up and down on the vertical direction. The bicycle for cleaning road mainly comprises bicycle wheels, bicycle frame, a transmission mechanism, a position axle sleeve, a sweeping wheel axle sleeve, and a parallelogram four bar linkage mechanism. The utility model has the advantages of simple structure, convenient operation. The efficiency of the bicycle for cleaning road is three to five times higher than the efficiency of the manual cleaning by using a broom.



0) DE4120871A1 – MANUALLY–CONTROLLED MECHANICAL SWEEPER – WHICH ...

60) Family number: 10379793 (DE4120871A1)

© PatBase

Title: Manually–controlled mechanical sweeper – which has roller brush connected to running wheels by cog–wheels with external teeth engaging with inner cogging

Priority: DE19914120871 19910625

Family:

Publication number	Publication date	Application number	Application date
DE4120871 A1	19930107	DE19914120871	19910625
DE4120871 C2	19950608	DE19914120871	19910625

Probable Assignee: HAKO GMBH AND CO

Assignee(s):(std): HAKO GMBH AND CO

Assignee(s): HAKO WERKE GMBH AND CO 2060 BAD OLDESLOE DE ; HAKO WERKE GMBH AND CO 23843 BAD OLDESLOE DE

Inventor(s):(std): BLECHSCHMIDT JUERGEN ; KATENHUSEN HEINRICH

Inventor(s): KATENHUSEN HEINRICH 2060 BAD OLDESLOE DE ; BLECHSCHMIDT JUERGEN 2060 BAD OLDESLOE DE

International class (IPC 8–9): A47L11/22 (Advanced/Invention)

International class (IPC 1–7): A47L11/22

CPC: A47L11/22 A47L11/4041 A47L11/4063

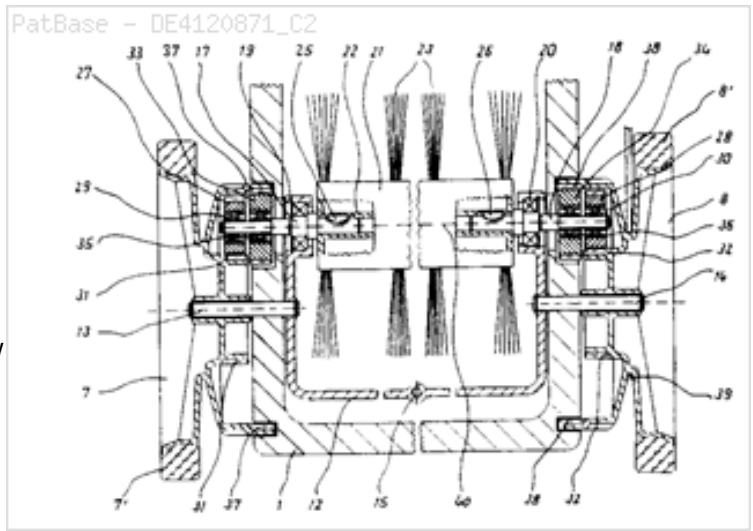
European class: A47L11/22 A47L11/40F4 A47L11/40J

Classification Explorer

Cited documents: US3638267 A, US2783487 A, US2587038 A, GB1127570 A, DE3415637 A1, DE1940645 A1, DE1814398 A1,

Forward Citations: WO08022699, US9187870, US2014189967, EP3011884, DE202014008544, DE19503258, DE102007055458, DE102006039700, DE102005016298,

Abstract:
Source: DE4120871A1 The manually–controlled mechanical sweeper has a roller–type brush (21–23) connected axially parallel to the running–wheels by cog–wheels (27,28;33,34) resting on free–wheels (29,30;35,36). One cog–wheel (27,28) engages with external teeth (31,32), while the other cog–wheel (33,34) engages with the inner cogging (37,38) of the adjacent running–wheel. A side broom is on the right hand side and is driven by a coupling on the right running–wheel. ADVANTAGE – Can be driven forwards and backwards along a narrow curved track at a speed set by the quickest rotating running–wheel, with the drive load evenly distributed for the user.



0) CN2275599Y – DUAL–PURPOSE CLEANING CYCLE DRIVEN BY HAND–PUSH...

61) Family number: 16302039 (CN2275599Y)

© PatBase

Title: Dual–purpose cleaning cycle driven by hand–pushing or pedaling

Priority: CN19962008899U 19960409

Family:

Publication number	Publication date	Application number	Application date
CN2275599 Y	19980304	CN19962008899U	19960409

Probable Assignee: WANG XUEWEN

Assignee(s):(std)**:** WANG XUEWEN

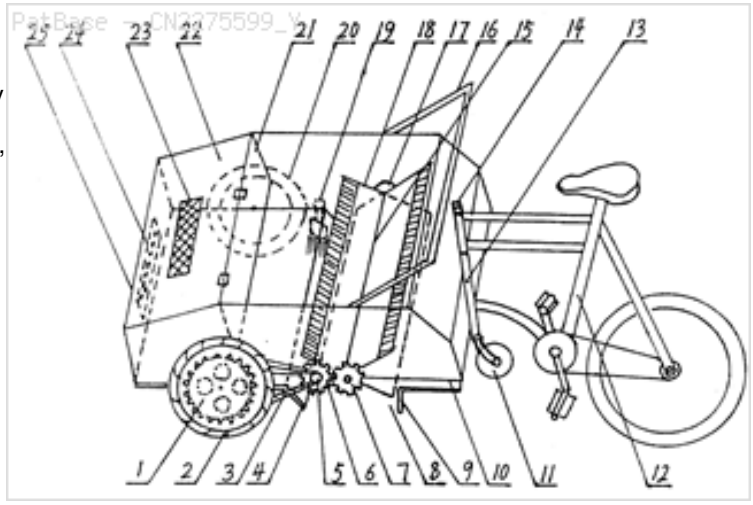
Inventor(s):(std)**:** WANG XUEWEN ; XUEWEN WANG

International class (IPC 8–9): E01H1/02 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7): E01H1/02

Classification Explorer

Abstract:
Source: CN2275599Y The utility model relates to a manpower dual–purpose cleaning bicycle pushed by hands or stepped by feet. The utility model is composed of a bicycle frame, a cleaning bicycle body, a sweeping mechanism, a driving mechanism, a supporting wheel, a guide wheel and a handle. The utility model is characterized in that the cleaning bicycle body is a closed casing, the top of the cleaning bicycle body is provided with a top cover, and the bottom of the cleaning bicycle body is provided with a sweeping opening. The sweeping mechanism is composed of a rotating shaft, a bearing, a driving gear and a plurality of sweeping brushes arranged on the rotating shaft. The driving mechanism is composed of a wheel disc, a chain, a fly wheel and a drive gear. The rear part of the cleaning bicycle body is provided with a shaft sleeve, the guide wheel is arranged on the lower end of the shaft sleeve, and the upper end of the shaft sleeve is connected with the bicycle frame. The front edge of the sweeping opening is provided with a rubber dust guiding plate, the rear edge of the sweeping opening is provided with a rubber dust stopping plate, and the handle is arranged the rear upper end of the cleaning bicycle body. The utility model has the advantages of high sweeping efficiency, no dust and flexible operation, and the utility model is easy to accept by the society.



0) US2016236520A – BICYCLE TIRE

62) Family number: 58904150 (US2016236520A) © PatBase

Title: BICYCLE TIRE

Priority: FR20130059538 20131002 WO2014EP71004 20141001

Family:

Publication number	Publication date	Application number	Application date
CN105593035 A	20160518	CN201480053983	20141001
EP3052324 A1	20160810	EP20140780460	20141001
FR3011199 A1	20150403	FR20130059538	20131002
FR3011199 B1	20150911	FR20130059538	20131002
IN201617004401 A	20160729	IN201617004401	20160208
US2016236520 AA	20160818	US20140026178	20141001
WO15049263 A1	20150409	WO2014EP71004	20141001

Probable Assignee: MICHELIN AND CIE

Assignee(s):(std)**:** MICHELIN AND CIE ; MICHELIN RECH ET TECHNIQUE S A ; MICHELIN RECH TECH ; CIE GENERALE DES MICHELIN ETS

Assignee(s): GENERALE DES MICHELIN COMP ETS ; MICHELIN RECHERCHE ET TECHNIQUE SA ; MICHELIN RECHERCHE ET TECHNIQUE S A

Inventor(s):(std)**:** BESTGEN LUC ; OLSOMMER DAVID

Inventor(s): DAVID OLSOMMER ; LUC BESTGEN

Agent(s): MILLANVOIS PATRICK JACQUES JEAN; MANUF FSE PNEUMATIQUES MICHELIN; MILLANVOIS PATRICK

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B60C11/00 B60C13/00 B60C13/02 B60C15/00 B62M6/75 (Advanced/Invention)

CPC: B60C2200/12 B60C11/00 B60C15/00 B62J6/10 B60C13/02 B60C2013/006

US class: 152/523

Classification Explorer

Cited documents: US5165776 A, DE4011567 A1, DE20314210 U1, CN86102619 A, CN102991630 A,

Abstract:
Source: US2016236520A A bicycle tire comprises a toothset (5) of substantially radial generatrix (G), positioned to collaborate with a complementary toothset of a driving pinion of an electrical assistance device. The toothset (5) has teeth (51) that are equidistant by a pitch p, each tooth having a length l, in the direction of the generatrix (G), and a substantially triangular section, in a plane perpendicular to the generatrix (G), of height h. Each tooth (51) comprises an elastomeric material having an elastic shear modulus Gss at least equal to a threshold elastic shear modulus Gsss, Gsss being such that the displacement d of the crest of each tooth is equal to 0.2 times the height h of the tooth under the action of a uniform pressure, applied by the complementary toothset to the side that forms the smallest angle, equal to 650/(lxhx(2.67−0.33xp)).

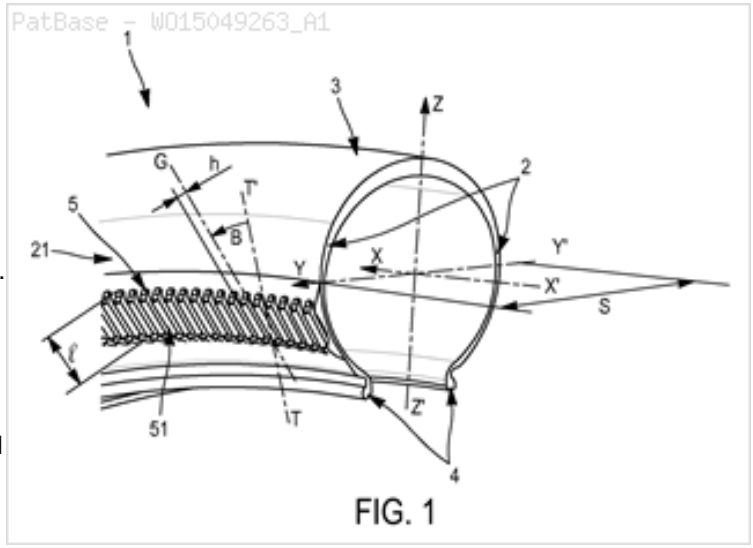


FIG. 1

0) CH586559A – STATIONARY BICYCLE SUPPORT ELEMENT – CONVERTS B...

63) Family number: 1455963 (CH586559A)

© PatBase

Title:	STATIONARY BICYCLE SUPPORT ELEMENT – CONVERTS BICYCLE INTO HOME EXERCISE APPTS. BY PROVIDING MOUNTED ROLLERS FOR REAR WHEEL
Priority:	CH19750006537 19750521

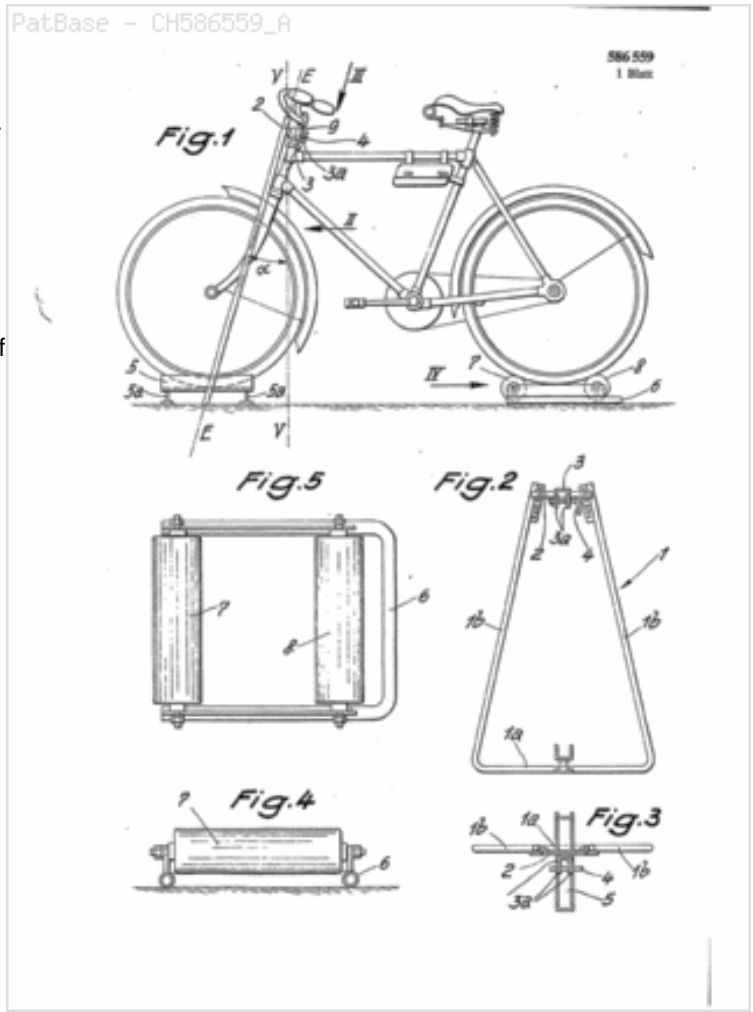
Family:

Publication number	Publication date	Application number	Application date
CH586559 A	19770415	CH19750006537	19750521

Probable Assignee:	FUHRMANN HANS JUERGEN
Assignee(s):(std):	FUHRMANN HANS JUERGEN
International class (IPC 8–9):	A63B69/16 (Advanced/Invention); A63B69/16 (Core/Invention)
International class (IPC 1–7):	A63B69/16
CPC:	A63B69/16 A63B2069/162 A63B2069/163
European class:	A63B69/16 K63B69/16A2B K63B69/16A2C

Classification Explorer

Abstract:
Source: CH586559A (Claim 1) 1. Geraet nach Patentanspruch, dadurch gekennzeichnet, dass die beiden Schenkel (lb) des Fahrradstaenders (1) nach oben konvergieren. Support element for a bicycle to permit it so use as a home exercis appts. consists of two parts mechanically independent of each other. One part includes a stand for the bicycle with legs emanating from a horizontal stay the upper ends of which are connected by a transverse. A bridle intended to enclose the handle bar socket is fitted on the traverse. The stay carries a bearing to hold the front wheel of the bicycles. The other part of the appts. includes a frame (6) on which two rollers (7, 8) arranged in parallel, serve as the bearing for the bicycles's rear wheel.



0) US2001041641A – TRANSMISSION SYSTEM FOR A BICYCLE

64) Family number: 28144671 (US2001041641A) © PatBase

Title: Transmission system for a bicycle

Priority: FR20000004791 20000411 US20010828960 20010410

Family:

Publication number	Publication date	Application number	Application date
DE60139221 D1	20090827	DE20016039221	20010323
EP1145947 A1	20011017	EP20010107248	20010323
EP1145947 B1	20090715	EP20010107248	20010323
FR2807385 A1	20011012	FR20000004791	20000411
FR2807385 B1	20020802	FR20000004791	20000411
US2001041641 AA	20011115	US20010828960	20010410
US2002103052 AB	20020801	US20010828960	20010410
US6537173 BB	20030325	US20010828960	20010410

Probable Assignee: SALOMON SAS

Assignee(s):(std)**:** MAVIC SA ; SALOMON SA

Assignee(s): SALOMON SAS ; SALOMON S A ; MAVIC LE RIPE SA ; MAVIC S A

Inventor(s):(std)**:** CAUVIN BERTRAND ; CAUVIN BETRAND ; MERCAT JEAN PIERRE

Inventor(s): BERTRAND CAUVIN ; JEAN PIERRE MERCAT

Agent(s): LEJEUNE BENOIT; SALOMON SA

Designated states: DE ES IT

International class(IPC 8–9)**:** B62M25/04 B62M9/08 B62M9/10 (Advanced/Invention); B62M25/00 B62M9/00 (Core/Invention)

International class(IPC 1–7)**:** B62D61/02 B62K11/00 B62M11/14 B62M7/00 B62M9/08 B62M9/12 F16H37/02

CPC: B62M9/10 B62M25/045

European class: B62M25/04B B62M9/10

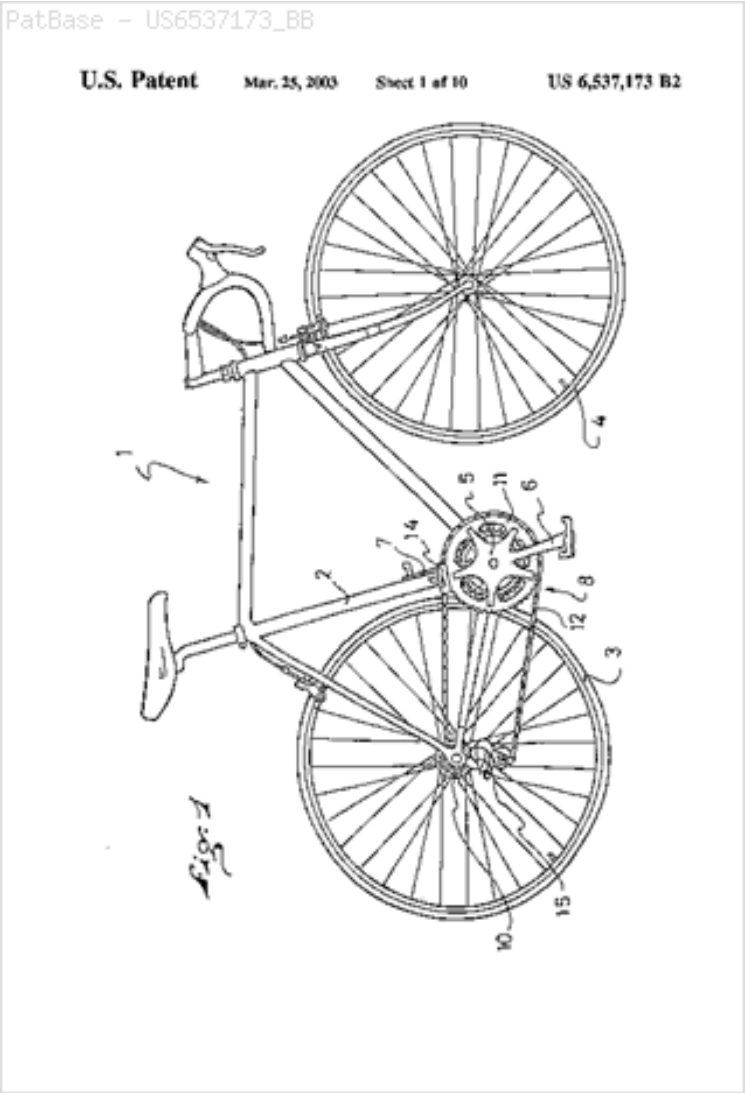
US class: 180/221 180/231 475/149 475/212 475/213 475/296 475/302

Classification Explorer

Cited documents: WO9911515 A1, WO9625321 A1, US6176798 BA, US6152250 A, US5984814 A, US5938560 A, US5865062 A, US5803848 A, US5800302 A, US5399128 A, US5358451 A, US5261858 A, US5205794 A, US5152720 A, US4580997 A, US4279174 A, US4261223 A, US4055093 A, US3901095 A, GB449850 A, GB418716 A, FR9911198 A1, FR961520 A, FR2798114 A1, FR2750669 A1, EP0849155 A2, EP0794114 A2, EP0786400 A2, EP0558425 A1, EP0554874 A1, EP0531380 A1,

Forward Citations: WO14181034, WO06083143, US9327792, US9033833, US8475305, US8414434, US8360909, US7247108, US2011130242, US2008108465, US2007232425, US2003216201, FR2851222, EP3103714, EP2327617, EP2199198, EP1415903,

Abstract:
Source: US2001041641A A transmission system provided for a bicycle, including a primary transmission sub−assembly having a set of rear sprockets, whose number of teeth, from one sprocket to the next sprocket in the ascending order, varies according to a ratio of the numbers of teeth that is greater than or equal to a value n such as n greater than 1. The invention also includes a control of the transmission system, as well as a bicycle that includes the transmission system and the control for same. The transmission system includes a single chain wheel for driving the chain, associated with a bottom bracket assembly, and a secondary transmission sub−assembly having at least two drive output ratios, whose ratio of the highest drive speed to the lowest drive speed is equal to a value R between 1 and n so as to introduce at least one intermediate transmission ratio between two successive sprockets.



0) US5078026A – BICYCLE PEDAL ORIENTATION DEVICE

65) Family number: 4891736 (US5078026A) © PatBase

Title:	BICYCLE PEDAL ORIENTATION DEVICE
Priority:	US19890293294 19890104 US19900477298 19900208

Family:

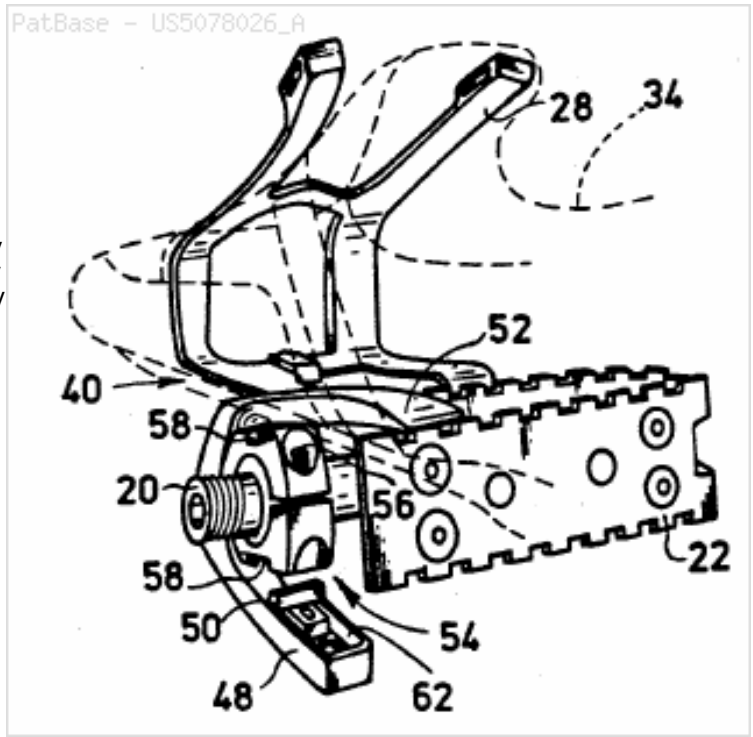
Publication number	Publication date	Application number	Application date
US5078026 A	19920107	US19900477298	19900208

Probable Assignee:	GIFFIN BRIAN K
Assignee(s):(std):	GIFFIN BRIAN K
Inventor(s):(std):	GIFFIN BRIAN K
International class (IPC 8–9):	B62M3/08 (Advanced/Invention); B62M3/00 (Core/Invention)
International class (IPC 1–7):	G05G1/14
CPC:	B62M3/083 Y10T74/2168 Y10T74/217
European class:	B62M3/08B
US class:	74/594.4 74/594.6 745/944

Classification Explorer

Cited documents:	US642874 A, US631276 A, US578183 A, US4625580 A, US4103563 A, US3788163 A, NL7713672 A, IT437086 A, GB5837, GB190405837 A, FR981161 A, FR937354 A, FR891873 A, FR796362 A, DE121309 A,
Forward Citations:	US9255629, US9243691, US9169903, US9145187, US8297394, US8196692, US7506714, US7258192, US5737977, US5456138, US5199324, US2014171241, US2014171240, US2014171239, US2009250282, US2007278026, US2004206568,

Abstract:
Source: US5078026A This device includes a cam which can be adjustably secured intermediate the pedal of a bicycle, which pedal is rotatably mounted on an axle, and the rotary crank of the bicycle to which the pedal axle is secured. The cam carries and defines at least one detent for mechanical engagement. The device also includes a latch mechanism which carries a pawl for releasably mechanically engaging the detentes carried by the cam. A mechanism is provided for normally biasing the pawl into engagement with the detent of the cam. Each of the detentes which is carried by the cam is designed to be located and positioned so that, in conjunction with the pawl, it can position the pedal in one or more desired orientation. One such preferred fixed orientation is with the upper surface of the pedal being horizontal, that is "up," when the crank is in a substantially top dead center position. A second preferred fixed orientation is with the upper surface of the pedal being "up," when the crank is in a substantially bottom dead center position. A mechanism is also connected to the latch to cause the disengagement of the pawl from the cam detent. When the pawl is disengaged from the cam detent, free rotation of the pedal on its axle relative to the rotary crank is permitted. The latch disengaging mechanism is activated when the foot of a cyclist is placed on the upper surface of the pedal.



0) WO12025444A1 – DRIVE UNIT FOR AN ELECTRIC BICYCLE AND MOUNTING...

66) Family number: 50734408 (WO12025444A1) © PatBase

Title: DRIVE UNIT FOR AN ELECTRIC BICYCLE AND MOUNTING METHOD FOR MOUNTING A DRIVE UNIT ON AN ELECTRIC BICYCLE

Priority: DE201010039857 20100827 DE201010043884 20101115

Family:

Publication number	Publication date	Application number	Application date
DE102010043884 A1	20120301	DE201010043884	20101115
TW201221410 A	20120601	TW20110130465	20110825
WO12025444 A1	20120301	WO2011EP64192	20110818

Probable Assignee: BOSCH GMBH ROBERT

Assignee(s):(std)**:** BOSCH GMBH ROBERT ; DASBACH GREGOR ; KIMMICH PETER ; NGUYEN QUOC DAT

Assignee(s): ROBERT BOSCH GMBH

Inventor(s):(std)**:** DASBACH GREGOR ; KIMMICH PETER ; NGUYEN QUOC DAT

Agent(s): ROBERT BOSCH GMBH

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B62M23/02 B62M6/55 B62M7/04 (Advanced/Invention)

CPC: B60L11/007 B60L2200/12 B62M6/55

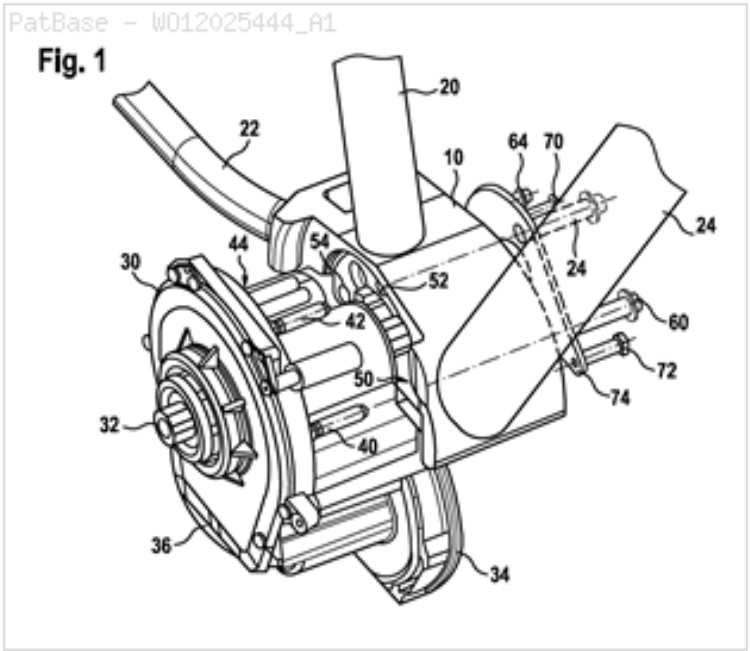
European class: B62M6/55

Classification Explorer

Cited documents: US6073717 A, JP11005584 A2, GB2312403 A1, EP0847915 A2, EP0825101 A2,

Forward Citations: WO15015014,

Abstract:
The invention relates to a drive unit for an electric bicycle, wherein the drive unit comprises an electric motor and a housing in which the electric motor is located. The drive unit further comprises a pedal crankshaft having pedal connections or at least one bottom bracket also located in the housing. The pedal crankshaft is connected to a common drive of the drive unit in a torque–transmitting manner by means of components installed within the housing. The invention further relates to a method for mounting the drive unit on an electric bicycle. A bicycle frame and a drive unit according to the invention are provided and the drive unit is connected to the bicycle frame. The pedal crankshaft or a bottom bracket is already integrated in the drive unit when the connection is made between the drive unit and the bicycle frame.



0) CN2313957Y – MANPOWER SWEEPER

67) Family number: 16550005 (CN2313957Y)

© PatBase

Title: Manpower sweeper

Priority: CN19972044481U 19970807

Family:

Publication number	Publication date	Application number	Application date
CN2313957 Y	19990414	CN19972044481U	19970807

Probable Assignee: WANG XUEWEN

Assignee(s):(std)**:** WANG XUEWEN

Inventor(s):(std)**:** WANG XUEWEN ; XUEWEN WANG

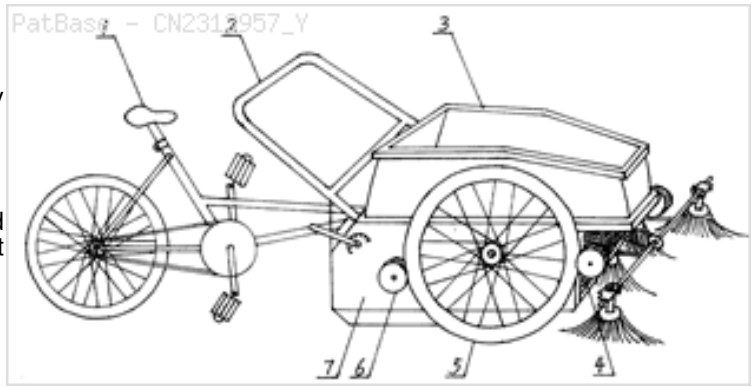
International class (IPC 8–9)**:** E01H1/02 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** E01H1/02

Classification Explorer

Forward Citations: CN103790125, CN103790125, CN102041792,

Abstract:
Source: CN2313957Y The utility model relates to a manpower dual–purpose cleaning bicycle pushed by hands or stepped by feet. The utility model comprises a bicycle body, a cleaning bicycle body and a pair of supporting wheels arranged on both sides of the cleaning bicycle body symmetrically. The rear part of the interior of the cleaning bicycle body is provided with a rear sweeping mechanism, and the front part of the interior of the cleaning bicycle body is provided with a dust collecting box. The bottom of the dust collecting box is provided with a dust collecting dustpan which can be drawn out from the front part of the dust collecting box. The rear part of the dust collecting box is provided with a dust guiding rubber plate. A front sweeping mechanism is arranged on the front part of the cleaning bicycle body, and the front and the rear sweeping mechanisms work via friction transmission. The bicycle body is connected with the cleaning bicycle body by a connecting shaft. The utility model has the advantages of no energy consumption, clean sweeping, no secondary pollution towards environment, long service life and high efficiency. The utility model can be used for sweeping various hardened road surfaces.



0) CN201261875Y – ROAD CLEANING BICYCLE

68) Family number: 43502152 (CN201261875Y)

© PatBase

Title:	Road cleaning bicycle
Priority:	CN200820027672U 20080902

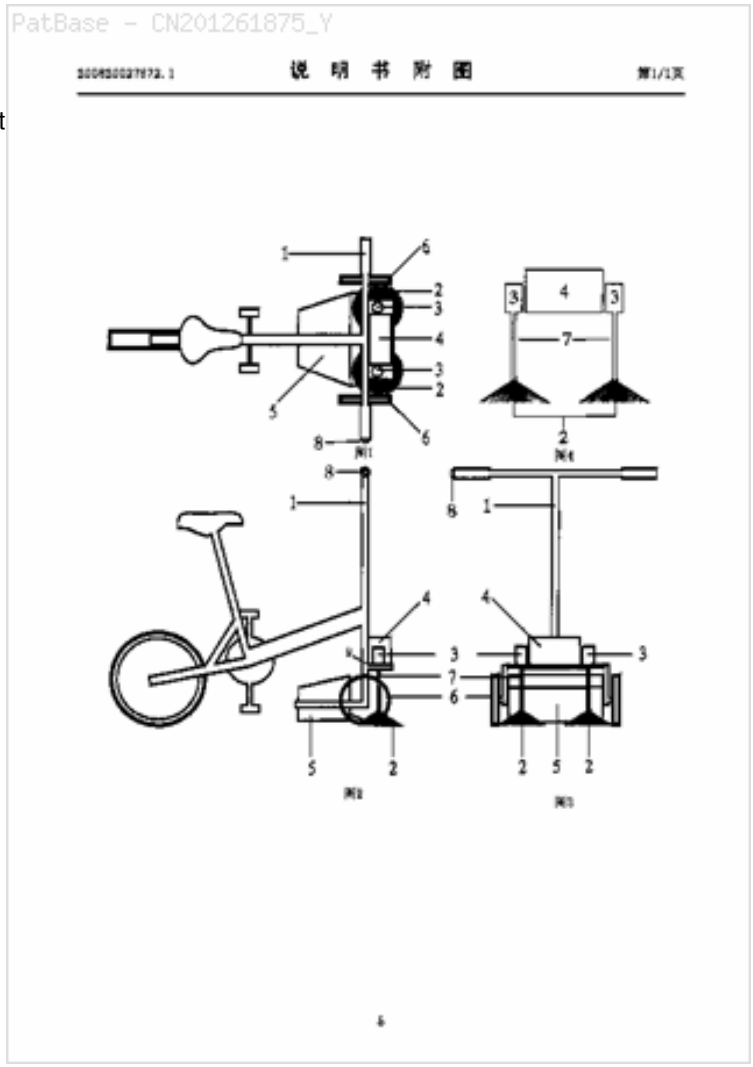
Family:

Publication number	Publication date	Application number	Application date
CN201261875 Y	20090624	CN200820027672U	20080902

Probable Assignee:	MU JIARUI
Assignee(s):(std)**:**	MU JIARUI
Inventor(s):(std)**:**	JIARUI MOU
Inventor(s):	MOU JIARUI
International class (IPC 8–9):	E01H1/05 (Advanced/Invention); E01H1/00 (Core/Invention)

Classification Explorer

Abstract:
Source: CN201261875Y The utility model discloses a road sweeping bicycle which comprises a bicycle body, a support is connected below an upright column at the front part of the bicycle body; two front wheels are installed at the lower end of the support through a rotating axle; more than one motors are arranged in front of the support, and sweeping brush discs are connected at the lower ends of the motors through connecting rods; a garbage accommodating bin is installed behind the support; and a battery and a switching push button are arranged on the bicycle body, and the switching push button, the motors and the battery are electrically connected. The utility model adopts the power of half manpower and half electric power, the vehicle body moves forwards under the manpower, the traditional bicycle is taken as the original model, the chargeable battery is adopted for the sweeping and the collecting of the garbage, the motors are driven to transmit the power to the sweeping brush discs, and the sweeping brush discs rotate at high speed to sweep the garbage to the garbage accommodating bin of the sweeping bicycle. Therefore, the utility model not only has the road sweeping function, but also has the advantages of less energy consumption, low manufacture cost and flexible operation.



0) US6527290B – RECUMBENT BICYCLE AND APPARATUS FOR FORMING SAM...

69) Family number: 28333868 (US6527290B)

© PatBase

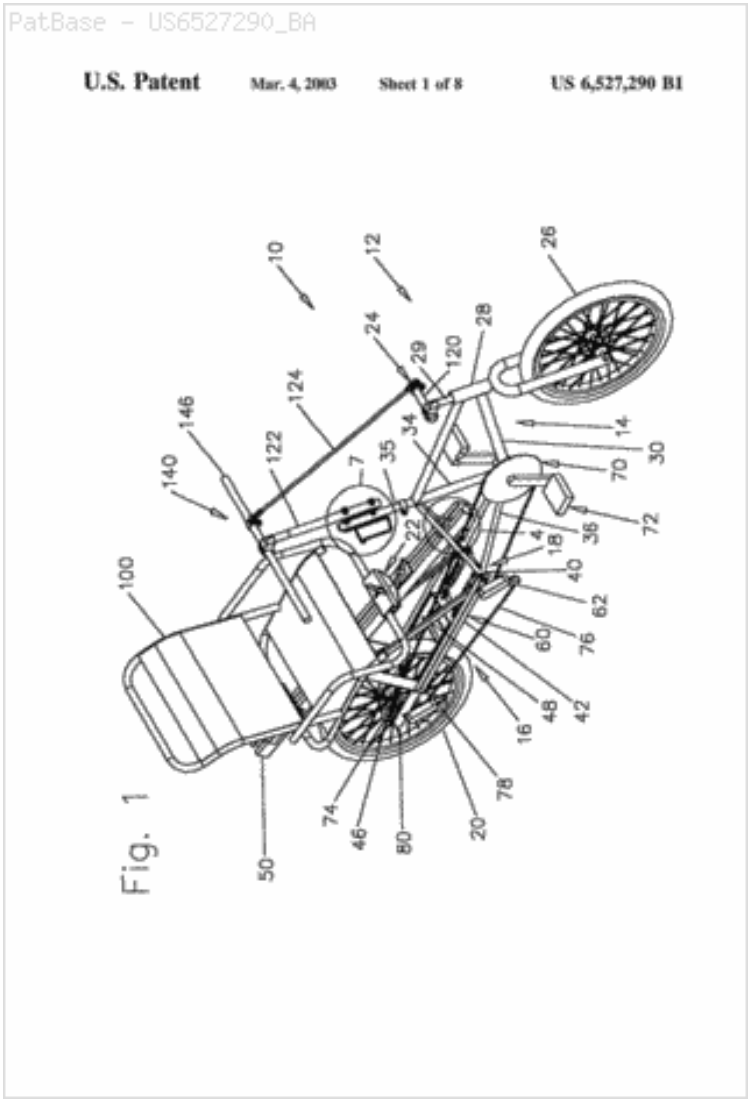
Title:	Recumbent bicycle and apparatus for forming same
Priority:	US20000573754 20000518

Family:

Publication number	Publication date	Application number	Application date
US6527290 BA	20030304	US20000573754	20000518

Probable Assignee:	BLACKBIRD DESIGNS INC
Assignee(s):(std):	BLACK JAMES G
Assignee(s):	BLACKBIRD DESIGNS INC
Inventor(s):(std):	BLACK JAMES G
International class (IPC 8–9):	B62K3/00 (Advanced/Invention); B62K3/00 (Core/Invention)
International class (IPC 1–7):	B62K13/00 B62K5/00
CPC:	B62K3/005
European class:	B62K3/00C
US class:	280/274 280/288.1 280/7.15 280/715
Classification Explorer	
Cited documents:	USD408761 S1, USD385225 S1, US5951034 A, US5853062 A, US5584494 A, US5511809 A, US5342074 A, US4925203 A, US4834410 A, US4540190 A, US4227589 A, US4093258 A, US3938827 A, US3902738 A, US3865401 A, US3857583 A, US3836175 A, US3794352 A,
Forward Citations:	US8827872, US2011177919, US2005043147, GB2541432, FR2946610,

Abstract:
Source: US6527290B A recumbent bicycle, the manufacture thereof, and apparatus for forming same, is provided. The recumbent bicycle generally includes a frame having joined forward and rearward frame portions. The forward frame portion is a sit−up bicycle frame adpated to support a steerable front ground engaging wheel. The rearward frame portion is adapted to support a suspension assembly and substantially bear a rider thereon. Preferably, the sit−up bicycle frame includes a head tube, down tube, bottom bracket, seat tube, chainstay, seatstay, and dropouts, and the rearward frame portion includes a supplemental chainstay. The rearward frame portion is joined to the forward frame portion such that the supplemental chainstay rearwardly extends from the dropouts as a substantial continuation of the chainstay of the forward frame portion. The apparatus of the subject invention permits transformation of a sit−up bicycle into a recumbent bicycle, and generally includes a frame extension appliance for affixation to the frame of the sit−up bicycle so as to rearwardly extend therefrom. The extension appliance is adapted to support a suspension assembly, and substantially bear a rider thereon.



0) US4553641A – HAND–OPERATED BICYCLE BRAKE ASSEMBLY

70) Family number: 4903575 (US4553641A)

© PatBase

Title: HAND–OPERATED BICYCLE BRAKE ASSEMBLY

Priority: US19830534678 19830922

Family:

Publication number	Publication date	Application number	Application date
US4553641 A	19851119	US19830534678	19830922

Probable Assignee: SCOTT EDWARD L

Assignee(s):(std)**:** SCOTT EDWARD L ; TEAGUE JR WALTER D

Inventor(s):(std)**:** SCOTT EDWARD L ; TEAGUE JR WALTER D

International class (IPC 8–9)**:** B62L1/12 (Advanced/Invention); B62L1/00 (Core/Invention)

International class (IPC 1–7)**:** B62L1/00 B62L1/10

CPC: B62L1/12 Y10T74/20438 Y10T74/2045 Y10T403/32631 F16D2065/789

European class: B62L1/12

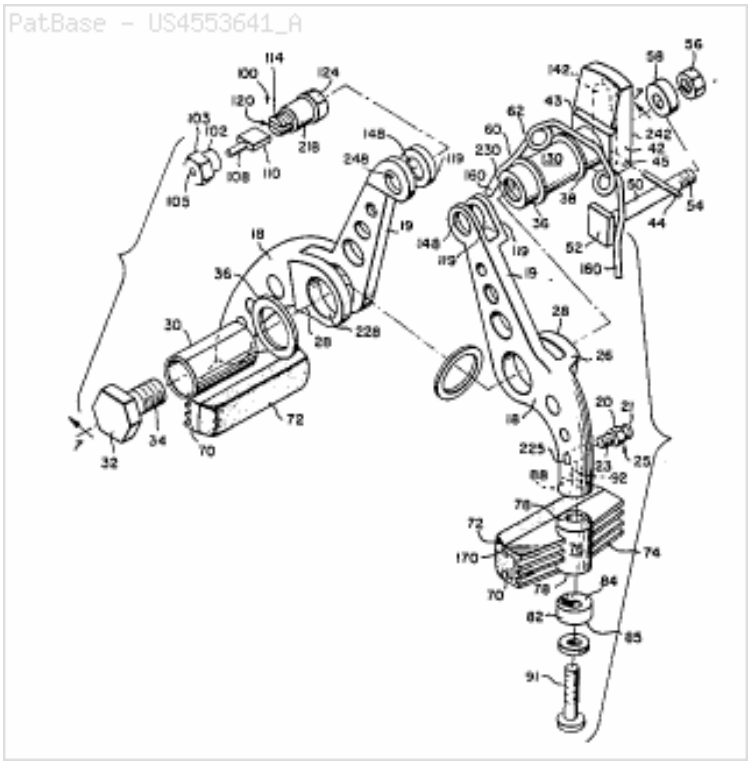
US class: 188/205R 188/24.22 188/250G 188/2D 403/122 74/501R 74/502.2 74/502.4

Classification Explorer

Cited documents: US4391352 A, US4290507 A, US4051924 A,

Forward Citations: WO9718122, US9487263, US8550220, US8522929, US8163339, US7677365, US7419034, US7017716, US6435528, US5564531, US5123295, US4961354, US2012222920, US2011139552, US2009087588, US2009071764, US2008202866, US2007023237, TWI302136, FR2614595, EP2340987, EP2340987, EP1747984, EP1630088, DE20319913, DE202004013602, CN102092449, CN102092449,

Abstract:
Source: US4553641A A hand–operated bicycle brake assembly includes a pair of complementary, similar, preferably identical, caliper arms having a pre–formed configuration, central supporting structure including a central aperture through the elongated caliper arm and a complementary central aperture through an offset planar portion extending from the central area of the arm, one end of the arm provided with a concave recess and threaded aperture for a locking bolt therein, a brake shoe, a support hub integral therewith and provided with spherical projections at each end for mating with a recess in the caliper arm and a bushing and secured to the caliper arm by a through bolt, the caliper arm being forked and provided with a cable clamp nut and bolt. The cable clamp nut and bolt is in two parts for engaging a cable as passed through a slot in the bolt. The brake assembly further comprises a support head having a mounting bolt for attachment thereof in adjustable fashion to a bicycle frame and a bearing support projection extending therefrom for supporting the complementary pair of caliper arms thereupon by central mounting apertures thereof. Low friction bearing washers and sleeve are provided with a locking bolt for retaining the caliper arms on the support projection and finishing the assembly.



0) US5238125A – BICYCLE PARKING AND STORAGE RACK

71) Family number: 11264918 (US5238125A)

© PatBase

Title: BICYCLE PARKING AND STORAGE RACK

Priority: US19920948686 19920922

Family:

Publication number	Publication date	Application number	Application date
US5238125 A	19930824	US19920948686	19920922

Probable Assignee: SMITH TERRANCE R

Assignee(s):(std)**:** SMITH TERRANCE R

Inventor(s):(std)**:** SMITH TERRANCE R

International class (IPC 8–9)**:** B62H3/08 B62H3/12 E05B71/00 (Advanced/Invention); B62H3/00 E05B71/00 (Core/Invention)

International class (IPC 1–7)**:** A47F7/00

CPC: B62H3/12 B62H3/08 E05B71/00 Y10T70/5009

European class: B62H3/08 B62H3/12 E05B71/00

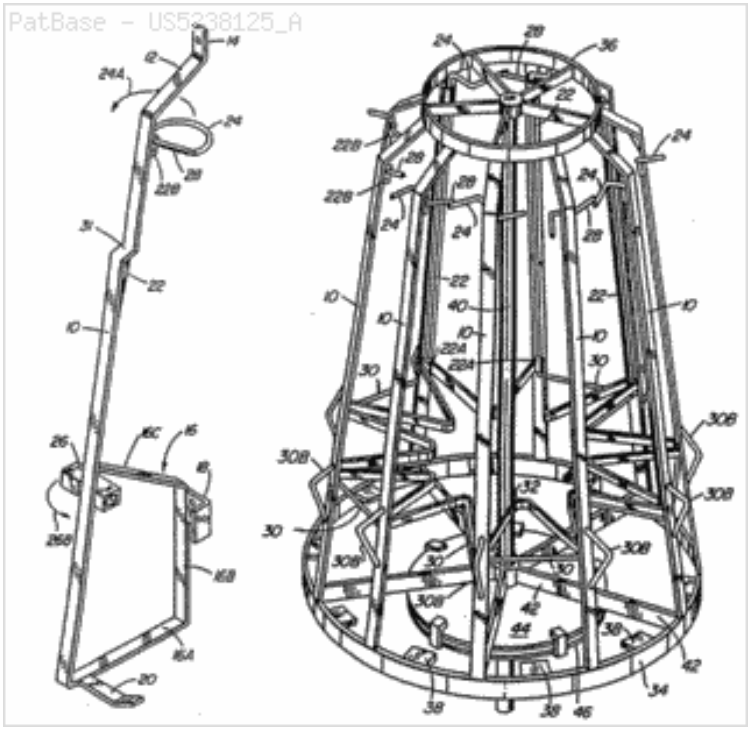
US class: 211/19 211/22 211/5 70/58

Classification Explorer

Cited documents: US706718 A, US5036987 A, US4352432 A, US4316544 A, US3918279 A, US3907114 A, US3863767 A, US3820662 A,

Forward Citations: USD617238, USD566628, US9532665, US9340245, US8893900, US8844735, US8342339, US7946432, US7854359, US7806308, US7789247, US7784656, US7318530, US7264145, US7104430, US7104430, US6978902, US6843380, US6805247, US6419096, US5871131, US5772048, US5653890, US5339610, US2015068994, US2014032447, US2013334150, US2013228535, US2013092645, US2011114143, US2008223800, US2008173596, US2008067209, US2007251964, US2007069534, US2007000962, US2006108296, US2004182797, US2004149878, US2004074851, US2003209582, FR2916415, EP1386832,

Abstract:
Source: US5238125A A bicycle parking and storage rack that is designed to receive one or more bicycles in vertical position. Locking means permit the frame and front and rear wheels of a bicycle to be secured to the rack and include a pivotable means to selectively open and close the upper locking means. The rack according to the invention occupies a minimum of space and can be conveniently mounted on a wall or the like, or in a radial arrangement to accommodate up to ten bicycles.



0) CN2679236Y – CLEANING TYPE BICYCLE FOR CLEANING ENVIRONMENT

72) Family number: 31977513 (CN2679236Y)

© PatBase

Title: Cleaning type bicycle for cleaning environment

Priority: CN200420032813U 20040212

Family:

Publication number	Publication date	Application number	Application date
CN2679236 Y	20050216	CN200420032813U	20040212

Probable Assignee: CHEN XIAOYONG

Assignee(s):(std)**:** CHEN XIAOYONG

Inventor(s):(std)**:** CHEN XIAOYONG

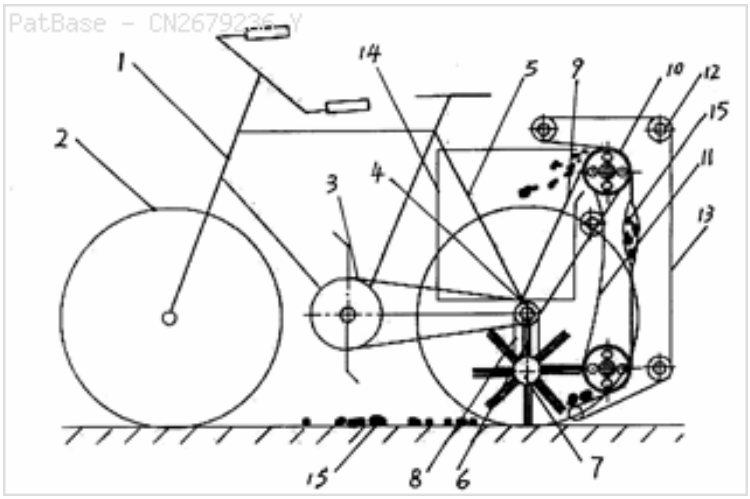
Inventor(s): XIAOYONG CHEN

International class (IPC 8–9): E01H1/05 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7): E01H1/05

Classification Explorer

Abstract:
Source: CN2679236Y The utility model relates to a cleaning type bicycle for cleaning environment for sweeping the urban road, comprising a bicycle frame, wheels and a bicycle driving device. Wherein, both ends of a wheel axle of the wheel are respectively connected with a bearing; the bicycle frame is connected on the bearing. A garbage collecting device comprises a ground sweeping rolling brush extending to the ground and driven by the wheel axle, an inner conveying belt driven through the wheel axle, an outer conveying belt linked with the inner conveying belt and a garbage box. Through riding the bicycle, the power is transmitted to the ground sweeping rolling brush and the inner conveying belt to obtain the purpose of sweeping the garbage on the ground and conveying the swept garbage to the garbage box cooperated with the inner and outer conveying belts. The utility model completes the sweeping and collecting of the garbage during riding the bicycle, reduces the labor intensity of the road sweeping worker, improves the working efficiency, and reconstructs by the existing bicycle conveniently.



0) CN2778874Y – ROAD SWEEPER

73) Family number: 33223766 (CN2778874Y)

© PatBase

Title: Road sweeper

Priority: CN200520070058U 20050324

Family:

Publication number	Publication date	Application number	Application date
CN2778874 Y	20060510	CN200520070058U	20050324

Probable Assignee: CHEN ZHIMENG

Assignee(s):(std)**:** CHEN ZHIMENG

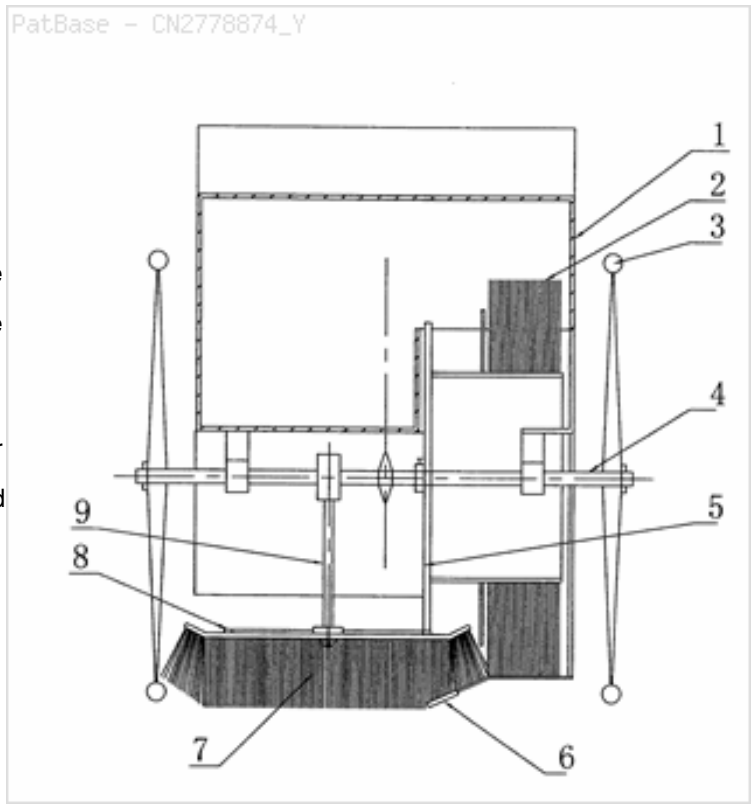
Inventor(s):(std)**:** CHEN ZHIMENG

Inventor(s): ZHIMENG CHEN

International class (IPC 8–9): E01H1/05 E01H3/02 (Advanced/Invention); E01H1/00 E01H3/00 (Core/Invention)

Classification Explorer

Abstract:
Source: CN2778874Y The utility model discloses a road sweeper in the field of sanitation equipment, which comprises a rotatable spindle arranged between two parallel wheels; a vehicle frame for fixing the spindle is provided with a dustbin; a pillar is connected with the spindle via a bearing; the lower part of the pillar is connected with the center of a disk–shaped horizontal sweeping roller via the bearing; a drive device driving the horizontal sweeping roller to rotate is arranged between the horizontal sweeping roller and the spindle; a longitudinal sweeping roller which is arranged vertically is correspondingly fixed on the spindle; the bottom of the longitudinal sweeping roller is provided with a lower baffle; the lower baffle slantways extends to the lower side of the horizontal sweeping roller; an arc baffle is arranged between the lower baffle and the dustbin; the arc baffle is provided with a garbage inlet communicating with the dustbin; the height of the garbage inlet is higher than the height of the bottom of the dustbin. The utility model can be made into a manpower or motor driven bicycle or tricycle; the road sweeper can sweep a street lane; the sweeping work can be automatically completed by dragging or riding the wheels to rotate; the road sweeper has advantages of simple sweeping program, high efficiency and less blowing dust.



0) DE202011051464U1 – ELEKTROFAHRRAD

74) Family number: 50126183 (DE202011051464U1) © PatBase

Title: Elektrofahrrad

Priority: DE201120051464U 20110928

Family:

Publication number	Publication date	Application number	Application date
CN103029798 A	20130410	CN201110453634	20111230
DE202011051464 U1	20111229	DE201120051464U	20110928
NL2008181 A1	20130402	NL20122008181	20120126
NL2008181 C	20131028	NL20122008181	20120126
TW201313550 A	20130401	TW20110142211	20111118

Probable Assignee: ALFRED THUN GMBH AND CO KG

Assignee(s):(std)**:** ALFRED THUN GMBH AND CO KG

Inventor(s):(std)**:** THUN A ; THUN ALFRED

International class (IPC 8–9)**:** B62M3/00 B62M6/00 B62M6/45 B62M6/50 (Advanced/Invention)

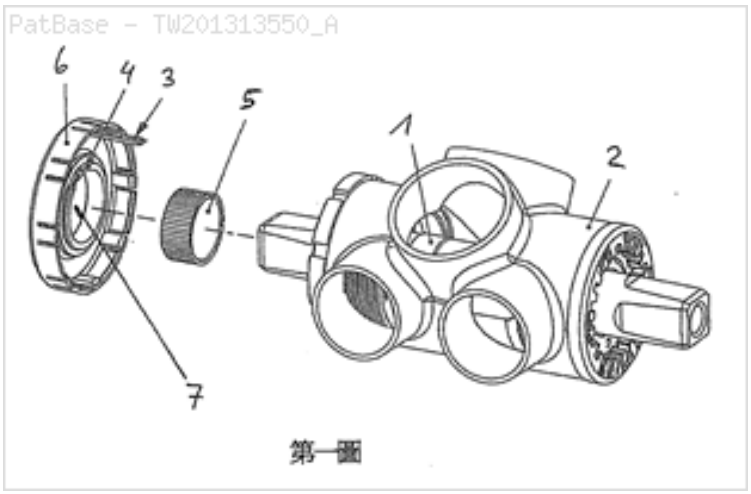
CPC: B62M3/003 B62M6/50

European class: B62M3/00B B62M6/50

Classification Explorer

Forward Citations: DE202013105292, CN104443231,

Abstract:
Source: DE202011051464U1 Elektrofahrrad, beispielsweise ein Pedelec oder E–Bike, zumindest aufweisend eine ein Antriebsgehaeuse (2) stirnseitig, beidseitig durchgreifende Antriebswelle (1) mit an ihren freien, das Antriebsgehaeuse (2) durchgreifenden, Enden angeordneten Pedalen zum Antrieb des Fahrrades, einen Elektromotor zur Unterstuetzung beim Pedalieren und eine Motorsteuerung zur Steuerung des Elektromotors, die sicherstellt, dass der Elektromotor nur dann im Einsatz ist, wenn das Elektrofahrrad in Vorwaertsrichtung pedaliert wird, wobei die Motorsteuerung mittels Kabeln (3) mit einem Sensor (4) verbunden ist, der die Drehrichtung eines auf der Antriebswelle (1) angeordneten Magnetringes (5) erfasst, dadurch gekennzeichnet, dass der Sensor (4) in einem weiteren Gehaeuse oder einer Kappe (6) angeordnet ist, welches oder welche stirnseitig am Antriebsgehaeuse (2) befestigbar ist, wobei die den Sensor (4) mit der Motorsteuerung verbindenden Kabel (3) aussen am Antriebsgehaeuse (2) und/oder an Rahmenteilen des Elektrofahrrades angeordnet sind.



0) US8181977B – BICYCLE ARM–DRIVE APPARATUS

75) Family number: 51111881 (US8181977B)

© PatBase

Title:	BICYCLE ARM–DRIVE APPARATUS
Priority:	US20090384692 20090408

Family:

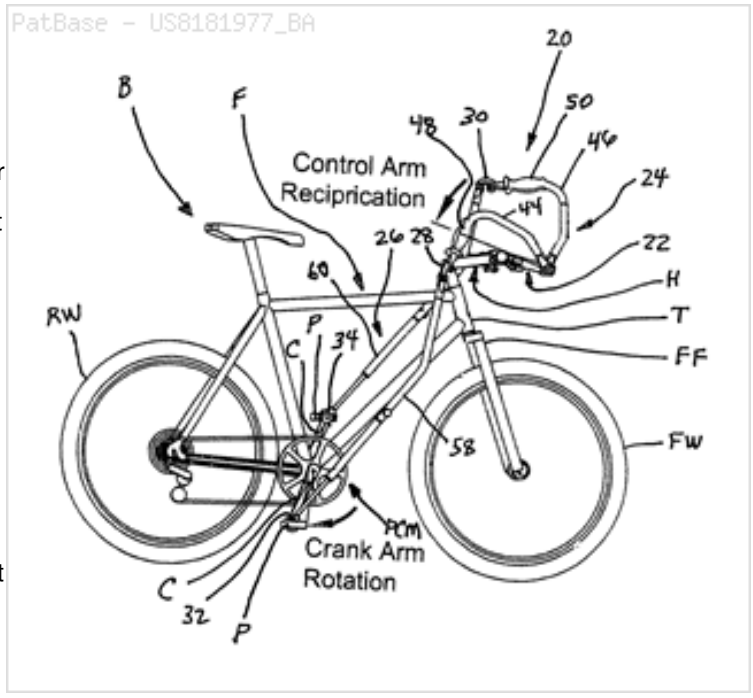
Publication number	Publication date	Application number	Application date
US8181977 BA	20120522	US20090384692	20090408

Probable Assignee:	BARTLETT CHRISTOPHER B
Assignee(s):(std):	BARTLETT CHRISTOPHER B
Inventor(s):(std):	BARTLETT CHRISTOPHER B
Agent(s):	JOHN R
International class (IPC 8–9):	B62M1/12 (Advanced/Invention)
CPC:	B62M1/12
European class:	B62M1/12
US class:	280/233 280/234 280/242.1 280/244 280/247

Classification Explorer

Cited documents:	US7000934 BA, US6725978 BB, US6352274 BA, US6099009 A, US6032970 A, US5775708 A, US551667 A, US5511810 A, US2010164195 AA, US1141364 A,
Forward Citations:	WO16176123, US9580137, US8403349, US2011241305,

Abstract:
Source: US8181977B A bicycle arm–drive apparatus includes a stationary mounting structure, an arm drive input mechanism, a drive motion transmission mechanism, and a plurality of connectors. One end of the mounting structure attaches to the front–center portion of the bicycle. The arm drive input mechanism includes a pair of control arms that pivotally attach to the other end of the mounting structure and generally extend rearward and outward from there. The operator grips each control arm, inputting arm power by driving them fore–and–aft. The drive motion transmission mechanism includes a pair of connecting rod assemblies running down opposite sides of the bicycle frame between the control arms and bicycle pedals. A plurality of connectors link the connecting rod assemblies to the pedals and control arms in order to transmit control arm fore–and–aft movement via the connecting rod assemblies to the pedals to enable the arm power to assist with bicycle pedaling.



0) WO9303954A1 – BICYCLE–LIKE DEVICE

76) Family number: 17659567 (WO9303954A1) © PatBase

Title: BICYCLE–LIKE DEVICE

Priority: DE19910010206U 19910817 DE19910010207U 19910817 DE19920000880U 19920125

Family:

Publication number	Publication date	Application number	Application date
DE9110206 U1	19921217	DE19910010206U	19910817
DE9110207 U1	19921217	DE19910010207U	19910817
DE9200880 U1	19930519	DE19920000880U	19920125
WO9303954 A1	19930304	WO1992DE00680	19920813

Probable Assignee: NATTEFORT NORBERT 5000 KOELN DE

Assignee(s):(std)**:** ALBERT ULRICH ; NATTEFORT NORBERT

Assignee(s): NATTEFORT NORBERT 5000 KOELN DE ; ALBERT ULRICH 4005 MEERBUSCH DE

Inventor(s):(std)**:** ALBERT ULRICH ; NATTEFORT NORBERT

Designated states: AT BE CA CH DE DK ES FR GB GR IE IT JP KR LU MC NL SE US

International class (IPC 8–9): B62M1/10 (Advanced/Invention); B62M1/00 (Core/Invention)

International class (IPC 1–7): A63B22/06 B62M1/04 B62M1/10 B62M1/12 B62M1/20

CPC: B62M1/10

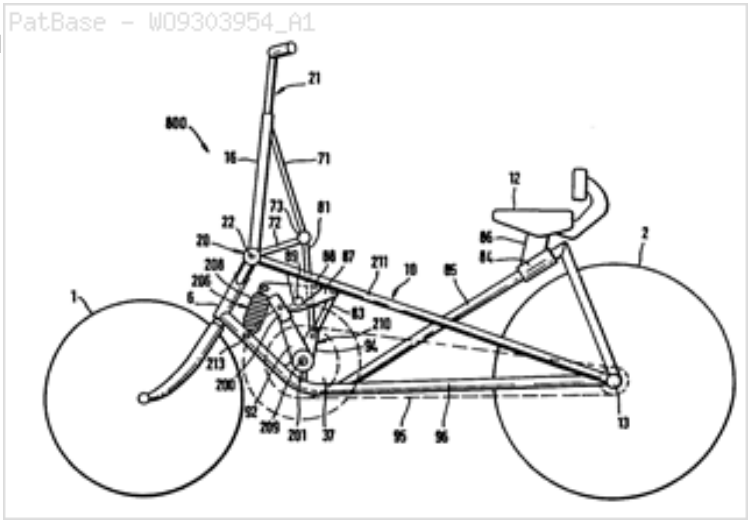
European class: B62M1/10

Classification Explorer

Cited documents: WO9003304, US4779882, US2510013, US2484472, FR953429, FR807574, FR2515601, DE3823435, DE3422925, DE3332475, DE2927896, DE2519921, DE101280,

Forward Citations: WO05087576, DE10106283,

Abstract:
The bicycle–like device (800) comprises a rigid frame (10) made up of tubes in the prior art manner with a steerable front wheel (1) and a rear wheel (2) driven via a pedal crank (201) and a chain (95). There is an elastic energy store (206) formed by a helical spring which is elastically deformable and thus loaded at each pedal revolution and returns the stored mechanical energy in a second phase to drive the rear wheel (2) at each pedal revolution. The energy store (206) is arranged between the upper and lower frame tubes (211 and 96).



0) CN103015351A – NOVEL LIGHT ROAD SWEEPER

77) Family number: 53480901 (CN103015351A) © PatBase

Title:	NOVEL LIGHT ROAD SWEEPER
Priority:	CN201110283092 20110922

Family:

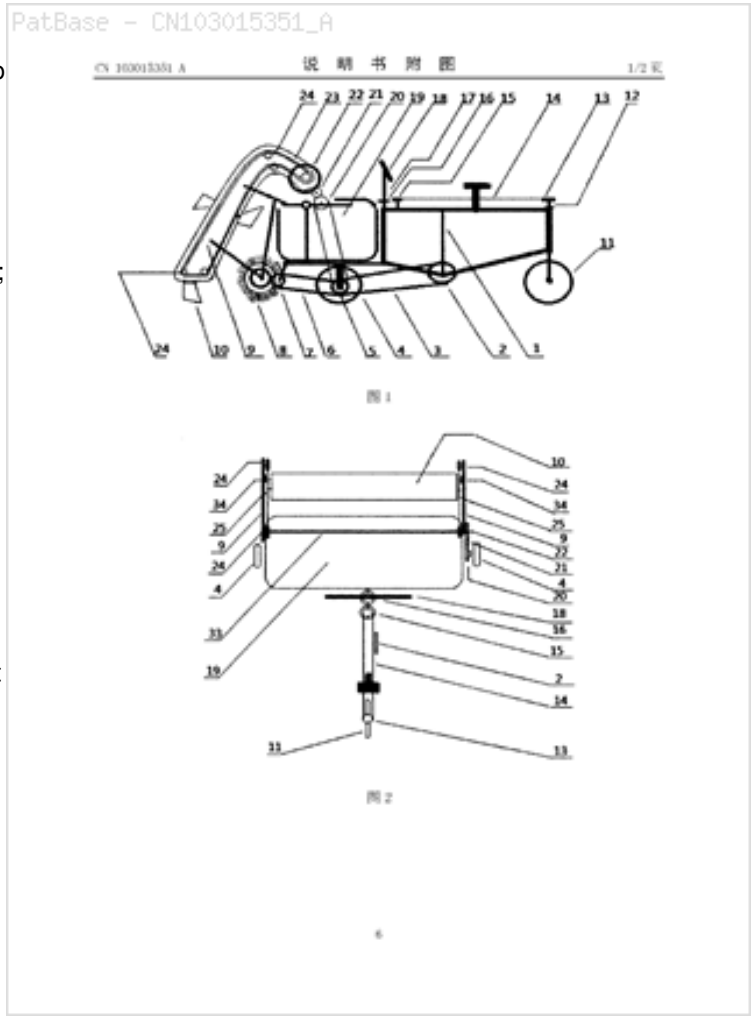
Publication number	Publication date	Application number	Application date
CN103015351 A	20130403	CN201110283092	20110922

Probable Assignee:	CHEN DELUN
Assignee(s):(std)**:**	CHEN DELUN
Inventor(s):(std)**:**	CHEN DELUN
International class (IPC 8–9):	E01H1/04 (Advanced/Invention)

Classification Explorer

Cited documents: EP0646676 B1, CN2878491 Y, CN2609968 Y, CN202247749 U, CN201141124 Y,

Abstract:
Source: CN103015351A The invention relates to a novel light road sweeper, which belongs to the fields of environmental protection and machinery. The problems of high technology, high cost and high consumption of the existing sweeping machine and the low efficiency of original manpower sweeping are solved. The novel light road sweeper is characterized by comprising a tricycle frame and a drawer–type dustbin assembly to facilitate rubbish dumping; a direction structure of rear wheels is changed so as to control the running direction of the sweeper; a power transmission mechanism is arranged on the frame so as to distribute and transmit power from a power source chain wheel to walking wheels and a sweeping device of the sweeper; and the sweeping device is arranged on a fixed rack; and the fixed rack and the frame are connected through bolt pins and bolt pin holes symmetrically distributed at two sides, and the separation and reunion states of related gears in the sweeping device and the frame can be changed by operating a lever handle on the fixed rack so as to achieve the effects of selecting sweeping operation and independent rubbish transfer. The power source chain wheel can be connected with bicycle pedals and driven by manpower, and can also be connected with a small power machine to be driven. The novel light road sweeper disclosed by the invention has a simple structure and high benefits, is low in cost, is easy to produce and operate, and is light, energy–saving and environment–friendly.



0) US2014062174A – HUB ASSEMBLY FOR A BICYCLE

78) Family number: 53530479 (US2014062174A) © PatBase

Title: HUB ASSEMBLY FOR A BICYCLE

Priority: TW20120216519U 20120828

Family:

Publication number	Publication date	Application number	Application date
TWM449764 Y	20130401	TW20120216519U	20120828
US2014062174 AA	20140306	US20130010334	20130826
US9061546 BB	20150623	US20130010334	20130826

Probable Assignee: KUN TENG IND CO LTD

Assignee(s):(std)**:** KUN TENG IND CO LTD

Assignee(s): KUN TENG IND CO

Inventor(s):(std)**:** CHEN HUBERT ; CHEN JUN QIN

Agent(s): CHRISTENSEN OCONNOR JOHNSON KINDNESS PLLC

International class (IPC 8–9): B60B27/02 B60B27/04 B62M25/00 F16D41/12 F16D41/30 (Advanced/Invention)

CPC: B60B27/023 B60B27/047 F16D41/12 F16D41/30

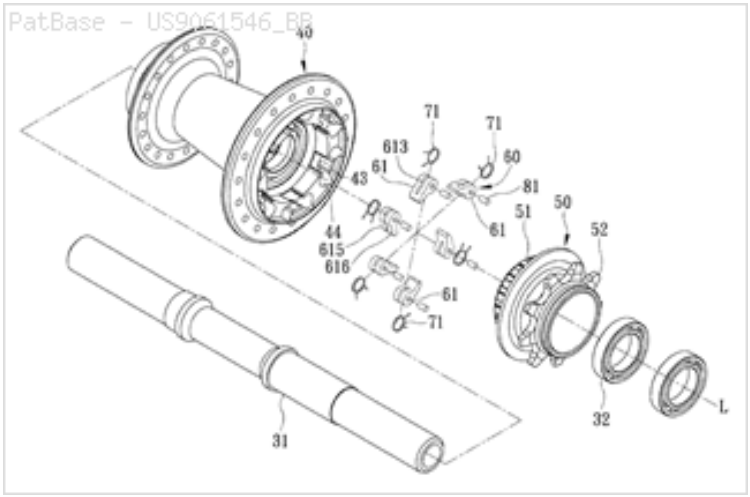
US class: 1/1 301/110.5

Classification Explorer

Cited documents: US2013299295 AA, US2011220450 AA, US2010122886 AA, US2008264748 AA, US2007199788 AA, GB160565 A, FR1334006 A,

Forward Citations: US2016327102, US2016091035,

Abstract:
Source: US2014062174A A hub assembly for a bicycle includes a hub shell, a plurality of pawl units, and an annular ratchet member. The hub shell is rotatably mounted on a hub axle, and the annular ratchet member is disposed to rotate with the hub axle. Each pawl unit includes a pawl that is movable between driven and idle positions, an elongated mount that extends to bridge a gap formed in the pawl, and a biasing member that is mounted on the elongated mount to bias the pawl to move to the driven position so as to engage to the annular ratchet member.



0) US2013187357A – BICYCLE FORK ASSEMBLY

79) Family number: 54382516 (US2013187357A) © PatBase

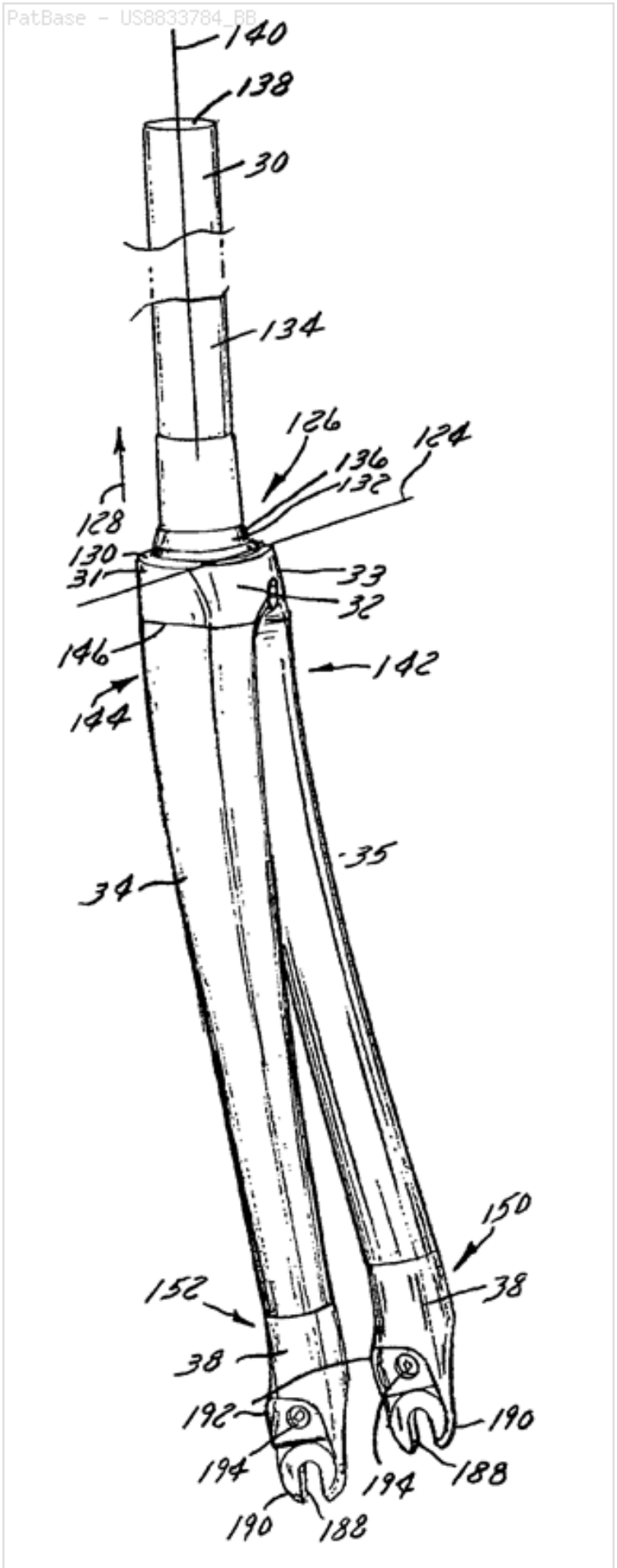
Title:	BICYCLE FORK ASSEMBLY
Priority:	US20120353712 20120119

Family:

Publication number	Publication date	Application number	Application date
US2013187357 AA	20130725	US20120353712	20120119
US8833784 BB	20140916	US20120353712	20120119

Probable Assignee:	TREK BICYCLE CORP
Assignee(s):(std)**:**	MOECHNIG STEVEN ; TREK BICYCLE CORP
Assignee(s):	JPMORGAN CHASE BANK NA COLLATERAL AGENT AS
Inventor(s):(std)**:**	MOECHNIG STEVEN
International class(IPC 8–9)**:**	B62K21/02 (Advanced/Invention)
CPC:	B62K21/02 B62K19/30 B62K25/02 B62K2025/041
US class:	280/275 280/276 280/279 280/283
Classification Explorer	
Cited documents:	US937614 A, US8454044 BB, US7540570 BB, US7398986 BB, US7380808 BB, US7175191 BB, US7144028 BB, US7125030 BB, US7017930 BB, US6916035 BB, US6709352 BA, US6669218 BA, US6382201 BA, US628723 A, US6109637 A, US6092823 A, US5857694 A, US5704626 A, US5427208 A, US5319995 A, US5183281 A, US2011018223 AA, US2009072455 AA, US2006163831 AA, US2005279598 AA, US1056492 A, KR20020069477 A, JP2003081168 A2, EP1840021 A2,
Forward Citations:	US9415827, US9415826, US9004518, US2015284045, US2015145232, US2015069734,

Abstract:
Source: US2013187357A A vibration dampening bicycle fork assembly includes a pair of fork legs that sweep in a forward direction relative to a longitudinal axis of a steerer tube that extends in an opposite direction from a fork crown. A dropout is secured to a distal end of each fork leg and a dampener formed of an elastomeric material wraps about at least a portion of an exterior surface of each dropout. A passage extends through the dropout, is offset from the respective fork leg and is aligned with a pair of openings formed in opposite lateral sides of the dampener. An optional fastener cooperates with the passage and the openings and has a mass that is selected to further counteract vibration of the respective fork leg.



0) US2014306496A – ADJUSTABLE BICYCLE SEAT

80) Family number: 57601227 (US2014306496A) © PatBase

Title: ADJUSTABLE BICYCLE SEAT

Priority: US20130812620P 20130416 US20140254819 20140416

Family:

Publication number	Publication date	Application number	Application date
US2014306496 AA	20141016	US20140254819	20140416

Probable Assignee: WOODWARD JOHN

Assignee(s):(std)**:** WOODWARD JOHN

Inventor(s):(std)**:** WOODWARD JOHN

International class (IPC 8–9)**:** B62J1/10 (Advanced/Invention)

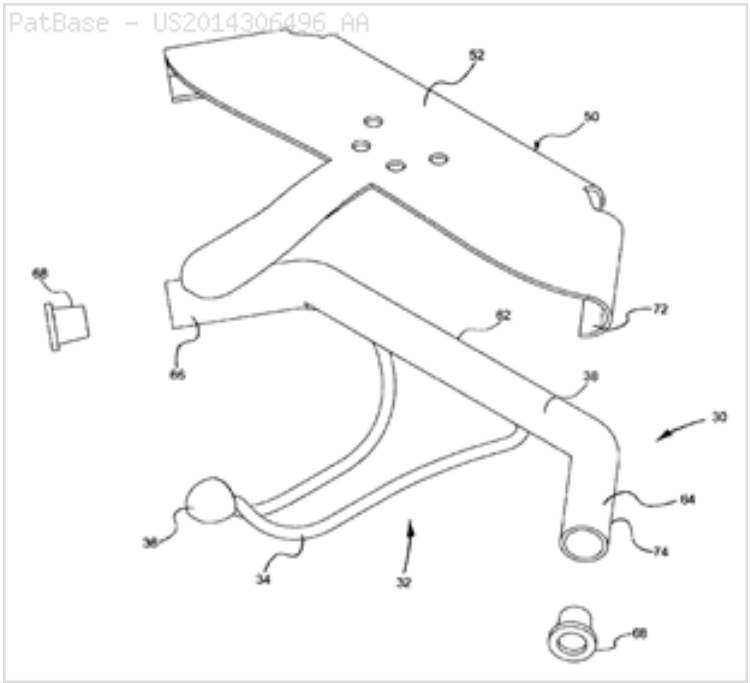
CPC: B62J1/10 B62J1/007

US class: 297/204

Classification Explorer

Cited documents: USD728952 S1, US8002347 BB, US6705674 BA, US6422647 BA, US6290291 BA, US6012772 A, US6007149 A, US5890760 A, US5879050 A, US5597202 A, US5513895 A, US4429915 A, US2014110980 AA, US2013334787 AA, US2013214568 AA, US2013207423 AA, US2012242119 AA, US2004004375 AA,

Abstract:
Source: US2014306496A A multi–adjustable bicycle seat configured to conform to a cyclist having a flexible material suspended over the front and rear portions of a frame, wherein at least one adjusting mechanism causes the flexible material to adjust the tension throughout the seat, flatten or otherwise deform the seat to the desired comfort of a rider. The seat material may be completely removable from the frame portion.



0) US2014251077A – BICYCLE PEDAL

81) Family number: 57358360 (US2014251077A) © PatBase

Title: BICYCLE PEDAL

Priority: US20130790210 20130308 US20130792210 20130311 US20150595173 20150112 US20150597463 20150115 US20130961463P 20131015 US20140996792P 20140515

Family:

Publication number	Publication date	Application number	Application date
US2014251077 AA	20140911	US20130792210	20130311
US2015122078 AA	20150507	US20150595173	20150112
US2015194926 AA	20150709	US20150597463	20150115
US9318996 BB	20160419	US20150597463	20150115

Probable Assignee: BUSHONG JR JAMES H

Assignee(s):(std)**:** BUSHONG JR JAMES H ; CHEN CHUNG I

Inventor(s):(std)**:** BUSHONG JR JAMES H ; CHEN CHUNG I

Agent(s): JAMES MICHAEL; JAMES M SMEDLEY LLC

International class (IPC 8–9)**:** B62M3/08 F24J2/28 H02S40/44 (Advanced/Invention)

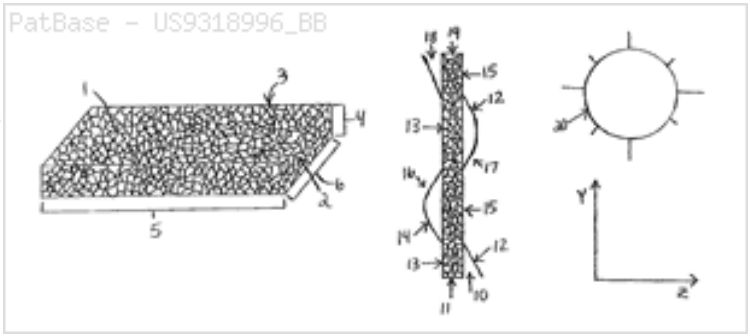
CPC: H02S40/44 F24J2/28 B62M3/08 Y02B10/20 Y02B10/70 Y10T74/2168 Y02E10/44

US class: 1/1 126/647 136/248 74/594.4

Classification Explorer

Cited documents: US669676 A, US527520 A, US4445397 A, US4262657 A, US3807255 A, US3760653 A, US3485113 A, US341946 A,

Abstract:
Source: US2014251077A A bicycle pedal includes a pedal body and a central shaft, the pedal body having a through hole opened therethrough, two openings of the through hole being defined as a first opening end and a second opening end respectively, the central shaft having a threaded portion and a limiting segment formed at two ends thereof respectively, at least one limiting portion formed axially along the limiting segment, the central shaft pivotally passing through the through hole of the pedal body with the threaded portion being exposed out of the first opening end, the limiting portion being extended from the second opening end of the through hole. Under this arrangement, the pedal body is positioned between the threaded portion and the limiting portion of the central shaft because of the through hole.



0) US6619683B – FRONT–FORK TELESCOPING BICYCLE HANDLEBAR ASSEMB...

82) Family number: 29067226 (US6619683B) © PatBase

Title: Front–fork telescoping bicycle handlebar assembly

Priority: US20020117531 20020404

Family:

Publication number	Publication date	Application number	Application date
US6619683 BA	20030916	US20020117531	20020404

Probable Assignee: LIN JUNG TE

Assignee(s):(std)**:** LIN JUNG TE ; LIN RUEY SHONG NELSON

Inventor(s):(std)**:** LIN JUNG TE ; LIN RUEY SHONG NELSON

International class (IPC 8–9): B62K21/02 (Advanced/Invention); B62K21/00 (Core/Invention)

International class (IPC 1–7): B62K21/00

CPC: B62K21/02

European class: B62K21/02

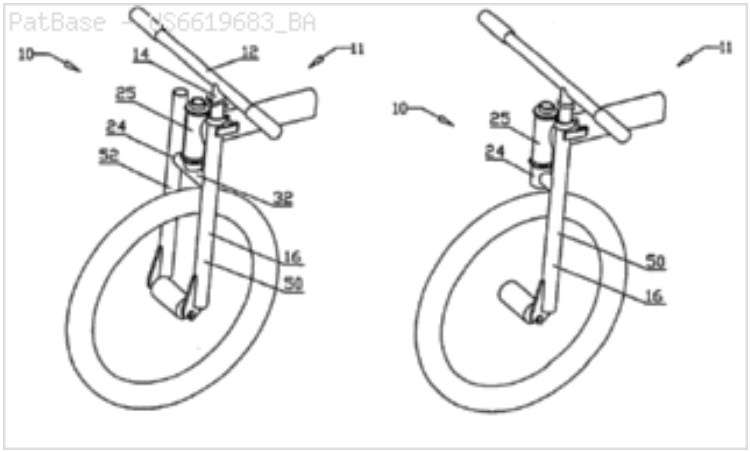
US class: 280/263 280/270 280/279

Classification Explorer

Cited documents: US5775708 A, US5351979 A,

Forward Citations: USD604673, US9205890, US8181978, US7685904, US7296813, US7246809, US2015084312, US2007068331, US2006076752, US2006001231,

Abstract:
Source: US6619683B A telescoping bicycle handlebar assembly is disclosed wherein a crossbar adapted to provide support for a rider's hands during a bicycle ride is attached to a downbar extending substantially perpendicularly therefrom. A hollow tube adjacent to the front wheel of the bicycle and displaced from the bicycle's centerline is adapted to receive various lengths of the downbar depending on the height at which the handlebars are to be placed. A securing device is attached to the hollow tube and adapted to selectively secure the downbar in place inside the tube.



0) WO04024545A1 – RECUMBENT BICYCLE BICYCLETTE A CONDUITE COUCHEE...

83) Family number: 30396380 (WO04024545A1) © PatBase

Title: RECUMBENT BICYCLE

Priority: WO2002CA01393 20020913

Family:

Publication number	Publication date	Application number	Application date
AU2002325735 AA	20040430	AU20020325735	20020913
WO04024545 A1	20040325	WO2002CA01393	20020913

Probable Assignee: GROUPE PROCYCLE INC

Assignee(s):(std)**:** BROWN DENIS ; GROUPE PROCYCLE INC ; ROY CHRISTIAN

Inventor(s):(std)**:** BROWN DENIS ; ROY CHRISTIAN

Inventor(s): CHRISTIAN ROY ; DENIS BROWN

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B62J1/08 B62K3/00 (Advanced/Invention); B62J1/00 B62K3/00 (Core/Invention)

International class (IPC 1–7): B62J1/08 B62K3/00

CPC: B62J1/08 B62K3/005

European class: B62J1/08 B62K3/00C

Classification Explorer

Cited documents: FR2681571, EP0870672, DE29719662 U,

Forward Citations: FR2898576,

Abstract:
A compact and low profile recumbent bicycle is provided with a curved tubular frame configuration. The frame includes a curved top tube having a short front section extending forwardly and upwardly at a relatively large angle and a long straight rear section extending rearwardly and upwardly at a relatively small angle. A front tube is secured to the front end of the top tube for receiving a forks and steering shaft assembly which is supported on a front wheel. A first tubular support assembly is secured to the front and the top tubes for supporting a crank powering assembly. A second tubular support assembly is secured to the first tubular support assembly and the top tube, to be supported on a rear wheel. The second tubular support assembly includes at least one curved tube to form an arced configuration. The frame configuration provides a preferable sitting position to keep the rider in a low profile while facilitating the riding of the bicycle.

PatBase - WO04024545_A1

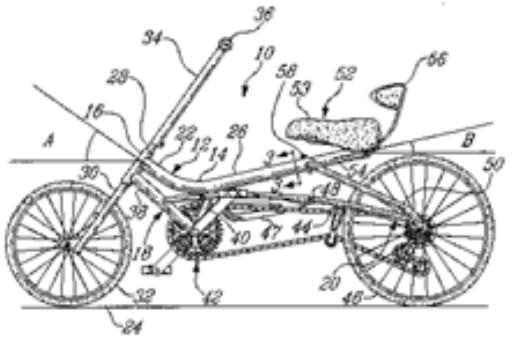


FIG. 1

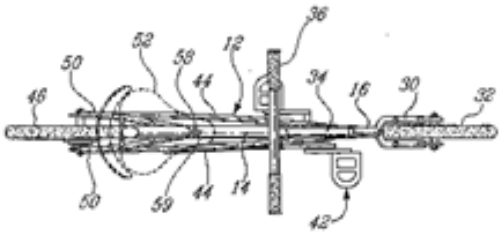


FIG. 2

0) FR2324500A – PERFECTIONNEMENTS APPORTES AUX BICYCLETTES OU A...

84) Family number: 3591093 (FR2324500A) © PatBase

Title: PERFECTIONNEMENTS APPORTES AUX BICYCLETTES OU ANALOGUES DEMONTABLES ET PLIANTES COLLAPSIBLE AND FOLDING BICYCLE – HAS TWO FRAME SECTIONS HELD TOGETHER BY MALE AND FEMALE PARTS AND HANDLEBARS ROTATABLE TO STOWED POSITION

Priority: FR19750028914 19750922

Family:

Publication number	Publication date	Application number	Application date
FR2324500 A1	19770415	FR19750028914	19750922
FR2324500 B3	19780505	FR19750028914	19750922

Probable Assignee: VILLES JEAN PIERRE

Assignee(s):(std)**:** VILLES JEAN PIERRE

International class (IPC 8–9)**:** B62K15/00 (Advanced/Invention); B62K15/00 (Core/Invention)

International class (IPC 1–7)**:** B62K15/00

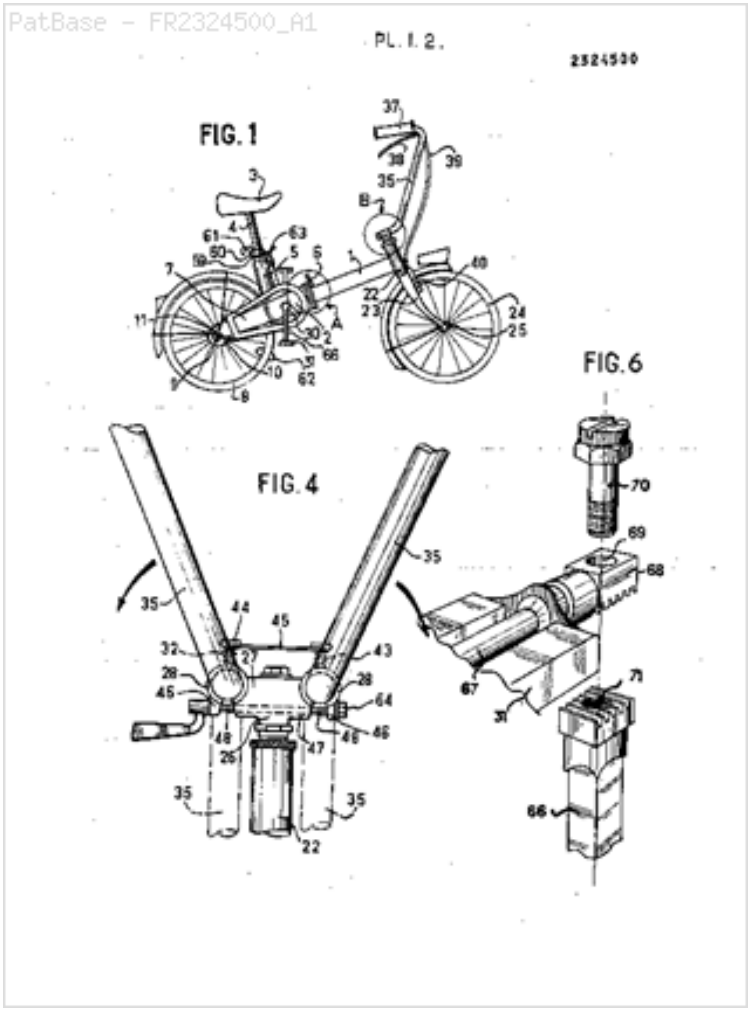
CPC: B62K15/00 B62K2015/001

European class: B62K15/00 L62K15/00B

Classification Explorer

Forward Citations: FR2449221, DE19738969,

Abstract:
Source: FR2324500A (Claim 1)
REVENDICATIONS i.– Bicyclette ou analogue demontable et pliante, caracterisee en ce qu'elle comprend essentiellement,en aseo–ciation 2 – un cadre realise en deux parties qui sont rendues solidaires l'une de l'autre, en position d'utilisation, a l'aide d'un dispositif de jonction par insertion d'une piece duale de l'une des parties dans une piece femelle de l'autre partie, – un montant equipe d'une selle, monte coulissant et reglable dans le montant arriere de la bicyclette. – un guidon, connu en lui–meme, constitue par deux bras solidaires du montant avant de la bicyclette, rotatifs dans un champ de rotation pouvant balayer 180 environ, a l'aide de moyens de rotation conformes de maniere a amener les bras dans une position de non utilisation sensiblement parallele au plan de symetrie de la bicyclette, de part et d'autre de ce dernier, – et des pedales equipees de moyens d'articulation permettant leur rotation autour de l'axe de la manivelle qui les porte. 20– Bicyclette ou analogue selon la Revendication I, caracterisee en ce que le dispositif de jonction par insertion, des deux elements de structure qui constituent le cadre de la bicyclette, est constitue par deux logements tubulaires disposes lateralement a l'extremite libre de l'un deselements constitutifs du cadre et dans lesquels viennent E ¦ inserer deux tiges ou analogues portees par l'extremite libre de l'autre element constitutif du cadre. 30– Bicyclette ou analogue selon la Revendication 1, caracterisee en ce que les tiges de jonction s'inserent dans des orifices correspondants menages dans une plaque qui avance sensiblement perpendiculairement par rapport au plan qui delimite l'extremite de l'element constitutif qui la porte. 40– Bicyclette ou analogue selon l'une quelconque desRevendications 1 a 3, caracterisee en ce au'une rallonge munie d'une piece de jonction mble a l'une de ses extremites, et dune piece de jonction femelle a son autre extremite, est interposee entre l'element de structure avant et l'element de structure arriere qui constituent le cadre, pour permettre l'adaptation de la bicyclette a la morphologie de ses utilisatexs. The collapsible and folding bicycle has a frame in two parts held together by insertion of a male part of one into the female part of the other. A column with saddle is adjustable by sliding in the rear frame upright, and handlebars rotate through 180 deg. in the front column into a stowed position parallel to the bicycle centre line on either side of it. The pedals have joints allowing their rotation about the centre lines of the crank arms which carry them. The parts holding the frame sections together can comprise two bars at the free end of one section, fitting in tubular sockets to the side of the free end of the other one.



0) US5095768A – SPEED CONTROL APPARATUS FOR A BICYCLE

85) Family number: 4955176 (US5095768A) © PatBase

Title: SPEED CONTROL APPARATUS FOR A BICYCLE

Priority: JP19890091227 19890411

Family:

Publication number	Publication date	Application number	Application date
DE69004614 D1	19931223	DE19906004614	19900410
DE69004614 T2	19940324	DE19906004614T	19900410
EP0392457 A1	19901017	EP19900106842	19900410
EP0392457 B1	19931118	EP19900106842	19900410
JP2270693 A2	19901105	JP19890091227	19890411
JP2848842 B2	19990120	JP19890091227	19890411
US5095768 A	19920317	US19900508604	19900411

Probable Assignee: SHIMANO INC

Assignee(s):(std)**:** SHIMANO CORP ; SHIMANO INDUSTRIAL CO ; SHIMANO KK

Assignee(s): SHIMANO INDUSTRIAL CO LTD ; SHIMANO INDUSTRIAL CO LTD SAKAI OSAKA JP ; SHIMANO INC ; SHIMANO INC OSAKA JP ; SHIMANO IND CO LTD

Inventor(s):(std)**:** NAGANO MASASHI

Inventor(s): NAGANO MASASHI IZUMI SHI OSAKA JP

Designated states: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

International class (IPC 8–9)**:** B62M25/04 (Advanced/Invention); B62M25/00 (Core/Invention)

International class (IPC 1–7)**:** B62K23/06 B62M25/04 F16C1/00 G05G13/00

CPC: Y10T74/20043 Y10T74/20287 Y10T74/20438 B62M25/04

European class: B62M25/04

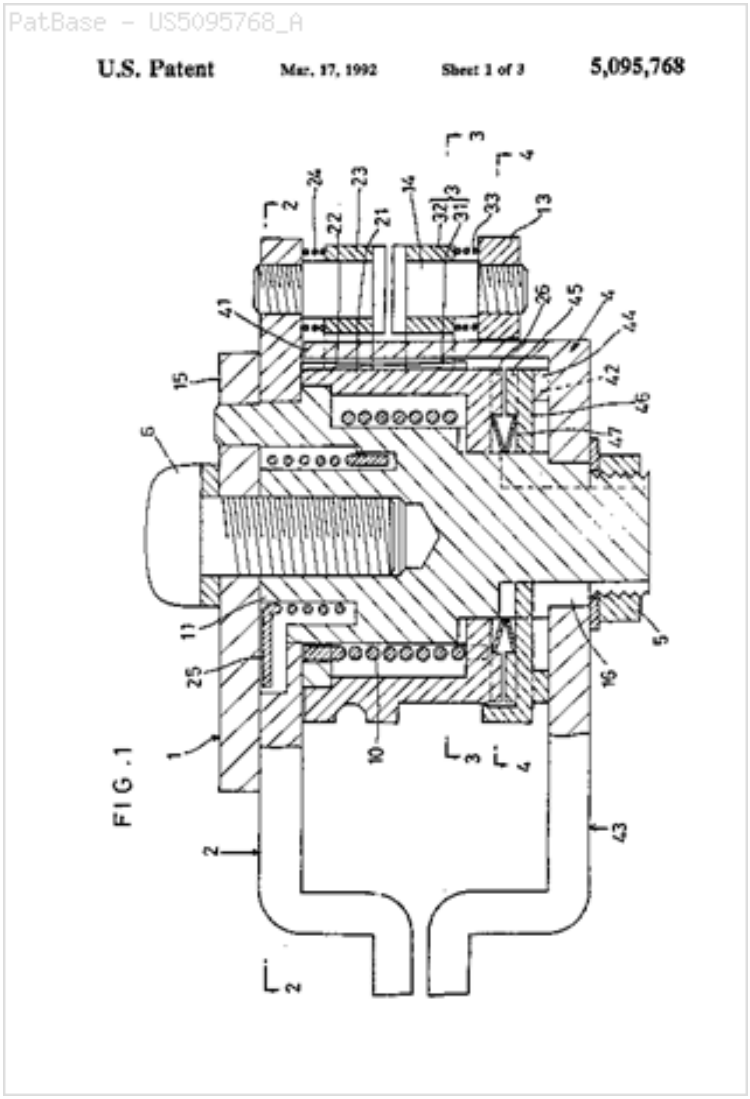
US class: 74/473.14 74/475 74/489 74/502.2

Classification Explorer

Cited documents: US4885951 A, US4864885 A, US4751852 A, US4532825 A, US4343201 A, US4232564 A, US3972247 A, US3943794 A, US2854852 A, JP63116989 A2, JP60149485 U1, JP60149485 U, GB2183796 A1, GB2169973 A1, GB2012893 A1, GB1525468 A, EP0371429 A2, DE2542373 A1,

Forward Citations: USRE43074, USD557653, US9446813, US9334020, US9163707, US8777788, US8096208, US8016705, US7882763, US7669502, US7665382, US7437969, US6993995, US6450060, US6293882, US5921138, US5799542, US5732593, US5673594, US5609064, US5577413, US5564310, US5438889, US5355745, US5325735, US5203213, US5186072, US2008264197, US2008257089, US2008230664, US2008190234, US2008092690, US2007221008, US2007193390, US2006070479, US2006016288, US2003024339, TWI333918, EP2374706, EP1911667, EP1264763, EP0906864, EP0867357, EP0863070, EP0863069, EP0718185, EP0647557, EP0605741, EP0485863, EP0406813,

Abstract:
Source: US5095768A A bicycle speed control apparatus according to this invention comprises a wind−up control device including a take−up element for winding a speed control cable, and a position maintaining mechanism for maintaining the take−up element in position. The control device is operable to effect change speed by rotating the take−up element for winding the cable. The present invention is characterized in that the position maintaining mechanism is operable to maintain the take−up element in a plurality of change speed positions and in overshift positions displaced from the change speed positions in a cable winding direction, respectively. The invention further provides a position maintenance canceling device operable to release the take−up element maintained in position by the position maintaining mechanism, and to limit an amount of rotation of the take−up element in the rewinding direction to one change speed position when the take−up element has been maintained in one overshift position associated therewith, and to a different change speed position in the rewinding direction when the take−up element has been maintained in one change speed position.



0) US5509678A – RECUMBENT BICYCLE

86) Family number: 12495727 (US5509678A) © PatBase

Title: Recumbent bicycle

Priority: US19940188036 19940128 US19950406647 19950320

Family:

Publication number	Publication date	Application number	Application date
US5509678 A	19960423	US19950406647	19950320

Probable Assignee: BIKEE CORP

Assignee(s):(std)**:** ATWOOD PAUL A ; ULLMAN DAVID G

Assignee(s): BIKEE CORP

Inventor(s):(std)**:** ATWOOD PAUL A ; ULLMAN DAVID G

International class (IPC 8–9)**:** B62K3/00 (Advanced/Invention); B62K3/00 (Core/Invention)

International class (IPC 1–7)**:** B62K3/02

CPC: B62K3/005

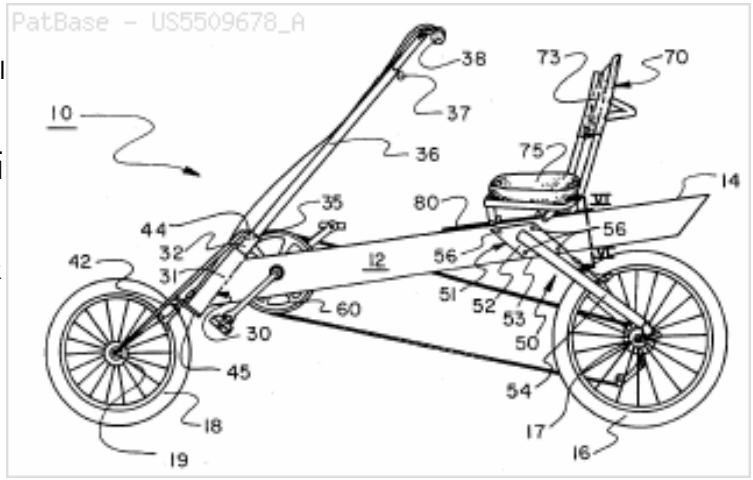
European class: B62K3/00C

US class: 280/281.1 280/287 280/288.1

Classification Explorer

Cited documents: US600046 A, US583130 A, US582279 A, US5364160 A, US5201538 A, US4925203 A, US4824130 A, US4789173 A, US4786070 A, US4659098 A, US4548421 A, US4527811 A, US4283070 A, US4129317 A, US3811705 A, US3807762 A, US3588144 A, DE3540976 A1,

Forward Citations: WO13041093, WO04071857, WO04071857, WO0003913, WO0003913, WO0003913, USD430071, USD425827, USD422946, US9550542, US7753388, US7654549, US7584977, US7108097, US6845997, US6695335, US6616164, US6527291, US6318744, US5951034, US5853062, US5851017, US5620196, US2009072511, US2009066054, US2008296864, US2007222173, US2004245744, US2004239072, NL1010435, NL1009665, EP1144241, EP0997373, EP0982177, DE102011053875,



Abstract:
Source: US5509678A A recumbent bicycle has a tubular frame member with a longitudinal axis running from front to rear. A rear support module includes a saddle for nestingly embracing a rear portion of the frame member. Cantilever support members extend downward from the saddle to free ends which are attached to an axle for a rear wheel. A head tube and bearing attached to the front of the frame member support a head shaft and a fork with a bifurcated lower portion suitable for mounting a front wheel. The fork lies generally in a plane and is supported, set forward of the head shaft, by extension plates such that the head shaft axis intercepts the fork plane. A drive sprocket assembly is at the front of the frame member. A seat assembly has opposing track slides engaging a track at the top of the frame member. The slides can be drawn together to clamp the track and fix the seat. The fork and rear support member are of such relative lengths that the front of the frame member is closer to a supporting surface than the rear of the member and, when the seat is moved along the track toward the sprocket assembly, it also moves toward the steering stem and the supporting surface.

87) Family number: 35078582 (CN2927963Y)

© PatBase

Title: Electric floor sweeping and dust suction bicycle

Priority: CN200620101585U 20060313

Family:

Publication number	Publication date	Application number	Application date
CN2927963 Y	20070801	CN200620101585U	20060313

Probable Assignee: WANG BAOGEN

Assignee(s):(std)**:** WANG BAOGEN

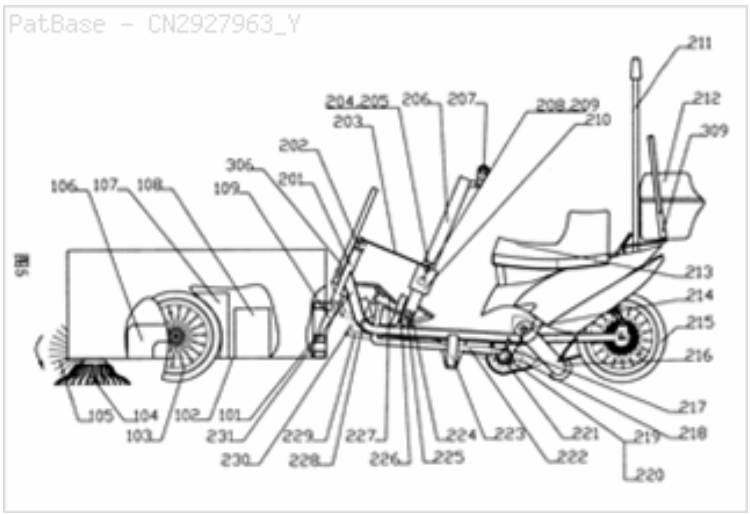
Inventor(s):(std)**:** WANG BAOGEN

Inventor(s): BAOGEN WANG

International class (IPC 8–9): A47L11/24 (Advanced/Invention); A47L11/00 (Core/Invention)

Classification Explorer

Abstract:
Source: CN2927963Y The utility model relates to an electro–motion floor sweeping and dust suction bicycle, which is an electro–motion floor sweeping and dust suction device, in particular a the sweeping the floor and dust suction device connected with an electro–motion bicycle ridden by men, performing dust section for large public places with a high requirement for the cleanness of the environment such as assembly halls, gymnasiums, hospitals, high and new technology factories and pharmacy factories and the like. The utility model comprises an electro–motion bicycle and a floor sweeping and dust suction device, characterized in that the floor sweeping and dust suction device is a stainless steel case without cover, the front end of which is provided with a main besom and two deputy besoms, a plurality of cleaners and battery cells needed by the cleaners are arranged in the case, the bottom of the case behind the main besom is provided with a dust suction mouth, two side surfaces are provided with two front wheels, the back side of the case provided with a front breeches pipe is connected with the front superposed shotgun of the electro–motion bicycle frame by the nut. The utility model has the advantages in that the low work efficiency in public places are resolved, where cleaners are pushed by people, the use of alternating current requires towing wires is prevented which is not suitable for long–distance running work and causing the turning inconvenient.



88) Family number: 49131053 (US2011214501A) © PatBase

Title: SENSOR DEVICE AND METHOD FOR MONITORING PHYSICAL STRESSES PLACED ON A USER

Priority:

EP20110861712 20111206 US20080128498 20080528 US20110070649 20110324
US20120585891P 20120112 US20130741294 20130114 US20130749665 20130124
US20130800981P 20130315 US20130867064P 20130817 US20130755362P 20130122
US20130872530P 20130830 US20130896351P 20131028 US20130900274P 20131105
US20130889878P 20131011 US20130889876P 20131011 US20140217337 20140317
US20140159062 20140120 US20140216801 20140317 US20140939972P 20140214
US20140151700 20140109 US20140505106 20141002 US20140149717 20140107
US20140532771 20141104 US20140525031 20141027 US20140456289 20140811
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US20150709541 20150512 US20150826664 20150814 US20150795776 20150709
WO2011US63535 20111206 US20150826691 20150814 US20150945359 20151118
US20160166111 20160526 US20160332992 20161024

Family:

Publication number	Publication date	Application number	Application date
DE602011026051 D1	20160616	DE201160026051T	20111206
EP2688472 A1	20140129	EP20110861712	20111206
EP2688472 A4	20140827	EP20110861712	20111206
EP2688472 B1	20160427	EP20110861712	20111206
US2011214501 AA	20110908	US20110070649	20110324
US2013211281 AA	20130815	US20130741294	20130114
US2014200834 AA	20140717	US20140217337	20140317
US2014208216 AA	20140724	US20140159062	20140120
US2015025816 AA	20150122	US20140505106	20141002
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WO15069659 A1	20150514	WO2014US63927	20141104	
WO17030781 A1	20170223	WO2016US45124	20160802	

Probable Assignee: TEALIUM INC

Assignee(s):(std)**:** ROSS JANICE ; SANGHERA JAGDEEPINDER SINGH ; ROSS JANICE MARIE ; ROSS JR JOHNNY ; SANGHERA JAGDEEPINDER ; TEALIUM INC ; MEDHAB LLC

Assignee(s): MEDHAB LLC MANSFIELD ; MEDHAB ; SILICON VALLEY BANK

Inventor(s):(std)**:** ANDERSON MICHAEL ; BROWNING ADRIAN LESLIE ; CURRY TOWNELEY O HAGAN FIANN JAMES ; FAURHOLT KEVIN THOMAS ; GAVIN TYRON ; GLOMMEN CHARLES ; GLOMMEN CHARLES SCOTT ; KOO JASON LAP WING ; ROSS JANICE ; ROSS JANICE MARIE ; ROSS JOHNNY ; ROSS JR JOHNNY ; SANGHERA JAGDEEPINDER ; SANGHERA JAGDEEPINDER SINGH ; SULIN COLIN DOUGLAS ; WILLIAMS BENJAMIN RICHARD ; WILLIAMS BENJAMIN RICHARD II ; WILLIAMS II BENJAMIN RICHARD ; XU LARRY

Inventor(s): SANGHERA JAGDEEPINDER MIDLOTHIAN ; ROSS JOHNNY MANSFIELD ; ROSS JANICE MANSFIELD

Agent(s): VIERING JENTSCHURA AND PARTNER MBB PATENT U RECHTSANWAELTE; VERHEES GODEFRIDUS JOSEPHUS MARIA; VIERING JENTSCHURA AND PARTNER MBB PATENT U RECHTSANWAELTE; ERIC; KNOBBE MARTENS OLSON AND BEAR LLP; KARICH AND ASSOCIATES; KARICH ERIC; ALTMAN DANIEL E; DELANEY KAROLINE A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): A43B3/00 A61B5/00 A61B5/01 A61B5/103 A61B5/11 A61B5/22 A63B24/00 G01K13/00 G01L1/26 G01L25/00 G01L3/24 G01L5/00 G01P7/00 G06F15/16 G06F15/173 G06F17/00 G06F17/21 G06F17/22 G06F17/30 G06F3/0484 G06Q30/02 G06Q50/10 G08B1/08 G08B23/00 H04L12/24 H04L29/06 H04L29/08 H04W4/20 H05K3/02 H05K3/10 (Advanced/Invention); G06F12/00 G06F17/27 H04W4/02 (Advanced/Non–invention)

CPC: A43B7/00 A61B5/01 G01K13/002 H04W4/028 H04W4/206 A61B5/6831 A61B2562/046 G06F17/30899 A61B5/743 G06F17/30902 G06F3/04842 H04L41/22 H04L41/0803 H04L41/50 H04L67/02 H04L67/32 G06F3/0484 H04L67/306 G06F17/3089 G06F17/2288 G06Q30/0201 A61B5/0002 A43B5/14 A61B5/1118 A61B5/1123 A61B5/221 A61B2560/0223 A61B5/7425 G01P7/00 A61B5/486 A61B2503/10 G01L5/0052 G01L25/00 G01L3/24 G01L1/18 G01L1/2287 G01L1/26 H04L67/42 G06F17/2247 H04L67/2847 G06F17/30132 G06F17/30702 A61B5/1112 A61B5/1122 A61B5/7278 A61B2560/0252 A61B2560/0475 A61B2562/166 G01L5/00 A63B23/0494 A63B2071/0652 A63B2220/16 A63B2225/20 A63B2225/50 A43B3/0005 A61B5/1038 A61B5/11 A61B5/6807 A61B5/6811 A61B2562/0219 A61B2562/0247 A61B2562/12 A43B17/00 A61B5/112 A61B5/6898 H04L67/20 Y10T29/49128 H04M1/7253 H04L67/146 G01C22/006 H04L67/10 H04L67/22

European class: A43B3/00E A43B7/00 A61B5/103P2 A61B5/11 A61B5/68B1D3 A61B5/68B3B K61B562/02C

US class: 1/1 29/831 340/539.11 340/539.12 340/573.1 340/573.7 340/665 340/666 340/669 36/1 600/549 600/587 600/592 600/595 702/104 702/41 702/44 705/7.29 707/756 709/203 709/204 709/206 709/213 709/223 709/227 715/233 715/234 715/235 715/246 715/273 715/277 715/735 715/736 73/172 73/172P

Classification Explorer

Cited documents: WO13003302 A1, WO12128801 A1, WO11128924 A1, WO09112281 A1, WO09009109 A1, WO09005373 A1, WO0110508 A1, US9288256 BB, US9116608 BB, US9081789 BB, US8990298 BA, US8904278 BA, US8843827 BB, US8805946 BA, US8560610 BB,

US8539345 BB, US8460001 BA, US8429243 BA, US8407321 BB, US8384551 BB, US8375319 BB, US8316188 BB, US8280681 BB, US8131861 BB, US8019777 BB, US8010890 BB, US7992135 BA, US7908336 BB, US7890461 BB, US7823059 BB, US7818895 BB, US7805670 BB, US7685200 BB, US7685168 BB, US7607243 BB, US7607243 B1, US7596891 BB, US7596891 B1, US7426873 BA, US7355519 BB, US7277021 BB, US7277021 B1, US7258026 BB, US7254903 BB, US7191644 BB, US6993965 BB, US6993954 BA, US6964205 BB, US6836799 BA, US6836744 BA, US6807869 BB, US6807869 B1, US6578291 BB, US6578291 B1, US6360597 BA, US6356856 BA, US6273863 BA, US6122846 A, US6059576 A, US6038935 A, US6032530 A, US6024575 A, US5996250 A, US5980472 A, US5929332 A, US5905209 A, US5875571 A, US5845417 A, US5815954 A, US5724265 A, US5675914 A, US5661916 A, US5642096 A, US5619186 A, US5452269 A, US5437289 A, US5429140 A, US5408873 A, US5408760 A, US5373651 A, US5357696 A, US5323650 A, US5269081 A, US5233767 A, US5107854 A, US5042504 A, US4814661 A, US4648923 A, US2016381122 AA, US2016072905 AA, US2016044128 AA, US2015212992 AA, US2015200994 AA, US2015169784 AA, US2015127720 AA, US2015120858 AA, US2015066587 AA, US2014379840 AA, US2014326085 AA, US2014305004 AA, US2014304389 AA, US2014277632 AA, US2014215050 AA, US2014089330 AA, US2014081981 AA, US2014013203 AA, US2013332604 AA, US2013290480 AA, US2013282898 AA, US2013254897 AA, US2013213145 AA, US2013213144 AA, US2013191208 AA, US2013124332 AA, US2013091025 AA, US2013086484 AA, US2013073401 AA, US2013055104 AA, US2012291563 AA, US2012255160 AA, US2012221411 AA, US2012169624 AA, US2012154292 AA, US2012124131 AA, US2012096013 AA, US2012054596 AA, US2012016836 AA, US2012005257 AA, US2011314092 AA, US2011302306 AA, US2011296322 AA, US2011282739 AA, US2011260857 AA, US2011246879 AA, US2011219115 AA, US2011185016 AA, US2011167391 AA, US2011153796 AA, US2011153422 AA, US2011119374 AA, US2011113713 AA, US2011099845 AA, US2011093461 AA, US2011087446 AA, US2011082858 AA, US2011055710 AA, US2011055314 AA, US2011054809 AA, US2011054359 AA, US2011015981 AA, US2011015498 AA, US2011013713 AA, US2010324455 AA, US2010318976 AA, US2010281008 AA, US2010251128 AA, US2010228850 AA, US2010204616 AA, US2010198022 AA, US2010179967 AA, US2010004566 AA, US2009293001 AA, US2009264711 AA, US2009248494 AA, US2009235739 AA, US2009137933 AA, US2009069865 AA, US2009006945 AA, US2008244051 AA, US2008108913 AA, US2008077561 AA, US2008046562 AA, US2007250618 AA, US2007173903 AA, US2007049853 AA, US2006277198 AA, US2006271669 AA, US2006122528 AA, US2006031778 AA, US2005261869 AA, US2005261609 AA, US2005165643 AA, US2005154781 AA, US2005138143 AA, US2005125290 AA, US2005102771 AA, US2004123044 AA, US2004083259 AA, US2004054784 AA, US2004008274 AA, US2003184452 AA, US2003163287 AA, US2003097878 AA, US2003009308 AA, US2003001888 AA, US2002083167 AA, US2002078147 AA, US2001049890 AA, US2001042171 AA, RU2472557 C2, RU2433783 C2, JP2010507398 T2, JP2005224548 A2, EP1213561 A1, CN102693501 A,

Forward Citations: WO16205465, WO16201315, WO16196289, WO16109744, WO15199699, WO15026744, WO13061038, USD772546, US9582072, US9572397, US9549586, US9548618, US9538807, US9538806, US9537964, US9537862, US9486537, US9481727, US9480757, US9479609, US9453772, US9418170, US9412115, US9402578, US9366530, US9363311, US9358304, US9357366, US9357023, US9353182, US9352051, US9348490, US9345784, US9344331, US9334318, US9326723, US9314064, US9313287, US9311789, US9288256, US9271672, US9259178, US9173959, US9155803, US9133271, US9110089, US9107961, US9095305, US9090683, US9089617, US9089616, US9089615, US9022468, US9011854, US9005141, US9005140, US8986972, US8979665, US8915132, US8753275, US8471721, US8363891, US8212158, US2016345654, US2016142272, US2016114213, US2016050167, US2016044128, US2015283020, US2015264439, US2015262199, US2015237161, US2015227860, US2015216449, US2015186545, US2015169784, US2015150332, US2014200834, US2014082155, US2014059189, US2013313871, US2013150755, US2013032413, US2012184878, US2012182151, US2011306471, US2010305478, US2010258358, GB2536223, EP3095797, EP2783630, EP2762065, CN104146712,

Abstract:
Source: US2011214501A A sensor device has an insole, a sensor body abutting the insole, pressure sensors operably mounted on the sensor body for generating a pressure data signal, and an accelerometer mounted on the insole for generating a movement data signal indicating the measuring movement of the insole. A transmitter is used for transmitting the pressure data signal and the movement data signal to a reporting device having a receiver for receiving the pressure data signal and the movement data signal. The reporting device further has a processor and a computer–readable medium for storing the pressure data signal and the movement data signal.

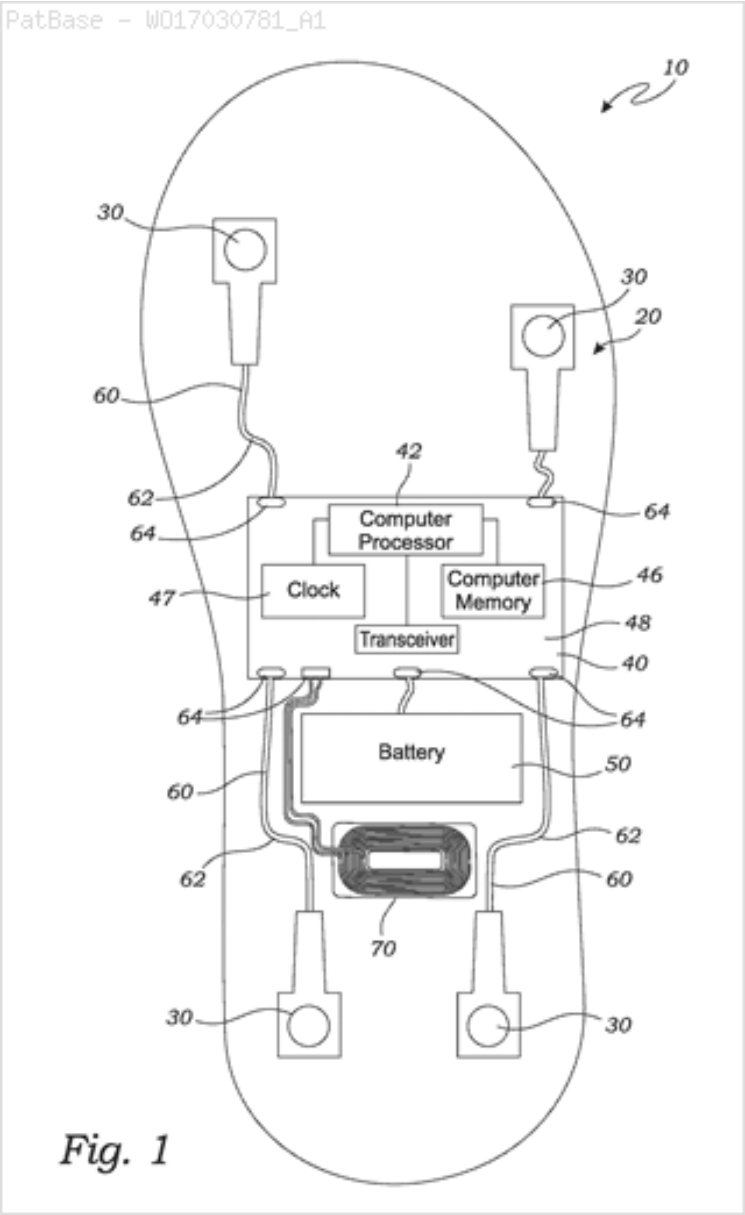


Fig. 1

0) CN201933454U – ENVIRONMENT–FRIENDLY ELECTRIC SNOW SWEEPER

89) Family number: 49420235 (CN201933454U)

© PatBase

Title: Environment–friendly electric snow sweeper

Priority: CN201120018968U 20110121

Family:

Publication number	Publication date	Application number	Application date
CN201933454 U	20110817	CN201120018968U	20110121

Probable Assignee: SHIMIN ZHANG

Assignee(s):(std)**:** SHIMIN ZHANG

Assignee(s): ZHANG SHIMIN

Inventor(s):(std)**:** SHIMIN ZHANG

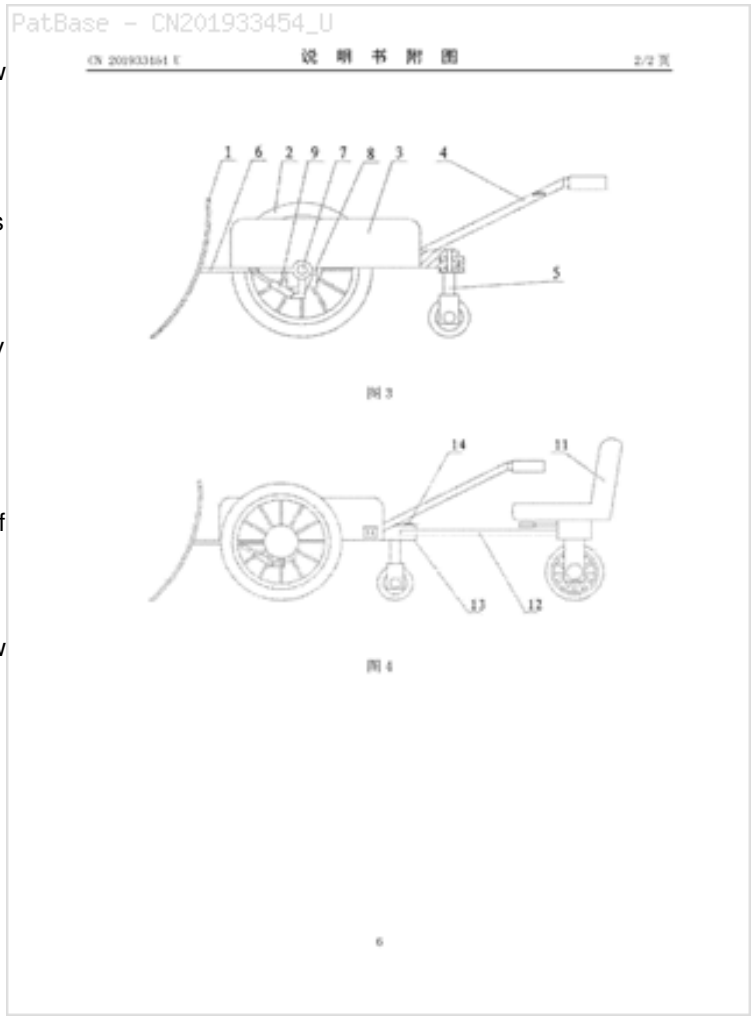
Inventor(s): ZHANG SHIMIN

International class (IPC 8–9): E01H5/06 (Advanced/Invention)

Classification Explorer

Forward Citations: CN102644254, CN102644254,

Abstract:
Source: CN201933454U The utility model provides an environment–friendly electric snow sweeper which mainly aims at solving the problem that an earth–moving engineering truck is used for sweeping snow on a road surface at present. By adopting the earth–moving truck to sweep the snow on the road surface, the cost for removing the snow is greatly increased, and the quantity of discharging carbon and sewage is large; and as certain earth–moving engineering trucks adopt steel caterpillar bands, the road surface of a city is damaged. The environment–friendly electric snow sweeper has the key points that a sweeper body adopts a manpower tricycle structure, and one bearing travelling wheel adopts the structure of a driving wheel of an electric bicycle; a cell box is fixed on a shaft sleeve and a steering wheel frame; a snow sweeping shovel is arranged at the front end of the cell box; an electric hydraulic cylinder is fixed below the shaft sleeve; and a piston of the electric hydraulic cylinder pushes against below a snow frame of the snow sweeping shovel. The environment–friendly electric snow sweeper has the beneficial effects of greatly reducing snow sweeping costs, being free of air pollution, and being a substitute product for the earth–moving earth truck.



0) CN102184599A – COMMON BICYCLE SYSTEM AND AUTOMATIC SADDLE ADJU...

90) Family number: 49586596 (CN102184599A)

© PatBase

Title: COMMON BICYCLE SYSTEM AND AUTOMATIC SADDLE ADJUSTMENT METHOD THEREOF

Priority: CN201110044858 20110225

Family:

Publication number	Publication date	Application number	Application date
CN102184599 A	20110914	CN201110044858	20110225

Probable Assignee: MING ZHONG

Assignee(s):(std)**:** MING ZHONG

Assignee(s): ZHONG MING

Inventor(s):(std)**:** MING ZHONG

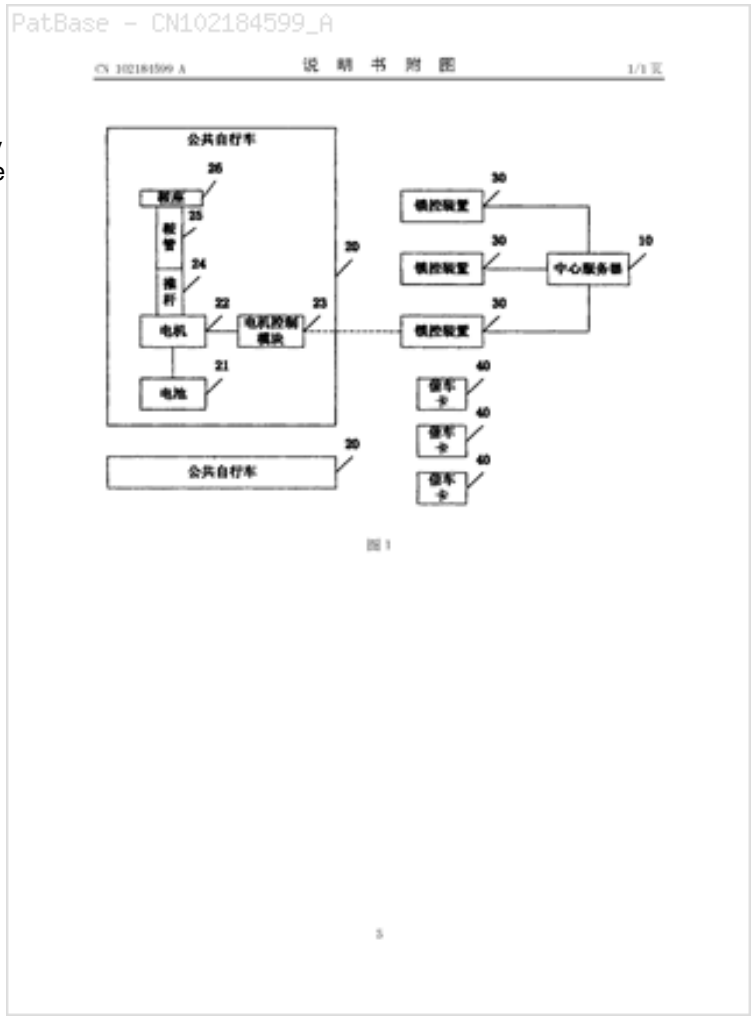
Inventor(s): ZHONG MING

International class(IPC 8–9)**:** G07F17/00 (Advanced/Invention)

Classification Explorer

Cited documents: JP2000072068 A2, CN2345428 Y, CN101409001 A,

Abstract:
Source: CN102184599A The invention discloses a common bicycle system and an automatic saddle adjustment method thereof. The common bicycle system comprises a central server, a plurality of bicycles, a plurality of lock control devices and a plurality of bicycle borrow cards; users borrow and return the bicycles by sweeping the bicycle borrow cards on the lock control devices; and the lock control devices communicate data with the central server through a network. The bicycle borrow cards are stored with user height data; a motor control module controls a motor to rotate; and a push rod drives the saddle to move to an appointed position. By application of the common bicycle system, after the user sweeps the card, the saddle of the bicycle is adjusted to the position matched with the height of the user automatically; therefore, the problem that the height of the saddle of the bicycle cannot be matched with the height of the user can be solved.



0) CN202247749U – NOVEL LIGHT SWEEPING VEHICLE

91) Family number: 51190314 (CN202247749U)

© PatBase

Title: Novel light sweeping vehicle

Priority: CN201120356974U 20110922

Family:

Publication number	Publication date	Application number	Application date
CN202247749 U	20120530	CN201120356974U	20110922

Probable Assignee: DELUN CHEN

Assignee(s):(std)**:** DELUN CHEN

Assignee(s): CHEN DELUN

Inventor(s):(std)**:** DELUN CHEN

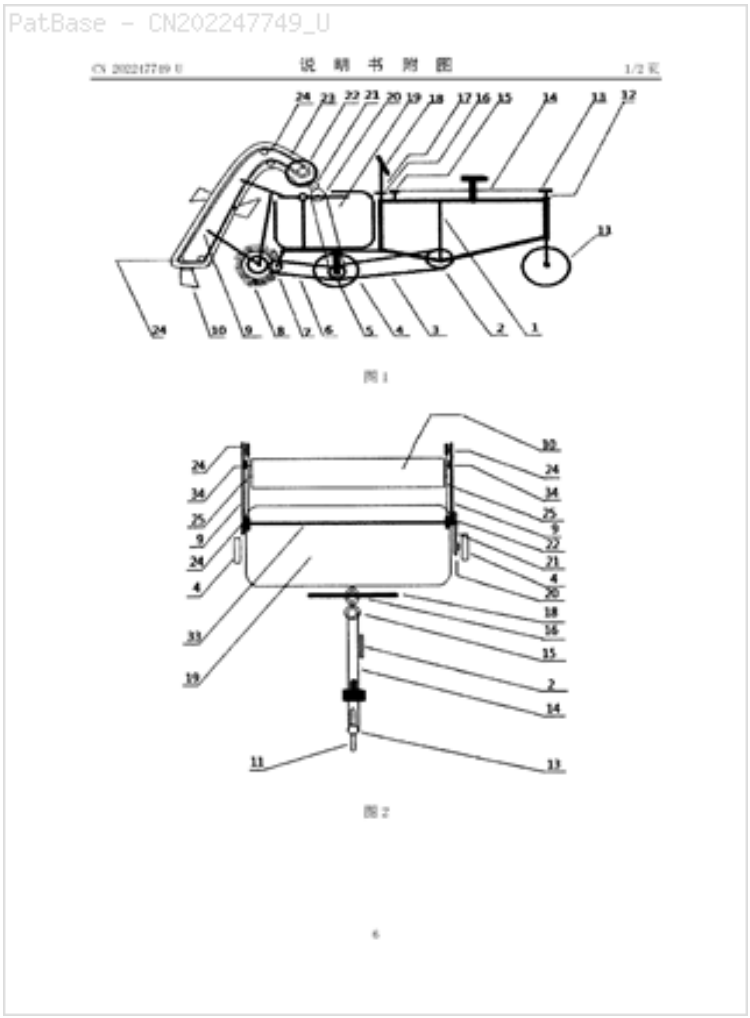
Inventor(s): CHEN DELUN

International class (IPC 8–9): E01H1/04 (Advanced/Invention)

Classification Explorer

Forward Citations: CN103015351,

Abstract:
Source: CN202247749U The utility model discloses a novel sweeping vehicle, belongs to the fields of environment friendliness and machinery and solves the problems of high technology, high cost, high consumption and original manual sweeping of a traditional sweeping machine. The novel sweeping vehicle is characterized by comprising a garbage can combination of a three–wheeled frame and a drawer so as to facilitate the dumping of garbage; a directional structure of rear wheels is reformed so as to control the travel direction of the vehicle; a power driving mechanism is arranged on the frame, thus power from a power source chain wheel is distributed and transmitted to traveling wheels and a sweeping device of the vehicle, wherein the sweeping device is arranged on a fixed bracket; the fixed bracket and the frame are connected by bolt pins and bolt pin holes which are symmetrically distributed on two sides of the fixed bracket and the frame; and the clutch states of relevant gears in the sweeping device and the frame can be changed by operating a lever handle on the fixed bracket, so that the functions of selecting sweeping operation and separately transferring garbage are achieved. The power source chain wheel can be connected with a bicycle pedal board and can be driven by labor power or can be connected and carried with a small power machine for driving. The novel sweeping vehicle has the advantages of simple structure, low cost, easiness for production, lightness, easiness for operation, high benefit, energy saving and environment friendliness.



0) CN204000704U – FLOOR SWEEPING BICYCLE

92) Family number: 58007717 (CN204000704U) © PatBase

Title:	FLOOR SWEEPING BICYCLE
Priority:	CN201420367539U 20140704

Family:

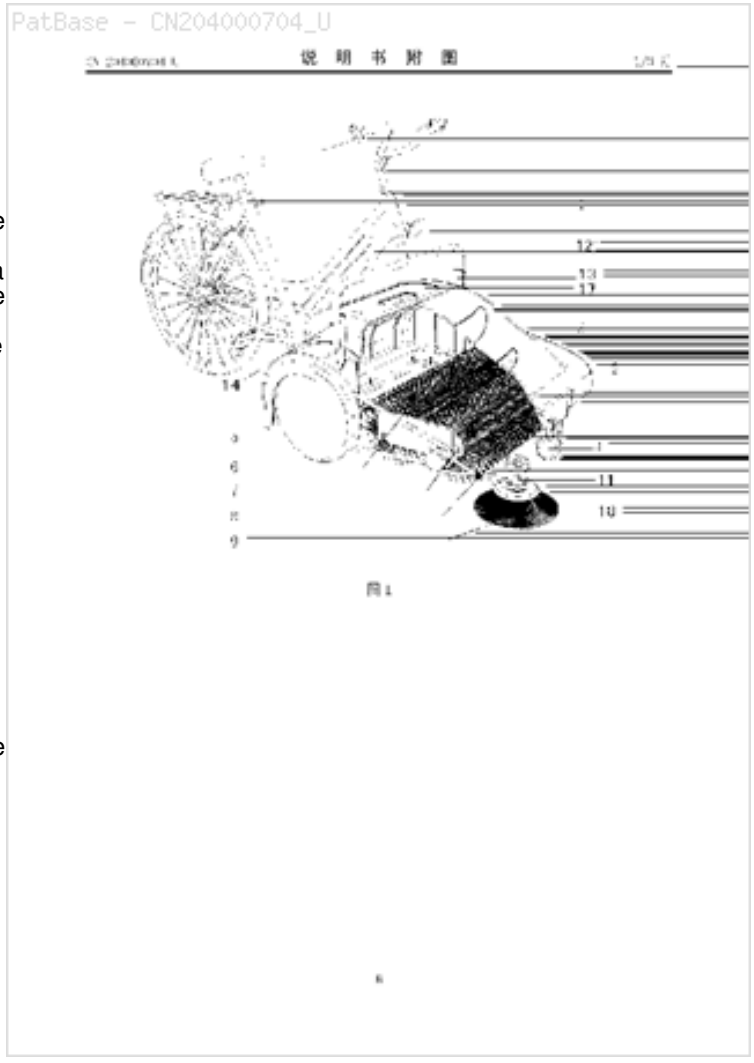
Publication number	Publication date	Application number	Application date
CN204000704 U	20141210	CN201420367539U	20140704

Probable Assignee:	ZHEJIANG INST MECH AND ELECT ENG
Assignee(s):(std):	ZHEJIANG INST MECH AND ELECT ENG ; ZHEJIANG INST OF MECHANICAL AND ELECTRICAL ENGINEERING
Inventor(s):(std):	SHEN YUE ; WU HAIFENG ; ZHUGE YAOQUAN
International class (IPC 8–9):	E01H1/05 (Advanced/Invention)

Classification Explorer

Forward Citations: CN105057246,

Abstract:
Source: CN204000704U The utility model provides a floor sweeping bicycle, relates to a sweeper, and aims to solve the problem that due to complicated existing urban road, a large−scale sweeper cannot clean a non−motorized vehicle lane, a sidewalk, a public square and a living community road. The floor sweeping bicycle comprises a bicycle component and a cleaning component; the cleaning component comprises drive wheels, a rear roller brush, a front roller brush, a garbage collecting box, a flat rolling brush and a main shell; transmission wheels are arranged on the right side surfaces of the drive wheels, the front roller brush and the rear roller brush; a transmission wheel is arranged on the flat rolling brush; the respective transmission wheels of the drive wheels, the front roller brush and the rear roller brush are connected with each other through a transmission belt; the respective transmission wheels of the front roller brush and the rear roller brush are connected with one another through the transmission belt; the main shell is embedded into a bearing bracket and is connected with bearings of the drive wheels, the front roller brush and the rear roller brush; a vertical bearing bracket is arranged at the front right end of the main shell and is connected with the flat rolling brush; the garbage collecting box between the drive wheels on the two sides is embedded behind the main shell. With the adoption of the technical scheme, the floor sweeping bicycle has the benefits that the effects of convenience and high efficiency are realized, different pavements can be adapted, and the labor intensity is reduced.



0) CN204555674U – DEVICE FOR VACUUM FURNACE SILVER IS COLLECTED

93) Family number: 59912136 (CN204555674U) © PatBase

Title: DEVICE FOR VACUUM FURNACE SILVER IS COLLECTED

Priority: CN201510189854 20150421 CN201520242501U 20150421

Family:

Publication number	Publication date	Application number	Application date
CN104792175 A	20150722	CN201510189854	20150421
CN104792175 B	20161130	CN201510189854	20150421
CN204555674 U	20150812	CN201520242501U	20150421

Probable Assignee: YONGXING DONGCHEN NONFERROUS METAL RECYCLING CO LTD

Assignee(s):(std)**:** YONGXING DONGCHEN NON FERROUS METAL REGENERATION UTILIZATION CO LTD ; YONGXING DONGCHEN NONFERROUS METAL RECYCLING CO LTD

Assignee(s): YONGXING DONGCHEN NONFERROUS METAL RECYCLING CO ; DONG CHEN YONGXING NONFERROUS METALS RECYCLING LTD ; YONGXING DONGCHEN NON FERROUS METAL REGENERATION UTILIZATION CO

Inventor(s):(std)**:** LI SHIZE ; ZHANG HONGFEI ; ZHANG HONGYU ; ZHANG YONG

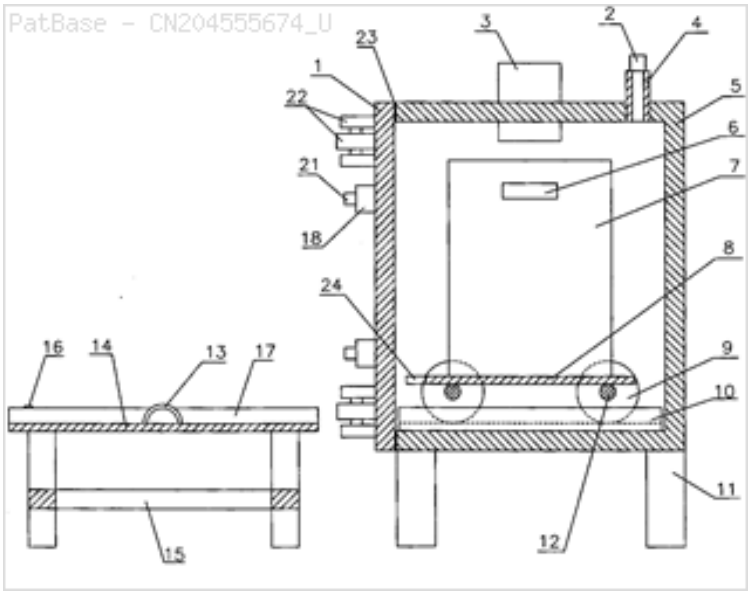
International class (IPC 8–9): C22B11/00 F27B17/00 F27D3/14 (Advanced/Invention)

Classification Explorer

Cited documents: US6210628 BA, US4883258 A, CN204555674 U, CN201724548 U, CN200965416 Y, CN1541325 A,

Forward Citations: CN104792175,

Abstract:
Source: CN204555674U Device for vacuum furnace silver is collected collects the storehouse by the door, the storehouse body, and sealed the pad constitutes with the storehouse stabilizer blade, and the door closes through the door with the storehouse body to be connected, has sealed the pad between door and the storehouse body, has the exhaust tube on the body of storehouse, the inlet pipe, the intake pipe, the storehouse is internal to have a guide rail a pair of storehouse in, and respectively there are two storehouse buckles on the left side personally experienced sth. Part of the body in the storehouse on the wall of right side, and the left side of door respectively has two knockers to encircle on the right, and four storehouse buckles and four knockers encircle one–to–ones, and storehouse buckle AND gate buckle is through the nut, and the screw rod connection has the handle on the nut, it is the cylinder to receive the storage bucket, and respectively there is a hangers on the both sides of receiving the storage bucket, the car is become with the major structure by sweep, wheel, has the sweep hangers on the sweep, the bicycle parking device is by the bicycle parking board, and the bicycle parking frame constitutes with a pair of bicycle parking guide rail, and there is a bicycle parking frame lug at the middle part of bicycle parking board, and the interior one end of every bicycle parking guide rail has a baffle, and the guide rail is the same apart from the terrain clearance in a pair of bicycle parking guide rail and a pair of storehouse, and the position phase–match



0) US4249750A – FLUID–POWER CONVERTER WITH PAIRED ROTATORS PROV...

94) Family number: 18991237 (US4249750A) © PatBase

Title: Fluid–power converter with paired rotators providing seals and displacement paths and pump–motor utilizing same

Priority: EP19800900482 19800910 US19790013844 19790222 WO1980US00171 19800221

Family:

Publication number	Publication date	Application number	Application date
AT11388 E	19850215	AT19800900482T	19800221
DE3069993 D1	19850307	DE19803069993	19800221
EP0024087 A1	19810225	EP19800900482	19800910
EP0024087 A4	19811027	EP19800900482	19800910
EP0024087 B1	19850123	EP19800900482	19800910
US4249750 A	19810210	US19790013844	19790222
WO8001785 A1	19800904	WO1980US00171	19800221

Probable Assignee: TRANSCIENCE ASSOCIATES INC

Assignee(s):(std)**:** KANTNER H ; KANTNER HAROLD H

Assignee(s): TRANSCIENCE ASSOCIATES INC

Inventor(s):(std)**:** KANTNER H ; KANTNER HAROLD H

Designated states: AT CH DE DK FR GB JP NL SE

International class(IPC 8–9)**:** B62M1/06 B62M19/00 F01C1/08 F01C1/10 F04C2/18 (Advanced/Invention); B62M1/00 B62M19/00 F01C1/00 F04C2/00 (Core/Invention)

International class(IPC 1–7)**:** B62M1/06 F01C1/08 F01C1/10

CPC: B62M19/00 F04C2/18

European class: B62M19/00 F04C2/18

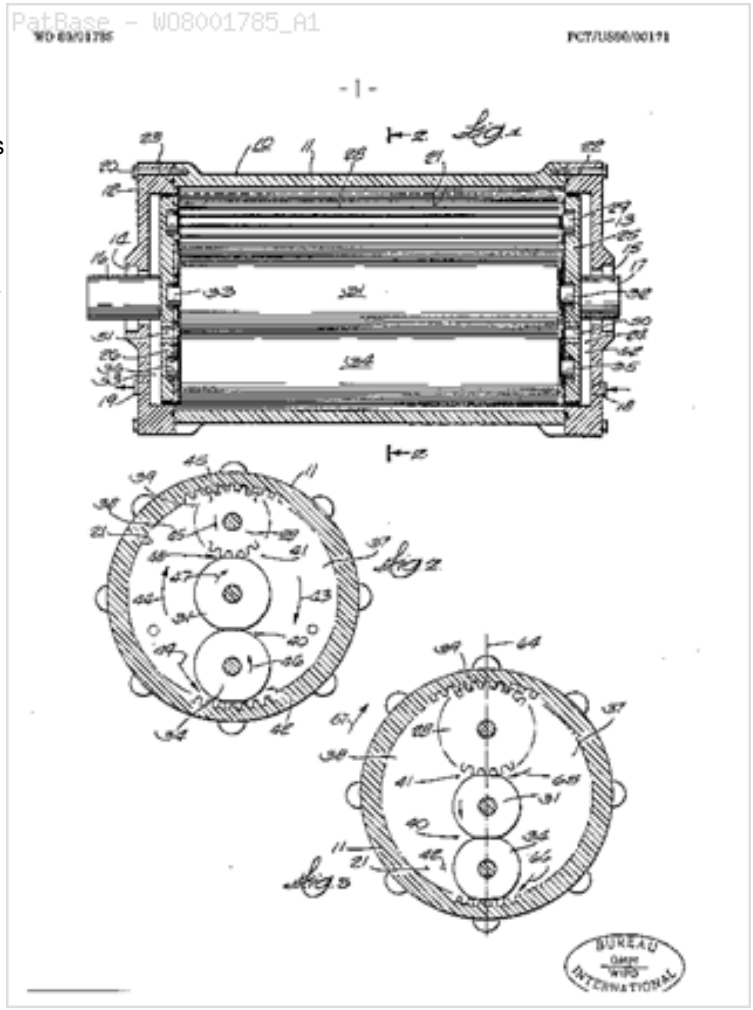
US class: 280/216 418/165 418/61.1

Classification Explorer

Cited documents: US614992 A, US485094 A, US3653791 A, US3606600 A, US3151526 A, US2745355 A, US2311237 A, GB1158638 A, FR939917 A, DE850405 A,

Forward Citations: WO9838077, WO9737887, WO9212042, WO09026882, US8281676, US6974310, US6878084, US6796126, US6104096, US6032968, US5938224, US5772225, US5685266, US5423560, US5163824, US4834620, US4347700, US2004209726, US2004009076, KR100901436, FR2677319, DE102013018266,

Abstract:
Source: US4249750A The fluid−power converter of the present invention is a pump−motor having matched rollers and matched gears arranged to provide seals and displacement paths. The pump−motor includes a plurality of rotators in series−contact to define a plurality of fluid−pressure zones. At least one of the rotators has a smooth surface and at least another of the rotators has a gear−like surface. A smooth rotator and a gear−like rotator are in contact with each other to define therebetween a displacement path whereby fluid is transferred from one zone to another zone, and at least one pair of similar rotators are in contact with each other to provide therebetween (and between the pressure zones) a seal to insure fluid−flow in only one direction between the zones at a given moment. A pair of the converters, one operating as a pump and the other as a motor, provide the motive power with free−wheeling and coaster−brake features for small vehicles such as bicycles, wheelchairs, and golf carts.



95) Family number: 30377566 (US2002058809A) © PatBase

Title: Compounds useful as reversible inhibitors of cysteine proteases

Priority:

EP20000959506	20000828	US19990153738P	19990913	US20010001134	20011102
US20010808439	20010314	US20000655351	20000908	US20000222900P	20000803
US20020261993	20021001	US20030422473	20030424	US20030422471	20030424
US20030448698	20030529	US20020261994	20021001	US20040937636	20040909
US20040937533	20040909	WO2000US23584	20000828	WO2001US08084	20010314

Family:

Publication number	Publication date	Application number	Application date
AR032136 AA	20031029	AR2000P104795	20000913
AT244235 E	20030715	AT20000959506T	20000828
AU200070818 A5	20010417	AU20000070818	20000828
AU2001245694 AA	20020322	AU20010245694	20010314
AU200145694 A5	20020322	AU20010045694	20010314
AU782246 B2	20050714	AU20000070818	20000828
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CA2417177 AA	20030124	CA20012417177	20010314
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EP1218372 B1	20030702	EP20000959506	20000828
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HK1060565 A3	20040813	HK20040103580	20040520
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HR20020221 B1	20070131	HR20020000221	20020312
HR20030163 A2	20050430	HR20030000163	20030306
HU0302380 AB	20040301	HU20030002380	20000828
HU0303934 AB	20040428	HU20030003934	20010314
IL148184 A0	20020912	IL20000148184	20000828

IL148184 A1	20070308	IL20000148184	20000828	
IL154080 A0	20030731	IL20010154080	20010314	
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IN208841 B	20070831	IN2002MN00205	20020218	
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JP2004508356 T2	20040318	JP20020525107T	20010314	
KR20030024651 A	20030326	KR20027003368	20020313	
KR20030051644 A	20030625	KR20037003417	20030307	
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Assignee(s):(std)**:** BEKKALI YOUNES ; BOEHRINGER INGELHEIM PHARMA ; BOEHRINGER INGELHEIM PHARMACEUTICALS ; BOEHRINGER INGELHEIM PHARMACEUTICALS INC ; BOEHRINGER INGELHEIM PHARMACIU ; EMMANUEL MICHEL JOSE ; HICKEY EUGENE R ; LIU WEIMIN ; PATEL USHA R ; LIU WIEMEN ; EMMANUEL MICHEL J ; FRYE LEAH L ; MORWICK TINA M ; SPERO DENICE MARY ; SUN SANXING ; THOMSON DAVID S ; WARD YANCEY DAVID ; SPERO DENICE M ; SPERO DENISE M ; YOUNG ERICK RICHARD ROUSH ; YOUNG ERICK R R ; WARD YANCEY D

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Inventor(s): YOUNG ERICK ; YOUNES BEKKALI EUGENE R HICKEY LIU WIEMEN ; WARD YANCEY ; YANCEY DAVID WARD ; YANSEY D WARD ; EHMMAN'JUEHL MISHEL' DZH. ; TINA MARIE MORWICK ; THOMSON D ; THOMSON DAVID ; SUN' SANSIN ; SUN S ; MORWICK TINA ; LJU VEHJMIN' ; SPERO DENICE ; MICHEL JOSE EMMANUEL ; LIU WIEMIN ; LIU W ; HICKEY EUGENE ; FRYE LEAH ; FR'E LIJA L. ; EUGENE RICHARD HICKEY ; ERICK R YOUNG ; ERICK RICHARD ROUSH YOUNG ; ERIK RICHARD ROUSH YOUNG ; ERIC RICHARD ROUSH YOUNG ; DAVID S THOMPSON ; EMMANUEL MICHEL ; DENICE MARY SPERO

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; FETHERSTONHAUGH AND CO; HARNECKER; ERNESTO CAVELIER; REINHOLD COHN AND PARTNERS; BOEHRINGER INGELHEIM CORP; ANTHONY P; TIMOTHY X; MICHAEL P; PHILIP I; MARY ELLEN M; MARY ELLEN

Designated states: AE AM AT AU AZ BE BG BR BY CA CH CN CO CY CZ DE DK EE ES FI FR GB GR HR HU ID IE IL IN IT JP KG KR KZ LI LT LU LV MC MD MX NL NO NZ PL PT RO RU SE SG SI SK TJ TM TR UA US UZ VN YU ZA

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A61K A61P C07D (Subclass/Invention);
A61K A61P (Subclass/Non-invention)

International class (IPC 1-7): A61K31/16 A61K31/33 A61K31/335 A61K31/397 A61K31/40 A61K31/404 A61K31/428 A61K31/445 A61K31/4468 A61K31/4523 A61K31/4535 A61K31/454 A61K31/4545 A61K31/495 A61K31/496 A61K31/4965 A61K31/506 A61K31/517 A61K31/535 A61K31/5355 A61K31/536 A61K31/5365 A61K31/5375 A61K31/5377 A61K31/538 A61K31/541 A61K31/55 A61K31/553 A61K31/554 A61P1/04 A61P11/06 A61P13/12 A61P17/00 A61P17/06 A61P19/08 A61P19/10 A61P21/04 A61P25/00 A61P25/02 A61P25/28 A61P29/00 A61P3/10 A61P31/00 A61P37/00 A61P37/02 A61P37/06 A61P37/08 A61P5/14 A61P9/10 C0741/02 C0743/02 C0743/14 C07C13/72 C07D205/04 C07D207/02 C07D207/06 C07D207/14 C07D207/16 C07D211/04 C07D211/58 C07D211/60 C07D211/66 C07D223/06 C07D239/80 C07D263/54 C07D265/12 C07D265/28 C07D265/30 C07D277/62 C07D309/14 C07D335/02 C07D401/04 C07D401/12 C07D403/06 C07D403/12 C07D405/12 C07D409/12 C07D413/00 C07D413/02 C07D413/12 C07D413/14 C07D417/00 C07D417/02 C07D417/12 C07D417/14 C07D43/02 C07D451/02 C07D451/04 C07D455/02 C07D487/08 C07M7/00

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Classification Explorer

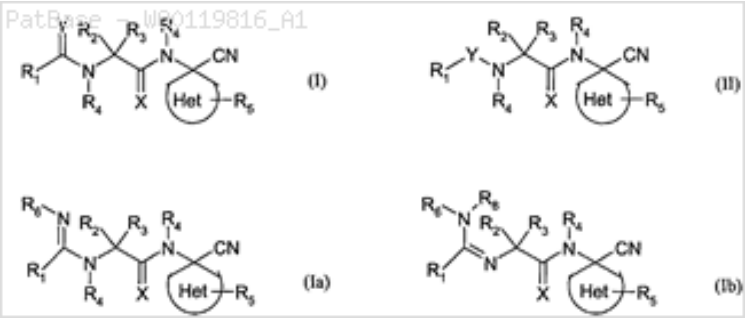
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Abstract:
Source: US2002058809A Disclosed are novel cathepsin S, K, F, L and B reversible inhibitory compounds of the formulas (I), (II), (Ia) and (Ib) further defined herein. The compounds are useful for treating autoimmune diseases. Also disclosed are processes for making such novel compounds.

PatBase - WO0119816_A1



0) CN2294911Y – MANUAL HAND–PUSH, PEDAL TWO–PURPOSE CLEANING VE...

96) Family number: 16429822 (CN2294911Y)

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Title: Manual hand–push, pedal two–purpose cleaning vehicle

Priority: CN19962042306U 19961017

Family:

Publication number	Publication date	Application number	Application date
CN2294911 Y	19981021	CN19962042306U	19961017

Probable Assignee: WANG XUEWEN

Assignee(s):(std)**:** WANG XUEWEN

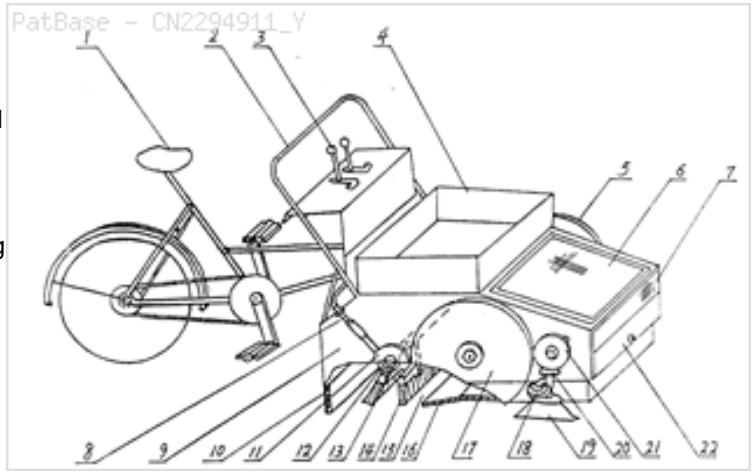
Inventor(s):(std)**:** WANG XUEWEN ; XUEWEN WANG

International class (IPC 8–9): B62K13/00 B62K17/00 (Advanced/Invention); B62K13/00 B62K17/00 (Core/Invention)

International class (IPC 1–7): B62K13/00 B62K17/00

Classification Explorer

Abstract:
Source: CN2294911Y The utility model relates to a dual–purpose manpower cleaning vehicle which is pushed by hands or stepped by feet. The utility model comprises a bicycle body and a cleaning vehicle body. The utility model is characterized in that the cleaning vehicle body is a closed casing, the front part of the cleaning vehicle body is provided with a dust collecting box, and the rear part of the cleaning vehicle body is provided with a sweeping box. A pair of supporting wheels is arranged on both sides of the cleaning vehicle body symmetrically. The bottom of the sweeping box is provided with a sweeping opening, a sweeping mechanism is arranged in the sweeping box, and a friction wheel is arranged on the sweeping mechanism. The front edge of the sweeping opening is provided with a dust guiding rubber plate, and a handle is arranged on the cleaning vehicle body. The utility model has the advantages of high sweeping efficiency, good effect, flexible operation and low cost. Besides, the utility model which is easy to accept by the society has no overflowing dust when the utility model is used for sweeping.



0) WO9323283A2 – BICYCLE FAHRRAD BICYCLETTE

97) Family number: 20258399 (WO9323283A2) © PatBase

Title: BICYCLE

Priority: DE19924215998 19920513 DE19924223165 19920710 DE19935009358 19930513 DE19930002621U 19930219 DE19934302938 19930129 WO1993DE00431 19930513

Family:

Publication number	Publication date	Application number	Application date
AT176431 E	19990215	AT19930909771T	19930513
DE4223165 A1	19931118	DE19924223165	19920710
DE59309358 D1	19990318	DE19935009358	19930513
DE9302621 U1	19930624	DE19930002621U	19930219
EP0594817 A1	19940504	EP19930909771	19930513
EP0594817 B1	19990203	EP19930909771	19930513
WO9323283 A2	19931125	WO1993DE00431	19930513
WO9323283 A3	19940106	WO1993DE00431	19930513

Probable Assignee: WOLSCHKE PETER

Assignee(s):(std)**:** WOLSCHKE PETER

Assignee(s): WOLSCHKE PETER 1000 BERLIN DE ; WOLSCHKE PETER 14059 BERLIN DE ; DROZDOWICZ RYSZARD 1000 BERLIN DE

Inventor(s):(std)**:** WOLSCHKE PETER

Inventor(s): WOLSCHKE PETER 1000 BERLIN DE ; WOLSCHKE PETER 14059 BERLIN DE

Designated states: AT BE CH DE DK ES FR GB GR IE IT JP LU MC NL PT SE US

International class (IPC 8–9)**:** B60C23/10 B60G11/56 B60G13/14 B60K6/00 B62J1/06 B62K21/20 B62K25/04 B62K3/02 B62M23/02 B62M6/10 B62M6/35 B62M6/75 B62M6/85 F04B33/00 F16F15/023 F16F7/112 (Advanced/Invention); B60C23/00 B60G11/32 B60G13/00 B60K6/00 B62J1/00 B62K21/00 B62K25/04 B62K3/00 B62M23/02 B62M6/00 F04B33/00 F16F15/023 F16F7/10 (Core/Invention)

International class (IPC 1–7)**:** B60K6/00 B62J1/06 B62K11/02 B62K21/20 B62K25/04 B62K3/02 B62K3/04 B62K5/06 F15B1/02 G01L17/00

CPC: B60C23/105 B60G11/56 B60G13/14 B62J1/06 B62K21/20 B62K25/04 B62K2025/048 B62M23/02 F04B33/005 F16F7/112 F16F15/023 B60L8/003 B60L11/007 B60L2200/12 Y02T10/7083 B62M6/75 B60K6/00 B62K3/02 B62M6/10 B62M6/35 B62M6/85

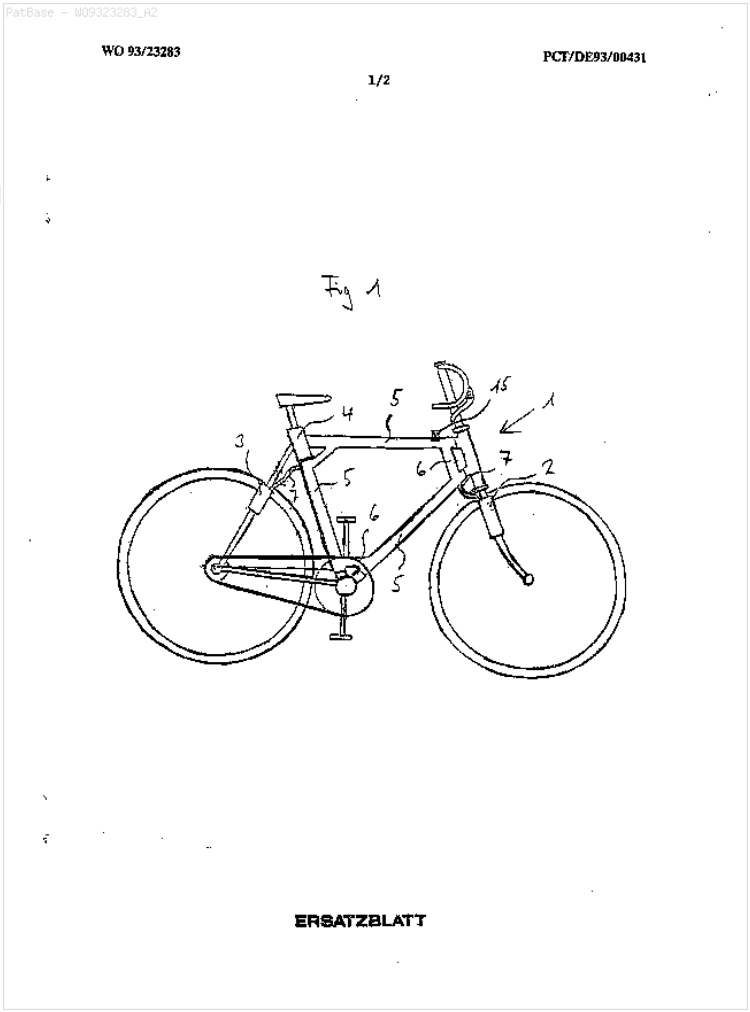
European class: B60C23/10B B60G11/56 B60G13/14 B60K6/00 B62J1/06 B62K21/20 B62K25/04 B62K3/02 B62M23/02 B62M6/10 B62M6/35 B62M6/75 B62M6/85 F04B33/00D F16F15/023 F16F7/112 L62K25/04G

Classification Explorer

Cited documents: US5098114 A, FR953421 A, DE9108897 U, DE9105745 U, DE8915636 U, DE8815229 U, DE4123643 A1, DE3235387 A1,

Forward Citations: WO11107707, WO04062992, WO0238437, WO0170563, US9567029, US9415653, US7255359, US7182358, US7017928, US6688626, US6135474, TWI406787, JP4809565, JP2003528001, GB2303342, GB2303342, FR2957026, EP2269903, EP1581423, EP1291277, EP1291277, EP0994014, EP0819599, EP0775625, DE202007016371, DE20005224, DE19910057, DE19600698, DE102014222559, DE10025901, CN101804846,

Abstract:
A bicycle is disclosed which allows air to be pumped while cycling by moving the saddle up and down. The front–wheel fork is pneumatically suspended and its air cavity receives air from the pump (2, 3, 4) during cycling. A regulating member (15) opens and closes allowing the pressure in the front–wheel fork, consequently the suspension properties of the front–wheel fork, to be changed. The regulating member (15) is positioned so that it may easily be adjusted while cycling. The bicycle is thus suspended at the front and in addition the suspension properties of the front–wheel fork can be easily modified while cycling.



0) US2329525A – MOTORCYCLE TOWING DEVICE

98) Family number: 21584626 (US2329525A) © PatBase

Title: MOTORCYCLE TOWING DEVICE

Priority: US19420440765 19420428

Family:

Publication number	Publication date	Application number	Application date
US2329525 A	19430914	US19420440765	19420428

Probable Assignee: GARRISON CHARLES L

Assignee(s):(std)**:** GARRISON CHARLES L

Inventor(s):(std)**:** GARRISON CHARLES L

International class (IPC 8–9)**:** B60R9/06 B60R9/10 (Advanced/Invention); B60R9/00 (Core/Invention)

International class (IPC 1–7)**:** B62K27/12

CPC: B60R9/06 B60R9/10

European class: B60R9/06 B60R9/10

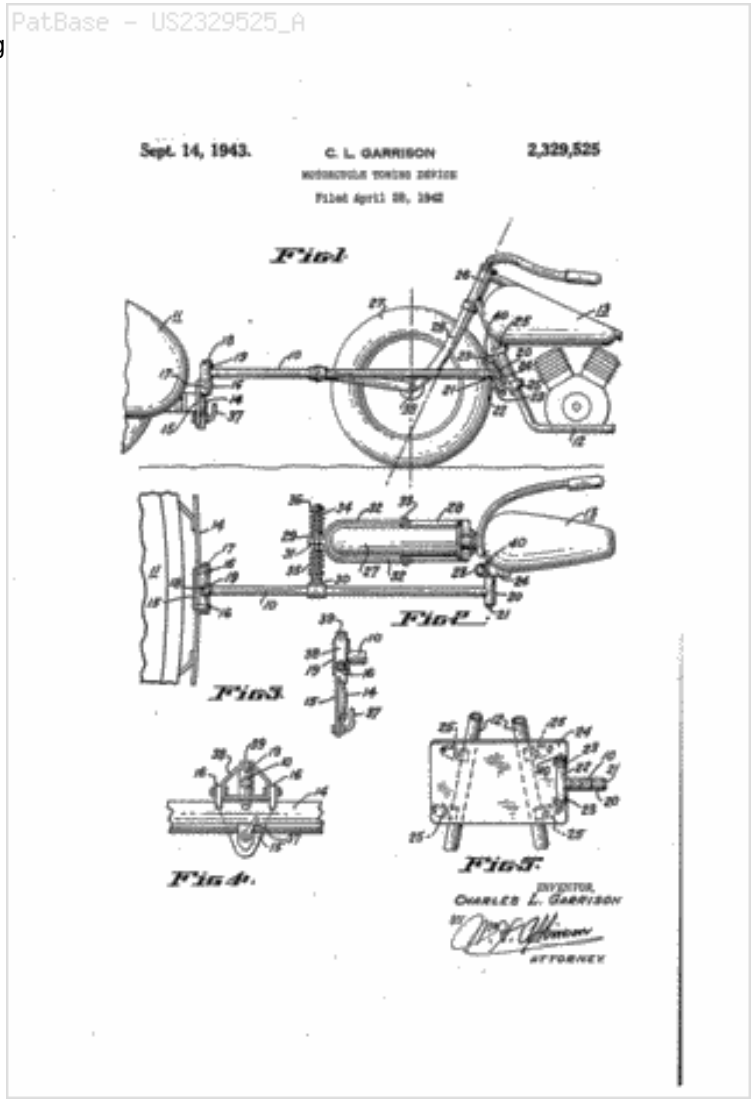
US class: 280/402

Classification Explorer

Forward Citations: US5259639, US2789832, US2678221, US2005212279, NL1032585, DE19828707,

Abstract:
Source: US2329525A 1, In a, device for towing a motorcycle or bicycle in a, self–l:¢–alancing' manner behind a towing vehicle, the combination of a single rigid tow– 'aar adapted to extend rearwardly from the towing vehicle and along one side of and parallel to the longitudinal axis of a, motorcycle or bicycle. means ca.1'ried by the motorcycle or bicycle frame to which said towbar is atta–ched at 9. point rearwarclly of the front wheel steering head, said towbar being connected against torticnal rotation at its leading end to the towing vehicle with freedom of movement only in z. substantially horizbniial axicl za. vertical, pléme and connected _at its trailingwend to fsa–idwmeams carried bythe motorcycle ol' ssbicycle ;`fra.n'ie with freedom of movement abmit' ag horizontal axis arid about –a relatively Hxed axis ‘inclined forwardly of a.

PatBase - US2329525_A



0) CN103911965A – GROUND CLEANING DEVICE

99) Family number: 56848564 (CN103911965A) © PatBase

Title: GROUND CLEANING DEVICE

Priority: CN201310000303 20130104

Family:

Publication number	Publication date	Application number	Application date
CN103911965 A	20140709	CN201310000303	20130104

Probable Assignee: LIU MEILING

Assignee(s):(std)**:** LIU MEILING

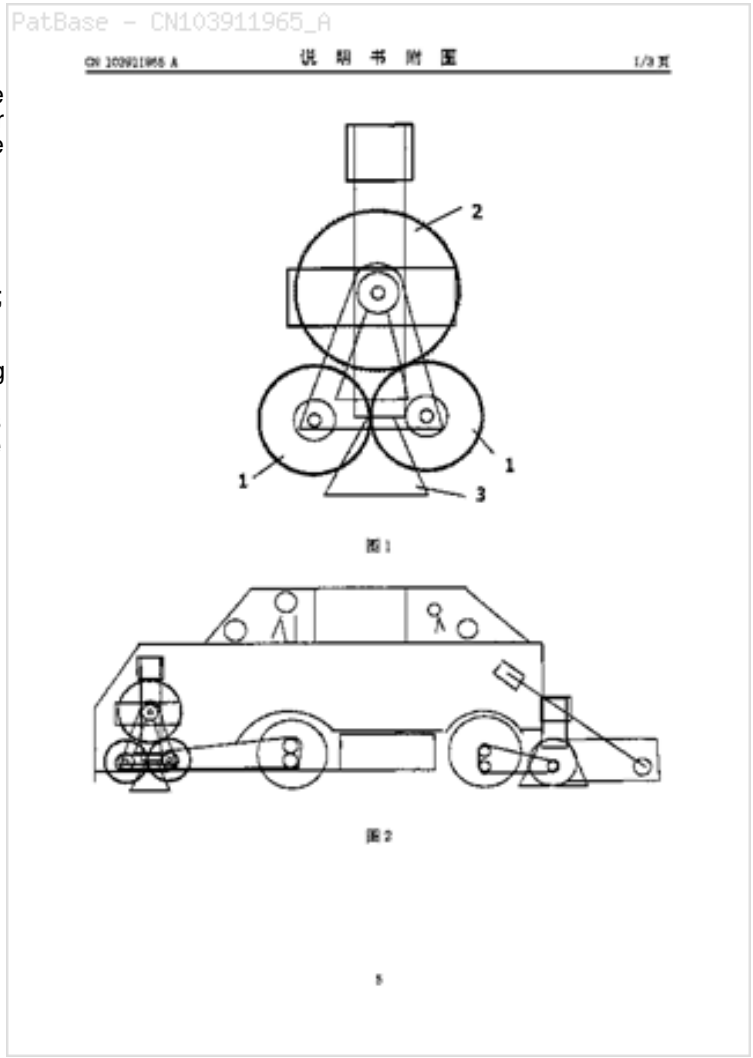
Inventor(s):(std)**:** LIU MEILING

International class (IPC 8–9): E01H1/04 E01H5/06 (Advanced/Invention)

Classification Explorer

Cited documents: DE3447906 A1, CN2895518 Y, CN2615197 Y, CN2559678 Y, CN102650119 A, CN102086632 A, CN101748698 A, CN101560753 A, CN101392503 A,

Abstract:
Source: CN103911965A The invention discloses a ground cleaning device. The ground cleaning device comprises a frame; the bottom of the frame is provided with a sweeper head and a dust box which is matched with the sweeper head; the sweeper head comprises two horizontal drum sweepers which are horizontally arranged; the two horizontal drum sweepers are mutually extruded laterally to be conveyed upward; an upper drum sweeper is arranged above the horizontal drum sweepers; the upper drum sweeper is snapped to any of the horizontal drum sweepers so as to enable dust to be conveyed to the dust box. According to the ground cleaning device, the structure is simple, the cost is low, and the maintenance is convenient; the ground cleaning device can be matched with multiple tools such as a toy vehicle, children can play at home or outside the community and clean the ground simultaneously, and accordingly the easy, rapid and clean effects can be achieved; the ground cleaning device can be matched with a bicycle and accordingly users can exercise and clean the ground simultaneously; the ground cleaning device can be matched with a trolley and accordingly people can shop for leisure, meanwhile a storage platform is provided for the users, and the pavement and a street are also cleaned.



0) CN205502664U – SIDESLIP GARAGE

100) Family number: 63351700 (CN205502664U) © PatBase

Title:	SIDESLIP GARAGE
Priority:	CN201620272559U 20160405

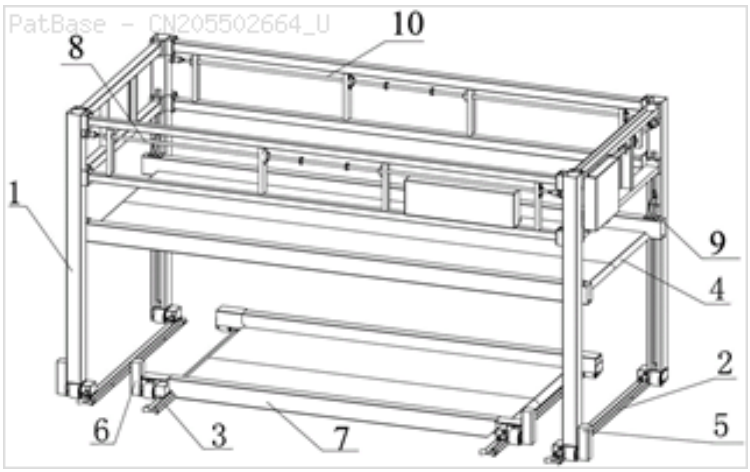
Family:

Publication number	Publication date	Application number	Application date
CN205502664 U	20160824	CN201620272559U	20160405

Probable Assignee:	HOU JUNSHE
Assignee(s):(std)**:**	HOU JUNSHE
Assignee(s):	HOU JUN COMMUNITY
Inventor(s):(std)**:**	CUI DAPING ; HOU JUNSHE ; HOU YILIN ; SUN MANKE ; YANG FAN
International class (IPC 8–9):	E04H6/06 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN205502664U The utility model relates to a sideslip garage, its include the moving vehicle frame framework, outward lead grooved rail, interior direction grooved rail, upload the sweep, download the sweep, vehicle frame body transfer drive device, download sweep transfer drive device, lift transmission and hoisting device, grooved rail and the interior direction grooved rail of leading is outward installed in that subaerial and the structure is the same, the interior direction grooved rail setting grooved rail inboard of leading outward, the setting of the vehicle frame body is led outward on the grooved rail, download the sweep set up including on the direction grooved rail, it is internal at vehicle frame to upload the sweep setting, downloading sweep transfer drive device and installing on downloading the sweep, vehicle frame body transfer drive device is installed at vehicle frame body lower extreme lateral part, and it is the same with vehicle frame body transfer drive device structure to download sweep transfer drive device, lift transmission installs at vehicle frame internally, hoisting device install on lift transmission and with the end connection that uploads the sweep, the utility model discloses compact structure, simple to operate can park two cars a bicycle position, and the vehicle access is convenient just to be need not to dodge, is fit for not installing on ground such as biotope, shopping centers.



0) US2004224740A – SIMULATION SYSTEM

101) Family number: 13563413 (US2004224740A) © PatBase

Title: SIMULATION SYSTEM

Priority: GB20000019299 20000802 GB20010006488 20010316 GB20010011673 20010512 WO2001GB03498 20010802

Family:

Publication number	Publication date	Application number	Application date
AU200175762 A5	20020213	AU20010075762	20010802
EP1307269 A1	20030507	EP20010953274	20010802
GB200019299 A0	20000927	GB20000019299	20000802
GB200106488 A0	20010502	GB20010006488	20010316
GB200111673 A0	20010704	GB20010011673	20010512
GB2365360 A1	20020220	GB20000019299	20000802
GB2365360 B2	20040825	GB20000019299	20000802
GB2365790 A1	20020227	GB20010011673	20010512
US2004224740 AA	20041111	US20030343755	20030203
WO0209833 A1	20020207	WO2001GB03498	20010802

Probable Assignee: BALL TIMOTHY J

Assignee(s):(std)**:** BALL SIMON CHRISTOPHER ; BALL TIMOTHY J ; BALL TIMOTHY JAMES ; TIMOTHY JAMES BALL TIMOTHY

Assignee(s): TIMOTHY JAMES BALL ; SIMON CHRISTOPHER BALL

Inventor(s):(std)**:** BALL SIMON CHRISTOPHER ; BALL TIMOTHY JAMES

Inventor(s): SIMON CHRISTOPHER BALL ; TIMOTHY JAMES BALL

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

International class (IPC 8–9): A63F13/10 A63F13/12 (Advanced/Invention); A63F13/10 A63F13/12 (Core/Invention)

International class (IPC 1–7): A63F13/10 A63F13/12 G06F17/00

CPC: A63F13/843 A63F13/245 A63F13/335 A63F13/803 A63F13/65 A63F13/217 A63F13/211 A63F13/216 A63F13/338 A63F13/57 A63F13/61 A63F13/10 A63F13/12 A63F2300/407 A63F2300/409 A63F2300/50 A63F2300/535 A63F2300/64 A63F2300/69 A63F2300/8017

European class: A63F13/10 A63F13/12 K63F300/40N K63F300/40T K63F300/50 K63F300/53M K63F300/64 K63F300/69 K63F300/80D

US class: 463/6

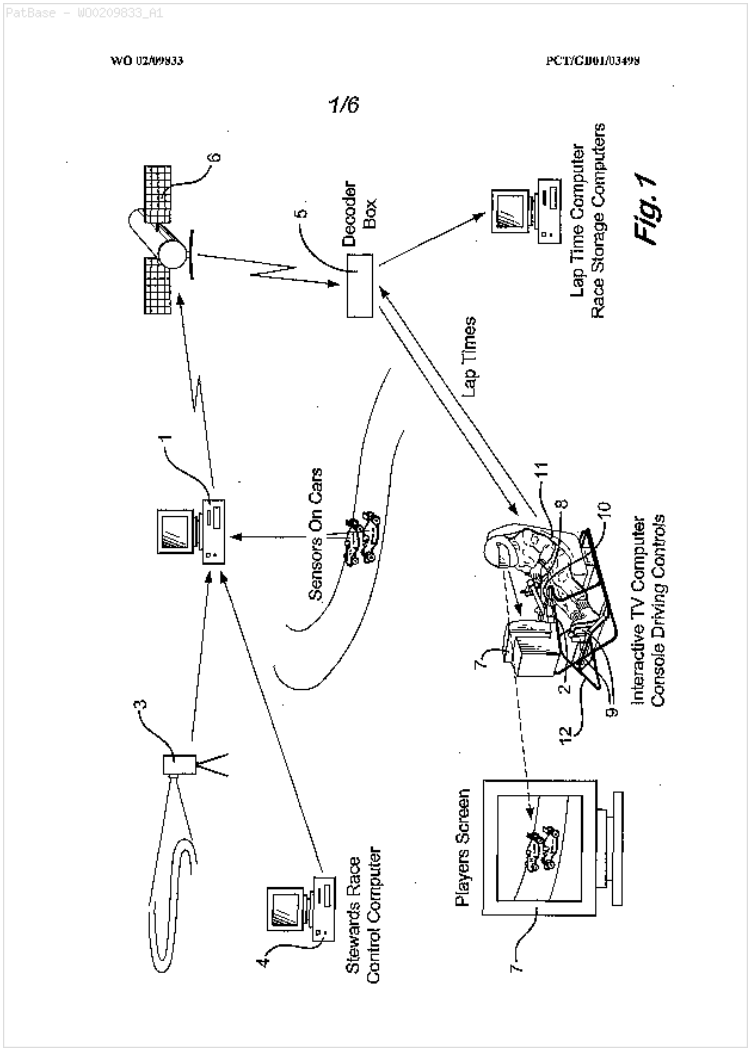
Classification Explorer

Cited documents: WO9740342 A2, WO9728457 A1, WO9631831 A1, WO0105476 A1, WO0016869 A1, US6454648 BA, US6117007 A, US6080063 A, US5868573 A, US5779549 A, US5196714 A, US4660969 A, GB2291302 A1, EP0505858 A1, EP0474923 A1,

Forward Citations: WO13087987, WO10035106, WO09127927, WO09004457, WO08056049, WO07061346, WO06059286, WO04090837, WO03088584, US9576330, US9511283, US9364743, US9352226, US9265991, US9242177, US9242176, US9233309, US9215383, US9202526, US9202318, US9172481, US9108112, US9089775, US9079090, US9047717, US8944822, US8734215, US8641420, US8371915, US8366526, US8353749, US8235815, US8182348, US8160994, US8128469, US8092287, US8088004, US8083589, US7934684, US7864168, US7785178, US7572205, US7275975, US2017001113, US2014200078, US2014187318, US2013324239, US2013143667, US2013033598, US2012202594, US2012142421, US2012100911, US2011256912, US2011171612, US2011124469, US2011039624, US2010331065, US2010305724, US2010240430, US2010160013, US2010144413, US2009284553,

US2009104955, US2009099822, US2008318687, US2008311997, US2008221745, US2008217473, US2008217472, US2008177557, US2008015018, US2007296723, US2007194171, US2007155458, US2007004311, US2006287025, JP5492076, JP2013111438, JP2012503513, JP2011517979, JP2010530287, GB2518602, GB2518602, GB2442708, FR3019430, FR2908322, FR2869709, ES2264603, EP2923743, EP2724763, EP2043072, EP1655060, EP1595585, EP1540939,

Abstract:
Source: US2004224740A A competitive simulation game comprising a base program and at least one controllable object controllable by a player, characterised in that, in use, a real time input from a real life game controls a competitive object in the competitive simulation game as a competitor to the player.



0) US5869555A – POLYMERIC COMPOSITION IN PELLET FORM

102) Family number: 29680280 (US5869555A) © PatBase

Title: Polymeric composition in pellet form

Priority: CN19961098371 19961118 US19950559006 19951116 US19960751828 19961118 US20000583937 20000531 US19980168830 19981008 US19980143757 19980831 US19970947311 19971008 US19980069504 19980429 US19980090473 19980604 WO1998US21299 19981008 WO1996US18507 19961118 WO1998US21278 19981008

Family:

Publication number	Publication date	Application number	Application date
AU199710546 A1	19970619	AU19970010546	19961118
AU199869882 A1	19991216	AU19980069882	19980604
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AU199896914 A1	19990427	AU19980096914	19981008
AU199910733 A1	19990427	AU19990010733	19981008
AU719936 B2	20000518	AU19970010546	19961118
BRPI9611968 A	19990713	BR1996PI11968	19961118
CA2239983 AA	19980507	CA19962239983	19961118
CA2239983 C	20020730	CA19962239983	19961118
CA2302429 AA	20000302	CA19982302429	19981008
CN1193068 C	20050316	CN20011001522	20010122
CN1205720 A	19990120	CN19961098371	19961118
CN1314433 A	20010926	CN20011001522	20010122
DE69635829 D1	20060420	DE19966035829	19961118
EP0861285 A2	19980902	EP19960941387	19961118
EP0861285 B1	20060215	EP19960941387	19961118
EP1023361 A1	20000802	EP19980953328	19981008
JP2000502120 T2	20000222	JP19960520539T	19961118
JP2002509944 T2	20020402	JP20000514952T	19981008
JP3792724 B2	20060705	JP19970520539T	19961118
US5869555 A	19990209	US19960751828	19961118
US5942569 A	19990824	US19980143757	19980831
US6067776 A	20000530	US19980069504	19980429
US6120899 A	20000919	US19980168830	19981008
US6238732 BA	20010529	US20000583937	20000531
WO9719582 A2	19970605	WO1996US18507	19961118
WO9719582 A3	19970703	WO1996US18507	19961118
WO9918147 A1	19990415	WO1998US21278	19981008
WO9918148 A1	19990415	WO1998US21299	19981008

Probable Assignee: HB FULLER CO

Assignee(s):(std)**:** FULLER H B LICENSING FINANC ; HB FULLER LICENSING AND FINANCING INC

Assignee(s): OLSON CHRISTOPHER E ; LEHMAN NICHOLAS C ; NITECH CORP ; LINDQUIST JEFFREY S ; OLSON CHRISTOPHER ; SIMMONS EUGENE ; SWEENEY KEVIN ; LINDQUIST JEFFREY ; HBFULLER LICENSINGAND FINANCING INC ; H B FULLER LICENSINGAND FINANCING INC ; HB FULLER CO ; H B FULLER LICENSING AND FINANCING INC ; HB FULLER LICENSING AND FINANCNG INC ; CAMERON JANELLE C ; CARTER FREDDIE ; FARMER JAMES ; FISCHER CAROLYN A ; FOX STEVE A

Inventor(s):(std)**:** BRAND NORRIS R ; BRENDA C SEARLE ; CAMERON JANELLE C ; CAROLYN A FISCHER ; CARTER FREDDIE ; CARTER FREDDIE C ; CARTES FREDDIE ; CHRISTOPHER E OLSON ; CHRISTOPHER OLSON ; COPPING CRAIG P ; CRAIG P COPPING ; E SIMMONS ; E SIMONS ; EUGENE SIMMONS ; FARMER JAMES ; FARMER JAMES R ; FISCHER CAROLYN A ; FOX STEVE A ; FREDDIE CARTES ;

HEUER GLENN C ; J LINDQUIST ; JAMES FARMER ; JANELLE C CAMERON ; JANNUSCH LEONARD C ; JEFFREY LINDQUIST ; JEFFREY S LINDQUIST ; K SWEENEY ; K SWINY ; KEVIN SWEENEY ; LEHMAN NICHOLAS C ; LEONARD C JANNUSCH ; LINDQUIST J ; LINDQUIST JEFFREY ; LINDQUIST JEFFREY S ; NELSON RANDALL D ; NICHOLAS C LEHMAN ; OLSON CHRISTOPHER ; OLSON CHRISTOPHER E ; PETER A VOSS ; ROLANDO THOMAS E ; SEARLE BRENDA C ; SIMMONS E ; SIMMONS EUGENE ; SIMMONS EUGENE R ; SIMONS E ; STEVE A FOX ; SWEENEY K ; SWEENEY KEVIN ; SWEENEY KEVIN J ; SWINY K ; THOMAS E ROLANDO ; VOSS PETER A ; WEBER WOLFGANG

Inventor(s): FREDDIE CARTER

Agent(s): PHILLIPS ORMONDE FITZPATRICK; FREEHILLS PATENT ATTORNEYS; FPA PATENT ATTORNEYS PTY LTD; GOWLING LAFLEUR HENDERSON LLP; ROGERS LAW OFFICE; RIDOUT AND MAYBEE LLP; NISHIYAMA MASAYA; ISHIDA TAKASHI; TSURUTA JUNICHI; HIGUCHI SOTOJI; FUKUMOTO TSUMORU

Designated states: AT AU BE BR CA CH CN CY DE DK ES FI FR GB GR IE IT JP KR LI LU MC MX NL NZ PT SE

International class (IPC 8–9): B32B15/08 B32B27/06 B32B27/08 B32B27/32 B32B27/34 B32B27/36 C08J3/12 C08J5/12 C08L101/00 C08L23/02 C08L53/00 C08L53/02 C09J123/02 C09J151/00 C09J153/00 C09J153/02 C09J175/04 C09J201/00 C09J5/06 G06F3/033 G06F3/039 (Advanced/Invention); C08J5/12 C08L101/00 C09J201/00 C09J5/06 G06F3/033 (Advanced/Non–invention); C08J3/12 C09J5/06 (Core/Invention)

International class (IPC 1–7): B05D5/10 B29B9/00 B29C33/56 B29C47/38 B29C47/60 B32B15/08 B32B27/06 B32B27/08 B32B27/32 B32B27/34 B32B27/36 B65B63/08 C08J3/12 C08J5/00 C08J5/12 C08K5/01 C08K5/20 C08L101/00 C08L53/00 C08L53/02 C08L91/06 C08L93/04 C09J153/00 C09J153/02 C09J175/04 C09J201/00 C09J5/06

CPC: C09J153/02 C08L23/02 C08L53/00 C08L53/02 C08L53/025 C09J123/02 C09J151/00 C09J153/00 C09J153/025 Y10T428/2998 C08J3/124

European class: C08J3/12B C08L23/02 C08L53/00 C08L53/02 C08L53/02B C09J123/02 C09J151/00 C09J153/00 C09J153/02 C09J153/02B

US class: 264/130 264/131 264/211.13 264/211.14 264/211.22 264/211.23 427/208.2 427/222 428/407 524/229 524/232 524/271 524/274 524/487 524/488 524/489 524/504 524/505 525/210 525/211 525/216 525/240 525/64 525/74 525/95 525/98 525/99 53/435 53/440 534/400

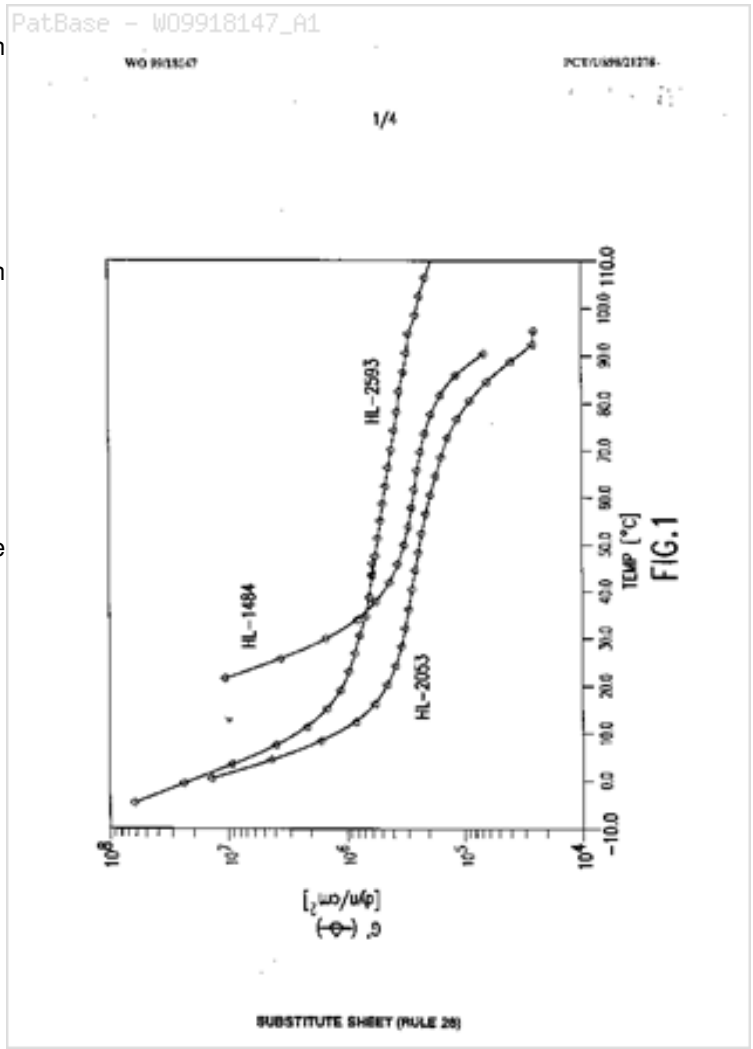
Classification Explorer

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Abstract:
Source: US5869555A A polymeric composition in pellet form comprising a tacky hot melt composition, comprising a) from about 5 percent by weight to about 90 percent by weight of a thermoplastic polymer, b) from about 0 percent by weight to about 65 percent by weight of a tackifying resin, c) from about 0 percent to about 50 percent by weight of a plasticizer, d) up to about 2 percent by weight of an antioxidant, and a pelletizing aid, wherein the tacky hot melt composition has some minimum amount of tackifier or plasticizer and is a pressure sensitive adhesive having a storage modulus, G', at about 25 DEG C., of less than about 5x106 dynes/cm2, and each pellet has a substantially tack−free surface. This invention further discloses a polymeric composition in pellet form suitable for molding articles. The composition comprises a tacky hot melt composition comprising at least one high molecular weight triblock copolymer of the general configuration A−B−A and a plasticizer and a pelletizing aid. The pelletizing aid substantially surrounds the tacky composition such that the molded articles are substantially free from surface tack. A method of forming the pellets is also disclosed.



0) US2003234144A – ON–THE–FLY ADJUSTABLE AIR SPRING

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Title: ON–THE–FLY ADJUSTABLE AIR SPRING

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US9567029 BB	20170214	US20140271395	20140506

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CPC: F16F9/066 F16F13/002 B60G17/0523 B62K2201/08 F16F9/065 F16F9/466 F16F9/512 B60G2300/12 B60G2500/2064 B60G2600/21 F16F9/063 F16F9/486 F15D1/00 F16F9/02 F16F9/16 F16F13/00 B60G15/12 B60G17/0416 B60G17/08 B60G2202/314 B60G2202/322 F16F9/34 F16F9/5126 Y10T137/87161 B60G17/048 B60G2202/152 B60G2500/22 B60G17/052 B60G13/10 B62K25/04 B62K2025/048 F16F9/0245 F16F9/3415 B62K25/08 Y10T137/86493 F16F9/0209 F16F9/0236 F16F9/06 F16F9/461 F16F9/0281 F16F9/068 F16F9/43 F16F9/462 F16F2238/02 F16K15/044 B60G11/27 F16F9/46 F16F9/48

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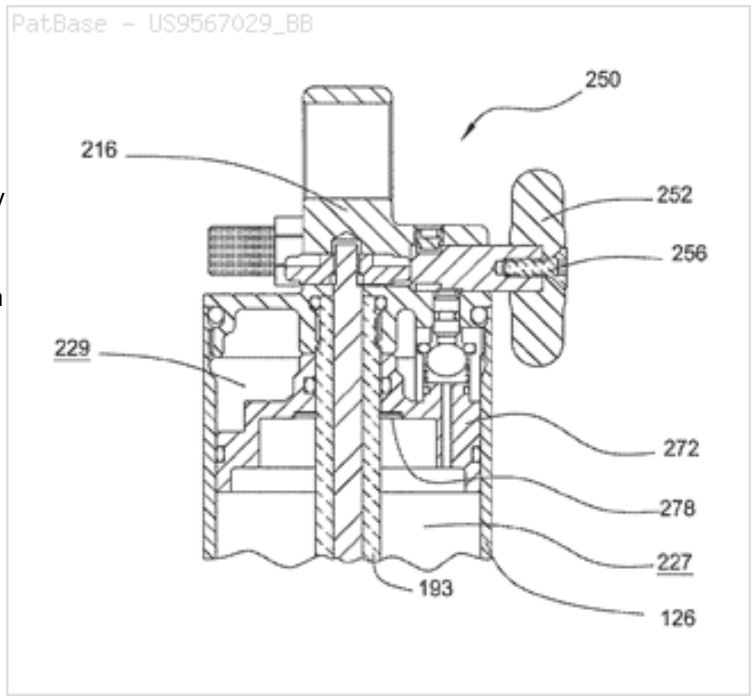
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DE102004021586 A1

Forward Citations:

WO16087657, WO14039468, WO13007222, WO12170244, WO11144667, US9586645, US9580134, US9573649, US9567029, US9556923, US9523406, US9518630, US9458906, US9447834, US9434440, US9422018, US9415653, US9404552, US9400083, US9399496, US9341226, US9333829, US9328793, US9322448, US9278598, US9273746, US9261163, US9248717, US9188188, US9186950, US9186949, US9182002, US9168972, US9168805, US9156519, US9156325, US9151355, US9150075, US9140325, US9108098, US9103376, US9079469, US9027894, US9004516, US8991841, US8967345, US8960701, US8950764, US8944422, US8936139, US8899560, US8894083, US8894050, US8888107, US8869959, US8864146, US8838335, US8807300, US8777172, US8770360, US8752681, US8740237, US8684124, US8636097, US8622180, US8608141, US8607942, US8511448, US8489277, US8480064, US8464850, US8403115, US8316978, US8297417, US8256588, US8245821, US8195336, US8152191, US8123006, US7988173, US7963509, US7870936, US7854287, US7823976, US7806390, US7766135, US7703585, US7690667, US7641028, US7559396, US7520372, US7506884, US7490705, US7484603, US7448638, US7273137, US7261194, US7147207, US2016236530, US2016229482, US2016215846, US2016122008, US2016075204, US2016003321, US2015375594, US2015375593, US2015284048, US2015210343, US2015183487, US2015175237, US2015158364, US2015137435, US2015110429, US2015076753, US2015075930, US2015054247, US2014353100, US2014339030, US2014326554, US2014305756, US2014291087, US2014265080, US2014224607, US2014191491, US2014077427, US2014069754, US2014062040, US2014049013, US2013257012, US2013234378, US2013221713, US2013193664, US2013134687, US2013134686, US2013118847, US2013105260, US2013032979, US2012325605, US2012235332, US2012205843, US2012136537, US2012091638, US2011215551, US2011204549, US2011202236, US2011187076, US2011174582, US2011094833, US2011079983, US2011042908, US2010320656, US2010263974, US2010263972, US2010244340, US2010219569, US2010059964, US2010044975, US2010030386, US2010025945, US2009267316, US2009236807, US2009212528, US2009200760, US2009091173, US2008179796, US2008067778, US2008041681, US2007158927, US2007120300, US2007068751, US2007012531, US2006278457, US2006181053, US2006091345, US2006065496, TWI558599, TWI496714, GB2415027, GB2415027, EP3028933, EP2657113, EP2657113, EP2338777, EP2258961, EP1662167, EP1655158, EP1655158, DE202015100956, DE102015202110, DE102015202109, DE102014110998, DE102005062433, CN105172919, CN104514831,

Abstract:
Source: US2003234144A An air spring is optionally integrated with a shock absorber or other damping unit, and has an air cylinder closed at one end, and in axially−slidable engagement with a sealing head at the other end. A sealed partitioning plate is fixed in the cylinder, and divides the cylinder into a primary air chamber and a secondary air chamber. A sealed air passage connects the primary and secondary air chambers, and can be opened or closed by a simple one−quarter turn rotation of an external knob to instantly switch the air spring between two different spring rate curves.



0) US2008191545A – AXLES, SUCH AS FOR BICYCLES

104) Family number: 42101709 (US2008191545A) © PatBase

Title: AXLES, SUCH AS FOR BICYCLES

Priority: US20070674471 20070213 US20090362654 20090130 US20100794269 20100604 US20120343338 20120104 US20140293695 20140602

Family:

Publication number	Publication date	Application number	Application date
US2008191545 AA	20080814	US20070674471	20070213
US2009134696 AA	20090528	US20090362654	20090130
US2010237583 AA	20100923	US20100794269	20100604
US2012104839 AA	20120503	US20120343338	20120104
US2014265540 AA	20140918	US20140293695	20140602
US7731214 BB	20100608	US20090362654	20090130
US8091909 BB	20120110	US20100794269	20100604
US8770610 BB	20140708	US20120343338	20120104

Probable Assignee: FOX FACTORY INC

Assignee(s):(std)**:** FOX FACTORY INC ; LAIRD ANDREW

Assignee(s): SUNTRUST BANK ADMINISTRATIVE AGENT AS ; COMPASS GROUP DIVERSIFIED HOLDINGS LLC

Inventor(s):(std)**:** LAIRD ANDREW

Agent(s): PATTERSON AND SHERIDAN LLP; DAVID M

International class(IPC 8–9)**:** B60B27/00 B60B35/00 B60B35/02 B60B37/00 B62K21/02 B62K25/02 B62K25/28 (Advanced/Invention); B60B27/00 B60B37/00 B62K21/00 (Core/Invention)

CPC: B60B35/025 B62K25/02 B62K2206/00

European class: B62K25/02 L62K206/00

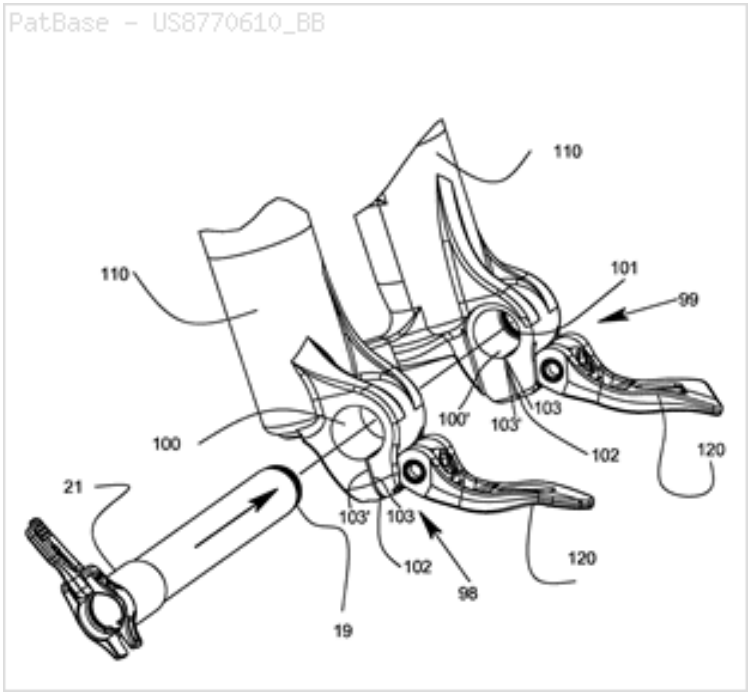
US class: 280/276 280/279 280/279P 301/110.5 301/110.500S 301/124.1 301/124.100P 301/124.2 301/124.200P 301/132

Classification Explorer

Cited documents: WO9850268 A1, WO04024366 A1, US7537291 BB, US7494145 BB, US7412866 BB, US7155824 BB, US7090308 BB, US6964425 BB, US6886894 BB, US6581494 BB, US6412803 BA, US6109635 A, US6089675 A, US5984423 A, US5909931 A, US5626401 A, US5622412 A, US5549315 A, US5257855 A, US4763957 A, US4632415 A, US4424981 A, US4361360 A, US3153491 A, US2829431 A, US2013328385 AA, US2004036251 AA, GB2414971 A1, GB1336620 A,

Forward Citations: WO13149868, USRE45684, US9573648, US9551508, US9452641, US9308961, US9145029, US8783790, US8113594, US8113529, US8075010, US2016016634, US2015145231, US2014374550, US2013119633, US2012212040, US2012161503, US2009230653, ITFI20100089, EP3040259, EP2591991, EP2591991, DE102010024474,

Abstract:
Source: US2008191545A Axles capable of use in high stress applications, such as downhill, extreme, and free−bicycle riding is described. The axle is made by a method, preferably including two forging steps. In the first forging step, a portion of solid metallic work piece is formed into an enlarged head portion that will be finally machined into an ergonomic grip portion. In the second step, another portion of solid metallic work piece is formed into an elongate tubular portion.



0) US3501119A – BICYCLE SEAT SUPPORTING PIVOT MEANS

105) Family number: 903739 (US3501119A) © PatBase

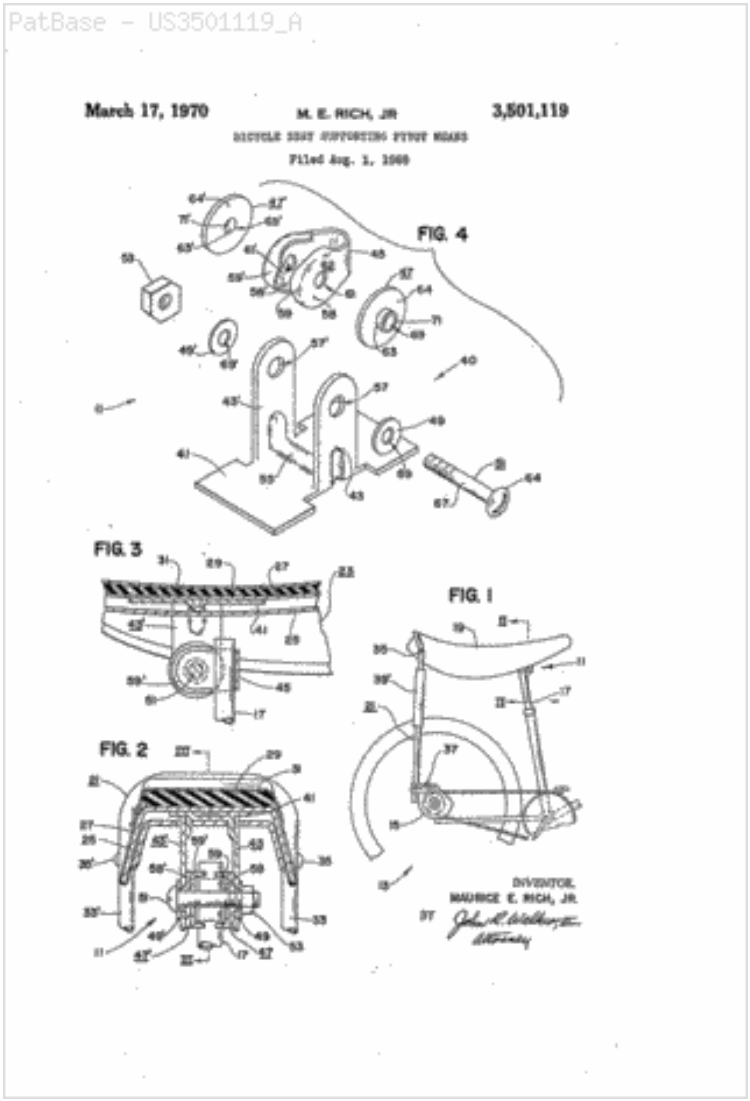
Title:	BICYCLE SEAT SUPPORTING PIVOT MEANS
Priority:	US19680749357 19680801

Family:

Publication number	Publication date	Application number	Application date
US3501119 A	19700317	US19680749357	19680801

Probable Assignee:	TROXEL MFG CO
Assignee(s):(std)**:**	TROXEL MFG CO
Inventor(s):(std)**:**	RICH MAURICE E JR
Inventor(s):	MAURICE E RICH JR
International class (IPC 8–9)**:**	B62J1/02 (Advanced/Invention); B62J1/00 (Core/Invention)
International class (IPC 1–7)**:**	B62J1/04 B62J1/08 F16M11/00 F16M11/06 F16M11/10 F16M11/12 F16M13/04
CPC:	B62J1/02
European class:	B62J1/02
US class:	248/219.3 248/221 248/230.5 280/304.3 297/215.15
Classification Explorer	
Cited documents:	US2946372 A, US2476226 A, US2471627 A, GB190811918 A,
Forward Citations:	US7077370, US5190346, US4662677, US4231611, US4108462, US3756653, US3659878, US3622200, US2005224666, US2005169698, US2002166941, EP0009286,

Abstract:
Source: US3501119A ABSTRACT OF THE DISCLOSURE Means for pivotally anchoring the forward end portion of an elongated seat on a bicycle frame structure seat post. The pivot axis of the seat supporting structure being 15 arranged horizontally and the rearward end portion of the bicycle seat being sprung upwardly in a swinging are about the pivot axis arranged on the forward end of the seat. The bicycle seat pivot means being adapted to pivotally anchor the forward end portion of the seat for per− 20 mitting free up−and−down pivotal movement of the rear portion of the bicycle seat. B



0) DE19547050A1 – BICYCLE WITH PEDALS ON FRONT WHEEL FAHRRAD, DAS...

106) Family number: 12832540 (DE19547050A1) © PatBase

Title: Bicycle with pedals on front wheel

Priority: DE19951047050 19951216

Family:

Publication number	Publication date	Application number	Application date
DE19547050 A1	19970619	DE19951047050	19951216

Probable Assignee: ECKHARDT WOLFGANG DIPL ING

Assignee(s):(std)**:** ECKHARDT WOLFGANG DIPL ING

Assignee(s): ECKHARDT WOLFGANG DIPL ING 22391 HAMBURG DE

Inventor(s):(std)**:** ECKHARDT WOLFGANG DIPL ING

Inventor(s): ECKHARDT WOLFGANG DIPL ING 22391 HAMBURG DE

International class (IPC 8–9): B62J1/06 B62K17/00 B62K21/00 B62K3/10 (Advanced/Invention); B62J1/00 B62K17/00 B62K21/00 B62K3/00 (Core/Invention)

International class (IPC 1–7): B62J1/06 B62K19/16 B62K19/18 B62K19/32 B62K19/34 B62K19/46 B62K21/04 B62K21/06 B62K21/12 B62K21/14 B62K25/04 B62M1/02

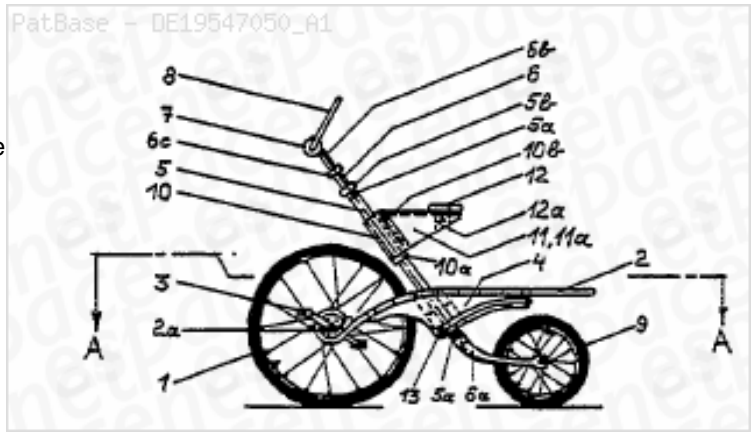
CPC: B62J1/06 B62K3/10 B62K17/00 B62K21/00

European class: B62J1/06 B62K17/00 B62K21/00 B62K3/10

Classification Explorer

Forward Citations: WO15092532, WO15001297, WO12134309, ITMI20132174, FR2982576, EP0945334,

Abstract:
Source: DE19547050A1 The bicycle has a large front wheel (1). It is e.g. mounted rigidly between the forks (2a) of a curved tubular frame (2), driven directly by the pedal cranks (3) and a base element (4) connecting the tube frame to an elastic central tube (5) angled forward. The bicycle also has a multipart steering column (6) with steering head (7) and handlebars (8), able to turn in the central tube, steering a small rear wheel (9) mounted in a fork end (6a). A clamping holder (10) with turning saddle carrier (11) and saddle (12) fits round the central tube.



0) DE19640475A1 – MULTI=TRACK BICYCLE MEHRSPURIGES FAHRRAD

107) Family number: 13238482 (DE19640475A1) © PatBase

Title: Multi=track bicycle

Priority: DE19961040475 19960930

Family:

Publication number	Publication date	Application number	Application date
DE19640475 A1	19980402	DE19961040475	19960930

Probable Assignee: HANS SCHAUFF FAHRRADFABRIK

Assignee(s):(std)**:** HANS SCHAUFF FAHRRADFABRIK

Assignee(s): HANS SCHAUFF FAHRRADFABRIK 53424 REMAGEN DE

Inventor(s):(std)**:** SCHAUFF AXEL

Inventor(s): SCHAUFF AXEL 53489 SINZIG DE

International class (IPC 8–9): B62K5/02 B62K5/04 B62K5/08 (Advanced/Invention)

International class (IPC 1–7): B62K5/02 B62K5/08 B62M7/00

CPC: B62K5/02 B62K5/06 B62K5/08

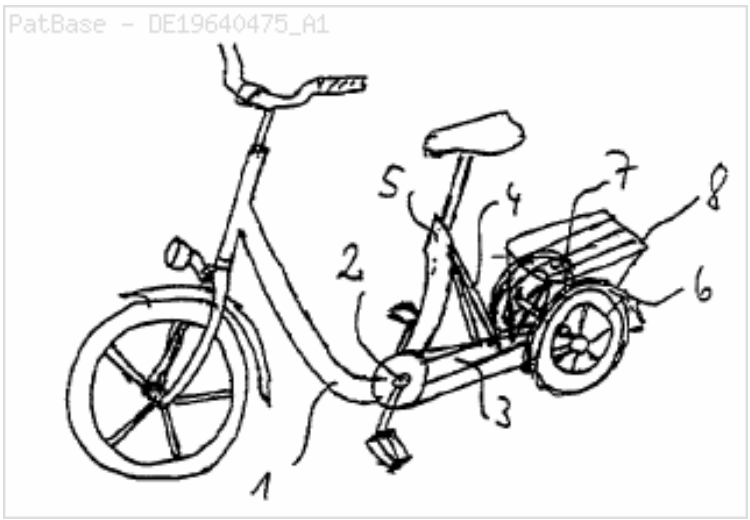
European class: B62K5/02 B62K5/06 B62K5/08

Classification Explorer

Cited documents: US3995875, US3931989, US3664683, GB1448805, DE9211853 U, DE4307269, DE1908826,

Forward Citations: GB2484091,

Abstract:
Source: DE19640475A1 The bicycle has a conventional frame with handlebars, front fork with wheel, saddle, and two rear wheels. The rear wheels are held on an auxiliary frame, etc., and this is pivoted relative to the bike frame about an axis, which extends approximately in direction of travel. The auxiliary frame is held on the main frame in a pivot bearing with limited movement. The frames may be connected via coaxially engaging tubular components, via bearings, comprising of at least one roller bearing or one slide bearing. The pivot bearing may be pretensioned in a central position. Only one of the rear wheels may be driven.



0) DE8913948U1 –

108) Family number: 17635127 (DE8913948U1) © PatBase

Priority: DE19890013948U 19891127

Family:

Publication number	Publication date	Application number	Application date
DE8913948 U1	19900125	DE19890013948U	19891127

Probable Assignee: FAHRRADFABRIK EMIL NIKLAS GMBH AND CO 5963 WENDEN DE

Assignee(s): FAHRRADFABRIK EMIL NIKLAS GMBH AND CO 5963 WENDEN ; FAHRRADFABRIK EMIL NIKLAS GMBH AND CO 5963 WENDEN DE

International class (IPC 8–9): B62J6/20 B62K19/40 (Advanced/Invention); B62J6/00 B62K19/00 (Core/Invention)

International class (IPC 1–7): B62J6/00 B62K21/04

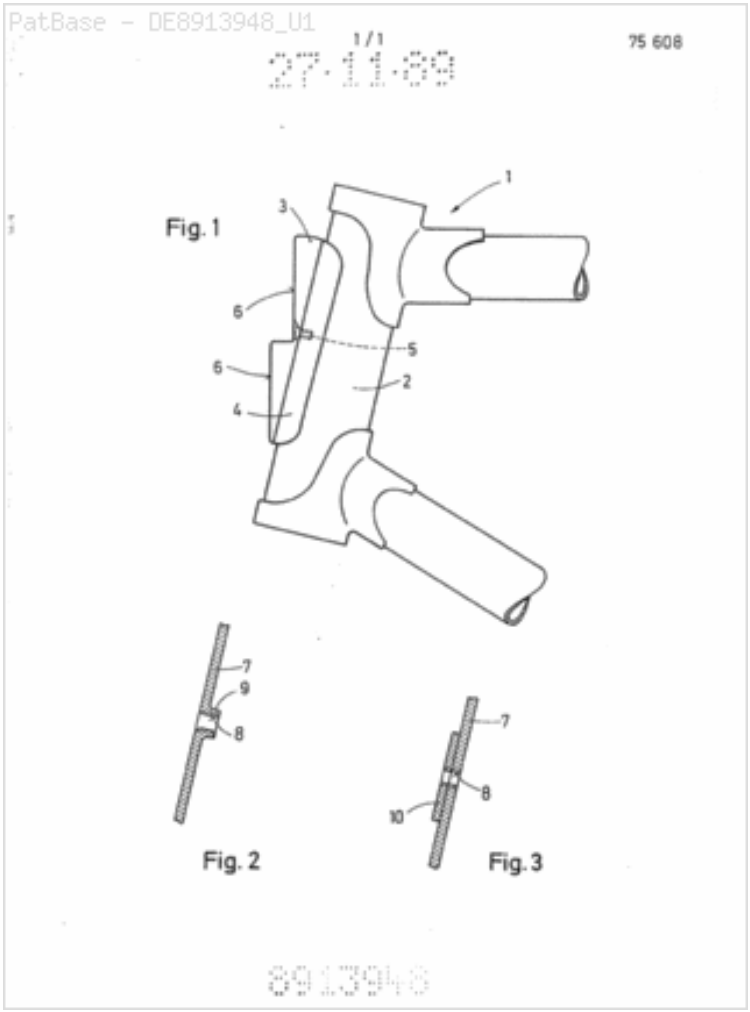
CPC: B62K19/40 B62J6/20

European class: B62J6/20 B62K19/40

Classification Explorer

Abstract:
Source: DE8913948U1 (Claim 1) Nach einer Novelle der Strassenverkehrs–Zulassungsordnung sind Fahrraeder nicht nur mit einer Leuchte auszustatten, es ist auch dafuer Sorge zu tragen, dass sie durch einen nach vorne gerichteten, passiven farblosen Frontreflektor sich auch dann anzeigen und bemerkbar machen, wenn, bspw.

Machine translation: (Claim 1) After an amendment to the Road Traffic Licensing Regulations are bicycles to equip not only with a lamp, it is also responsible to ensure that they are a forward–facing, passive colorless front reflector to make still view and noticeable when, example,



0) WO8801957A1 – MULTIPURPOSE SWEEPING CARRIAGE

109) Family number: 2902112 (WO8801957A1) © PatBase

Title: MULTIPURPOSE SWEEPING CARRIAGE

Priority: FR19860012730 19860909 FR19860016172 19861120 FR19870012350 19870907 WO1987FR00347 19870908

Family:

Publication number	Publication date	Application number	Application date
AU198779104 A1	19880407	AU19870079104	19870908
BRPI8707457 A	19881101	BR1987PI07457	19870908
EP0282519 A1	19880921	EP19870905762	19870908
ES2005656 AF	19890316	ES19870003054	19871026
FR2603629 A1	19880311	FR19860012730	19860909
FR2603629 B1	19920117	FR19860012730	19860909
FR2607163 A2	19880527	FR19860016172	19861120
FR2607163 B2	19920417	FR19860016172	19861120
WO8801957 A1	19880324	WO1987FR00347	19870908

Probable Assignee: LAVAULT C

Assignee(s):(std)**:** LAVAULT C ; LAVAULT CLAUDE

Inventor(s):(std)**:** CLAUDE LAVAULT ; LAVAULT CLAUDE

Agent(s): FB RICE

Designated states: AT AU BE BR CH DE FR GB IT JP LI NL SE US

International class (IPC 8–9)**:** B62B1/24 B62B3/00 B62K27/00 B62K5/027 B62K5/04 B62K5/05 B62K7/04 E01H1/00 (Advanced/Invention); B62B1/00 B62B3/00 B62K27/00 B62K5/00 B62K7/00 E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** B62B1/00 B62B1/24 B62K7/04 E01H1/00

CPC: B62B1/24 B62B3/00 B62B2202/90 B62B2203/04 B62K5/027 B62K5/05 B62K5/06 B62K7/04

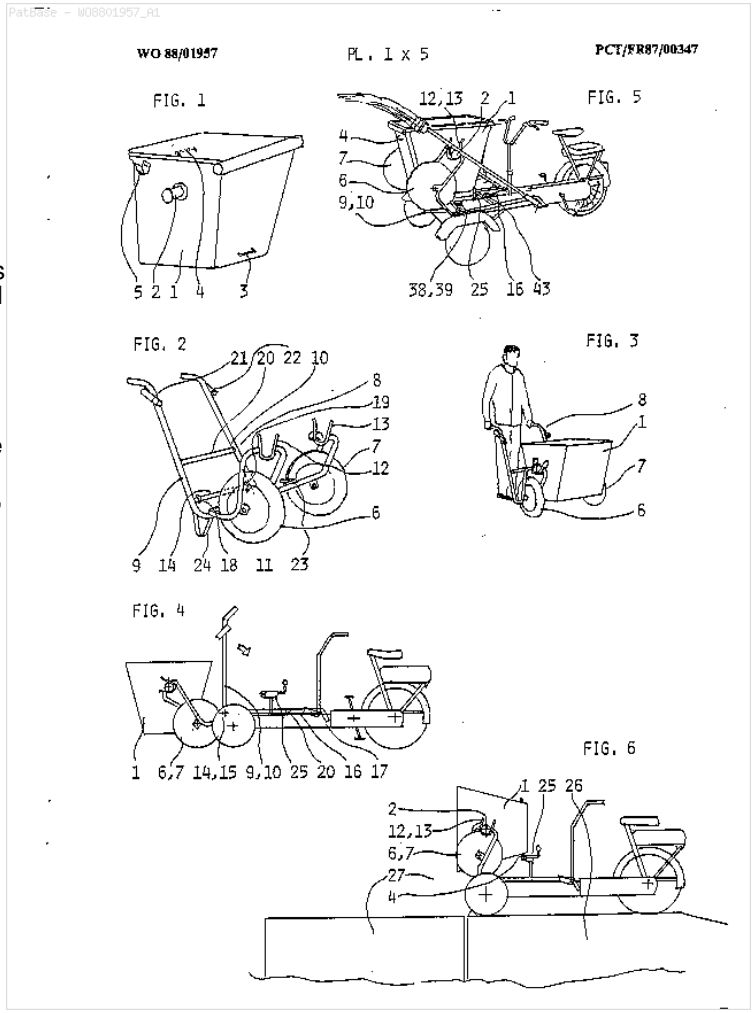
European class: B62B1/24 B62B3/00 B62K27/00 B62K5/027 B62K5/05 B62K5/06 B62K7/04 L62B202/90 L62B203/04

Classification Explorer

Cited documents: US3891106 A, US1838224 A, FR667429 A, FR2440861 A1, FR2343641 A1, FR1346971 A, FR1125132 A, EP0047706 A2, DE630988 A, DE1140479 B, CH82877 A, CH647988,

Forward Citations: WO14177154, WO06112688, FR2792600,

Abstract:
The multipurpose sweeping carriage is comprised of a three−wheel motor bicycle and of a wheelbarrow having a frame (70) supporting, by means of pivots (68) and supports of pivot (54, 55), a bucket (53), the supports of pivots being fixed sufficiently high on the bucket to provide for its self−stabilization by gravity in a horizontal position; the frame (70) is mounted on two big wheels (75) with rubber tread, and it comprises additionally a tubular tipping crossbar engaged into the U−shaped assembly fixed to the transverse beam (84) of the motor bicycle and cooperating with a crossbar (77) and a longitudinal stoppage fixed stop. The crossbar (77) is vertically immobilized by means of a latch (93); another latch arranged on the frame (70) maintains the bucket (73) in a utilization position as a wheelbarrow in a tipping position, or in a road position when the wheelbarrow is mounted on the motor bicycle.



0) US2002084386A – INFLATABLE AIRFOILS, AND ELEVATED AND PROPULSIO...

110) Family number: 30116243 (US2002084386A) © PatBase

Title: INFLATABLE AIRFOILS, AND ELEVATED AND PROPULSION DRIVEN VEHICLES

Priority: US20000617765 20000717 US20020035856 20020104 US20020200348 20020723 US20020200456 20020723

Family:

Publication number	Publication date	Application number	Application date
US2002084386 AA	20020704	US20020035856	20020104
US2003127566 AA	20030710	US20020200348	20020723
US2003127567 AA	20030710	US20020200456	20020723
US6398160 BA	20020604	US20000617765	20000717
US6508436 BB	20030121	US20020035856	20020104
US6659403 BB	20031209	US20020200456	20020723
US6688553 BB	20040210	US20020200348	20020723

Probable Assignee: HSIA CHIH YU

Assignee(s): HSIA CHIH YU

Inventor(s):(std)**:** HSIA CHIH YU

International class (IPC 8–9)**:** B64C3/30 B64C31/028 B64C31/04 (Advanced/Invention); B64C3/00 (Core/Invention)

International class (IPC 1–7)**:** B64C3/30 B64G1/62

CPC: Y10S244/903 B64C3/30 B64C31/028 B64C31/04 B64B2201/00

European class: B64C3/30 B64C31/028 B64C31/04 L64C201/00

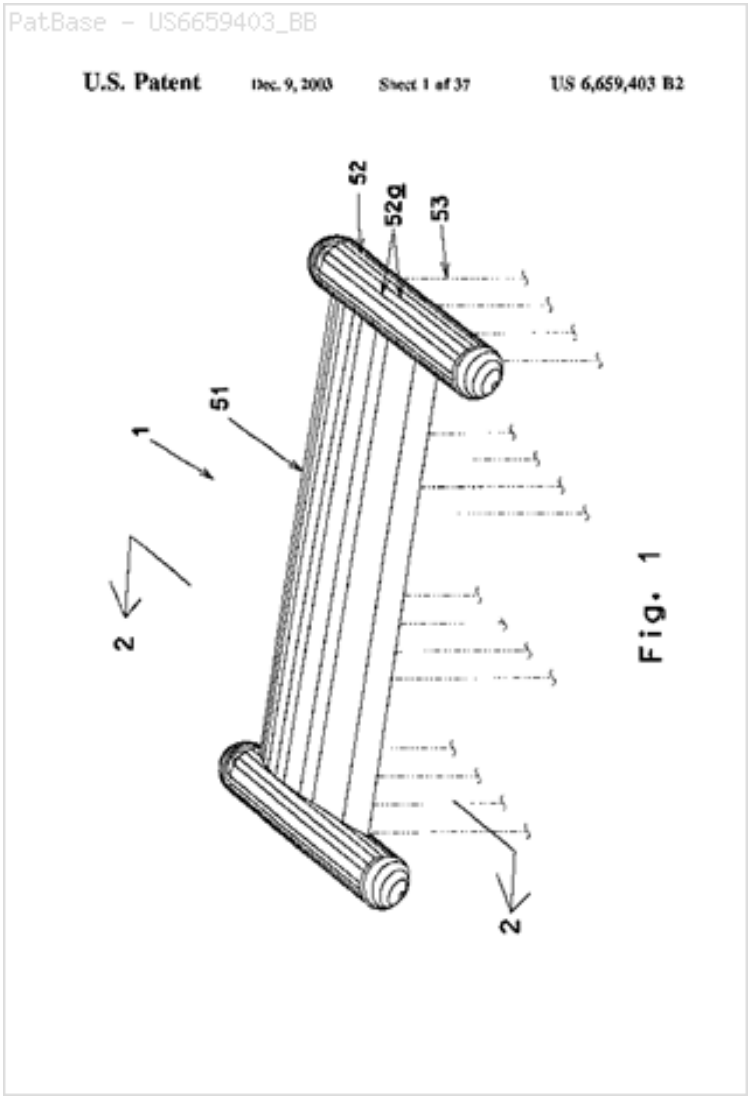
US class: 244/123 244/123.11 244/123.110P 244/146 244/161 244/2 244/35.00R 244/35R 244/903

Classification Explorer

Cited documents: US6398160 BA, US6360991 BA, US6327994 BA, US6082667 A, US5620153 A, US5527000 A, US5362017 A, US5160100 A, US5078335 A, US4858854 A, US4725021 A, US4657207 A, US4634080 A, US3957232 A, US3801044 A, US3412963 A, JP1195200 A2, DE2537660 A1, DE10050654 A1,

Forward Citations: WO08014524, USRE40926, US8991740, US8651432, US8487936, US8113459, US8104713, US8056866, US7575198, US7137592, US7137592, US7048227, US2014255189, US2014061362, US2012168555, US2012138733, US2011198437, US2010327122, US2010237192, US2010006703, US2009308984, US2009108126, US2008303824, US2008128558, US2005269441, US2005151007, US2005116089, US2003127567, FR2854373,

Abstract:
Source: US2002084386A An aeronautical apparatus, the combination comprising a primary airfoil having at least one panel which is an upper panel, a lower panel, and multiple gas containing tubes associated with the airfoil and extending lengthwise thereof, the tubes including relatively larger cross−section tubes positioned chordwise of the airfoil, and relatively smaller cross−section positioners located to stabilize the relatively larger cross−section tubes.



0) WO07019586A1 – COLLECTING DEVICE FOR BULK MATERIAL DISPOSITIF ...

111) Family number: 34216701 (WO07019586A1) © PatBase

Title: COLLECTING DEVICE FOR BULK MATERIAL

Priority: VN20050001111 20050808 WO2006VN00004 20060807

Family:

Publication number	Publication date	Application number	Application date
VN7748 A3	20090727	VN20050001111	20050808
WO07019586 A1	20070215	WO2006VN00004	20060807

Probable Assignee: PHAN DINH PHUONG

Assignee(s):(std)**:** PHAN DINH PHUONG

Inventor(s):(std)**:** PHAN DINH PHUONG

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): E01H1/05 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7): E01H1/05

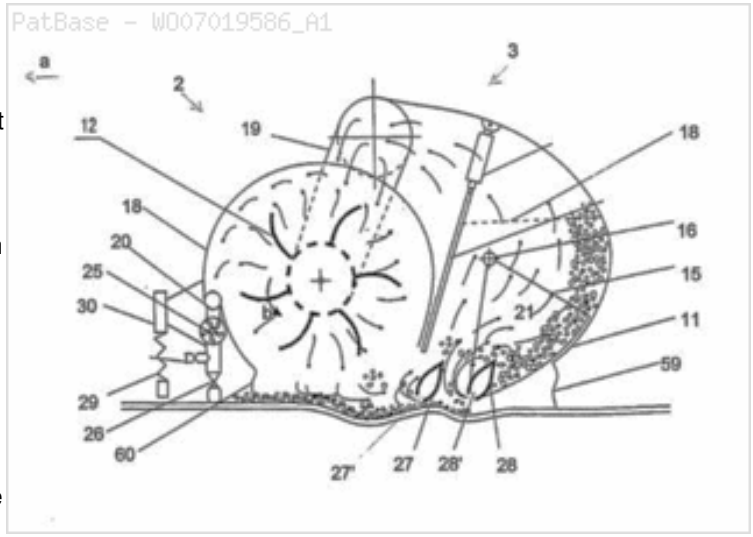
CPC: A01D51/007 E01H1/045 E01H1/047 E01H1/0818

European class: A01D51/00D E01H1/04C E01H1/04D E01H1/08B2

Classification Explorer

Cited documents: US3947912 A, US3947912, US2003028982 AA, US2003028982, GB2279221 A1, GB2279221, GB1142796 A, GB1142796,

Abstract:
The invention provides a collecting device (2) for bulk material on a substantially flat collecting surface, comprising a collecting unit formed to pivot around a horizontal rotary shaft on a frame (32) in a direction corresponding to the advance direction of the collecting device (2), a whirling unit disposed in the collecting unit and a container (1) having an opening face toward the collecting unit and mounted on the support frame (32) behind the container, a receiving member integrally formed in the container. With this structure, the collecting device (2) can operate effectively, reduce consumption of power and improve durability of the collecting unit. In addition, the invention also provides bulk material collecting vehicles including: collecting pushcart, collecting bicycle or collecting vehicle with engine applying the collecting unit. These vehicles are very cheap in cost, light weight, consume very little fuel, and therefore can operate in weak floor, such as pavement, and poor and rural areas can afford to buy these vehicles.



0) CN201296912Y – A HAND–PUSH SWEEPER

112) Family number: 43730070 (CN201296912Y) © PatBase

Title: A hand–push sweeper

Priority: CN200820222644U 20081111

Family:

Publication number	Publication date	Application number	Application date
CN201296912 Y	20090826	CN200820222644U	20081111

Probable Assignee: TE ZHANG

Assignee(s):(std)**:** TE ZHANG

Assignee(s): ZHANG TE

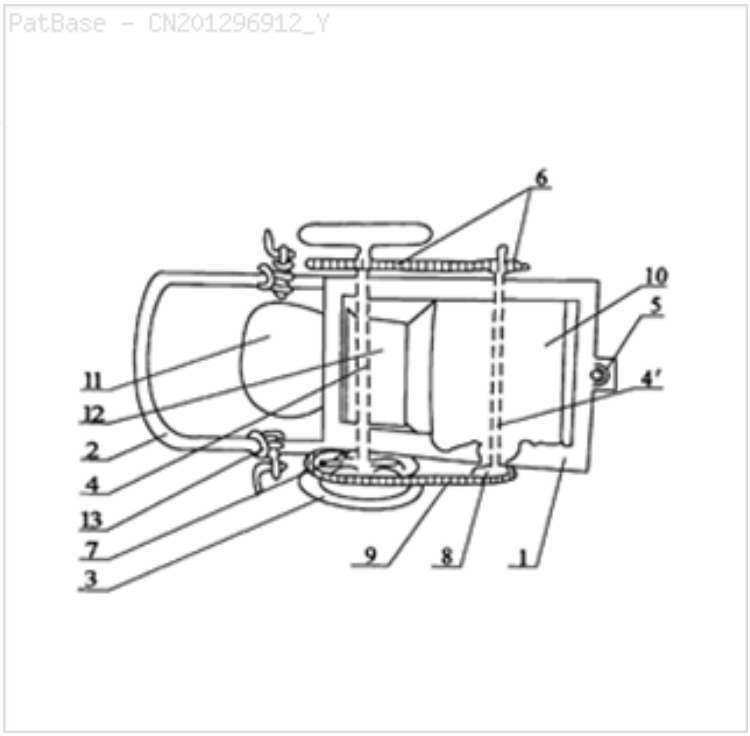
Inventor(s):(std)**:** CHEN ZHONG ; CHUNRONG LIU ; DAYU ZHANG ; RUI JIANG ; TE ZHANG ; YINCHAN MEI ; JING ZHANG

Inventor(s): LIU CHUNRONG ; MEI YINCHAN ; ZHANG DAYU ; ZHANG JING ; ZHANG TE ; ZHONG CHEN ; JIANG RUI

International class (IPC 8–9): E01H1/05 (Advanced/Invention); E01H1/00 (Core/Invention)

Classification Explorer

Abstract:
Source: CN201296912Y A hand–push sweeper composed of a bicycle frame, a handlebar, wheels, an axle, a universal wheel and a broom. a pair of ratchet mechanisms are respectively provided on the axletree and the broom axis at the right and left outer side of the bicycle frame, a rubbish file is in flexible connection at the lower part of the rear inner side of the bicycle frame, and a rubbish frame is provided on the rear part of the bicycle frame; the broom is provided in the front inner side of the bicycle frame, a spring clamp lock is provided at the handlebar. The hand–push sweeper is widely used in sweeping of urban streets and rural roads.



0) US2012295698A – PARI–MUTUEL WAGERING SYSTEM AND METHOD

113) Family number: 52396682 (US2012295698A) © PatBase

Title: PARI–MUTUEL WAGERING SYSTEM AND METHOD

Priority: US20110514629P 20110803 US20120565711 20120802 US20130057352 20131018 WO2012US49352 20120802

Family:

Publication number	Publication date	Application number	Application date
AU2012290002 AA	20130207	AU20120290002	20120802
GB201403715 A0	20140416	GB20140003715	20120802
GB2509259 A1	20140625	GB20140003715	20120802
US2012295698 AA	20121122	US20120565711	20120802
US2014045588 AA	20140213	US20130057352	20131018
US8585496 BB	20131119	US20120565711	20120802
WO13019962 A2	20130207	WO2012US49352	20120802
WO13019962 A3	20130425	WO2012US49352	20120802
WO13019962 A4	20130613	WO2012US49352	20120802

Probable Assignee: LEMINO LLC

Assignee(s):(std): DEMINO NICHOLAS ; NEARY TIMOTHY

Assignee(s): NICHOLAS DEMINO ; TIMOTHY NEARY ; LEMINO LLC

Inventor(s):(std): DEMINO NICHOLAS ; NEARY TIMOTHY

Inventor(s): NICHOLAS DEMINO ; TIMOTHY NEARY

Agent(s): MARKS AND CLERK AUSTRALIA; KATHERINE H; WOODS OVIATT GILMAN LLP; MCGUIRE KATHERINE H

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G06F17/00 G06Q50/34 G07F17/32 (Advanced/Invention)

CPC: G06Q50/34 G07F17/3258 G07F17/3288

US class: 463/16 463/25 463/28

Classification Explorer

Cited documents: US7094151 BB, US5846132 A, US2006252520 AA, US2005003888 AA, KR20100001466 A, KR20000054392 A,

Forward Citations: WO14127312, US2016189483, US2015287265,

Abstract:
Source: US2012295698A A method for conducting pari−mutuel wagering on an multi−action event, comprising the steps of providing at least one wagering computing system for ranking of participants in the event; establishing preliminary odds of winning a wager, based in part upon the rankings, for a plurality of individual actions of the multi−action event; accepting wagers for each of the plurality of individual actions; pooling respective wagers for each of the plurality of individual actions into a respective action−specific pool; calculating, using the wagering computing system, final odds of winning each of the plurality of individual actions using the action−specific pool; and paying winnings as determined by the final odds to one or more bettors who wagered a correct outcome for each of the plurality of individual actions.

PatBase - WO13019962_A2

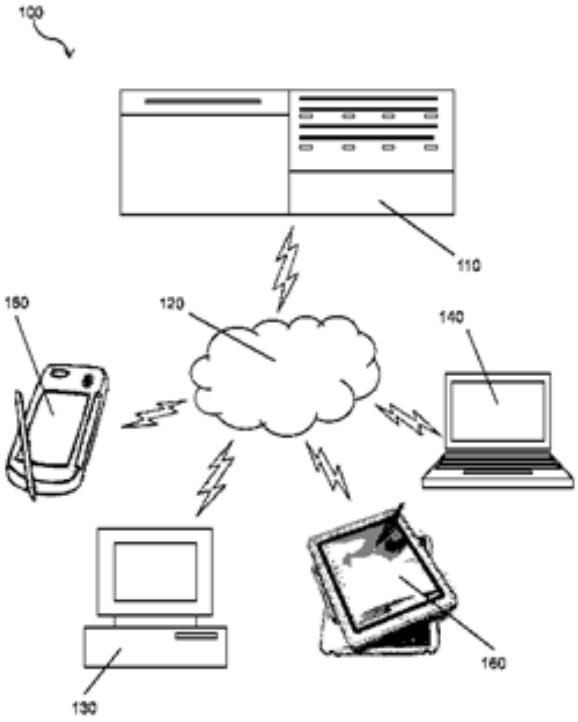


FIG. 1

0) CN104511556A – THREAD ROLLING DIE FOR BICYCLE

114) Family number: 58974152 (CN104511556A) © PatBase

Title:	THREAD ROLLING DIE FOR BICYCLE
Priority:	CN201410777794 20141217

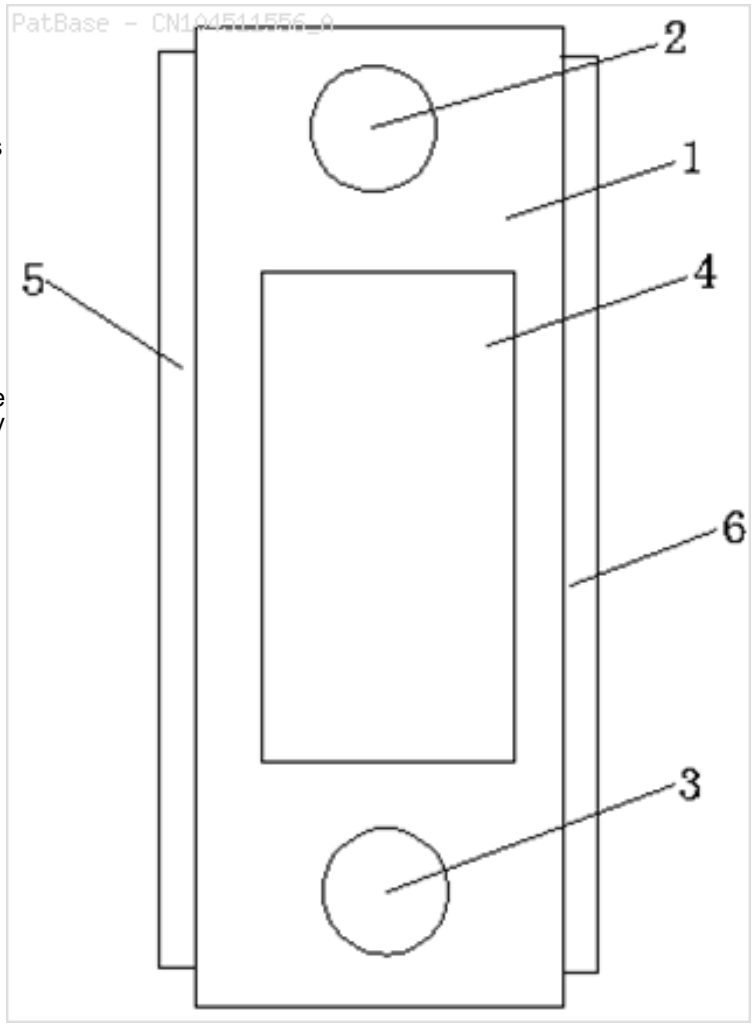
Family:

Publication number	Publication date	Application number	Application date
CN104511556 A	20150415	CN201410777794	20141217

Probable Assignee:	WUXI CITY STAR TOOL FACTORY
Assignee(s):(std):	WUXI CITY STAR TOOL FACTORY
Assignee(s):	TOOLS CO LTD WUXI VENUS
Inventor(s):(std):	XU XIWEI
International class (IPC 8–9):	B21H3/06 (Advanced/Invention)
CPC:	B21H3/06

Classification Explorer

Abstract:
Source: CN104511556A The invention discloses a thread rolling die for a bicycle. The thread rolling die for the bicycle comprises a thread rolling die body, a first sweeps absorption and storage hole, a second sweeps absorption and storage hole, a first thread rolling surface, a second thread rolling surface and a third thread rolling surface, the first sweeps absorption and storage hole is formed in the upper part of the thread rolling die body, the second sweeps absorption and storage hole is formed in the lower part of the thread rolling die body, the first thread rolling surface is arranged at the middle of the thread rolling die body, and the second thread rolling surface and third thread rolling surface are respectively arranged at two sides of the thread rolling die body. By means of said mode, the thread rolling die for the bicycle is capable of absorbing and storing the sweeps, the thread rolling surface abrasion is reduced, and the thread rolling surfaces can meet different requirements.



0) DE102014015248A1 – DIGITALER RUECKSPIEGEL FUER EIN FAHRRAD SOWIE F...

115) Family number: 59002054 (DE102014015248A1) © PatBase

Title: DIGITALER RUECKSPIEGEL FUER EIN FAHRRAD SOWIE FAHRRAD MIT EINEM SOLCHEN RUECKSPIEGEL Rear–DIGITAL FOR A BIKE AND BICYCLE WITH SUCH A Rear View Mirror (Machine translation)

Priority: DE201310017241 20131016 DE201410015248 20141016

Family:

Publication number	Publication date	Application number	Application date
DE102014015248 A1	20150416	DE201410015248	20141016

Probable Assignee: KRIEGER CLAUS GEORG

Assignee(s):(std)**:** KRIEGER CLAUS GEORG

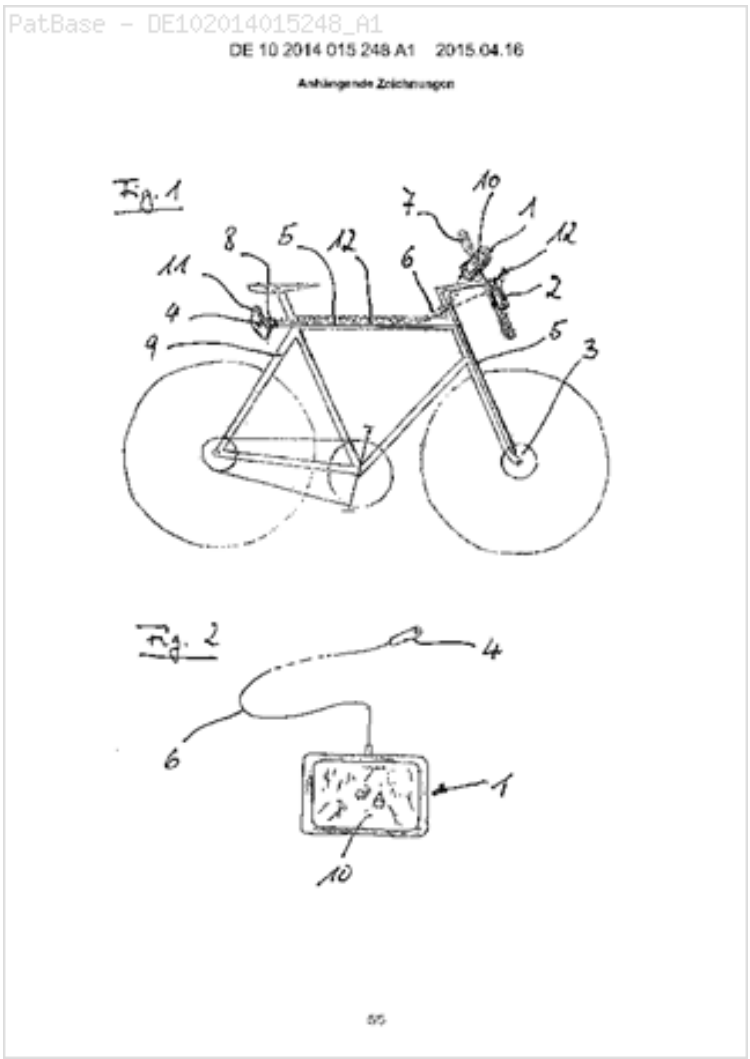
Inventor(s):(std)**:** KRIEGER CLAUS GEORG

International class (IPC 8–9): B62J29/00 H04N7/18 (Advanced/Invention)

CPC: B62J29/00 H04N7/183

Classification Explorer

Abstract:
Source: DE102014015248A1 Die Erfindung befasst sich mit einem digitalen Rueckspiegel fuer ein Fahrrad, der ein digitales Anzeigegeraet 1 aufweist, das einen Bildschirm 10 aufweist und das mit einer ersten Stromversorgung verbunden ist und das an einem Lenker 7 des Fahrrads anbringbar ist, und der eine Digitalkamera 4 aufweist, die mit einer zweiten Stromversorgung verbunden ist und im hinteren Bereich des Fahrrads nach hinten ausgerichtet anbringbar ist, wobei die von der Digitalkamera 4 aufgenommenen Bilder ueber eine Datenuebertragungsvorrichtung an das Anzeigegeraet 1 uebertragen werden und dort auf dem Bildschirm 10 angezeigt werden. Ausserdem befasst sich die Erfindung mit einem Fahrrad mit einem erfindungsgemaessen digitalen Rueckspiegel, wobei das Anzeigegeraet 1 loesbar am Lenker 7 befestigt ist und die Digitalkamera 4 loesbar im hinteren Bereich des Fahrrads nach hinten ausgerichtet angebracht ist. The invention deals with a digital Rear–for a bicycle, which comprises a digital Anzeigegeraet 1, which has a screen 10 and which is connected to a first power supply and which is attachable to a handlebar 7 of the bicycle, and a digital camera 4 which is connected to a second power supply and the rear of the bike backwards is aligned mountable unit with the recorded from the digital camera 4 images will be processed in about a Datenuebertragungsvorrichtung to the Anzeigegeraet 1 and displayed there on the screen 10. Furthermore, the invention relates to a bicycle with an inventive digital Rear View Mirror, said Anzeigegeraet 1 is releasably attached to the handlebars 7 and the digital camera 4 is removably mounted aligned at the rear of the bike backwards.



116) Family number: 59262314 (CN204325993U) © PatBase

Title: MANUALLY–CONTROLLED SWEEPING MAN–POWERED BICYCLE

Priority: CN201420835824U 20141219

Family:

Publication number	Publication date	Application number	Application date
CN204325993 U	20150513	CN201420835824U	20141219

Probable Assignee: HANDAN COLLEGE

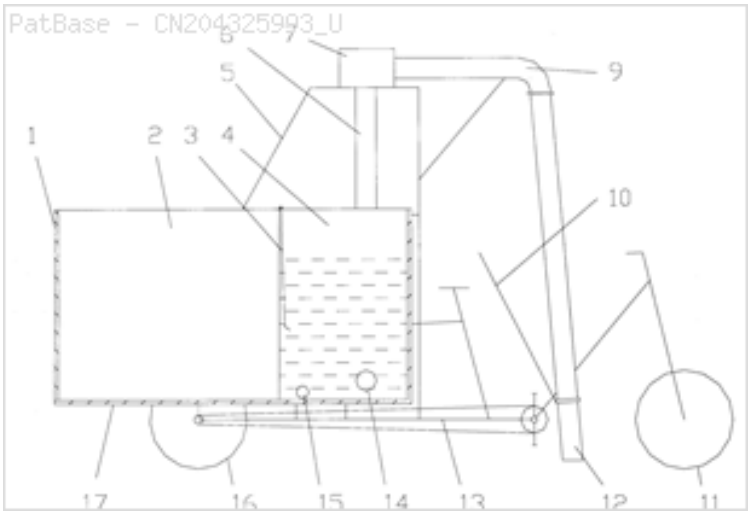
Assignee(s):(std)**:** HANDAN COLLEGE

Inventor(s):(std)**:** LI HAN ; LI ZENGCHAO ; WANG MENG

International class (IPC 8–9): E01H1/08 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN204325993U The utility model relates to a manually–controlled sweeping man–powered bicycle. The front part and the rear part of a bicycle frame are fixedly provided with a front wheel and a rear wheel through bearings respectively. A garbage can is fixed to the portion, on the rear wheel, of the bicycle frame. The garbage can is provided with a sundry bin and a dustproof bin. A fan frame is fixed to the portion, above the garbage can, of the bicycle frame. An internal combustion dust collection fan is fixedly arranged on the fan frame. An air inlet of the internal combustion dust collection fan and one end of a horizontal pipe are sealed fixedly. The other end of the horizontal pipe and an air hose are sealed fixedly. An air outlet of the internal combustion dust collection fan and the upper end of a vertical pipe are sealed fixedly. The lower end of the vertical pipe and the inner bottom of the dustproof bin are sealed and communicated. Water is contained inside the dustproof bin. The manually–controlled sweeping man–powered bicycle is simple in structure, clean and environmentally friendly and is manually controlled.



0) CN204713246U – AUTOMATIC LOCK BICYCLE PARK

117) Family number: 60629075 (CN204713246U) © PatBase

Title: AUTOMATIC LOCK BICYCLE PARK

Priority: CN201520333384U 20150521

Family:

Publication number	Publication date	Application number	Application date
CN204713246 U	20151021	CN201520333384U	20150521

Probable Assignee: XU MIN

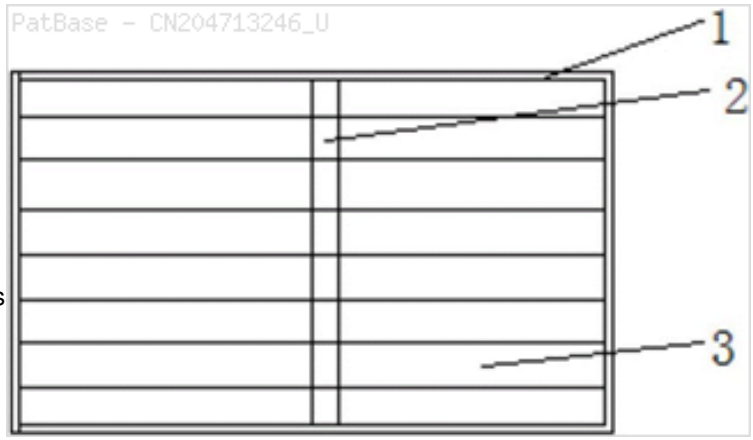
Assignee(s):(std)**:** XU MIN

Inventor(s):(std)**:** XU MIN

International class (IPC 8–9)**:** B62H3/08 B62H5/00 E04H6/00 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN204713246U The utility model discloses an automatic lock bicycle park belongs to bicycle technical field. It includes bicycle park and automatic locking system, and the bicycle park comprises a frame and a strip shaped plate, and whole bottom plate is arranged into along length direction side by side to a N strip shaped plate, and the outer fringe of whole bottom plate is inlayed and is had the frame, is equipped with a N wheel on the central line of strip shaped plate and enters the mouth and an automatic locking system, and centre that a N wheel entered the mouth all is equipped with the trick lock, the trick lock all with automatic locking system circuit connect, be equipped with four pillars on four angles of whole bottom plate, four pillars are supporting the ceiling, N be the natural number, N greater than or equal to 2, wheel entry be at the both sides NULL of the central line of whole bottom plate, evenly distributed, the automatic locking system includes that display, password export, sweep a yard department, locking key, closed key and microprocessor. It has been realized the firm of bicycle and has neatly parked, can pin the bicycle voluntarily, saves time, can realize that the bicycle is rain –proof sun –proof dustproof.



118) Family number: 62292867 (CN205206442U)

© PatBase

Title: PARKING AREA INTELLIGENT SCHEDULING SERVO MACHINE

Priority: CN201521090064U 20151224

Family:

Publication number	Publication date	Application number	Application date
CN205206442 U	20160504	CN201521090064U	20151224

Probable Assignee: LI YUERAN

Assignee(s):(std)**:** LI YUERAN

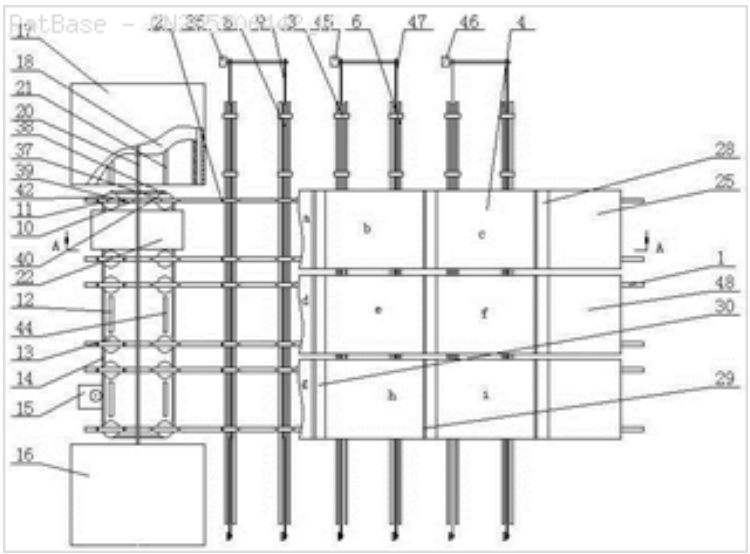
Assignee(s): LI YUE BURNING

Inventor(s):(std)**:** LI YUERAN

International class (IPC 8–9): E04H6/42 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN205206442U The utility model provides a parking area intelligent scheduling servo machine, including the bicycle parking platform, set up linear guide on the bicycle parking platform, it carries the sweep all to install the several on every linear guide of group, each year sweep on every linear guide of group is arranged along the length direction who straightens line track, adjacent two carry sweep longitudinal movement relatively, the leading wheel is all installed to every year sweep bottom, the last several spread groove that sets up of linear guide, the longitudinal rail is located the spread groove, set up the several slide rail that to follow the longitudinal rail and remove on the longitudinal rail, the slide rail docks with the linear guide of spread groove department, the sweep that carries that is located linear guide one end all is connected with the draw back plate, the draw back plate can be followed linear guide and removed, the lateral shifting who carries the sweep is realized by the motor drive draw back plate, the longitudinal movement who carries the sweep is by the motor drive stay cord, remove along the longitudinal rail. The utility model discloses a structure can more than enough 30 percent the parking stall of making under the circumstances the same with present garage parking area to has the quick advantage of business turn over vehicle.



0) DE9411393U1 – FAHRRADSITZ BICYCLE SEAT (MACHINE TRANSLATIO...

119) Family number: 16269768 (DE9411393U1) © PatBase

Title: Fahrradsitz Bicycle seat (Machine translation)

Priority: DE19940011393U 19940714

Family:

Publication number	Publication date	Application number	Application date
DE9411393 U1	19940922	DE19940011393U	19940714

Probable Assignee: SCHMITT SIEGBERT DIPL ING

Assignee(s):(std)**:** SCHMITT SIEGBERT DIPL ING

Assignee(s): SCHMITT SIEGBERT DIPL ING 44143 DORTMUND DE

International class (IPC 8–9): B62J1/00 B62J1/04 (Advanced/Invention)

International class (IPC 1–7): B62J1/00

CPC: B62J1/04 B62J1/002 B62J1/005

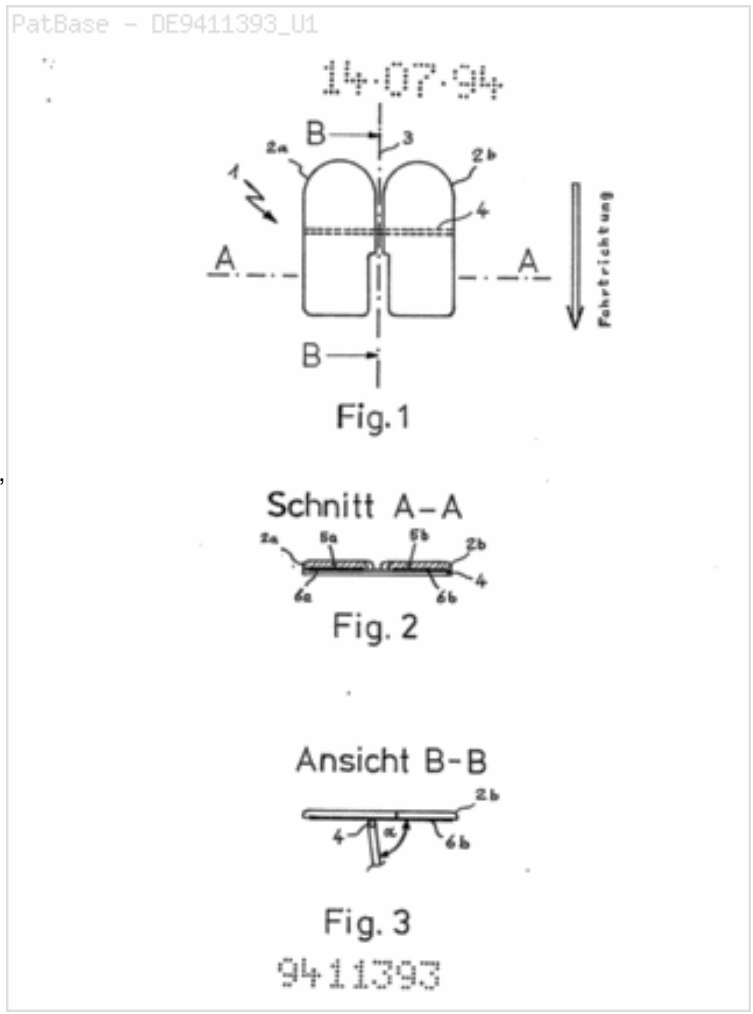
European class: B62J1/00 B62J1/00B B62J1/00C B62J1/04

Classification Explorer

Forward Citations: DE19834903,

Abstract:
Source: DE9411393U1 (Claim 1) 1. Fahrradsitz, dadurch gekennzeichnet, dass dieser aus zwei symmetrischen Sitzhaelften, der rechten Sitzhaelfte (2a) und der linken Sitzhaelfte (2b) besteht, die entlang der Symmetrieachse (3) in Fahrradlaengsrichtung mindestens mit einem Spalt Abstand so angeordnet sind, dass eine gegenseitige Beruehrung verhindert wird und dass die beiden Sitzhaelften (2a) und (2b) unabhaengig voneinander um die Drehachse (4) quer zur Symmetrieachse (3) drehbar um einen Drehwinkel a sind, der etwa den Bereich von der horizontalen bis zur vertikalen Lage in Richtung der Vorwaertsdrehrichtung der Raeder des Fahrrades ueberstreicht.

Machine translation: (Claim 1) 1 Bicycle seat, characterized in that the two symmetric Sitzhaelften, right Sitzhaelfte (2a) and the left Sitzhaelfte (2b) is given, which are along the symmetry axis (3) in Fahrradlaengsrichtung least arranged with a gap distance so that a mutual contact prevents and that the two Sitzhaelften (2a) and (2b) independently of each other around the rotational axis (4) perpendicular to the symmetry axis (3) rotatable about a rotation angle a, which is about the area from the horizontal to the vertical position toward the Vorwaertsdrehrichtung the wheels of the bike sweeps.



0) BRMU6800618U – VARREDOR DE DETRITOS DEBRIS SWEEPER (MACHINE...

120) Family number: 206461 (BRMU6800618U)

© PatBase

Title:	VARREDOR DE DETRITOS DEBRIS SWEEPER (Machine translation)
Priority:	BR1988MU00618U 19880328

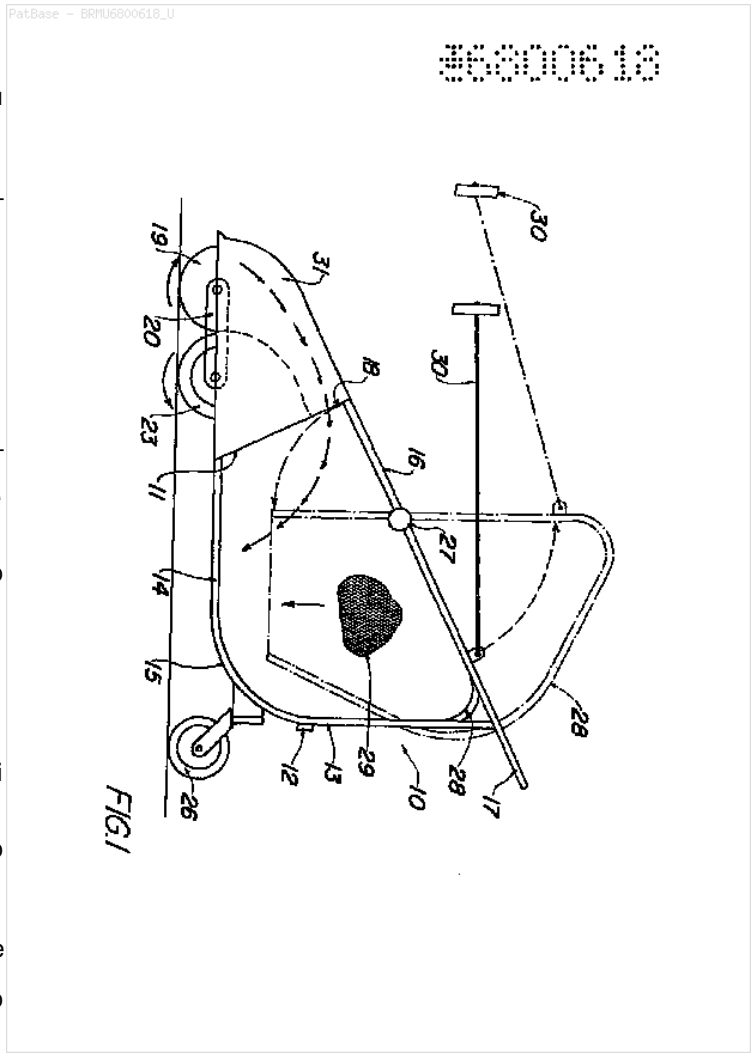
Family:

Publication number	Publication date	Application number	Application date
BRMU6800618 U	19891031	BR1988MU00618U	19880328

Probable Assignee:	BELLANDI FERDINANDO L
Assignee(s):(std):	BELLANDI FERDINANDO L
Assignee(s):	FERDINANDO LEOPOLDO BELLANDI
Inventor(s):(std):	BELLANDI FERDINANDO LEOPOLDO
Inventor(s):	FERDINANDO LEOPOLDO BELLANDI
International class (IPC 8–9):	A47L11/08 (Advanced/Invention); A47L11/00 (Core/Invention)
International class (IPC 1–7):	A47L11/08

Classification Explorer

Abstract:
Source: BRMU6800618U [Source: Claim 1] REIVINDICACOES 1# "VARREDOR DE DETRITOS", a ser empurrado por operador ou a ser puxado por veiculos mecanicos ou animais, cara cterlzado pelo fato de compreender basicamente uma es – 5 trutura (10) constituida por um par de armacoes late – rais unidas, anteriormente, por uma chapa inclinada (11) e, posteriormente, por uma travessa horizontal (12) , sendo dita estrutura assentada, poster!ormente, – sobre um par de rodizios anto–orientavels (26) e, ante– 10 ri ormente, sobre uma escova rotativa (19) e uma roda – propulsora central (23) interligada a uma caixa de transmissao (2b) e a uma trava (25), dita escova Q.9) – estando posicionada entre bracos oscilantes (20) que – permitem a esta lancar os detritos captados para dentro 15 de um cesto coletor basculante (28) posicionado no inta ri or da estrutura (10) e 2. "VARREDOR DE DETRITOSss, de acordo com a reivindica – cao 1, caracterizado pelo fato de cada armacao lateral– ser definida por um segmento vertical posterior (13) – 20 perpendicularmente interligado a um segmento inferior – ah) atraves de uma quina.arqueada (15) e por um segmefl to inclinado superior (16) de extremo posterior projeta do para alem do segmento vertical posterior (13) const e ¦ • ss • ss • • • •• ¦ • ¦ ¦ ss i i ••• m # » ss « 2 " tulndo tuna alca ou cabo (17) • 3» "VARREDOR DB DETRITOS11, de acordo com a reivindica – cao 1, caracterizado pelo fato da chapa Inclinada (11)– possuir em sua parte superior uma abertura (18) de pas– sagem de detritos, disposta em comunicacao com o Inte – ri or do cesto coletor basctCLante (28). kss "VARREDOR DB DETRITOS", de acordo com a reivindica – cao 1, caracterizado pelo fato dos bracos oscilantes – (20) serem ligados por meio de pinos adequados (21) aos extremos correspondentes do segmento inferior (l2i) de – cada armacao lateral, sendo que um dos pinos (21) pro



– longa–se para o centro da estrutura (10) definindo um – eixo de transmissao (22) da roda de propulsao (23)# 5ss "VARREDOR DE DETRITOS", de acordo com a reivindica – cao 1, caracterizado pelo fato dos bracos oscilantes – (20) serem obtidos em forma de caixa, um dos quais con– tendo uma transmissao composta de duas engrenagens e – uma corrente tipo "bicicleta" de transmissao de movime to rotatSrio ao referido eixo (22) p and ra a escova rotatjL va (19)# 6m "VARREDOR DE DETRITOS", de acordo com a reivindica – cao 1, caracterizado pelo fato do cesto coletor basca – lante (28) possuir conformacao identica a da estruturam (10), possuindo armacao de tecidos (29) fechando todos– os seus lados com excecao de sua parte frontal coinci – dente com a chapa inclinada (11), dito cesto estando £)L xado por meio de pinos (27) a porcao mediana de cada se ¦ e #ss • •a " 3 – gmento inclinado superior (16), sendo um desses ultimos dotado de tun elemento puxador (50)ss 7ss "VARREDOR DE DETRITOS", de acordo com a reivindica – cao 1, caracterizado pelo fato de ser previsto tua car – 5 ter dianteiro (31) fechando a regiao anterior do. varre– dor ate a chapa inclinada (11)ss 8ss "VARREDOR DE DETRITOS", de acordo com a reivindica – cao 1, caracterizado pelo fato da caixa de transai ssao– (2I0 transmitir movimento de rotacao inverso ao eixo – 10 (22), [Source: Claim 1] CLAIMS # 1 "to DEBRIS SCANNER", being pushed by operator or being pulled by mechanical vehicles or animals, man cterlzado by the fact to understand basically an es–5 structure (10) comprising a pair of bark frameworks–rais, earlier, by a sloping plate (11) and, later, by a horizontal crosspiece (12), being seated structure dictates, poster!, about a mentioned pair of Castor anto–orientavels (26) and, ante–10 ri mentioned, on a rotating brush (19) and a driving wheel central (23) connected to a case (2b) and a lock (25), said brush Q. 9)–being positioned between oscillating arms (20) that–allow this launch debris collected inside basket overhead collector january 15 (28) positioned on the inta ri or the shell (10) and 2. "DEBRIS ss SCANNER, according to claims–cao 1, characterized by the fact that each side be defined by armacao a vertical segment (13)–20 perpendicularly connected to a segment lower–ah) through a corner. (15) and arched by a segmefl to inclined top (16) posterior end protruding from the beyond vertical segment (13) const and... • • • • • • • • ¦ ¦ ¦ ss i i • • • m # ' ss ' 2" tulndo tuna FTAA or cable (17) • 3» "DB SCANNER DETRITOS11 in accordance with the claims–cao 1, characterized by the fact of Inclined plate (11)–have in its top an opening (18) of pas–sagem, in communication with the Inte–ri or the basket basctCLante collector (28). k ss "DB SCANNER DEBRIS", in accordance with the claims–cao 1, characterized by the fact of oscillating arms–(20) are connected by means of appropriate pins (21) to the corresponding lower elevation extremes (l2i)–each side a armacao dos pinos (21) pro–long to the center of the structure (10) setting a–transmission shaft (22) propulsion wheel (23) # 5 ss "DEBRIS" SCANNER in accordance with the claims–cao 1, characterized by the fact of oscillating arms–(20) are obtained in the form of a box of which con–having a transmission consisting of two gears and–a current type "bicycle" of movement transmission to the rotatSrio shaft (22) p and ra rotatjL va brush (19) # 6 m "DEBRIS" SCANNER, according to claims 1–cao, characterized by the fact of Basque collector basket–lante (28) own conformation identical to the structure (10), possessing armacao de tissues (29) closing all–sides except for its front–tooth with the match tilted plate (11), said basket being £) L attached via pins (27) the average portion of each if... and # ss • • "3–gmento inclined top (16), being one of those last with tun element handle (50) ss 7 ss "DEBRIS SWEEPER", according to the claims–cao 1, characterized by the fact of being provided for your car–5 have front (31) closing the previous region. sweeps–pain up to the inclined plate (11) ss 8 ss "DEBRIS SWEEPER", according to the claims–cao 1, characterized by the fact of transai box ssao–(transmit rotation movement 2I0 inverse to the axis–10 (22),

0) US6862948B – SHIFTER FOR A BICYCLE USING A DUAL ACTION LEVER...

121) Family number: 31727029 (US6862948B) © PatBase

Title: SHIFTER FOR A BICYCLE USING A DUAL ACTION LEVER WHICH MOVES IN THE SAME MOTION AS THE NATURAL MOVEMENT OF THE THUMB

Priority: US20010330282P 20011018 US20020272235 20021016

Family:

Publication number	Publication date	Application number	Application date
US6862948 BA	20050308	US20020272235	20021016

Probable Assignee: TIEN HSIN IND CO LTD

Assignee(s): CALENDRILLE JR JOHN L ; TIEN HSIN IND ; TIEN HSIN IND CO LTD

Inventor(s):(std)**:** CALENDRILLE JR JOHN L

Agent(s): RICHARD M

International class (IPC 8–9)**:** B62K23/06 B62M25/04 G05G11/00 (Advanced/Invention); B62K23/00 B62M25/00 G05G11/00 (Core/Invention)

International class (IPC 1–7)**:** G05G11/00

CPC: B62M25/08 B62K23/06 B62M25/04 Y10T74/20287 Y10T74/2042 Y10T74/20438

European class: B62K23/06 B62M25/04 B62M25/08

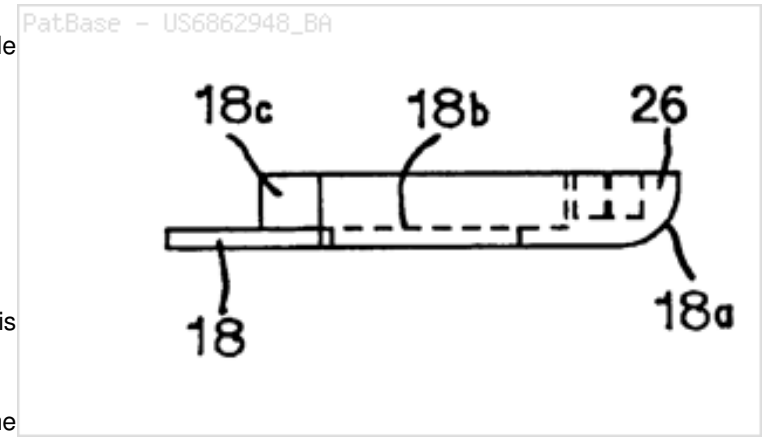
US class: 74/489 74/501.6 74/502.2

Classification Explorer

Cited documents: US6305237 BA, US6155132 A, US6095010 A, US5768945 A, US5303608 A, US5203213 A, US5012692 A, US4343201 A, US2001023621 AA,

Forward Citations: US9334020, US8777788, US8201477, US8016705, US7849764, US7488279, US7437969, US2010269623, US2009165591, US2008264197, US2008257089, US2008148898, US2007261508, US2007068316, US2006070484, US2006070479, US2005187077, EP1935776, EP1922244,

Abstract:
Source: US6862948B A shift lever for a bicycle having a derailleur, includes a housing including a clamp head for mounting the housing on a handlebar of the bicycle and a cavity therein; a gear connected with the cable, rotatably mounted in the cavity and having first and second sets of teeth; a major pawl element mounted to the housing and biased by a spring into engagement with the first set of teeth; a main lever rotatably mounted to the housing, having a thumb engaging end and a substantially common axis of movement with a person's thumb during a shifting operation, such that the main lever moves in a natural direction of movement of the thumb to tighten a grip of the person on the handlebar on which the shift lever is mounted; and a minor pawl element for engaging the second set of teeth.



0) US2005257640A – FIBER REINFORCED PLASTIC BICYCLE RISER BAR

122) Family number: 32435867 (US2005257640A) © PatBase

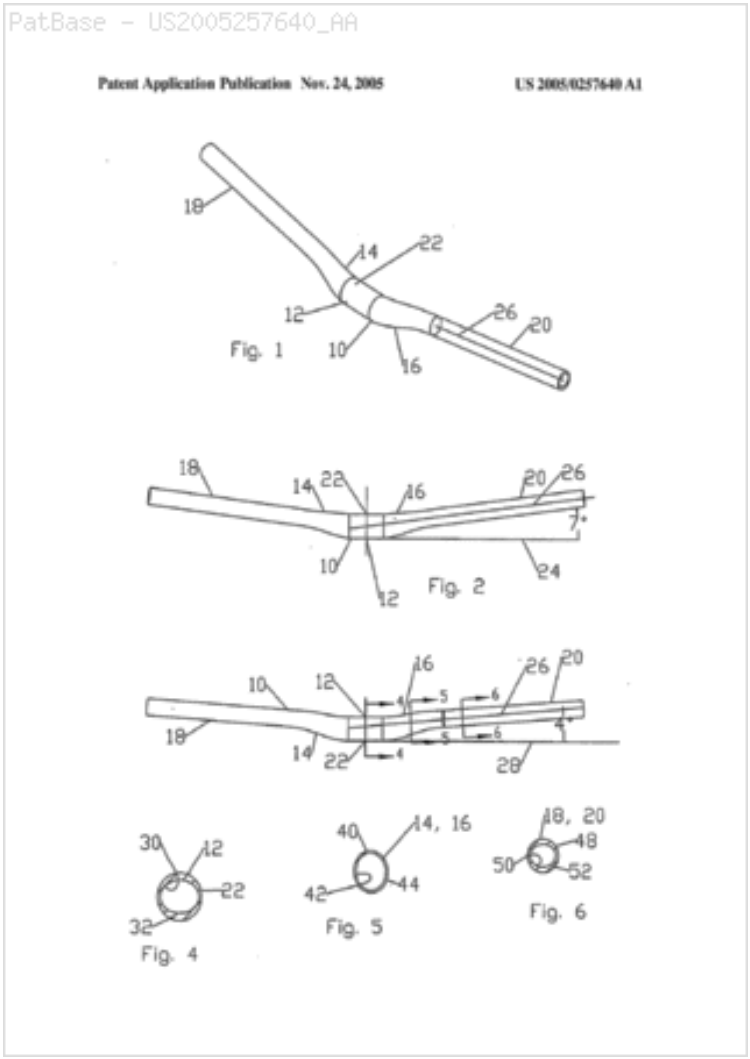
Title:	FIBER REINFORCED PLASTIC BICYCLE RISER BAR
Priority:	US20040850879 20040521

Family:

Publication number	Publication date	Application number	Application date
US2005257640 AA	20051124	US20040850879	20040521

Probable Assignee:	TREK BICYCLE CORP
Assignee(s):(std):	ADDINK BRAD ; BALMER JOHN ; CARLSON CHRISTOPHER R
Assignee(s):	TREK BICYCLE CORP
Inventor(s):(std):	ADDINK BRAD ; BALMER JOHN ; CARLSON CHRISTOPHER R
Inventor(s):	CARLSON CHRISTOPHER ROBERT ; CARLSON CHRISTOPHER
Agent(s):	DAVID C BREZINA BARNES AND THORNBURG LLP
International class (IPC 8–9):	B62K19/16 B62K21/12 (Advanced/Invention); B62K19/00 B62K21/00 (Core/Invention)
International class (IPC 1–7):	B62K21/12
CPC:	B62K19/16 B62K21/12 Y10T74/2078
European class:	B62K19/16 B62K21/12
US class:	74/551.1
Classification Explorer	
Cited documents:	US6458306 BA, US6340509 BA, US6270104 BA, US5985197 A, US5832785 A, US5638870 A, US5624519 A, US5557982 A, US5503773 A, US5271784 A, US5269196 A, US5117708 A, US5083476 A, US4437679 A, US4322087 A, US2003094067 AA,
Forward Citations:	US2009049949, EP1880935,

Abstract:
Source: US2005257640A A fiber reinforced plastic bicycle handlebar of the riser bar configuration has circular exterior surfaces throughout its length, with elliptical interior section oriented relative to the expected loads and the sweep and rise of the bar for improved weight, strength, stiffness and comfort, using a plurality of laminations in lay−up of fiber reinforced epoxy preimpregnated layers with fiber orientation and lamination numbers providing extra material to tune the desired strength, stiffness and flex, while reducing weight to a minimum.



0) US2010012696A – BICYCLE ARTICLE CARRIER

123) Family number: 44245703 (US2010012696A) © PatBase

Title:	BICYCLE ARTICLE CARRIER
Priority:	US20080082144P 20080718 US20090156616P 20090302 US20090421265 20090409

Family:

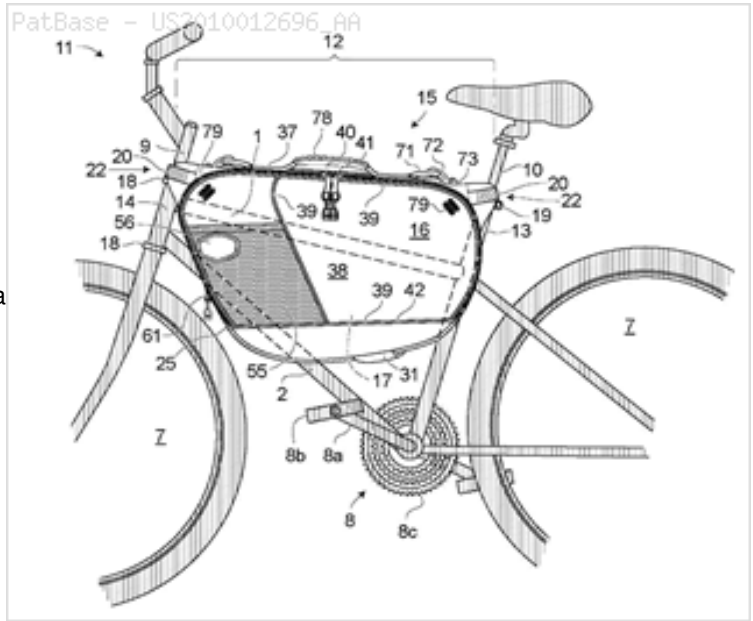
Publication number	Publication date	Application number	Application date
US2010012696 AA	20100121	US20090421265	20090409

Probable Assignee:	ADVANCED GEAR CORP
Assignee(s):(std):	PRAGER THOMAS FERDINAND
Assignee(s):	ADVANCED GEAR CORP
Inventor(s):(std):	PRAGER THOMAS FERDINAND
Agent(s):	OC PATENT PC ATTN MATT MUSHET ESQ
International class (IPC 8–9):	B62J9/00 (Advanced/Invention); B62J9/00 (Core/Invention)
CPC:	B62J9/005
European class:	B62J9/00B2
US class:	224/417 224/421 224/421S 224/439 224/439S 224/463 224/463S

Classification Explorer

Cited documents:	USD410223 S1, USD366447 S1, USD366446 S1, USD234688 S1, US7568600 BB, US7346965 BB, US6547113 BA, US6253979 BA, US618612 A, US5961018 A, US567162 A, US5249721 A, US522186 A, US5154331 A, US5071046 A, US5031807 A, US4955516 A, US4869408 A, US4720027 A, US4580706 A, US444642 A, US4414713 A, US4402439 A, US4368897 A, US4301952 A, US4193525 A, US3970229 A, US3837546 A, US3786972 A, US1485067 A,
Forward Citations:	WO16046808, US9510661, US9282809, US9266004, US9259067, US9027813, US2016347395, US2015265036, US2015202515, US2014311635, US2013320054, US2013277407, JP2011161198, DE102014222728,

Abstract:



Source: US2010012696A The presently disclosed article carrier for bicycles is adapted for the mid–frame area of a variety of bicycle frame types having improved practical characteristics for conveying a variety of articles while having minimal adverse effects on, a bicycle's handling. The carrier may be quickly installed and, removed without the use of tools or brackets by buckling a pair of fastening assemblies between the handlebar stem and seat–post, components common to a majority of bicycle frame types currently in the marketplace. The carrier offers improved accessibility to its cargo both while riding and while stationary due to its positioning on the bicycle and to particular zipper styles. The carrier is also proportioned and adapted to real–world applications with minimal nuisance and optimal utility due to its means of attachment, its volumetric expandability, its various utilitarian pockets and compartments and its adjustability. A planned line of optional accessories are separably connectable to the article carrier by means of a proprietary "click" clip system for which the article carrier is pre–equipped to accept. The carrier along with its cargo and extended line of optional accessories adapts, to being securely locked to an unattended bicycle. Moreover at the user's discretion, the carrier adapts to being borne by its human user either by its integrated handle or over the shoulder by its integrated shoulder strap with due respect paid to both practical and aesthetic considerations.

0) DE2511753A1 – SCHWUNGRING–RADFAHRZEUG FUER MECHANISCHEN UND/O...

124) Family number: 1658465 (DE2511753A1) © PatBase

Title: SCHWUNGRING–RADFAHRZEUG FUER MECHANISCHEN UND/ODER ELEKTRISCHEN ANTRIEB PEDAL CYCLE WITH ELECTRO–MECHANICAL FLYWHEEL – HAS ENERTIA STORAGE RINGS AND MECHANICAL OR ELECTRIC MOTOR PROPULSION ASSISTANCE

Priority: DE19752511753 19750318

Family:

Publication number	Publication date	Application number	Application date
DE2511753 A1	19760923	DE19752511753	19750318
DE2511753 B2	19790118	DE19752511753	19750318
DE2511753 C3	19791004	DE19752511753	19750318

Probable Assignee: GOERES HANS DIETER WILHELM

Assignee(s):(std)**:** GOERES HANS DIETER WILHELM

Assignee(s): GOERES HANS DIETER WILHELM 4050 MOENCHENGLADBACH

Inventor(s):(std)**:** GOERES HANS DIETER WILHELM

Inventor(s): GOERES HANS DIETER WILHELM 4050 MOENCHENGLADBACH ; WILHELM GOERES HANS DIETER

International class (IPC 8–9): B62M1/10 (Advanced/Invention); B62M1/00 (Core/Invention)

International class (IPC 1–7): B62M1/10

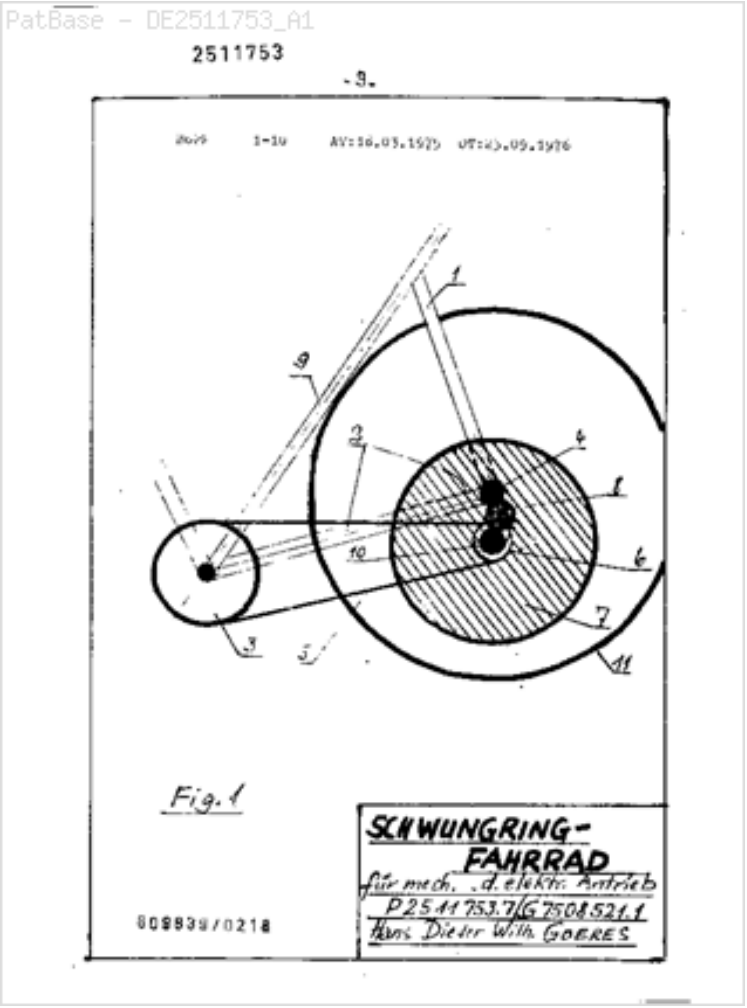
CPC: B62M1/10

European class: B62M1/10

Classification Explorer

Forward Citations: FR2592354, DE202013011835, DE19724333, DE102013013812,

Abstract:
Source: DE2511753A1 Patentanspruch: Ich bitte um Patentschutz fuer ein Fahrrad, Zweirad, Dreirad oder Mehrred, Einfach–Fahrrad, Tandem, Doppelfahrad, Dreiecksfahrrad, Dreifachfahrrad, Dreiecks–Dreifachfahrrad oder Doppeltandem, et jeweils mit oder ohne Sonnen– bz Regendach, welches Fahrzeug mit menschlicher Zuskelkraft ueber Pedale allein oder bei zusaetzlichem oder alleinigem Einsatz von Betteriestrom mit Elektromotor enge– treiben wird, oder beziehungsweise welches mit menschlicher Pedalkraft ueber Stromgenerator mit Elektromotor angetrieben wird, wobei hier auch zusaetzlich Patteriestrom aus Batterien miteingesetzt werden kann, dadurchgekennzeichne t, d a ss eine, zvei oder mehrere Schwungscheiben oder Schwungringe oder Schwung– raeder aus (massivem) schwerem Material entweder senkrecht neben den Hinterradern bzwTreibraedern oder waagerecht zwischen den Raedern – von Mekrraeder. The bicycle like vehicle has a flywheel (7) is turned by the pedal chain wheel (3) and which transmits its energy via a series of reduction gears (4, 6, 8) and a free wheel to the rear road wheel. The inertia wheel is a heavy iron or lead rings which can be uncoupled from the rear wheel as soon as they have stored sufficient energy to be recoupled to add inertia when required. A stationary ring can be coupled to the road wheel to act as a brake. The rings are enclosed inside a metal cover to prevent dirt intrusion. An electric motor is fitted to the rear wheel hub (4) and a storage battery charged by the inertia ring generator is carried in a suitable position.



0) GB720911A – BOTTOM BRACKET OF BICYCLE FRAME

125) Family number: 19671351 (GB720911A)

© PatBase

Title: Bottom bracket of bicycle frame

Priority: GB19530009900 19530411

Family:

Publication number	Publication date	Application number	Application date
GB720911 A	19541229	GB19530009900	19530411

Probable Assignee: CANADA CYCLE AND MOTOR COMPANY

Assignee(s):(std)**:** CANADA CYCLE AND MOTOR COMPANY

Assignee(s): CANADA CYCLE AND MOTOR COMPANY LIMITED ; CANADA CYCLE AND MOTOR CO

Inventor(s):(std)**:** SHAKESBY LEONARD ; SAINSBURY FREDERICK LAWRENCE

International class (IPC 8–9)**:** B62K19/34 (Advanced/Invention); B62K19/00 (Core/Invention)

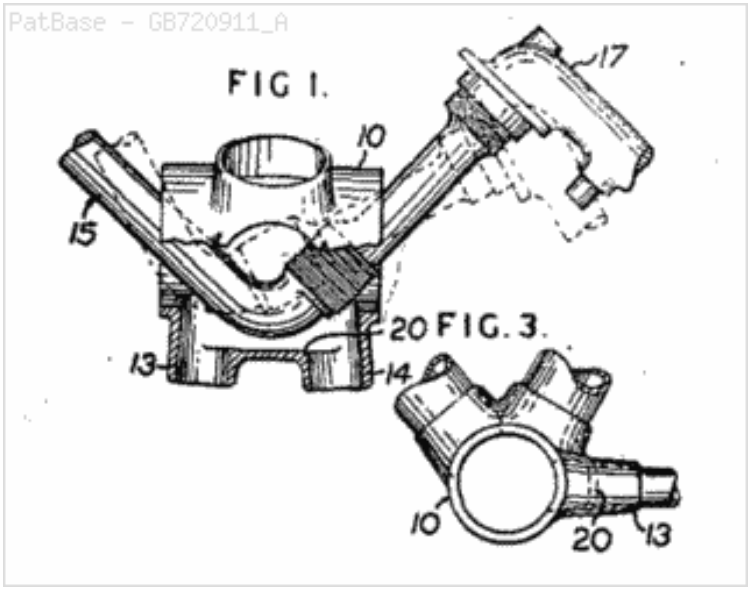
International class (IPC 1–7)**:** B62K19/18

CPC: B62K19/34

European class: B62K19/34

Classification Explorer

Abstract:
Source: GB720911A 720,911. Cycle crank–axle brackets. CANADA CYCLE and MOTOR CO., Ltd. April 11, 1953, No. 9900/53. Class 136(3). In a bicycle provided with a one–piece crank 15 the side wall of the crank case 10 is formed with an external blister 20, the walls of the crank case being too confining to permit the elbow 17 of the one–piece crank 15 to pass therethrough save at the position where the blister is formed. The blister 20 is formed between sockets 13, 14 which are connected to the rear fork members.



0) CN101164827A – GEAR SPEED VARIATOR AND FOLDING BICYCLE

126) Family number: 41788210 (CN101164827A) © PatBase

Title: Gear speed variator and folding bicycle

Priority: CN200610150608 20061019

Family:

Publication number	Publication date	Application number	Application date
CN101164827 A	20080423	CN200610150608	20061019

Probable Assignee: MINGLIANG ZHANG

Assignee(s):(std)**:** MINGLIANG ZHANG

Assignee(s): ZHANG MINGLIANG

Inventor(s):(std)**:** MINGLIANG ZHANG

Inventor(s): ZHANG MINGLIANG

International class (IPC 8–9): B62K15/00 B62M11/04 (Advanced/Invention); B62K15/00 B62M11/00 (Core/Invention)

Classification Explorer

Abstract:
Source: CN101164827A The present invention relates to a gear speed changer and a folding bicycle. It is characterized by that it has several gears which can be axially moved, said gears can be fit with several fixed gears, one component is moved, a mobile gear can be extended and can be meshed with a fixed gear, said component can be further moved, the meshed gear can be drawn back, and said component is continuously moved, another gear can be meshed with another fixed gear so as to change speed, the reciprocating movement of said component an implement repeated speed increment and decrement, its speed change gear and speed change ratio can be freely selected. Said speed changer can be mounted on the bicycle, and can be connected with ratchet wheel and drive wheel by means of multiple acceleration, the diameter of wheel is less than 10cm, and its speed can exceed that of existent bicycle, said bicycle handlebar can be folded by pressing a spring and sweeping a flab spring, and said bicycle body also can be completely folded by using a mobile slide barrel, so that its volume is small and weight is light. Said speed changer can be used in electric bicycle, motorcycle, power generation equipment and other machine.



0) US2009205556A – ROWING BOAT FOOTREST ASSEMBLY

127) Family number: 43630095 (US2009205556A) © PatBase

Title: ROWING BOAT FOOTREST ASSEMBLY

Priority: US20080031919 20080215

Family:

Publication number	Publication date	Application number	Application date
CN101508337 A	20090819	CN200910006227	20090205
CN101508337 B	20130626	CN200910006227	20090205
DE102008063219 A1	20090820	DE200810063219	20081229
US2009205556 AA	20090820	US20080031919	20080215
US8955454 BB	20150217	US20080031919	20080215

Probable Assignee: SHIMANO KK

Assignee(s):(std)**:** KAWAHARA YUJI ; OHKOSHI MASAHIRO ; SHIMANO KK

Assignee(s): SHIMANO INC

Inventor(s):(std)**:** KAWAHARA YUJI ; MASAHIRO OHKOSHI ; OHKOSHI MASAHIRO ; YUJI KAWAHARA

Agent(s): GLOBAL IP COUNSELORS LLP; GLOBAL IP COUNSELORS

International class(IPC 8–9)**:** B63B17/00 B63B35/71 B63B35/73 B63H16/02 B63H16/18 (Advanced/Invention); B63B35/71 B63B35/73 (Advanced/Non–invention); B63B17/00 B63B35/71 B63B35/73 B63H16/00 (Core/Invention)

CPC: B63H16/02 B63B35/71 B63B35/73

European class: B63H16/02 L63B35/71 L63B35/73

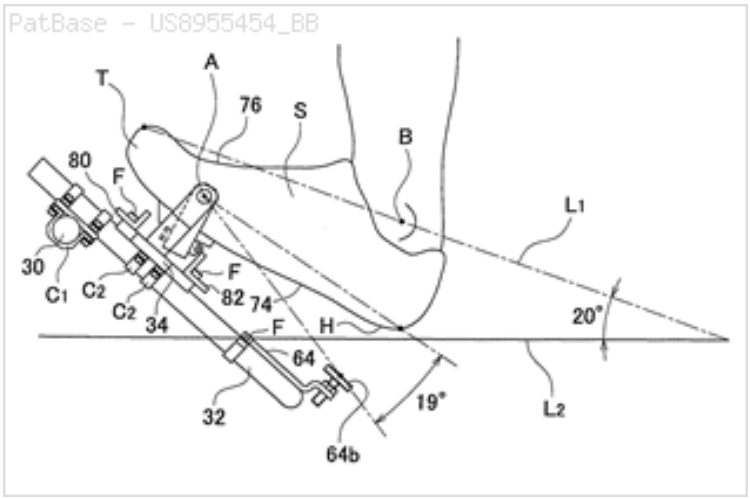
US class: 114/363

Classification Explorer

Cited documents: US7552695 BA, US6939186 BA, US6925908 BB, US6745643 BB, US6119551 A, US5367976 A, US421080 A, US2006292940 AA, US2006183385 AA, DE9309887 U, DE4324864 A1, DE36860 A, DE279858, DE1275904 B, DD279858 A1,

Forward Citations: US9027502, US8550025, US8375881, US8307774, US8015936, US2010186658, FR2951954, CN102295069, CN102295069,

Abstract:
Source: US2009205556A A rowing boat footrest assembly includes a stationary support member and a footrest member. The stationary support member is configured and arranged for coupling to a boat structure with a pivot axis extending through a portion of the stationary support member. The footrest member has a footrest surface coupled to the stationary support member for pivotal movement about the pivot axis. The footrest member is configured and arranged to support a shoe such that with the shoe positioned on the footrest surface the pivot axis extends laterally through the shoe between a sole of the shoe and an upper surface of the shoe.



0) CN201920020U – GREENHOUSE FILM SWEEPER

128) Family number: 49453539 (CN201920020U) © PatBase

Title:	Greenhouse film sweeper
Priority:	CN201120007602U 20110102

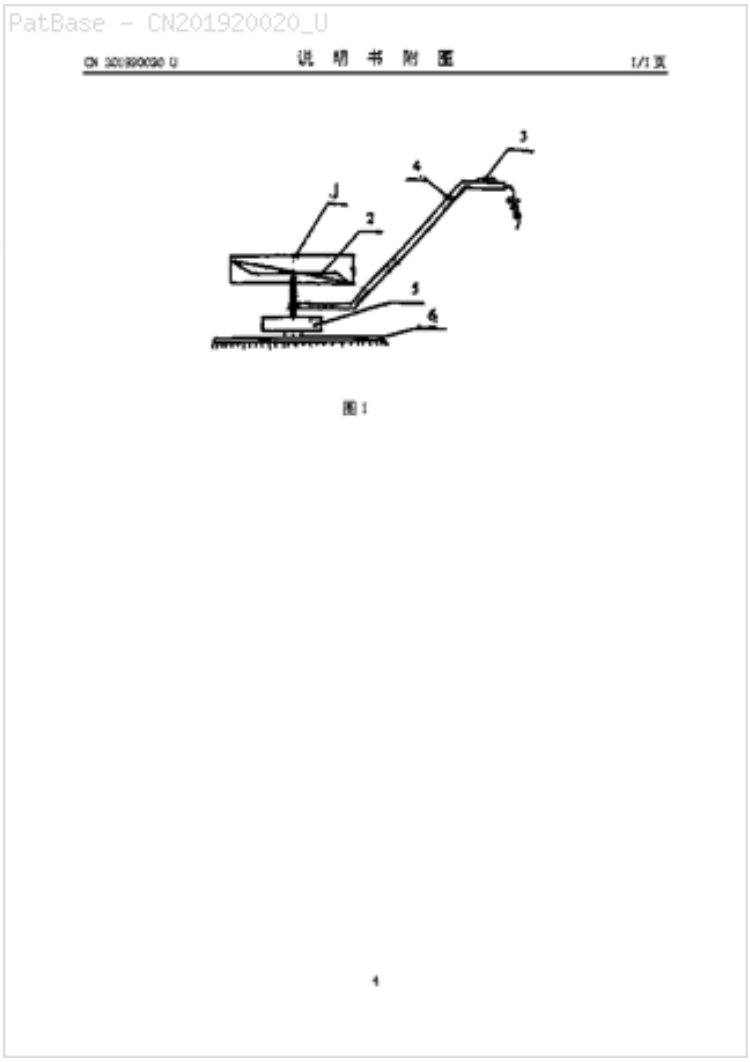
Family:

Publication number	Publication date	Application number	Application date
CN201920020 U	20110810	CN201120007602U	20110102

Probable Assignee:	WENSHENG XU
Assignee(s):(std)**:**	WENSHENG XU
Assignee(s):	XU WENSHENG
Inventor(s):(std)**:**	WENSHENG XU
Inventor(s):	XU WENSHENG
International class (IPC 8–9):	A01G9/14 A46B13/02 A46B15/00 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN201920020U The utility model discloses a greenhouse film sweeper which comprises a bracket body and a handle. The greenhouse film sweeper is characterized in that the bracket body and the handle are connected by a movable bearing, wherein the bracket body comprises a cleaning brush, a motor and a propeller; the cleaning brush is connected with the motor; the upper part of the motor is connected with the propeller; the propeller is provided with a protective net; a handle is arranged between the motor and the propeller; the inner cavity of the handle is provided with a cable conductor communicated with the motor and the propeller; and the tail part of the handle is provided with a power switch and a control button. The greenhouse film sweeper has the beneficial effect that the sweeper takes an electric bicycle battery as a power supply which is put on the body of an operator, and the electric bicycle battery is connected with the cable conductor in the handle by a cable; upward lifting power is generated by the propeller of the sweeper, and the lifting power can be conveniently controlled by the controller and a knob, so that pressure between the cleaning brush and the greenhouse film is controlled to effectively protect the greenhouse film.



129) Family number: 58396101 (US2015031900A) © PatBase

Title: ORGANIC COMPOUND, LIGHT–EMITTING ELEMENT, LIGHT–EMITTING DEVICE, ELECTRONIC APPLIANCE, AND LIGHTING DEVICE

Priority:
JP20130155318 20130726 JP20140150627 20140724 JP20150086618 20150421
US20140338897 20140723 US20110031805 20110222 US20100306687P 20100222
US20150809427 20150727 WO2014IB63173 20140717 US20160046630 20160218

Family:

Publication number	Publication date	Application number	Application date
CN105683173 A	20160615	CN201480042018	20140717
DE112014003458 T5	20160407	DE201411003458T	20140717
JP2015042636 A2	20150305	JP20140150627	20140724
JP2015181169 A2	20151015	JP20150086618	20150421
JP5738459 B2	20150624	JP20140150627	20140724
KR20160034937 A	20160330	KR20167002992	20140717
TW201509937 A	20150316	TW20140124754	20140718
TW201538498 A	20151016	TW20150120732	20140718
TWI499590 B	20150911	TW20140124754	20140718
US2015031900 AA	20150129	US20140338897	20140723
US2015329514 AA	20151119	US20150809427	20150727
US2016166591 AA	20160616	US20160046630	20160218
US9093649 BB	20150728	US20140338897	20140723
US9526739 BB	20161227	US20160046630	20160218
US9586924 BB	20170307	US20150809427	20150727
WO15011614 A1	20150129	WO2014IB63173	20140717

Probable Assignee: US HEALTH

Assignee(s):(std)**:** SEMICONDUCTOR ENERGY LAB ; SEMICONDUCTOR ENERGY LAB CO LTD ; SEMICONDUCTOR ENERGY LABORATORY ; UNIV CONNECTICUT ; US SEC DEP OF HEALTH AND HUMAN SERVICES ; US HEALTH ; UNIV OF CONNECTICUT

Assignee(s): SEMICONDUCTOR ENERGY LABORATORY CO LTD ; SEMICONDUCTOR ENERGY LABORATORY CO ; GOOGLE INC ; OF CONNECTICUT UNIV ; SEC DEP OF HEALTH AND HUMAN SERVICES AS US GOV

Inventor(s):(std)**:** HASHIMOTO NAOAKI ; JACOBSON KENNETH A ; KAWAKAMI SACHIKO ; LIANG BRUCE ; SEO SATOSHI ; SEO TETSUSHI ; SUZUKI TSUNENORI

Agent(s): HUSCH BLACKWELL LLP; CANTOR COLBURN LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): A61K31/675 A61K31/683 C07C211/61 C07D307/77 C07D407/12 C07F9/6561 C09K11/06 H01L51/00 H01L51/50 H05B33/14 (Advanced/Invention); H01L51/50 (Advanced/Non–invention)

CPC: H01L51/5012 C07D307/77 C07C211/61 C09K11/06 H01L51/0054 H01L51/006 H01L51/0061 H01L51/0073 C09K2211/1011 C09K2211/1014 C09K2211/1088 A61K31/683 A61K31/675 C07F9/65616

US class: 1/1 514/81 549/457 564/426

Classification Explorer

Cited documents: WO12090970 A1, WO10137285 A1, WO10122810 A1, WO10013676 A1, WO10013675 A1, WO09084512 A1, WO06091905 A1, WO06031505 A1, WO0151490 A1, US9373792

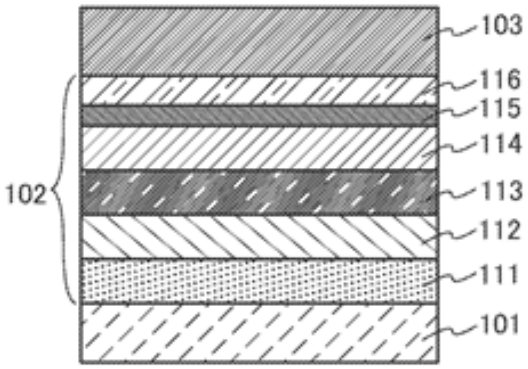
BB, US9147847 BB, US8866135 BB, US8822434 BB, US8629430 BB, US8604224 BB, US7326476 BB, US7087589 BB, US6677356 BA, US6586413 BB, US6329349 BA, US6255292 BA, US2015038463 AA, US2015005512 AA, US2014124764 AA, US2012165556 AA, US2012138914 AA, US2012112169 AA, US2011248246 AA, US2011156016 AA, US2010314615 AA, US2007281908 AA, US2005079385 AA, US2003216412 AA, US2003186929 AA, US2003092668 AA, TW201105679 A, KR2013096647 A, KR20130096647 A, JP2013209397 A2, JP2013107853 A2, JP2013107853, JP2013087090 A2, JP2013087090, JP2012149045 A2, JP2011231108 A2, JP2011173973 A2, JP2005075868 A2, EP2436679 A1, CN102448945 A, CN102219774 A,

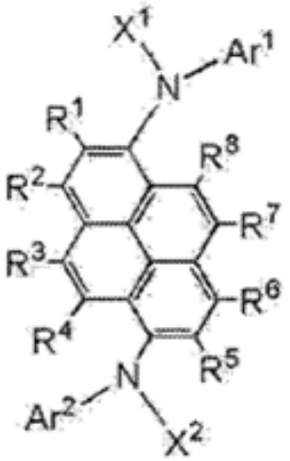
Forward Citations: WO16020801, US9368732, US2014124764,

Abstract:
Source: US2015031900A An organic compound that emits blue light with high color purity and has a long lifetime is provided as a novel substance. The organic compound is a fluorescent organic compound having a structure in which benzonaphthofuranylamine is bonded to the 1−position and the 6−position of a pyrene skeleton.

PatBase - WO15011614_A1

FIG. 1





(G1)

0) CN205153638U – INTELLIGENCE STEREO GARAGE VEHICLE ACCESS ARRAN...

130) Family number: 60662561 (CN205153638U) © PatBase

Title: INTELLIGENCE STEREO GARAGE VEHICLE ACCESS ARRANGEMENT

Priority: CN201510406732 20150713 CN201520500947U 20150713

Family:

Publication number	Publication date	Application number	Application date
CN105003109 A	20151028	CN201510406732	20150713
CN205153638 U	20160413	CN201520500947U	20150713

Probable Assignee: LI YUERAN

Assignee(s):(std)**:** LI YUERAN

Assignee(s): LI YUE BURNING

Inventor(s):(std)**:** LI YUERAN

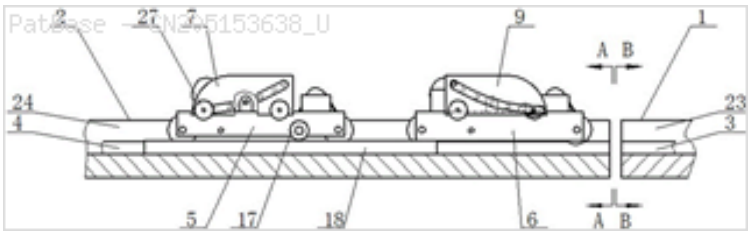
International class (IPC 8–9)**:** E04H6/18 (Advanced/Invention)

Classification Explorer

Cited documents: WO9411598 A1, JP10025919 A2, CN205153638 U, CN1804345 A, CN1486385 A, CN1455071 A,

Forward Citations: CN105003109,

Abstract:
Source: CN205153638U Intelligence stereo garage vehicle access arrangement, including lift platform and bicycle parking platform, the last lift track of installing of lift platform, installation bicycle parking track on the bicycle parking platform, the lift track rises to bicycle parking track place along with lift platform and can dock with the bicycle parking track when high, last first translation car and the second translation car of setting up of lift platform, first translation car and second translation car homoenergetic are enough walked between lift platform and bicycle parking platform along lift track and bicycle parking track, be connected through longitudinal extension mechanism between first translation car and the second translation car, first translation car both sides first wheel bracket of installation and second wheel bracket, installation third wheel bracket and fourth wheel bracket on the second translation car, third wheel bracket and fourth wheel bracket all are connected with the horizontal telescoping device of second. Need not set up and carry a sweep, be favorable to reducing self cost, promote access car efficiency, the wheel bracket gets into the wheel bottom from the fore –and –aft direction of wheel and realizes can not causing damage etc. To the vehicle to the lifting of vehicle.



131) Family number: 61125271 (DE202015105459U1) © PatBase

Title:	TRETKURBELSCHNITTSTELLE CRANK INTERFACE (Machine translation)
Priority:	DE201520105459U 20151015

Family:

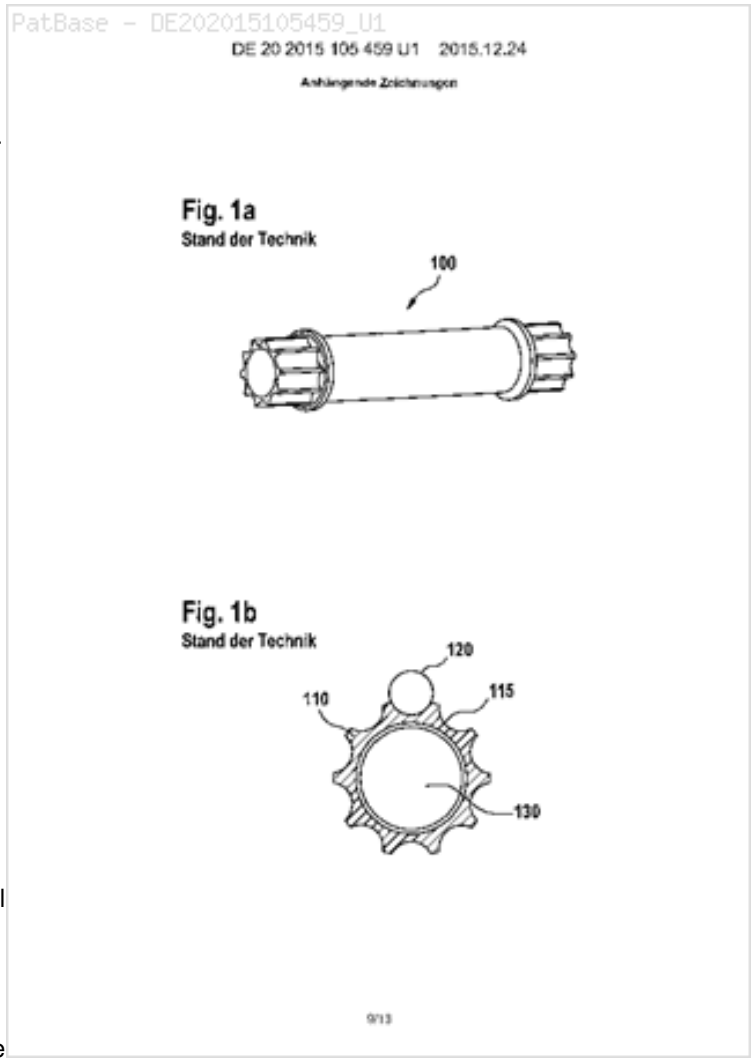
Publication number	Publication date	Application number	Application date
DE202015105459 U1	20151224	DE201520105459U	20151015

Probable Assignee:	BOSCH GMBH ROBERT
Assignee(s):(std):	BOSCH GMBH ROBERT
Assignee(s):	ROBERT BOSCH GMBH
International class (IPC 8–9):	B62M1/36 (Advanced/Invention)
CPC:	B62M3/003

Classification Explorer

Cited documents: DE102015213905 A1

Abstract:
Source: DE202015105459U1 Tretkurbelwelle fuer ein Fahrrad, insbesondere ein Elektrofahrrad mit wenigstens einer Schnittstelle an einem Ende der Tretkurbelwelle (200, 300) zur Aufnahme einer Tretkurbel (500), wobei die Schnittstelle einen im Wesentlichen zylindrischen Tretkurbelwellenmantel (320) mit einer der Rotationsachse (390) der Tretkurbelwelle (200, 300) entsprechenden Symmetrieachse aufweist, wobei der Tretkurbelwellenmantel (320) auf der Aussenumfangsflaeche • rotationssymmetrisch angeordnete Zaehne (310) mit dazwischenliegenden Nuten (315) zur Aufnahme der Befestigungsoeffnung der Tretkurbel, und • einen ersten Bereich (360) innerhalb der Nuten (315), an dem im Wesentlichen die Befestigungsoeffnung der Tretkurbel (500) die Aussenumfangsflaeche der Tretkurbelwelle (200, 300) umgreift, und • einen zweiten Bereich (350) innerhalb der Nuten (315) mit einer ansteigenden Flanke, aufweist, dadurch gekennzeichnet, dass • der erste Bereich (360) eine Laenge von 12,7 mm aufweist und eine Nut (115) ausgehend vom Ende der Tretkurbelwelle (200, 300) in dem ersten Bereich (360) konisch mit einem Winkel (220) von 0,69 degrees bis 1,49 degrees ausgebildet ist und • der zweite Bereich (350) einen Kreisbogen darstellt. Pedal shaft for a bicycle, in particular an electric bicycle having at least one interface at one end of the pedal crankshaft (200, 300) for receiving a pedal crank (500), wherein the interface comprises a substantially cylindrical Tretkurbelwellenmantel (320) having an axis of rotation (390) of the pedal crankshaft (200, 300) corresponding axis of symmetry, said Tretkurbelwellenmantel (320) on the Aussenumfangsflaeche • rotationally symmetrically arranged teeth (310) with intervening grooves (315) for receiving the Befestigungsoeffnung the pedal crank, and • a first region (360) within the grooves (315), at the substantially the Befestigungsoeffnung the pedal crank (500) surrounds the Aussenumfangsflaeche the pedal crankshaft (200, 300), and • a second portion (350) within the grooves (315) with a leading edge, which characterized in that • the first region (360) has a length of 12.7 mm and



a groove (115) starting from the end of the pedal crankshaft (200, 300) in the first region (360) conical with an angle (220) from 0.69 degrees to 1.49 degrees is formed and • the second portion (350) is a circular arc.

0) CN205189474U – USE MULTI –LAYER CIRCULATIVE PARKING EQUIPMENT ...

132) Family number: 62225702 (CN205189474U) © PatBase

Title:	USE MULTI –LAYER CIRCULATIVE PARKING EQUIPMENT ON CONVERTIBLE YEAR SWEEP PARKING STALL
Priority:	CN201521022617U 20151210

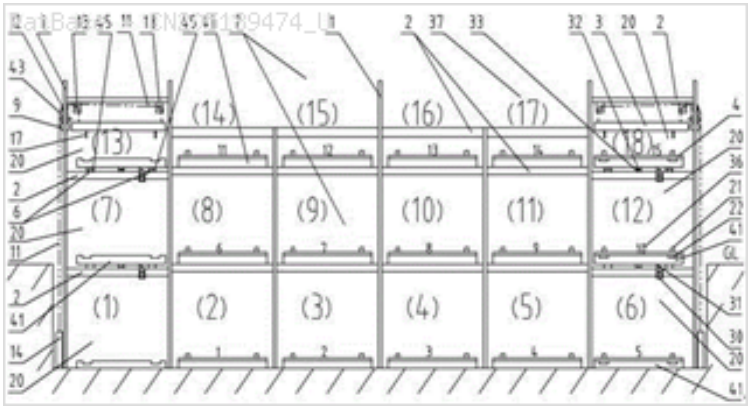
Family:

Publication number	Publication date	Application number	Application date
CN205189474 U	20160427	CN201521022617U	20151210

Probable Assignee:	TIANJIN ZHONGHUAN FUSHI INTELLIGENT EQUIPMENT CO LTD
Assignee(s):(std):	TIANJIN ZHONGHUAN FUSHI INTELLIGENT EQUIPMENT CO LTD
Assignee(s):	TIANJIN CENTRAL FUJI INTELLIGENT EQUIPMENT CO LTD ; TIANJIN ZHONGHUAN FUSHI INTELLIGENT EQUIPMENT CO
Inventor(s):(std):	BIAN ZHE ; CHEN ZHUO ; WEI LILING ; ZHOU MINGHUI
International class (IPC 8–9):	E04H6/22 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN205189474U The utility model discloses an use multi –layer circulative parking equipment on convertible year sweep parking stall, it includes stand, crossbeam, elevating gear assembly, carries the sweep assembly, carries the drive seat stand, is provided with the driven seat stand of parking stall, longeron, transport and the control system that number on the parking stall, many stands and crossbeam with the longeron installation form stereo garage main body frame, form the stereo garage of n layer m row, the lift row at stereo garage are installed to the elevating gear assembly that carries the lift of sweep assembly, the parking stall is all regarded as in whole n m space, can deposit n m –n platform car. Can realize remembering the position of carrying sweep migration in the parking equipment use of not having machinery and a electrical connection with parking equipment to automatically, judge the current parking position of a car of getting, when the car owner picked up the car, the sweep serial number of carrying of inputing bicycle parking originally at operating panel realized picking up the car leaving warehouse promptly. It in removal of the position with the layer and the lift between different layers, all can accurately can realize fast to carry the sweep.



0) CN205224744U – FORMULA STEREO GARAGE IS RUN THROUGH TO FRONT A...

133) Family number: 62313472 (CN205224744U) © PatBase

Title: FORMULA STEREO GARAGE IS RUN THROUGH TO FRONT AND BACK

Priority: CN201521068468U 20151221

Family:

Publication number	Publication date	Application number	Application date
CN205224744 U	20160511	CN201521068468U	20151221

Probable Assignee: JIANGSU JINGUAN PARKING IND CO LTD

Assignee(s):(std)**:** JIANGSU JINGUAN PARKING IND CO LTD

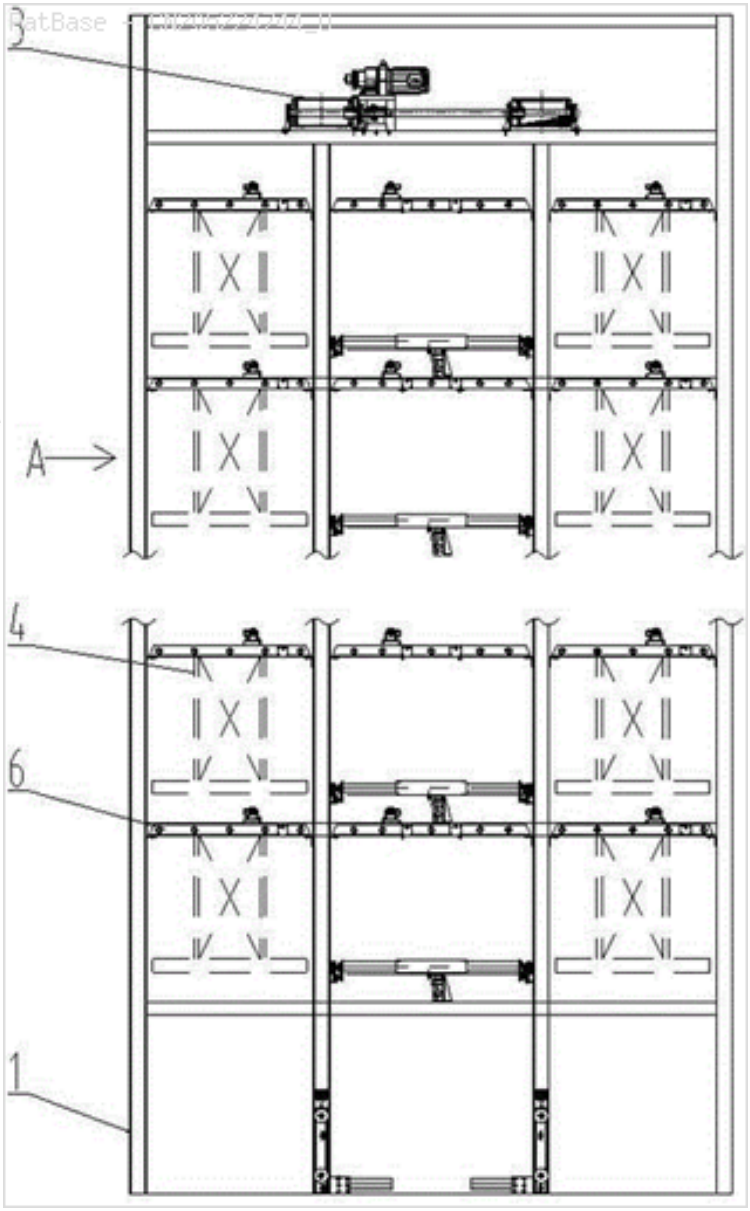
Assignee(s): PARKING IND CO LTD JIANGSU GOLDEN DELICIOUS ; JIANGSU JINGUAN PARKING IND CO

Inventor(s):(std)**:** CONG XIAODONG ; DAI ZHENFEI ; HAN YUN ; JI XIAOPENG ; JIANG JINQUAN ; WANG YONGJUN

International class (IPC 8–9): E04H6/22 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN205224744U The utility model relates to a formula stereo garage is run through to front and back, including the frame, be equipped with the hoisting frame in the frame, the hoisting frame is driven by elevating gear, still is equipped with the sideslip in the frame and carries sweep and vertical sweep that carries, and the sideslip is carried the sweep and is driven by sideslip transmission, vertically carries the sweep and is driven by vertical transmission, vertically carries the sweep and arranges the track in. The utility model discloses sideslip that will be original is carried a sweep and is warp the design at the lift passageway, increase by one can the back –and –forth movement year sweep for become 5 at one deck bicycle parking number by original 4, according to the different parking stalls that increase different quantity of the number of piles, can solve the not enough land use rate that improves of parking number in the unit area, solve the not enough problem in parking stall.



0) CN105905201A – PROTECTIVE DEVICE FOR ELECTRIC BICYCLE TIRE

134) Family number: 63387010 (CN105905201A)

© PatBase

Title: PROTECTIVE DEVICE FOR ELECTRIC BICYCLE TIRE

Priority: CN201610263968 20160425

Family:

Publication number	Publication date	Application number	Application date
CN105905201 A	20160831	CN201610263968	20160425

Probable Assignee: DONGGUAN LIANZHOU INTELLECTUAL PROPERTY OPERATION MAN CO LTD

Assignee(s):(std)**:** DONGGUAN LIANZHOU INTELLECTUAL PROPERTY OPERATION MAN CO LTD

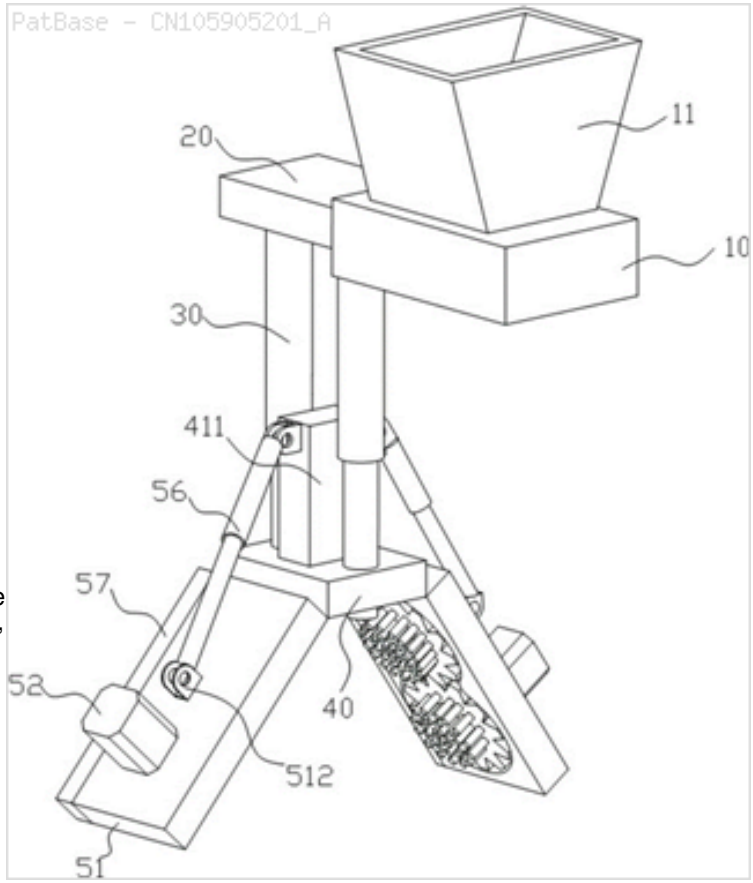
Assignee(s): DONGGUAN LIANZHOU INTELLECTUAL PROPERTY OPERATION MANAGEMENT CO ; DONGGUAN CITY ISLAND INTELLECTUAL PROPERTY OPERATIONS MANAGEMENT CO LTD

Inventor(s):(std)**:** WANG WENQING

International class (IPC 8–9): B60R19/54 B62J99/00 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN105905201A The invention discloses a protective device for an electric bicycle tire. The protective device comprises an installation platform deck with a cavity, a bearing board movably arranged in the cavity of the installation platform deck, a first air cylinder arranged at the end, away from the installation platform deck, of the bearing board and located on the bottom end face of the bearing board, a base board installed on a piston rod of the first cylinder, sweeping units hinged to the two sides of the base board and used for sweeping the road surface, a camera shooting unit installed on the bottom end face of the base board and used for collecting electric bicycle tire images, and a liquid crystal display installed on an electric bicycle handlebar, connected with the camera shooting unit through a circuit and used for displaying the tire images. By the adoption of the protective device, the traveling safety of an electric bicycle can be effectively improved, the service life of the tire can be prolonged, the use cost of the electric bicycle can be reduced, and the protective device has the beneficial effects of being simple in structure and convenient to use.



0) US5492033A – STEERING DAMPER IN AND FOR VEHICLES

135) Family number: 12662876 (US5492033A) © PatBase

Title: STEERING DAMPER IN AND FOR VEHICLES

Priority: US19940176659 19940103 US19950392516 19950223 US19980071187 19980501

Family:

Publication number	Publication date	Application number	Application date
TW327158 B	19980221	TW19960101909	19960215
US5492033 A	19960220	US19940176659	19940103
US5836213 A	19981117	US19950392516	19950223
US6145637 A	20001114	US19980071187	19980501

Probable Assignee: TIMOTHY C HOPEYUS

Assignee(s): HOPEY TIMOTHY C ; TIMOTHY C HOPEY ; TIMOTHY C HOPEYUS

Inventor(s):(std): HOPEY TIMOTHY C

Inventor(s): TIMOTHY C HOPEY

International class (IPC 8–9): B62K21/08 F16F9/14 (Advanced/Invention); B62K21/00 F16F9/14 (Core/Invention); B62K21/08 (Core/Non–invention)

International class (IPC 1–7): B62K21/08 B62K21/12

CPC: Y10T74/2078 Y10T74/20786 B62K21/08 F16F9/145

European class: B62K21/08 F16F9/14B

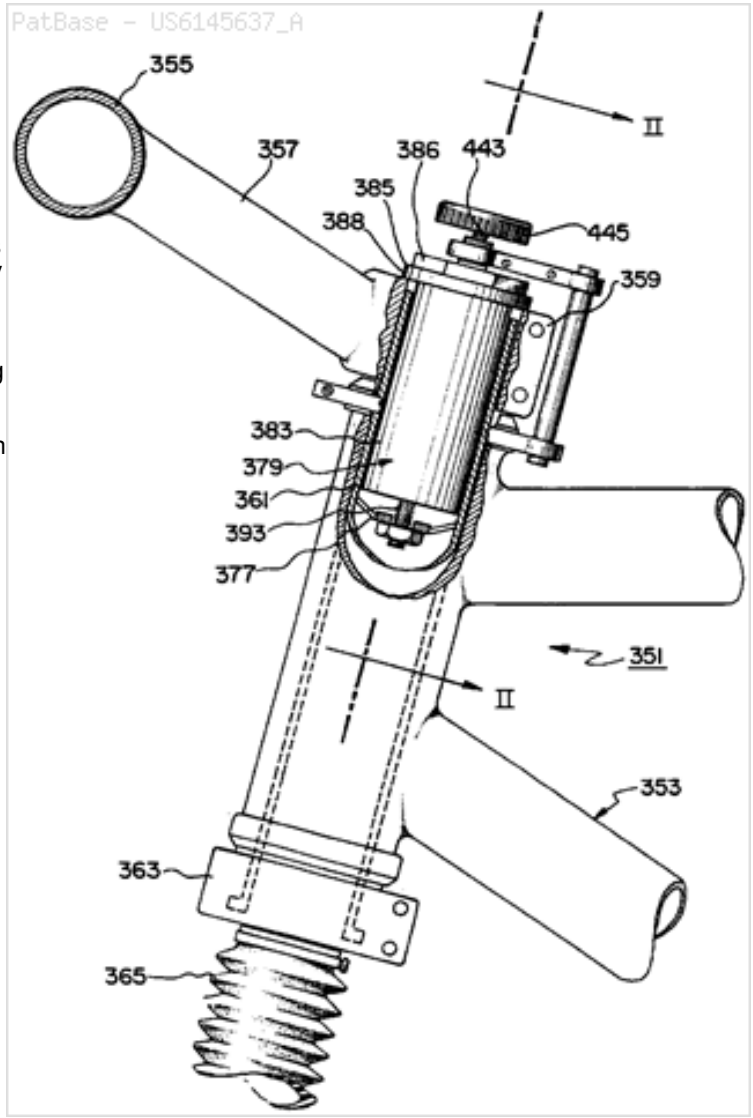
US class: 188/306 280/272 280/276 280/279 74/551.1 74/551.2

Classification Explorer

Cited documents: US5927740 A, US5836213 A, US5540457 A, US5516133 A, US5359910 A, US5308099 A, US5305654 A, US5285697 A, US4773514 A, US4566712 A, JP5105172 A2, GB717259 A, FR538639 A, AT134671 B, AT134671,

Forward Citations: WO12121738, WO11058586, WO11054934, WO11054398, WO05035349, WO0050710, USD621773, USD609625, US9475539, US9409588, US8408572, US7970511, US7832752, US7628258, US7625002, US7578514, US7510063, US7490843, US7396032, US7341269, US7111700, US7111700, US7093844, US7077215, US7077215, US7021642, US7011324, US6983949, US6926294, US6848698, US6824153, US6817265, US6802519, US6796571, US6769707, US6742794, US6726232, US6711966, US6705631, US6471229, US6401884, US6322283, US6145637, US5927740, US2016068218, US2014084563, US2013306418, US2013119632, US2011133428, US2010326779, US2009198411, US2008136137, US2008129009, US2007194553, US2006279059, US2006237271, US2006038377, US2006006029, US2006001233, US2005258617, US2005252667, US2005199456, US2005194760, US2005098979, US2005023794, US2005017477, US2004149528, US2004080130, US2004046351, US2003234508, US2003140727, US2003132598, US2003127824, US2003047904, US2003047903, US2002152832, JP2013510033, JP2003056620, JP2002347684, JP2002284077, EP2683601, EP2683601, EP1529724, EP1529724, EP1491436, EP1477397, EP1375328, EP1323625, EP1300328,

Abstract:
Source: US5492033A A steering damper for mountain bicycles including a closed cylinder filled with oil of high viscosity including a dam and vanes rotatable from center towards and away from the dam. The vanes are connected rotatably with the handlebars in reciprocal steering relationship with a steerable wheel. When the steerable wheel encounters an obstruction displacing it from center, the vanes are driven in the oil one towards and one away from the dam respectively decreasing and compressing and increasing and relaxing the corresponding volumes of the oil and damping the movement of the handlebars. The damping against the return of the handlebars and steerable wheel to center is suppressed by one−way valves in the vanes which open when the compressing vane is retracted, recesses in the cylinder providing a non−resistant path for the oil moving through the valve in the retracting vane.



0) DE8600613U1 –

136) Family number: 16670879 (DE8600613U1)

© PatBase

Priority: DE19860000613U 19860113

Family:

Publication number	Publication date	Application number	Application date
DE8600613 U1	19860417	DE19860000613U	19860113

Probable Assignee: HEER MANFRED 7988 WANGEN DE

Assignee(s): HEER MANFRED 7988 WANGEN DE

International class (IPC 8–9): B60R9/10 (Advanced/Invention); B60R9/00 (Core/Invention)

International class (IPC 1–7): B60R9/10

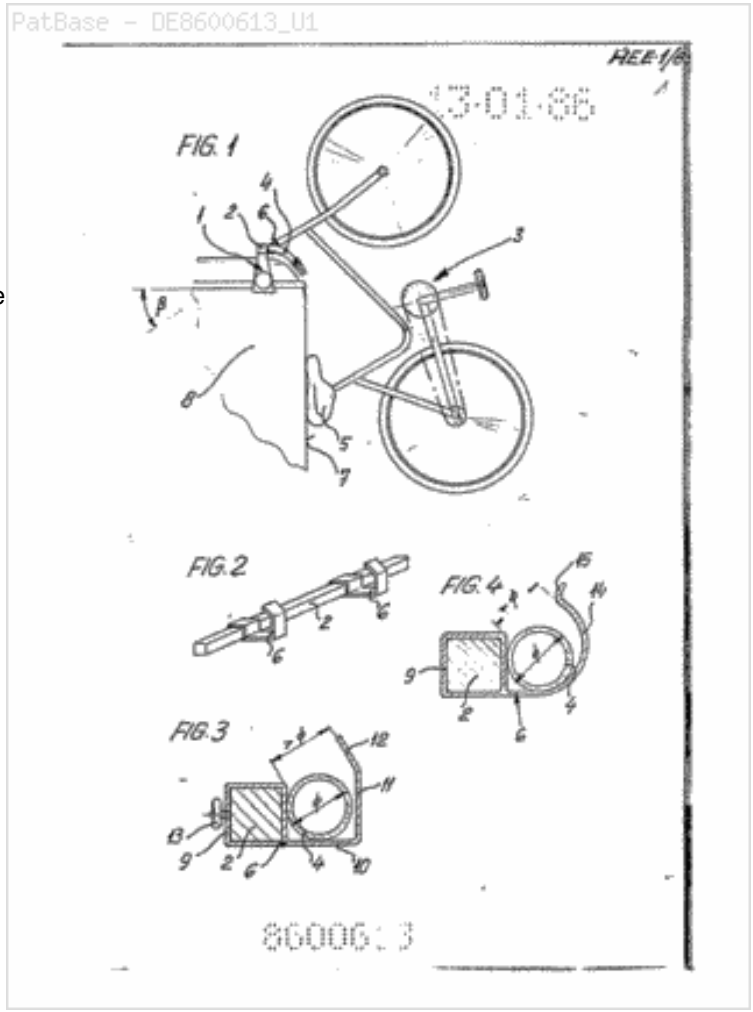
CPC: B60R9/10

European class: B60R9/10

Classification Explorer

Abstract:
Source: DE8600613U1 (Claim 1)
Fahrradhalter S c hut z ans p r ue c he 1. Fahrradhalter insbesondere fuer Kleinbusse mit mindestens einer an der Querstange eines Fahrzeug–Dachtraegers angeordneten Befestigungsaufnahme fuer die oberen Fahrradelemente, d.

Machine translation: (Claim 1) Bike Holder S c z hat to the pr ue c he first Bicycle rack particularly for minivans with at least one of the transverse rod of a vehicle roof rack–mount recording arranged for the upper cycle elements, d.



0) GB792049A – IMPROVEMENTS IN OR RELATING TO FRAMES FOR BICYC...

137) Family number: 19662460 (GB792049A)

© PatBase

Title: Improvements in or relating to frames for bicycles

Priority: GB19550024201 19550823

Family:

Publication number	Publication date	Application number	Application date
GB792049 A	19580319	GB19550024201	19550823

Probable Assignee: J A PHILLIPS AND COMPANY LTD

Assignee(s):(std)**:** J A PHILLIPS AND COMPANY LTD

Assignee(s): J A PHILLIPS AND CO LTD ; J A PHILLIPS AND COMPANY LIMITED

Inventor(s):(std)**:** REDMOND PETER IGNATIUS

International class (IPC 8–9): B62J7/02 B62K3/04 (Advanced/Invention)

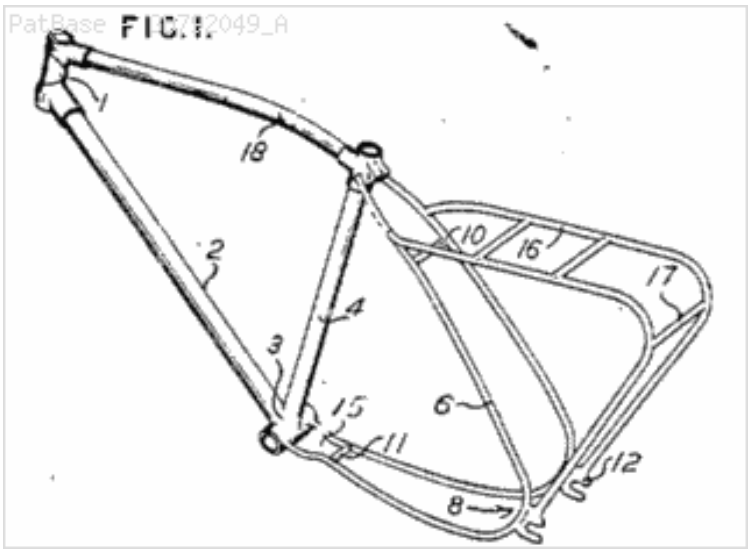
International class (IPC 1–7): B62K3/04

CPC: B62J7/02 B62K3/04 B62K2700/36

European class: B62J7/02 B62K3/04 L62K700/36

Classification Explorer

Abstract:
Source: GB792049A 792,049. Cycle frames. PHILLIPS and CO., Ltd., J. A. Aug. 22, 1956 [Aug. 23, 1955], No 24201/55. Addition to 784,223. Classes 136(1) and 136(3) In a modification of the parent Specification the bicycle frame comprises a substantially triangular framework 1, 2, 4, 18 and a rear part consisting of twin tubes 6 extending in a unitary bow from the upper part of the seat pillar tube 4 to the bottom bracket 3, rear wheel mounting plates 12 being secured to the tubes 6 at their curved parts 8. Bridging tubes 10, 11 extend between and are secured to the twin tubes 6 to brace the frame and provide attachment parts for the mudguard and brakes. A carrier is formed by further tubes 16 bent into a V shape and secured at one end to the tubes 6 at their junctions with the mounting plates 12 or to the mounting plates themselves. The other ends of the tubes 16 are connected to the tubes 6 near the bridging tube 10. Bars 17 form luggage supporting members. To strengthen the junctions of the twin tubes 6 with the bottom bracket 3, a plate 15 is brazed or welded to the tubes and to the bottom bracket.



0) US2008295271A – CLEANING AND STERILIZING APPARATUS COMBINED WIT...

138) Family number: 32613186 (US2008295271A) © PatBase

Title: CLEANING AND STERILIZING APPARATUS COMBINED WITH AN ULTRA–VIOLET LAMP

Priority: SE20040001987 20040805 WO2005YU00019 20050727

Family:

Publication number	Publication date	Application number	Application date
CN101026987 A	20070829	CN200580032350	20050727
EP1786306 A2	20070523	EP20050764111	20050727
RU2007107943 A	20080910	RU20070107943	20050727
SE200401987 A	20060206	SE20040001987	20040805
SE200401987 A0	20040805	SE20040001987	20040805
SE530664 C2	20080805	SE20040001987	20040805
US2008295271 AA	20081204	US20050659015	20050727
WO06015390 A2	20060209	WO2005YU00019	20050727
WO06015390 A3	20061005	WO2005YU00019	20050727
WO06015390 B1	20061116	WO2005YU00019	20050727

Probable Assignee: PERUNICIC DRAGOLJUB

Assignee(s):(std)**:** DRAGOLJUB PERUNICIC ; PERUNICIC DRAGOLJUB

Inventor(s):(std)**:** DRAGOLJUB PERUNICIC ; PERUNICIC DRAGOLJUB

Agent(s): MERCHANT AND GOULD PC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KP KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): A47L5/22 A47L7/00 A47L7/04 A47L9/10 A47L9/16 A47L9/30 A61L2/10 A61L9/20 (Advanced/Invention); A47L5/22 A47L7/00 A47L9/10 A47L9/30 A61L2/10 A61L9/18 (Core/Invention); A47L (Subclass/Invention)

CPC: A47L9/02 A47L7/04 A47L9/16 A47L9/1666 A47L9/1683 A47L11/32 A47L11/405 A61L9/20

European class: A47L11/32 A47L11/40F10 A47L7/04 A47L9/02 A47L9/16 A47L9/16E2 A47L9/16F A61L2/10 A61L9/20

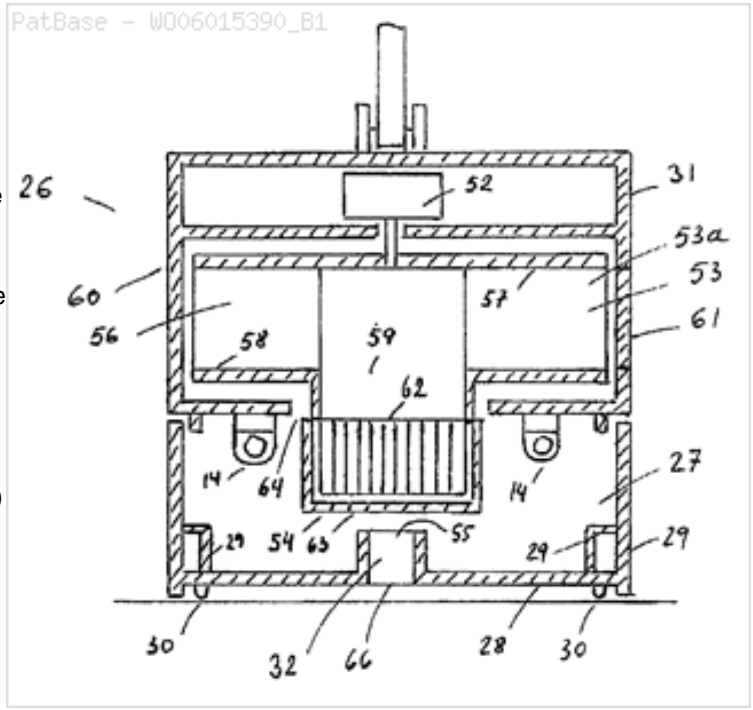
US class: 15/246.3 15/246.300P

Classification Explorer

Cited documents: WO9926668 A1, WO03075733 A1, US6675425 BA, US2590152 A, US2242163 A, US2003221279 AA, JP8131522, GB648967 A, FR2835517 A1, FR1280952 A, DE891110 A, DE4342876 A1, DE4220613 A1, DE19938769 A1, DE19860020 A1,

Forward Citations: WO14036217, WO14036217, WO11139553, WO11139553, US9149548, US8826489, US8806712, US8779391, US8747770, US8506897, US8431075, US8410453, US8330121, US7836548, US2012272473, US2012223216, US2011303855, US2011258806, US2009200155, US2008176196, GB2435820, GB2435820, FR2840181, EP2243414, EP2243414, EP2008562, EP1879491, DE102012016518, DE102012007245, CN103999840, CN103999840,

Abstract:
Source: US2008295271A A cleaning or sterilizing apparatus combined with an UV lamp consisting of an upright compact vacuum cleaner (26) comprising a dust container (27) with a transparent bottom (28) and a suction nozzle (34) incorporated in the bottom (28) and a protective housing (31) which covers the dust container (27) and which incorporates a fan (53) with a centrifugal dust filter (54) and an UV germicidal lamp fixture (14) for destroying micro−organisms on a surface to be cleaned and inside the dust container (27). The dust filter (54), which consists of a cylindrical grating (62) with or without a cylindrical paper filter (63), is mounted to the cylindrical opening (59) of the fan's impeller (53a) and located partly outside of the fan's casing (60) but inside the dust container (27). Rotating at high speed, the fan's impeller (53a) sucks in the air through the dust filter (54), which throws of dust particles outward toward the space inside the dust container (27) preventing clogging, separating particles from the air and obtaining purification of the air.



139) Family number: 41825546 (WO09115806A1) © PatBase

Title: COMPONENT FOR A BICYCLE TO REDUCE AERODYNAMIC DRAG

Priority: GB20080005190 20080320

Family:

Publication number	Publication date	Application number	Application date
GB200805190 A0	20080430	GB20080005190	20080320
GB200904726 A0	20090506	GB20090004726	20090319
GB2458383 A1	20090923	GB20090004726	20090319
GB2458383 B2	20110928	GB20090004726	20090319
WO09115806 A1	20090924	WO2009GB00738	20090319

Probable Assignee: UNITED KINGDOM SPORTS COUNCIL

Assignee(s):(std)**:** KATSANIS DIMITRIOS ; LEWIS ROBERT WILLIAM ; UNITED KINGDOM SPORTS COUNCIL

Assignee(s): UNITED KINGDOM SPORTS COUNCIL THE ; THE UNITED KINGDOM SPORTS COUNCIL

Inventor(s):(std)**:** KATSANIS DIMITRIOS ; LEWIS ROBERT WILLIAM

Inventor(s): DIMITRIOS KATSANIS ; ROBERT WILLIAM LEWIS

Agent(s): FARNSWORTH ALASTAIR GRAHAM

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B62D35/00 B62K21/02 B62K21/12 B62K23/00 (Advanced/Invention); B62K21/00 B62K23/00 (Core/Invention)

CPC: B62K21/12 B62K21/02 B62K23/00 B62D35/008

European class: B62D35/00F B62K21/02 B62K21/12 B62K23/00

Classification Explorer

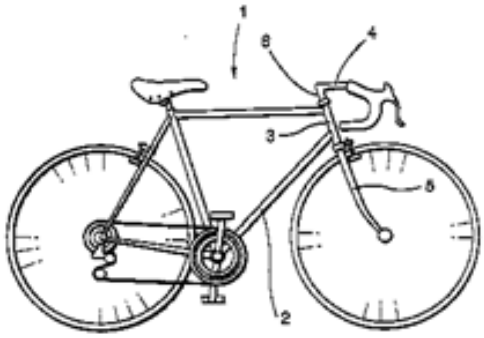
Cited documents: WO9300250 A1, US5782139 A, US2008036170 AA, US2006090589 AA, GB2224253 A1, GB1493536 A, DE20202255 U1,

Forward Citations: GB2502599, GB2502599, GB2501896,

Abstract:
There is provided a component for a bicycle by which a bicycle and a cyclist have the overall aerodynamic drag reduced.

PatBase - WO09115806_A1

Fig.1.



0) US2011147148A – HYDROPNEUMATIC TELESCOPIC STRUT FOR A BICYCLE

140) Family number: 49120991 (US2011147148A) © PatBase

Title: HYDROPNEUMATIC TELESCOPIC STRUT FOR A BICYCLE

Priority: US20090287804P 20091218 US20100972633 20101220

Family:

Publication number	Publication date	Application number	Application date
US2011147148 AA	20110623	US20100972633	20101220
US8567576 BB	20131029	US20100972633	20101220

Probable Assignee: RIPA THOMAS

Assignee(s):(std)**:** RIPA THOMAS

Inventor(s):(std)**:** RIPA THOMAS

Agent(s): SUGHRUE MION PLLC

International class (IPC 8–9): F16F9/00 F16F9/19 F16F9/34 (Advanced/Invention)

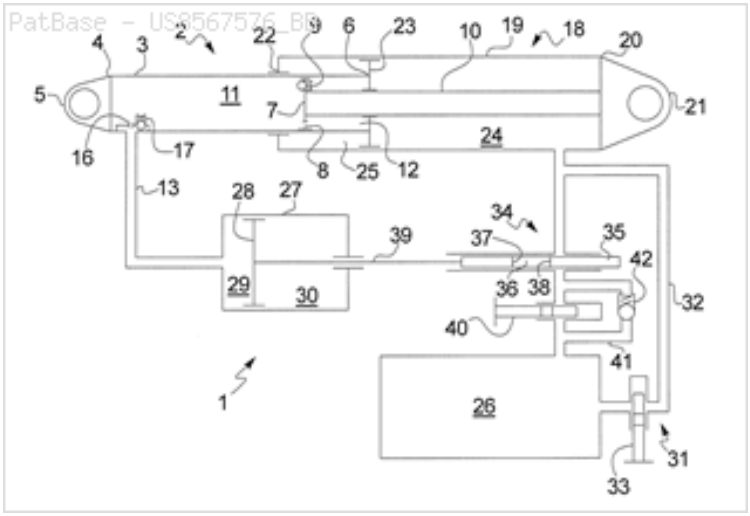
CPC: F16F9/063 F16F9/065 F16F9/44 F16F9/512

US class: 188/266 188/266S 188/314 188/322.13 188/322.130P

Classification Explorer

Cited documents: US7261194 BB, US6911050 BB, US5279480 A, US2005133321 AA, JP4281418 A2,

Forward Citations: WO16150776, WO13184263, US9541152, US9168972, US9156519, US9080631, US9062737, US8991840, US2015183487, US2013032979, US2012291623, EP2865588,



Abstract:
Source: US2011147148A Hydropneumatic telescopic strut for a bicycle possesses a shock absorber (**2**) that possesses a damper cylinder (**3**), a damper piston (**7**) arranged such that it can be displaced in said damper cylinder (**3**) and a damper piston rod (**10**) with which the damper piston (**7**) can be operated from outside the damper cylinder (**3**); a gas pressure spring (**18**) that possesses a [sic] filled with a spring fluid and a spring piston (**23**) arranged such that it can be displaced in this [sic], wherein the shock absorber (**2**) and the gas pressure spring (**18**) are connected in parallel with one another and the shock absorber (**2**) and the gas pressure spring (**18**) can be moved telescopically one inside the other upon spring deflection and rebound of the telescopic strut (**1**); an equalization reservoir (**27**) with an equalization chamber (**29**), which equalization reservoir (**27**) is connected with the damper cylinder (**3**) such that the damper fluid can be conducted and which equalization chamber (**29**) is delimited with a displaceable separator element (**28**); an auxiliary spring chamber (**26**) filled with the spring fluid; a switching device (**34**); and a coupling (**39**) with which the switching device (**34**) is coupled with the separator element (**28**) [sic] that the auxiliary spring chamber (**26**) is connected with the spring cylinder (**19**) such that spring fluid can be conducted if the separator element (**28**) is arranged in a position range between a first predetermined position and a second predetermined position, and the auxiliary spring chamber (**26**) is isolated in terms of spring fluid from the spring cylinder (**29**) if the separator element (**28**) is arranged outside of the position range.

0) US2012146299A – SKATE TRUCK

141) Family number: 51293905 (US2012146299A)

© PatBase

Title: SKATE TRUCK

Priority: US20100963899 20101209 US20110014930 20110127 WO2011US63151 20111202 US20130076462 20131111

Family:

Publication number	Publication date	Application number	Application date
AU2011338715 AA	20120614	AU20110338715	20111202
AU2011338715 BB	20161006	AU20110338715	20111202
CN103402591 A	20131120	CN201180065722	20111202
CN103402591 B	20150701	CN201180065722	20111202
EP2648816 A1	20131016	EP20110847419	20111202
EP2648816 A4	20140507	EP20110847419	20111202
US2012146299 AA	20120614	US20100963899	20101209
US2012146303 AA	20120614	US20110014930	20110127
US2014062046 AA	20140306	US20130076462	20131111
US8448954 BB	20130528	US20100963899	20101209
US8602422 BB	20131210	US20110014930	20110127
US8801008 BB	20140812	US20130076462	20131111
WO12078474 A1	20120614	WO2011US63151	20111202

Probable Assignee: SBYKE USA LLC

Assignee(s):(std)**:** B E W SQUARED LLC ; SBYKE USA LLC ; WILSON STEPHEN S

Assignee(s): BEW SQUARED LLC ; BEWSQUARED LLC

Inventor(s):(std)**:** WILSON STEPHEN S

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; PALLINI DIEGO; STETINA BRUNDA GARRED AND BRUCKER; STETINA KIT M

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): A63C1/00 A63C17/00 A63C17/04 B60G9/00 B62K5/02 (Advanced/Invention)

CPC: A63C17/006 A63C17/014 A63C17/265 A63C2017/1472 A63C17/012 B62K5/02 B62K3/002

US class: 280/11.27 280/11.270S 280/11.28 280/11.280P 280/124.1 280/124.100S 280/87.041 280/87.041S 280/87.042 280/87.042P

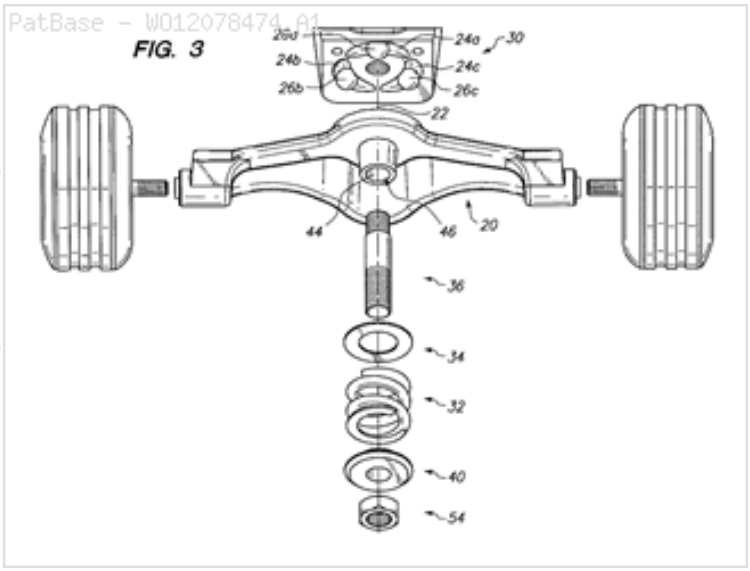
Classification Explorer

Cited documents: WO10151457 A1, USD486532 S1, USD444184 S1, USD300756 S1, USD295989 S1, USD295428 S1, USD289985 S1, US865441 A, US8152176 BB, US7748725 BB, US7540517 BB, US7192038 BB, US7140621 BB, US7044491 BB, US7007957 BA, US6942235 BB, US6739606 BB, US6715779 BB, US6595536 BA, US6572130 BB, US6523837 BB, US6499751 BA, US6467781 BB, US6467781 BA, US638963 A, US6318739 BA, US6315304 BA, US6250656 BA, US6220612 BA, US5984328 A, US5975546 A, US5931738 A, US5853182 A, US5839742 A, US5620189 A, US5551717 A, US537689 A, US5127488 A, US5046747 A, US4863182 A, US4657272 A, US4624469 A, US4526390 A, US4469343 A, US4359231 A, US4295656 A, US4198072 A, US4194752 A, US4103921 A, US4082307 A, US4061351 A, US4047725 A, US3992029 A, US3891225 A, US3860264 A, US3652101 A, US3442528 A, US3392991 A, US329557 A, US329556 A, US3284096 A, US322504 A, US3203706 A, US2975546 A, US2330147 A, US2009066150 AA, US2008217085 AA, US2006049595 AA, US2006042844 AA, US2005139406 AA, US2005116430 AA, US2004012166 AA, US2002011713 AA,

US1607972 A, US1599223 A, US1548973 A, US1342688 A, US1213454 A, KR20060151032 A, JP6254200 A2, JP2006151032 A2, JP10211313 A2, GB2225990 A1, FR2859166 A1, FR2859111 A1, DE4424297 A1, CN2501789 Y, CN201643636 U, AU610642 A1,

Forward Citations: USD756465, USD736861, US9475534, US9365257, US9278723, US8500138, US2016096581, US2015091272, US2014284898, US2012068428,

Abstract:
Source: US2012146299A A skate truck is disclosed which provides for a wide yaw angle for a hanger, minimal friction during yawing of the hanger, and a suspension that is dynamically stabilized based on a weight of a rider and a turn radius of a vehicle to which the skate truck is mounted. Additionally, a tension of the skate truck can be adjusted by preloading a spring which accommodates a wide weight ranger of riders. The truck may have a hanger supported between two bearings, namely, a sliding bearing system and a thrust bearing. The sliding bearings slide within grooves that define a pivot axis of the hanger. The grooves can also have various customized ramp profiles to provide a different feel during turning of the vehicle.



0) US2014061274A – INTEGRATED CYCLING MOBILITY BAG

142) Family number: 55899991 (US2014061274A) © PatBase

Title: INTEGRATED CYCLING MOBILITY BAG

Priority: TW20120131998 20120903

Family:

Publication number	Publication date	Application number	Application date
TW201410529 A	20140316	TW20120131998	20120903
US2014061274 AA	20140306	US20120710324	20121210
US2014066241 AA	20140306	US20120713002	20121213

Probable Assignee: HUANG CHENG HSUAN

Assignee(s):(std)**:** HUANG CHENG HSUAN ; HUANG KUO YEN ; HUANG TING WEN

Inventor(s):(std)**:** HUANG TING WEN ; HUANG KUO YEN ; HUANG CHENG HSUAN

International class (IPC 8–9)**:** A45F3/02 B62J13/04 B62J19/00 B62J23/00 (Advanced/Invention)

CPC: A45F3/02 B62J13/04 B62J99/00 B62J2099/0053 A45C7/0095 A45F2003/142 A45C11/00 A45C13/103 A45C2013/1015

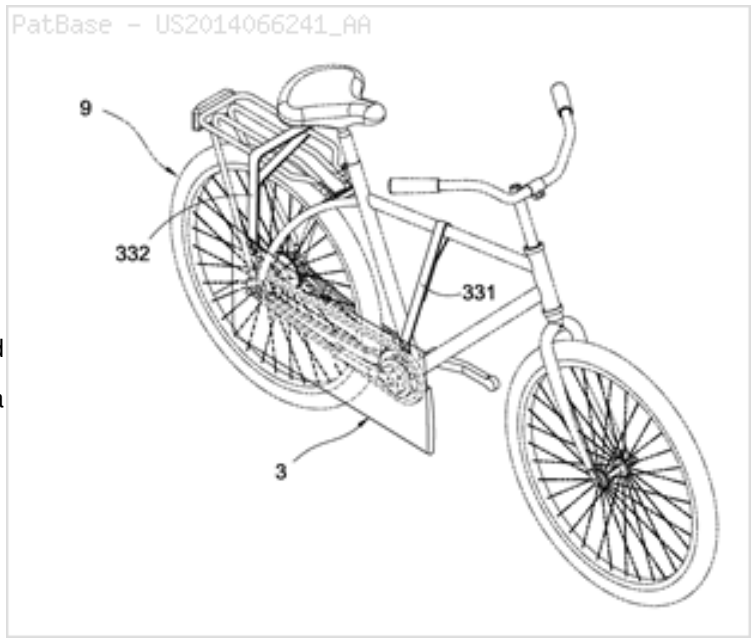
US class: 224/600 474/146

Classification Explorer

Cited documents: US8317644 BA, US8196740 BB, US7000811 BB, US6250470 BA, US5603545 A, US5312303 A, US5165584 A, US5031807 A, US5018564 A, US4991715 A, US4869408 A, US4792039 A, US4756416 A, US4729591 A, US4632416 A, US4450988 A, US4315641 A, US4260084 A, US3886988 A, US3110376 A, US2014061274 AA, US2010320248 AA, US2007152005 AA, US2005145660 AA, US2005109804 AA, US2005000990 AA, US2004130117 AA, US2001023211 AA,

Forward Citations: US2015320185, US2014339276, US2014066241,

Abstract:
Source: US2014061274A The bicycle carrying bag includes a main bag and a shoulder strap. The main bag is composed of a bag sheet and a soft pad top–dressed on the bag sheet. Edges of the bag sheet are disposed with a first zipper and a second zipper to make the bag sheet form a bag body. Two blanks are remained between the two zippers and are disposed with a pair of Velcro patches. The shoulder strap includes a belt and two belt connectors. Each the belt connector is composed of a first member and a second member. The first member is located at an end of the belt. A loop is formed when the first and second members are engaged for looping up a frame and wheel of a bicycle. The shoulder strap may pass through the pair of Velcro patches.



143) Family number: 60604919 (WO16083080A1) © PatBase

Title: CONTINUOUSLY VARIABLE BICYCLE GEAR SYSTEM

Priority: DE201410117137 20141124 DE201410117138 20141124 DE201410117140 20141124

Family:

Publication number	Publication date	Application number	Application date
DE102014117137 A1	20160525	DE201410117137	20141124
DE102014117137 B4	20170105	DE201410117137	20141124
DE102014117138 B3	20151022	DE201410117138	20141124
WO16083080 A1	20160602	WO2015EP75432	20151102

Probable Assignee: KIRSCHEY GERHARD

Assignee(s):(std)**:** KIRSCHEY GERHARD

Assignee(s): KIRSCHEY

Inventor(s):(std)**:** KIRSCHEY GERHARD

Agent(s): PATENTANWAELTE OSTRIGA SONNET WIRTHS AND VORWERK

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B62M11/04 F16H15/54 (Advanced/Invention)

CPC: B62M11/16 B62M11/04 B62M6/65 F16H15/54

Classification Explorer

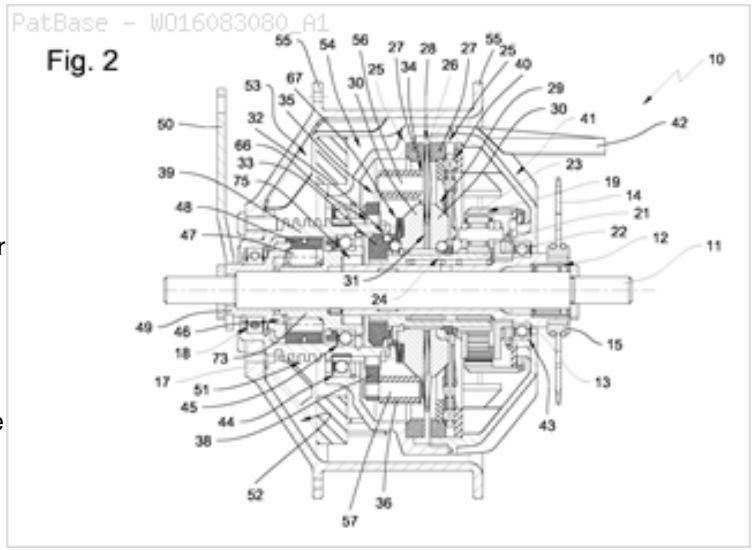
Cited documents: US4735430 A, US4158317 A, US4098146 A, GB281942 A, GB2080452 A1, EP1045999 A1, DE1067274 B,

DE102012022953 A1

CN2769618 Y,

Forward Citations: WO16173881, DE102015108958, DE102015106564,

Abstract:
The invention describes and relates to a drive arrangement for the rear wheel of a bicycle, comprising a stationary support shaft (11), a drive sleeve which is mounted to rotate on the support shaft (11), a pinion (14) which is non–rotatably mounted on the drive sleeve and which introduces into the drive arrangement an input rotational movement driving the rear wheel, an adjustable main gear (25), which is held by the support shaft (11) and which translates the rotational movement introduced by the pinion (14) into the drive arrangement, and a gear housing, which is held by the support shaft (11) and surrounds the main gear (25), the gear housing being fixed to the bicycle frame by means of a torque bracket and as a result being non–rotatably arranged, and a preliminary gear (19) being arranged in the gear housing.



0) US6068279A – TWO WHEEL DRIVE BICYCLE

144) Family number: 12274837 (US6068279A) © PatBase

Title: Two wheel drive bicycle

Priority: US19980073609 19980506

Family:

Publication number	Publication date	Application number	Application date
US6068279 A	20000530	US19980073609	19980506

Probable Assignee: DION ALAN

Assignee(s):(std)**:** DION ALAN

Inventor(s):(std)**:** DION ALAN

International class (IPC 8–9)**:** B62M23/00 (Advanced/Invention); B62M23/00 (Core/Invention)

International class (IPC 1–7)**:** B62M1/02

CPC: B62M23/00

European class: B62M23/00

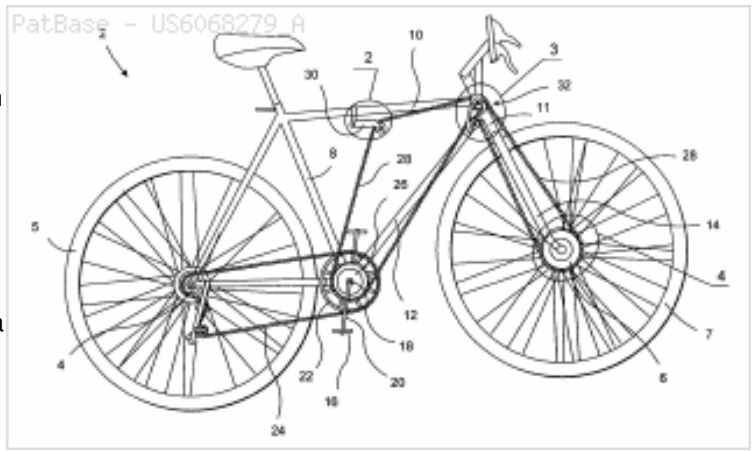
US class: 280/230 280/261

Classification Explorer

Cited documents: WO9215478 A1, US5324057 A, US5253889 A, US5224725 A, US5158314 A, US5116070 A, US4773662 A, US4479660 A, US3193305 A, GB2240523 A1,

Forward Citations: WO10143795, US9580137, US9043067, US8973690, US8761984, US8226103, US7950682, US6986520, US6446985, US2012080249, US2010308556, US2008029326, US2005093267, CN103754316,

Abstract:
Source: US6068279A A two wheel drive bicycle has fixed rear wheel and a turnable front wheel, a chain ring rotatable by way of an external rotation force, and a bicycle frame comprising a top tube and a head tube. A front drive chain runs, in sequence, from the chain ring, about a chain tensioner, around a first pulley of a pulley system, around a freewheel of the front wheel, around a second pulley of the pulley system, and back to the chain ring. The pulley system is fixed adjacent the head tube. The chain tensioner is characterized by a retractable third pulley attached to a spring means, the spring means being biased in a direction away from the front freewheel.



0) DE8519822U1 –

145) Family number: 16720365 (DE8519822U1)

© PatBase

Priority: DE19850019822U 19850709

Family:

Publication number	Publication date	Application number	Application date
DE8519822 U1	19861106	DE19850019822U	19850709

Probable Assignee: AICHHORN WILFRIED 8220 TRAUNSTEIN DE

Assignee(s): AICHHORN WILFRIED 8220 TRAUNSTEIN DE

International class (IPC 8–9): B62J17/08 (Advanced/Invention)

International class (IPC 1–7): B62J17/08

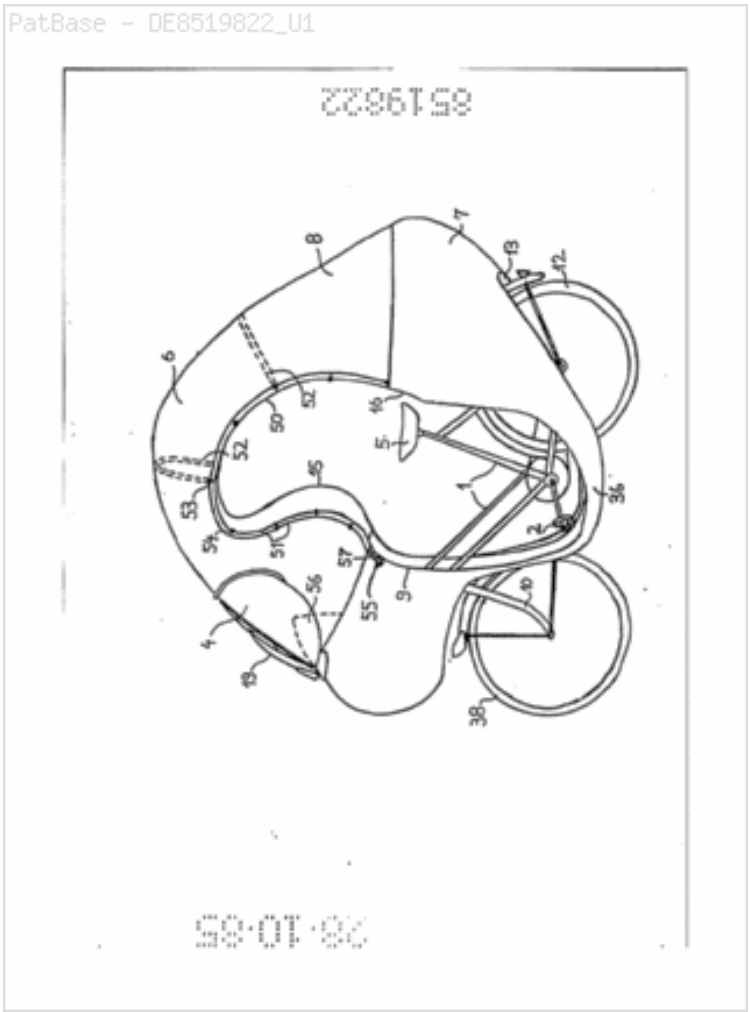
CPC: B62J17/08 B62J2017/083

European class: B62J17/08 L62J17/08B

Classification Explorer

Forward Citations: WO03091088, DE4029284, CH705067,

Abstract:
Source: DE8519822U1 (Claim 1) Zweirad mit einer Wetterschutzvorrichtung Ansprueche 1. Zweirad, insbesondere Fahrrad, mit einer Wetterschutzvorrichtung fuer den Zweiradfahrer, die aus einem windschlupfrig gestalteten, den Zwei– radfahrer umgebenden Gehaeuse besteht, das am Rahmen des Zweirades befestigbar ist und ein Frontfenster aus durchsichtigem Material, einen sich von dem gewoelbten Frontfenster aus ueber den Sattel des Zweirades hinaus nach hinten erstreckenden, ein Dach bildenden oberen Gehaeuse– teil und einen schalenfoermigen gewoelbten, aus selbsttragendem Kunststoffmaterial bestehenden unteren Gehaeuseteil aufweist, aus des– sen vorderem Tell die Vorderradgabel des Zweirades nach unten hinaus– ragt und der Im Bereich der Pedale des Zweirades unter diesen verlaeuft und der in seinem hinteren Teil einen Durchtrittsschlitz fuer das Hinterrad des Zweirades aufweist, wobei in dem Gehaeuse in beiden Seitenwaen– den je eine Zutrittsoeffnung fuer den Zweiradfahrer in Form eines Aus– schnittes ausgebildet sind, der sich in beiden Gehaeuseteilen erstreckt, dadurch gekennzeichnet, dass der obere Gehaeuseteil (8) am Dach (6) we– nigstens teilweise geoeffnet werden kann.



Machine translation: (Claim 1) motorcycle claims with a weather protection device 1 Two–wheeler, especially bicycle, for a weather guard the two–wheelers, which consists of a windschlupfrig designed, the two cyclists surrounding housing is that is fastened to the frame of the bicycle and a front window made of transparent material, one from the curved front window over the saddle the two–wheeler out to the rear extending a roof forming the upper housing part and a shell–domed, has made self–supporting plastic material existing lower Gehaeuseteil, from des–sen front Tell the front fork protrudes, the two–wheeler down and the area of the pedals of the bicycle in these runs and for its rear part a passage slit the rear of the bicycle, whereby for in the enclosures in both side walls each one Zutrittsoeffnung the cyclists in the form of a section formed that extends in two Gehaeuseteilen,

thereby characterized in that the upper Gehaeuseteil (8) on the roof (6) we−Nigst can be opened partially.

0) CN2637557Y – DRUM TYPE BACK DRAG ELECTRIC SWEEPING VEHICLE

146) Family number: 1703348 (CN2637557Y)

© PatBase

Title:	Drum type back drag electric sweeping vehicle
Priority:	CN200320129598U 20031225

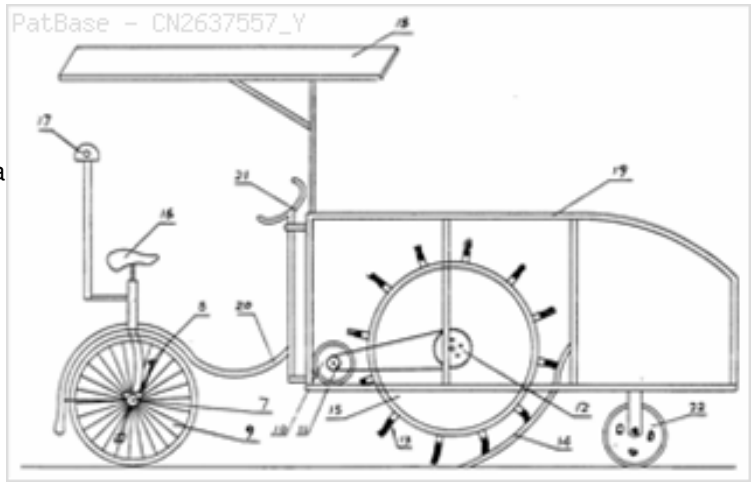
Family:

Publication number	Publication date	Application number	Application date
CN2637557 Y	20040901	CN200320129598U	20031225

Probable Assignee:	XUE CHANGCHUN
Assignee(s):(std):	XUE CHANGCHUN
Inventor(s):(std):	XUE CHANGCHUN
Inventor(s):	CHANGCHUN XUE
International class (IPC 8–9):	E01H1/04 E01H1/05 (Advanced/Invention); E01H1/00 (Core/Invention)
International class (IPC 1–7):	E01H1/04 E01H1/05

Classification Explorer

Abstract:
Source: CN2637557Y The utility model provides a rotary drum inverted–towing typed electric sweeper, which comprises a sheltering canopy, a box body with a garbage delivery shovel, a vehicle body connecting bar, a handle, a wheel and a guide wheel. Wherein, a rotary drum sweeper assembly is arranged between the internal of the box body and the garbage delivery shovel positioned at the bottom of the box body, and a lever mechanism assembly is arranged at the outer edge of the box body and the rear end of the box body is connected with a rear wheel assembly by the vehicle body connecting bar. Compared with the prior art, the utility model has very remarkable substantive characteristics and technological progress: the sweeper has the advantages of simple structure, low manufacturing cost, adoption of the road sweeping of rear single–wheel driving and anti–clockwise drum, bicycle handle typed steering, manual controlled sweeping speed, and can meet even exceed standards of the cleanliness of the environmental sanitation.



147) Family number: 17708132 (DE9313824U1)

© PatBase

Title: Mehrraedriges Fahrzeug, insbesondere Fahrrad Mehrraedriges vehicle, particularly bicycles (Machine translation)

Priority: DE19930013824U 19930913

Family:

Publication number	Publication date	Application number	Application date
DE9313824 U1	19950119	DE19930013824U	19930913

Probable Assignee: ALBERT ULRICH

Assignee(s):(std)**:** ALBERT ULRICH

Assignee(s): ALBERT ULRICH 51465 BERGISCH GLADBACH DE

International class (IPC 8–9): B62M1/12 B62M1/16 (Advanced/Invention); B62M1/00 (Core/Invention)

International class (IPC 1–7): B62K21/12 B62K21/22 B62M1/12 B62M9/00

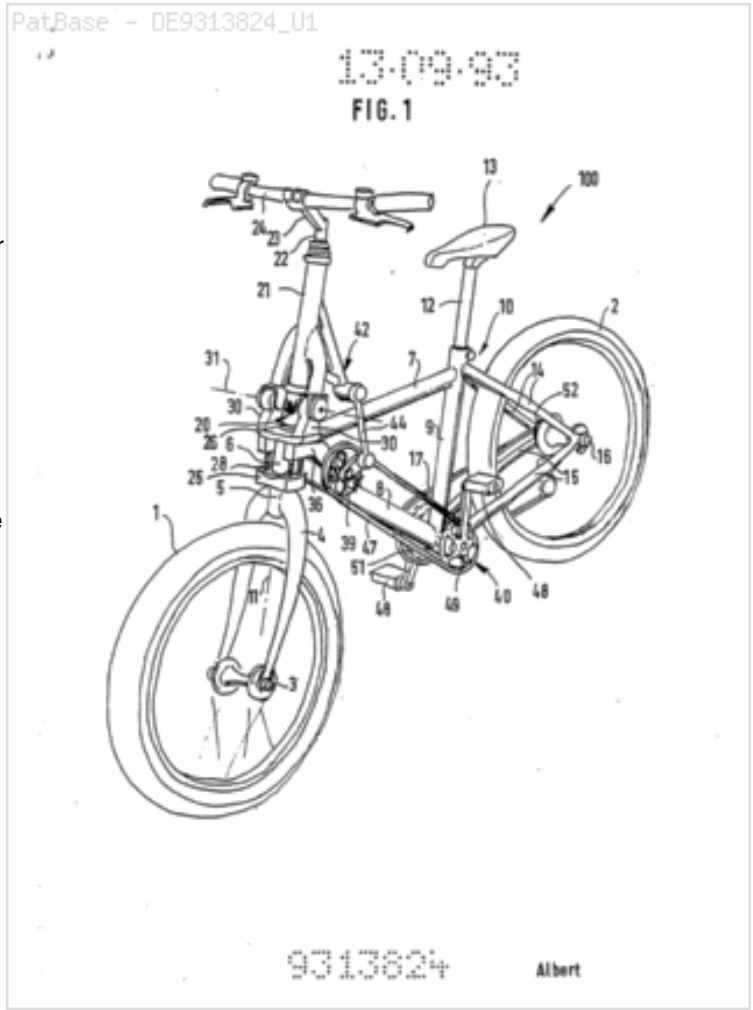
CPC: B62M1/16 B62M1/12

European class: B62M1/12 B62M1/16

Classification Explorer

Forward Citations: TWI327118, GB2453643, GB2453643, EP2199197, DE202012000776, CN102582746,

Abstract:
Source: DE9313824U1 (Claim 1) 1. Mehrraedriges Fahrzeug, insbesondere Fahrrad (100), mit einem im wesentlichen ebenen aufrechten Rahmen (10), mit einem auf dem Rahmen (10) angeordneten Sitz (13), mit einer an dem Rahmen (10) gelagerten Hinterradanordnung (2) und einer an dem Rahmen (10) gelagerten, durch Schwenken um eine aufrechte Achse in einem gegenueber dem Rahmen (10) feststehenden Lenkerkopf (6) lenkbaren Vorderradanordnung (1), mit einer an dem Rahmen (10) gelagerten Tretkurbel (40, 40') mit Fusspedalen (48), mit einer ersten Antriebsverbindung zur uebertragung des durch die auf die Fusspedale (48) ausgeuebte Fusskraft erzeugten Drehmoments der Tretkurbel (40) auf die Hinterradanordnung (2), mit einem mit der Vorderradanordnung (1) schwenkverbundenen und um eine horizontale Querachse (31) neigbaren Lenker (21,24), der mit der Vorderradanordnung (1) ueber ein Winkelgelenk (20) verbunden ist, dessen Mittelpunkt auf der Querachse (31) liegt und welches eine Verschwenkung des Lenkers (21,24) eindeutig in eine Drehung der Vorderradgabel (4) um die Lenkachse (11) umsetzt, und mit einer zweiten Antriebsverbindung zur uebertragung des durch die auf den Lenker (21,24) ausgeuebte Armkraft erzeugten Neigungs–Drehmoments auf die Hinterrad anordnung (2), dadurch gekennzeichnet, dass ein die Neigungslagerung des Lenkers (21,24) und Elemente der zweiten Antriebsverbindung tragendes Lagerteil (50, 50') an dem Lenkerkopf (6) eines ueblichen Rahmens (10) ohne bauliche Veraenderungen desselben verspannt ist.



Machine translation: (Claim 1) 1 Mehrraedriges vehicle, especially a bicycle (100), with a substantially planar upright frame (10), with one on the frame (10) arranged seating (13), with one on the frame (10) mounted rear wheel assembly (2) and one at the frame (10) mounted by pivoting about an upright axis in relation to the frame (10) fixed handlebars head (6) steerable front wheel assembly (1), with one on the frame (10) bearing crank (40, 40 ') with foot pedals (48), with a first drive connection for the transmission of the generated on the foot pedals (48) carried on foot power torque of the pedal crank (40) on the rear wheel assembly (2), with the front wheel assembly (1) pivotally connected to and about a horizontal transverse axis (31) tilt steering (21.24), who is with the front wheel assembly (1) over an angle joint (20), whose focus on the transverse axis (31) is located and which has a pivoting of the handlebar (21.24) is clearly in a twist the front fork (4) to the steering axis (11) implements, and a second drive connection for the transmission of information generated by the on the handlebars (21:24) exerted arm power tilt–torque arrangement on the rear wheel (2), characterized in that a the inclination of the bar storage (21,24), and elements of the second drive connection supporting bearing part (50 50 ') to the handlebar head (6) of a conventional frame (10) without structural changes of the same end Vera is clamped.

0) US2229468A – BICYCLE

148) Family number: 21431415 (US2229468A) © PatBase

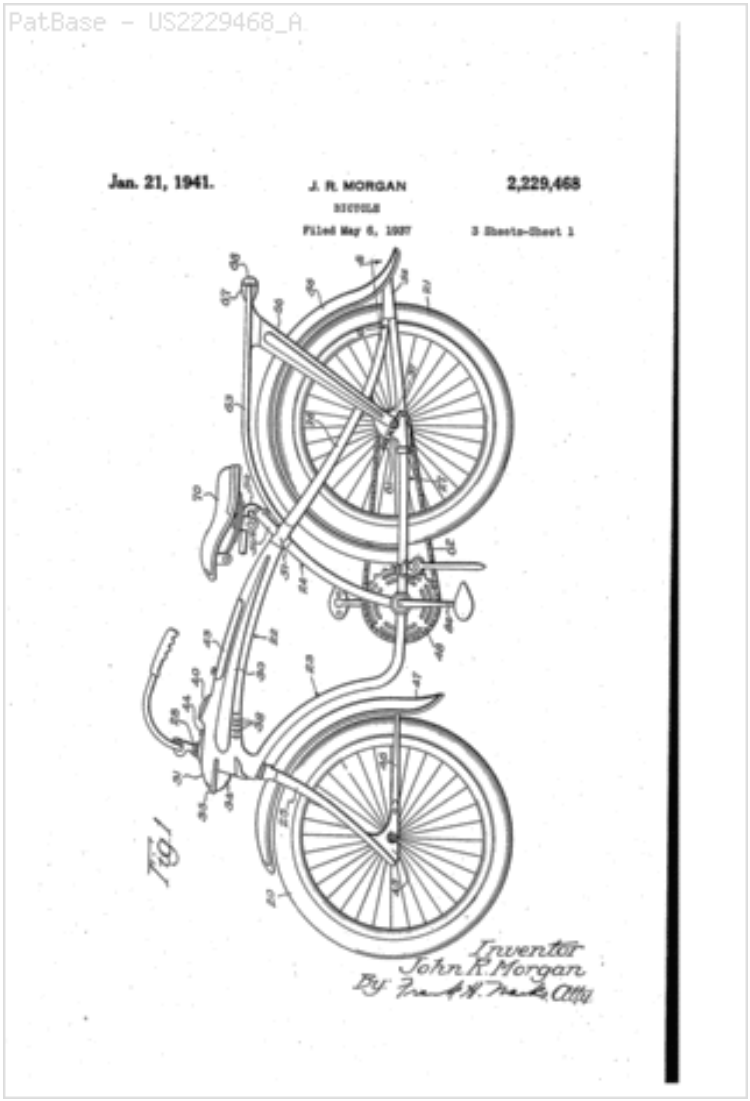
Title:	BICYCLE
Priority:	US19370141077 19370506

Family:

Publication number	Publication date	Application number	Application date
US2229468 A	19410121	US19370141077	19370506

Probable Assignee:	SEARS ROEBUCK AND CO
Assignee(s):(std)**:**	SEARS ROEBUCK AND CO
Inventor(s):(std)**:**	MORGAN JOHN R
International class (IPC 8–9)**:**	B62K7/00 (Advanced/Invention); B62K7/00 (Core/Invention)
International class (IPC 1–7)**:**	B62K19/30
CPC:	B62K7/00 B62K2700/60
European class:	B62K7/00 L62K700/60
US class:	280/281.1
Classification Explorer	
Forward Citations:	US2602677, US2004208607, DE19703259,

Abstract:
Source: US2229468A 1. In a bicycle, a frame including a pair of rear wheel forks, one of said forks extending downwardly and rearwardly and the other fork extending horizontally rearwardly and meeting the first fork adjacent the rear edge of the rear wheel, and a U–shaped member extending around the rear edge of the rear wheel and having each of its ends secured to each fork to rigidly connect the forks. `



0) CH212096A – FAHRRAD–HALTER. BICYCLE HOLDER. (MACHINE TRA...

149) Family number: 24929537 (CH212096A) © PatBase

Title: FAHRRAD–HALTER. BICYCLE HOLDER. (Machine translation)

Priority: 19390916

Family:

Publication number	Publication date	Application number	Application date
CH212096 A	19401031		19390916

Probable Assignee: HOBI ERNST

Assignee(s):(std)**:** HOBI ERNST

Inventor(s):(std)**:** ERNST HOBI

Inventor(s): HOBI ERNST

International class (IPC 8–9)**:** B62H3/00 (Advanced/Invention); B62H3/00 (Core/Invention)

International class (IPC 1–7)**:** B62H3/04

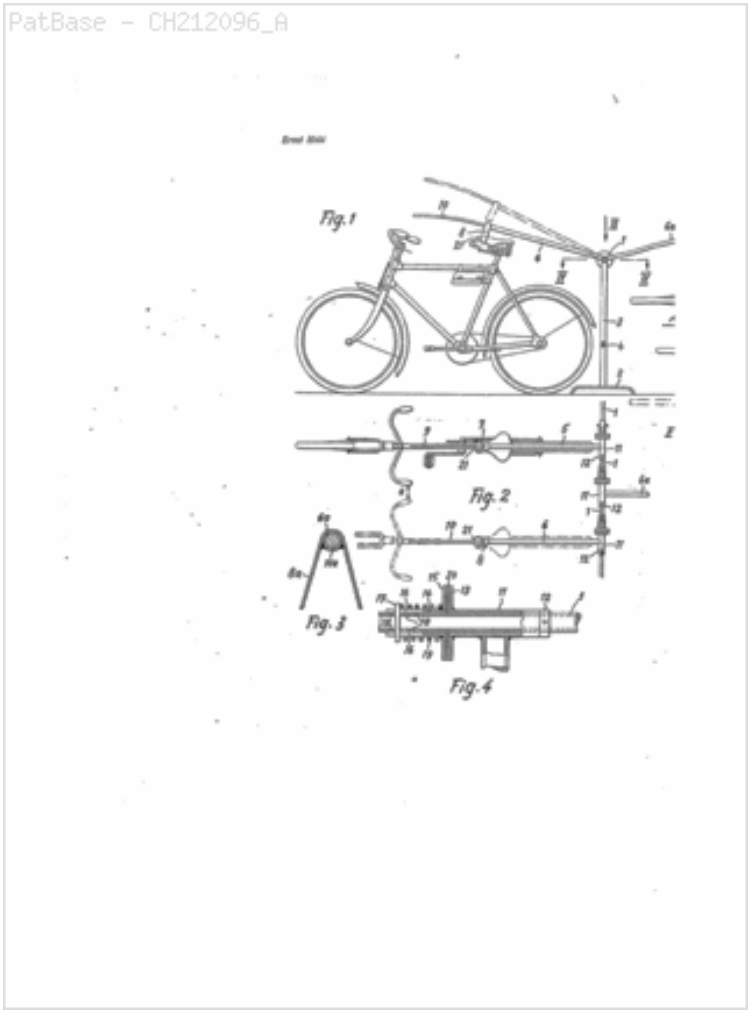
CPC: B62H3/00

European class: B62H3/00

Classification Explorer

Forward Citations: US2873034,

Abstract:
Source: CH212096A 1. Fahrradhalter nach Patentanspruch, da durch gekennzeichnet, dass die Lagerachse auf einem transportabeln Gestell angeord net ist. . 1 Bicycle holder according to claim, characterized in that the bearing axis is on a transport frame Abeln angeord net.



0) US4743011A – EXERCISE ROWING MACHINE

150) Family number: 3832583 (US4743011A) © PatBase

Title: EXERCISE ROWING MACHINE

Priority: CA19870541487 19870707 US19860882785 19860707

Family:

Publication number	Publication date	Application number	Application date
CA1296029 A1	19920218	CA19870541487	19870707
US4743011 A	19880510	US19860882785	19860707

Probable Assignee: COFFEY CALVIN THOMAS

Assignee(s):(std)**:** COFFEY CALVIN ; COFFEY CALVIN T

Assignee(s): COFFEY CALVIN THOMAS

Inventor(s):(std)**:** COFFEY CALVIN T ; COFFEY CALVIN

Inventor(s): COFFEY CALVIN THOMAS

Agent(s): RICHES MCKENZIE AND HERBERT LLP

International class (IPC 8–9): A63B21/008 A63B21/22 A63B69/06 (Advanced/Invention); A63B21/00 A63B21/008 A63B69/06 (Core/Invention)

International class (IPC 1–7): A63B21/00 A63B69/06

CPC: A63B21/00069 A63B21/0088 A63B21/225 A63B69/06 A63B2022/0082 A63B21/4047

European class: A63B21/008C4 A63B21/22F A63B23/035G A63B69/06 K63B22/00R4

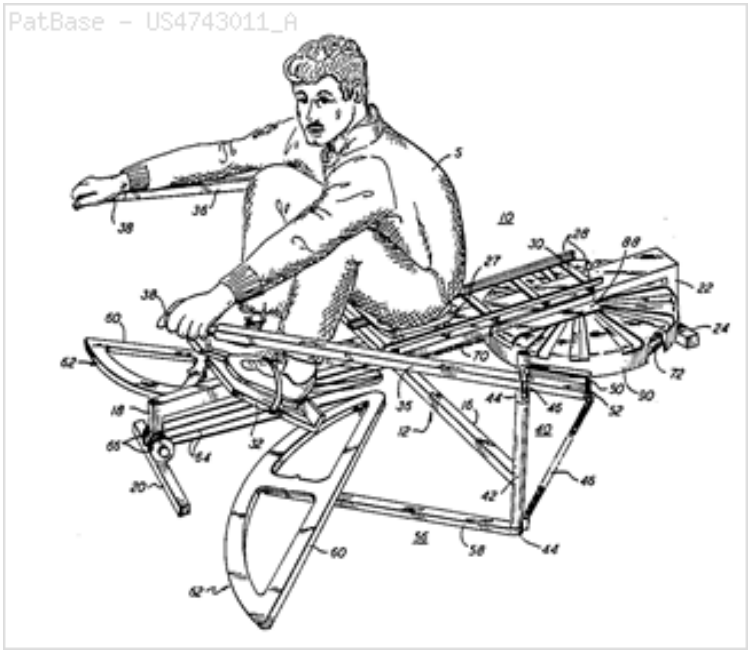
US class: 272/130 272/72 482/111 482/73

Classification Explorer

Cited documents: US4537396 A, US4533136 A, US4396188 A, US4311305 A, US4047715 A, US3572700 A, US3528653 A, US3473843 A, US1979716 A, US1111269 A, GB347533 A, CA1183559 A1,

Forward Citations: WO9200780, WO16064605, WO13055767, WO12054255, WO12054255, WO11056210, WO10017600, WO09089131, WO05025685, WO04026412, USD712493, USD477040, US9486666, US9352187, US9308415, US8876664, US8734300, US8734299, US8696524, US8622876, US8608626, US8550962, US8529408, US8235874, US8192332, US8147385, US8109859, US8038582, US7922635, US7862484, US7846074, US7833136, US7828706, US7771325, US7731637, US7608028, US7608022, US7572211, US7470223, US7364533, US7226393, US7220221, US7201708, US7172532, US7115080, US7108641, US7083554, US7070545, US6652429, US6309329, US5779600, US5290212, US5232425, US5211613, US5147265, US5125879, US5092581, US5090694, US5042798, US4940227, US4932650, US4884800, US2015258366, US2014336011, US2014221169, US2011152041, US2011034303, US2010248906, US2010240494, US2010190615, US2010113228, US2010009816, US2009181832, US2008305934, US2008280736, US2008261782, US2007255397, US2007197347, US2005148444, US2004266591, US2002035017, US2001008861, TWI410261, ITFI20110188, GB2479264, GB2372219, GB2221625, GB2221625, EP1493467, DE3925538, DE10242384,

Abstract:
Source: US4743011A An exercise rowing machine uses a flywheel as a resistance member and has cam sector arms which are pivoted to rotate with the machine's oars. A bicycle−type chain is pulled to drive a sprocket drive on the flywheel when the oars are stroked. The arcuate shape of the cam sector arms provides a constant resistance force to the stroke of the oars over the oar sweep. The position of the foot stretcher plate is adjustable. A shroud for the flywheel has an adjustable throttle or shutter to control air flow and thus adjust the amount of resistance.



0) BRMU8702875U – CHURRASQUEIRA QUE USA CORRENTE ELETRICA PARA FA...

151) Family number: 43552507 (BRMU8702875U) © PatBase

Title: churrasqueira que usa corrente eletrica para fazer o carvao pegar fogo na presenca de oxigenio produzido por eletrolise, suga a fumaca produzida na queima do carvao e a manda para o esgoto, uma especie de "vassoura" varrem as cinzas no final do churrasco para um triturador que as lancam tambem para o esgoto Barbecue that uses electric current to the coal catches fire in the presence of oxygen produced by electrolysis, sucks the smoke produced in coal burning and sends it to the sewer, a sort of "broom" sweeping the ashes on the barbecue the end to a grinder the cast also for sewage (Machine translation)

Priority: BR2007MU02875U 20070110

Family:

Publication number	Publication date	Application number	Application date
BRMU8702875 U2	20090721	BR2007MU02875U	20070110

Probable Assignee: DA SILVA DANIEL SILVERIO

Assignee(s):(std)**:** DA SILVA DANIEL SILVERIO

Assignee(s): DANIEL SILVERIO DA SILVA

Inventor(s):(std)**:** DA SILVA DANIEL SILVERIO

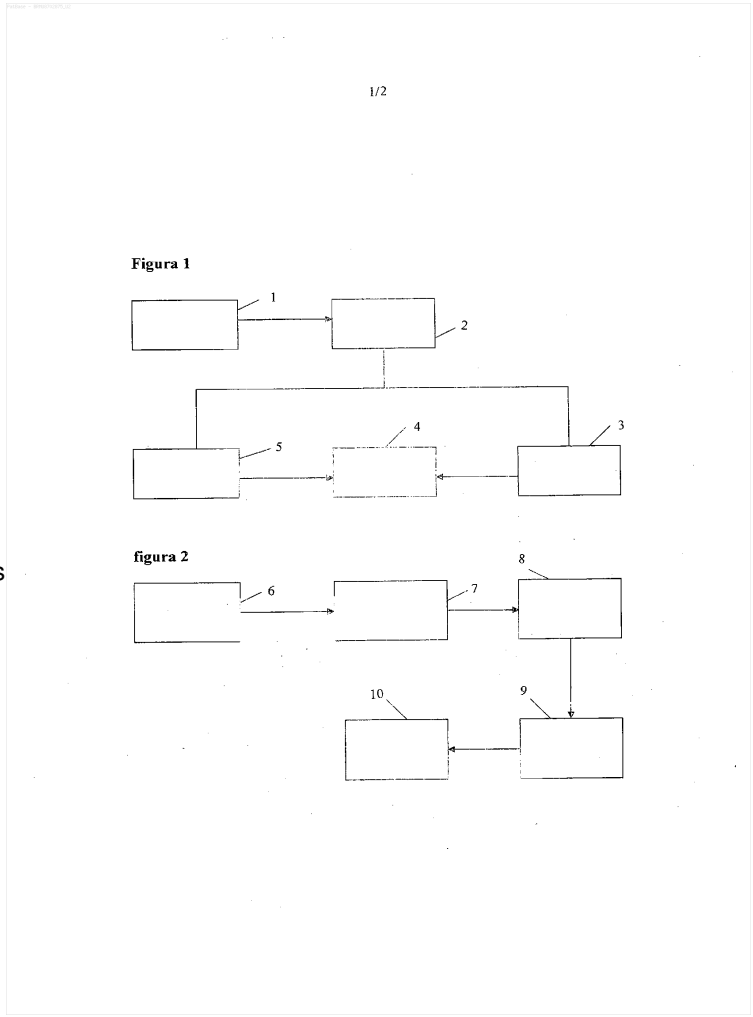
Inventor(s): DANIEL SILVERIO DA SILVA

International class (IPC 8–9): A47J37/07 F27D11/12 H05B3/08 (Advanced/Invention); A47J37/07 F27D11/00 H05B3/06 (Core/Invention)

Classification Explorer

Abstract:

Source: BRMU8702875U 1 Resumo ¦ "Churrasqueira que usa corrente eletrica para fazer o carvao pegar fogo na presenca de oxigenio produzido por eletrolise, suga a fumaca produzida na queima do carvao e a manda para o esgoto, uma especie de "vassoura" varrem as cinzas no final do churrasco para um 5 triturador que as lancam tambem para o.esgoto." Nessa, churrasqueira coloca–se fogo no carvao quando uma corrente eletrica perqorre o carvao(4), o circuito que coloca fogo no carvao(4), tem uma bobina de iesla(2) paia produzir elevada tensao em duas placas meiaiicasp.S) que fica no func.o da churrasqueira/ tipo capacitor)(3,–5), uma cuba eletrolitica acoplada ra churrasqueira, fornece oxigenio como comburente 10 para o carvao, na parte de cima uma correia de bicicleta envolve uma roda dentada com eixo que tem outra roda dentada na outra extremidade ligada a outra roda dentada que vai ao unico motor, assim os espetos com a came giram durante o churrasco, um sugar(7), semelhante ao aspirador de po esta acoplado na parte superior da churrasqueira ao qual puxa a fumaca da queima do carvao e as lancam no esgoto atraves 15 de um cano, no final do churrasco uma "vassoura" acoplada a churrasqueira recebe movimento de uma roda dentada que vem do unico motor, varre as cinzas para um triturador que junto com agua manda essas cinzas para o esgoto. 1 Summary | "BBQ that uses electric current to the coal catches fire in the presence of oxygen produced by electrolysis, sucks the smoke produced in coal burning and sends it to the sewer, a sort of" broom "sweeping the ashes at the end the barbecue for a 5 crusher that also cast for o.esgoto. " This grill is placed in the coal fire when an electric current perqorre the coal (4), the circuit that puts fire in coal (4) has a coil iesla (2) Paia produce high voltage in two meiaiicasp.S plates) func.o which is on the grill / capacitor type) (3, –5), an electrolytic vessel coupled ra grill provides oxygen as an oxidant for the coal 10 in the top belt involves a bicycle wheel with a toothed shaft which It has another toothed wheel on another end connected to another sprocket going to the single motor, so the skewers with meat rotate during the barbecue, a sugar (7), similar to vacuum cleaner is coupled at the top of the barbecue which pulls the smoke from coal burning and throw in the sewer through 15 a barrel at the end of BBQ one "broom" coupled barbecue gets movement of a sprocket that comes from single engine, sweeps the ashes to a crusher which along with water sends these ashes into the sewer.



0) CN203144952U – INDEPENDENT POWER–STATION SNOW SWEEPER

152) Family number: 54610678 (CN203144952U) © PatBase

Title: INDEPENDENT POWER–STATION SNOW SWEEPER

Priority: CN201320083665U 20130225

Family:

Publication number	Publication date	Application number	Application date
CN203144952 U	20130821	CN201320083665U	20130225

Probable Assignee: BAISHAN XINTAI MINE MACHINE MANUFACTURE CO LTD

Assignee(s):(std)**:** BAISHAN XINTAI MINE MACHINE MANUFACTURE CO LTD

Assignee(s): BAISHAN XINTAI MINE MACHINE MANUFACTURE CO

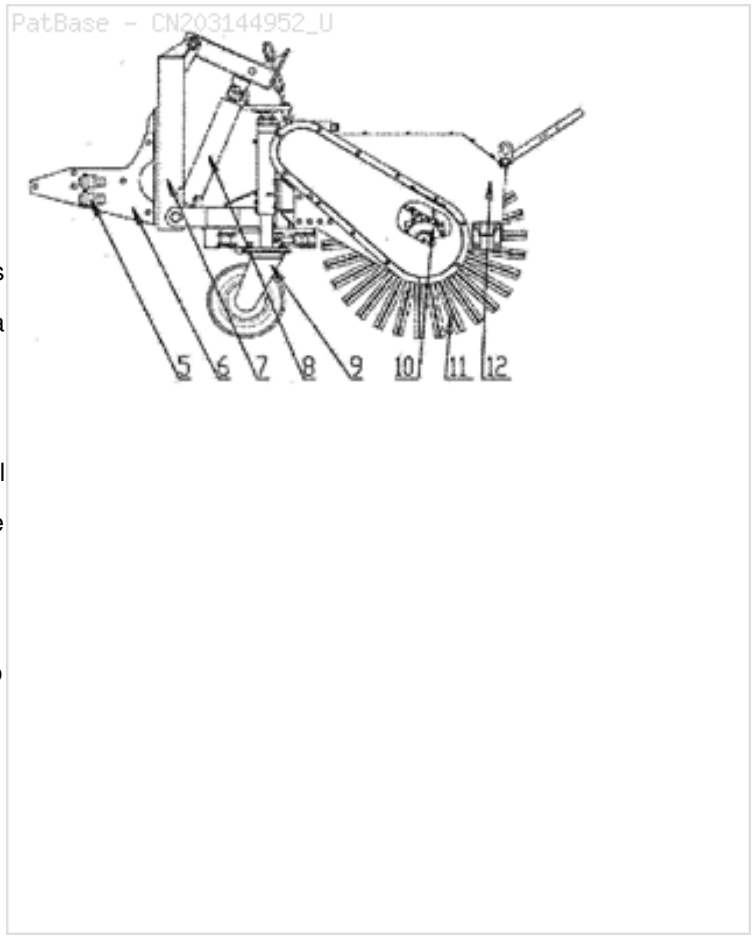
Inventor(s):(std)**:** LIU LEI

International class (IPC 8–9): B60K25/06 E01H1/05 E01H5/09 (Advanced/Invention)

Classification Explorer

Forward Citations: CN104612094, CN104612094, CN104131525,

Abstract:
Source: CN203144952U The utility model relates to an independent power–station snow sweeper. Most of the current snow sweeping motor vehicles are large–sized, and the snow sweeping motor vehicles are mainly suitable for major streets and large squares and are not suitable for clearing winter snow on mini–sized motor vehicle roads, bicycle lanes, sidewalks, walking streets, small and medium–sized squares and narrow pavements of residential quarters. The independent power–station snow sweeper is composed of a motor vehicle, a mechanical transmission mechanism and an independent mobile hydraulic station. The whole machine power system structure converts the mechanical power output through an independent engine into a flow l/min power through the hydraulic oil pressure mPa output through a hydraulic gear pump, and the fluid power is converted into the mechanical power again after the output work of a hydraulic power mechanism. Namely, mechanical energy is converted into fluid energy, and the fluid energy is converted into the mechanical energy again. A rolling brush rotates after the rolling brush obtains energy to achieve the effect of clearing pavements. The whole machine has light weight and small size and is suitable for clearing winter snow on narrow pavements such as the mini–sized motor vehicle roads, the bicycle lanes and the like.



0) US5979015A – ERGONOMIC HAND GRIP AND METHOD OF GRIPPING

153) Family number: 11191989 (US5979015A) © PatBase

Title: ERGONOMIC HAND GRIP AND METHOD OF GRIPPING

Priority: US19960774199 19961227 WO1997US24258 19971226

Family:

Publication number	Publication date	Application number	Application date
AU199858126 A1	19980731	AU19980058126	19971226
US5979015 A	19991109	US19960774199	19961227
WO9829167 A1	19980709	WO1997US24258	19971226

Probable Assignee: TAMARIBUCHI STEPHEN K

Assignee(s):(std)**:** TAMARIBUCHI STEPHEN K

Assignee(s): STEPHEN K TAMARIBUCHI

Inventor(s):(std)**:** TAMARIBUCHI STEPHEN K

Inventor(s): STEPHEN K TAMARIBUCHI

Designated states: AM AT AU BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GH GM GN GR HU IE IS IT JP KE KG KP KR KZ LK LR LS LT LU LV MC MD MG ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SN SZ TD TG TJ TM TT UA UG US UZ VN ZW

International class (IPC 8–9): A63C11/22 B62K23/04 (Advanced/Invention); A63C11/00 B62K23/00 (Core/Invention)

International class (IPC 1–7): A63C11/22 B62K23/04

CPC: Y10S16/19 B62K23/04 A63C11/22 Y10T16/44 Y10T74/20828

European class: A63C11/22 B62K23/04

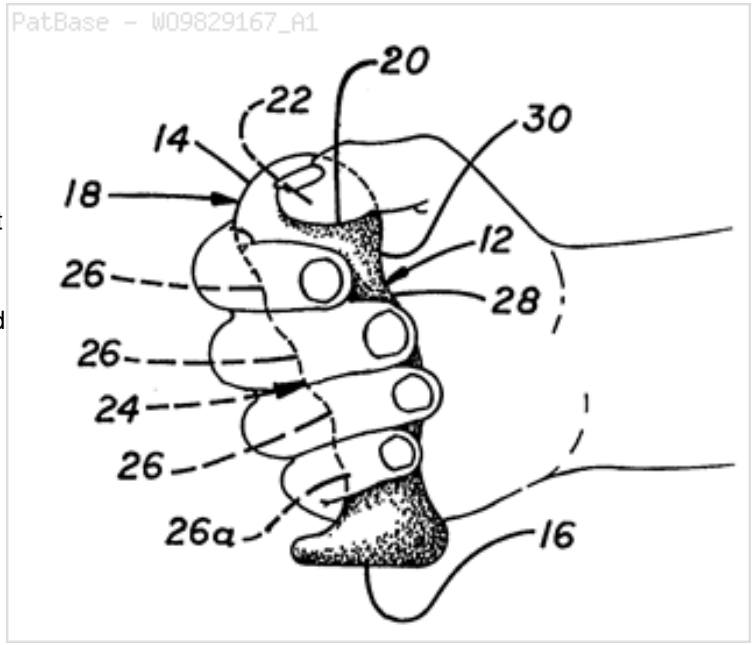
US class: 16/110.1 16/110R 16/DIG.19 280/821 74/551.9

Classification Explorer

Cited documents: US5692265 A, US5235871 A, US5159851 A, US5076569 A, US5072934 A, US5058923 A, US4934024 A, US4641857 A, US3879048 A, US157634 A, US1503251 A,

Forward Citations: WO07032684, WO07019566, WO07008952, WO04089733, WO04089733, WO04037495, WO04037495, WO0154866, WO0043166, WO0043166, USD620216, USD532671, USD500926, USD498130, USD463244, US9550290, US9526960, US9526943, US9327794, US9120528, US8801551, US8769835, US8657029, US8267192, US8092411, US8066594, US8028642, US7878930, US7744497, US7694391, US7600447, US7506409, US7010835, US6988295, US6944914, US6901900, US6868657, US6835169, US6662406, US6261141, US2013337934, US2013032010, US2012292069, US2012167706, US2012137821, US2011214597, US2011130207, US2011105256, US2010252293, US2010095803, US2009131206, US2008200288, US2007137051, US2006155231, US2005150083, US2005039565, US2004107544, US2003213219, US2003140884, EP1832318, EP1482818, EP1184137, EP1105194,

Abstract:
Source: US5979015A An ergonomic hand grip is provided for use with a wide variety of devices and equipment such as ski poles and bicycle handlebars. In a basic illustrated form, the grip has an elongated base that is contoured so that, when gripped, the thumb is bent and the hand and wrist are in a neutral position. In the neutral position, the hand is not cocked or hyper−extended, but rather is generally aligned with the forearm. In particular, a thumb support is provided adjacent to one end of the base to position and support the thumb in the bent position. The base is also provided with suitable depressions and/or recessed areas to receive enlarged portions of the gripping hand to cause the knuckles to be in generally linear alignment. Further, the end of the base opposite the thumb support is reduced in size to allow disproportionately more contraction of the lowermost two fingers, and primarily the lowermost or little finger. When used in certain applications such as for ski poles where the base is generally upright, the base is desirable tilted slightly forwardly. The grip tends to promote improved alignment and stabilization of the parts of the user's body and in particular stabilize the user's shoulders, and in turn his/her hips, legs, etc. for greater stability and efficiency of movement. The grip also facilitates the users ability to resist stress applied to the grip.



0) DE4424824A1 – SEAT FOR BICYCLE ESP. FOR PROFESSIONAL CYCLING ...

154) Family number: 11750418 (DE4424824A1) © PatBase

Title: Seat for bicycle esp. for professional cycling

Priority: DE19944424824 19940714

Family:

Publication number	Publication date	Application number	Application date
DE4424824 A1	19960125	DE19944424824	19940714

Probable Assignee: SCHMITT SIEGBERT DIPL ING

Assignee(s):(std)**:** SCHMITT SIEGBERT DIPL ING

Assignee(s): SCHMITT SIEGBERT DIPL ING 44143 DORTMUND DE

Inventor(s):(std)**:** SCHMITT SIEGBERT DIPL ING

Inventor(s): SCHMITT SIEGBERT DIPL ING 44143 DORTMUND DE

International class (IPC 8–9): B62J1/00 B62J1/04 (Advanced/Invention)

International class (IPC 1–7): B62J1/00

CPC: B62J1/002 B62J1/005 B62J1/04

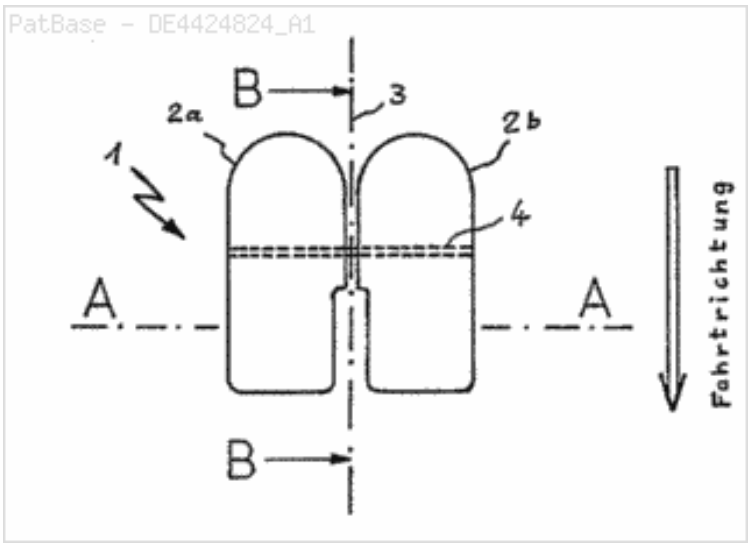
European class: B62J1/00 B62J1/00B B62J1/00C B62J1/04

Classification Explorer

Cited documents: EP0467541, DE108624, DE103238,

Forward Citations: WO9825810, WO10145085, US6254180, AU741652,

Abstract:
Source: DE4424824A1 The seat consists of two symmetrical parts (2a,b). These are located along the symmetrical axis (3) of the bicycle, in its longitudinal direction, and at a relative distance to each other, forming a gap. The two parts do not contact each other, and are turnable independently of each other, about a pivot axis (4), which is at right angles to the symmetrical axis. The seat parts move through an angle, which approx. covers the area from a horizontal to a vertical position, in direction of a forward rotation of the wheels. The pivot axis is located slightly behind the centre of gravity of the seat parts. Each part consists of a plate with padding.



0) GB469354A – IMPROVEMENTS IN BICYCLE FRAMES

155) Family number: 19026248 (GB469354A)

© PatBase

Title: Improvements in bicycle frames

Priority: GB19360030049 19361104

Family:

Publication number	Publication date	Application number	Application date
GB469354 A	19370723	GB19360030049	19361104

Probable Assignee: BATTERY PATENTS CORP

Assignee(s):(std)**:** BATTERY PATENTS CORP

International class (IPC 8–9)**:** B62K25/04 (Advanced/Invention)

International class (IPC 1–7)**:** B62K25/20

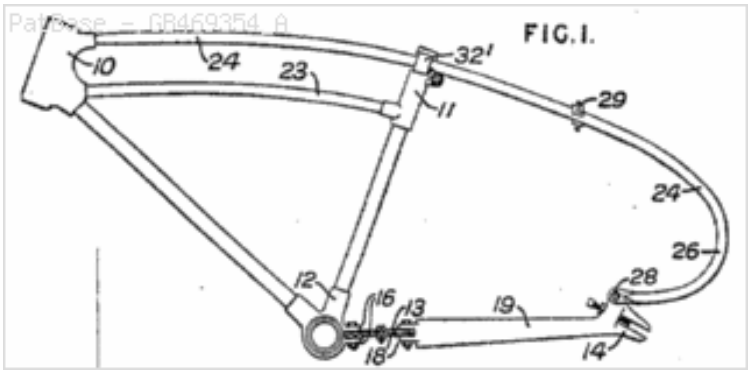
CPC: B62K25/04 B62K2025/041 B62K2201/06

European class: B62K25/04 L62K201/06 L62K25/04B

Classification Explorer

Forward Citations: WO9215477,

Abstract:
Source: GB469354A 469,354. Bicycle frames. TENNANT. W. J. (Battery Patents (Corporation) Nov 4 1936, No. 30049. [Class 136 (iii)]. In a bicycle frame comprising a head, a frame member or fork carrying the rear wheel axle, and a continuous tubular member extending rearwardly from the head and connected at its rear end to the axle–carrying frame member or rear fork, the continuous tubular member is pivoted to such frame member or fork, and the latter is so mounted in the frame as to be resilient in the plane of the frame. A pair of curved and rearwardlydiverging tubes 24 extend from the head 10 to the rear fork end 14, to which they are pivoted at 28, the tubes 24 passing through, and being clamped by bolts in, eyes in split laterally–projecting arms 32<1> on a casting 11 forming a saddle support. The tubes 24 are also clamped in a cross–brace 29 formed of upper and lower parts united by screws, and the rear ends are shaped to form resilient loops 26. A single curved tube 23 connects the lower parts of the head casting 10 and the casting 11. The inner end of the wheelsupporting fork 19 is connected to the crank bracket casting 12 by a laminated spring 13, the ends of which are bolted between lugs 16, 18. Shocks on the rear wheel are thus absorbed by the spring 13 and the resilient loops 26, the pivots 28 permitting the necessary movements.



0) US3757730A – WIND ACTUATED DEVICES

156) Family number: 19275224 (US3757730A) © PatBase

Title: WIND ACTUATED DEVICES

Priority: US19720251431 19720508 US19720290785 19720921

Family:

Publication number	Publication date	Application number	Application date
AU197355341 A1	19741107	AU19730055341	19730507
AU197358689 A1	19750130	AU19730058689	19730730
CA981450 A1	19760113	CA19730170669	19730508
CA981451 A1	19760113	CA19730177395	19730726
DE2249204 A1	19731129	DE19722249204	19721005
DE2338996 A1	19740404	DE19732338996	19730730
DE7236809 U	19730405	DE19726036809U	19721005
ES414479 A1	19760301	ES19730414479	19730507
FR2183952 A1	19731221	FR19730016557	19730508
FR2183952 B3	19760423	FR19730016557	19730508
GB1386219 A	19750305	GB19730021960	19730508
IT984958 A	19741120	IT19730049849	19730508
JP49027187 A2	19740311	JP19720089047	19720905
JP49070355 A2	19740708	JP19730085780	19730730
JP4927187 A2	19740311	JP19720089047	19720905
US3757730 A	19730911	US19720290785	19720921
US3758190 A	19730911	US19720251431	19720508

Probable Assignee: NU PRO INC

Assignee(s):(std)**:** NU PRO CORP ; NU PRO INC ; DOUGLAS D

Assignee(s): DOUGLAS DONALD J ; NU PRO INC ST PAUL MINN V ST A ; NU PRO INC US

Inventor(s):(std)**:** DOUGLAS DONAL JAY ; DOUGLAS DONALD J ; DOUGLAS DONALD JAY ; DOUGLAS D

Inventor(s): DOUGLAS D US ; DONALD JAY DOUGLAS ; DOUGLAS DONALD JAY WHITE BEAR LAKE MINN V ST A ; JAY DOUGLAS DONAL

International class (IPC 8–9): B60Q1/26 B62J6/20 F03D3/00 G02B5/12 G09F13/16 (Advanced/Invention); B60Q1/26 B62J6/00 F03D3/00 G02B5/12 G09F13/16 (Core/Invention)

International class (IPC 1–7): A63H33/40 B60Q1/26 B60Q7/00 B62J5/20 F03D3/04 G02B5/12 G08B5/14 G08B5/22 G09F11/02 G09F11/23 G09F13/16 G09F19/02 G09F21/04 G09F7/22

CPC: G02B5/12 Y10S415/905 B62J6/20 F03D3/005 Y02E10/74

European class: B62J6/20 F03D3/00D G02B5/12 Y02E10/74

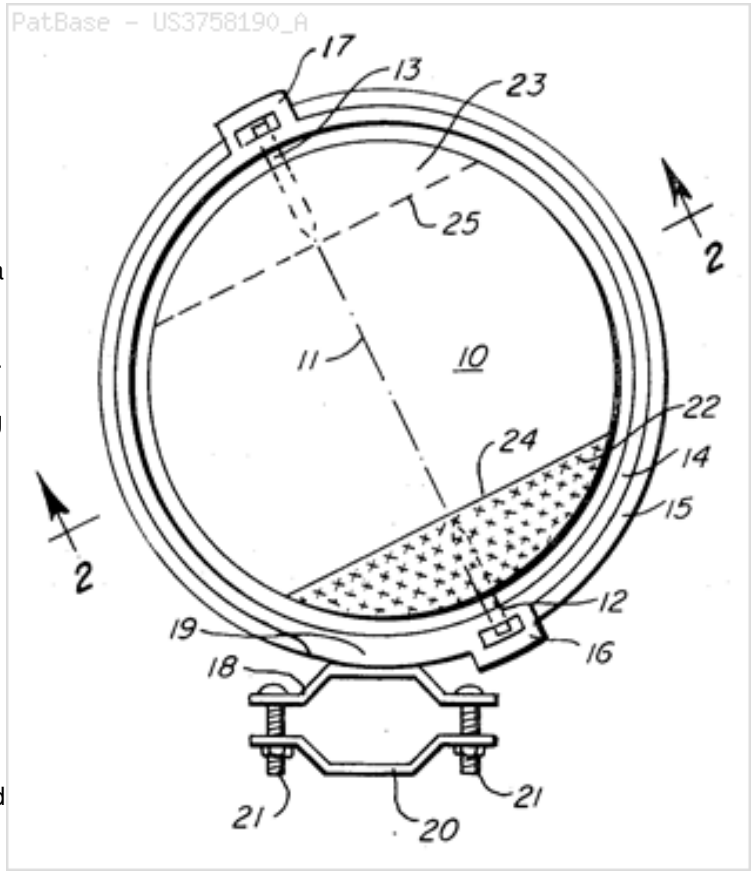
US class: 116/2.8 116/28R 350/9.7 359/525 40/440 415/121.3 415/211.1 415/905 416/197A 416/5

Classification Explorer

Cited documents: US588060 A, US332249 A, US3320920 A, US3292569 A, US3073047 A, US2965991 A, US2948257 A, US2810223 A, US2781017 A, US2701928 A, US2693044 A, US2314508 A, US214694 A, US1575242 A,

Forward Citations: WO9530836, WO9200864, US6760988, US6109754, US6079947, US5470205, US5349920, US5323728, US5315491, US5300783, US5267525, US5243457, US5237448, US5014641, US4655546, US4645299, US4463702, US4252726, US4103924, US4023888, US4003630, US3996680, US3963307, US3951516, US2015044934, US2004060214, JP53119884, JP53090487, JP51163249, JP51043763, JP48091075, GB2124281, EP0117840, EP0014986,

Abstract:
Source: US3757730A The wind actuated devices disclosed have a critical stationary wind shield which serves in combination with other features of the devices to promote desired wind actuated rotation of a rotatable part. The devices have at least one primary rotatable part, an axis means establishing a predetermined axis for rotation of the primary rotatable part, and holding means for the axis means. The primary rotatable part comprises a form−retaining base sheet material which is aligned with substantially all portions of it extending substantially parallel with the predetermined axis for its rotation. The axis for its rotation lies in the plane of the sheet and bisects the sheet into two wing parts. The wing parts are symmetrical and contoured in opposite directions to facilitate wind actuated rotation. Rotation causes each wing part to generate a solid of revolution having a curved surface extending about the axis of rotation. The wind shield is mounted in spaced proximate relationship to the rotation−generated curved surface at a radial location effective, under conditions of use in a wind environment, to interrupt external wind flow upon at least a portion of the sheet material at a wing part moving into the wind during rotation, but not to interrupt external wind flow upon the sheet material at a wing part moving with the wind during wind actuated rotation. Transparent wind shields are preferred, especially in combination with eye−catching attention−getting features including patterned areas of reflex reflecting and fluorescent materials on the base sheet material. Adjustable mounting bars are disclosed for fixing the devices to bicycles or the like.



0) GB743649A – IMPROVEMENTS RELATING TO LUGGAGE CARRIERS FOR C...

157) Family number: 20133416 (GB743649A)

© PatBase

Title: Improvements relating to luggage carriers for cycles and the like

Priority: GB19520013491 19530703

Family:

Publication number	Publication date	Application number	Application date
GB743649 A	19560118	GB19520013491	19530703

Probable Assignee: MIDLAND GEAR CASE COMPANY LTD

Assignee(s):(std)**:** MIDLAND GEAR CASE COMPANY LTD

Assignee(s): THE MIDLAND GEAR CASE COMPANY LIMITED ; MIDLAND GEAR CASE CO LTD

Inventor(s):(std)**:** SMITH WILLIAM BERNARD

International class (IPC 8–9): B62J7/02 (Advanced/Invention); B62J7/00 (Core/Invention)

International class (IPC 1–7): B62J7/06

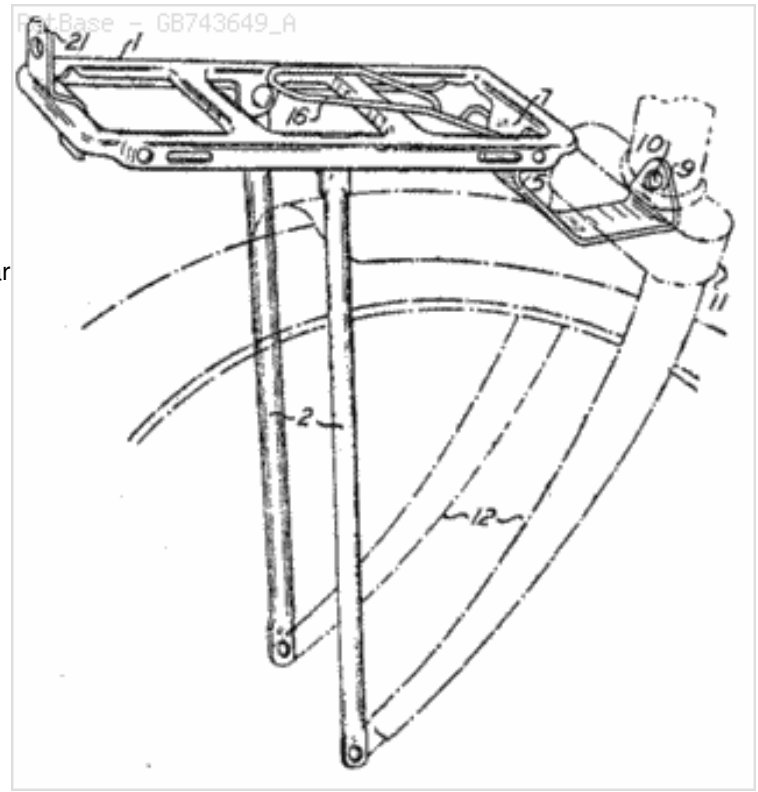
CPC: B62J7/02

European class: B62J7/02

Classification Explorer

Forward Citations: US5341971,

Abstract:
Source: GB743649A 743,649. Luggage–carriers. MIDLAND GEAR CASE CO., Ltd. July 3, 1953 [May 28, 1952], No. 13491/52. Class 136 (1). A bicycle luggage carrier platform 1 is connected to the bicycle fork 12 by depending stays 2 and to the fork crown 11 by means of a rearwardly extending bracket 5 which has a lug 9 formed with a bolt hole 10. The bracket is passed under the crown 11 and the lug 9 is positioned at the rear of the crown so that a bolt normally employed for fastening the mudguard to the crown may pass through the bolt hole. The bracket 5 is formed integral with a lug 7 depending from the platform 1. The luggage is kept in position on the platform by a back rest 16 and a lamp bracket 21. The back rest is spring biased into a stowed position.



0) US2199536A – BICYCLE

158) Family number: 21228381 (US2199536A) © PatBase

Title:	BICYCLE
Priority:	US19360058640 19360111

Family:

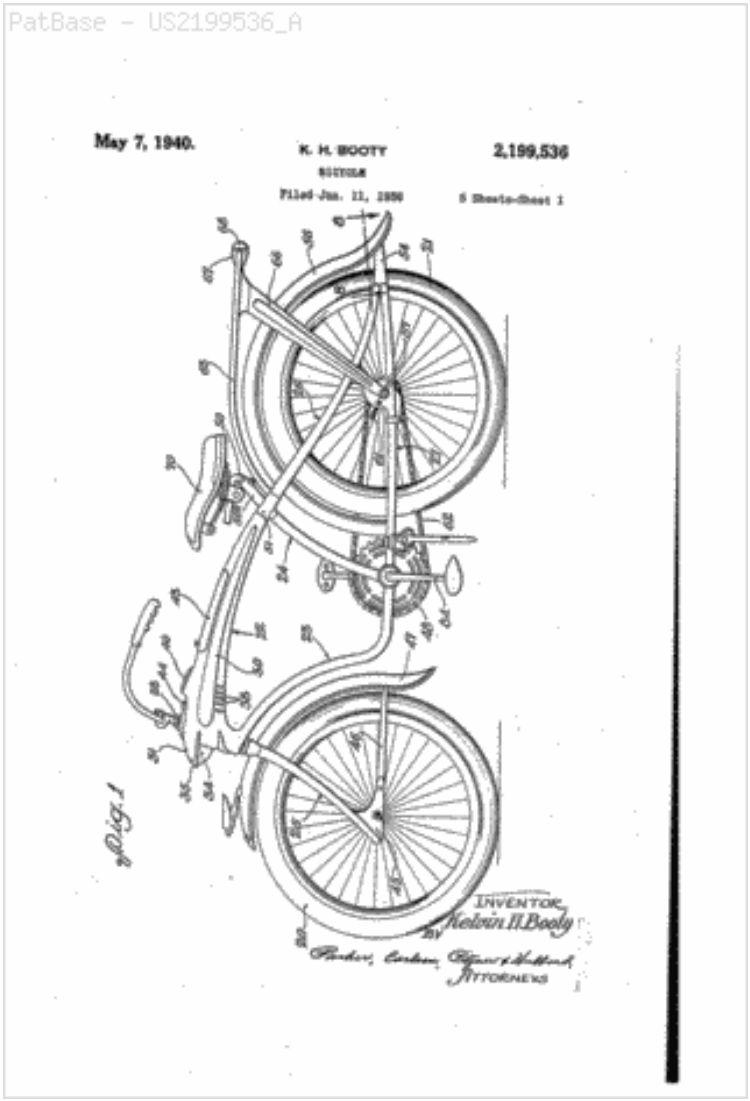
Publication number	Publication date	Application number	Application date
US2199536 A	19400507	US19360058640	19360111

Probable Assignee:	SEARS ROEBUCK AND CO
Assignee(s):(std)**:**	SEARS ROEBUCK AND CO
Inventor(s):(std)**:**	BOOTY KELVIN H
International class (IPC 8–9)**:**	B62K21/26 B62K3/04 B62K7/00 (Advanced/Invention); B62K21/00 B62K3/00 B62K7/00 (Core/Invention)
International class (IPC 1–7)**:**	B62K19/30
CPC:	B62K3/04 B62K7/00 B62K21/26 B62K2700/36 B62K2700/60
European class:	B62K21/26 B62K3/04 B62K7/00 L62K700/36 L62K700/60
US class:	178/23R 280/281.1

Classification Explorer

Forward Citations:	USD593457, US7267351, US6953202, US3088747, US2537325, US2009001685, US2006027996, US2005046145,

Abstract:
Source: US2199536A 1. I claim as my invention: 1.111 a, bicycle, the combination of



0) US2132317A – BICYCLE FRAME OR THE LIKE

159) Family number: 21591754 (US2132317A) © PatBase

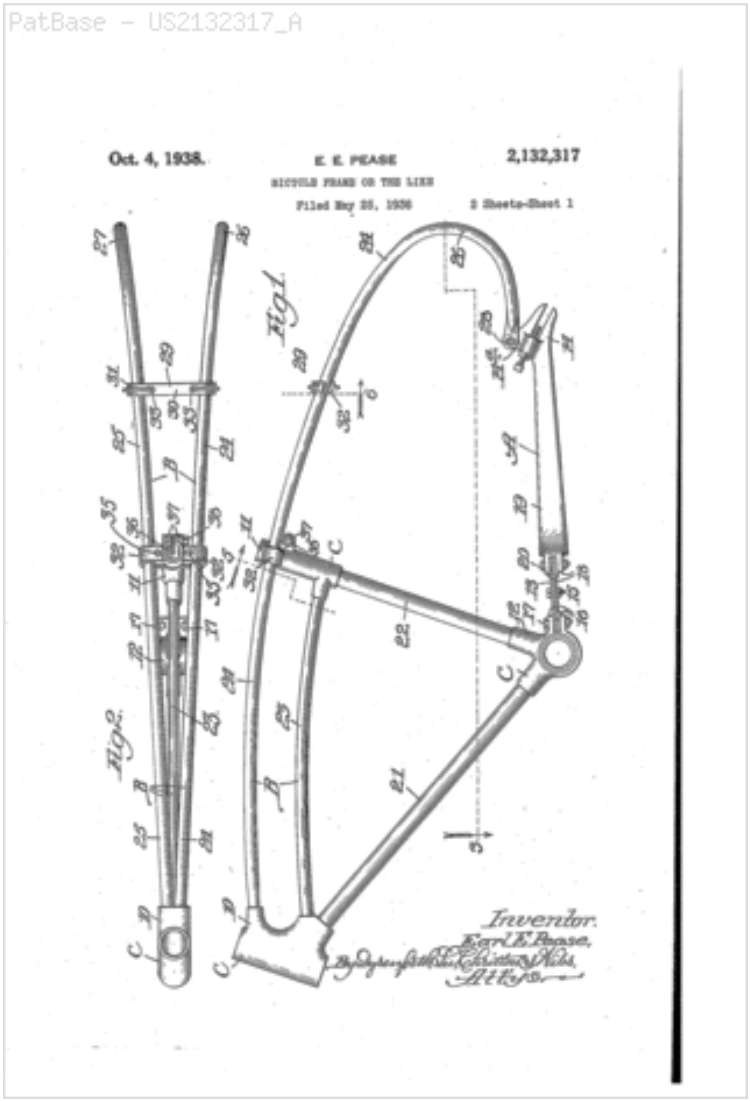
Title:	BICYCLE FRAME OR THE LIKE
Priority:	US19360081776 19360525

Family:

Publication number	Publication date	Application number	Application date
US2132317 A	19381004	US19360081776	19360525

Probable Assignee:	BATTERY PATENTS CORP
Assignee(s):(std)**:**	BATTERY PATENTS CORP
Inventor(s):(std)**:**	PEASE EARL E
International class (IPC 8–9)**:**	B62K25/04 (Advanced/Invention); B62K25/04 (Core/Invention)
International class (IPC 1–7)**:**	B62K19/06
CPC:	B62K25/04 B62K2025/041 B62K2201/06
European class:	B62K25/04 L62K201/06 L62K25/04B
US class:	280/284 D12/111
Classification Explorer	
Forward Citations:	US9375989, US9284010, US9010790, US8857843, US8585070, US8496262, US6203042, US6164676, US6155585, US6099010, US6079726, US6073950, US6056307, US6029990, US5901974, US5797613, US5226674, US5205572, US2014225347, US2012061941, US2010007113, US2008238026, US2004238298,

Abstract:
Source: US2132317A 1. A bicycle frame comprising: head, cluster and hanger members; a rear wheel shaft support; tubes connecting said members and said support, said tubes including a pair of tubes connected at one end to said head member and pivotally connected at their other end to saidrear wheel shaft support, said pair of tubes being secured to said cluster member. '



0) US1995797A – CASING FOR BICYCLE ACCESSORIES

160) Family number: 21766528 (US1995797A) © PatBase

Title: CASING FOR BICYCLE ACCESSORIES

Priority: US19340742911 19340906

Family:

Publication number	Publication date	Application number	Application date
US1995797 A	19350326	US19340742911	19340906

Probable Assignee: WESTFIELD MFG CO

Assignee(s):(std)**:** WESTFIELD MFG CO ; WESTFIELD MFG COMPANY

Assignee(s): THE WESTFIELD MANUFACTURING COMPANY

Inventor(s):(std)**:** CLARK GEORGE W

International class (IPC 8–9)**:** B62J6/02 (Advanced/Invention); B62J6/00 (Core/Invention)

International class (IPC 1–7)**:** B62K21/02

CPC: B62J6/02

European class: B62J6/02

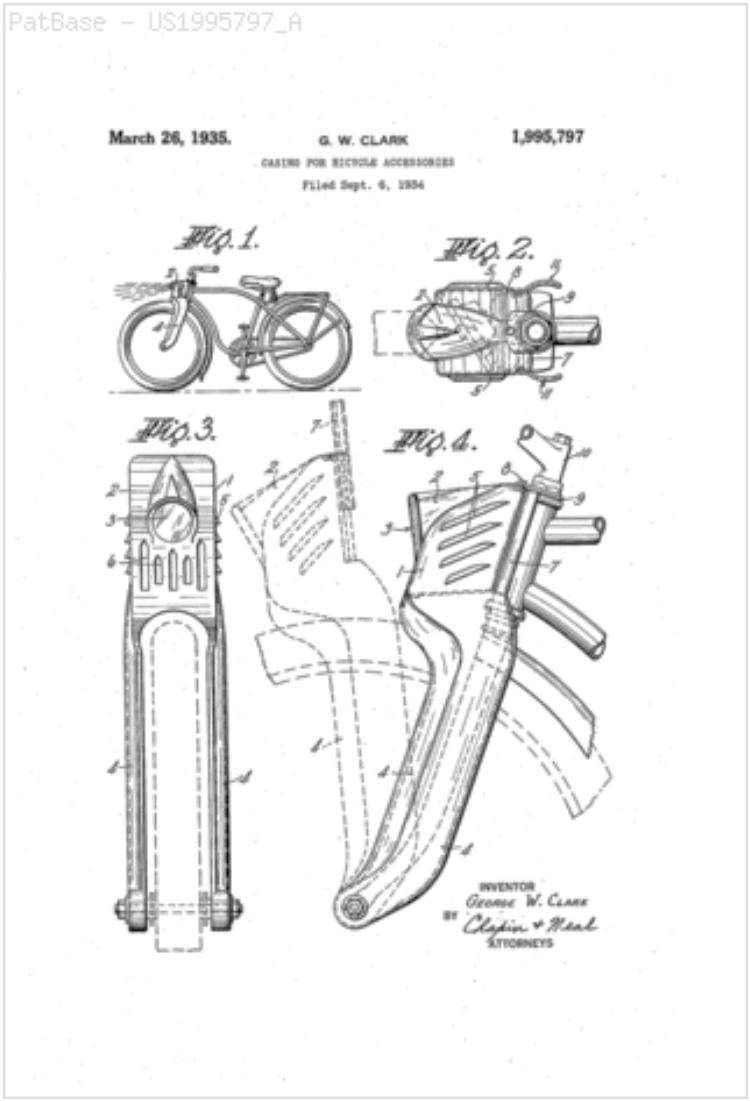
US class: 224/422 224/425 224/435 224/450 280/202 362/473 D12/111

Classification Explorer

Forward Citations: US2504265,

Abstract:
Source: US1995797A 1, The combination of a bicycle and a streamlined accessory casing having a body portion the length of the head post, and leg portions extending from the body portion to straddle the front wheel and rest on the ends of the front axle with a pivotal mounting for the whole casing, means to removably clamp the body portion at the top to the steering post whereby the casing will turn as a unit with the steering mechanism, a door in the rear of the casing positioned so that it can be opened only when the casing is unclamped at thc top and swung forwardly from the top on its pivoted bottom supports,

PatBase - US1995797_A



0) US2670219A – CRANKCASE OF BICYCLE FRAME

161) Family number: 22699761 (US2670219A) © PatBase

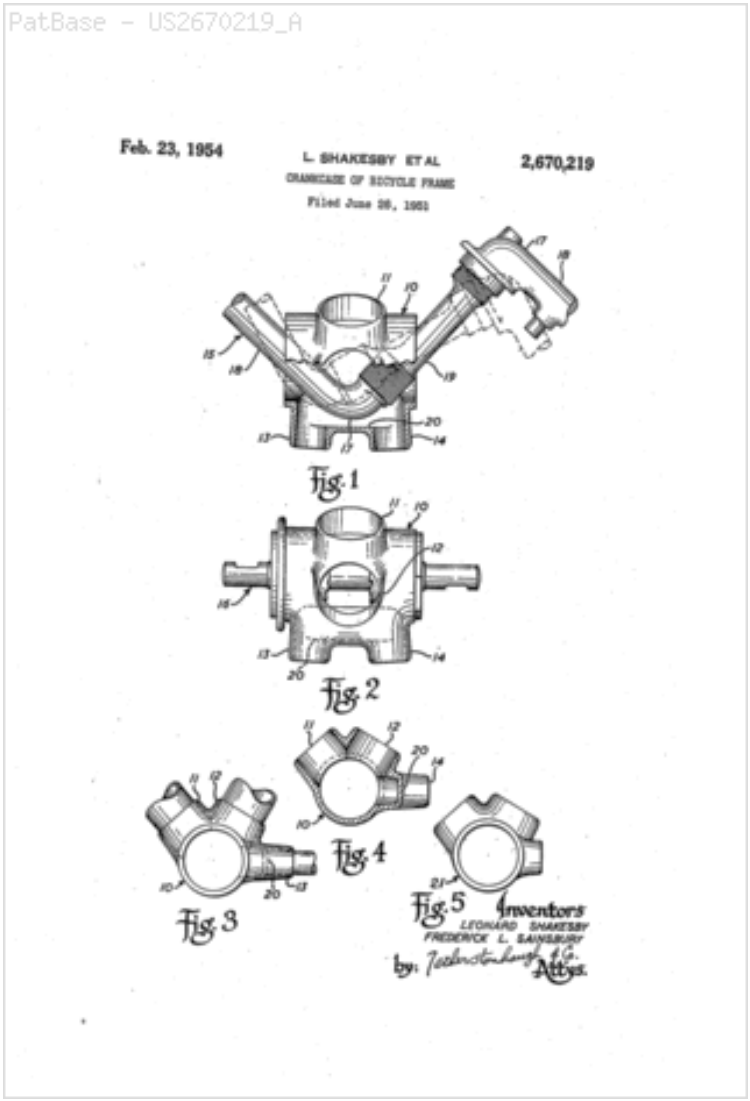
Title:	CRANKCASE OF BICYCLE FRAME
Priority:	US19510233530 19510626

Family:

Publication number	Publication date	Application number	Application date
US2670219 A	19540223	US19510233530	19510626

Probable Assignee:	CANADA CYCLE AND MOTOR CO
Assignee(s):(std):	CANADA CYCLE AND MOTOR CO ; CANADA CYCLE AND MOTOR COMPANY
Assignee(s):	CANADA CYCLE AND MOTOR COMPANY LIMITED ; CANADA CYCLE AND MOTOR CO LTD
Inventor(s):(std):	LEONARD SHAKESBY ; SAINSBURY FREDERICK L
Inventor(s):	SHAKESBY LEONARD
International class (IPC 8–9):	B62K19/34 (Advanced/Invention); B62K19/00 (Core/Invention)
International class (IPC 1–7):	B62K19/18
CPC:	B62K19/34 Y10T29/49826 Y10T74/2164
European class:	B62K19/34
US class:	280/281.1 29/428 74/594.1
Classification Explorer	
Cited documents:	US672135 A, US588804 A, US2353712 A, IT461725 A, GB579409 A, GB189314617 A,
Forward Citations:	US5188384,

Abstract:
Source: US2670219A (Claim 1) 1. In a bicycle, a tubular crank case, a onepiece crank having two crank arms with their longitudiiial 6xes in ParO'Alel 9!3aded r6lation and UtAtcld at. their infier ends Vy a connecting shaft Portion, said arms extending in opposite direetibns from their points of union with said connec–ting sbaft, portion, said points of union hereftldfto'f b_iffik dalled elbows, an external blister fcrraibd in the waH Gf said crank case at one port'On tileredf, the wall of said crank case being ioo ewfinitg to, fdermit the elbow of said crank tO Vgst therethrough save only at said portion w_here said blistp–t is formed therein, said blister being elorigate(f, the longitudinal axis of said blf tlii' being substantially parallel with the loiigitudinal axis Of said i_lbular Crank case, and having dimensions to accoinmadate one of, said elbbw_ of said_ crank. as it passes through said crank case, said bhster having a width not substantially gteatei– than the, thickliess of the crarik.



162) Family number: 29501286 (DE20312900U1)

© PatBase

Title: BICYCLE WHEEL RIM HAS CIRCULAR V–SHAPED SIDEWALL DETENT FOR MATCHING BRAKE BLOCK FORMING PART OF CANTILEVER BRAKE SYSTEM

Priority: DE20032012900U 20030821

Family:

Publication number	Publication date	Application number	Application date
DE20312900 U1	20031016	DE20032012900U	20030821

Probable Assignee: SCHUERMANN FAHRRADTEILE GMBH AND

Assignee(s):(std)**:** SCHUERMANN FAHRRADTEILE GMBH AMP AMP ; SCHUERMANN FAHRRADTEILE GMBH AND

Assignee(s): SCHUERMANN FAHRRADTEILE GMBH AND CO KG

International class (IPC 8–9)**:** B60B21/08 (Advanced/Invention); B60B21/00 (Core/Invention)

International class (IPC 1–7)**:** B60B21/02

CPC: B60B21/08

European class: B60B21/08

Classification Explorer

Abstract:
A bicycle wheel has a rim which in cross–section has two inner parallel sidewalls (32, 42) with outward–directed extensions (40, 34) linked by inner (12) and outer (14) cross–pieces. The inner cross piece (12) is esp. narrower (B2) than the outer (B1) cross–piece. The wheel rim sidewalls present a V–shaped profile to matching brake blocks with cantilever operation.

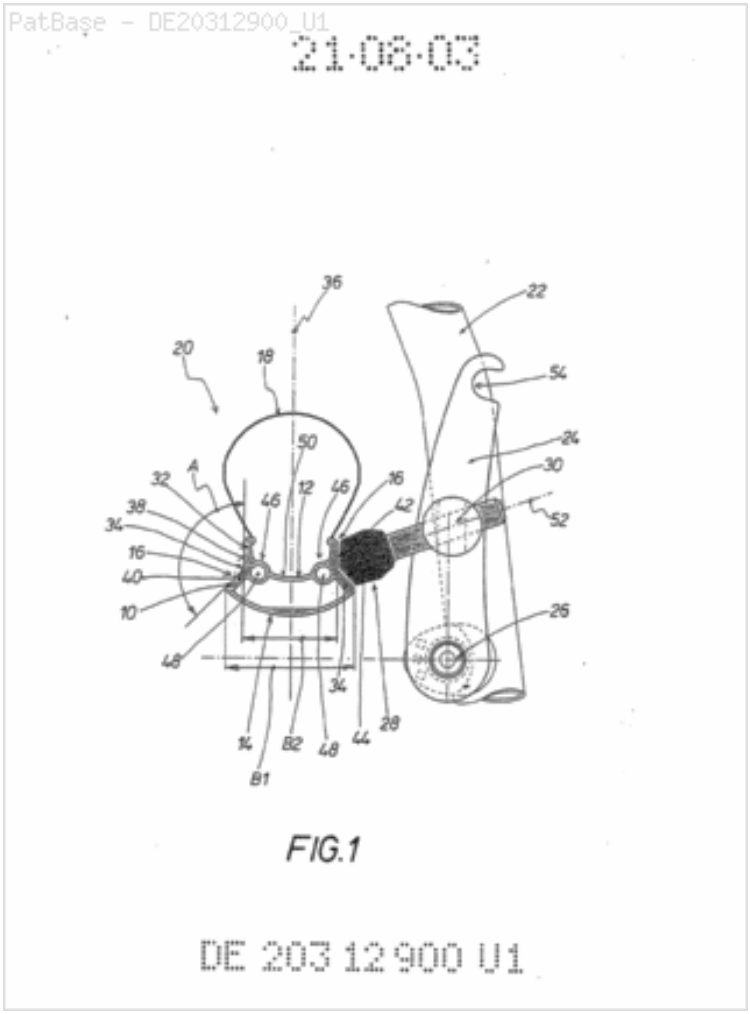


FIG.1

0) US4483586A – SAFETY SPACER

163) Family number: 30819288 (US4483586A) © PatBase

Title: Safety spacer

Priority: FI19810003932 19811208 GB19810037468 19811211 GB19820035070 19821209

Family:

Publication number	Publication date	Application number	Application date
CH661902 A	19870831	CH19820006984	19821201
DE3242110 A1	19830707	DE19823242110	19821113
DE3242110 C2	19860507	DE19823242110	19821113
FI63193 B	19830131	FI19810003932	19811208
FI63193 C	19830510	FI19810003932	19811208
GB2111575 A1	19830706	GB19820035070	19821209
GB2111575 B2	19860108	GB19820035070	19821209
US4483586 A	19841120	US19820445570	19821130

Probable Assignee: KY B HERRMANS KB

Assignee(s):(std)**:** GRIFFITHS RONALD PATRICK ; HERRMANS FA B ; KOMMANDIITTIYHTIOE B HERRMANS KOMMANDITBOLAG ; KOMMANDIITYHTIOE B HERRMANS K ; KY B HERRMANS KB

Assignee(s): RONALD PATRICK GRIFFITHS ; SUOMINEN B HERRMANS ; KOMMANDIITYHTIOE B HERMANS K B ; KOMANDIITTIYHTIO B HERMANS KOMMANDITBOLAG ; KOMANDIITTIYHTIO B HERMANS KOMMANDITBOLAG PO BOX ; HERRMANS B FA

Inventor(s):(std)**:** GRIFFITHS RONALD PATRICK ; SISTO KONSTANTIN

Inventor(s): SISTO KONSTANTIN TAMPERE FI ; RONALD PATRICK GRIFFITHS

International class (IPC 8–9): E04F21/32 (Advanced/Invention); E04F21/00 (Core/Invention)

International class (IPC 1–7): B62J39/00 B62J5/20 B62J6/00 E04F21/32

CPC: E04F21/32

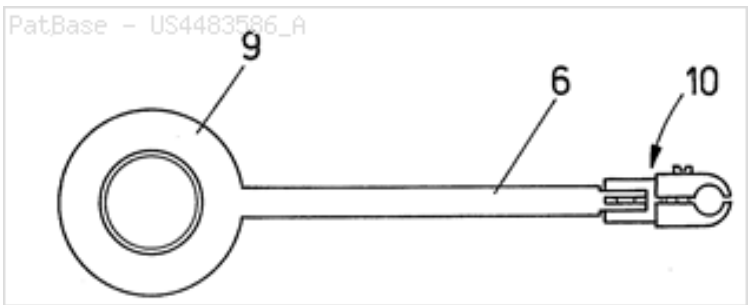
European class: E04F21/32

US class: 116/35A 280/288.4 280/289R 359/550

Classification Explorer

Cited documents: US4321883 A, US3438651 A, DE8030615 U, DE3102462 A1, DE2847415 A1,

Forward Citations: WO07018704, USD773912, USD685509, USD650316, USD553941, USD549070, US9527540, US9227559, US8905611, US8851719, US8545068, US8517414, US8337060, US8307490, US7458127, US6273572, US6039338, US5255274, US5048451, US4575189, US2015151805, US2015130651, US2011239364, US2011203064, JP2009503291, EP1907129, EP1907129, DE20210694, CN104325580, CN104325579,



Abstract:
Source: US4483586A The invention relates to a safety spacer for a bicycle, having an arm one end of which has a reflector and the opposite end of which is fastened to a two–part split member by means of a shaft. The parts of the split member, when assembled, form a shouldered circular circumference. The safety spacer also comprises two fastening lugs which, when pressed together, form therebetween on the one hand a cavity with a shouldered circular circumference for receiving the parts of the split member and for attaching the same and on the other hand a circular aperture for attaching the safety spacer to a tube in a bicycle. The arm can be swiveled and pivoted freely, and all the parts of the safety spacer can be linked together and attached to a bicycle by means of one single

screw.

0) US2009014981A – SEGMENTED FRAME BICYCLE

164) Family number: 42801455 (US2009014981A)

© PatBase

Title:	SEGMENTED FRAME BICYCLE
Priority:	US20070827580 20070713

Family:

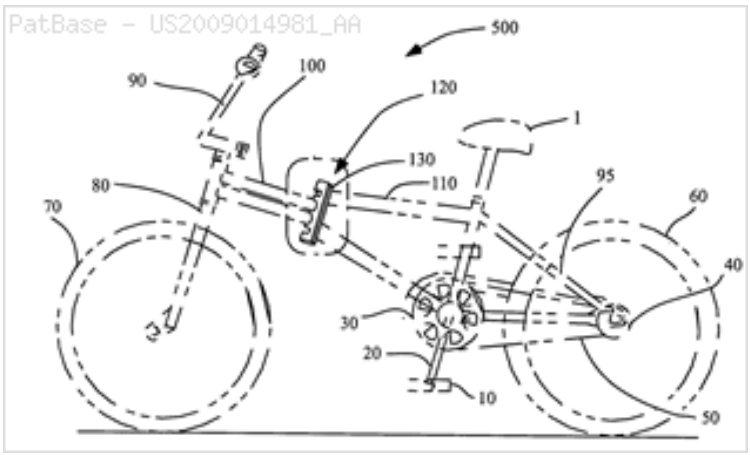
Publication number	Publication date	Application number	Application date
US2009014981 AA	20090115	US20070827580	20070713

Probable Assignee:	PERRY E J
Assignee(s):(std)**:**	PERRY E J
Inventor(s):(std)**:**	PERRY E J
Inventor(s):	PERRY EJ
Agent(s):	LAW OFFICES OF JOHN BARGERO
International class (IPC 8–9):	B62K3/02 (Advanced/Invention); B62K3/00 (Core/Invention)
CPC:	B62K3/02 B62K3/04 B62K15/006
European class:	B62K15/00F B62K3/02 B62K3/04
US class:	280/281.1

Classification Explorer

Cited documents:	US7121567 BA, US6572130 BB, US6450519 BA, US4219209 A, US3801130 A, US2008157502 AA, US2006175797 AA, US2002047245 AA, US1584568 A,
Forward Citations:	US9481419, US7850186, US2015232141, US2009243256,

Abstract:
Source: US2009014981A The present invention discloses a novel or trick bicycle with a segmented horizontal frame cross member that has a joint located between the rider's seat post and the front forks of the bicycle situated, so that the forward section of the cross member may rotate in the same plane as the front wheel without interfering with the rider's legs or knees allowing for acrobatic riding maneuvers.



0) US2010109282A – BICYCLE SUSPENSION SYSTEMS

165) Family number: 44666788 (US2010109282A) © PatBase

Title: BICYCLE SUSPENSION SYSTEMS

Priority: US20080192219P 20080916 US20090584996 20090915 WO2009US05143 20090915

Family:

Publication number	Publication date	Application number	Application date
EP2337730 A1	20110629	EP20090814878	20090915
EP2337730 A4	20130918	EP20090814878	20090915
US2010109282 AA	20100506	US20090584996	20090915
WO10033174 A1	20100325	WO2009US05143	20090915

Probable Assignee: EVIL BIKES LLC

Assignee(s):(std)**:** EVIL BIKES LLC ; WEAGLE DAVID

Inventor(s):(std)**:** WEAGLE DAVID

Agent(s): DENDORFER CLAUS; STAHL LAW FIRM; STAHL NORBERT

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B62K11/00 B62K13/00 B62K15/00 B62K25/10 B62K25/28 B62K3/00 B62K5/00 B62K7/00 B62K9/00 (Advanced/Invention); B62K11/00 B62K13/00 B62K15/00 B62K25/06 B62K3/00 B62K5/00 B62K7/00 B62K9/00 (Core/Invention)

CPC: B62K25/28 B62K25/286

European class: B62K25/28 B62K25/28C

US class: 280/284

Classification Explorer

Cited documents: US7581743 BB, US7296815 BB, US6969081 BB, US6953202 BB, US6854753 BB, US6843494 BB, US6698780 BB, US6595538 BB, US6592108 BA, US6471230 BB, US6450521 BA, US6378885 BA, US6293574 BA, US6263994 BA, US6244610 BA, US6237706 BA, US6206397 BA, US6203042 BA, US6199886 BA, US6164676 A, US6102421 A, US6036213 A, US5957473 A, US5899480 A, US5791674 A, US5678837 A, US5671936 A, US5628524 A, US5590869 A, US5553881 A, US5509679 A, US5474318 A, US5441292 A, US5409249 A, US5409248 A, US5335929 A, US5306036 A, US5244224 A, US5226674 A, US5217241 A, US5121937 A, US4789174 A, US4497506 A, US439095 A, US4322088 A, US3917313 A, US2283671 A, US2010102531 AA, US2008067772 AA, US2007024022 AA, US2006197306 AA, US2005057018 AA, US2003090082 AA, US2003038450 AA, US2002038944 AA, US2001024024 AA, US1298958 A, US1047430 A, US1043269 A,

Forward Citations: WO15095966, US9359039, US9334011, US9302732, US9216791, US9168977, US9156521, US9061729, US9039026, US8998235, US8919799, US8882127, US8801023, US8783704, US8622411, US8459680, US8439383, US8235409, US8006993, US7963541, US7954837, US7938425, US2016052591, US2015115569, US2015035241, US2014001729, US2013285346, US2010327556, US2010327555, US2010327554, US2010327553, US2009085319, CN103748002, CN103228528, AU2010360170,

Abstract:
Source: US2010109282A The invention relates to suspension systems comprising, in certain embodiments, a linkage arrangement including a shock link, wheel link, rate link, and first shock pivot, positioned so that a first shock pivot is moved in a downward and rearward direction as the suspension is compressed, while said wheel link and shock link rotate in opposite directions, and so that a leverage ratio is tactically controlled through said linkage arrangement.

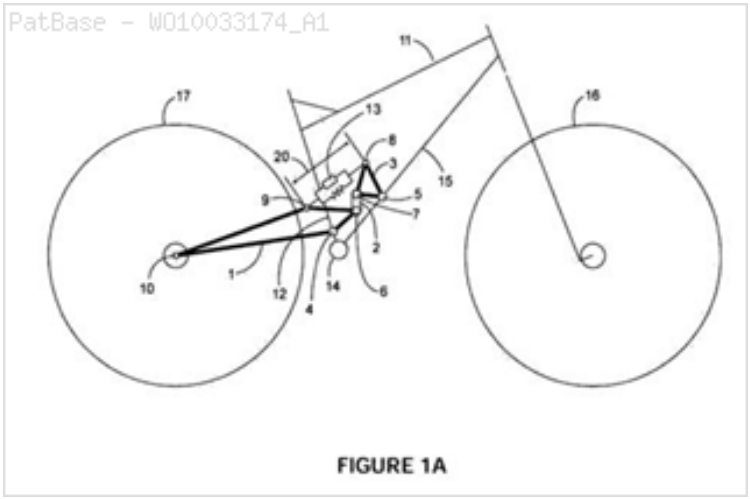


FIGURE 1A

166) Family number: 60457314 (JP2015183835A)

© PatBase

Title: TOROIDAL CONTINUOUSLY VARIABLE TRANSMISSION AND BICYCLE INTERIOR TRANSMISSION HUB USING THE SAME

Priority: JP20140063614 20140326

Family:

Publication number	Publication date	Application number	Application date
CN104943813 A	20150930	CN201510136151	20150326
DE102015003851 A1	20151001	DE201510003851	20150325
JP2015183835 A2	20151022	JP20140063614	20140326
JP5795400 B1	20151014	JP20140063614	20140326
TW201536628 A	20151001	TW20150103058	20150129

Probable Assignee: SHIMANO KK

Assignee(s):(std)**:** SHIMANO KK

Assignee(s): SHIMANO INC

Inventor(s):(std)**:** HIROHISA TANAKA ; TANAKA HIROHISA ; TANAKA YOSHITADA ; YOSHITADA TANAKA

Agent(s): SHINJYU GLOBAL IP

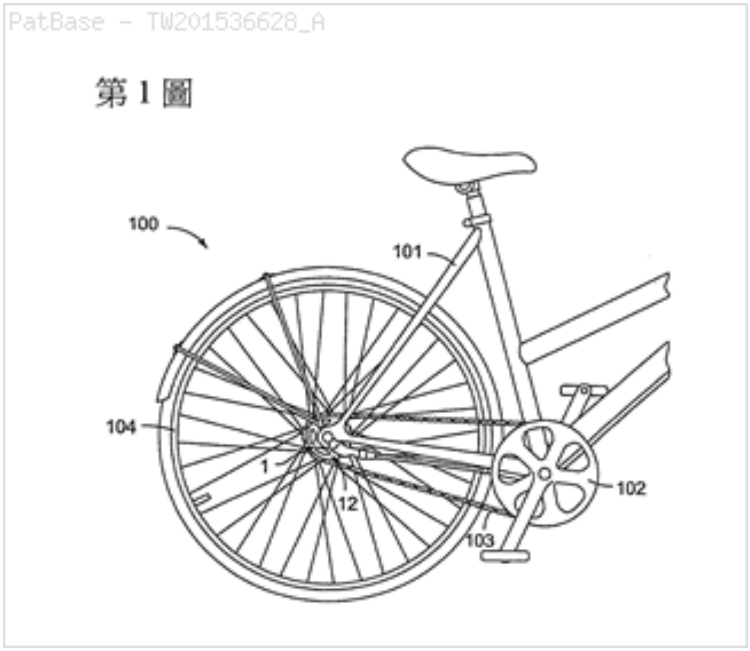
International class (IPC 8–9)**:** B62M11/04 B62M19/00 B62M9/04 B62M9/08 F16D41/24 F16H15/38 F16H61/664 F16H63/06 (Advanced/Invention)

CPC: B62M11/04 F16H15/38 F16H61/664 F16H2015/383

Classification Explorer

Cited documents: US6193627 BA, US6117043 A, JP2014063614 A2, JP2013108511 A2, JP2013108511, JP2006071028 A2, JP2006071028, JP2003294098 A2, JP2003294098, CN103109109 A, CN102395814 A,

Abstract:
Source: JP2015183835A PROBLEM TO BE SOLVED: To provide a toroidal continuously variable transmission capable of dispensing with a complicated control circuit even with a configuration of tilting a power roller by a fluid pressure, and a bicycle interior transmission hub using the same.SOLUTION: A first piston 7a can move a first trunnion 6a in a direction along a tilt axis Y direction using a hydraulic pressure. A male screw portion 71a of the first piston 7a is screwed with a female screw portion 63a of the first trunnion 6a. Owing to this, the first trunnion 6a moves in a second direction opposite to the first direction by tilting the first trunnion 6a in a first tilt direction to follow the movement of the first trunnion 6a in the first direction.



0) DD277986A – ELEKTRONISCHE UHR ELECTRONIC CLOCK (MACHINE ...

167) Family number: 6052544 (DD277986A)

© PatBase

Title: ELEKTRONISCHE UHR ELECTRONIC CLOCK (Machine translation)

Priority: DD19880322972 19881212

Family:

Publication number	Publication date	Application number	Application date
DD277986 A1	19900418	DD19880322972	19881212

Probable Assignee: UHRENWERK GLASHUETTE VEB

Assignee(s):(std)**:** UHRENWERK GLASHUETTE VEB

Assignee(s): VEB UHRENWERK GLASHUETTE DD

Inventor(s):(std)**:** GEYER HELMUT

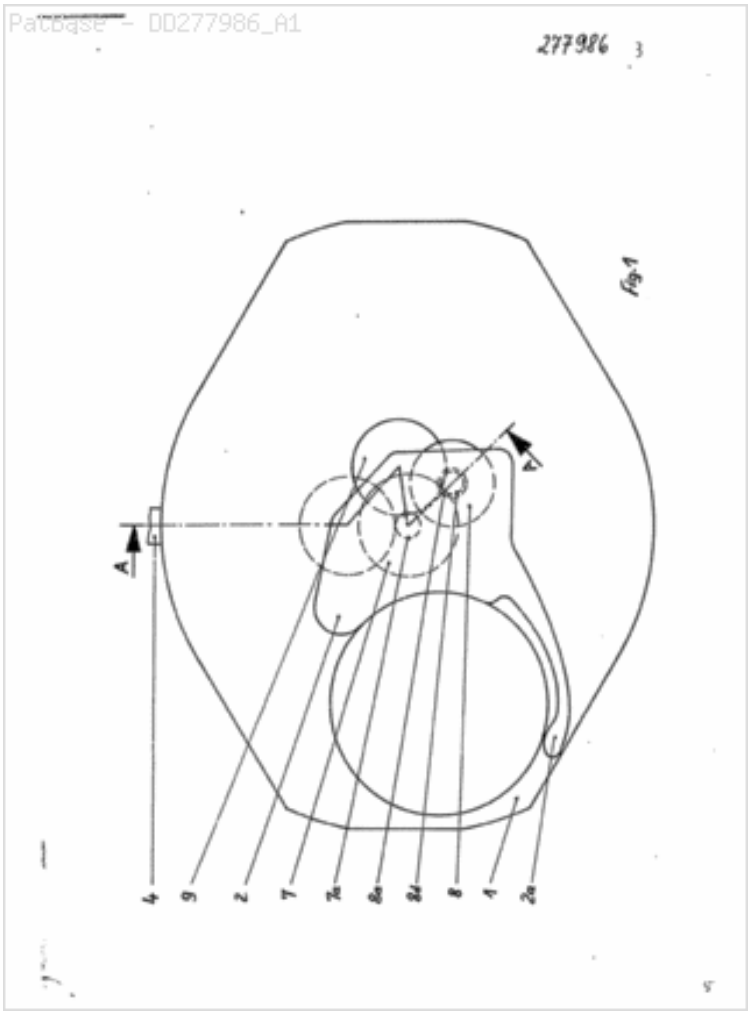
Inventor(s): GEYER HELMUT DD

International class (IPC 8–9): G04C3/14 (Advanced/Invention); G04C3/00 (Core/Invention)

International class (IPC 1–7): G04C3/14

Classification Explorer

Abstract:
Source: DD277986A [Source: Claim 1] 1. Elektronische Uhr, insbesondere eine kleine elektronische Uhr mit analoger Zeitanzeige in den Varianten mit und ohne Zentralsekunde bei der eine Uhrwerkspiatte mit einem Spur–, einem Stuetzlager und mit einer Rastfeder versehen ist, dadurch gekennzeichnet, dass die Achsabstaende zwischen dem Uhrwerkszentrum mit der Lagerstelle (7 b) fuer das Sekundenrad (7) und der Lagerstelle (9b) fuer das Kleinbodenrad (9) sowie zwischen diesem und der Lagerstelle (8b) fuer das Zwischenrad (8) gleich gross sind. [Source: claim 1] 1 electronic watch, in particular a small electronic clock with an analog time display in versions with and without central second at a Uhrwerkspiatte with a track, a bearing and with a latch spring has characterized that the distances between the center of movement with the depository (7B) for the second wheel (7) and the bearing position (9 b) small ground wheel (9), and between this and the storage facility (8B) for the intermediate wheel (8) are the same size.



0) US2015367909A – DUAL DRIVE BICYCLE

168) Family number: 61247036 (US2015367909A)

© PatBase

Title: DUAL DRIVE BICYCLE

Priority: US20140015393P 20140621 US20150744777 20150619

Family:

Publication number	Publication date	Application number	Application date
US2015367909 AA	20151224	US20150744777	20150619

Probable Assignee: HAAN KENNETH

Assignee(s):(std)**:** HAAN KENNETH

Inventor(s):(std)**:** HAAN KENNETH

International class (IPC 8–9)**:** B62K21/16 B62M1/12 B62M1/36 B62M9/02 (Advanced/Invention)

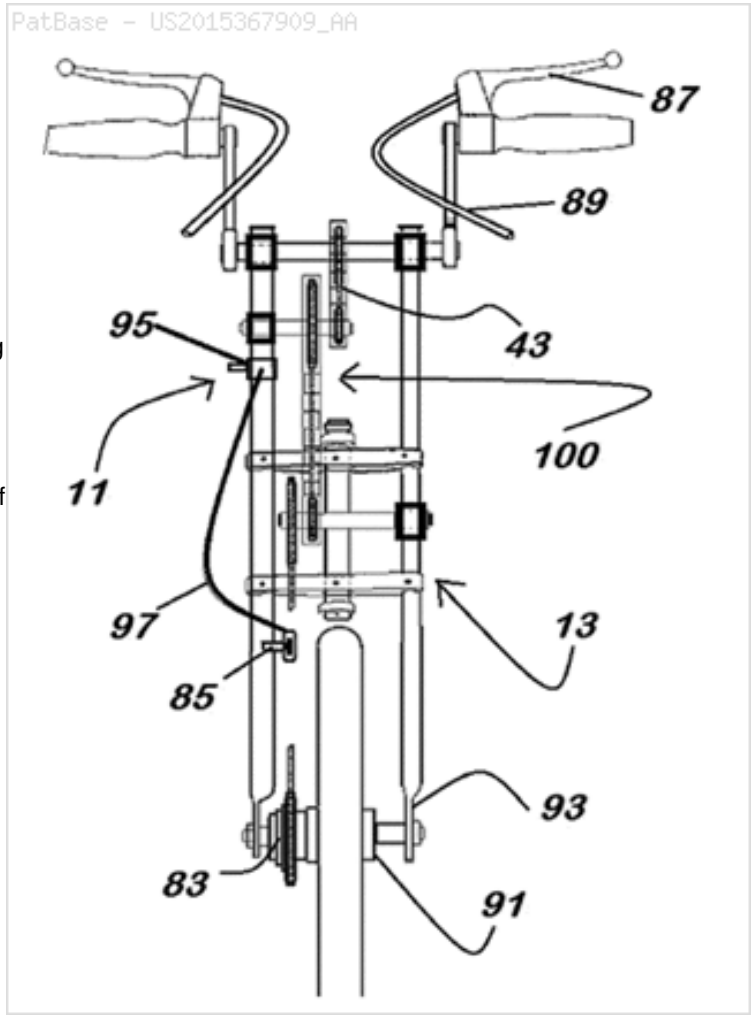
CPC: B62M1/12 B62M9/02 B62K21/16 B62M1/36

US class: 280/234

Classification Explorer

Cited documents: US9073600 BB, US8056693 BB, US7413206 BB, US651941 A, US6439592 BA, US6264224 BA, US5820151 A, US564099 A, US5431614 A, US5385359 A, US5312303 A, US4854924 A, US4705269 A, US4397369 A, US4152005 A, US3910599 A, US3885471 A, US3823959 A, US3193305 A, US2014306423 AA, US2014015218 AA, US2011057412 AA, US2008007026 AA, US2007284843 AA,

Abstract:
Source: US2015367909A A dual drive bicycle is provided having a front wheel, hand–cranked drive train including at least two pairs of a drive sprocket and driven sprocket, thereby allowing the diameter of the drive sprocket in the handlebar area to be made much smaller, thereby reducing the exposure of the hands and face of the rider to the sprocket teeth and chains of the front wheel drive train. The multiple pairs of drive sprockets and driven sprockets are mounted on a dual crown front fork that safely allows the use of a wider front hub without introducing unsafe bending stresses into the forks, and greatly facilitates the addition of the front wheel drive train of the invention to any bicycle. The invention also encompasses a steering assembly kit that converts a conventional bicycle to the dual drive bicycle of the invention by adding the front wheel drive train of the invention to a conventional bicycle.



0) DE4334762A1 – BICYCLE WITH AUTOMATIC GEAR SHIFT FAHRRAD MIT G...

169) Family number: 11605395 (DE4334762A1) © PatBase

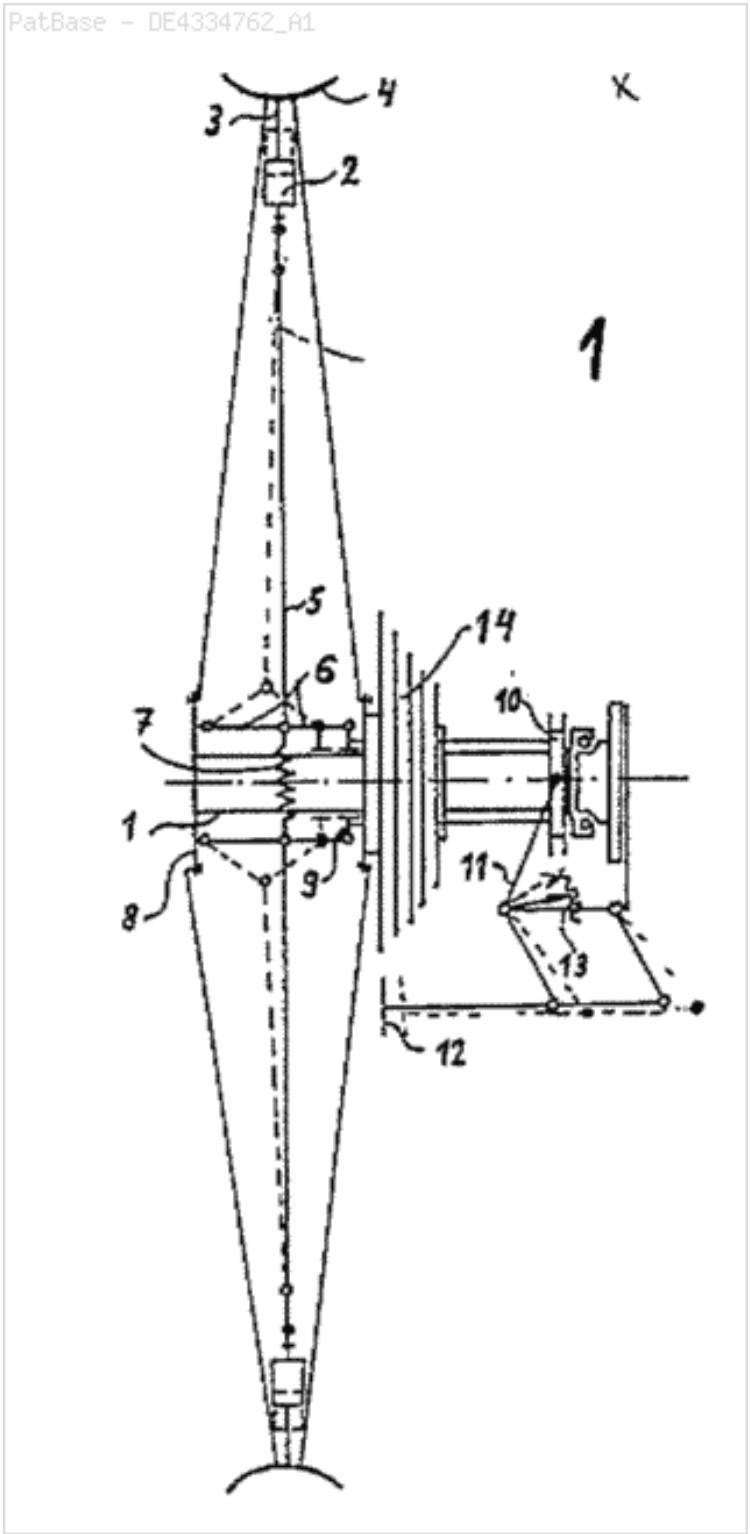
Title:	Bicycle with automatic gear shift
Priority:	DE19934321828 19930628 DE19934334762 19931012

Family:

Publication number	Publication date	Application number	Application date
DE4334762 A1	19950720	DE19934334762	19931012

Probable Assignee:	GOEKEN KLAUS DIPL ING
Assignee(s):(std)**:**	GOEKEN KLAUS DIPL ING ; RUDEK JAN
Assignee(s):	RUDEK JAN JANOW LUBELSKI PL ; GOEKEN KLAUS DIPL ING 27721 RITTERHUDE DE
Inventor(s):(std)**:**	RUDEK JAN
Inventor(s):	RUDEK JAN JANOW LUBELSKI PL
International class (IPC 8–9)**:**	B62M9/04 B62M9/10 B62M9/16 (Advanced/Invention); B62M9/00 (Core/Invention)
International class (IPC 1–7)**:**	B62M9/10 B62M9/16
CPC:	B62M9/04 B62M9/10 B62M9/16
European class:	B62M9/04 B62M9/10 B62M9/16
Classification Explorer	
Forward Citations:	WO9937529, WO9921752, DE19802563, DE19543704,

Abstract:
Source: DE4334762A1 The bicycle has a transmission (2,5–7,9–13), which acts with the gear shift. The transmission produces a regulating variable, dependant upon the RPM of a wheel. It regulates the gear shift dependant upon this variable, so that with increasing wheel RPM, a higher gear resp. a larger transmission ratio, is automatically chosen. The transmission has at least one displaceable weight (2), which is dependant upon the centrifugal force of a rotating wheel. The weight is connected to a setting element (12) to set a gear, and directly or indirectly applies a regulating force to the element.



0) US5377734A – HIGH EFFICIENCY ALL TERRAIN BICYCLE OR MOTORCYC...

170) Family number: 11755615 (US5377734A) © PatBase

Title: HIGH EFFICIENCY ALL TERRAIN BICYCLE OR MOTORCYCLE TIRE

Priority: US19910805516 19911213

Family:

Publication number	Publication date	Application number	Application date
US5377734 A	19950103	US19910805516	19911213
WO9311951 A1	19930624	WO1992US10490	19921210

Probable Assignee: TREK BICYCLE CORP

Assignee(s):(std)**:** KLEIN BICYCLE CORP

Assignee(s): TREK BICYCLE CORP ; KLEIN BICYCLE A OF WA CORP

Inventor(s):(std)**:** KLEIN GARY G ; VOSS DARRELL W

Designated states: AT BE CA CH DE DK ES FR GB GR IE IT JP LU MC NL PT SE US

International class (IPC 8–9)**:** B60C11/11 B60C19/00 (Advanced/Invention); B60C11/11 B60C19/00 (Core/Invention)

International class (IPC 1–7)**:** B60C11/11

CPC: Y10S152/902 Y10S152/904 B60C19/001 B60C11/11 B60C2200/10

European class: B60C11/11 B60C19/00J

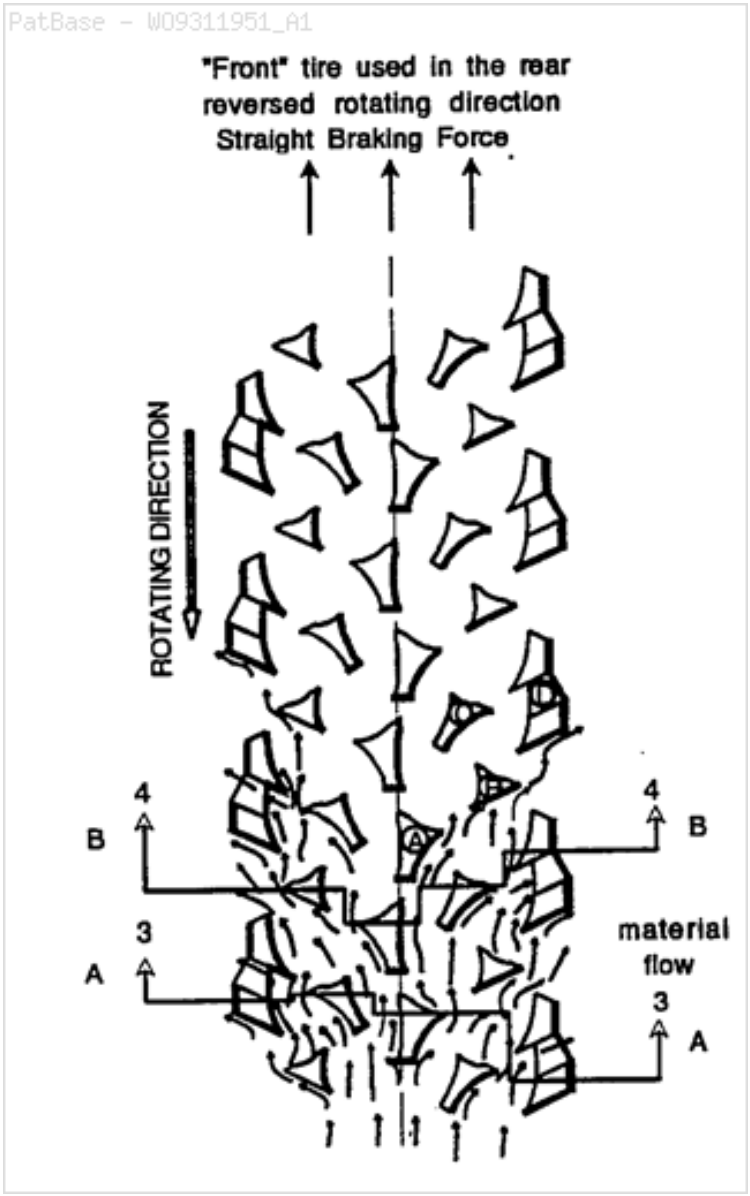
US class: 152/209.11 152/209.15 152/209.22 152/209R 152/902 152/904

Classification Explorer

Cited documents: USD72732 S1, USD61351 S1, USD332931 S1, USD315887 S1, USD282454 S1, USD277092 S1, USD277091 S1, USD238767 S1, USD175214 S1, JPS5893609, JPS58170603, JPS57198102, JP58170603 A2, JP58093609 A2, JP57198102 A2, JP3239605 A2, JP2045205 A2,

Forward Citations: WO14099197, WO11080298, WO0125029, USD608724, USD505382, USD484088, US9555668, US7882875, US7874330, US2013333816, US2013086821, US2010236678, US2009218022, US2008283167, US2005173036, JP2016074366, JP2013184606, FR2954732, CN102686414, CN102686414, CN102259562, CN102259562,

Abstract:
Source: US5377734A A high efficiency all terrain bicycle or motorcycle tire having a tread design in which spaced tread blocks are arranged in circumferential rows and overlapped to allow a smooth shift in load from one tread block to another in different circumferential rows with a minimum of casing hysteresis and at the same time provide a low rotating mass, low rolling resistance, high cornering adhesion with high consistency across differing types of ground conditions, high motive and stopping traction. The tread blocks in the different rows have shapes, spacings and orientations which createa plurality of tortous paths for flow of material without excessive constricting of flow in any one spot.



0) CN88203062U – COMBINED CLEANING BICYCLE

171) Family number: 17155223 (CN88203062U) © PatBase

Title: COMBINED CLEANING BICYCLE

Priority: CN19882003062U 19880205

Family:

Publication number	Publication date	Application number	Application date
CN88203062 U	19881207	CN19882003062U	19880205

Probable Assignee: TAN MIN

Assignee(s): TAN MIN

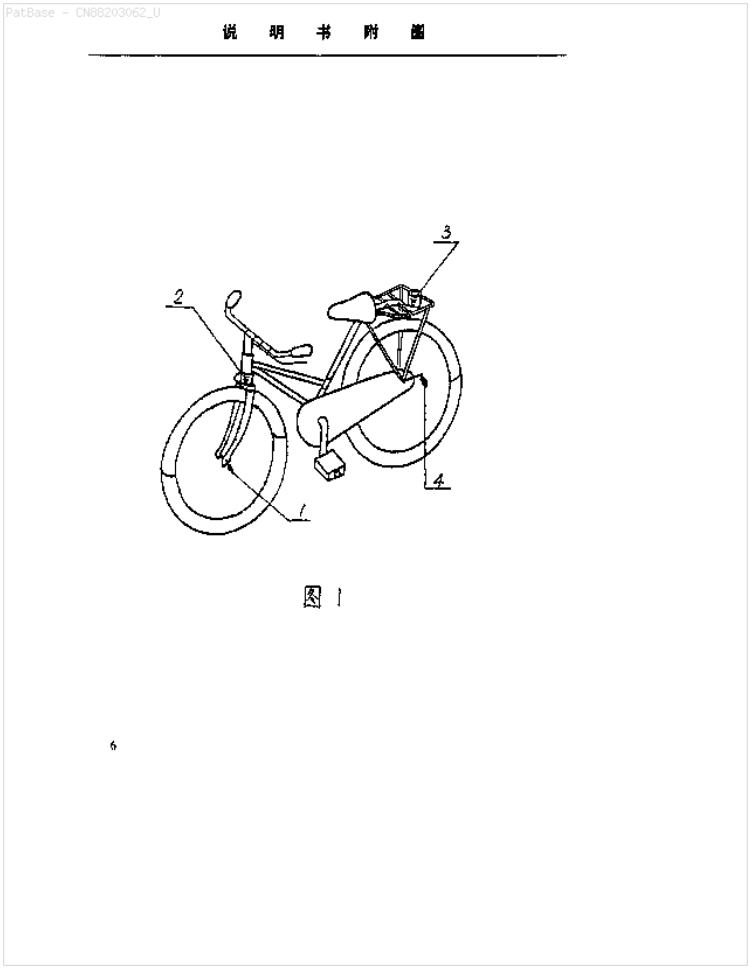
Inventor(s):(std)**:** TAN MIN

International class (IPC 8–9): B62K21/24 B62K3/00 E01H1/00 (Advanced/Invention); B62K21/00 B62K3/00 E01H1/00 (Core/Invention)

International class (IPC 1–7): B62K21/24 B62K3/00 E01H1/00

Classification Explorer

Abstract:
Source: CN88203062U The utility model discloses a combined cleaning bicycle, the front wheel of the combined cleaning bicycle adopts the connection of a knob and a clip, and can be conveniently dismounted by hand. A sweeper can be combined by matching a refuse box provided with a palm fibre cylinder with the combined cleaning bicycle. The utility model has the advantages of less structural changes, more combined models of car and convenient changing production, and is suitable for sweeping roads in cities and unities.



0) CN2032582U – AUTOMATIC CLEANER FOR BICYCLE RIM

172) Family number: 17190720 (CN2032582U) © PatBase

Title: AUTOMATIC CLEANER FOR BICYCLE RIM

Priority: CN19872015756U 19871123

Family:

Publication number	Publication date	Application number	Application date
CN2032582 U	19890215	CN19872015756U	19871123

Probable Assignee: CHENG FAN

Assignee(s):(std)**:** CHENG FAN

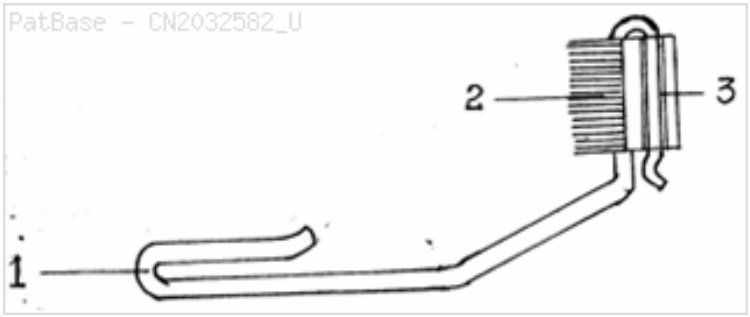
Inventor(s):(std)**:** CHENG FAN ; FAN CHENG

International class (IPC 8–9): B60S1/68 (Advanced/Invention); B60S1/00 (Core/Invention)

International class (IPC 1–7): B60S1/68

Classification Explorer

Abstract:
Source: CN2032582U The utility model is practically used for the automatic cleanness of rubber brake bicycle rims. When a bicycle runs in rainy days, the rims are stained with some silt. At the moment, if the brake rubber contacts the rims with sand, a certain amount of abrasion can not be avoided. Repeated braking makes the coating of the rims stripped, and the beautiful appearance and the quality are affected. The utility model uses a pair of steel wire clips and a scratch brush to be fixed on a U–shaped ironware between the bicycle.



The clearing operation is proceeded at the same time with braking. At the time of braking, first the scratch brush sweeps the silt, and then the brake rubber contacts the rims, thus preventing the brake rubber from forcibly braking with sand and wearing out the coating of the rims. The utility model has simple manufacture and installation, and can effectively solve the problem of abrasion between the rubber brake and the bicycle rims.

0) CN2488741Y – MULTIFUNCTIONAL SWEEP FOR BICYCLE

173) Family number: 23297104 (CN2488741Y) © PatBase

Title: Multifunctional sweep for bicycle

Priority: CN20002057095U 20001214

Family:

Publication number	Publication date	Application number	Application date
CN2488741 Y	20020501	CN20002057095U	20001214

Probable Assignee: LIU JIE

Assignee(s):(std)**:** LIU JIE

Inventor(s):(std)**:** JIE LIU ; LIU JIE

International class (IPC 8–9)**:** B60K16/00 (Advanced/Invention); B60K16/00 (Core/Invention)

International class (IPC 1–7)**:** B60K16/00

Classification Explorer

Abstract:
Source: CN2488741Y The utility model relater to a multifunctional wind canvas for bicycle relates to an assembly of a canvas structure and bicycle; the canvas structure is assembled with a clip 6, a front and a rear connecting pendulum bob rod 5, a left and a right pendulum bob rod 4, a telescopic rod 3, a canvas bracket 1 and canvas face 2. The rotary position sleeve 10 can make the canvas face stand vertical; thus, the canvas has the function as sail to assist riding the bicycle; when the canvas face is leveled, the canvas face can shelter the sunlight and the rain; and the canvas can be printed with text and picture, being used as advertisement carrier. The design plan provides multifunctional usage for the canvas on the bicycle.

174) Family number: 23890654 (US2005014611A) © PatBase

Title: VARIABLE RESISTANCE DEVICE FOR AN EXERCISE MACHINE

Priority: AU20010093392 20011123 AU2001PR06875 20010809 WO2002AU01077 20020809 EP20020748472 20020809

Family:

Publication number	Publication date	Application number	Application date
AU2001006875 A0	20010830	AU2001PR06875	20010809
AU2002319015 AA	20030224	AU20020319015	20020809
AU751065 B1	20020808	AU20010093392	20011123
CA2456781 AA	20030220	CA20022456781	20020809
CN100337704 C	20070919	CN20028015541	20020809
CN1538860 A	20041020	CN20028015541	20020809
DE60245904 D1	20140213	DE20026045904	20020809
EP1418986 A1	20040519	EP20020748472	20020809
EP1418986 A4	20080116	EP20020748472	20020809
EP1418986 B1	20140101	EP20020748472	20020809
TWI236380 B	20050721	TW20020117977	20020809
US2005014611 AA	20050120	US20040486062	20040915
US7628739 BB	20091208	US20040486062	20040915
WO03013661 A1	20030220	WO2002AU01077	20020809

Probable Assignee: CENTREVIEW LTD

Assignee(s):(std)**:** CT VIEW LTD ; GEARON M ; GEARON MICHAEL

Assignee(s): MICHAEL GEARON ; CENTREVIEW LTD

Inventor(s):(std)**:** GEARON MICHAEL ; MICHAEL GEARON

Inventor(s): GEARON MICHAEL CLYDE NORTH

Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY LTD; BOETERS AND LIECK; PAUSTIAN OTHMAR; HUSCH BLACKWELL SANDERS WELSH AND KATZ; GERALD T

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZM ZW

International class (IPC 8–9): A63B21/00 A63B21/008 A63B21/22 F16F9/12 (Advanced/Invention); A63B22/04 A63B22/06 A63B69/06 A63B69/16 A63B71/00 F16D57/00 (Advanced/Non–invention); A63B21/00 A63B21/008 F16F9/10 (Core/Invention); A63B22/00 A63B22/06 A63B69/06 A63B69/16 A63B71/00 F16D57/00 (Core/Non–invention)

International class (IPC 1–7): A63B21/00 A63B21/008 A63B21/22 A63B22/06

CPC: A63B21/00069 F16F9/125 A63B22/0007 A63B22/0076 A63B22/0605 A63B22/0664 A63B69/16 A63B2022/0079 A63B2022/0652 A63B2022/067 A63B2069/165 A63B22/0012 A63B21/008 A63B22/0005

European class: A63B21/008B A63B22/00A4 A63B22/06C F16F9/12A K63B22/00A2 K63B22/00R K63B22/00R2 K63B22/06C4R K63B22/06E K63B22/06E2 K63B22/08 K63B69/16 K63B69/16A3H

US class: 188/290 482/112 482/53 482/58 482/63 482/73

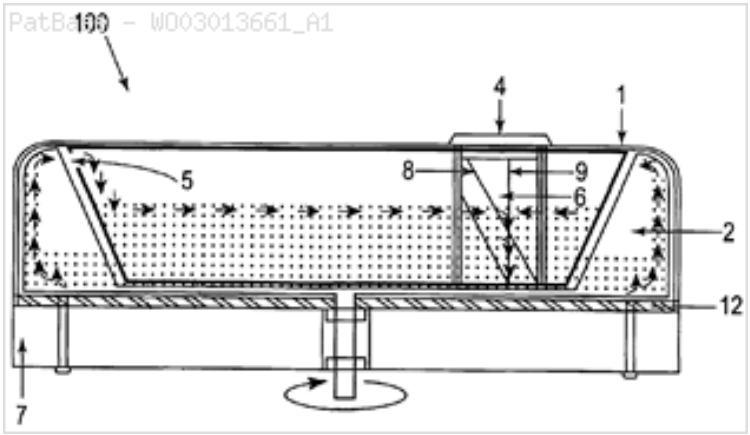
Classification Explorer

Cited documents: WO8808735 A1, US7510513 BB, US6561955 BA, US5944637 A, US5916068 A, US5665039 A, US5542507 A, US5290212 A, US5195936 A, US5183453 A, US5120200 A, US5110118 A, US4979735 A, US4884800 A, US4864872 A, US4822032 A,

US4784385 A, US4645199 A, US4396188 A, US4146222 A, US4043434 A, US4019840 A, US3266801 A, US3211396 A, US3081634 A, US2725231 A,

Forward Citations: WO16009213, WO15093982, WO13130114, WO07048230, US9517376, US9339678, US9314667, US9149702, US8979715, US8708867, US8439808, US8313419, US8162806, US7955227, US2014106936, US2013225375, US2011212812, US2010317493, US2010298103, US2010200136, TWI386242, EP2221091, CN104436604, CN102139146, CN102133461,

Abstract:
Source: US2005014611A The invention concerns novel pharmaceutical compositions capable of comprising micelles containing at least a very lipophilic principle enabling to enhance bioavailability of active principles insoluble in aqueous solvents called MIDDS(R) (Micellar Improved Drug Delivery Solutions).



0) CH223686A – FAHRRAD–HALTER. BICYCLE HOLDER. (MACHINE TRA...

175) Family number: 24929544 (CH223686A) © PatBase

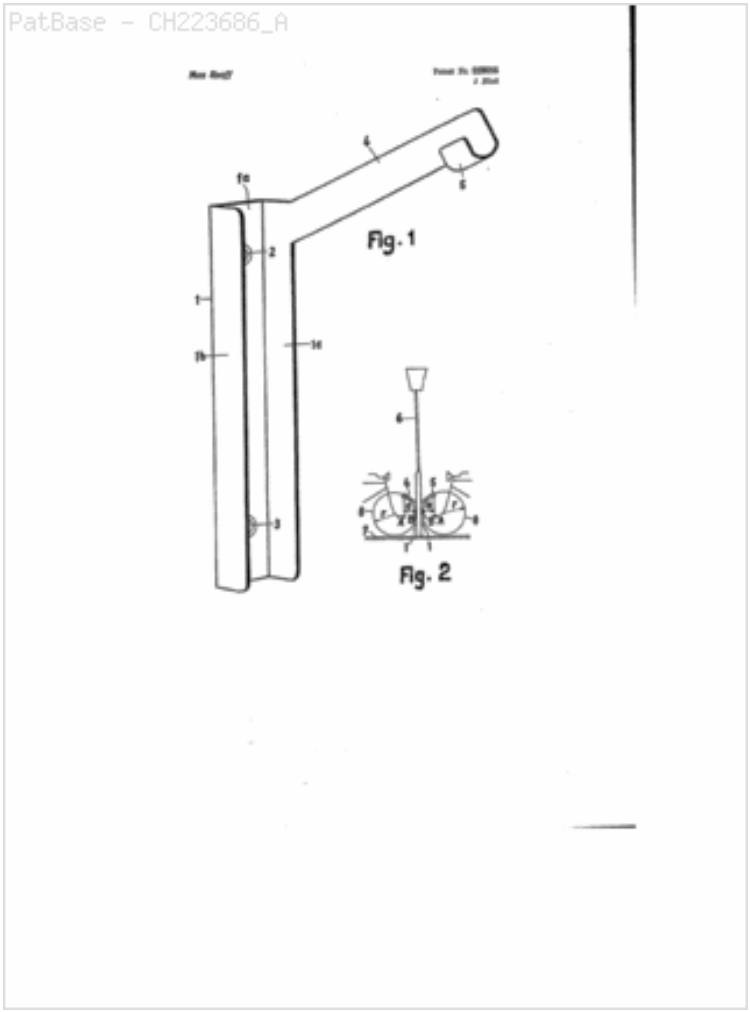
Title:	FAHRRAD–HALTER. BICYCLE HOLDER. (Machine translation)
Priority:	19411127

Family:

Publication number	Publication date	Application number	Application date
CH223686 A	19420930		19411127

Probable Assignee:	RUOFF MAX
Assignee(s):(std)**:**	RUOFF MAX
Inventor(s):(std)**:**	MAX RUOFF
Inventor(s):	RUOFF MAX
International class (IPC 8–9)**:**	B62H3/00 (Advanced/Invention); B62H3/00 (Core/Invention)
International class (IPC 1–7)**:**	B62H3/04
CPC:	B62H3/00
European class:	B62H3/00
Classification Explorer	
Forward Citations:	WO9516601, US5036987, US4416379, DE29500152,

Abstract:
Source: CH223686A 1. Fahrradhalter nach Patentanspruch, dadurch gekennzeichnet, dass die Halterplatte durch ein U–Eisenstueck gebildet ist, wobei die Schenkel des U–Profils als seitliche Fuehrung fuer den eingehaengten Reifen dienen. . 1 Bicycle holder according to claim, characterized in that the holder plate is formed by a U–Eisenstueck, the legs of the U–section serve as lateral leadership for the eingehaengten tires.



0) CH290481A – FAHRRADPEDAL. BICYCLE PEDAL. (MACHINE TRANSL...

176) Family number: 24956959 (CH290481A) © PatBase

Title: FAHRRADPEDAL. BICYCLE PEDAL. (Machine translation)

Priority: 19510614

Family:

Publication number	Publication date	Application number	Application date
CH290481 A	19530430		19510614

Probable Assignee: GRUBER GEORG

Assignee(s):(std)**:** GRUBER GEORG

Inventor(s):(std)**:** GEORG GRUBER

Inventor(s): GRUBER GEORG

International class (IPC 8–9)**:** B62M3/08 (Advanced/Invention); B62M3/00 (Core/Invention)

International class (IPC 1–7)**:** B62M3/10

CPC: B62M3/083

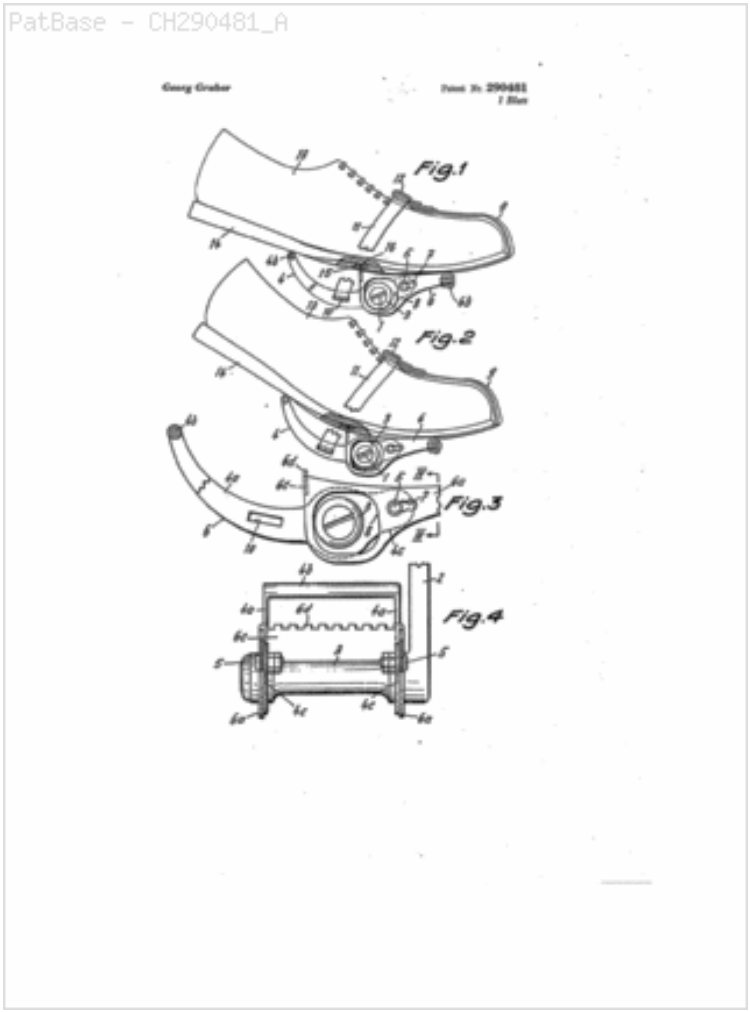
European class: B62M3/08B

Classification Explorer

Forward Citations: WO02102651, US4569249, US4458556, FR2500404, FR2407120, EP2366616, EP0059132, EP0055598, EP0055597, DE3035317, DE2938126, AT410201,

Abstract:
Source: CH290481A (Claim 1) 1. Fahrradpedal nach Patentanspruch, da durch gekennzeichnet, dass die Sohlenstuetze an den Nabenenden des Pedals befestigte Aus leger aufweist, eiche an den der Nabe abge kehrten Enden durch einen Quersteg mitein ander verbunden sind, wobei die Ausleger auf der dem Quersteg abgekehrten Seite der Nabe in zwei Lappen uebergehen, an denen die Wippe verschwenkbar gelagert ist.

Machine translation: (claim 1) 1 A bicycle pedal according to claim, since in that the Sohlenstuetze fastened to the hub ends of the pedal From casual comprising oak, to which the hub completed ends returned by a transverse web with each other are connected, wherein the boom in the the transverse web side facing away from the hub two overlap pass, where the rocker is pivotally mounted.



0) CN2595869Y – BICYCLE TYPE AUTOMATIC GROUND SWEEPING VEHICLE

177) Family number: 30194629 (CN2595869Y) © PatBase

Title: Bicycle type automatic ground sweeping vehicle

Priority: CN20022094589U 20021230

Family:

Publication number	Publication date	Application number	Application date
CN2595869 Y	20031231	CN20022094589U	20021230

Probable Assignee: LIU JINDUO

Assignee(s):(std)**:** LIU JINDUO

Inventor(s):(std)**:** CHEN XINRUI ; LIU JINDUO

Inventor(s): XINRUI CHEN ; JINDUO LIU

International class (IPC 8–9): E01H1/05 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7): E01H1/05

Classification Explorer

Forward Citations: CN101985828,

Abstract:
Source: CN2595869Y The utility model relates to a self–propelled automatic ground sweeping vehicle. The utility model is mainly characterized in that a driving motor which is fixedly arranged on a frame is used for driving a front rolling brush and a back rolling brush installed on the frame; the front rolling brush and the back rolling brush move in parallel, in contrary and in synchronousness. The front rolling brush and the back rolling brush move synchronously with a plane brush. The utility model has the advantages of simple and reasonable structure, low cost, low noise, novel and beautiful appearance, wide sweeping width and large sweeping area. The battery jar is used as power source. The rubbish is swept thoroughly, cleanly and conveniently. The utility model is a novel sweeping vehicle.

0) GB1412321A – VARIABLE RATIO DRIVE MECHANISM FOR BICYCLES

178) Family number: 3889568 (GB1412321A)

© PatBase

Title: VARIABLE RATIO DRIVE MECHANISM FOR BICYCLES

Priority: GB19730000061 19730101

Family:

Publication number	Publication date	Application number	Application date
GB1412321 A	19751105	GB19730000061	19730101

Probable Assignee: TOKHEIM CORP

Assignee(s):(std)**:** TOKHEIM CORP

International class (IPC 8–9): B62M9/06 (Advanced/Invention); B62M9/00 (Core/Invention)

International class (IPC 1–7): F16H11/08 F16H9/24

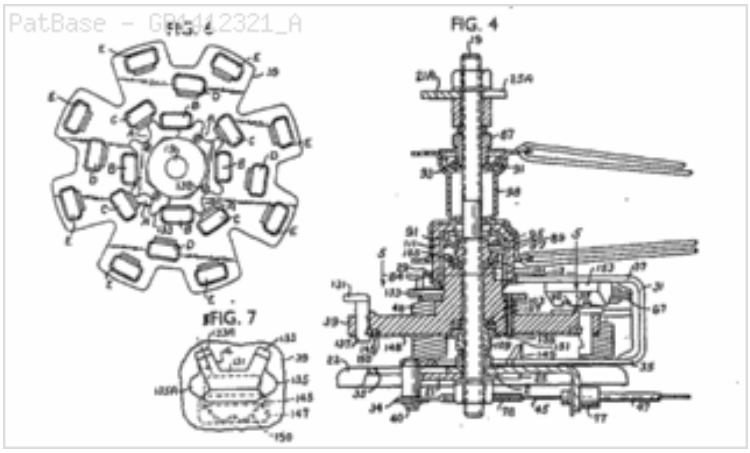
CPC: B62M9/06

European class: B62M9/06

Classification Explorer

Forward Citations: GB2159593, GB2159593,

Abstract:
Source: GB1412321A 1412321 Variable speed gearing TOKHEIM CORP 1 Jan 1973 61/73 Heading F2D A transmission member, e.g. a sprocket, of variable effective diameter for operative engagement with flexible drive means, e.g. the driving chain of a pedal cycle, comprises a disc with a plurality of drive segments arranged on a series of concentric pitch circles and movable in an axial direction relatively to the disc between retracted positions and positions in which they are projected for engagement by the flexible drive means. In the embodiment described the disc 39 is mounted on ball bearings 105, 107, Fig. 4, on the rear wheel spindle 19 of a bicycle and drives the wheel, which is mounted on ball bearings 91, through a free–wheel ratchet device (not shown). The highest transmission ratio is established by engagement of the chain with sprocket teeth 133 arranged on an inner pitch circle A, Fig. 6, and secured to the disc by screws 138, all of the movable drive segments 131 being in their retracted positions, as shown at the right–hand side of Fig. 4, in which they are retained by spring–loaded pins 145 engaging cam surfaces. To change to the next lower ratio, a U–shaped arm 31 straddling the disc is moved by a Bowden cable 45 about a pivot pin 29, positioned a substantial distance from the axis of the spindle 19, to bring a cam 149 into a position in which it acts to project successively each drive segment 131 in a ring B so that the chain is taken up on teeth 133, 133A, Fig. 7. The drive segments arranged in the further rings C, D, E for three further ratios are similarly projected by the cam 149 in response to further movement of the U–shaped arm by the Bowden cable. The rings of drive segments are successively retracted in response to reverse movement of the U–shaped arm for upward ratio shifts by a cam 153. Slack in the chain is taken up by a jockey sprocket 67 carried by a spring–loaded arm. The transmission membermaybe the chain wheel or the rear wheel sprocket.



0) KR200334621Y – VARIABLE EXPRESSION PEDAL–POWERED BIKE CRANK SH...

179) Family number: 47042250 (KR200334621Y) © PatBase

Title: Variable expression pedal–powered bike crank shaft of the device (Machine translation)

Priority: KR20030025893U 20030811

Family:

Publication number	Publication date	Application number	Application date
KR200334621 Y1	20031128	KR20030025893U	20030811

Probable Assignee: KOO KWANG WOOK

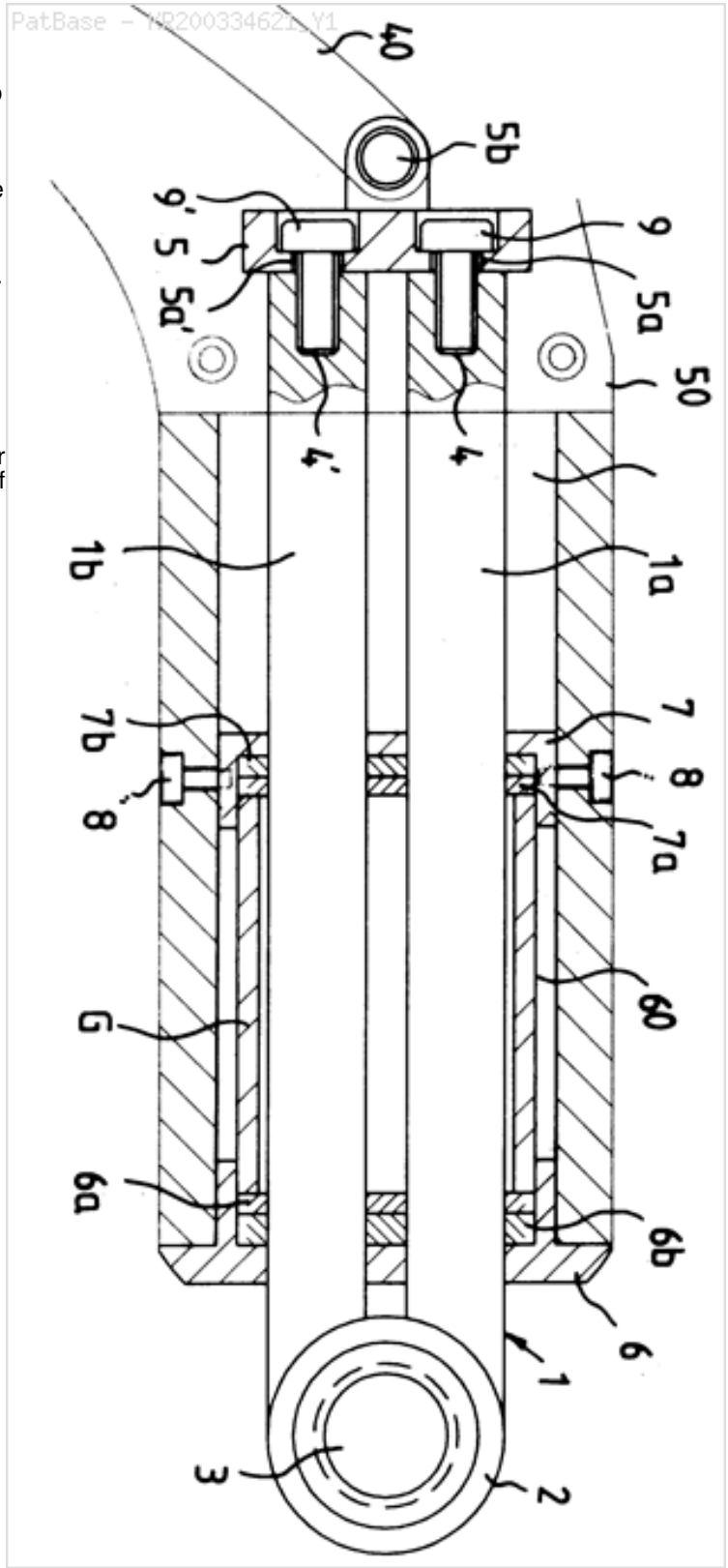
Assignee(s): GANGBYEONGNAM ; KOO KWANG WOOK

International class (IPC 8–9): B62M3/00 (Advanced/Invention); B62M3/00 (Advanced/Non–invention)

International class (IPC 1–7): B62M3/00

Classification Explorer

Abstract:
Source: KR200334621Y This is the distance between the pedal and pedal coupling by driving to driving a variable minimum energy to be able to exert up to driving energy of the bike's pedal–powered devices for bicycles, a variable expression, rather than a smooth and stable operation guarantees a clean sweep the variation concerns the variable bicycle pedal–powered device about the crankshaft jars, Pedal axis (10) fixed gear (20), planetary gear (30), gearing and planetary gear (30), bar (40) that is associated with the drive case (50) of crankshaft (1) pedal axis (10) as a result of the work and haunted by the pedal coupling (2), the distance between the pedal–powered bike with adjustable working variable device, section circle (? ?), two bars (Bar) (1a, 1b) and crankshaft (1), above (1a, 1b) each circular bar is the same diameter the same as the length of the form, in the circle bar (1a, 1b) in the form prescribed in the spaced between side–by–side configuration, and can combine the pedal on the pedal once the coupling (2), the point is that you have configured. Bicycle, bicycle, bicycle, bicycle–powered device the crankshaft, pedal–powered devices, and pedal–powered crankshaft



0) CN204663080U – TWO –WAY ACCESS CAR DEVICE OF STEREO GARAGE

180) Family number: 60198492 (CN204663080U)

© PatBase

Title: TWO –WAY ACCESS CAR DEVICE OF STEREO GARAGE

Priority: CN201510295862 20150603 CN201520372517U 20150603

Family:

Publication number	Publication date	Application number	Application date
CN104863401 A	20150826	CN201510295862	20150603
CN204663080 U	20150923	CN201520372517U	20150603

Probable Assignee: AI JINSHAN

Assignee(s):(std)**:** AI JINSHAN

Inventor(s):(std)**:** AI JINSHAN

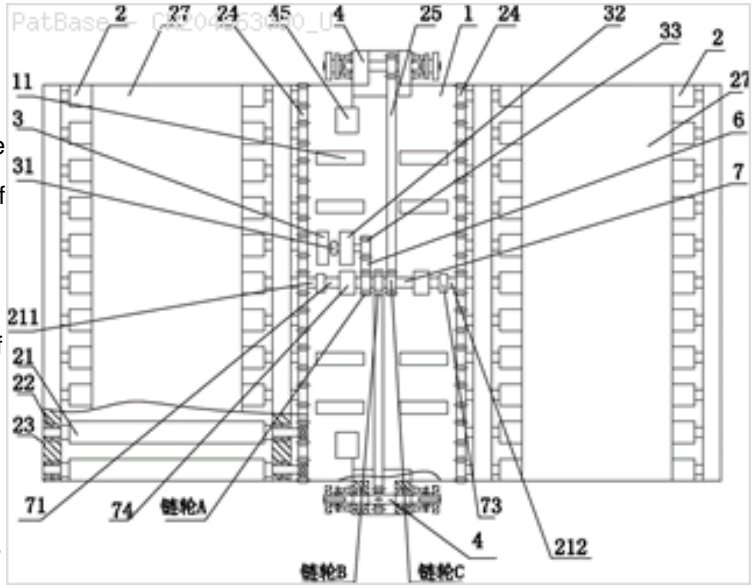
International class (IPC 8–9): E04H6/14 (Advanced/Invention)

Classification Explorer

Cited documents: EP0277464 A1, CN2753846 Y, CN2584722 Y, CN2422392 Y, CN204663080 U, CN101864851 A,

Forward Citations: CN104863401,

Abstract:
Source: CN204663080U The utility model relates to a two –way access car device of stereo garage relates to stereo garage access car device, and it still arranges the frame that bears the weight of that bears the weight of the vehicle including carrying sweep both sides including carrying a sweep, bears the weight of the frame and contains cylinder, bearing and the bearing frame of taking the sprocket, takes the horizontal equipartition of cylinder of sprocket to install on the bearing frame, and the bearing frame is settled on carrying the sweep, and the homonymy bears the weight of the chain connection sprocket for on the cylinder, and the motion does not have and interferes between the cylinder, bears the weight of a top and settles and have the conveyer belt that can move along with the cylinder, and the power unit that a bi –directional motion was born the weight of in the drive settles on carrying the sweep, carries the sweep and still is equipped with the movable disc motion of clutch in both sides in addition. The utility model has the advantages of: the two –way access car of multilayer dibit is realized to power of this device, and simple structure, through gathering arranges scientific and reasonable, and the operation is synchronous, steady, reliable, and access car process is simple and convenient, and weak point consuming time, efficient can also effectively reduce bicycle parking position floor height, improves garage space utilization.



0) SU735427T – APPARATUS FOR PREPARING THE ASSEMBLY SETS OF BI...

181) Family number: 6065601 (SU735427T)

© PatBase

Title: APPARATUS FOR PREPARING THE ASSEMBLY SETS OF BICYCLE TYRES

Priority: SU19772444831 19770124

Family:

Publication number	Publication date	Application number	Application date
SU735427 T	19800525	SU19772444831	19770124

Probable Assignee: OMSKIJ SHINNYJ Z

Assignee(s):(std)**:** OMSKIJ SHINNYJ Z

Assignee(s): OMSKIJ SHINNYJ ZAVOD

Inventor(s):(std)**:** GAPANYUK VLADIMIR P

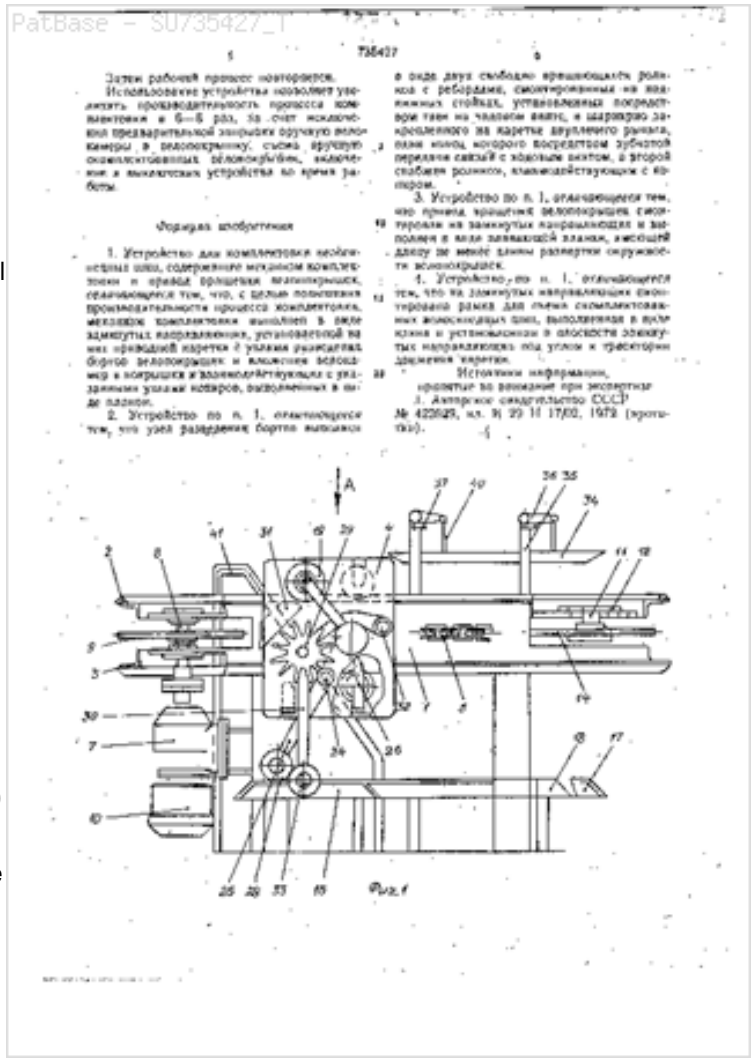
Inventor(s): GAPANYUK VLADIMIR P SU

International class (IPC 8–9): B29D30/06 (Advanced/Invention)

International class (IPC 1–7): B29H17/00 B29H17/372

Classification Explorer

Abstract:
Source: SU735427T 1 invention relates to equipment. plants tire industry, in particular to a device for collation bicycle tires. Known device for bicycle tires collation containing collation mechanism and drive rotation velopokryschki 1. Disadvantage of this device is the low productivity of the process due to manual collation pre–charge in velokamery velrpokryschku, manual removal of collected velopokryshki and duration of the technological cycle collation. The purpose of the invention – improved performance collation process. This goal is achieved in, 4JO an apparatus comprising a mechanism komgGle reparation and drive rotation velopokryschek, collation mechanism is designed as a closed guide mounted on the carriage drive them with nodes dilution boards and enclosures velokamer bicycle tires in the tire and interacting with these nodes copiers made in the form of strips, r also that dilution node boards made up of two freely rotating rollers with flanges mounted on the movable uprights mounted by means of nuts on the lead screw and a carriage mounted on scharnirno two–armed lever, one end of which via a gear coupled the lead screw and provided with a second roller cooperating with the cam, and also in that rotation of the actuator is mounted on closed velopokryschek guides and is designed as a floating strap, having at least 10 dliyu circumferential length sweep velopokryschek addition on closed rails mounted frame for removal of collected bicycle tire, made in the form of a wedge and the establishment of closed 3 in the plane of the guide at an angle to the path of travel of the carriage. Fig. I schematically shows the device, general view; Fig. 2 – A view of Fig. Fig. 3 – carriage mechanism 20 collation; Fig. 4 – section A–A in Fig. 3; Fig. 5, 6, 7, 8 – circuit operations collation process. Apparatus



for collation cycle tires (Fig. I and

0) CN205259666U – ROPE DRAWS FORMULA STEREO GARAGE

182) Family number: 62444199 (CN205259666U) © PatBase

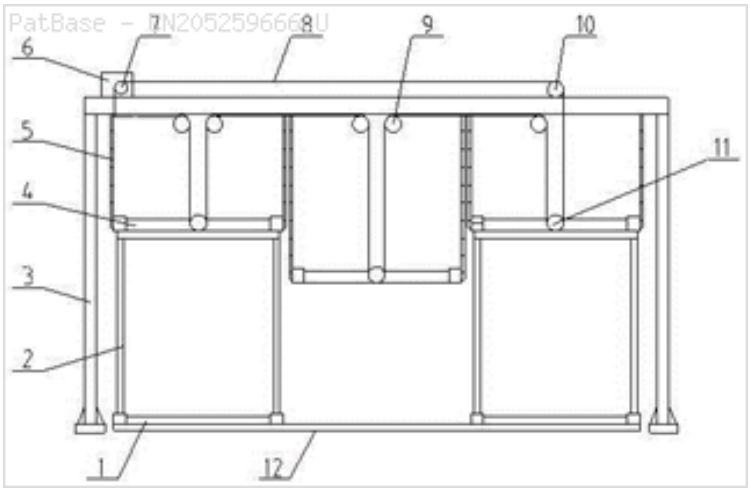
Title:	ROPE DRAWS FORMULA STEREO GARAGE
Priority:	CN201520952741U 20151126

Family:

Publication number	Publication date	Application number	Application date
CN205259666 U	20160525	CN201520952741U	20151126

Probable Assignee:	YUNNAN ZHONGJIAN BONENG ENG TECH CO LTD
Assignee(s):(std):	QUJING JIESHUN TRAFFIC EQUIPMENT CO LTD ; YUNNAN ZHONGJIAN BONENG ENG TECH CO LTD
Assignee(s):	YUNNAN ZHONGJIAN BONENG ENGINEERING TECHNOLOGY CO ; YUNNAN BUILT POLAR ENGINEERING LTD ; QUJING CITY JIESHUN TRANSPORT CO LTD ; QUJING JIESHUN TRAFFIC EQUIPMENT CO
Inventor(s):(std):	CHEN SHIXING ; CUI QINGLEI ; DAI XINGHUI ; SONG MINGDI ; WANG YUNCANG ; WEI JIANGNAN ; YAN QIANGFEI ; ZHANG GULIN ; ZHANG GUOYUN
International class (IPC 8–9):	E04H6/18 E04H6/22 (Advanced/Invention)

Classification Explorer



Abstract:
Source: CN205259666U The utility model discloses a rope draws formula stereo garage, including garage frame, upper garage unit and lower floor's garage unit, lower floor's garage unit is gone up the garage unit and is included to have uploading the sweep and being used for reciprocating the elevating system who uploads the sweep of three parking stall, and still be provided with balancing unit in every both sides of uploading the sweep including the download sweep that has two parking stalls, translation mechanism and the support frame that is used for lateral shifting to download the sweep. The utility model discloses a vertical space is folded and is established the parking stall, direct increase at double the quantity of bicycle parking, not only the principle of simple structure, operation is simple, easy operation, convenient to use, maintenance be simple, build and operation with low costs, has moreover that the practicality is strong, application scope wide, easy to carry out's advantage, can satisfy the simple and easy parking area in fixed parking stall, the road both sides of community and the parking stall of villa class completely, also can use with car owner's cooperation of not knowing, easily uses widely.

0) DE8436409U1 –

183) Family number: 16581530 (DE8436409U1) © PatBase

Priority: DE19840036409U 19841212

Family:

Publication number	Publication date	Application number	Application date
DE8436409 U1	19850502	DE19840036409U	19841212

Probable Assignee: AICHHORN WILFRIED 8220 TRAUNSTEIN DE

Assignee(s): AICHHORN WILFRIED 8220 TRAUNSTEIN DE

International class (IPC 8–9): B62J17/00 (Advanced/Invention)

International class (IPC 1–7): B62J17/00

CPC: B62J17/00 B62J2017/083

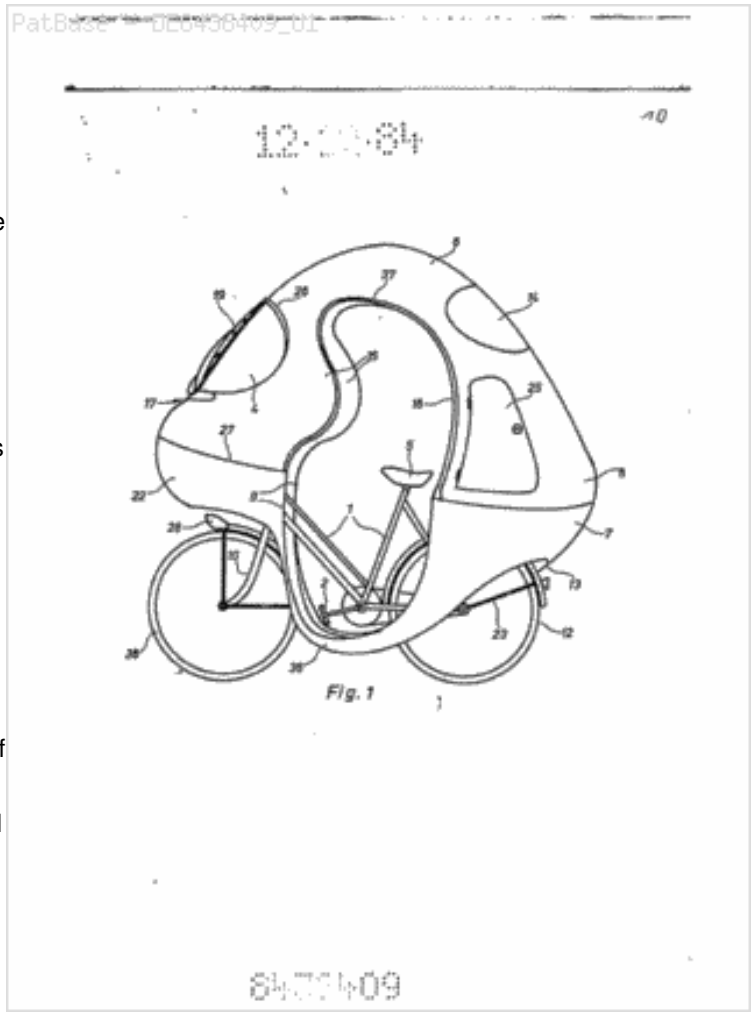
European class: B62J17/00 L62J17/08B

Classification Explorer

Forward Citations: WO04039658, DE3612485, DE19629879, DE102005056880, DE102005056880,

Abstract:
Source: DE8436409U1 (Claim 1) Zweirad mit einer Wetterschutzvorrichtung Ansprueche 1. Zweirad, insbesondere Fahrrad mit einer Wetterschutzvorrichtung fuer den Zwei–radfahrer, welche am Rahmen des Pedale aufweisenden Zweirades befestigbar ist und ein sich wenigstens teilweise oberhalb der Lenkstange des Zweirades vor der Lenkstange erstreckendes Frontfenster aus durchsichtigem Material und ein sich ueber den Sattel des Rades hinaus nach hinten erstreckendes Dach aufweist, dadurch gekennzeichnet, dass die Wetterschutzvorrichtung als aus einem schalenfoermigen unteren Gehaeuseteil (7) und einem schalenfoermigen oberen Gehaeuseteil (8) bestehendes selbsttragendes Kunststoffgehaeuse ausgebildet Ist, in dessen beiden Seitenwaenden je eine Zutrittsoffr.

Machine translation: (Claim 1) motorcycle claims with a weather protection device 1 Two–wheeler, especially bicycle with a weather protection device for the two cyclists, which is the frame of the pedals having two wheel attached and at least partially to above the handlebars of the bicycle in front of the steering rod extending front window of transparent material and are over the saddle of your bike out extending rear roof has, characterized in that the weather protection device as a shell–bottom Gehaeuseteil (7) and an upper shell–Gehaeuseteil (8) existing self–supporting plastic case is formed in the two side walls each one Zutrittsoffr.



0) US5015918A – BICYCLE SINGLE–WIRE LIGHTING SYSTEM WITH STEADY...

184) Family number: 4589906 (US5015918A) © PatBase

Title: Bicycle single–wire lighting system with steady–flashing–reflector rear warning device

Priority: US19860825380 19860203 US19880223297 19880722 US19890402123 19890831

Family:

Publication number	Publication date	Application number	Application date
US5015918 A	19910514	US19890402123	19890831

Probable Assignee: COPELAND JOHN

Assignee(s):(std)**:** COPELAND JOHN

Inventor(s):(std)**:** COPELAND JOHN

International class (IPC 8–9)**:** B62J6/00 H02J7/14 H05B33/08 (Advanced/Invention); B62J6/00 H02J7/14 H05B33/02 (Core/Invention)

International class (IPC 1–7)**:** H01K7/00 H05B41/14

CPC: B62J6/003 H02J7/1407 H05B33/0803 H05B33/0818 H05B33/0842 H05B35/00 H05B39/047 H05B41/392

European class: B62J6/00B1 H02J7/14B H05B33/08D H05B33/08D1C4H H05B33/08D3 H05B35/00 H05B39/04B4M H05B41/392

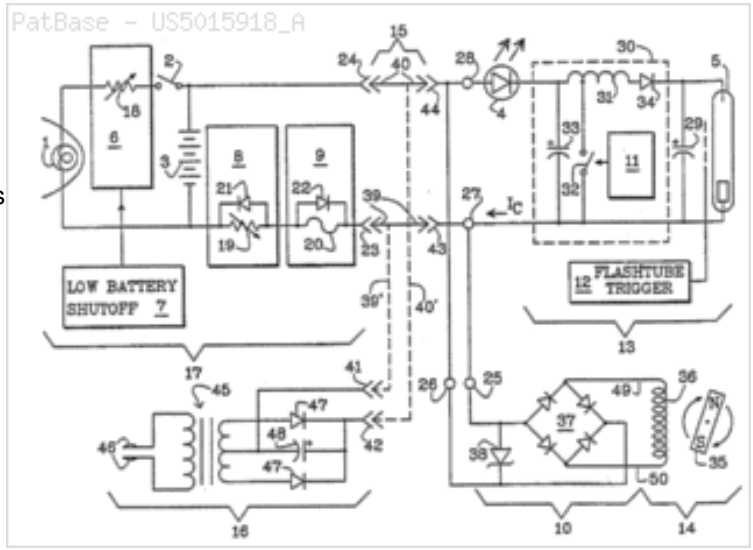
US class: 315/179 315/76 362/227 362/464 362/473 362/545 362/72

Classification Explorer

Cited documents: US4388559 A, US4323879 A, US3779629 A,

Forward Citations: WO9735744, WO12025299, WO09047257, WO08102378, WO08102378, WO06024963, US9219405, US8985795, US8956005, US8888306, US8829808, US8643305, US8496359, US8362712, US8235539, US8201977, US8201963, US8159146, US8050004, US7819564, US7740371, US7714519, US7670023, US7506995, US7495352, US7463825, US7411307, US7393119, US7367683, US7309141, US7275844, US7204623, US7186000, US7165863, US7145256, US7142301, US7001053, US6893140, US6819059, US6808287, US6788411, US6781502, US6773154, US6765495, US6665170, US6563269, US6491420, US6488390, US6418041, US6307330, US6305818, US6196707, US6158882, US6152588, US6095661, US5922489, US5839814, US5785413, US5653523, US5651601, US5602522, US5590419, US5584561, US5457612, US5243461, US5122939, US2013345024, US2011083460, US2011025123, US2010271813, US2010265624, US2010165608, US2010103672, US2009187078, US2009168177, US2009102384, US2009091268, US2008037239, US2007187952, US2007153537, US2007133199, US2007081811, US2007052200, US2006208659, US2006072330, US2005243545, US2005201076, US2005169004, US2005157510, US2005128748, US2005067203, US2005052118, US2005040773, US2005029168, US2004228136, US2004114358, US2004080282, US2003095406, GB2277645, GB2277645, FR2948830, FR2784956, EP2629397, EP2232136, EP2048917, DE112005001752, DE102009052690, CN103201161,

Abstract:
Source: US5015918A Red LEDs having sufficient brightness and efficiency are employed for a bicycle tail lamp. A xenon strobe provides extended visibility over the steady red LED beam, identifiable as a vehicle tail lamp; dispersed high intensity flashes of the strobe may be seen directly or observed as reflections from the surroundings. The flash is powered from the difference between the supply potential and that required by the LEDs so the current through the LEDs is controlled without wasting power or adding unproductive circuitry. These elements are located in a retro−reflector similar to that in common use on bicycles to form a warning device that is small, easy to mount, with an uncomplicated electrical hookup; a simplified parallel connection scheme needs only a single wire in addition to the metal bicycle frame. The system has the rechargeable battery and the generator substantially in parallel; generator power is used when the bicycle is in motion and battery power when stopped. The interconnecting wiring system assures the operation of the rear warning device from the generator should the headlamp be missing or disconnected with the rate of the omnidirectional flashes increased and is a partial substitute to the warning that the headlamp would normally provide.



185) Family number: 45954294 (IN00549MU2010A) © PatBase

Title: AN APPARATUS, SYSTEM, AND METHOD FOR AUTOMATED PRODUCTION OF RULE BASED NEAR LIVE SPORTS EVENT IN THE FORM OF A VIDEO FILM FOR ENTERTAINMENT

Family:

Publication number	Publication date	Application number	Application date
IN00549MU2010 A	20100709	IN2010MU00549	20100303

Probable Assignee: RATHOD YOGESH CHUNILAL

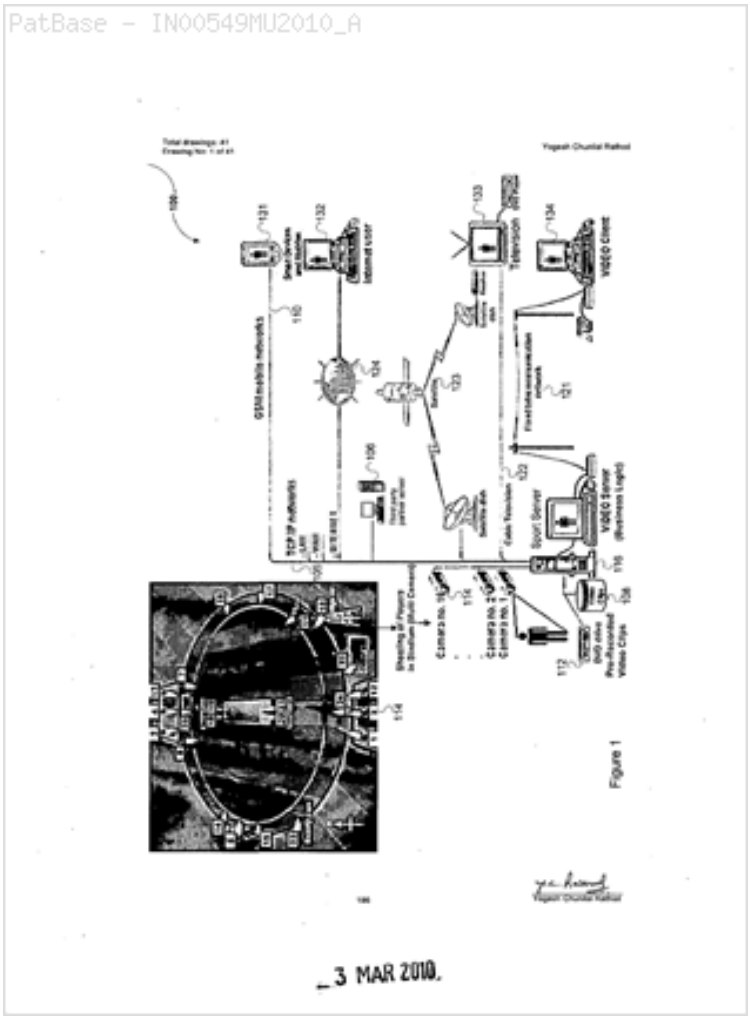
Assignee(s): RATHOD YOGESH CHUNILAL

Inventor(s): RATHOD YOGESH CHUNILAL

International class (IPC 8–9): G06T17/00 H04N5/445 H04N5/765 (Advanced/Invention)

Classification Explorer

Abstract:
Source: IN00549MU2010A An apparatus, system, and method for automated production of sport video using expert sports video production rules. Methods and systems for automated rule based real and live sports video or film or movie productions by merging pre−created standardize video clips as per administrator score or points or goal settings and domain or subject specific film or movie production rules by domain and subject specific rule engine and real time or near real time live broadcasting or telecasting or streaming or screening or transmission or playing or recording live or real sports match event via multiple communication networks on multiple types of user(s) device(s) to viewers, e.g. real and live sports comprising cricket, baseball, golf, football, soccer, basketball, hockey, tennis, racing.



0) FR2970453B – PROCEDE ET DISPOSITIF D'ACTIVATION D'UN SYSTEME...

186) Family number: 51588645 (FR2970453B) © PatBase

Title: PROCEDE ET DISPOSITIF D'ACTIVATION D'UN SYSTEME D'ESSUIE–VITRE

Priority: FR20110050363 20110117

Family:

Publication number	Publication date	Application number	Application date
FR2970453 A1	20120720	FR20110050363	20110117
FR2970453 B1	20130104	FR20110050363	20110117

Probable Assignee: PEUGEOT CITROEN AUTOMOBILES SA

Assignee(s):(std)**:** PEUGEOT CITROEN AUTOMOBILES SA

Inventor(s):(std)**:** CHASSEFEYRE VINCENT

Inventor(s): VINCENT CHASSEFEYRE

Agent(s): PEUGEOT CITROEN AUTOMOBILES SA

International class (IPC 8–9): B60S1/08 (Advanced/Invention)

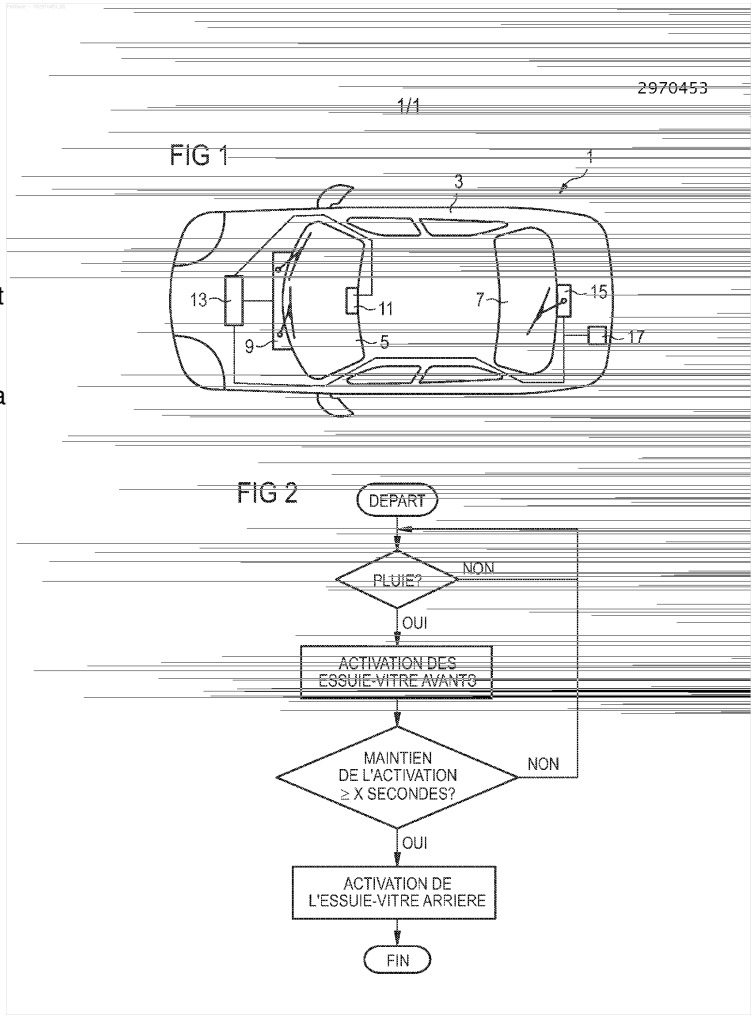
CPC: B60S1/583 B60S1/0818 B60S1/566

European class: B60S1/08F B60S1/56D B60S1/58B

Classification Explorer

Cited documents: JP4163256 A2, FR2890355 A1, DE10303998 A1,

Abstract:
The device (1) has a front windscreen wiper mechanism (9) provided in a front side of a vehicle (3). A rear windscreen wiper mechanism (15) is provided in a rear side of the vehicle, where the device controls the activation of the mechanisms and retards the execution of command activation of the rear mechanism at the time of suspension from the execution of command activation of the front mechanism, so that the rear mechanism is controlled to maintain the activation of the front mechanism during a suspension period. An independent claim is also included for a method for activating and controlling a windscreen wiper system arranged on–board a vehicle.



0) DE202015105683U1 – PROZESSEINRICHTUNG PROCESS EQUIPMENT (MACHIN...

187) Family number: 65129984 (DE202015105683U1) © PatBase

Title: PROZESSEINRICHTUNG PROCESS EQUIPMENT (Machine translation)

Priority: DE201520105683U 20151026

Family:

Publication number	Publication date	Application number	Application date
DE202015105683 U1	20170309	DE201520105683U	20151026

Probable Assignee: KUKA IND GMBH

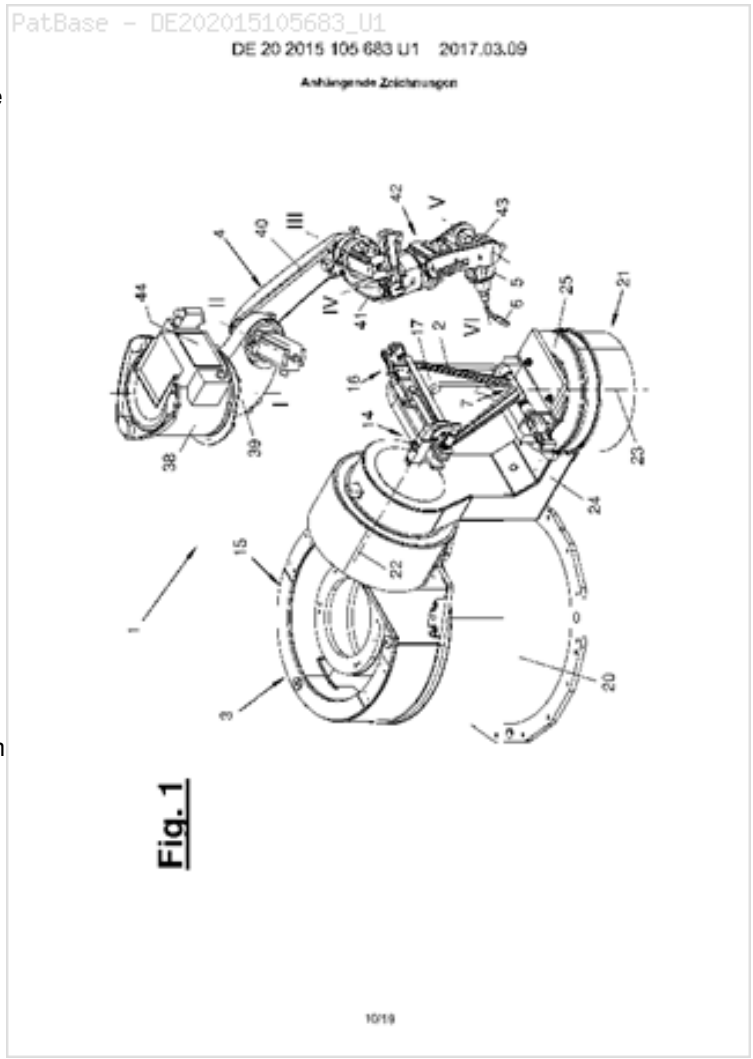
Assignee(s):(std)**:** KUKA IND GMBH

International class (IPC 8–9): B23K37/04 (Advanced/Invention)

Classification Explorer

Cited documents: DE479153 A, DE3007098 C2,

Abstract:
Source: DE202015105683U1
Prozesseinrichtung fuer ein Werkstueck (2), insbesondere einen Fahrradrahmen, wobei die Prozesseinrichtung (1) eine Halte– und Positioniervorrichtung (3) fuer das Werkstueck (2), aufweist und dazu ausgebildet ist, einen Prozess, insbesondere einen Fuegeprozess, bevorzugt einen Schweissprozess, an dem Werkstueck (2) durchzufuehren,, dadurch gekennzeichnet, dass die Halte– und Positioniervorrichtung (3) mehrere, insbesondere zwei, unterschiedlich ausgerichtete Bewegungsachsen (22, 23), insbesondere Drehachsen, aufweist und das Werkstueck (2) derart aufnimmt und positioniert, dass ein ringartig gebogener Prozessbereich (7), insbesondere Fuegebereich, an gekreuzten Werkstueckteilen (8–13) ueber einen Bogenwinkel von mindestens 300 degrees, vorzugsweise ca. 360 degrees, fuer ein robotergefuehrtes Prozesswerkzeug (5) unterbrechungsfrei zugaenglich ist. Process equipment for a workpiece (2), in particular a bicycle frame where the establishment of process (1) a holding brake and a positioning device (3) for the work piece (2), and is trained, a process, in particular a joining process, preferably a welding process, perform on the workpiece (2), characterized that the holding and positioning unit (3) several, in particular two differently oriented movement axes (22, 23), has in particular axes of rotation, and so takes the workpiece (2) and positions, that a curved rings process area (7), in particular seam of crossed parts of workpiece (8–13) for a sweep angle of at least 300 degrees, preferably approximately 360 degrees, is accessible without interruption for a robot–guided process tool (5).



0) US5279102A – CLEARING APPARATUS AND CARRIAGE FOR CLEARING AP...

188) Family number: 8394177 (US5279102A) © PatBase

Title: CLEARING APPARATUS AND CARRIAGE FOR CLEARING APPARATUS

Priority: US19920850656 19920312 US19930028238 19930309 WO1993US02174 19930308

Family:

Publication number	Publication date	Application number	Application date
AU199339171 A1	19931005	AU19930039171	19930308
CA2131892 AA	19940912	CA19932131892	19930308
DE69329113 D1	20000831	DE19936029113	19930308
DE69329113 T2	20010315	DE19936029113T	19930308
EP0648073 A1	19950419	EP19930908298	19930308
EP0648073 A4	19950426	EP19930908298	19930308
EP0648073 B1	20000726	EP19930908298	19930308
JP7506964 T2	19950803	JP19930515988T	19930308
US5279102 A	19940118	US19930028238	19930309
WO9317547 A1	19930916	WO1993US02174	19930308

Probable Assignee: FOSTER THOMAS E

Assignee(s):(std)**:** FOSTER THOMAS E ; THOMAS E FOSTER

Inventor(s):(std)**:** FOSTER THOMAS E

Inventor(s): THOMAS E FOSTER

Agent(s): ROGERS LAW OFFICE; RIDOUT AND MAYBEE LLP

Designated states: AT AU BB BE BF BG BJ BR CA CF CG CH CI CM CZ DE DK ES FI FR GA GB GN GR HU IE IT JP KP KR LK LU MC MG ML MN MR MW NL NO NZ PL PT RO RU SD SE SK SN TD TG UA

International class (IPC 8–9)**:** A01D34/416 A01D34/63 A01D34/68 A01D34/90 A01D67/00 A01G3/06 A47L11/24 A47L11/40 B08B5/00 B62B1/14 (Advanced/Invention); A01D67/00 (Core/Invention)

International class (IPC 1–7)**:** A01D34/68 A01D67/00 A01G3/06 A47L11/24 A47L11/40 B08B5/00 B62B1/14

CPC: Y10S56/09 Y10S56/18 A01D34/001 A01D34/416 A01D34/63 A01D34/90

European class: A01D34/00A A01D34/416 A01D34/63 A01D34/90

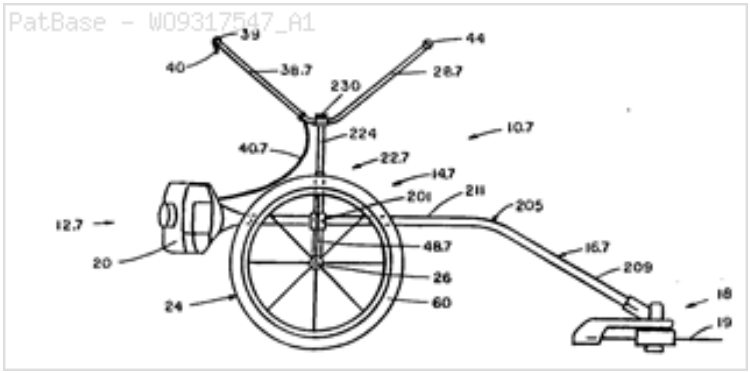
US class: 56/12.7 56/12.8 56/17.2 56/DIG.18 56/DIG.9

Classification Explorer

Cited documents: US4981012 A, US4953294 A, US4936886 A, US4922694 A, US4914899 A, US4891931 A, US4845929 A, US4829755 A, US4802327 A, US4796415 A, US4756147 A, US4712363 A, US4704849 A, US4703613 A, US4688376 A, US4679385 A, US4624321 A, US4587800 A, US4512143 A, US4442659 A, US4358123 A, US4224784 A, US4182100 A, US4009560 A, US3977078 A, US3788049 A, US3221481 A, US2638730 A,

Forward Citations: WO9917601, WO9819515, WO09087281, WO09087281, US9179597, US8418371, US8418370, US8387205, US8136268, US8001707, US7699404, US7681336, US7631443, US7617661, US7536792, US7111403, US7107745, US7036297, US6745549, US6701623, US6401344, US6345489, US6085503, US5970692, US5626006, US5613354, US5603205, US5477665, US5459985, US5408816, US2013333229, US2010257694, US2010192423, US2009235559, US2009139115, US2009025352, US2009025351, US2008202088, US2008155837, US2008127620, US2008072557, US2006265913, US2005098328, US2004221560, JP2008509686, ITRE20110031, FR2920685, FR2849742, EP1011306,

Abstract:
Source: US5279102A A clearing apparatus which includes a clearing device for use in clearing operations, and a carriage for supporting the clearing device during use. The clearing device is of conventional type and has an elongated support tube, a clearing head mounted at one end of the support tube, and a motor mounted at the other end of the support tube. The carriage includes a frame, a single support wheel which is rotatably mounted on the frame to support the frame, and a guide handle for use in guiding the apparatus, and the frame has a mounting bracket which mounts the support tube on the frame so that the clearing apparatus will be supported proximate its center of gravity on the support wheel during use.



0) US6264008B – PARALLEL–PUSH BRAKE MECHANISM FOR BICYCLES

189) Family number: 15580149 (US6264008B) © PatBase

Title: Parallel–push brake mechanism for bicycles

Priority: US19990289302 19990409

Family:

Publication number	Publication date	Application number	Application date
US6264008 BA	20010724	US19990289302	19990409

Probable Assignee: SRAM LLC

Assignee(s):(std)**:** SRAM CORP

Assignee(s): SRAM LLC ; JPMORGAN CHASE BANK NA AGENT AS ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS ; COMPOSITECH INC ; GENERAL ELECTRIC CAPITAL ADMINISTRATIVE AGENT AS CORP ; GENERAL ELECTRIC CAPITAL ADMINISTRATIVE AGENT C AS ; GENERAL ELECTRIC CAPITAL ADMINISTRATIVE AGENT CORP AS ; GENERAL ELECTRIC CAPITAL CORP ; JPMORGAN CHASE BANK NA

Inventor(s):(std)**:** CALILUNG RYAN A ; CHEEVER JOHN D ; JOHNSON MICHAEL P ; JORDAN BRIAN T ; MANKOTIA SANJEEV K ; WESLING KEVIN F

International class (IPC 8–9)**:** B60T1/06 B62L1/16 (Advanced/Invention) ; B60T1/00 B62L1/00 (Core/Invention)

International class (IPC 1–7)**:** B62L3/00

CPC: B60T1/06 B62L1/16

European class: B60T1/06 B62L1/16

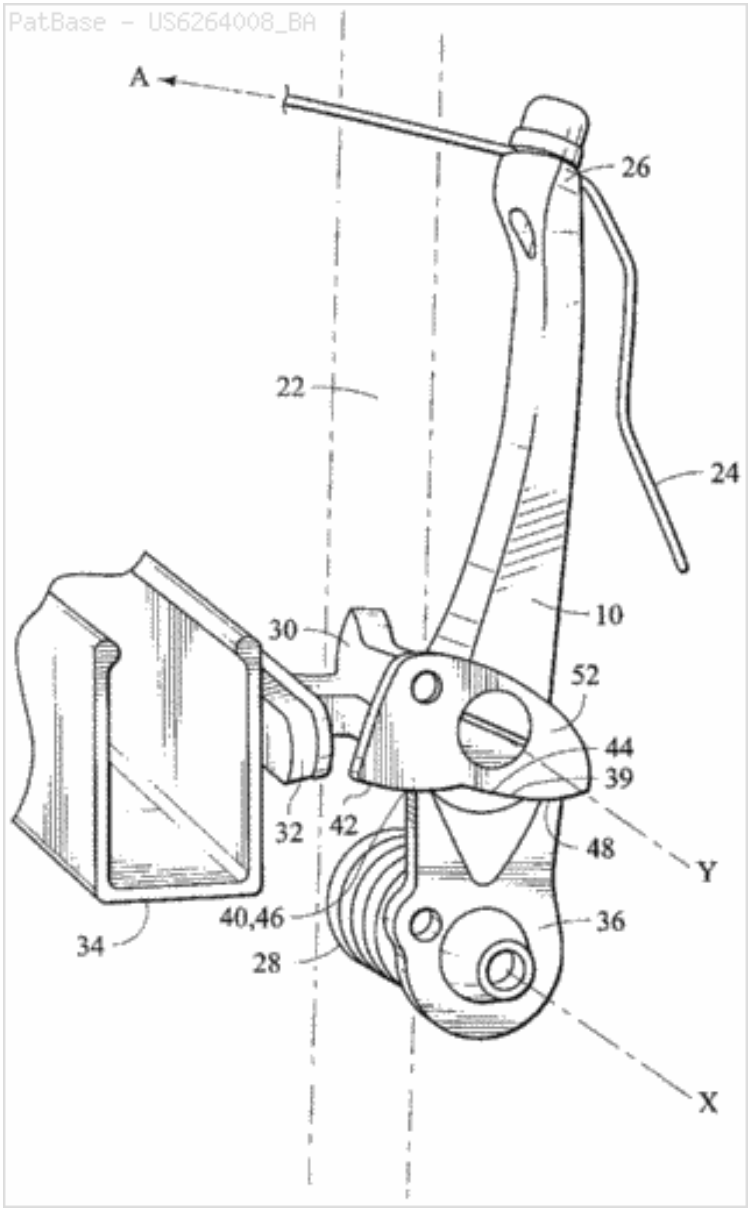
US class: 188/24.19 188/24.21 188/24.22

Classification Explorer

Cited documents: US6109397, US6089356, US5960913, US5913388, US5913387, US5775466, US5743284, US5655630, US5636716, US5501301,

Forward Citations: US7353918, US6899202, US6588550, US6575271, US6491137,

Abstract:
Source: US6264008B A parallel–push brake assembly for bicycles that provides substantially translational motion of the brake pad using a mechanism that is relatively free of tolerance build–up or slop.



0) DE2659270A1 – ABSTANDSMARKIERER SAFETY SPACER ARM FOR BICYCLE...

190) Family number: 1630705 (DE2659270A1)

© PatBase

Title: ABSTANDSMARKIERER SAFETY SPACER ARM FOR BICYCLE – HAS RATCHET SWUNG ARM FORMED OF TELESCOPIC PLASTICS SECTIONS WITH REFLECTOR

Priority: DE19762659270 19761229

Family:

Publication number	Publication date	Application number	Application date
DE2659270 A1	19780713	DE19762659270	19761229

Probable Assignee: NENNINGER HEINRICH

Assignee(s):(std)**:** NENNINGER HEINRICH

Inventor(s):(std)**:** KOLLER KLAUS ; NENNINGER HEINRICH

International class (IPC 8–9): B62J6/20 (Advanced/Invention); B62J6/00 (Core/Invention)

International class (IPC 1–7): B62J5/00

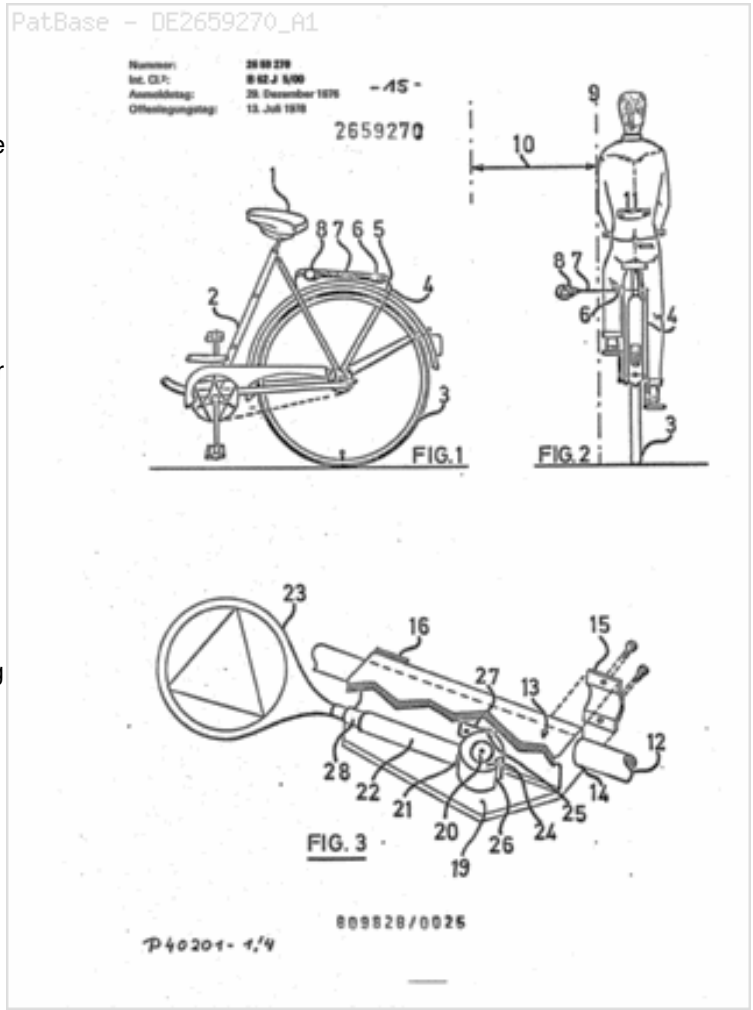
CPC: B62J6/20

European class: B62J6/20

Classification Explorer

Forward Citations: US4586454, DE3115007,

Abstract:
Source: DE2659270A1 Ansprueche Abstandsmarkierer zur seitlichen Montage an einem Fahrzeug, gekennzeichnet durch eine fahrbahnseitig an einem Holm eines Gepaecktraegers eines Fahrrades montierbare Halterung (13 in der eine Tragstange (7) mit einem passiven Sichtsignal geber (23) am freien Tragstangenende gelagert ist, welche Tragstange in eine Funktionsstellung, in der der Sicht signalgeber mit seiner signalgebenden Seite gegen die Fahrtrichtung weisend, zur Fahrbahn seitlich die Kontur des fahrenden Fahrrades mit dem Fahrer ueberragt und in eine Ruhe stellung verstellbar ist, in der der Sichtsignalgeber mit der Tragstange dicht an dem Fahrradgestell (2) angeschmiegt ist 2. The safety telescopic arm (22) is mounted on a pivot on the offside rear of the bicycle and carries a passive warning marker (23) at the free end. The marker is swung out and secured by one of two ratchets (25, 26) to warn overtaking traffic to give sufficient room in passing. The arm of the marker is made from plastic telescopic sections so that they cannot cause injury, and are swung out of position if struck by a passing vehicle. The marker can be bolted to the rear frame of any bicycle.



0) DE29909602U1 – BICYCLE MULTI–STOREY CAR PARK TERMINAL – PERSON...

191) Family number: 17000448 (DE29909602U1) © PatBase

Title: Bicycle multi–storey car park terminal – persons and bicycle air–lock combined

Priority: DE19992009602U 19990602

Family:

Publication number	Publication date	Application number	Application date
DE29909602 U1	19991111	DE19992009602U	19990602

Probable Assignee: MORGENSTERN MARC

Assignee(s):(std)**:** MORGENSTERN MARC

International class (IPC 8–9): E04H6/00 E06B11/00 (Advanced/Invention); E04H6/00 E06B11/00 (Core/Invention)

International class (IPC 1–7): E06B11/00

CPC: E04H6/005 E06B11/00

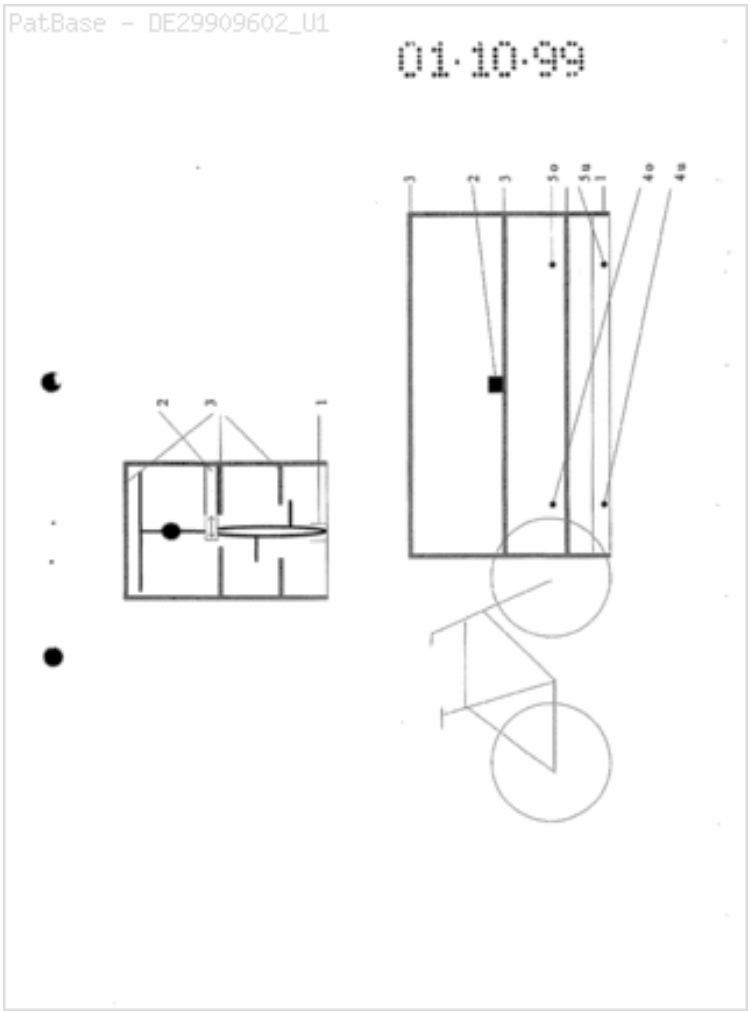
European class: E04H6/00B E06B11/00

Classification Explorer

Forward Citations: EP1762658,

Abstract:
Source: DE29909602U1 (Claim 1) 1. Personenschleuse mit einer Durchgangsoeffnung fuer Fahrraeder, dadurch gekennzeichnet, dass durch die Fahrradschleuse nicht mehr als 1 Fahrrad gleichzeitig gelangen kann und dass die Durchgangsoeffnung vor und nach dem Passieren eines Fahrrades versperrt ist.

Machine translation: (Claim 1) 1 Persons with a lock Durchgangsoeffnung for bicycles, characterized in that the bike lock not more than 1 bike can go simultaneously and that the Durchgangsoeffnung blocked before and after the passage of a bicycle is.



0) CN2457199Y – MULTIFUNCTION CLEANING VEHICLE FOR ENVIRONMENTA...

192) Family number: 17757041 (CN2457199Y) © PatBase

Title: Multifunction cleaning vehicle for environmental sanitation

Priority: CN20002056675U 20001129

Family:

Publication number	Publication date	Application number	Application date
CN2457199 Y	20011031	CN20002056675U	20001129

Probable Assignee: WANG DIANRE

Assignee(s):(std)**:** WANG DIANRE

Inventor(s):(std)**:** DIANRE WANG ; WANG DIANRE

International class (IPC 8–9)**:** E01H1/05 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** E01H1/05

Classification Explorer

Abstract:
Source: CN2457199Y The utility model relates to a multifunction sweeping vehicle for environmental sanitation, comprising a bicycle and a chainwheel transmission mechanism which is positioned at the back part of the bicycle, wherein, a driven chainwheel is connected with a shaft. A sliding sleeve 7 is inserted into the lower part of a bearing frame of a shaft. The lower end part of the bearing frame is connected with a sweeping shovel. A bracket and wheels are erected outside the sliding sleeve. A sweeping wheel is installed on the shaft. One wheel is installed on the shaft. The wheel is connected with a steel wire. The steel wire is passes around a pulley on the bracket, and then connected with an operation handle. The utility model has the advantages of multifunction, lightness, convenience and convenient operation.

193) Family number: 20507220 (GB784223A)

© PatBase

Title: Improvements in or relating to frames for bicycles

Priority: GB19540025727 19540904

Family:

Publication number	Publication date	Application number	Application date
GB784223 A	19571009	GB19540025727	19540904

Probable Assignee: J A PHILLIPS AND CO LTD

Assignee(s):(std)**:** J A PHILLIPS AND CO LTD

Assignee(s): J A PHILLIPS AND CO LIMITED

Inventor(s):(std)**:** REDMOND PETER IGNATIUS

International class (IPC 8–9)**:** B62J7/04 B62K3/04 (Advanced/Invention)

International class (IPC 1–7)**:** B62K19/06

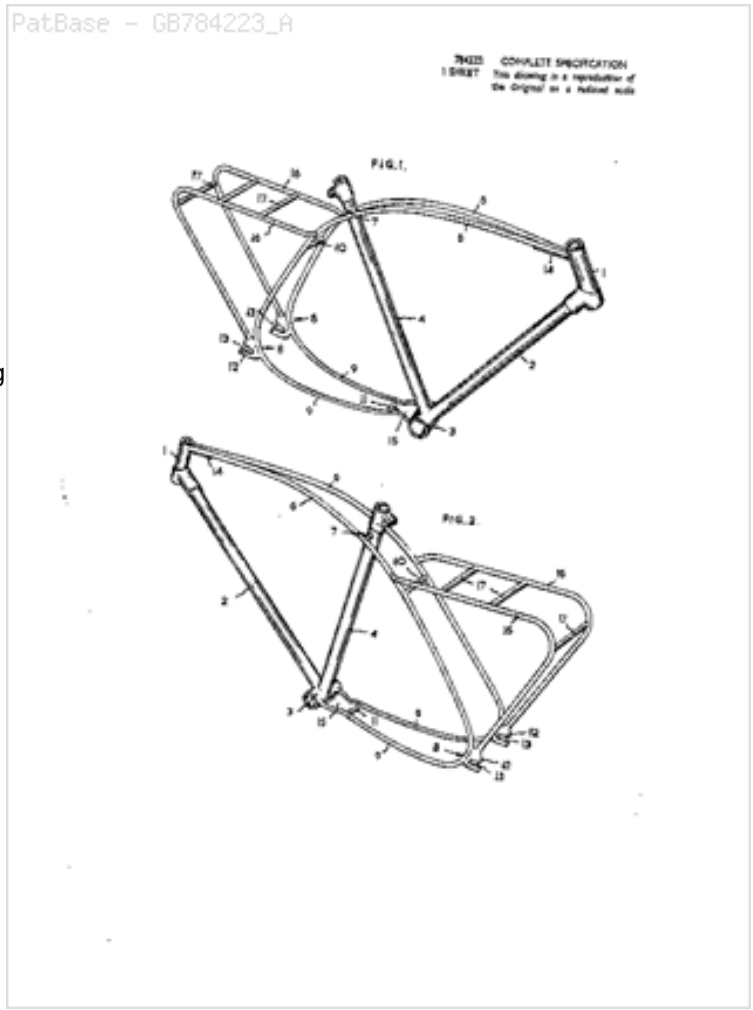
CPC: B62J7/04 B62K3/04 B62K2700/36

European class: B62J7/04 B62K3/04 L62K700/36

Classification Explorer

Forward Citations: US5470092, US4333664,

Abstract:
Source: GB784223A 784,223. Cycle frames. PHILLIPS and CO., Ltd., J. A. Aug. 12, 1955 [Sept. 4, 1954], No. 25727/54. Classes 136(1) and 136(3) A frame for a bicycle comprises a steering tube 1, a down tube 2, a bottom bracket 3, a seat pillar tube 4 and twin tubes 6 extending rearwardly from the steering head tube, diverging to pass on either side of the seat pillar tube and extending downwardly in the position normally occupied by the rear forks and bent near the normal position of the rear wheel axle in a curve to form parts extending forwardly to meet the bottom bracket 3, rear wheel mounting plates 12 being secured to the tubes 6 at their curved rear parts. Spacers 7 connect the tubes 6 to the seat pillar tube 4. The tubes 6 are provided with bridging tubes 10, 11 to the rear of the seat pillar tube and of the bottom bracket for bracing the frame and to provide attachment parts for the mudguard and brake. Strengthening plates 14, 15 are brazed or welded to the tubes 6 and to the steering head tube 1 and bottom bracket 3 respectively. A carrier may be incorporated in the frame. This comprises a pair of tubes 16 bent into a V–shape and braced by bars 17.



0) DE19717915C1 – BICYCLE STAND WITH ANTITHEFT DEVICE FAHRRADSTAE...

194) Family number: 22946474 (DE19717915C1) © PatBase

Title: BICYCLE STAND WITH ANTITHEFT DEVICE

Priority: DE19971017915 19970424

Family:

Publication number	Publication date	Application number	Application date
DE19717915 C1	19980625	DE19971017915	19970424

Probable Assignee: KRAHL EBERHARD DIPL ING

Assignee(s):(std)**:** KRAHL EBERHARD DIPL ING

Assignee(s): KRAHL EBERHARD DIPL ING 13189 BERLIN DE

Inventor(s):(std)**:** KRAHL EBERHARD DIPL ING

Inventor(s): KRAHL EBERHARD DIPL ING 13189 BERLIN DE

International class (IPC 8–9): B62H3/00 (Advanced/Invention); B62H3/00 (Core/Invention)

International class (IPC 1–7): B62H3/00 B62H5/00 E04H6/42 E05B71/00

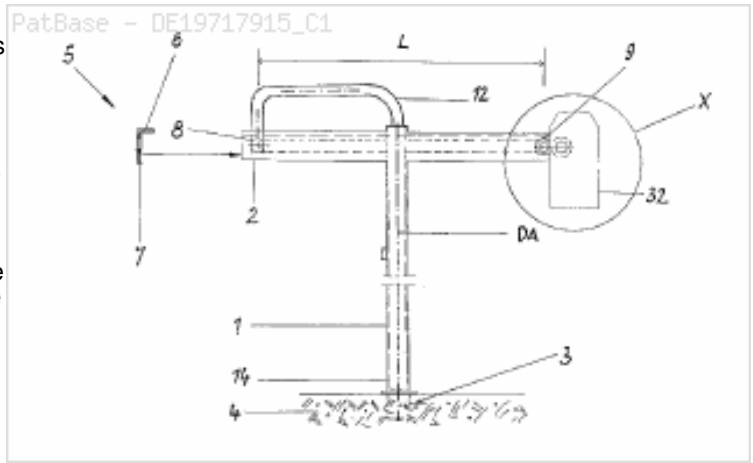
CPC: B62H3/00

European class: B62H3/00

Classification Explorer

Cited documents: US4807453, US3944079, US3783659, DE4319307, DE19616131,

Abstract:
Source: DE19717915C1 The bicycle stand has a column (1) anchored in the ground, and a support arm (2) with lock bracket passing through both wheels. The bracket has a turning arm, and a locking mechanism (32) with locking element. The support arm has two apertures (8,9), and one of these has a fitted sleeve, which decreases in size conically to the diameter of the lock bracket. The sleeve is enclosed by a housing, which has a slot for the locking element, and forms the front end of the support arm. The locking mechanism is fastened to the arm slightly offset relative to the level of the arm. The locking element passes through the slot in the housing and locks into a slot of the lock bracket.



0) US3331617A – HANDLE BAR CONSTRUCTION

195) Family number: 22969075 (US3331617A) © PatBase

Title:	HANDLE BAR CONSTRUCTION
Priority:	US19650444735 19650401

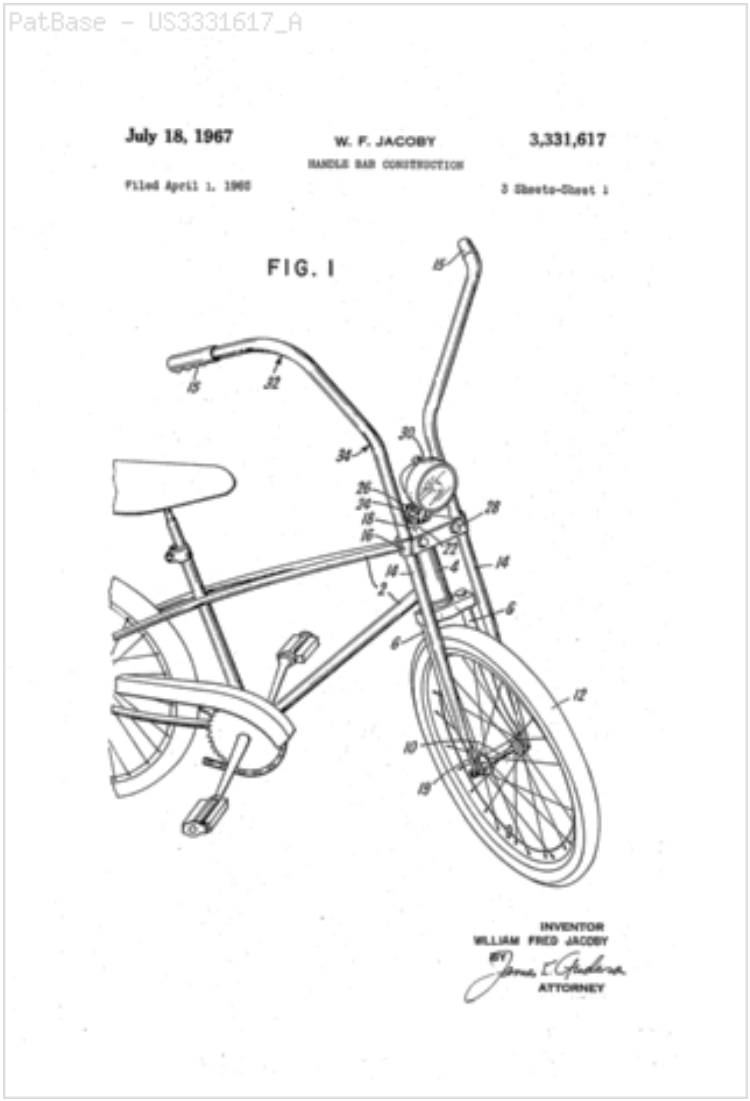
Family:

Publication number	Publication date	Application number	Application date
US3331617 A	19670718	US19650444735	19650401

Probable Assignee:	ROADMASTER A CORP OF DE CORP
Assignee(s):(std)**:**	AMERICAN MACH AND FOUNDRY
Assignee(s):	AMERICAN MACHINE AND FOUNDRY CO ; AMERICAN MACHINE AND FOUNDRY COMPANY ; ROADMASTER A CORP OF DE CORP ; ROADMASTER CORP
Inventor(s):(std)**:**	FRED JACOBY WILLIAM
Inventor(s):	JACOBY WILLIAM FRED
International class (IPC 8–9)**:**	B62K21/12 (Advanced/Invention); B62K21/00 (Core/Invention)
International class (IPC 1–7)**:**	B62K21/12
CPC:	B62K21/12
European class:	B62K21/12
US class:	280/279
Classification Explorer	
Cited documents:	USD199480 S1, US714571 A, US2511320 A, US2160035 A, US2091982 A, GB689864 A,
Forward Citations:	USD604212, USD542197, US8118459, US6902426, US6609722, US5355746, US3655219, US3477741, US3427043, US2009180293,

Abstract:
Source: US3331617A (Claim 1) 1. In a bicycle havipg a frame, the combination includin._: a head tube, front steering fork having a pair of downwardly extending leas adapted to receive a bicycle wheel mounted therebetween, an upper portion joining the two legs and a stem extendin.– upwardly from the upper portion throu.–h the head tube, pair of individual handle bar members each havin.an upper portion which diverges rearwardly and outwardly from the other member, an intermediate portion extending downwardly adjacent a corresponding leg of the steering fork and a lower portion adapted to be mounted directly to the axle of the bicycle wheel e,–,terior to the fork mountin.–I and bracket mounted to the intermed;ate portion of the handle bar members for joi–_iing said members in an integral arraigement which possesses a high degree of strength, said bracket including clamping nieans connecting each handle bar member and connecting said members to the steerable fork and stem structure.

PatBase - US3331617_A



0) JP2003055926A – CLEANER

196) Family number: 28351299 (JP2003055926A)

© PatBase

Title:	CLEANER
Priority:	JP20010290091 20010820

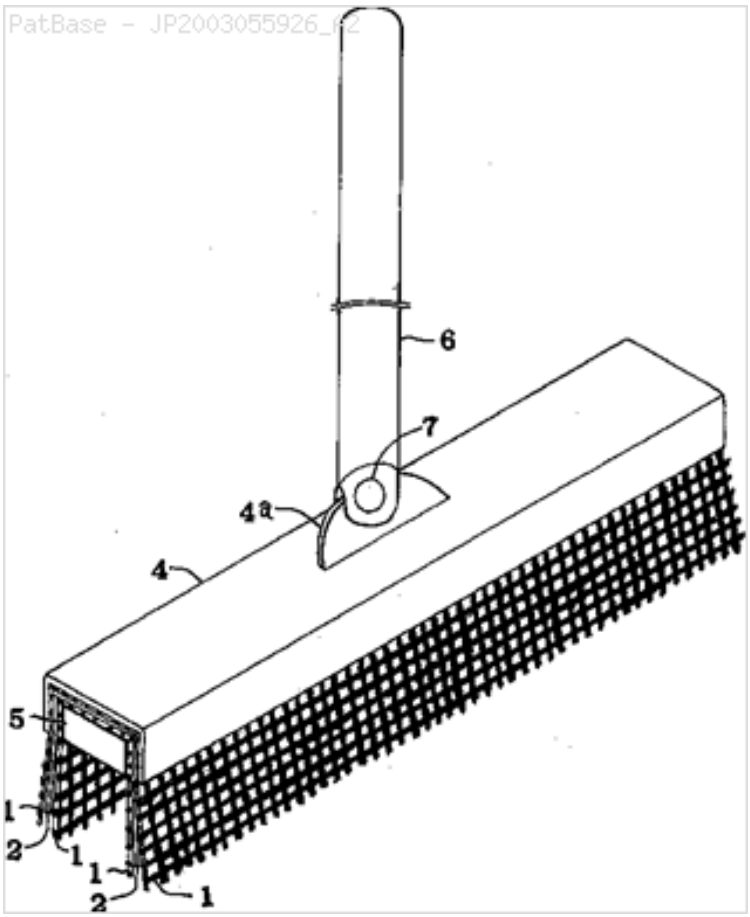
Family:

Publication number	Publication date	Application number	Application date
JP2003055926 A2	20030226	JP20010290091	20010820

Probable Assignee:	PATENT BANK KK
Assignee(s):(std)**:**	PATENT BANK KK
Inventor(s):(std)**:**	HISAGAI TATSUYA ; YAMADA MASAO
International class (IPC 8–9)**:**	A47L13/38 E01H1/12 (Advanced/Invention); A47L13/38 (Advanced/Non–invention); A47L13/10 E01H1/00 (Core/Invention); A47L13/10 (Core/Non–invention)
International class (IPC 1–7)**:**	A47L13/38 E01H1/12

Classification Explorer

Abstract:
Source: JP2003055926A PROBLEM TO BE SOLVED: To provide a cleaner suited for use in places scattered with paper, such as bicycle racetracks, racetracks, and motorboat race stadiums, and which is lightweight, efficient and environmentally–friendly while preventing injuries. SOLUTION: A plurality of antislip members each made of a net of thread cores with soft resin or rubber adhering thereto and which is formed into a predetermined size, are laid one on top of another and an elastic cushioning material such as rubber or resin is inserted between the antislip members to bundle the members as a sweeping part. The sweeping part is mounted in a U–shaped sweeping base part and fixed in place using a cushioning material such as sponge or urethane foam. A handle is attached to the sweeping base part.



0) AR241174A – DEVICE ADAPTABLE TO THE DRIVING PART OF A BICYC...

197) Family number: 30893533 (AR241174A) © PatBase

Title: DEVICE ADAPTABLE TO THE DRIVING PART OF A BICYCLE FOR TRAINING AT HOME.

Priority: AR19860305102 19860829

Family:

Publication number	Publication date	Application number	Application date
AR241174 A1	19920131	AR19860305102	19860829

Probable Assignee: ETCHELECU RAUL ALBERTO

Assignee(s):(std)**:** ETCHELECU RAUL ALBERTO

International class (IPC 8–9)**:** A63B21/22 A63B23/02 A63B23/04 (Advanced/Invention); A63B21/00 A63B23/00 A63B23/04 (Core/Invention)

International class (IPC 1–7)**:** A63B21/22 A63B23/02 A63B23/04

Classification Explorer

Abstract:
Source: AR241174A DISPOSITIVO PARA LA PARTE MOTRIZ DE UNA BICICLETA PARA GIMNASIA DOMESTICA, QUE COMPRENDE DOS LARGUEROS QUE ESTAN VINCULADOS A TRES BARRAS PERPENDICULARES A DICHOS LARGUEROS, SIENDO LAS BARRAS TRANSVERSALES A LOS LARGUEROS Y TENIENDO CADA UNA DE LAS BARRAS EN SU PARTE MEDIA FIJADO UN SOPORTE EN FORMA DE U, ESTANDO UN PRIMER SOPORTE COMPLEMENTARIO DE DICHO SOPORTE EN U DE DICHAS BARRAS FIJADO PERPENDICULARMENTE A UN EXTREMO DE UN SOPORTE DE ALTURA FIJA, TENIENDO EL OTRO EXTREMO DE DICHO SOPORTE DE ALTURA FIJA UN EJE PASANTE QUE ES ACOPLABLE A LA HORQUILLA DE LA BICICLETA, ESTANDOUN SEGUNDO SOPORTE COMPLEMENTARIO DE DICHO SOPORTE U DE DICHA BARRA FIJADO PERPENDICULARMENTE A UN SEGUNDO SOPORTE INTERMEDIO DE ALTURA VARIABLE QUE TIENE UN MEDIO COMPLEMENTARIO REGULABLE INTRODUCIDO EN EL MISMO, ESTANDO DICHO MEDIO COMPLEMENTARIO VINCULADO AL EJE DE LOS PEDALES DE LA BICICLETA, TENIENDO UN TERCER SOPORTE COMPLEMENTARIO DE UNO DE DICHOS SOPORTE U DE DICHAS BARRAS, DOS SLIENTES PARALELAS PER PENDICULARES A DICHO SOPORTE, TENIENDO DICHAS SALIENTES PARALELAS ORIFICIOS SIMETRICOS QUE CONTIENEN UN EJE EN CUYA PARTE MEDIA SE ENCUENTRA UN RODILLO DE FRICCION DE LA RUEDA MOTRIZ DE LA BICICLETA.

Machine translation: DISPOSITIVO FOR THE MOTOR PART OF A BICYCLE FOR GYMNASTICS DOMESTIC SERVANT, WHO UNDERSTANDS TWO STRINGERS THAT TIE ESTAN TO THREE PERPENDICULAR BARS TO THESE STRINGERS, BEING THE CROSS–SECTIONAL BARS TO THE STRINGERS AND HAVING EACH ONE OF THE BARS IN ITS AVERAGE PART FIXED A SUPPORT TO FORM OF U, BEING A FIRST COMPLEMENTARY SUPPORT OF THIS SUPPORT IN EITHER OF THESE BARS FIXED PERPENDICULARLY TO AN END OF A SUPPORT OF FIXED HEIGHT, HAVING THE OTHER END OF THIS SUPPORT OF FIXED HEIGHT AN AXIS PASANTE THAT ARE ACOPLABLE TO THE BRACKET OF THE BICYCLE, ESTANDOUN SECOND COMPLEMENTARY SUPPORT OF THIS SUPPORT OR OF HAPPINESS SWEEPS PERPENDICULARLY FIXED TO A SECOND INTERMEDIATE SUPPORT OF VARIABLE HEIGHT THAT HAS INTRODUCED ADJUSTABLE COMPLEMENTARY MEANS IN He himself, BEING THIS TIE COMPLEMENTARY MEANS TO the AXIS OF the PEDALS OF the BICYCLE, HAVING a THIRD COMPLEMENTARY SUPPORT OF ONE OF SAID SUPPORT OR OF THESE BARS, TWO PARALLEL SLIENTES PER PENDICULARES TO THIS

SUPPORT, HAVING THESE SALIENT PARALLEL BARS SYMMETRICAL ORIFICES THAT CONTAIN an AXIS IN WHOSE AVERAGE PART IS a ROLLER OF FRICTION OF the DRIVING WHEEL OF the BICICLETA.

0) US2007145710A – BICYCLE FRAME COMPOSED WITH CONVOLUTED CURVES

198) Family number: 34609899 (US2007145710A) © PatBase

Title: BICYCLE FRAME COMPOSED WITH CONVOLUTED CURVES

Priority: US20050742167P 20051205 US20060593943 20061108

Family:

Publication number	Publication date	Application number	Application date
US2007145710 AA	20070628	US20060593943	20061108
US7862063 BB	20110104	US20060593943	20061108

Probable Assignee: STUMM MARIA S

Assignee(s):(std)**:** STUMM MARIA S ; STUMM MARIA SUSAN ; STUMM ROBERT E ; STUMM ROBERT ERNEST

Inventor(s):(std)**:** STUMM MARIA S ; STUMM ROBERT E ; STUMM ROBERT ERNEST ; STUMM MARIA SUSAN

Inventor(s): STUMM ROBERT ; STUMM MARIA

Agent(s): MARIA SUSAN STUMM

International class (IPC 8–9): B62K19/04 B62K9/00 (Advanced/Invention); B62K9/00 (Core/Invention)

CPC: B62K3/04 B62K25/04 B62K2025/041

European class: B62K25/04 B62K3/04 L62K25/04B

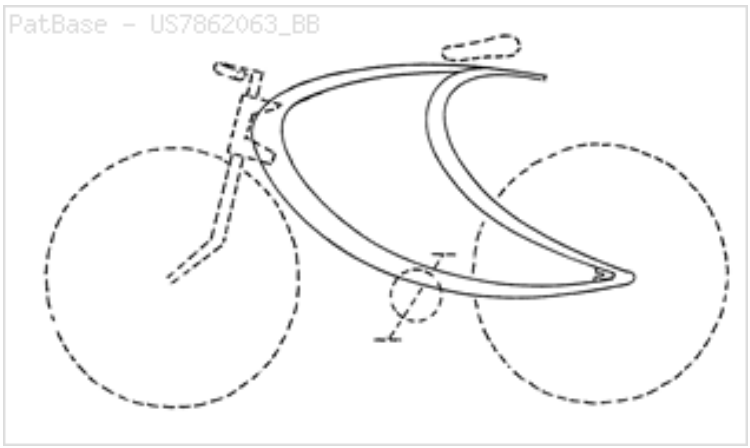
US class: 280/283 280/283P

Classification Explorer

Cited documents: US701967 A, US593046 A, US579042 A, US5498013 A, US5330219 A, US5080384 A, US4792150 A, US4669747 A,

Forward Citations: USD641292, US8439382, DE102015100950,

Abstract:
Source: US2007145710A The invention is a frame for a bicycle or other two wheeled vehicle that utilizes convoluted curves in its structure providing function in utility and manufacture as described here with this disclosure, as well as ornamental form as described by the subject complementing disclosure by design patent application number 29/243,986. The specific utility that is offered by this invention is a suspension quality inherent to the frame itself. The frame serves as a suspension system isolating the vehicle rider from the displacements of the vehicle wheels forced by the irregularities that may exist in a road over which the vehicle may travel. The specific quality of manufacture offered by this invention is a frame that avoids the necessity of tubes and tube joints, and likewise the otherwise necessary welding or fusion of such tube joints.



0) CN200967941Y – AUTOMATIC SWEEPER

199) Family number: 41449082 (CN200967941Y) © PatBase

Title: Automatic sweeper

Priority: CN200620114515U 20060509

Family:

Publication number	Publication date	Application number	Application date
CN200967941 Y	20071031	CN200620114515U	20060509

Probable Assignee: LI MINGXING

Assignee(s):(std)**:** LI MINGXING

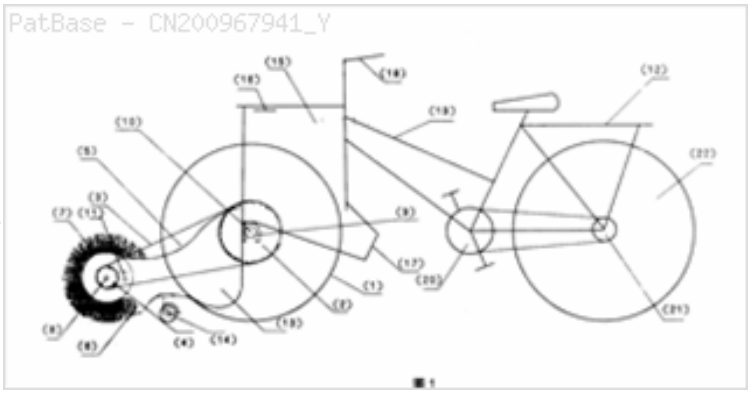
Inventor(s):(std)**:** LI MINGXING

Inventor(s): MINGXING LI

International class (IPC 8–9): E01H1/02 (Advanced/Invention); E01H1/00 (Core/Invention)

Classification Explorer

Abstract:
Source: CN200967941Y The utility model relates to an environmental sanitation machinery. Specifically speaking, the utility model is an automatic sweeper applied to clean ground. The utility model changes a bicycle into a push–type tricycle and a suspension garbage pinch–hopper. The utility model carries through the cleaning work by the rotating of a front wheel driving a coaxial gearwheel and a chain transmitting power to the sweeping brush of a pinion set. When the sweeping pinch–hopper is filled with garbage, the wheel countermarches to draw back the pinch–hopper and automatically open the cover board of the pinch–hopper to pour the garbage into the carriage so as to reach the goal of automatic cleaning, and unloading, environmental protection, and no pollution.



0) CN201459663U – RIDE–ON ELECTRIC DUST–FREE SWEEPING VEHICLE DEV...

200) Family number: 45061061 (CN201459663U) © PatBase

Title: Ride–on electric dust–free sweeping vehicle device

Priority: CN200920100460U 20090727

Family:

Publication number	Publication date	Application number	Application date
CN201459663 U	20100512	CN200920100460U	20090727

Probable Assignee: QINGYANG WANG

Assignee(s):(std)**:** QINGYANG WANG

Assignee(s): WANG QINGYANG

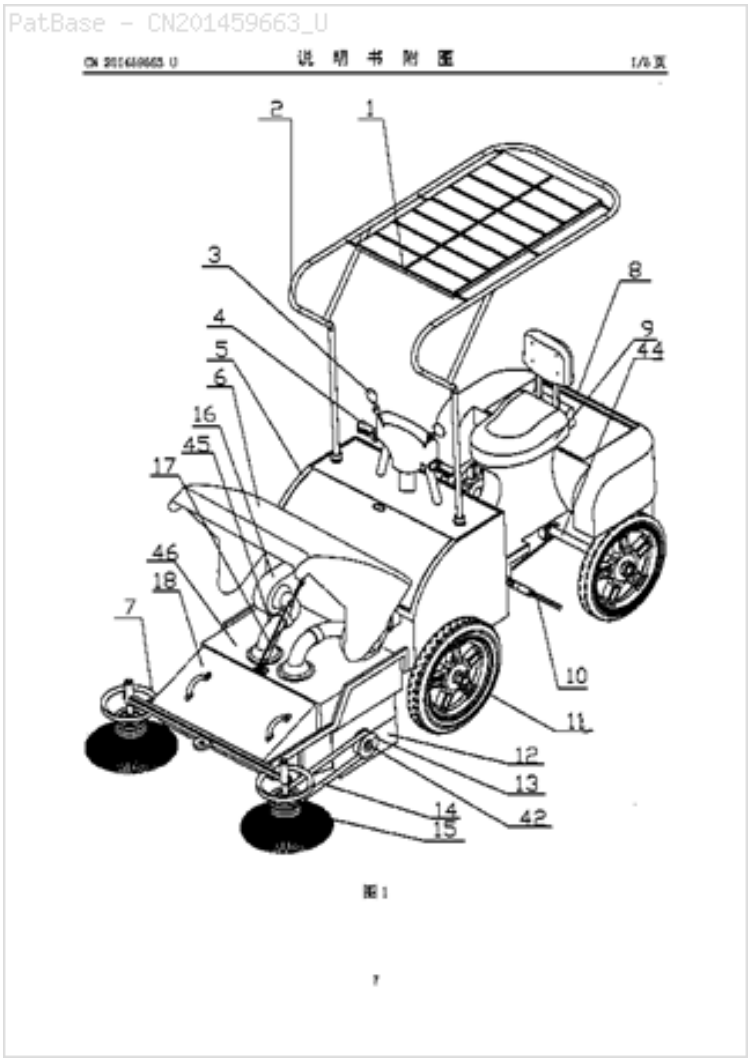
Inventor(s):(std)**:** QINGYANG WANG ; XIANFU LI

Inventor(s): LI XIANFU ; WANG QINGYANG

International class (IPC 8–9): E01H1/08 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN201459663U The utility model relates to a sweeping vehicle device, particularly to a ride–on electric dust–free sweeping vehicle device, which is characterized in that a solar panel is connected above a middle box via a battery bracket; a front upper cover, a retainer ring, a baffle plate, a belt pulley, a belt, an edge brush, a dust collector, a folding supporting pole, a dustbin, a rolling brush and a dust collector front hole of a sweeping and dust collection part are arranged in front of the lower part of the middle box; a rear box and a saddle are arranged behind the middle box; a side mirror, a bicycle handlebar, a main switch and a dust collection switch are arranged on the middle box; a rolling brush sprocket, a rolling brush and a rolling brush shaft of a transmission part are arranged in front of the lower part of a vehicle body rack; and a main sprocket, an auxiliary sprocket, a main chain, an auxiliary chain, a protecting cover, a leg sprocket, an electric motor and a wheel rear axle of the transmission part are arranged behind the vehicle body rack. The utility model has the advantages of on–site operation, simple structure, low cost, convenient operation, flexible use, smooth four–wheel drive, steady driving, safety, reliability and energy conservation, thereby being an environment–friendly product for energy conservation and emission reduction.



0) JP57191469A – OCEAN CURRENT GENERATING METHOD AND APPARATUS U...

201) Family number: 4761648 (JP57191469A) © PatBase

Title: OCEAN CURRENT GENERATING METHOD AND APPARATUS UTILIZING BICYCLE WHEEL SHAPED WATER TURBINE

Priority: JP19810076454 19810522

Family:

Publication number	Publication date	Application number	Application date
JP57191469 A2	19821125	JP19810076454	19810522

Probable Assignee: SHIBATA TAKASHI

Assignee(s):(std)**:** SHIBATA TAKASHI

Inventor(s):(std)**:** SHIBATA TAKASHI

International class (IPC 8–9): F03B13/26 F03B17/06 (Advanced/Invention); F03B13/00 F03B17/00 (Core/Invention)

International class (IPC 1–7): F03B13/12

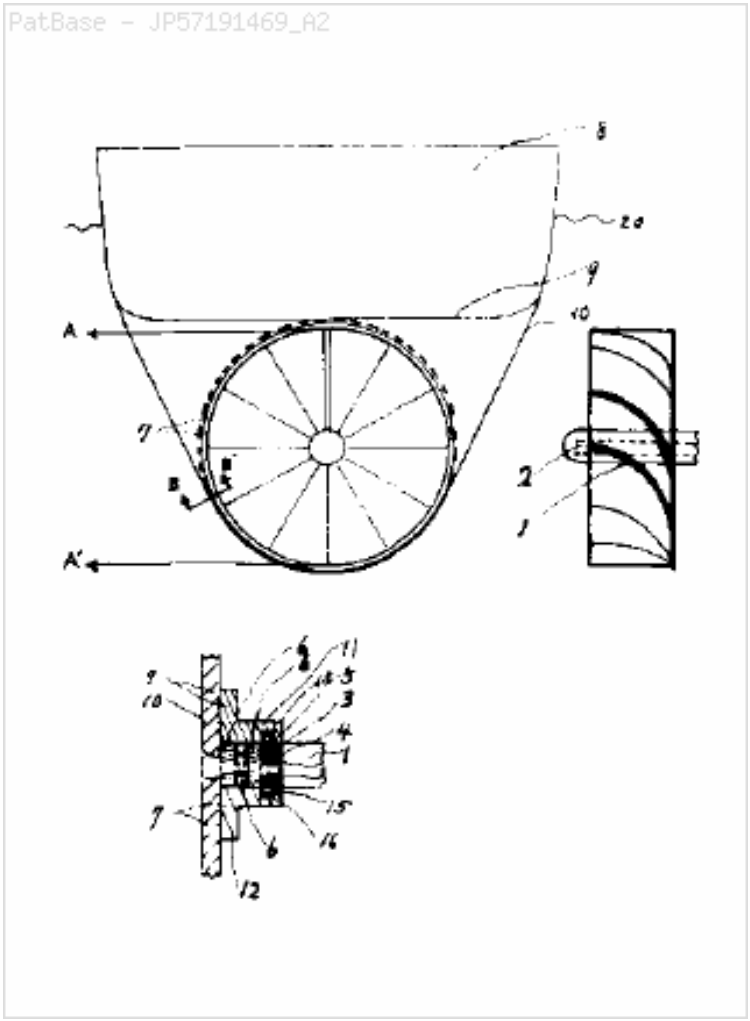
CPC: F03B17/061 Y02E10/28

European class: F03B17/06B Y02E10/28

Classification Explorer

Forward Citations: JP6041391, JP2015113829, JP2014224543, JP2013245670, JP2009299456,

Abstract:
Source: JP57191469A PURPOSE:To prevent parasitism and sticking of sea lives to a water turbine shaped in the form of a bicycle wheel and to prevent occurrence of troubles when the water turbine is turned, by arranging large–diameter radial bearings in the water turbine and in the outer wall of a water turbine frame, and connecting a generator to the bicycle wheel shaped water turbine. CONSTITUTION:A water turbine of this invention is shaped in the form of a bicycle wheel and includes many propeller–shaped water turbine valves 1 extended radially outwards from an axle 2 and fixed to the inner wall 4 of a cylindrical water turbine frame 3. In fixing such a water turbine to water turbine rods 7, radial bearings 15 having a large diameter are disposed on both of the front and rear sides of the water turbine frame in order to make rotation of the water turbine smooth. Further, the sum of the disk surface passing a line successively along with rotation of the disk becomes equal to the entire surface area of the disk by the function of a water turbine valve protecting means. While injection of water, radiation of sunlight and sweeping are applied continuously to the surfaces of water turbine alone, the entire surfaces of the water turbine can be protected against parasitism and breeding of sea lives.



0) WO11138166A1 – METHOD FOR ESTIMATING A TORQUE AND DEVICE FOR E...

202) Family number: 49900853 (WO11138166A1) © PatBase

Title: METHOD FOR ESTIMATING A TORQUE AND DEVICE FOR ESTIMATING A TORQUE FOR A PEDAL CRANK DRIVE

Priority: DE201010028656 20100506 WO2011EP56247 20110419

Family:

Publication number	Publication date	Application number	Application date
CN102869564 A	20130109	CN201180022214	20110419
CN102869564 B	20161005	CN201180022214	20110419
DE102010028656 A1	20111110	DE201010028656	20100506
EP2566748 A1	20130313	EP20110715532	20110419
IN09559DN2012 A	20140725	IN2012DN09559	20121105
TW201202090 A	20120116	TW20110115572	20110504
WO11138166 A1	20111110	WO2011EP56247	20110419

Probable Assignee: BOSCH GMBH ROBERT

Assignee(s):(std)**:** BOSCH GMBH ROBERT ; KOERWER MATTHIAS

Assignee(s): ROBERT BOSCH GMBH

Inventor(s):(std)**:** KOERWER MATTHIAS

Agent(s): ROBERT BOSCH GMBH

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B60D B62M6/45 B62M6/50 G01L3/00 (Advanced/Invention)

CPC: B62M6/45

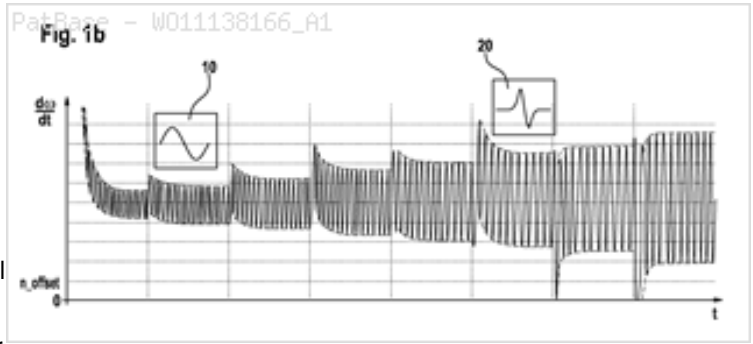
European class: B62M6/45

Classification Explorer

Cited documents: WO983392, WO9803392 A1, WO10094515 A1, WO06024382 A1, US6545437 BA, US2006095191 AA, EP1037795 B1, DE19630553 A1, DE19601194 A1, CN1247144 A, CN1140680 A, CN1060727 C,

Forward Citations: TWI475203, EP2813419, CN104236771, CN104236771,

Abstract:
The invention relates to a method for estimating a torque exerted on a pedal crank of an electric bicycle. The method provides for the detection of an angular velocity at which the pedal crank is driven, depending on the time. At least one signal property of the angular velocity is determined. The signal property is selected from the group consisting of the power of the AC component of the angular velocity, and the deviation of the signal shape of the AC component of the angular velocity from a sine curve which has the same frequency as the AC component of the angular velocity. Lastly, the torque is associated with the at least one determined signal property by means of a predetermined dependency between the at least one signal property and the associated torque. The invention further relates to an associated device and to an electronically retrievable memory which stores the link on which the association according to the invention is based.



0) CN202195389U – LASER BICYCLE LAMP

203) Family number: 50988129 (CN202195389U)

© PatBase

Title: Laser bicycle lamp

Priority: CN201120219275U 20110627

Family:

Publication number	Publication date	Application number	Application date
CN202195389 U	20120418	CN201120219275U	20110627

Probable Assignee: JIABANG ZHANG

Assignee(s):(std)**:** JIABANG ZHANG

Assignee(s): ZHANG JIABANG

Inventor(s):(std)**:** JIABANG ZHANG

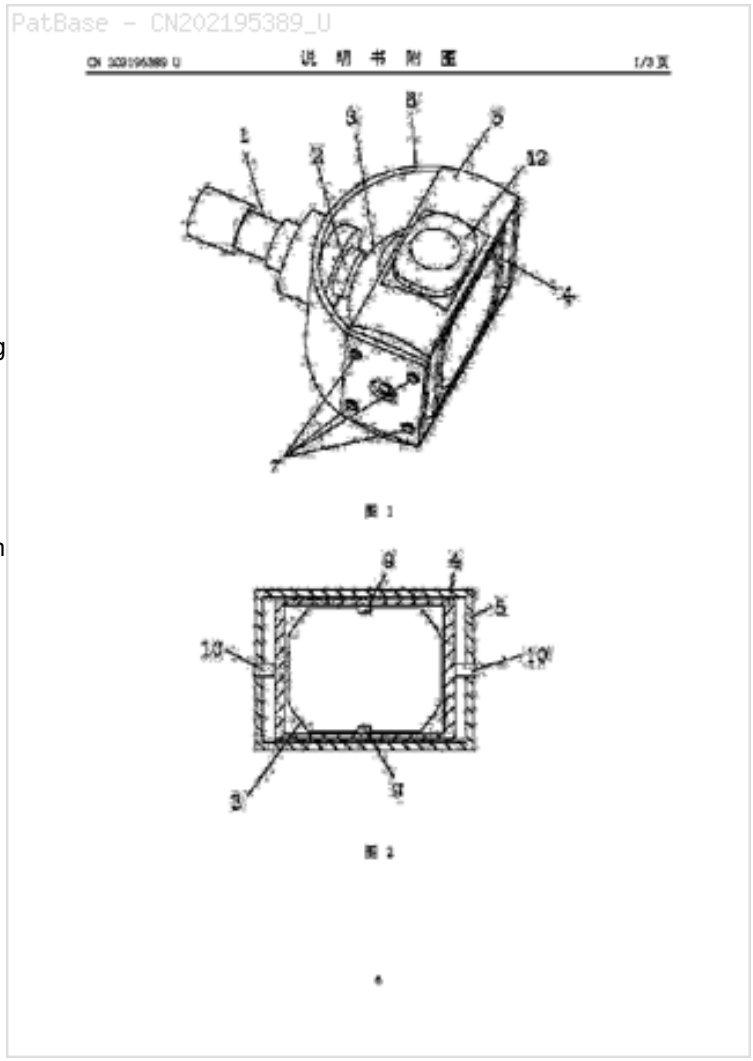
Inventor(s): ZHANG JIABANG

International class (IPC 8–9): F21S8/10 F21V14/06 (Advanced/Invention); F21W101/02 (Advanced/Non–invention)

Classification Explorer

Forward Citations: CN104617642,

Abstract:
Source: CN202195389U The utility model discloses a laser bicycle lamp arranged at the front of a bicycle body and comprising a laser light source, a concave lens, a semi–spherical lens, a rotating shaft, an inner support, an outer support and a connection body. The laser light source is connected with the concave lens, the semi–spherical lens is arranged in the inner support, the connection body connects and fixes the outer support arranged outside the inner support and the laser light source through screws, and the semi–spherical lens rotates around the rotating shaft to form line scanning and field scanning respectively. The laser bicycle lamp is simple in structure, low in cost and capable of sweeping a road surface within 200 meters with a laser beam so as to inform vehicles and pedestrians in front and blind zones on two sides and improve safety due to the fact the vehicles and pedestrians can take measures in advance, thereby being obviously better than blowing a horn for alarming.



204) Family number: 54515495 (CA2813395A)

© PatBase

Title: ULTIMATE CYBER SECURITY SWITCH, 9/11–EQUIVALENT EVENT–PROOF SWITCH, AND OTHERS

Priority: CA20132813395 20130411

Family:

Publication number	Publication date	Application number	Application date
CA2813395 AA	20130731	CA20132813395	20130411

Probable Assignee: WU WEIMIN

Assignee(s):(std)**:** WU WEIMIN

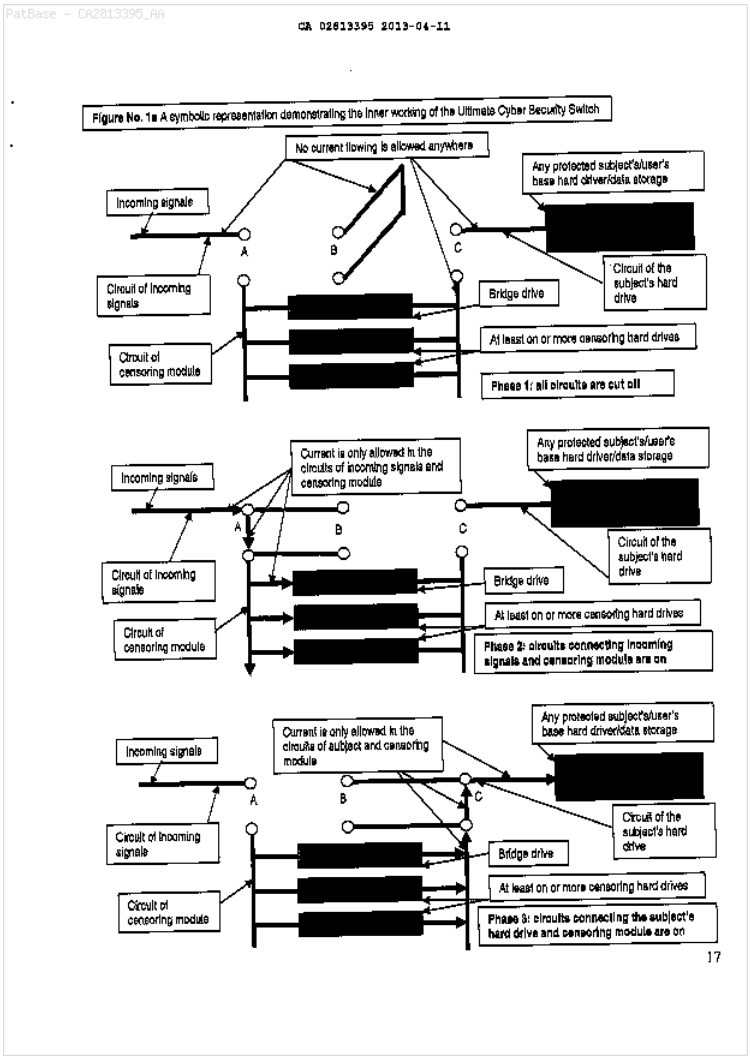
Inventor(s):(std)**:** WU WEIMIN

Agent(s): NA

International class (IPC 8–9)**:** E21F17/18 F41H13/00 G06F21/85 G99Z99/00 H02J17/00 H02J50/00 H02J7/00 H99Z99/00 (Advanced/Invention); H01H21/00 (Advanced/Non–invention)

CPC: F41H11/30 F42B19/12 G06F21/85 F41H11/28

Classification Explorer



Abstract:
Source: CA2813395A Ever since the inception of internet, hackers from different countries have been successfully defeating many governments and more than 70 corporations around the world in cyber warfare: as, the USA, Canada, Taiwan, South Korea, Japan, and many others according to the news broadcasted by CNN, CBC, etc. All their helpless and unstoppable defeats only root in their lack of one of my inventions titled: Ultimate Cyber Security Switch. Only this invention is qualified to defeat all individual and government–sponsored hackers by preventing and stopping them from hacking into any cyberspace that is protected by this invention. Therefore, this invention can save all these losing countries billions if not trillions of US dollars each and every year of losses from intellectual properties, military intelligence, economic intelligence, financial information, etc. And since many ages ago, people have been mining gold with wash plant, panning, etc hoping and fantasizing becoming rich. But existing sluice and riffle systems are simply too inefficient with a lot of gold loss through the sluice and riffle systems. Hence, I have invented a series of revolutionary gold mining equipments and processes to expedite gold production yet minimize loss. Moreover, the Law of No Largest, or Smallest, or Any Other Absolute Limit established by me states that throughout the universe nothing can be the smallest or the largest. There is never either upper or lower physical limit to anything throughout the universe. There is perpetually something smaller than the smallest particle that can ever be found; there likewise is perpetual something larger than the largest expanse that can ever be found. Therefore, Higgs Boson (or God particle) sought in the Hadron Collider in Switzerland, or any other so–called particle can never ever be the smallest particle because there perpetually is something even smaller than the smallest particle that can ever be found according to this Law. The Law of Time Delusion established by

me states that in fact time is but a delusion because there is no reality in any time. It is only because time is but a delusion that other animals live in perpetual non relativity with no concept or sense of time. And it is also only because time is but a delusion that the selfsame number of hours or any other periods of time to the selfsame person are felt and perceived completely different whenever and if he or she falls asleep and whenever and if he or she fells anxious. And it is also only because time is but a delusion different people can agree on an arbitrarily set or assigned time. Albert Einstein and a plethora of other scientists are absolutely wrong about the nature of time. Because time is but a delusion, any attempt to seek any form of time travel is foolishness, failure, and waste of life in the making. Time travel, such as Einstein's Rosen Bridge, wormhole, Higgs singlet, time travel portal, or any other form of time manipulation is absolutely impossible though people can always so fantasize, just as a lot of people would always waste lives fantasizing immortality though it is impossible. It is likely foolish for anyone to believe that Nazi Bell could somehow manipulate time by spinning red mercury, etc because time is but a delusion. The Law of Inevitable Randomness establish by me states that only by involving randomness in one way or another rather than regulated or calibrated actions and/or processes any ultimate state can be attained. For example, in order to polish any mirror to its ultimate resolution possible, random polishing process must be implemented. To expand this law to other area, according this law Albert Einstein's Spooking Communication Theory is also a fraud because it is but random coincidence by which two distant objects sometimes exhibit entanglements, same behaviors, etc, not any dictating law or regularity. But Einstein had mistaken the random coincidence between two distance objects for the act of law or regularity. Furthermore, ultimately on the one hand anything must encompass an element of randomness; on the other hand, only randomness can cause anything or state to achieve the culmination of that thing, much as only hand–polished or random–action–polished lens can attain the ultimate precision of their size. And then the Law of Uniqueness likewise established by me states that, at the level tending to either infinite large or small and no matter how adamantly a person desires otherwise, everything throughout the universe must be and can only be unique; therefore, there cannot be another planet or any other heavenly body like the Earth which sustains life. Therefore, there has never been, and never is, and will never be any life anywhere throughout the entire universe. The Law of Uncertainty also established by me states that there perpetually exists an element of uncertainty in all human affairs (especially whenever and if great interest becomes at stake), any phenomenon, and any existence. For example, albeit Popes have always done their best to conceal their secrets from their donors for decades, these laws had recently dictated a unique butler of one of the Popes to have just divulged only few unimportant Vatican secrets against all their ardent desires to hide the truth from the donors, supporters, and followers. Ever since the split second on such a birthday when the human species had emerged onto Earth, people have killed and harmed one another to establish empires, wealth, power, predominance, social strata, fame, successes, etc for selfish aggrandizement; but none of such lifetime have been wisely spent because all conquerors and/or winners have died, much as all ordinary people and losers do. Therefore, all their cunning, brutal, and hell–for–leather rampages, campaigns, maneuvers, intrigues, duplicities, chicaneries, deceptions, etc eventually have been but foolish dissipations of lifespan in vain at the pursuing for any thing but that which can last. And furthermore, billions of innocent people have already been defrauded, deceived, brainwashed, victimized, and/or inflicted in respect to the authentic and genuine truth and true reality of universe containing life, mind, and other existences. Even as recent as December 2012, delusional faiths in the country of India of multiple dysfunctional faiths had driven many Indian men into gang–raping and/or murdering women in their country in the most uncivilized manner. All people's all uncivilized conducts and inner sufferings can only ultimately root in delusional faiths because only their deceptive faiths, beliefs, and hence mindsets drive them into their behaviors and then foolish ways of life. Their faiths are delusional and hence they are dysfunctional because the ultimate faith always functions. All conventional faiths/belief systems have always been predicated on the diffusions of lies, frauds, deceits, misinformation, deceptions, and brainwashing that are devised to batten on, defraud, and abuse their parishioners, other followers, and their innocent children. Had these inventions not come to fruition, and so long as the human race can still endure the living conditions on this planet, people will continue enduring countless faith predators that will continue defrauding, brainwashing, victimizing billions of faith victims, as since the emergence of humankind on this planet they have always battened on their faith victims throughout the world and even have sexually exploited/molested the innocent children of their faith victims in none other than the places of worship. The places of worship are also sometimes used as their bases for other crime: as, some faith predators have actually been charged for selling child pornography, etc in none other than the places of worship. Therefore, these inventions are of unprecedented and historic significance, practicality, and value since they qualify to prevent future billions of innocent human beings from continuously being defrauded, brainwashed, victimized, and/or harmed by faith predators with their delusional faiths, and they revolutionize and upgrade the vision, sphere, and capability of the humanity. My qualification cannot manifest it clearer to me that the effective ways and strategies to prevent or reduce the sufferings of innocent lives from continuing being misled, brainwashed, victimized, and/or harmed are to live the correct faith¨the correct belief system. As a member of true integrity and righteousness of the human species and we are stumbling across one another on the universal yet against–our–will–journey of aging towards inevitable death instincts, I am behooved and honor–bound to provide the humankind with these inventions to upgrade human knowledge so as to dispel the worldwide spiritual plague and precipices of delusional faiths, misled beliefs, misled perceptions, misled preconceptions, misled information, misled knowledge, misled science, etc that have been deluding, victimizing, and/or afflicting the humanity since its emergency tens of thousands of years ago. Only in so doing, said deceits, frauds, whoppers, delusions, etc against humankind can be so lifted and dispelled that mankind will no longer suffer in ignorance, delusion, deceit, pseudo–science, etc. Only the correct knowledge, insight, and faith about mind, life, and universe can be qualified, on all terms for anyone, to harness and/or manifest¨to the ultimate maxima¨the human potential of the mind and/or the body; otherwise, all talents, knowledge, knowing, faculties, etc are perpetually limited and confined within the spheres of apparent reality without ever becoming qualified to be expanded to, upgraded into, or evolved into true reality transcending apparent reality. Only by living true reality guided by the ultimate faith (the truly correct and hence functioning faith/belief system) anyone can become qualified for life to enjoy mind freedom¨including emotional freedom, etc¨and omniscience in the spher

0) CN203498781U – RIDING TYPE MOPPING VEHICLE

205) Family number: 56081037 (CN203498781U) © PatBase

Title:	RIDING TYPE MOPPING VEHICLE
Priority:	CN201320624341U 20131003

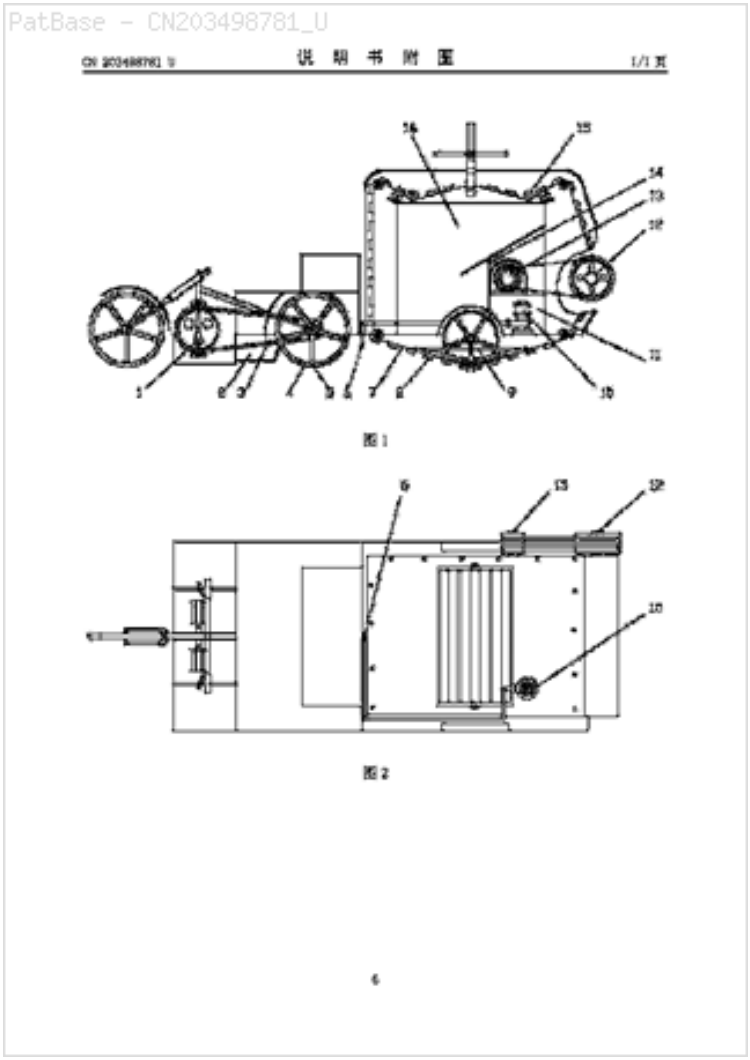
Family:

Publication number	Publication date	Application number	Application date
CN203498781 U	20140326	CN201320624341U	20131003

Probable Assignee:	UNIV CHONGQING THREE GORGES
Assignee(s):(std)**:**	CHONGQING THREE GORGES COLLEGE ; CHONGQING THREE GORGES UNIV ; UNIV CHONGQING THREE GORGES
Inventor(s):(std)**:**	CUI XUEJUN ; RAO YONG ; SONG MINGCHENG ; SONG YUANMING ; WU GUANGJIE ; XIONG YAN
International class (IPC 8–9):	E01H1/02 E01H1/05 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN203498781U The utility model relates to the field of environment protection equipment and provides a riding type mopping vehicle which can sweep the ground while being ridden by being trodden by the feet. The riding type mopping vehicle comprises a front manually–foot–trodden bicycle part, wherein a rear wheel of the manually–foot–trodden bicycle part is provided with a plurality of broom stripes. Dust is rolled up by the broom strips and is rolled into a front dust storage hopper along an arc–shaped housing on the outer side of the rear wheel. A mechanism capable of mopping the ground is further connected behind the manually–foot–trodden bicycle part in a dragging mode, the mechanism comprises a conveying belt driven by a belt wheel, and the conveying belt is provided with a plurality of sponge brush heads. When the conveying belt rotates to the ground, the sponge brush heads can squeeze and mop the ground and suck up moisture. The riding type mopping vehicle integrates ground sweeping, mopping, automatic mop washing and trash transportation, is suitable for plane cleaning places with large cleaning areas such as squares and parks, is attractive in appearance and can serve as a part of touring and sightseeing.



0) US2015319542A – INSTRUMENT WITH REMOTE OBJECT DETECTION UNIT

206) Family number: 60700665 (US2015319542A) © PatBase

Title: INSTRUMENT WITH REMOTE OBJECT DETECTION UNIT

Priority: EP20140166645 20140430

Family:

Publication number	Publication date	Application number	Application date
CN105245996 A	20160113	CN201510218825	20150430
EP2941019 A1	20151104	EP20140166645	20140430
US2015319542 AA	20151105	US20150699060	20150429

Probable Assignee: OTICON A S

Assignee(s):(std)**:** OTICON AS

Assignee(s): OTICON A S

Inventor(s):(std)**:** BJELOSEVIC ADIS ; OLSEN OLE FOGH

Agent(s): MIKKELSEN JACOB

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): H04R1/32 H04R25/00 (Advanced/Invention)

CPC: H04R2225/41 H04R25/405 G01S13/06

US class: 381/313

Classification Explorer

Cited documents: WO12093345 A1, WO11040816 A1, US4586195 A, US2012280824 AA, US2012274502 AA, US2012008807 AA, US2004246167 AA, US2004175008 AA, US2003154017 AA, EP1983799 A1,

Abstract:
Source: US2015319542A The present disclosure relates to an apparatus having a directional microphone system having adaptable directionality and a remote object detection unit configured to detect a remote object by detecting a transmitted signal reflected from the object, the directionality of the directional microphone system may be modified or adapted based on the detection of the remote object.



0) CN204782147U – TOWER STEREO GARAGE OF MULTI –VEHICLE TYPE

207) Family number: 60845213 (CN204782147U) © PatBase

Title: TOWER STEREO GARAGE OF MULTI –VEHICLE TYPE

Priority: CN201520132626U 20150310

Family:

Publication number	Publication date	Application number	Application date
CN204782147 U	20151118	CN201520132626U	20150310

Probable Assignee: UNIV XIHUA

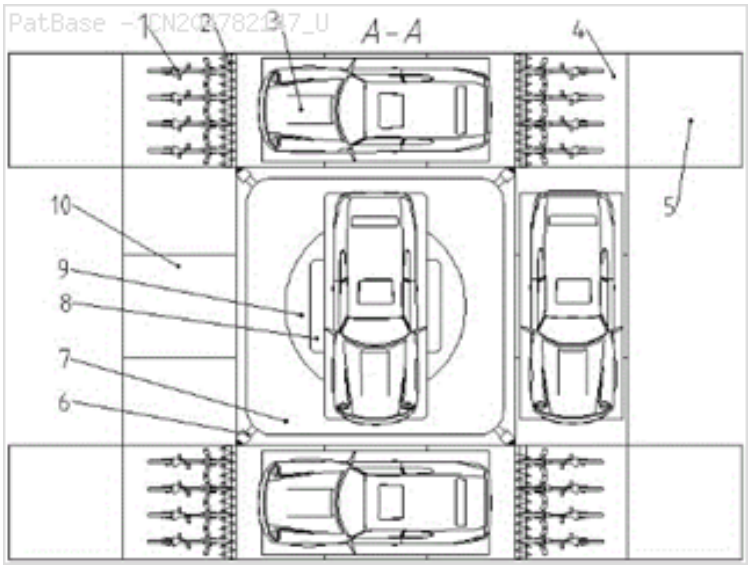
Assignee(s):(std)**:** UNIV XIHUA ; XIHUA UNIV

Inventor(s):(std)**:** WANG CHUANDONG ; WANG QIANG

International class (IPC 8–9): E04H6/18 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN204782147U The utility model discloses a park the tower stereo garage of multi –vehicle type of bicycle, electric motor car and car simultaneously. This garage mainly carries sweep, rotary platform and air cushion floor truck by frame, elevating system, car, the position of parking, broach form and constitutes, and the frame is formed through angle steel and bolted connection by roof beam, post and the support frame of " worker " style of calligraphy, elevating system includes car elevating system and bicycle, electric motor car elevating gear, the whole square that is of car, the car closely cooperates through the guide device on four angles on the square and four prisms of " worker " style of calligraphy post internal frame, park the position including car park position and bicycle, electric motor car parking platform, the car is parked the position and is set up outside " worker " style of calligraphy post internal frame and " worker " style of calligraphy post between the frame, and bicycle, the setting of electric motor car parking platform are in four corner departments in garage. The utility model relates to a novelty is parkked and has been realized multi –vehicle type ization, and the management is convenient, safe and reliable.



0) CN105292307A – ELECTRONIC FAUCET LOCK OF PUBLIC BICYCLE

208) Family number: 61574514 (CN105292307A) © PatBase

Title: ELECTRONIC FAUCET LOCK OF PUBLIC BICYCLE

Priority: CN201510796980 20151118

Family:

Publication number	Publication date	Application number	Application date
CN105292307 A	20160203	CN201510796980	20151118

Probable Assignee: CHINA ACADEMY OF ART

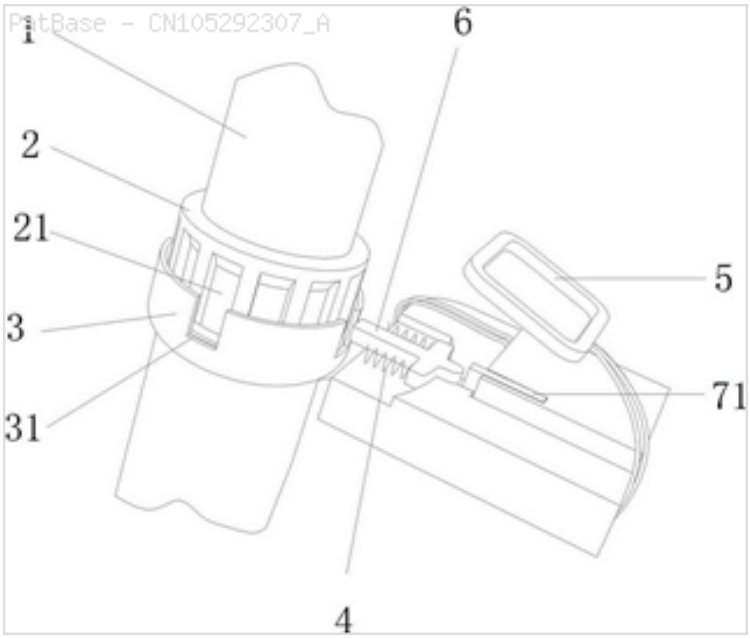
Assignee(s):(std)**:** CHINA ACADEMY OF ART

Inventor(s):(std)**:** OUYANG XIANGPING ; YAN ZENGXIN

International class (IPC 8–9): B62H3/02 B62H5/04 B62H5/20 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN105292307A The invention discloses an electronic faucet lock of a public bicycle. The electronic faucet lock is used for locking the bicycle and comprises a faucet (1) of the bicycle, a faucet lock body is transversely fixed to the faucet (1) and comprises a bearing (2) fixed to the faucet (1), a bearing groove (3) is fixed to the part, below the bearing (2), of the faucet (1), bearing clamping grooves (21) are annularly formed in the bearing (2), the bearing groove (3) is provided with positioning openings (31), and a movable bolt (6) is arranged in the corresponding bearing clamping groove (21) and the corresponding positioning opening (31). At least the mechanical locking effect of card sweeping is achieved.



0) CN205476677U – FORMULA OF TURNING PARKING STALL

209) Family number: 63256492 (CN205476677U) © PatBase

Title: FORMULA OF TURNING PARKING STALL

Priority: CN201620044327U 20160118

Family:

Publication number	Publication date	Application number	Application date
CN205476677 U	20160817	CN201620044327U	20160118

Probable Assignee: ZHU LISHAN

Assignee(s):(std)**:** ZHU LISHAN

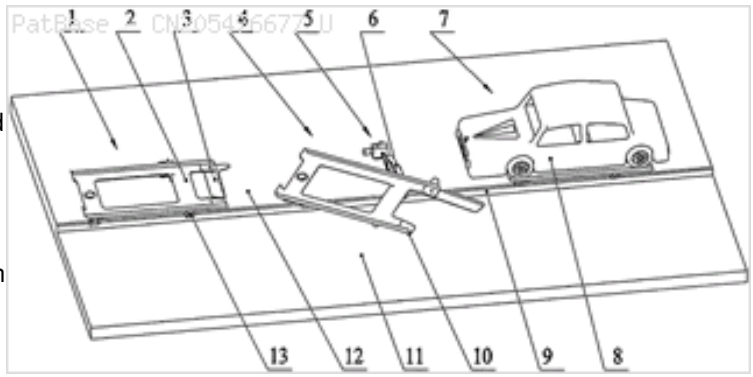
Assignee(s): JULIA HILL

Inventor(s):(std)**:** ZHU LISHAN

International class (IPC 8–9): E04H6/06 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN205476677U The utility model relates to a park the formula of turning parking stall of automobile on the lawn of roadside, especially roadside, solve and realize standard parking, convenient operation safety under less road conditions condition. The utility model discloses a be fixed in the base below the lawn, one carries the sweep dress on the globular support of base, carries to be equipped with the pulley on the sweep and can to coast on the guide rail of base, has two to roll wheel bearing and carry a sweep at the step bead, and a power actuating mechanism passes through the vice effect of screw nut transmission, will carry the sweep some turn and shift out the lawn step, about the dolly of being convenient for, accomplish the bicycle parking and pick up the car. Simultaneously the utility model discloses the structural function who loses electricity access car has. The beneficial effects of the utility model are that: utilizing in narrow and small space occasion and realizing night parkking on the lawn, do not influence the view daytime again, is a human oriented, alleviates both to become effective equipment that it is difficult to park in the district.



0) CN205646855U – ELECTRIC BICYCLE INTELLIGENT CHARGING SAFETY CO...

210) Family number: 63779418 (CN205646855U)

© PatBase

Title: ELECTRIC BICYCLE INTELLIGENT CHARGING SAFETY CONTROL DEVICE

Priority: CN201620200802U 20160316

Family:

Publication number	Publication date	Application number	Application date
CN205646855 U	20161012	CN201620200802U	20160316

Probable Assignee: WANBANG CHARGING EQUIPMENT CO LTD

Assignee(s):(std)**:** WANBANG CHARGING EQUIPMENT CO LTD

Assignee(s): MILLION TO HELP CHARGING EQUIPMENT CO LTD ; WANBANG CHARGING EQUIPMENT CO

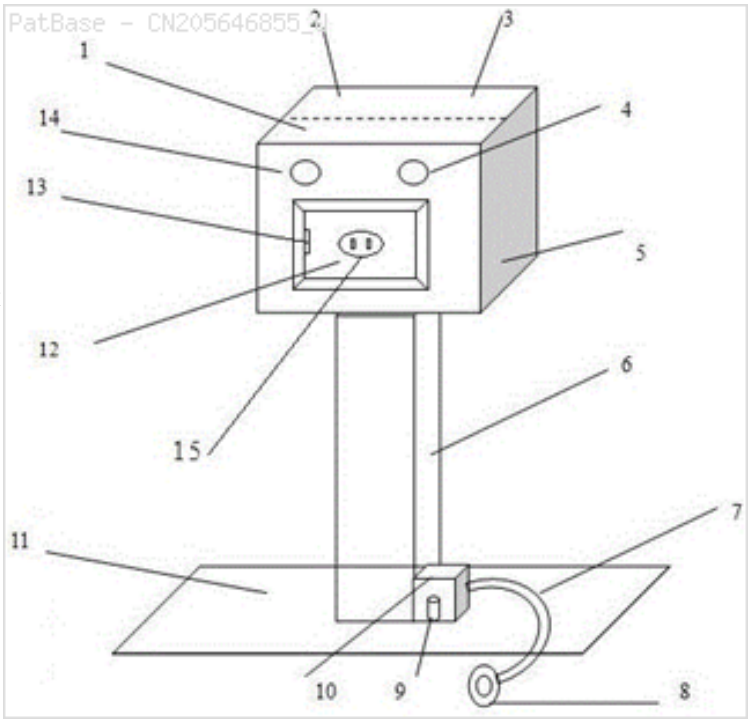
Inventor(s):(std)**:** CHEN XU ; GU XIAOHU ; SU HAO

International class (IPC 8–9): B60L11/18 H02J7/00 (Advanced/Invention)

CPC: Y02T10/7005

Classification Explorer

Abstract:
Source: CN205646855U The utility model belongs to the technical field of fill the electric pile technique and specifically relates to an electric bicycle intelligent charging safety control device. An electric bicycle intelligent charging safety control device, is including filling the electric pile base, it is equipped with the support that charges on the electric pile base to fill, it is equipped with the box body that charges on the support to charge, it is equipped with socket chamber door on the box body to charge, it is equipped with punch the card ware and display to charge box body upper portion. This kind of electric bicycle intelligent charging safety control device, it punches the card to have charge accounting function with sweep the sign indicating number two kinds of charge methods of chargeing of charging, possess electronic lock mechanism, prevent that the vehicle is stolen, have the interface of charging illumination and prevent the steal electricity function, it shows the function with chargeing to have the timing of punching the card.



0) WO16191759A1 – BIKE GROCERY BAG PORTER SUPPORT DE SAC A PROVI...

211) Family number: 64179409 (WO16191759A1) © PatBase

Title: BIKE GROCERY BAG PORTER

Priority: US20150167806P 20150528 US20160167762 20160527

Family:

Publication number	Publication date	Application number	Application date
WO16191759 A1	20161201	WO2016US34893	20160528

Probable Assignee: NEIDINGER WILLIAM P

Assignee(s):(std)**:** NEIDINGER WILLIAM P

Inventor(s):(std)**:** NEIDINGER WILLIAM P

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B62J9/00 (Advanced/Invention)

CPC: B62J7/08 B62J23/00 B62J2099/008

Classification Explorer

Cited documents: US2010327034 AA, SU1119907 T, RU76309 U1,

Abstract:
These devices are screens and hooks to be attached to a rack, or bike frame itself I» all instances, rack and 'frame are available in 'market place by others. As. a practical matter, best racks would be marketed with product, with product claims, recommended use and general instructions starting there, but other racks could be used with information to customer that capacities and performance may be more limited. The handles of grocery bags are engaged on gentry rounded hooks and/or handlebars. The bike screens hang down outside the wheel to prevent the grocery bags from engaging on the tread or spokes of wheels of the bicycle. The screens are configured to both visually and mechanically outline the maximum available hanging space. The hooks are configured to provide maximum utilization of that available hanging space for all most commonly used sizes and configurations of grocery and other shopping bags.

PatBase – WO16191759_A1



Figure 4 – Promotional Logo

0) DE202015104466U1 – FAHRRADACHSBEFESTIGUNGSSYSTEM BICYCLE AXLE FIX...

212) Family number: 64591089 (DE202015104466U1) © PatBase

Title: FAHRRADACHSBEFESTIGUNGSSYSTEM BICYCLE AXLE FIXING SYSTEM (Machine translation)

Priority: DE201520104466U 20150824

Family:

Publication number	Publication date	Application number	Application date
DE202015104466 U1	20170105	DE201520104466U	20150824

Probable Assignee: ROSE BIKES GMBH

Assignee(s):(std)**:** ROSE BIKES GMBH

International class (IPC 8–9)**:** B62K25/02 (Advanced/Invention)

CPC: B62K25/02 B62K19/30

Classification Explorer

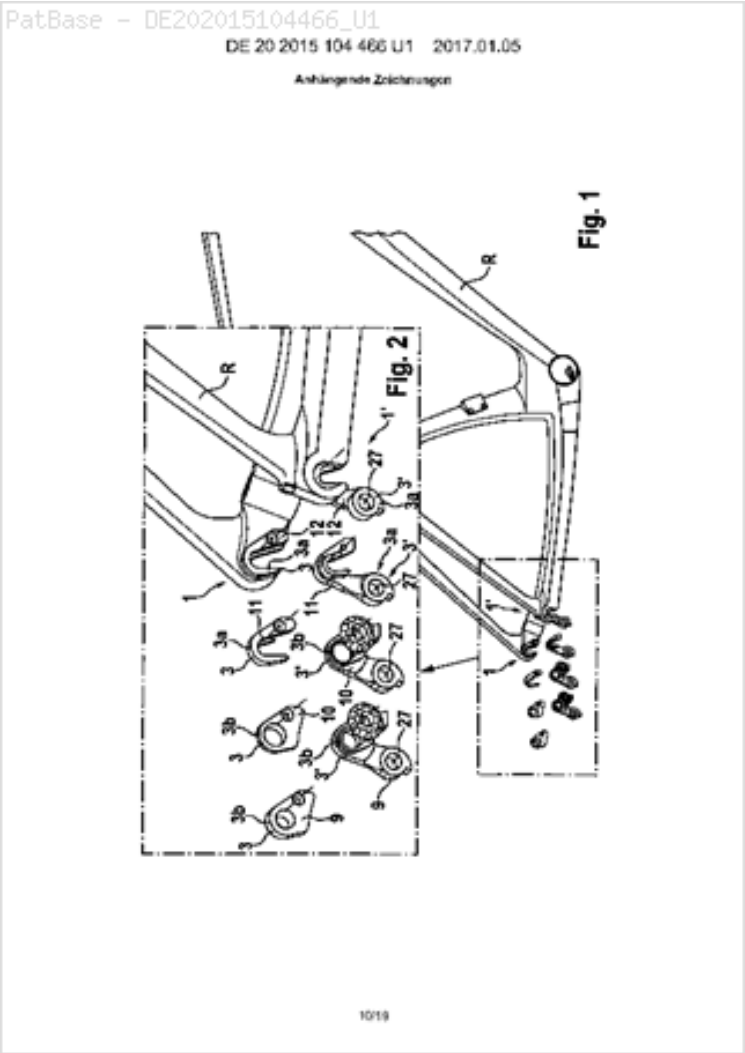
Cited documents: DE202009004819 U1

DE202004021407 U1

DE20200278 U1,

DE102013014336 A1

Abstract:
Source: DE202015104466U1
Fahrradachsbefestigungssystem zur Befestigung von Laufradachsen an Fahrraedern, mit Ausfallenden (1, 1´), wobei die Ausfallenden (1, 1´) zu verschiedenen Laufradachsen (2) kompatibel sind und Adapter (3, 3´) vorgesehen sind, die die Anpassung der Ausfallenden (1, 1´) an verschiedene Laufradachsen (2) ermoeglichen, dadurch gekennzeichnet, dass die Ausfallenden (1, 1´) einen durchgehenden Aufnahmeschlitz (4, 4´) aufweisen. Bicycle axle mounting system for mounting of shaft axis on bikes with drop−outs (1, 1 ´), where the dropouts (1, 1 ´) are various shaft axis (2) compatible and are provided with adapter (3, 3 ´) which the adaptation of the dropouts (1, 1 ´) to allow various shaft axis (2), characterised by the fact that the dropouts (1, 1 ´) exhibit a continuous slot (4, 4 ´).



0) US4277078A – THREE–WHEEL CONVEYANCE

213) Family number: 8283020 (US4277078A) © PatBase

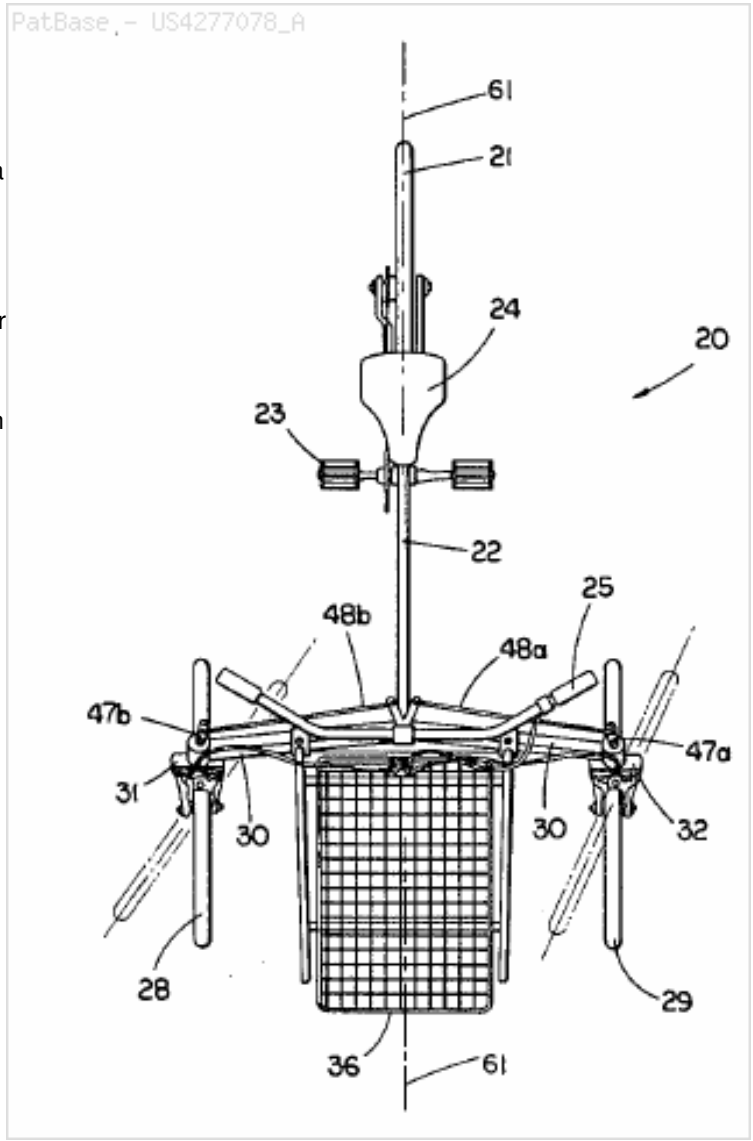
Title:	Three–wheel conveyance
Priority:	US19790014106 19790222

Family:

Publication number	Publication date	Application number	Application date
US4277078 A	19810707	US19790014106	19790222

Probable Assignee:	ROOT MYRON A
Assignee(s):(std)**:**	ROOT MYRON A
Inventor(s):(std)**:**	ROOT MYRON A
International class (IPC 8–9)**:**	B62K13/04 B62K5/02 B62K5/08 (Advanced/Invention)
International class (IPC 1–7)**:**	B62K5/02 B62K5/08
CPC:	B62K5/05 B62K5/08 B62K13/04
European class:	B62K13/04 B62K5/05 B62K5/08
US class:	280/269 280/281.1
Classification Explorer	
Cited documents:	US609237 A, US561330 A, US4158397 A, US415740 A, US4088199 A, US4070032 A, US3913929 A, US3836177 A, US3561778 A, US3447623 A, US3429584 A, US2890892 A, US1092910 A, FR357548 A,
Forward Citations:	WO15020685, WO06121333, US9394027, US9174693, US9153153, US9061724, US8632088, US8162339, US7878522, US6817617, US5311957, US4863183, US4740004, US4671521, US4588200, US2015076797, US2015069732, US2010052284, US2008115994, US2008001374, US2007290470, US2007085298, US2004140645, NL1027409, KR100994394, EP1391374, CN102351028,

Abstract:
Source: US4277078A A conversion kit for converting a two−wheel conveyance, such as a bicycle, into a three−wheel conveyance includes a connecting member which provides two wheel fork assemblies equally spaced on opposite sides of the plane of the rear wheel, a center steering member having two arms arranged in a "V" shape and being attached to the center post of the bicycle and supporting the handlebars, and two four−bar linkage arrangements each including an arm, a rod member and a link member, one such four−bar linkage being coupled to each wheel fork assembly. The two linkages couple turning movement of the handlebars into turning movement of the front steering wheels wherein the front steering wheel to the inside of the turning path of the conveyance is turned through a greater angle than the front steering wheel to the outside of the turning path for the same amount of turning movement of the center steering member.



0) US5501648A – FRONT WHEEL DRIVE BICYCLE EXERCISE DEVICE

214) Family number: 12444819 (US5501648A) © PatBase

Title: FRONT WHEEL DRIVE BICYCLE EXERCISE DEVICE

Priority: US19940276481 19940715

Family:

Publication number	Publication date	Application number	Application date
US5501648 A	19960326	US19940276481	19940715

Probable Assignee: GRIGORIEV NIKITA

Assignee(s): GRIGORIEV NIKITA

Inventor(s):(std)**:** GRIGORIEV NIKITA

International class (IPC 8–9)**:** A63B22/12 A63B23/04 B62M1/12 (Advanced/Invention); A63B21/00 (Advanced/Non–invention); A63B22/06 A63B23/04 (Core/Invention); A63B21/00 (Core/Non–invention)

International class (IPC 1–7)**:** A61H1/02 A63B21/00

CPC: A63B22/001 A63B22/0605 A63B21/157 A63B21/225 A63B22/0012 A63B23/03575 B62M1/12

European class: A63B21/15G A63B23/04C B62M1/12 K63B21/22F K63B22/00A6S K63B23/035G

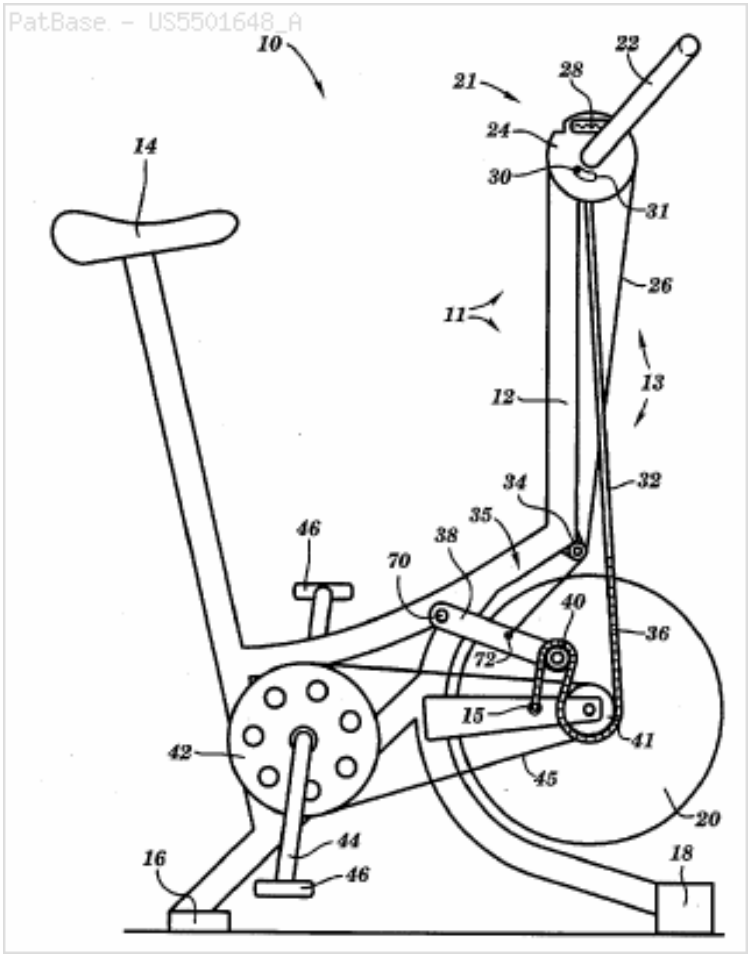
US class: 482/57 482/62

Classification Explorer

Cited documents: US682953 A, US5356356 A, US5308097 A, US5272928 A, US5211613 A, US4871164 A, US4811964 A, US4705269 A, US4700962 A, US4436097 A, US2183471 A, US1549854 A, GB189417835 A, GB17835, DE4132794 A1, DE3126075 A1,

Forward Citations: US9580137, US9579049, US9555852, US9381395, US8092352, US7927258, US7381158, US7267639, US7160230, US7159881, US6988739, US6220991, US5836856, US2013006070, US2011105282, US2011018220, US2009170667, US2009048076, US2006234835, US2005277516, US2005187049, US2004108680, US2004082440, EP2062619, CN102753240,

Abstract:
Source: US5501648A A front wheel drive bicycle exercise device including a front wheel and a reciprocating handlebar assembly attached to a frame. A clutch and a mechanical advantage device are utilized to drive the front wheel of the bicycle in response to the reciprocative displacement of the handlebar assembly.



0) DE19808293A1 – DIVERTING DEVICE FOR TRACTION CHAIN CONTROLLING...

215) Family number: 13762361 (DE19808293A1)

© PatBase

Title: Diverting device for traction chain controlling bicycle transmission

Priority: DE19981008293 19980227

Family:

Publication number	Publication date	Application number	Application date
DE19808293 A1	19990902	DE19981008293	19980227

Probable Assignee: SRAM DE GMBH

Assignee(s):(std)**:** SRAM DE GMBH

Assignee(s): SRAM DEUTSCHLAND GMBH

Inventor(s):(std)**:** NUERNBERGER GUENTER ; STEUER WERNER

International class (IPC 8–9): B62M25/02 (Advanced/Invention); B62M25/00 (Core/Invention)

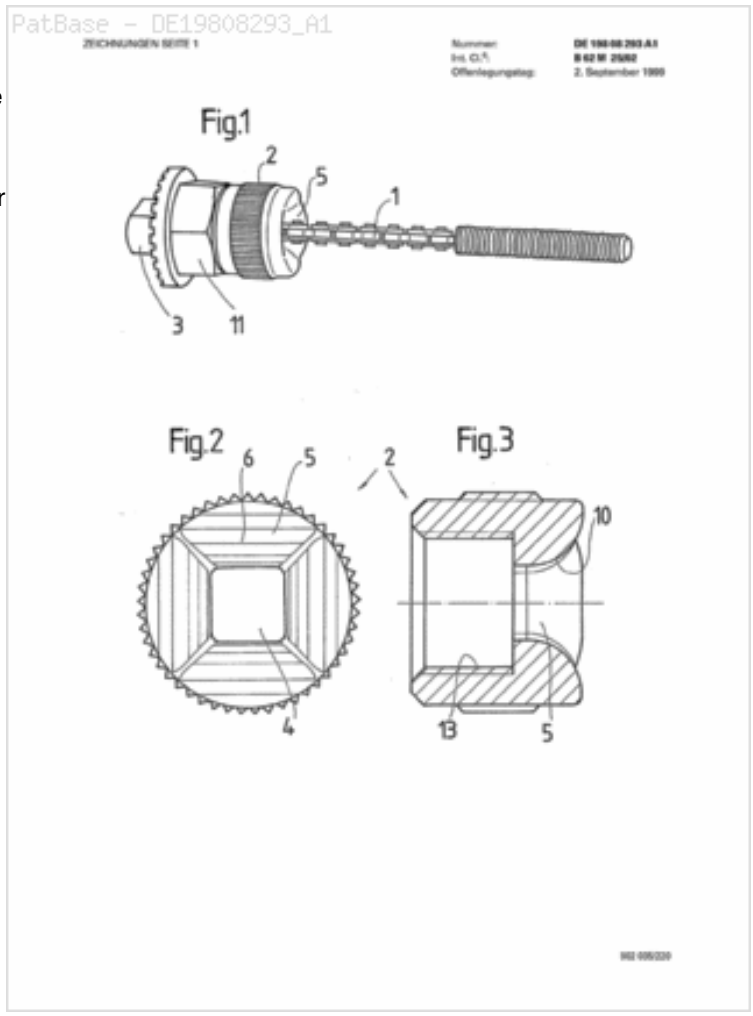
International class (IPC 1–7): B62M25/02

CPC: B62M25/02

European class: B62M25/02

Classification Explorer

Abstract:
Source: DE19808293A1 The diverting device for a traction chain (1) operating a bicycle transmission through a wheel axle (3) is on the end of the axle, to align the operating cable with an element of the bicycle frame. A chain guide bush (2) is fitted to the end of the axle (3). The bush has a through aperture, the inner region of which has at least one curved sliding surface (5) to divert and guide the traction chain.



0) GB656017A – IMPROVEMENTS IN AND RELATING TO APPARATUS FOR D...

216) Family number: 19570784 (GB656017A)

© PatBase

Title: Improvements in and relating to apparatus for dusting crops and the like

Priority: GB19480033060 19481222

Family:

Publication number	Publication date	Application number	Application date
GB656017 A	19510808	GB19480033060	19481222

Probable Assignee: GEORGE HENRY LAST

Assignee(s):(std)**:** GEORGE HENRY LAST

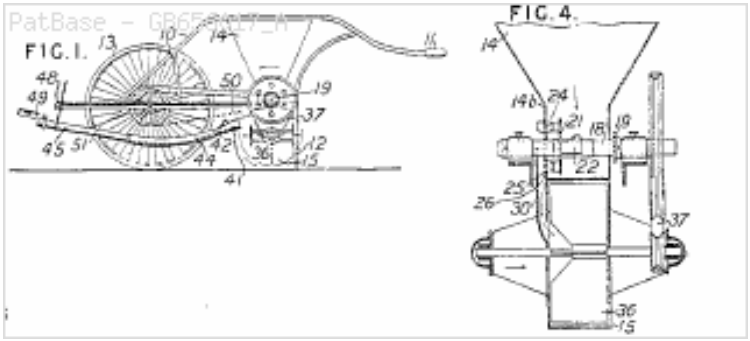
International class (IPC 8–9): A01M9/00 (Advanced/Invention); A01M9/00 (Core/Invention)

CPC: A01M9/0084 A01M9/0092

European class: A01M9/00F A01M9/00G

Classification Explorer

Abstract:
Source: GB656017A 656,017. Crop–dusters. LAST, G. H. Dec. 22 1948, Nc. 33060. [Class 6(i)] A crop–dusting machine comprises a wheeled chassis 10 carrying a hopper 14, in the base of which is mounted a rotary brush device 24 expelling powder through perforations 25 in a vertical side wall 14b to fall through a shoot 30 into a lower chamber 15 containing a fan 36. The chassis is of wheel–barrow form anc has a single front wheel 13 and rear legs 12 and handle 11. The wheel 13 drives the swindle 18 of the rotary brush through a chain drive 50, 51, the parts 13, 50 and 51 being standard bicycle parts and the sprocket 19 on the spindle 18 being a bicycle free–wheel sprocket. The brushes 24 are mounted on a disc 21 which also carries a blade 22 for breaking up lumps. An adjustable shutter 26 is fitted over the perforations 25 in the hopper wall 14b. The powder is blown out through a bifurcated pipe 41 having a butterfly valve 42 in each branch and passes through flexible conduits 44 to the distributing heads 45 which are adjustably mounted on a framework 48 at the front of the chassis. The heads carry deflecting hoods 49 which may be set at any angle. The fan is driven by a belt 37 from the shaft 18.



0) GB804549A – IMPROVEMENTS IN FRAMES FOR MOTOR CYCLES AND MOT...

217) Family number: 20180969 (GB804549A) © PatBase

Title: Improvements in frames for motor cycles and motorised bicycles

Priority: GB19550033535 19551123

Family:

Publication number	Publication date	Application number	Application date
GB804549 A	19581119	GB19550033535	19551123

Probable Assignee: J A PHILLIPS AND COMPANY LTD

Assignee(s):(std)**:** J A PHILLIPS AND COMPANY LTD

Assignee(s): J A PHILLIPS AND CO LTD ; J A PHILLIPS AND COMPANY LIMITED

Inventor(s):(std)**:** BOULSTRIDGE THOMAS JAMES

International class (IPC 8–9)**:** B62K19/10 (Advanced/Invention); B62K19/00 (Core/Invention)

International class (IPC 1–7)**:** B62K11/02

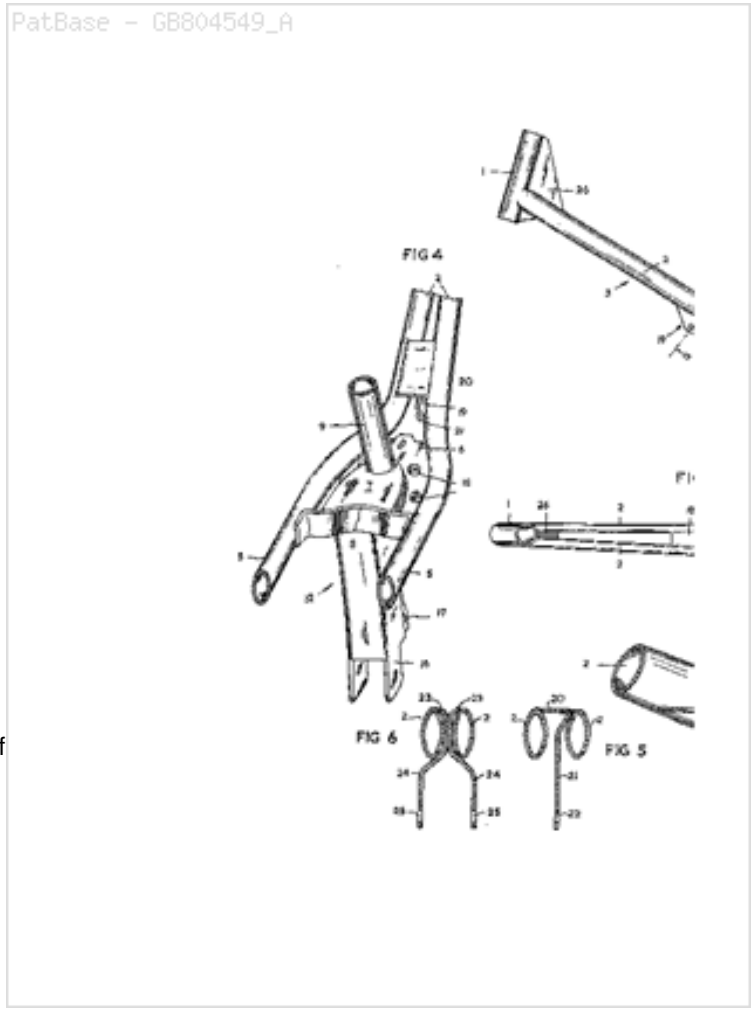
CPC: B62K19/10

European class: B62K19/10

Classification Explorer

Forward Citations: WO13041093, WO13037369, US2015076789, EP0583221, DE102011053875, DE102011053733, DE102011053733, CH686718,

Abstract:
Source: GB804549A 804,549. Cycle frames. PHILLIPS and CO., Ltd., J. A. Nov. 23, 1956 [Nov. 23, 1955], No. 33535/55. Class 136(3) A frame for a motor cycle or motorized bicycle consists of a pair of tubes 2 directed downwardly and rearwardly from the steering head tube 1 in closely spaced sideby–side relation to form a fore part 3 of the frame. To the rear of the part 3 the tubes are cranked outwardly and bent in a median part 4 from which they are continued rearwardly and horizontally in spaced parallel relation to form rear stays 5 terminating in mountings 18 for the rear wheel axle. The tubes 2 are of oval crosssection with their major axes vertical. A plate 6 is secured between the tubes 2 at the median part 4. A flanged plate 7 is secured to the plate 6, the box being completed by a transverse strap 8. Alternatively, the strap 8 may be formed integrally with the plate 6. Vertically spaced receiving holes 10, 11 are provided in the plates 6, 7 to form a cantilever mounting for a seat pillar tube 9. An engine mounting bracket 12 is secured to the underside of the plate 6. The bracket 12 has a boxlike part 13 with outward flanges 14 at its upper side edges through which fixing bolts 15 are passed. Below the part 13 depends a channel shaped part 16 between the flanges of which the crank case of an engine may be received. A cycle stand may also be mounted on the part 16. The tubes 2 are bridged at the fore part 3 by a bracket 19 which braces the frame and also provides an attachment point for another part of the engine or its accessories. The junction between the tubes 2 and the steering head tube is reinforced by a fishplate 26, A hollow cowling 27 may be secured by welding to the plate 7 to enclose the seat pillar 9 to which it may be welded at its upper end. The cowling may be provided with a door so that its interior may be used as a tool box or a carrying compartment.



218) Family number: 21016636 (DE657147A)

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Title: FAHRRADSCHLOSS BIKE LOCK (Machine translation)

Priority: DE1935H146001 19351219

Family:

Publication number	Publication date	Application number	Application date
DE657147 A	19380225	DE1935H146001D	19351219

Probable Assignee: HEINRICH HUETTEMANN

Assignee(s):(std)**:** HEINRICH HUETTEMANN

International class (IPC 8–9): B62H5/14 (Advanced/Invention); B62H5/00 (Core/Invention)

International class (IPC 1–7): B62H5/14

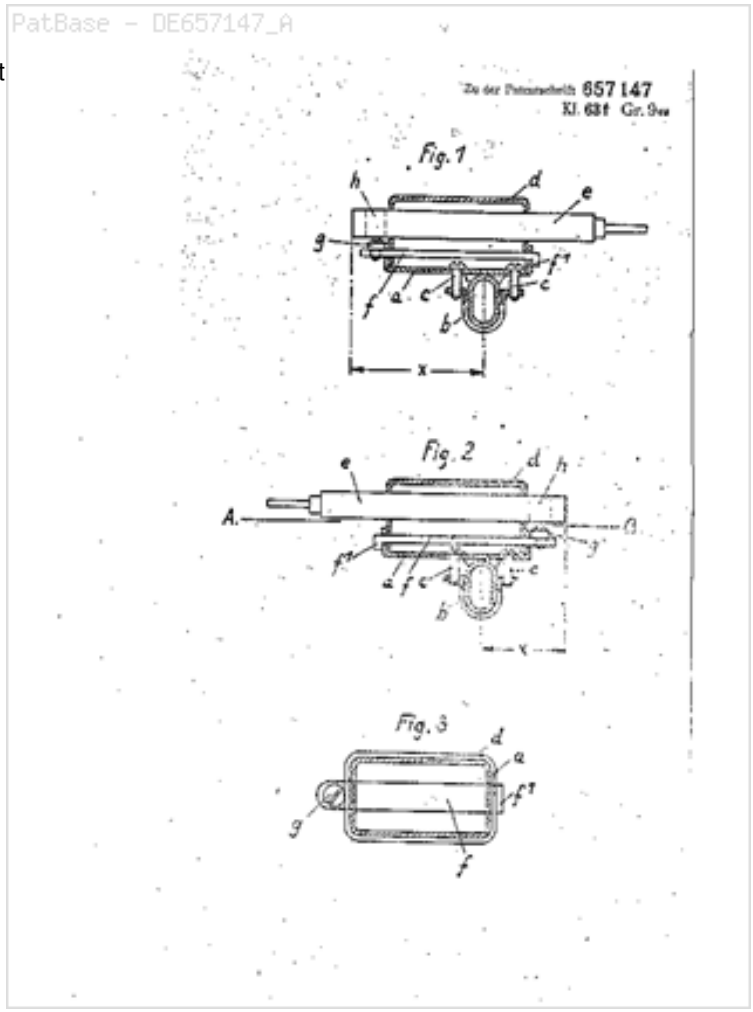
CPC: B62H5/141

European class: B62H5/14B

Classification Explorer

Abstract:
Source: DE657147A (Claim 1) 1. PATRNTANSPRUECHR: i. Fahrradschloss mit einem in die Rad speichen eingreifendeh, im Schlossgehaeuse– oberteil angeordneten Sperriegel und einer am Schloessgehaeuseunterteil einseitig an geordneten Rahmenschelle, dadurch ge–keUnzeichnet, dass das Gehaeuseoberteil (d) in das kastenfoermige Gehaeuseunterteil (a) umdrehbar eingesetzt und mit diesem durch einen beide Gehaeuseteile durchgreifenden Riegel (f) gesichert ist..?. Fahrradschloss nach Anspruch i, da durch gekennzeichnet, dass der Riegel(f) auf der einen Seite des Schlossgehaeuses einen festere Anschlag(/'), auf der gegen ueberliegenden Seite des Schlossgehaeuses dagegen einen loesbaren, nur in der OCfen– lage des Sperriegels (e) zugaenglichen An schlag (g) traegt.

Machine translation: (claim 1) 1 PATRNTANSPRUECHR: i bicycle lock with built–in wheel spokes eingreifendeh, in Schlossgehaeuse–shell, arranged locking bolt and one at Schloessgehaeuseunterteil one side to minor frame clamp, characterized keUnzeichnet GE that the Gehaeuseoberteil (d) into the kastenfoermige Gehaeuseunterteil (a) revolvably used and with this by both Gehaeuseteile sweeping bar (f) is secured..?. A bicycle lock according to claim i, since characterized in that the bolt (f) on one side of the Schlossgehaeuses a firmer stop (/ '), on the opposite side of the Schlossgehaeuses other hand, a detachable, only in the OCfen–position of the locking bolt (s) carries accessable to stop (g).



0) CH238614A – FAHRRADKLINGEL. BICYCLE BELL. (MACHINE TRANS...

219) Family number: 24933600 (CH238614A)

© PatBase

Title: FAHRRADKLINGEL. BICYCLE BELL. (Machine translation)

Priority: 19440316

Family:

Publication number	Publication date	Application number	Application date
CH238614 A	19450731		19440316

Probable Assignee: MORGENTHALER M

Assignee(s):(std)**:** MORGENTHALER M

Inventor(s):(std)**:** MORGENTHALER M

International class (IPC 8–9): G10K1/072 (Advanced/Invention); G10K1/00 (Core/Invention)

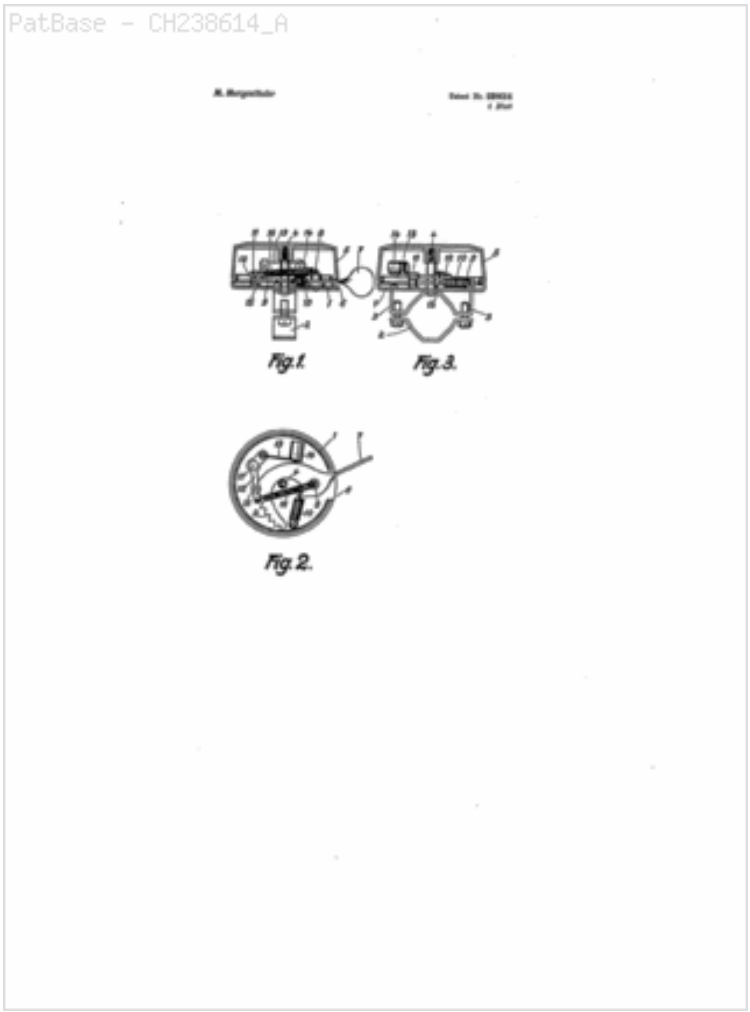
International class (IPC 1–7): B62J3/00 G10K1/072

CPC: G10K1/072

European class: G10K1/072

Classification Explorer

Abstract:
Source: CH238614A PATENTANSPRUCH: Fahrradklingel, zu deren Betaetigung ein mit Zahnbogen und Rueckzugsfeder ausge–ruesteter Handhebel dient, gekennzeichnet durch einen zweiarmigen Hebel, der am einen arm einen als Kloeppel dienenden Hammer mit, federndem Stiel traegt und am andern Arm einen unter der Wirkung der Rueck–zug;sfeder in die Zabnluecken der Verzahnung des Handhebels einfallenden Anschlag, wol–cher.den Ausschlag des zweiarmigen Hebels derart begrenzt, dass im Ruhezustand der Ha.nnner die Glockenwandung nicht beruehrt und nur lxi. Betaetigung des Handhebels dnreh die von der Schwungkraft,des Kloep pels ueberwundene Steifigkeit des Hammer stiels der Anschlag des Kloeppels erfolgt. UNTERANSPRUCH: Fahrradklingel nach Patentanspruch, da durch gekennzeicbnet, dass die Verzabnung des Handhebels eine geradflaenkige Zahnung ist, ueber welche der von der Rueckzugsfeder fest.gebaltene Anschlag hinweggleitet. CLAIM: bicycle bell, whose Actuation one equipped with dental arch and Rueckzugsfeder upgraded lever is characterized by a two–armed lever on a poor one as Kloeppel serving hammer, resilient stem carries and the other arm is below the action of the rear train; sfeder incident in the Zabnluecken the teeth of the hand lever stopper wish cher.den rash of armed lever limited such that at rest the Ha.nnner not touched the Glockenwandung and only lxi. Actuation of the hand lever dnreh of the momentum, the Kloep stem pels overcome by stiffness of the hammer stop the clapper is done. BELOW RIGHT: bicycle bell according to claim because by gekennzeicbnet that the Verzabnung the hand lever is a geradflaenkige teeth, which glides over the fest.gebaltene of the Rueckzugsfeder stop.



0) US2004073271A – METHOD AND APPARATUS FOR NEUROPHYSIOLOGIC PERFO...

220) Family number: 29580847 (US2004073271A) © PatBase

Title: METHOD AND APPARATUS FOR NEUROPHYSIOLOGIC PERFORMANCE

Priority: US20020377202 20020503 US20020377202P 20020503 US20030429252 20030505 US20070880026P 20070112 WO2003US13854 20030505 US20070927597 20071029 US20140249856 20140410

Family:

Publication number	Publication date	Application number	Application date
AU2003245258 AA	20031117	AU20030245258	20030505
CA2484916 AA	20041027	CA20032484916	20030505
CN1665563 A	20050907	CN20038015872	20030505
EP1501588 A1	20050202	EP20030738895	20030505
HK1083011 A3	20060623	HK20060102986	20060307
IN02658CN2004 A	20070720	IN2004CN02658	20041125
JP2005524448 T2	20050818	JP20040500976T	20030505
MXPA04010883 A1	20060811	MX2004PA10883	20030505
RU2004132711 A	20050827	RU20040132711	20030505
US2004073271 AA	20040415	US20030429252	20030505
US2008077192 AA	20080327	US20070927597	20071029
US2014364678 AA	20141211	US20140249856	20140410
US7349739 BB	20080325	US20030429252	20030505
WO03092795 A1	20031113	WO2003US13854	20030505
WO08088985 A2	20080724	WO2008US50562	20080109
WO08088985 A3	20081120	WO2008US50562	20080109
ZA200408859 A	20070425	ZA20040008859	20041102

Probable Assignee: TRUSTEES OF BOSTON UNIV

Assignee(s):(std): AFFERENT CORP ; D ANDREA SUSAN ; NIEMI JAMES B ; KELLOGG SCOTT ; HARRY JASON D ; UNIV BOSTON

Assignee(s): TRUSTEES OF BOSTON UNIV ; STRYKER DEVELOPMENT LLC ; HOWMEDICA OSTEONICS CORP ; KLESHINSKI STEPHEN J ; DRAUDT GREGG R ; AHLGRIM DIRK ; COLLINS JAMES J

Inventor(s):(std): COLLINS JAMES J ; D ANDREA SUSAN ; DIRK AHLGRIM ; AHLGRIM DIRK ; DRAUDT GREGG R ; HARRY JASON D ; KELLOGG SCOTT ; KLESHINSKI STEPHEN J ; NIEMI JAMES B

Inventor(s): STEPHEN J KLESHINSKI ; NIEMI JAMES ; KLESHINSKI STEPHEN ; JAMES B NIEMI ; JASON D HARRY ; GREGG R DRAUDT ; HARRY JASON ; COLLINS JAMES ; DRAUDT GREGG

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; MOFFAT AND CO; NIXON PEABODY LLP; STUDEBAKER DONALD R; DONALD R; MAY DAVID L

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): A61F5/00 A61N1/00 A61N1/04 A61N1/05 A61N1/08 A61N1/18 A61N1/32 A61N1/36 A61N2/00 (Advanced/Invention); A61N1/00 A61N1/04 (Core/Invention); A61N (Subclass/Invention)

International class (IPC 1–7): A61N1/00 A61N1/04 A61N1/18

CPC:

A61N1/0551 A61N1/08 A61N1/32 A61N1/36164 A61N1/3601 A61N1/36007 A61N1/36071 A61F5/0026 A61N1/0556 A61N2/006 A61N1/36003 A61H23/0263 A61H2201/165 A61H2201/5007 A61H2201/5023 A61H2201/5043 A61H2201/5058 A61N1/0452 A61N1/0456 A61N1/0464 A61N1/0472 A61N1/0476 A61N1/0484 A61N1/0492 A61N1/321 A61N1/36014 A61N1/36017 A61N1/3627

European class: A61H23/02R2 A61N1/04E1M A61N1/04E1N A61N1/04E2 A61N1/04E2G A61N1/08 A61N1/32 A61N1/36 A61N1/36E A61N1/36E2 A61N1/36Z3J K61H201/16A20 K61H201/50C K61H201/50F K61H201/50F10 K61H201/50S K61N1/04E1T K61N1/04E2A K61N1/04E2P K61N1/05L K61N1/32B K61N1/362C K61N1/36A K61N1/36E2 T05K999/99

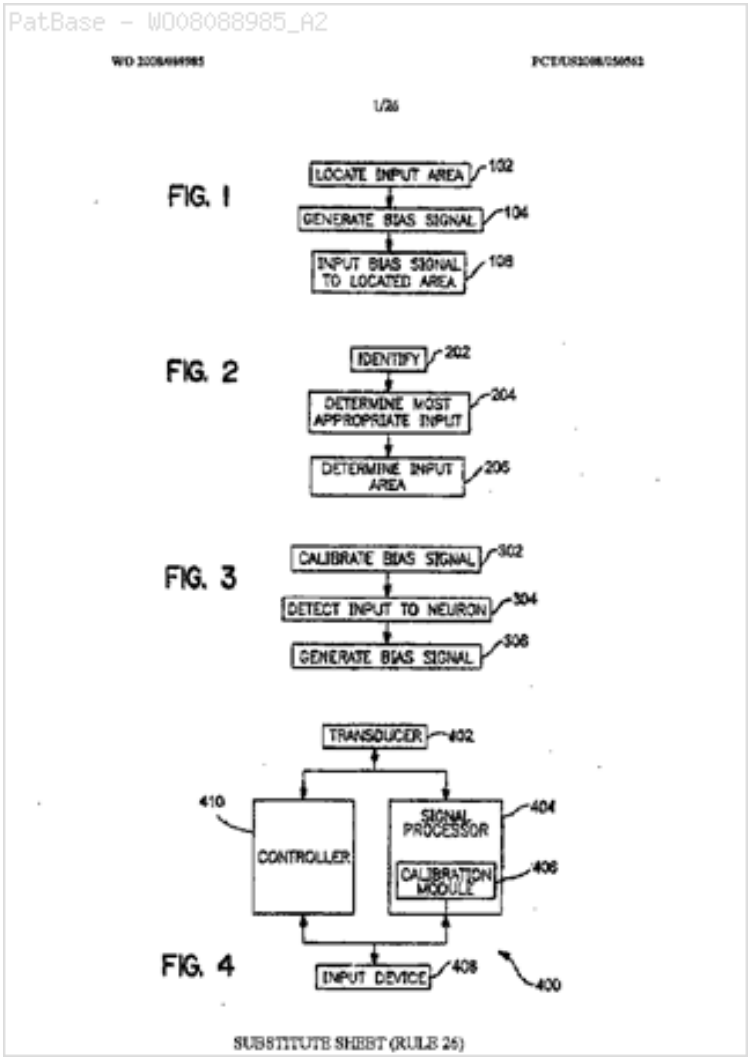
US class: 42/84 42/84S 600/12 607/2 607/40 607/41 607/42 607/46 607/48 607/48P 607/49

Classification Explorer

Cited documents: US792162 A, US7006870 BA, US6978787 BA, US6873872 BB, US6871099 BA, US6862479 BA, US6741895 BA, US6668191 BA, US6665562 BB, US6662051 BA, US6650943 BA, US6615081 BA, US6611715 BA, US6587719 BA, US6564102 BA, US6505075 BA, US6366814 BA, US6272383 BA, US6208902 BA, US6205359 BA, US6169924 BA, US6104956 A, US6095148 A, US6078838 A, US6065154 A, US6032074 A, US5899922 A, US5797966 A, US5792187 A, US5782874 A, US5782873 A, US5707400 A, US5620483 A, US5593432 A, US5562717 A, US5514175 A, US5487759 A, US5397338 A, US5360438 A, US5335657 A, US5330515 A, US5299569 A, US5273033 A, US5269303 A, US5231988 A, US5215086 A, US5188104 A, US4919140 A, US4890618 A, US4832033 A, US4811742 A, US4774967 A, US4664118 A, US4308868 A, US4105017 A, US3881495 A, US3735756 A, US2006190057 AA, US2005119713 AA, US2005113878 AA, US2005113877 AA, US2005107655 AA, US2005085874 AA, US2005085866 AA, US2005075678 AA, US2005070974 AA, US2005070970 AA, US2005070969 AA, US2005060005 AA, US2005055065 AA, US2005049655 AA, US2005038484 AA, US2005033374 AA, US2005033373 AA, US2005033372 AA, US2005015117 AA, US2005010265 AA, US2005010260 AA, US2005004625 AA, US2004230255 AA, US2004214790 AA, US2004193228 AA, US2004173220 AA, US2004172085 AA, US2004171971 AA, US2004162590 AA, US2004147975 AA, US2004122477 AA, US2004116995 AA, US2004088021 AA, US2004073273 AA, US2004073271 AA, US2004039427 AA, US2004024427 AA, US2003236558 AA, US2003216792 AA, US2003144709 AA, US2003120323 AA, US2003114886 AA, US2003100924 AA, US2003055476 AA, US2003040774 AA, US2003023282 AA, US2003004553 AA, US2002198572 AA, US2002087201 AA, US2002087192 AA, US2002077689 AA, US2002077688 AA, US2002042642 AA,

Forward Citations: WO15119768, WO14066876, WO14003633, WO12110248, WO10070332, WO07018793, USRE44743, USD646341, US9517344, US9517342, US9474898, US9415218, US9409023, US9409011, US9393409, US9381360, US9174046, US9101769, US8992468, US8956312, US8868216, US8852074, US8808207, US8626302, US8579839, US8548558, US8540660, US8517729, US8475172, US8449445, US8388561, US8372020, US8369955, US8107599, US8092355, US8046083, US7935065, US2016051815, US2015148865, US2012296243, US2012109013, US2011251520, US2011232134, US2011213228, US2011139506, US2011130640, US2011034253, US2011009919, US2011005532, US2010192442, US2010130847, US2010049103, US2010036454, US2010016908, US2010010400, US2009292328, US2009187124, US2009062092, US2009054980, US2009023122, US2008077192, US2008065174, US2007118199, US2007073196, US2007027486, US2007025608, US2006282010, US2006195787, RU2609459, JP2013512709, JP2009505689, FR3006595, EP3100765, EP2968939, EP2815787, EP2780073, EP2563466, EP2563466, EP2037804, EP1909894, DE102006042156, DE102006042156, CN102325564,

Abstract:
Source: US2004073271A The invention features methods and apparatus for enhancing neurophysiologic performance, such as sensorimotor control and neuroplasticity. A preferred method involves inputting bias signals to sensory cells of a subject, thereby improving sensory cell function, while the subject is performing a predefined physical activity. A system used to practice the method of the invention includes a wearable device to which is secured at least one repositionable signal input device and a signal generator that is communicatively coupled to the signal input devices.



0) US2012062395A – PARKING INFORMATION COLLECTION SYSTEM AND METHO...

221) Family number: 49956156 (US2012062395A) © PatBase

Title: PARKING INFORMATION COLLECTION SYSTEM AND METHOD

Priority: US20100369675P 20100731 US20110194896 20110729 US20110271016 20111011 US20130854470 20130401

Family:

Publication number	Publication date	Application number	Application date
US2012062395 AA	20120315	US20110271016	20111011
US2014132767 AA	20140515	US20130854470	20130401
US8063797 BA	20111122	US20110194896	20110729
US8432297 BB	20130430	US20110271016	20111011

Probable Assignee: PARKME LLC

Assignee(s):(std)**:** ELIAS RIMON ; HANSEN STEVEN ; LANDMAN MARC ; PARKME LLC ; SONNABEND ERIC

Inventor(s):(std)**:** ELIAS RIMON ; HANSEN STEVEN ; LANDMAN MARC ; SONNABEND ERIC

Agent(s): AMERICAN PATENT AGENCY PC; DANIAR; ALBERT; NOAH

International class (IPC 8–9)**:** B60Q1/48 G06K9/00 G08G1/14 (Advanced/Invention)

CPC: G06K9/00818 G08G1/144 G08G1/147 G08G1/207 G06K9/00791 G08G1/0112 G08G1/0129 G08G1/0141 G08G1/04 G08G1/143 G08G1/146 G06K9/00476 G06K9/3258 G08G1/096716 G08G1/09675 G08G1/096775

European class: G08G1/0967A1 G08G1/0967B2 G08G1/0967C1

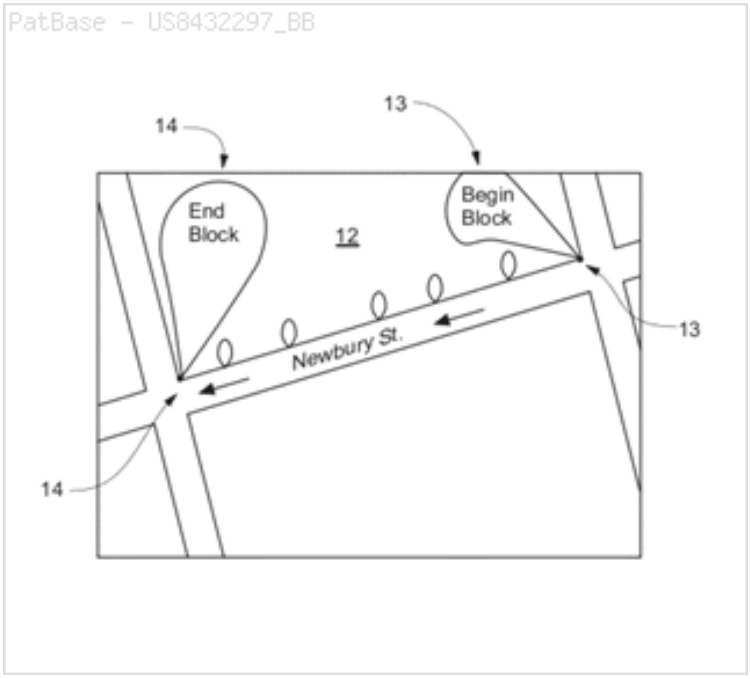
US class: 340/932.2 340/932.200P 348/148 348/159 382/103

Classification Explorer

Cited documents: US8063797 BA, US7714742 BA, US7538690 BA, US6587601 BA, US6453056 BB, US6081206 A, US5696503 A, US5633946 A, US5465115 A, US2013057686 AA, US2011261200 AA, US2010328104 AA, US2010060485 AA, US2010042318 AA, US2008101656 AA,

Forward Citations: WO16156023, WO16127165, WO16088069, WO16053072, WO15172161, WO15013217, WO14204483, WO13163282, US9567007, US9563199, US9562782, US9558665, US9489839, US9488986, US9478134, US9472101, US9420189, US9418552, US9390319, US9330303, US9323993, US9299257, US9291466, US9277370, US9275546, US9273976, US9262915, US9262749, US9225782, US9224062, US9208619, US9208392, US9202376, US9200921, US9177475, US9171382, US9165467, US9154900, US9102330, US9093021, US9083581, US9064415, US9064414, US9036509, US9036027, US9026351, US9020761, US9002645, US8989954, US8982215, US8982214, US8982213, US8937660, US8903593, US8878936, US8863256, US8848608, US8836788, US8831970, US8830323, US8830322, US8825535, US8817100, US8781958, US8718797, US8705527, US8698896, US8698895, US8625853, US8600665, US8514825, US8479258, US8471732, US8432297, US2016229404, US2016104378, US2016034493, US2015365602, US2015254721, US2015161446, US2015153201, US2015123818, US2015063646, US2015043771, US2015031401, US2014371950, US2014337153, US2014309855, US2014278096, US2014278046, US2014253582, US2014236786, US2014088872, US2013307704, US2013262160, US2013231128, US2013226915, US2013191189, US2013071035, US2013057686, US2013039532, US2012316778, US2012232965, US2012180103, US2012062395, US2012056758, US2011214070, US2011140928, US2009171566, US2009171563, EP2767803, DE102013212523, DE102013209298, DE102013001308, CN104952276, CN103594000, CN102592474,

Abstract:
Source: US2012062395A An integrated parking information system is disclosed. The system includes a collection system and a means for collection of parking data, and an information provision system and a method for the provision of parking information, for instance, enabling a driver to know exactly which city parking rules and fines apply for any given street parking space, as well as other associated information. The system can notify members about available parking spots through a GPS application that is integrated with phones and in dash Navigation Systems. The system can provide alerts to protect members against parking violations.



0) US2012112429A – DETACHABLE TOP TUBE APPARATUS FOR A BICYCLE

222) Family number: 51080096 (US2012112429A)

© PatBase

Title:	DETACHABLE TOP TUBE APPARATUS FOR A BICYCLE
Priority:	US20100940269 20101105

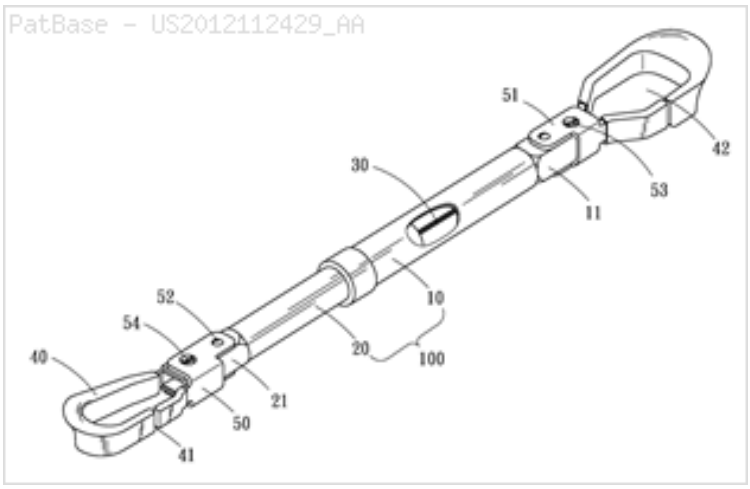
Family:

Publication number	Publication date	Application number	Application date
US2012112429 AA	20120510	US20100940269	20101105

Probable Assignee:	KING SHEN CO LTD
Assignee(s):(std):	LIANG RONG JIN ; TSAI DAVID ; WANG KUN JIE
Assignee(s):	KING SHEN CO LTD
Inventor(s):(std):	LIANG RONG JIN ; TSAI DAVID ; WANG KUN JIE
International class(IPC 8–9):	B62K19/00 (Advanced/Invention)
CPC:	B62K3/04 B62K19/18 B62K2015/001
European class:	B62K19/18 B62K3/04 L62K15/00B L62K19/18
US class:	280/281.1 280/281.100P

Classification Explorer

Abstract:
Source: US2012112429A A detachable top tube apparatus includes two tubes, two spring–biased detents, two hooks, two latches and an elastic element. The tubes are telescopically connected to each other. Each of the spring–biased detents is connected to a related one of the tubes. Each of the hooks includes a portion inserted in a related one of the tubes. Each of the latches each including two wings pivotally connected to a related one of the tubes between a releasing position and a locking position. In the releasing position, each of the latches allows a portion of a bicycle to be hooked by and unhooked from the related hook. In the locking position, each of the latches retains the portion of the bicycle hooked by the related hook. The elastic element interconnects the tubes.



0) US2012200401A – ROTATING WHEEL ELECTRONIC DISPLAY APPARATUS

223) Family number: 51717341 (US2012200401A)

© PatBase

Title: ROTATING WHEEL ELECTRONIC DISPLAY APPARATUS

Priority: US20110023967 20110209

Family:

Publication number	Publication date	Application number	Application date
US2012200401 AA	20120809	US20110023967	20110209
US8830045 BB	20140909	US20110023967	20110209

Probable Assignee: GOLDWATER DAN

Assignee(s):(std)**:** GOLDWATER DAN

Inventor(s):(std)**:** GOLDWATER DAN

Agent(s): PORTER WRIGHT MORRIS AND ARTHUR LLP

International class (IPC 8–9)**:** B62J3/00 B62J6/00 B62J6/20 G09G5/10 (Advanced/Invention)

CPC: B62J6/20 G09F21/045 G09G3/005

European class: B62J6/20

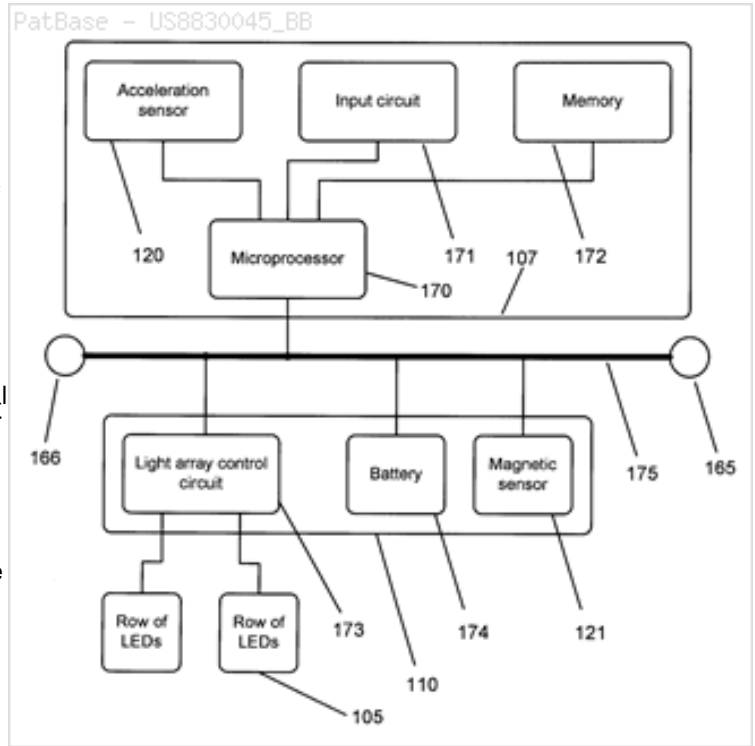
US class: 340/427 340/432 340/432P 340/815.45 345/31 345/31S 345/39 345/690 345/690S 362/473

Classification Explorer

Cited documents: US7271813 BB, US7161256 BB, US7079042 BB, US6598894 BA, US6492963 BA, US6072386 A, US6016101 A, US5984487 A, US5903224 A, US5844377 A, US5800039 A, US5584562 A, US5418697 A, US5333101 A, US5319531 A, US5302965 A, US5121305 A, US5057827 A, US5032098 A, US4796972 A, US4135229 A, US2008186155 AA, US2008101053 AA,

Forward Citations: US9523495, US9359032, US8888499, US2015266450, US2015197299, US2015146449, US2014135996, US2013242546,

Abstract:
Source: US2012200401A A light display is mounted on the spokes of a rotating bicycle wheel. The display includes a plurality of individual arrays of lights forming a set. The set of arrays are attached together into a single rigid light display apparatus attached to a spoke of the wheel at the tip of each array of lights. At least one sensors on the apparatus, senses the angular velocity and angular position of the rotating wheel. A microprocessor, is mounted on one of the arrays of lights and connected to the sensor, and is further connected to a shared electrical bus which traverses every array of lights. The shared electrical bus is formed by the electrical connection of all the arrays of lights in a line or loop topology. Each array of lights has at most two connection points to the shared electrical bus. The microprocessor modulates the plurality of arrays of lights via the shared electrical bus and without a direct connection to every array of lights. The arrays of lights are modulated according to a selected one of a plurality of display patterns and the sensed angular velocity and position of the rotating wheel, to form a stabilized, upright, forward–reading image on both sides of the wheel using persistence of vision of a viewer.



0) US2013275296A – PROXIMAL CUSTOMER TRANSACTION INCENTED BY DONAT...

224) Family number: 54419043 (US2013275296A) © PatBase

Title: PROXIMAL CUSTOMER TRANSACTION INCENTED BY DONATION OF AUTO–BOARDED MERCHANT

Priority: US20120589482P 20120123 US20120611876P 20120316 US20120732152P 20121130 US20130748459 20130123 US20130834984 20130315 US20130647119 20131129 WO2013US22780 20130123 WO2013US32175 20130315 WO2013CA01001 20131129

Family:

Publication number	Publication date	Application number	Application date
CA2861237 AA	20140714	CA20132861237	20130123
CA2880835 AA	20140915	CA20132880835	20130315
CA2892400 AA	20150525	CA20132892400	20131129
US2013275296 AA	20131017	US20130834984	20130315
US2014136300 AA	20140515	US20130748459	20130123
US2015317668 AA	20151105	US20130647119	20131129
WO13112611 A1	20130801	WO2013US22780	20130123
WO13138739 A1	20130919	WO2013US32175	20130315
WO14082165 A1	20140605	WO2013CA01001	20131129

Probable Assignee: EDATANETWORKS INC

Assignee(s):(std)**:** BATES MATTHEW ARNOLD MACPHERSON ; DESANDRO BRADLEY K ; EDATANETWORKS INC ; ESDATANETWORKS INC ; TIETZEN TERRANCE PATRICK ; ROBERTSON WILLIAM GORDON

Assignee(s): TIETZEN TERRANCE PATRICK251 RUNNING CREEK LANEEDMONTONA1T6J 6V9CA ; EDATANETWORKS INC104,1259–91 STREET SWBOX 53502EDMONTONA1T6X 1E9CA ; BATES MATTHEW ARNOLD MACPHERSON12026 18 AVE SWEDMONTONA1T6W 1W3CA

Inventor(s):(std)**:** BATES MATTHEW ARNOLD MACPHERSON ; TIETZEN TERRANCE PATRICK ; ROBERTSON WILLIAM GORDON

Inventor(s): TIETZEN TERRANCE PATRICK251 RUNNING CREEK LANEEDMONTONA1T6J 6V9CA ; BATES MATTHEW ARNOLD MACPHERSON12026 18 AVE SWEDMONTONA1T6W 1W3CA

Agent(s): NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; FINLAYSON AND SINGLEHURST; DE FAZEKAS ANTHONY; GRAHAM LORELEI; NORTON ROSE FULBRIGHT CANADA LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G06Q20/40 G06Q30/02 G06Q30/06 G06Q40/02 G06Q50/22 G10L13/00 G10L13/027 G10L15/00 G10L15/26 (Advanced/Invention)

CPC: G06Q50/22 G06Q30/0279 G06Q30/0207 G06Q10/00 G06Q50/26 G06Q40/02 G06Q30/06 G06Q30/02 G10L13/00 G06Q30/0239 G10L15/265 G06Q30/0257 G06Q20/405 G06Q30/0276 G06Q30/0267 G06Q20/20 G06Q20/322 G06Q20/34 G10L15/00 G10L13/027

US class: 705/14.1 705/14.39 705/14.55 705/39

Classification Explorer

Cited documents: WO11054071 A1, WO09042251 A1, US8385964 BB, US8099109 BB, US2013290089 AA, US2012271717 AA, US2012158549 AA, US2011246272 AA, US2011231233 AA, US2010004992 AA, US2009281871 AA, US2006122874 AA, US2003065572 AA, US2002116214 AA, KR20000024366 A, KR100760022 B1, JP2002203283 A2,

Forward Citations:

US9430476, US2015269552, US2015261754, US2015254702, US2015006426, US2014365368, US2014244357,

Abstract:
Source: US2013275296A Address, time, and rules obligating donee donations are auto−populated for merchants whose authorization responses for transactions conducted on accounts are used to obtain account holders' travel time to the merchants'. When travel time is proximal to the auto−populated time, the rule and the transaction currency amount are used to calculate the merchant's donee donation, which donation can be messaged for auditing of donations paid and payable. A predetermined time after each such transaction, the merchant is sent a notice as to the difference between obligatory donee donations and the donee donations received. Auto−populated addresses, times, and rules are amendable by the merchant, and the donee amendable by the account holder, whereby the merchant selects the donation, and the account holder selects the donee. Answers to account holder surveys, upon receipt, increments currencies for account holder or donee with greater increment for fast answers.

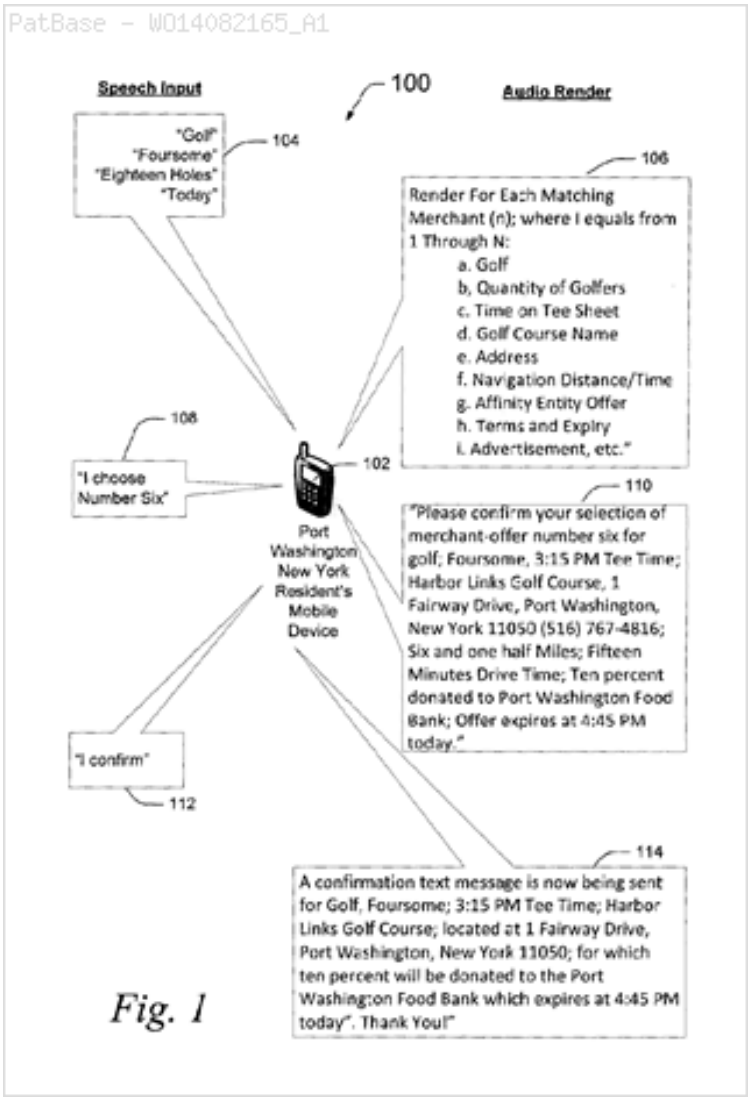


Fig. 1

0) DE102013211404B3 – HALTEVORRICHTUNG ZUM HALTEN EINES FAHRRADS HOL...

225) Family number: 56773363 (DE102013211404B3) © PatBase

Title: HALTEVORRICHTUNG ZUM HALTEN EINES FAHRRADS HOLDING DEVICE FOR RETAINING BICYCLE ON PIPE SECTION OF MOTOR VEHICLE BICYCLE RACK, HAS SPRING ELEMENTS THAT ARE DESIGNED SUCH THAT THE OPENING FORCE GENERATED WITH A FIRST SPRING ELEMENT IS SMALLER THAN THAT OF A SECOND SPRING ELEMENT

Priority: DE201310211404 20130618

Family:

Publication number	Publication date	Application number	Application date
DE102013211404 B3	20140626	DE201310211404	20130618

Probable Assignee: UEBLER GMBH

Assignee(s):(std)**:** UEBLER GMBH

Inventor(s):(std)**:** NICK MARKUS

International class (IPC 8–9)**:** B60R9/10 B62H3/00 (Advanced/Invention)

CPC: B62H3/12 B60R9/10

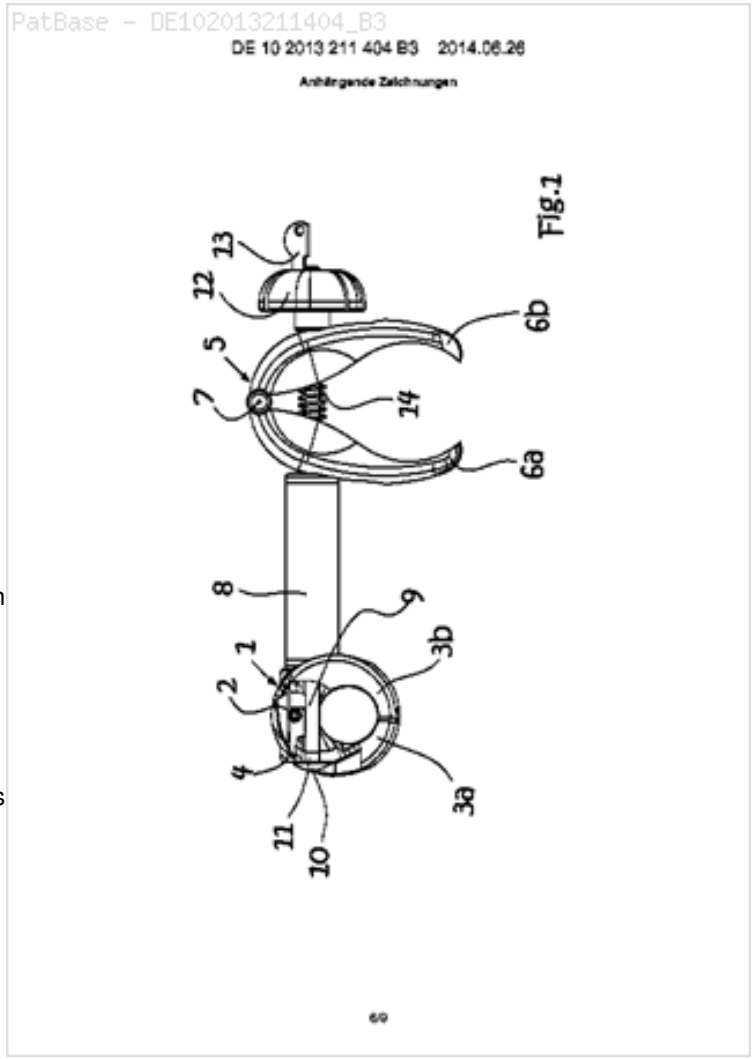
Classification Explorer

Cited documents: WO09065817 A1, DE9214916 U,

DE102009016528 A1

Forward Citations: DE202014101765,

Abstract:
Source: DE102013211404B3 Die Erfindung betrifft eine Haltevorrichtung zum Halten eines Fahrrads an einem Rohrabschnitt, insbesondere einen Rohrabschnitt eines Kfz−Fahrradtraegers, umfassend: eine erste Halteeinrichtung (1) zum Umgreifen des Rohrabschnitts, welche zwei schwenkbar miteinander verbundene erste Halteklammerhaelften (3a, 3b) und ein die ersten Halteklammerhaelften (3a, 3b) auseinander zwingendes erstes Federelement (4) aufweist, eine zweite Halteeinrichtung (5) zum Umgreifen eines Rahmenrohrs des Fahrrads, welche zwei schwenkbar miteinander verbundene zweite Halteklammerhaelften (6a, 6b) und ein die zweiten Halteklammerhaelften (6a, 6b) auseinander zwingendes zweites Federelement (14) aufweist, wobei das erste (4) und das zweite Federelement (14) so ausgestaltet sind, dass eine mit dem ersten Federelement (4) erzeugte erste oeffnungskraft kleiner als eine mit dem zweiten Federelement (14) erzeugte zweite oeffnungskraft ist, einen Abstandshalter (8), mit dem die erste (1) und die zweite Halteeinrichtung (2) voneinander beabstandet gehalten werden, und eine Zwingeinrichtung (9, 10, 11, 12) zum Gegeneinanderzwingen der ersten (3a, 3b) und der zweiten Halteklammerhaelften (6a, 6b). The device has a first holding unit (1) for engaging the pipe section, two first retaining clip halves (3a,3b) pivotally connected with each other, a second holding unit (5) for gripping a frame tube of bicycle, and two second retaining clip halves (6a,6b) pivotally connected with each other. The spring elements (4,14) are designed such that the opening force generated with first spring element is smaller than that of second spring element. A spacer (8) is held between the holding units. An urging unit (9) is arranged for urging against all the clip halves with each other.



0) US4188737A – SPORT SHOES

226) Family number: 7655921 (US4188737A) © PatBase

Title: SPORT SHOES

Priority: US19780922693 19780707

Family:

Publication number	Publication date	Application number	Application date
US4188737 A	19800219	US19780922693	19780707

Probable Assignee: COLGATE PALMOLIVE CO

Assignee(s):(std)**:** COLGATE PALMOLIVE CO

Assignee(s): COLGATE PALMOLIVE

Inventor(s):(std)**:** HAVER SANFORD A

International class (IPC 8–9): A43B3/00 A43B5/14 (Advanced/Invention); A43B3/00 A43B5/00 (Core/Invention)

International class (IPC 1–7): A43B23/00 A43B5/00

CPC: A43B5/14 A43B1/0036 Y10T74/217

European class: A43B1/00C10 A43B5/14

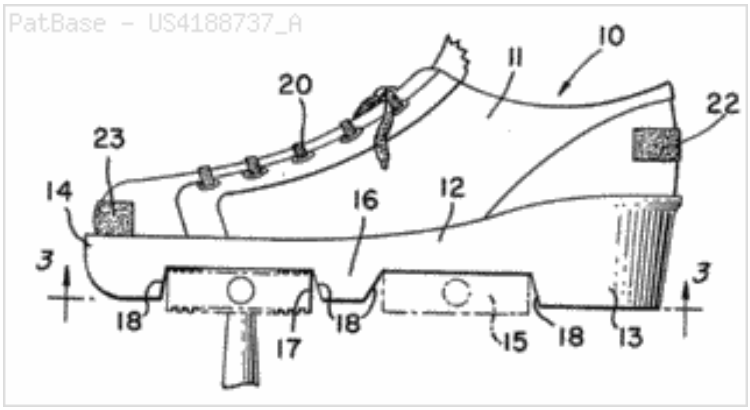
US class: 36/131 36/137 74/594.6

Classification Explorer

Cited documents: US3952428 A, US2607130 A, GB189301685 A, FR2301193 A1,

Forward Citations: WO9835571, WO11071252, WO11071252, US9386820, US6026598, US5894686, US5862614, US5611156, US5251508, US4907355, US4893420, US4836047, US4685351, US4662090, US4651447, US4640151, US4449308, US4361972, US2014259800, US2013232822, US2012240430, US2008221492, FR2832908, FR2645721, EP0298139, DE10130083, DE10130083, CN102711540,

Abstract:
Source: US4188737A There is disclosed a sport shoe having an outsole adapted and constructed to provide means for assisting in engaging a bicycle pedal. In the various embodiments disclosed the outsole possesses one or more transverse recesses into which may be fitted a bicycle pedal. The outsole in one embodiment has two transverse recesses so that a wearer of the shoe may selectively employ one of the recesses. In another embodiment the outsole has a single recess and, additionally, a forwardly facing shoulder at the toe portion for a bicycle pedal. The sport shoe may be desirably fitted with reflective means, preferably at the counter portion of the shoe or the rearwardly facing heel portion and/or at the forwardly facing toe portion in order to increase the visibility of a bicycle rider, especially at night.



0) DE4417010A1 – BICYCLE BACK=PEDAL BRAKE WITH FREEWHEEL AT PEDA...

227) Family number: 11699041 (DE4417010A1) © PatBase

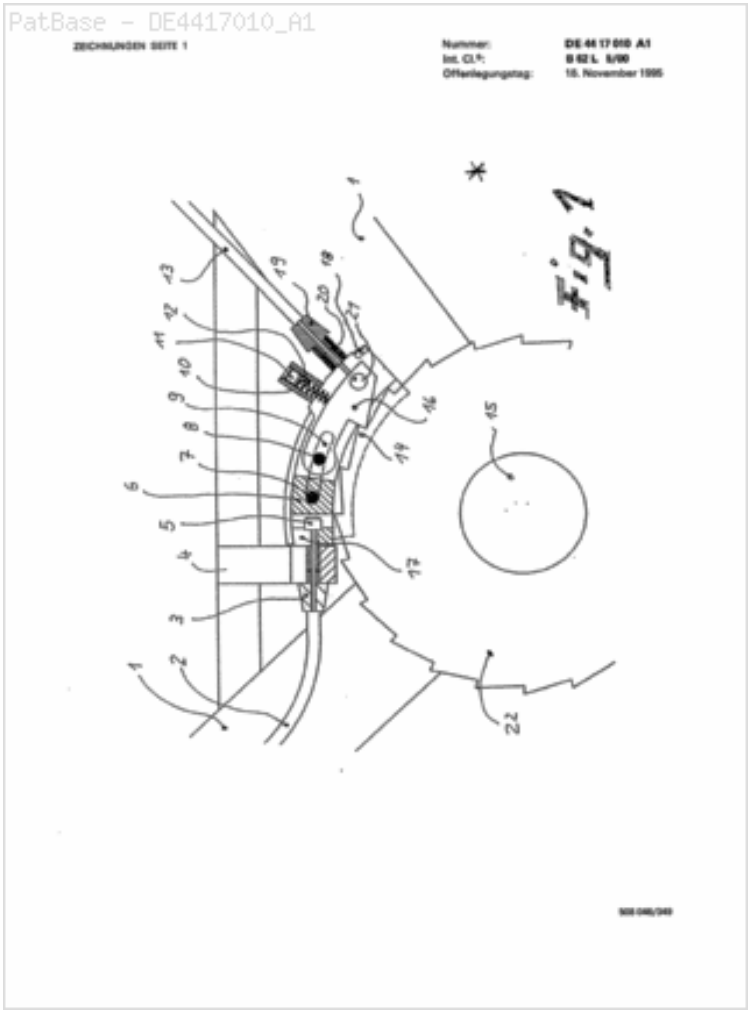
Title:	Bicycle back=pedal brake with freewheel at pedal bearing
Priority:	DE19944417010 19940513

Family:

Publication number	Publication date	Application number	Application date
DE4417010 A1	19951116	DE19944417010	19940513

Probable Assignee:	HESS HERBERT DIPL ING FH
Assignee(s):(std)**:**	HESS HERBERT DIPL ING FH
Assignee(s):	HESS HERBERT DIPL ING FH 88437 MASELHEIM DE
Inventor(s):(std)**:**	HESS HERBERT DIPL ING
Inventor(s):	HESS HERBERT DIPL ING FH 88437 MASELHEIM DE
International class (IPC 8–9)**:**	B62L5/00 (Advanced/Invention); B62L5/00 (Core/Invention)
International class (IPC 1–7)**:**	B62L5/00
CPC:	B62L5/003
European class:	B62L5/00B
Classification Explorer	
Cited documents:	US4134481, US2717662, FR1101960, FR1022084, DE3904786, DE1716215, CH227529,
Forward Citations:	DE102009047994,

Abstract:
Source: DE4417010A1 The brake has a freewheel which is firmly coupled to the axis of the pedal bearing (15) and permits a rotary movement of the pedal in the bicycle drive direction. During back–pedalling the freewheel is locked and steers a cable coupled to the freewheel lock and the brake such that it initiates the bicycle braking.Pref. the compression or tensile rod forms the cable. The freewheel may be a disc–shaped body. The freewheel may be fitted with a follower disc (22) with toothed retentions (14) engaged by one or more hooks (16), on back–pedalling.



0) DE19529903A1 – BICYCLE GEAR SELECTOR OPERATING TWO GEAR CHANGE...

228) Family number: 12491701 (DE19529903A1) © PatBase

Title: Bicycle gear selector operating two gear changers, especially front and rear gear derailleur

Priority: DE19951029903 19950816

Family:

Publication number	Publication date	Application number	Application date
DE19529903 A1	19970220	DE19951029903	19950816
DE19529903 C2	19970717	DE19951029903	19950816

Probable Assignee: KOHLER JUERGEN

Assignee(s):(std)**:** KOHLER JUERGEN

Assignee(s): KOHLER JUERGEN 70569 STUTTGART DE

Inventor(s):(std)**:** KOHLER JUERGEN

Inventor(s): KOHLER JUERGEN 70569 STUTTGART DE

International class (IPC 8–9): B62M25/04 (Advanced/Invention); B62M25/00 (Core/Invention)

International class (IPC 1–7): B62M25/04 B62M25/08 B62M9/16

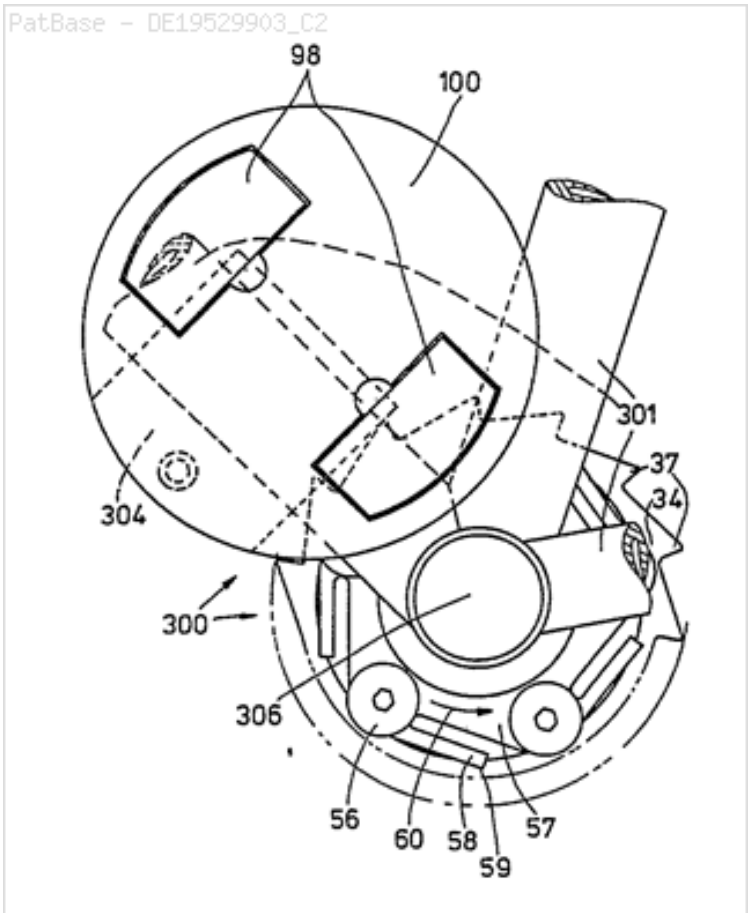
CPC: B62M25/04

European class: B62M25/04

Classification Explorer

Cited documents: US5407396, US5358451, DE4128866, DE4005102, DE4003443, DE3406453,

Abstract:
Source: DE19529903A1 The bicycle gear selector has one selector lever that operates two gear changers, esp. a front and rear gear derailleur, in a particular sequence. On changing gear, a switching mechanism (100) takes energy from a moving component and uses this to operate the gear changer. Pref. the energy is taken from the pedal axle (306) and is used to operate standard spring tensioned gear cables. The switching mechanism is in a non–contact friction–free position when not changing gear.



0) US3834197A – HIGH SECURITY, CARD OPERABLE MAGNETIC LOCK

229) Family number: 1397192 (US3834197A) © PatBase

Title: HIGH SECURITY, CARD OPERABLE MAGNETIC LOCK

Priority: CA19730181478 19730920 CA19760254601 19760611 US19740443508 19740219 US19720290861 19720921 US19730355796 19730430 US19740443476 19740219

Family:

Publication number	Publication date	Application number	Application date
AU197360190 A1	19750313	AU19730060190	19730911
BE814441 A1	19741030	BE19740143829	19740430
BE814442 A1	19741030	BE19740143830	19740430
CA1018370 A1	19771004		00000000
CA1018370 A2	19771004	CA19760254601	19760611
CA991874 A1	19760629	CA19730181478	19730920
CA996081 A1	19760831	CA19740197326	19740410
CA996082 A1	19760831	CA19740197649	19740417
DE2347420 A1	19740411	DE19732347420	19730920
DE2420674 A1	19741107	DE19742420674	19740429
DE2420735 A1	19741107	DE19742420735	19740429
DE2420735 B2	19770317	DE19742420735	19740429
DE2420735 C3	19771103	DE19742420735	19740429
FR2200876 A5	19740419	FR19730033923	19730921
FR2227150 A1	19741122	FR19740014908	19740429
FR2227150 B3	19770304	FR19740014908	19740429
FR2227151 A1	19741122	FR19740014914	19740429
FR2227151 B3	19770304	FR19740014914	19740429
GB1439505 A	19760616	GB19730044449	19730921
GB1439572 A	19760616	GB19740017105	19740418
GB1460358 A	19770106	GB19740017093	19740418
IT1010240 A	19770110	IT19740022077	19740429
IT1010241 A	19770110	IT19740022078	19740429
JP49070797 A2	19740709	JP19730106417	19730920
JP50014044 A2	19750214	JP19740048641	19740430
JP50017192 A2	19750222	JP19740048640	19740430
JP52014501 B4	19770422	JP19740048641	19740430
LU69952 A	19741121	LU19740069952	19740429
LU69953 A	19741121	LU19740069953	19740429
NL7405747 A	19741101	NL19740005747	19740429
NL7405750 A	19741101	NL19740005750	19740429
US3834197 A	19740910	US19720290861	19720921
US3887268 A	19750603	US19740443476	19740219
US3894790 A	19750715	US19740443508	19740219

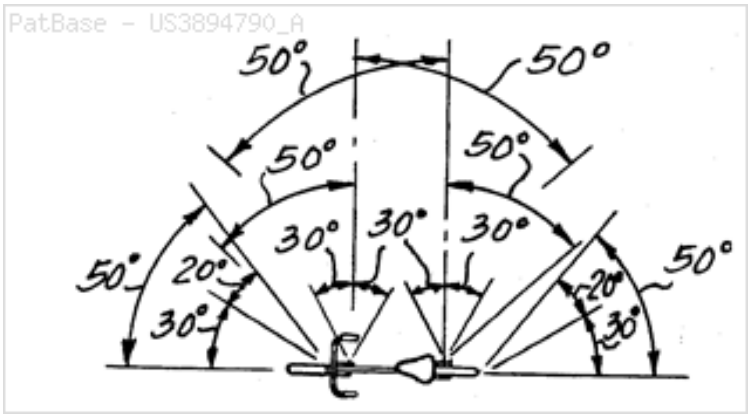
Probable Assignee: BARRINGTON CONSULTING SERVICES INC

Assignee(s):(std)**:** GREER HYDRAULICS INC ; BEATRICE FOODS CO

Assignee(s): BEATRICE FOODS CO ELGIN ILL V ST A ; BEATRICE FOODS CO US ; BEATRICE FOODS COMPANY ; CARDKEY SYSTEMS INC ; CARDKEY SYSTEMS INC A CORP OF OREGON ; BARRINGTON CONSULTING SERVICES INC ; EXCEL INT ; EXCEL GROUP INC ; MANUFACTURERS HANOVER TRUST CO ; GREER HYDRAULICS INC US ; GREER HYDRAULICS ; FOODS B CO ; EXCEL INT GROUP INC A CORP OF ILLINOIS ; EXCEL GROUP INC A CORP OF IL ; SEDLEY BRUCE S ; GOLDEN GERALD ; KENNEDY JAMES D

Inventor(s):(std):	GOLDEN GERALD ; KENNEDY JAMES D ; KENNEDY JAMES DARRELL ; SEDLEY BRUCE S ; SEDLEY BRUCE SAMUEL ; SEDLEY B
Inventor(s):	SEDLEY B US ; WIRD SPAETER GENANNT WERDEN ; BRUCE SAMUEL SEDLEY ; KENNEDY JAMES DARRELL STREAMWOOD ; GOLDEN GERALD FRANKLIN PARK
International class (IPC 8–9):	B62J6/20 E05B47/00 E05B65/06 G02B5/12 (Advanced/Invention); E05B65/06 (Advanced/Non–invention); B62J6/00 E05B47/00 E05B65/06 G02B5/12 (Core/Invention)
International class (IPC 1–7):	B01J35/04 B23P15/24 B28B1/30 B28B1/52 B60Q1/30 B62J5/20 B62K11/00 B62K3/00 C04B35/66 E05B19/06 E05B19/16 E05B47/00 E05B47/04 E05B47/06 E05B67/22 F01N3/10 F16S1/04 F21V7/04 F28F21/04 G02B5/12 G02B5/124 G06K7/08 G09F13/16 G09F21/04
CPC:	B62J6/20 Y10T70/463 Y10T70/7057 Y10T70/7757 Y10T70/8459 Y10T70/8541 Y10T292/702 E05B47/0043
European class:	B62J6/20 E05B47/00B E05B47/00B5
US class:	292/341.17 359/520 359/523 359/533 40/613 70/276 70/3.8C 70/38.00C 70/387 70/38C 70/448 70/451
Classification Explorer	
Cited documents:	US420834 A, US3633393 A, US3541606 A, US3444711 A, US2732703 A, US2344542 A, US1880850 A, US1339492 A, JP47023863 B4,
Forward Citations:	WO9708412, WO9400659, USD779133, USD779132, USD779131, USD775433, USD745223, USD745222, USD745221, USD729984, USD725830, USD725829, USD725828, USD699899, USD699898, USD699399, USD699007, US8851531, US8413473, US8220300, US7954347, US7703931, US7572016, US7506987, US6877866, US6725590, US6675516, US6171095, US5889615, US5669254, US5653134, US5652677, US5380061, US5349920, US5339661, US4838058, US4571025, US4486073, US4312567, US4312198, US4077242, US4025158, US4017151, US3997184, US3995460, US2015130651, US2012274082, US2012036903, US2009237791, US2009178448, US2009178447, US2009095038, US2008212182, US2007248714, US2006103934, US2005185279, US2002196542, JP63071372, JP61180299, JP55138188, JP53077796, JP52001075, JP51106937, GB2147694, FR2374492, FR2372945, FR2372945, EP1659053, EP0451712, EP0129040, DE4240680, DE4201936, CN102162316, AU671632,

Abstract:
Source: US3834197A Card operable magnetic lock having tumbler–carrying core sandwiched between two lock plates. The lock plates have locking openings therein adapted to receive the ends of the tumbler magnets carried by the core to prevent relative sliding movement between the core and the lock plates. The pattern of locking openings in the lock plates are complementary in that each locking opening in each lock plate is in alignment with a solid structure or "non–opening" in the other lock plate. A magnetic sheet attracts the tumbler magnets toward one of the locking plates to seat at least one of the magnets in the locking opening in that locking plate, and a card slot disposed between the magnetic sheet and the locking plate is adapted to receive a coded magnetic card having magnetized spots thereon for attracting and/or repelling the tumbler magnets out of the locking openings in the locking plates to permit relative sliding movement between the core and the plates.



0) SE451179B – DISCS FOR ERGONOMIC BICYCLE BRAKE BROMSSYSTEM ...

230) Family number: 143880 (SE451179B) © PatBase

Title: DISCS FOR ERGONOMIC BICYCLE BRAKE

Priority: SE19830000204 19830117

Family:

Publication number	Publication date	Application number	Application date
SE451179 B	19870914	SE19830000204	19830117
SE451179 C	19880107	SE19830000204	19830117
SE8300204 A	19840718	SE19830000204	19830117
SE8300204 A0	19830117	SE19830000204	19830117
SE8300204 L	19840718	SE19830000204	19830117

Probable Assignee: MOELNLYCKE AB

Assignee(s):(std)**:** MOELNLYCKE AB ; VIKING REHAB AB

Assignee(s): MOLNLYCKE AB

Inventor(s):(std)**:** HASFJORD M B

Inventor(s): M B HASFJORD

International class (IPC 8–9)**:** A63B23/04 A63B69/16 (Advanced/Invention); A63B23/04 A63B69/16 (Core/Invention)

International class (IPC 1–7)**:** A63B23/04 A63B69/16

CPC: A63B22/0605 A63B21/018

Classification Explorer

Abstract:
The brake system is for an ergonomic bicycle, and comprises two discs (11,13) connected to a drive belt (20). One disc (13) is lockable relative to the other. In order to vary the belt tension which provides the requisite brake and friction forces, the disc centre distance is variable, in that the lockable disc is eccentrically located, and can only be turned after release of a stop (17).

PatBase - SE451179_B

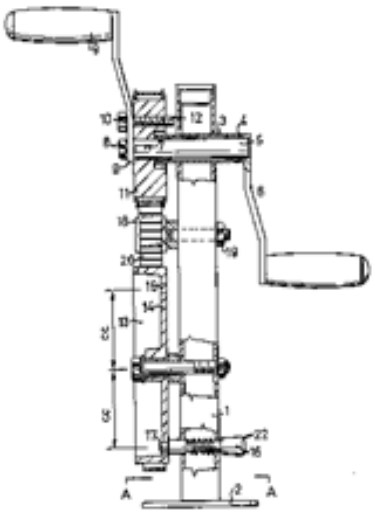


FIG.1

0) CN2389918Y – SWEEPING BICYCLE

231) Family number: 16876068 (CN2389918Y) © PatBase

Title: Sweeping bicycle

Priority: CN19992029565U 19991009

Family:

Publication number	Publication date	Application number	Application date
CN2389918 Y	20000802	CN19992029565U	19991009

Probable Assignee: GAO NINGHUA

Assignee(s):(std)**:** GAO NINGHUA

Inventor(s):(std)**:** GAO NINGHUA ; NINGHUA GAO

International class (IPC 8–9)**:** E01H1/05 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** E01H1/05

Classification Explorer

Forward Citations: CN102505650,

Abstract:
Source: CN2389918Y The utility model relates to a refuse sweeping bicycle, comprising a braking handle, a steering wheel, a pedal, a saddle, a handle and a rear wheel, wherein, the rear wheel is connected with left and right front wheels through central shafts which are movably connected. The left and right front wheels are provided with refuse boxes, and the front and middle ends of the refuse boxes are provided with two shafts which are connected with a tipping bin. Left and right small wheels are arranged at the front lower edge of the tipping pin, and a shaft is arranged between the left and right small wheels. The shaft is provided with a hair brush, and a pair of tipping bin pull rods are arranged above the tipping bin pull rods are arranged in the grooves of the tipping bin pull rods. A pull rod for discharging the refuse is connected with the refuse boxes. The utility model has the advantages of convenient operation and low cost.

0) DE29811216U1 – TRETLAGERANORDNUNG FOR A BICYCLE TRETLAGERANORD...

232) Family number: 16968282 (DE29811216U1) © PatBase

Title:	Tretlageranordnung for a bicycle
Priority:	DE19982011216U 19980623

Family:

Publication number	Publication date	Application number	Application date
DE29811216 U1	19980924	DE19982011216U	19980623

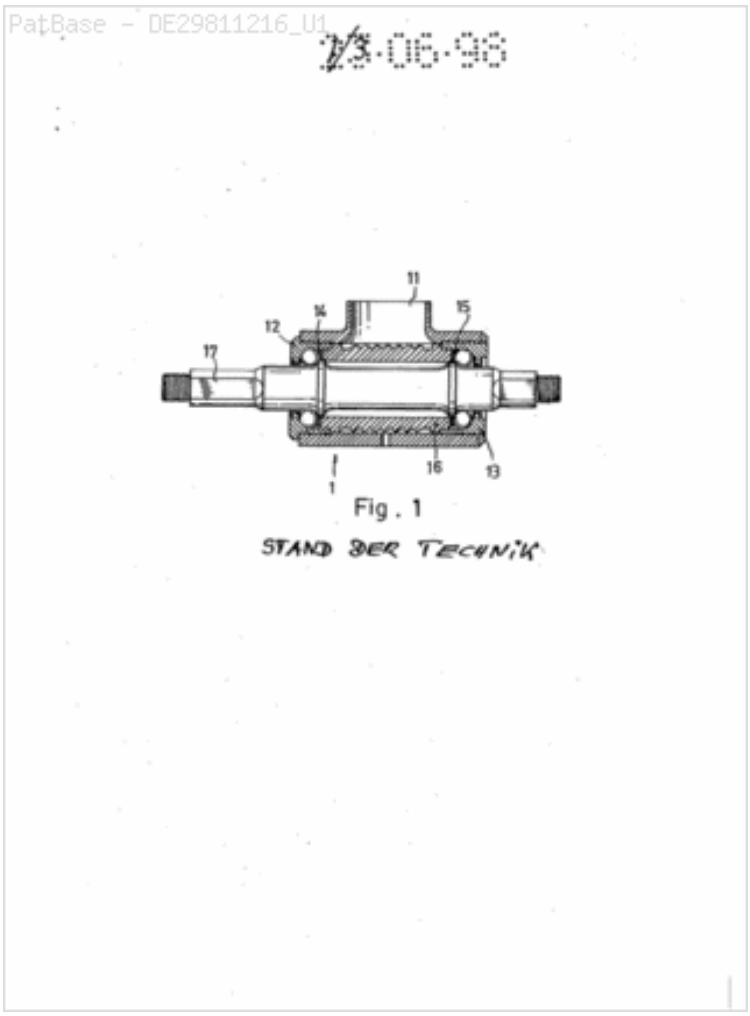
Probable Assignee:	LIN WEN HWA
Assignee(s):(std):	LIN WEN HWA
Assignee(s):	LIN WEN HWA WEI PU HSIANG TAICHUNG TW
International class (IPC 8–9):	B62M3/00 F16C19/54 F16C25/06 F16C35/077 (Advanced/Invention); B62M3/00 F16C19/00 F16C25/00 F16C35/04 (Core/Invention)
International class (IPC 1–7):	B62M1/02
CPC:	F16C35/077 B62M3/003 F16C19/54 F16C25/06 F16C2326/28
European class:	B62M3/00B F16C19/54 F16C25/06 F16C35/077

Classification Explorer

Forward Citations: EP1736403, DE102005027520,

Abstract:
Source: DE29811216U1 (Claim 1) 6832 lll /osSchutzansprueche 1. Tretlageranordnung fuer ein Fahrrad, wobei das Tretlagergehaeue zwei horizontalaufeinander ausgerichtete Enden traegt, die jeweils mit einem Innengewinde versehen sind, mit welchem je eine Schraubkappe in Eingriff steht, welche gegen ? ? die Enden einer axial im Tretlagergehaeuse gehaltenen Huelse Kugellager halten,die die Schraubkappen und die Huelsen durchgreifende Tretlagerwelle fuehren, dadurch gekenn z eichne t,dass die Huelse aus einem ersten Huelsenelement (71) sowie einem zweiten Huelsenelement(73) besteht, die ueber eine Schraubverbindung (72, 75) in Laengsrichtung aufeinander ausgerichtet relativ zueinander verdrehbar gehalten sind.

Machine translation: (Claim 1) 6832 Ml / td Schutzansprueche os 1 Tretlageranordnung for a bicycle, with the Tretlagergehaeue two horizontally aligned ends of successive carries, which are each provided with a female, with a screw cap which each is engaged against what?? hold the ends of an axially in the bottom bracket held Huelse ball bearings, which lead the screw and the sleeve sweeping bottom bracket, wherein said z trade names t, that the sleeve from a first Huelsenelement (71) and a second Huelsenelement (73) is that about a screw (72, 75) are in Laengsrichtung aligned relative to each other rotatably held.



0) US4235318A – BICYCLE WHEEL HUB WITH COASTER BRAKE

233) Family number: 17142485 (US4235318A) © PatBase

Title: Bicycle wheel hub with coaster brake

Priority: DE19770014501U 19770507

Family:

Publication number	Publication date	Application number	Application date
DE7714501 U1	19770901	DE19770014501U	19770507
GB1599024 A	19810930	GB19780017241	19780502
JP53138149 A2	19781202	JP19780053214	19780502
US4235318 A	19801125	US19780898141	19780420
YU104778 A	19820630	YU19780001047	19780503
YU40190 B	19850831	YU19780001047	19780503

Probable Assignee: FICHTEL AND SACHS AG

Assignee(s):(std)**:** FICHTEL AND SACHS AG

Assignee(s): FICHTEL AND SACHS AG 8720 SCHWEINFURT

Inventor(s):(std)**:** KELLER J ; KELLER JOSEF ; YOOZEFU KERAA

International class (IPC 8–9)**:** B62L5/04 (Advanced/Invention); B62L5/00 (Core/Invention)

International class (IPC 1–7)**:** B62K21/04 B62L5/02 B62L5/04 B62M11/00 F16D41/34

CPC: B62L5/04

European class: B62L5/04

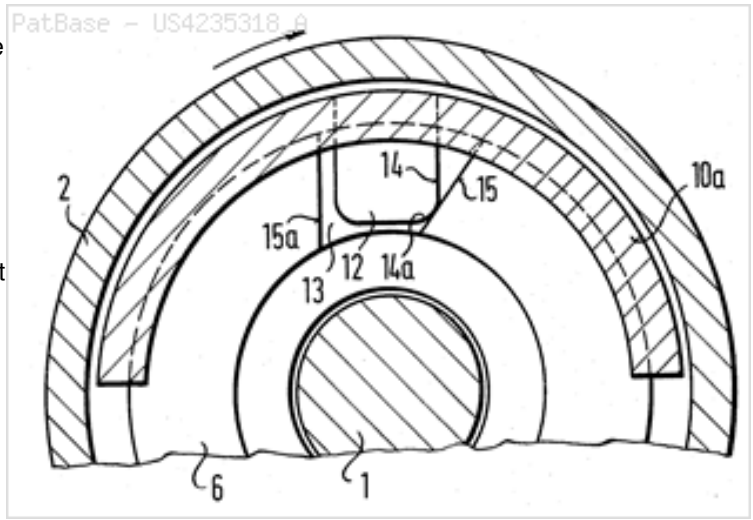
US class: 192/217.6 192/47 192/6R 192/78

Classification Explorer

Cited documents: US747576, US691663, US675261, US635414, US606217, US3190415, US2376042, US2224907,

Forward Citations: DE102005033438,

Abstract:
Source: US4235318A The braking effect of the coaster brake in a bicycle wheel hub is improved by utilizing the frictional force of the wheel hub acting on an expanding split brake sleeve for further expanding the sleeve. A lug on the brake sleeve is received in a slot of a stationary bearing cone on the wheel axle in such a manner that the circumferential frictional force transmitted by the rotating hub shell to the brake sleeve causes the latter to tilt about a pivot axis spaced from the axis of hub rotation, and a cam face on the bearing element is inclined so that a component of the frictional circumferential force drives the lug along the cam face toward the internal face of the hub shell.



0) CN2095917U – BICYCLE LOCK

234) Family number: 17502838 (CN2095917U) © PatBase

Title: BICYCLE LOCK

Priority: CN19912018368U 19910713

Family:

Publication number	Publication date	Application number	Application date
CN2095917 U	19920212	CN19912018368U	19910713

Probable Assignee: TANG BINGSHENG

Assignee(s):(std)**:** TANG BINGSHENG

Inventor(s):(std)**:** BINGSHENG TANG ; GUIFENG TANG ; TANG BINGSHENG ; TANG GUIFENG

International class (IPC 8–9)**:** E05B71/00 (Advanced/Invention); E05B71/00 (Core/Invention)

International class (IPC 1–7)**:** E05B71/00

Classification Explorer

Abstract:
Source: CN2095917U AThe utility model relates to a bicycle lock, which is characterized in that a movable lock foot 6 is hinged with a lock core 2. A fixed lock foot 10 is not only the bottom surface of a lock shell but also a lock foot, and a through hole 7 which is for cylinder padlocks for users' requirements is arranged on the closed ends of the two lock feet. When the bicycle lock is used without padlocks, users only rotate keys to make the movable lock foot 6 sweep back and forth along the pointing direction of M which can achieve the purposes of locking and unlocking, or the closed ends of the two lock feet are connected by a spring lock, which is more convenient than an upper padlock and a lower padlock are arranged in the through hole 7. The utility model has the advantages of reasonable structure, easy fabrication, convenient operation, double–locks for safety, hard structure for resisting picking and low price.

0) CN2249773Y – ROAD–SWEEPING VEHICLES

235) Family number: 17641454 (CN2249773Y) © PatBase

Title: Road–sweeping vehicles

Priority: CN19952037964U 19951108

Family:

Publication number	Publication date	Application number	Application date
CN2249773 Y	19970319	CN19952037964U	19951108

Probable Assignee: GUO XINYU

Assignee(s):(std)**:** GUO XINYU

Inventor(s):(std)**:** GUO XINYU ; XINYU GUO

International class (IPC 8–9)**:** E01H1/02 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** E01H1/02

Classification Explorer

Abstract:
Source: CN2249773Y The utility model relates to a sweeping vehicle for cleaning the garbage of the street, the gallery, etc. The utility model is characterized in that the utility model comprises a main frame. A left vehicle wheel and a right vehicle wheel sheathed on the main shaft in a main frame are respectively fixed on the right vehicle wheel and a big gear and a shaft A of the main frame; a big belt pulley and a pinion sheathed on the shaft A, a small belt pulley A driven by the big belt pulley, a small belt pulley B coaxial with a small belt pulley C, and a cleaning roller driven by the small belt pulley B are fixed on a big cone of the right vehicle wheel; a small cone driven by the big cone, a belt conveyer driven by the small cone, a steering rod fixed on the main frame, and a vehicle bar welded on the steering rod are fixed on the rear half part of the bicycle of the vehicle bar or the additional propulsion bicycle.

236) Family number: 20373798 (GB445953A)

© PatBase

Title: Improvements in or relating to ground–marking machines

Priority: GB19340032819 19341114 GB19370007451 19370313

Family:

Publication number	Publication date	Application number	Application date
GB445953 A	19360422	GB19340032819	19341114
GB488310 A	19380705	GB19370007451	19370313

Probable Assignee: GEORGE FREDERICK TILKE

Assignee(s):(std)**:** GEORGE FREDERICK TILKE ; HERBERT BIGGLESTON

International class (IPC 8–9): E01C23/24 (Advanced/Invention); E01C23/00 (Core/Invention)

International class (IPC 1–7): E01C23/16

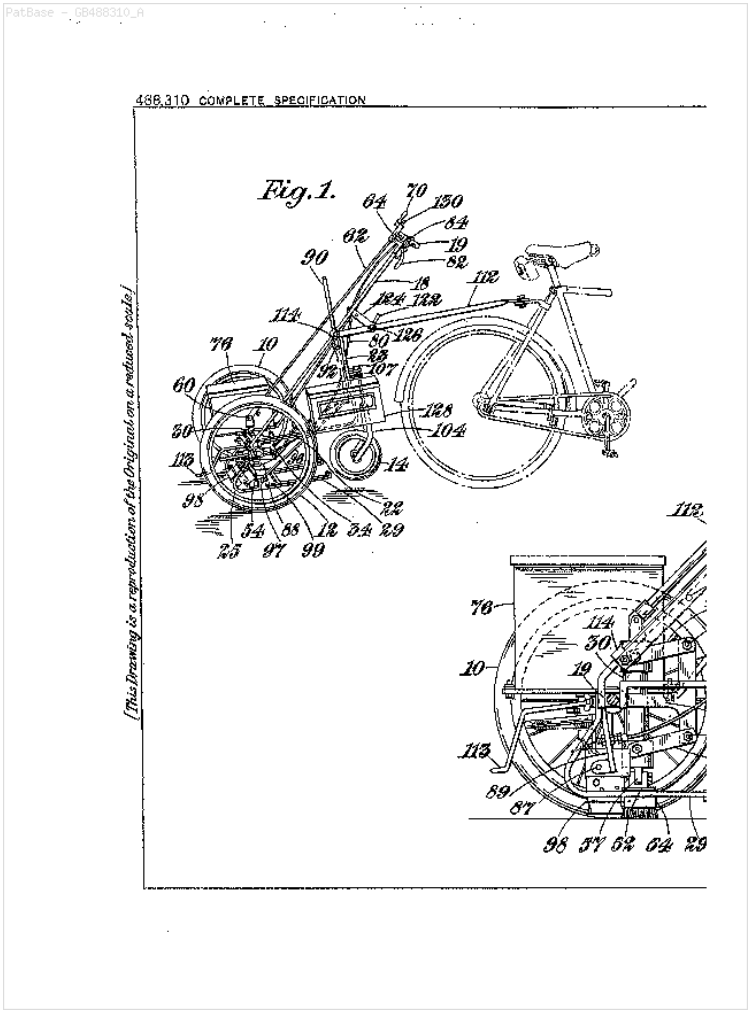
CPC: E01C23/246

European class: E01C23/24D

Classification Explorer

Forward Citations: US8684243,

Abstract:
Source: GB445953A 32819. [Class 132 (ii)] In a ground marking machine suitable for marking broken lines on roads and c. and of the kind wherein a brush smooths the paint on the ground as it is delivered by a distributer, the brush is so mounted on the machine that it may be caused (for example, by a rotary movement) to move transversely in order to give a sharply defined end to the line. The machine is mounted on four ground wheels and carries a paint tank 28 connected by a flexible tube 32 to the perforated distributer 34 of inverted T shape supported by a bracket 48 forming part of an auxiliary frame 36 which is pivoted to the main frame by a shaft 38. The flow of paint is controlled by a rotary valve actuated by a linkage 54, 56, 58, rod 66 and knob 68. Depression of the knob opens the valve, a stop 80 limiting the downward movement. The rod 66 is connected bv a screw–thread to the link 56 so that by rotating the rod the initial distance from the stop 80, that is the maximum opening of the valve may be adjusted. The auxiliary frame carries two sprocket wheels 82, 83 connected by a chain. A universal joint 100 connects the sprocket wheel 83 to a rod 96 terminating in a hand wheel 99 so that the sprocket wheels may he rotated by turning the hand wheel. The sprocket wheel 82, which is of ring–like shape carries, on bars 95 two vertical brushes 91 situated within the ring–like sprocket wheel slightly out of centre. The brushes brush the paint into the ground as it falls from the distributer 34. The bars 95 are mounted on a pivot 89 so that the brushes may move up and down to accommodate uneven ground. When the end of a line is reached the brushes may be given a rotation by turning the hand–wheel 99 so as to mark out a sharply defined end to the line. Two parallel adjustable plates 103 flank the brushes to determine the width of the line, and two parallel



skate−like plates 105 support the pivoted auxiliary frame on the ground. The auxiliary frame may be rocked about its pivot 38 to raise the brushes from the ground, either by depressing a treadle 107 secured to the auxiliary frame or by turning a hand lever 110 connected by a wire 114 to the front of the auxiliary frame. When raised by the treadle, the auxiliary frame may be retained in the raised position by a catch 120. Instead of feeding the paint by gravity, it may be supplied under pressure by using the feed−regulating means described in Specification 427,049. A reserve tank 28 <1> of paint may be carried on the apparatus. Specification 437,200 also is referred to.

0) WO0223515A1 – ELECTRONIC DISPLAY APPARATUS APPAREIL D'AFFICHA...

237) Family number: 23212793 (WO0223515A1) © PatBase

Title: ELECTRONIC DISPLAY APPARATUS

Priority: WO2000US25098 20000914

Family:

Publication number	Publication date	Application number	Application date
AU200074833 A5	20020326	AU20000074833D	20000914
WO0223515 A1	20020321	WO2000US25098	20000914

Probable Assignee: HOCH DAVID J

Assignee(s):(std): HOCH DAVID J

Assignee(s): DAVID J HOCH

Inventor(s):(std): HOCH DAVID J

Inventor(s): DAVID J HOCH

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

International class (IPC 8–9): B62J6/20 G09F21/04 G09F3/00 (Advanced/Invention); B62J6/00 G09F21/00 G09F3/00 (Core/Invention)

International class (IPC 1–7): B62J6/00 G09F21/04 G09F3/00

CPC: B62J6/20 G09F3/005 G09F21/045

European class: B62J6/20 G09F21/04C G09F3/00B

Classification Explorer

Cited documents: US6037876 A, US5818401 A, US5800039 A, GB2326513 A1,

Forward Citations: USD567719, US8033560, US8033559, US7417555, KR101071757, GB2477213, GB2434856, GB2434856, GB2409440, FR2887360, EP1813520, CN104952391, BG64549, BE1016557,

Abstract:
A light display is mounted on the spokes of a rotating bicycle wheel. The display includes a plurality of arrays of lights, each array attached to one of the spokes. A sensor on wheel, actuated by a magnet mounted on the frame, senses the angular velocity of the rotating wheel with respect to the bicycle frame. A microprocessor, mounted on the wheel and connected to the sensor, and individually connected to each of the plurality of arrays of lights by a cable, includes a memory which stores a plurality of display patterns. The microprocessor modulates the plurality of arrays of light according to a selected one of the plurality of display patterns and the sensed angular velocity of the rotating wheel to form an image using persistence of vision of a viewer.

PatBase - WO0223515_A1

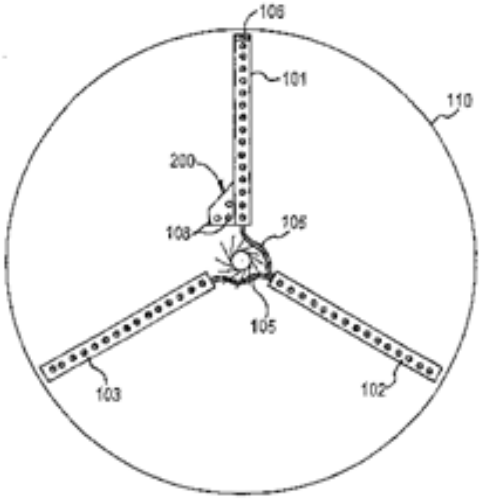


FIG. 1

0) CH180564A – SICHERUNGSVORRICHTUNG AN EINEM FAHRRAD. SAFETY...

238) Family number: 24930192 (CH180564A)

© PatBase

Title: SICHERUNGSVORRICHTUNG AN EINEM FAHRRAD. SAFETY DEVICE ON A BICYCLE. (Machine translation)

Priority: 19340411

Family:

Publication number	Publication date	Application number	Application date
CH180564 A	19351031		19340411

Probable Assignee: FRUEH REGLI H

Assignee(s):(std)**:** FRUEH REGLI H

Inventor(s):(std)**:** FRUEH REGLI H

International class (IPC 8–9)**:** B62H5/14 (Advanced/Invention); B62H5/00 (Core/Invention)

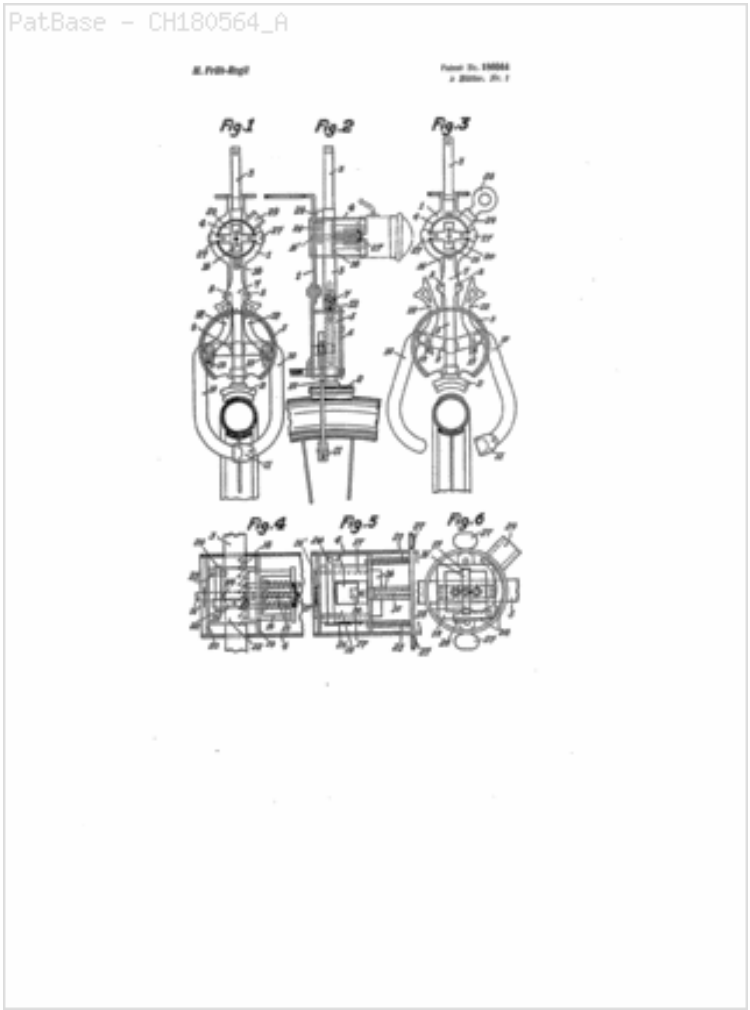
International class (IPC 1–7)**:** B62H5/14

CPC: B62H5/14

European class: B62H5/14

Classification Explorer

Abstract:
Source: CH180564A 1. Sicherungsvorrichtung nach Patentan spruch, dadurch gekennzeichnet, dass das Sperrorgan bei der Sicherung des Fahr rades durch ein Organ der Fahrrad bremse festgehalten wird und dass sie ein Schloss aufweist, welches dazu dient, die Fahrradbremse durch Einwirkung auf eine Stange dieser Bremse in Bremsstel lung zu sperren, wozu dieses Schloss mit in eine Raetschverzahnung der Stange einwirkenden federnd abgestuetzten Sperr bolzen versehen ist, welche in einem Schlitten gelagert sind, der durch Feder wirkung in Ausloesestellung gehalten ist und durch eine mittelst Schluessel ausloes– bare Klinke in Sperrstellung arretierbar ist. . 1 Safety device according to patent claim, characterized in that the blocking member brake in securing the driving wheel by an organ of the bike is fixed and that it has a castle, which serves to lock the bicycle brake by acting on a rod of this brake in brake Stel development what this castle is provided with bolts acting in a Raetschverzahnung the rod resiliently supported locking, which are mounted in a slide which is held by spring effect in Ausloesestellung and by means of keys ausloes– bare lockable latch is in locked position.



239) Family number: 24953533 (CH206577A)

© PatBase

Title: KETTENLOSES FAHRRAD MIT TRETHEBELN. CHAIN SEAMLESS BICYCLE WITH TRETHEBELN. (Machine translation)

Family:

Publication number	Publication date	Application number	Application date
CH206577 A	19390815		19380610

Probable Assignee: WOERNER EUGEN

Assignee(s):(std)**:** WOERNER EUGEN

Inventor(s):(std)**:** EUGEN WOERNER

Inventor(s): WOERNER EUGEN

International class (IPC 8–9): B62M11/00 (Advanced/Invention); B62M11/00 (Core/Invention)

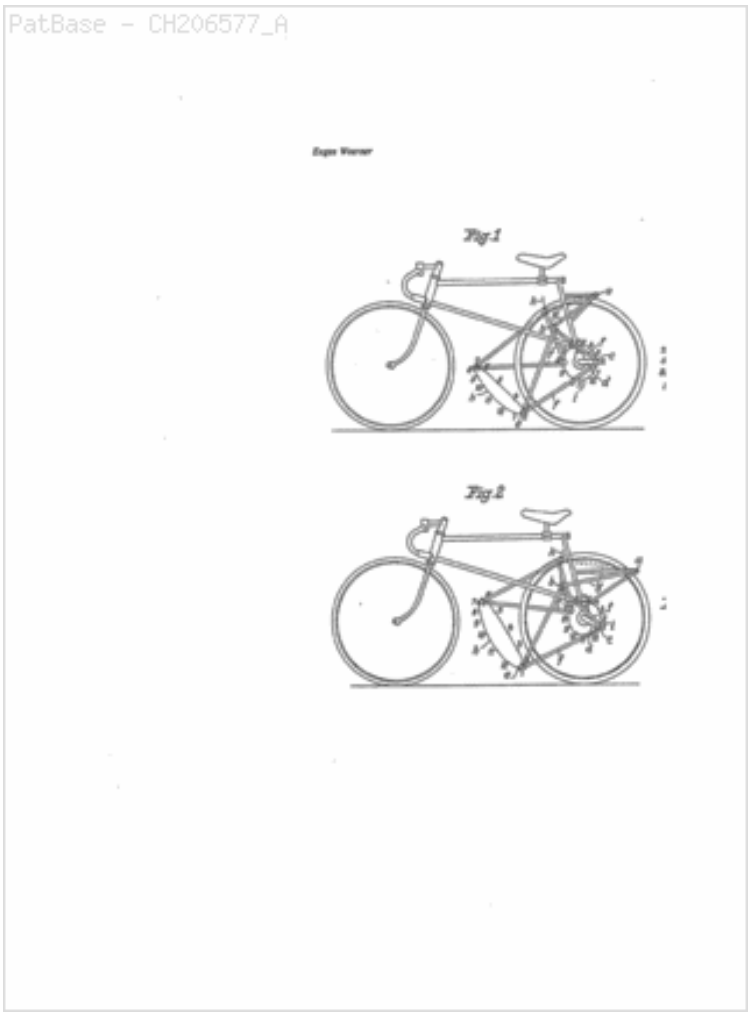
International class (IPC 1–7): B62M1/04

CPC: B62M11/00 B62M2700/006

European class: B62M11/00 L62M700/63K4

Classification Explorer

Abstract:
Source: CH206577A 1. Kettenloses Fahrrad mit Trethebeln nach Patentanspruch, dadurch gekennzeichnet, dass die als Schwingen ausgebildeten Fueh rungsorgane um waagrechte Zwischen stellungen schwingen und mit ihren hin tern Enden am Hinterradrahmen gelagert sind. . 1 Chainless bicycle with Trethebeln of claim, characterized in that the designed as a swing Fueh insurance institutions to horizontal swing between settings and with their back ends tern on the rear frame are stored.



0) DE3929812A1 – BICYCLE WITH SPRUNG FRONT WHEEL – HAS WHEEL ATT...

240) Family number: 29533080 (DE3929812A1) © PatBase

Title: Bicycle with sprung front wheel – has wheel attached to auxiliary front forks which are attached by links to main forks

Priority: DE19880011388U 19880908 DE19893929812 19890907

Family:

Publication number	Publication date	Application number	Application date
DE3929812 A1	19900322	DE19893929812	19890907
DE8811388 U1	19890126	DE19880011388U	19880908

Probable Assignee: RUPPEL MICHAEL

Assignee(s):(std)**:** RUPPEL MICHAEL

Assignee(s): RUPPEL MICHAEL 8000 MUENCHEN DE

Inventor(s):(std)**:** RUPPEL MICHAEL

Inventor(s): RUPPEL MICHAEL 8000 MUENCHEN DE

International class (IPC 8–9): B62K25/06 B62K25/16 (Advanced/Invention); B62K25/04 B62K25/06 (Core/Invention)

International class (IPC 1–7): B62K21/20 B62K25/04

CPC: B62K25/16 B62K25/06

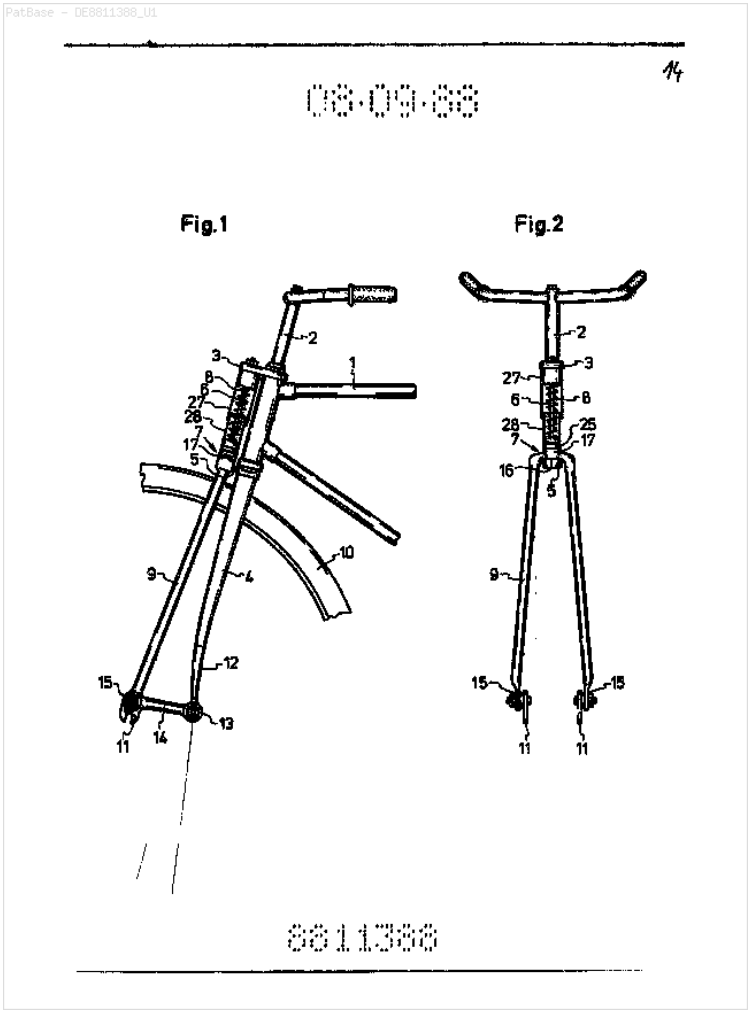
European class: B62K25/06 B62K25/16

Classification Explorer

Cited documents: US1052808, FR698391, FR561992, FR1112623, FR1029538, DE1107106, DE1019579,

Forward Citations: DE10107152,

Abstract:
Source: DE3929812A1 The sprung front wheel is attached to a bicycle by two horizontal links (14) pivoted to the lower ends of the main forks (4). These links (14) have their other ends pivoted to the lower ends of secondary forks (9). The upper ends of the forks (9) support a compression spring (6). The upper end of this spring (6) abuts against the end of an arm (3) which projects horizontally from the steering column (2). The front wheel is supported on a spindle which fits in slots in the ends (11) of the horizontal links (14). USE – Bicycle with sprung front wheel.



0) EP1362552A1 – METHOD AND DEVICE FOR EVALUATING THE FORCES ON ...

241) Family number: 29608857 (EP1362552A1) © PatBase

Title: METHOD AND DEVICE FOR EVALUATING THE FORCES ON A BICYCLE CRANK

Priority: DE20021021519 20020514

Family:

Publication number	Publication date	Application number	Application date
DE10221519 A1	20031204	DE20021021519	20020514
EP1362552 A1	20031119	EP20030010333	20030508

Probable Assignee: GASSMANN THEISS MESSTECH

Assignee(s):(std)**:** GASSMANN THEISS MESSTECH

Assignee(s): GTM GASSMANN THEISS MESSTECHNIK GMBH

Inventor(s):(std)**:** SCHWIND DANIEL

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

International class (IPC 8–9): A61B5/22 B62J99/00 G01L3/24 (Advanced/Invention); A61B5/00 A63B22/08 A63B24/00 (Advanced/Non–invention); A61B5/22 B62J99/00 G01L3/00 (Core/Invention); A61B5/00 A63B22/06 A63B24/00 (Core/Non–invention)

International class (IPC 1–7): A61B5/22 A63B22/08 B62J39/00 G01L1/22 G01L3/24 G01L5/12 G01L5/16

CPC: A63B22/0046 A63B22/0605 B62J3/00 A61B5/221 A61B5/486 A63B2071/0625 A63B2071/0627 A63B2220/51 B62J99/00 B62J2099/002 B62K2207/00 G01L3/24

European class: A61B5/22B B62J3/00 B62J99/00 G01L3/24 K61B5/48S K63B22/08 K63B220/51 K63B71/06D2A K63B71/06D2A2 L62J99/00D L62K207/00

Classification Explorer

Cited documents: US5492514 A, US5356353 A, JPH06231, JP6000231, DE4435174 A1, DE4227586 A1,

Forward Citations: WO09083787, WO09006673, US8584529, US7563998, TWI298693, EP2562523, EP2407216, EP1733963, EP1661606, AU2008274881, AT505617,

Abstract:
The method involves evaluating the forces not acting in the tangential direction in the direction of rotation, and outputting a corresponding acoustic signal. A change in the evaluated forces is indicated by a change in frequency of the acoustic signal. An Independent claim is included for an apparatus for performing the method.

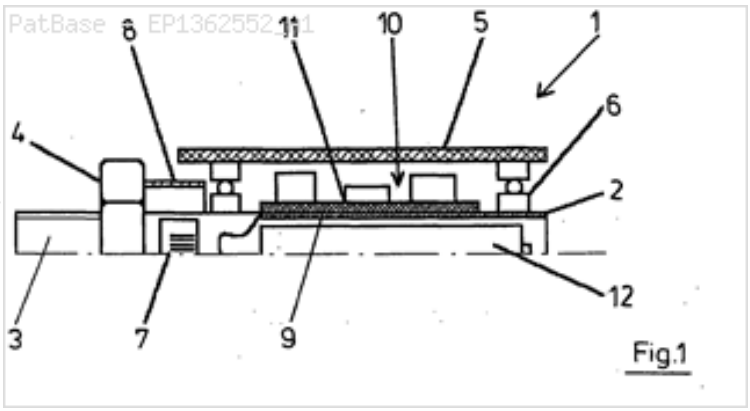


Fig.1

0) GB200504797A – ROTATEABLE STORAGE UNIT WITH SECURING DOOR MECH...

242) Family number: 31889600 (GB200504797A) © PatBase

Title: ROTATEABLE STORAGE UNIT WITH SECURING DOOR MECHANISM AND CYCLE BOX INCLUDING THE SAME

Priority: GB20050004797 20050309

Family:

Publication number	Publication date	Application number	Application date
GB200504797 A0	20050413	GB20050004797	20050309
GB2424000 A1	20060913	GB20050004797	20050309

Probable Assignee: BABINGTON ALAN

Assignee(s):(std)**:** BABINGTON ALAN ; FOX ALAN

Assignee(s): ALAN BABINGTON ; ALAN FOX

Inventor(s):(std)**:** BABINGTON ALAN ; FOX ALAN

Inventor(s): ALAN BABINGTON ; ALAN FOX

International class (IPC 8–9): E04B1/346 E04H6/00 E05F15/14 (Advanced/Invention); E05D15/58 E05F15/14 (Advanced/Non–invention); E04B1/346 E04H6/00 E05F15/14 (Core/Invention); E05D15/00 E05F15/14 (Core/Non–invention)

CPC: E05Y2900/132 E04H6/005 E05D15/583 E05F15/646

European class: E04H6/00B P05D15/58B1 P05F15/14F2

Classification Explorer

Cited documents: US4156994, US2003192262,

Abstract:
Source: GB200504797A A Storage Unit apparatus (1) comprises rotary means (2,3,4 and 5) enabling rotation of the unit and link mechanism 10 and 12 for translating rotary motion to substantially linear motion door operating mechanism 11. Mechanism 11 drives a door mechanism 16, 17, which opens and closes the door when the unit is rotated. The unit also comprises a variable wheel and tyre support (23) for supporting varying size cycles. Embodiments include a slatted door and an up and over type door.

PatBase - GB2424000_A1

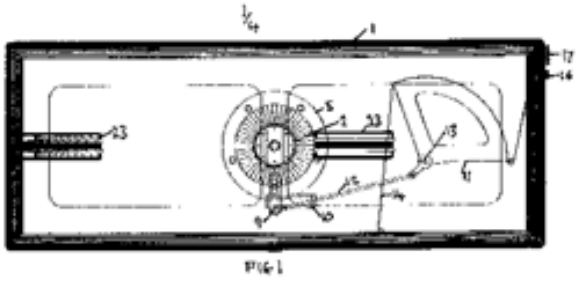


Fig 1

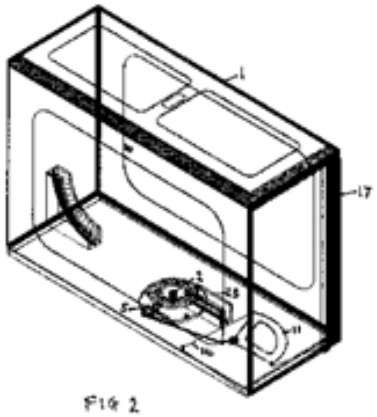


Fig 2

243) Family number: 33603163 (US2006248635A) © PatBase

Title: HYGIENIC COMMODE FOR LADIES WITH REVERSE SITTING

Priority: US20050121728 20050505

Family:

Publication number	Publication date	Application number	Application date
US2006248635 AA	20061109	US20050121728	20050505
US7458110 BB	20081202	US20050121728	20050505

Probable Assignee: RIE JIN

Assignee(s):(std)**:** RIE JIN

Inventor(s):(std)**:** RIE JIN

Agent(s): EUGENE OAK PH D JD PATENT ATTORNEY

International class (IPC 8–9): A47K13/00 E03D11/00 E03D9/00 (Advanced/Invention); A47K13/00 E03D11/00 E03D9/00 (Core/Invention)

CPC: E03D13/002 A47K17/026 A47K13/24 E03D11/02

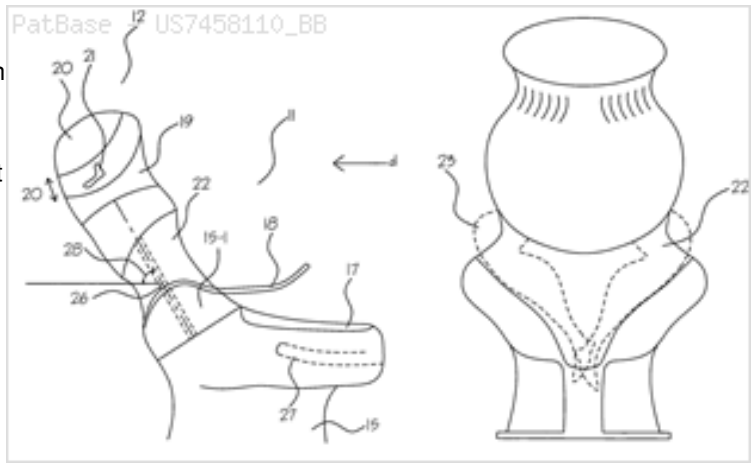
European class: A47K13/24 A47K17/02D E03D1/00B E03D11/02

US class: 4/237 4/237P 4/254 4/353 4/420

Classification Explorer

Cited documents: US6814719 BB, US6571399 BA, US6370705 BA, US6324705 BA, US5996133 A, US5329645 A, US4937890 A, US4815151 A, US4777671 A, US4681573 A, US4023216 A, US4012797 A, US3964111 A, US2741287 A, US2185887 A,

Forward Citations: WO08152225, WO08152225, FR2915756, CN104047344,



Abstract:
Source: US2006248635A A commode chair with reversed seat facing a water tank and with a system for opening the labia of female user for hygienic urination and excretion is provided. The seat assembly including bowl, seat, and lid are formed to support a user to sit on a commode facing the water tank. The seating assembly has a narrow width to the direction of a water tank and has wider width on the opposite side. An overview of the seating assembly has a shape of an oval facing the water tank with the sharp end, a bicycle saddle shape, facing the water tank. The side view of the seating assembly shows elevated part that is close to the water tank. The water tank is leaned backwards in relation to the commode to allow a user to rest her upper body thereon. This sitting position reduces pressure build up of the lower body of the user around the commode seat and let the labia of the user open for the water from a vidette, located at the wider part of the bowl, to reach the inner side of the labia and clean therein from behind of the user. For defecation, the water tank is adjusted to a more upward position.

0) US2006173985A – ENHANCED SYNDICATION

244) Family number: 34294363 (US2006173985A) © PatBase

Title: ENHANCED SYNDICATION

Priority:

DE20031035035 20030801 US20050223826 20050910 US20050233826 20050909
US20050594298P 20050326 US20050594416P 20050406 US20050594456P 20050410
US20050649311P 20050201 US20050649312P 20050201 US20050649504P 20050202
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Family:

Publication number	Publication date	Application number	Application date
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WO08036464 A3	20080925	WO2007US74475	20070726	

Probable Assignee: NEWSILIKE MEDIA GROUP INC

Assignee(s):(std)**:** APPLIED MATERIALS INC ; COOK ROBERT C ; LABOVITCH BELA A ; MOORE JAMES ; MOORE JAMES F ; NEWSILIKE MEDIA GROUP INC ; YUDOVSKY JOSEPH ; WOOD CHARLES B ; WOOD CHARLES ; NEWSLIKE MEDIA GROUP INC

Inventor(s):(std)**:** LABOVITCH BELA A ; MOORE JAMES ; MOORE JAMES F ; WOOD CHARLES ; WOOD CHARLES B ; YUDOVSKY JOSEPH ; COOK ROBERT C

Inventor(s): LABOVITCH BELA ; COOK ROBERT

Agent(s): SMART AND BIGGAR; PETERREINS FRANK; STRATEGIC PATENTS PC; PATTERSON AND SHERIDAN LLP; FISH AND RICHARDSON PC; GTC LAW GROUP LLP AND AFFILIATES; CHARLES; JOHN A; NORTRUP JOHN

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): A21B1/00 A21B1/22 C23C16/44 F27D11/00 F27D99/00 G06F15/16 G06F15/173 G06F17/00 G06F17/30 G06F19/00 G06F21/00 G06F21/60 G06F21/62 G06F3/14 G06F7/00 G06F7/06 G06Q10/00 G06Q30/00 G06Q40/00 G06Q50/00 G06Q50/24 G06Q99/00 H04J3/02 H04L29/06 H04L29/08 H04L9/00 H04L9/32 H05B1/00 H05B3/62 (Advanced/Invention);
G06F17/30 (Advanced/Non–invention);
A21B1/00 F27D11/00 F27D23/00 G06F15/16 G06F17/00 G06F17/30 G06F19/00 G06F21/00 G06F3/14 G06F7/06 G06Q10/00 G06Q30/00 G06Q50/00 G06Q99/00 H04J3/02 H04L9/00 H04L9/32 H05B1/00 (Core/Invention)

CPC: F27B5/04 F27B17/0025 F27D99/0006 G06Q10/109 H04L67/26 G06F21/604 G06F19/321 H04W4/206 H04L63/1441 H04L63/0823 H04L63/08 G06Q30/0277 G06Q30/0273 G06Q30/02 G06Q10/10 G06Q50/24 G06F2221/2107 G06F21/6254 G06F21/6227 G06F21/602 H04L63/083 G06F2221/2145 G06F2221/2101 H04L12/66 H04L63/20 G06Q50/22 G06F21/6263 G06F19/328 G06F19/327 G06F19/325 H04L12/1859 H04L67/12 H04L67/00 H04L69/40 H04L67/1095 G06F17/30578 G06F17/30876 G06Q50/16 G06Q30/0201 G06F19/3456 H04L41/5045 H04L41/22 G06F8/36 H04L69/16 A61B8/565 A61B6/566 H04L67/16 H04L67/02 G06F19/3418 A61B5/0002 G06F19/322 G06F17/3089 G06F19/324 H04L67/2838 H04L67/2823 H04L67/28 H04L2209/60 H04L2209/56 H04L9/3226 G06Q30/0269 G06Q30/0264 H04L63/0428 G06F2221/2115 G06F21/31 H04L63/105 G06F19/3443 G06F19/3406 G06F19/326 G06F17/30923 G06F17/30867 G06F21/6245 G06Q10/00 G06F19/3487 G06Q50/00 G06Q40/04 G06Q30/0603 G06F17/30575

European class: F27B17/00B1 F27B5/04 F27D99/00A4 G06F17/30S7 G06F17/30S7A G06F17/30W1F G06F17/30W5 G06F17/30W7 G06F19/32C G06F19/32E G06F19/32E1 G06F19/32G G06F19/32H G06F19/34J G06F19/34P G06F21/31 G06F21/60B G06F21/62B5 G06F21/62B5A G06F21/62B5B G06F8/36 G06Q10/00 G06Q10/10 G06Q10/109 G06Q10/10T G06Q30/02 G06Q30/0201 G06Q30/0264 G06Q30/0269 G06Q30/0273 G06Q30/0277 G06Q30/0603 G06Q30/06C G06Q40/04 G06Q50/00 G06Q50/16 G06Q50/22 G06Q50/24 H04L12/24F3 H04L12/24S2A H04L12/66 H04L29/08N H04L29/08N1 H04L29/08N11 H04L29/08N25 H04L29/08N27 H04L29/08N27F H04L29/08N27I H04L29/08N9R H04L29/14 H04L41/22 H04L41/50G1 H04L63/08 H04L63/08D H04L63/20 H04L9/32 S06F19/32C S06F19/32E S06F19/32G S06F19/34L S06F221/2101 S06F221/2115 S06F221/2119 S06F221/2145 T04L12/18P T04L12/24F3 T04L29/06J T04L29/08N1 T04L41/22 T04L63/04B T04L63/08D

US class: 1/1 1/1P 219/200 219/385 219/391 219/406 257/E21.190S 370/352 370/352S 370/401 370/401S 370/462 370/462P 438/592P 705/10 705/10P 705/10S 705/14 705/14.61 705/14.610P 705/14.66 705/14.660S 705/14.69 705/14.690P 705/14.73 705/14.730S 705/2 705/2P 705/2S 705/3 705/313 705/313S 705/3P 705/3S 705/4 705/50 705/50P 705/51 705/51P 705/7.29 705/7.290P 707/10 707/104.1 707/3 707/4 707/661 707/667 707/667P 707/707 707/791 707/795 707/796 707/802 707/822 707/828 707/999.003 707/999.003S 707/999.004 707/999.004S 707/999.01 707/999.010S 707/999.104 707/999.104S 707/999.107 707/999.107S 707/E17.005 707/E17.005S 707/E17.008 707/E17.008S 707/E17.014 707/E17.014S 707/E17.032 707/E17.032S 707/E17.044 707/E17.044S 707/E17.07 707/E17.070S 707/E17.112 707/E17.116 707/E17.116S 709/201 709/201P 709/201S 709/202 709/203 709/203P 709/204 709/204S 709/217 709/217P 709/219 709/223 709/223P 709/223S 709/246 709/246P 713/156 713/166 715/273 715/273S 726/1 726/1P 726/2 726/27 726/30 726/5 726/5S

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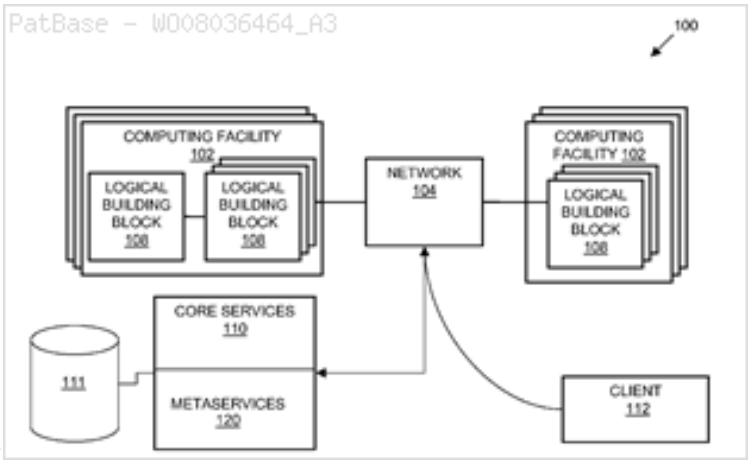
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Abstract:
Source: US2006173985A A variety of tools and techniques are disclosed for managing, viewing, publishing, searching, clustering, and otherwise manipulating data streams. Data streams such as RSS data feeds may be searched, aggregated, and filtered into a processed feed. The processed feed, along with rules used to process the feed may be shared in a number of ways. A data feed management system may provide an integrated user interface through which a user may manage feeds, including searching for new feeds, managing and filtering current feeds, modifying a user profile, and sharing feeds and feed configuration data with other users. A server may provide a complementary search engine to locate new feeds and to store and/or index items or posts in known feeds.



Together, these technologies may provide a richly−functioned feed management system and greater ease of use for individuals in managing large numbers of feeds and large amounts of data in feeds. Additional functional layers may provide for authentication, security, and privacy, metadata creation and management, and social networking features. Using the management tools and additional functionality, a syndicated data stream system may provide a platform for a wide array of useful consumer and business applications.

0) CN1963031A – SELF–WALKING SWEEPING VEHICLE

245) Family number: 34564121 (CN1963031A) © PatBase

Title: Self–walking sweeping vehicle

Priority: CN200510048545 20051110

Family:

Publication number	Publication date	Application number	Application date
CN1963031 A	20070516	CN200510048545	20051110

Probable Assignee: LI MINGXING

Assignee(s):(std)**:** LI MINGXING

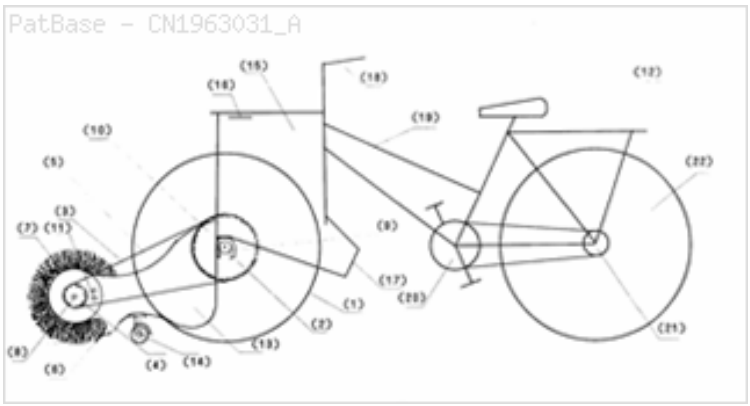
Inventor(s):(std)**:** LI MINGXING

Inventor(s): MINGXING LI

International class (IPC 8–9): B65F3/00 E01H1/05 (Advanced/Invention); B65F3/00 E01H1/00 (Core/Invention)

Classification Explorer

Abstract:
Source: CN1963031A The invention involves environmental sanitation machinery, especially an auto–running sweeping vehicle to cleaning ground. It modifies bicycle to forward–tricycles and hanging–garbage bucket; it drives coaxial big gears through the rotating of front wheel, and transmits power to the sweeping brushes of small gears through chains to cleaning the ground. When the garbage bucket is filled with garbage, it pulls the bucket according the wheels setback and opens the bucket cover automatically to pouring the garbage into compartment, it achieves the purpose of automatic cleaning, automatic reversing disposal, environmental and pollution–free.



0) ES1057735U – SOPORTE ELEVADOR DE BICICLETA HORIZONTAL BIKE L...

246) Family number: 34674989 (ES1057735U) © PatBase

Title: SOPORTE ELEVADOR DE BICICLETA HORIZONTAL BIKE LIFT STAND HORIZONTAL (Machine translation)

Priority: ES20040000752U 20040426

Family:

Publication number	Publication date	Application number	Application date
ES1057735 UA	20040916	ES20040000752U	20040426
ES1057735 Y1	20050101	ES20040000752U	20040426

Probable Assignee: RAMOS SANCHEZ SERGIO

Assignee(s):(std)**:** RAMOS SANCHEZ SERGIO

Inventor(s):(std)**:** RAMOS SANCHEZ SERGIO

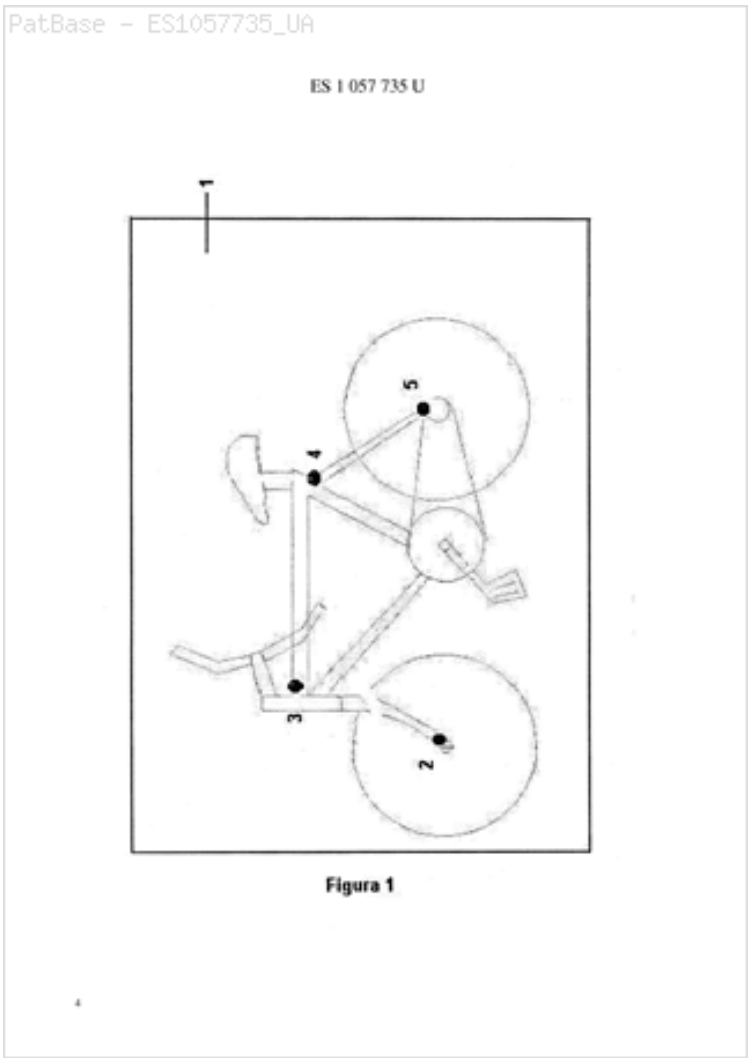
International class (IPC 8–9): B66F11/00 F16M13/00 (Advanced/Invention); B66F11/00 F16M13/00 (Core/Invention)

International class (IPC 1–7): B66F11/00 F16M13/00

Classification Explorer

Abstract:
Source: ES1057735U (Claim 1) 1. Soporte–elevador de bicicleta horizontal tiene un mecanismo de manivela (8) que enrolla una cuerda (9) que va atada a una argolla (10) de la que parten cuatro segmentos de cuerda (11) que pasan por cuatro poleas (12) y que vuelven a pasar por otras cuatro poleas (13) caracterizadas por configurarse en los puntos del techo (2, 3, 4, 5) que se corresponden con los puntos de anclaje de la bicicleta especifica que se quiere aparcar tal como se muestra en el Figura 1.

Machine translation: (Claim 1) 1. –Lift bracket has a horizontally bicycle crank mechanism (8) winding a rope (9) which is attached to a ring (10) from which depart four segments of string (11) that pass four pulleys (12) and Returning to pass through other four pulleys (13) characterized by the points configured on the ceiling (2, 3, 4, 5) which correspond to the points of attachment of the bicycle parking is to specify that as shown in Figure 1.



247) Family number: 43403371 (CN201245823Y)

© PatBase

Title: Environmental protection electric cleaning vehicle

Priority: CN200820072295U 20080815

Family:

Publication number	Publication date	Application number	Application date
CN201245823 Y	20090527	CN200820072295U	20080815

Probable Assignee: RENKAI SONG

Assignee(s):(std)**:** RENKAI SONG

Assignee(s): SONG RENKAI

Inventor(s):(std)**:** RENKAI SONG ; YANMIN ZHANG ; ZHENWEN YU

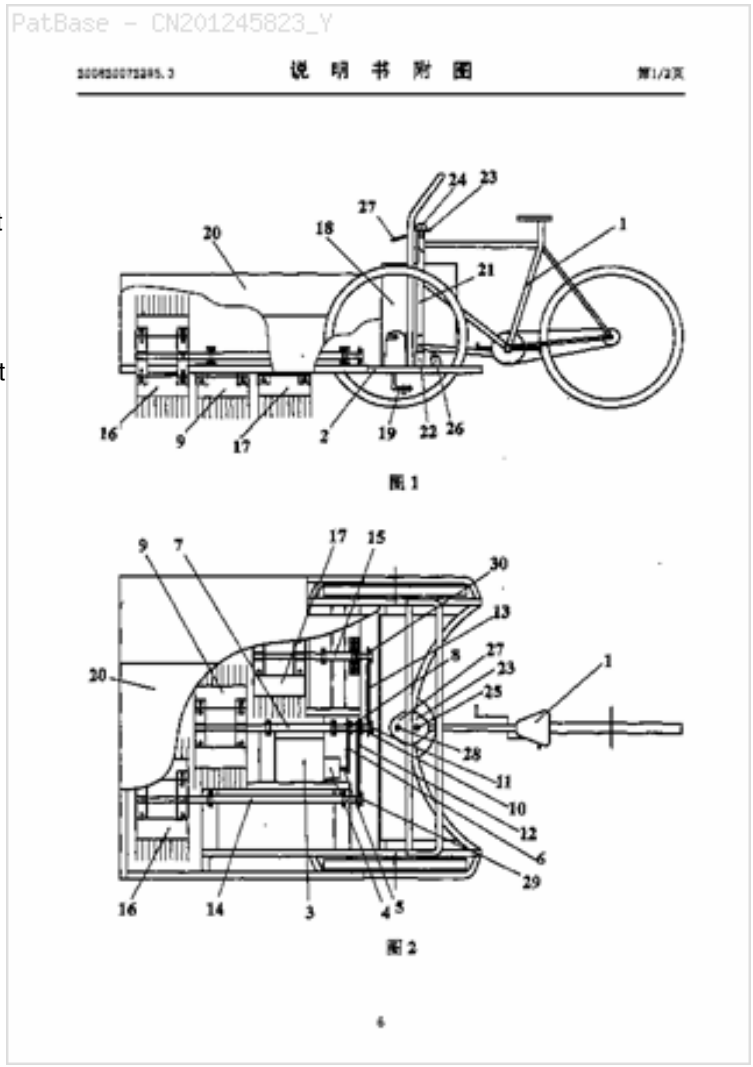
Inventor(s): YU ZHENWEN ; ZHANG YANMIN ; SONG RENKAI

International class (IPC 8–9): E01H1/05 E01H3/02 (Advanced/Invention); E01H1/00 E01H3/00 (Core/Invention)

Classification Explorer

Forward Citations: CN102635081, CN102635081, CN101864746,

Abstract:
Source: CN201245823Y An environment–friendly electric sweeper comprises a bicycle comprising a front vehicle frame and a rear vehicle frame. The environment–friendly electric sweeper is characterized in that an electromotor taking an accumulator jar as energy sources is arranged on the front vehicle frame, and the output shaft thereof is rotationally connected with at least a rotating shaft arranged at the bottom part of the front vehicle frame; and a roller brush is arranged at the front end of each rotating shaft. A water box and a sprinkler pipe are arranged on the front vehicle frame; and a dust shield is arranged above the roller brush. In the environment–friendly electric sweeper, the roller brushes are distributed in a step shape, so that the cleaning is more complete, and the work efficiency is high; the clean accumulator jar is used for cleaning without pollution; and the secondary pollution of dust to environment is avoided through adding the sprinkler pipe and the dust shield. The utility model can be used for cleaning secondary truck roads in small and medium cities, has the advantages of simple and skillful structure, low cost, convenient operation, complete cleaning, high work efficiency, low labor strength, simple maintenance, wide application, no environmental pollution and the like. Furthermore, the utility model has good application prospect and popularization value.



0) US2009176034A – SURFACE TREATMENT TECHNIQUE AND SURFACE TREATME...

248) Family number: 43908455 (US2009176034A) © PatBase

Title: SURFACE TREATMENT TECHNIQUE AND SURFACE TREATMENT APPARATUS ASSOCIATED WITH ABLATION TECHNOLOGY

Priority: FI20060000182 20060223 WO2007FI00045 20070223

Family:

Publication number	Publication date	Application number	Application date
EP1991388 A2	20081119	EP20070712588	20070223
US2009176034 AA	20090709	US20070224286	20070223
WO07096460 A2	20070830	WO2007FI00045	20070223
WO07096460 A3	20080320	WO2007FI00045	20070223

Probable Assignee: PICODEON LTD OY

Assignee(s):(std)**:** LAPPALAINEN REIJO ; MAEKITALO JUHA ; MYLLYMAEKI VESA ; PICODEON LTD OY ; PULLI LASSE ; RUUTTU JARI

Assignee(s): PICODEON LTD

Inventor(s):(std)**:** RUUTTU JARI ; PULLI LASSE ; MYLLYMAKI VESA ; MYLLYMAEKI VESA ; MAKITALO JUHA ; MAEKITALO JUHA ; LAPPALAINEN REIJO

Agent(s): BRAX MATTI JUHANI; BIRCH STEWART KOLASCH AND BIRCH

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B05D3/06 B23K26/36 B28B17/00 B44C1/22 C23F1/08 G02B26/12 G06K15/12 (Advanced/Invention) ; B05D3/06 B23K26/00 B28B17/00 B44C1/22 C23F1/08 G02B26/12 G06K15/12 (Core/Invention)

CPC: B23K26/0624 B23K26/0821 B23K26/364 B23K26/0084 B23K2201/12

European class: B23K26/00J7 B23K26/06B4B B23K26/08B2 B23K26/36E2 L23K201/12

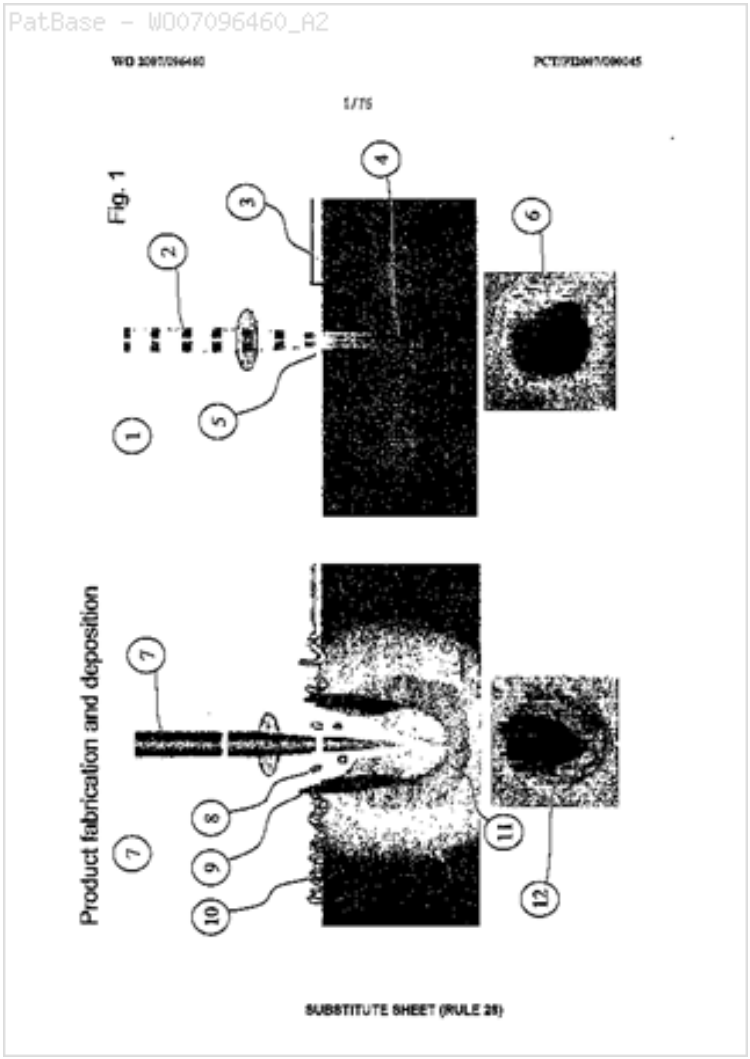
US class: 156/345.51 156/345.510S 264/400 264/400S 425/174.4 425/174.400S 427/566 427/566P

Classification Explorer

Cited documents: WO03049155 A1, US7396408 BB, US6839156 BB, US6809291 BA, US6683783 BA, US6677552 BA, US6676811 BA, US6372103 BA, US6372103 A, US6312768 BA, US6198069 BA, US6159832 A, US6134041 A, US6063455 A, US5948172 A, US5858478 A, US5760366 A, US5742028 A, US5693146 A, US5683601 A, US5578229 A, US5478650 A, US5403990 A, US5221411 A, US5126165 A, US5098737 A, US4701592 A, US4686128 A, US4394236 A, US4378480 A, US4099830 A, US2008248211 AA, US2007089385 AA, US2005287308 AA, US2005098546 AA, US2005061779 AA, US2005061108 AA, US2005036190 AA, US2004250769 AA, US2004033702 AA, US2003113582 AA, US2002179564 AA, EP1430987 A1, EP0624424 A1,

Forward Citations: WO16111626, WO16010954, USD643087, USD642650, USD642649, USD642648, USD639375, US9012803, US8414343, US8212868, US2013068968, US2009245945, US2007251903, DE102013018879,

Abstract:
Source: US2009176034A The invention relates to a surface−treatment technique in association with ablation, a surface−treatment apparatus and a turbine scanner. The invention also relates to a method of producing a coating, a radiation transmission line, a copying unit and a printing unit. The invention further relates to an arrangement for adjusting the radiation power of a radiation source in a radiation transmission line and a laser apparatus.



249) Family number: 45736133 (TW288712S)

© PatBase

Title: Bicycle security hard helmet (Machine translation)

Family:

Publication number	Publication date	Application number	Application date
TW288712 S1	19961011	TW19960302761F	19960410

Probable Assignee: ZHENG ZHAO CHESS

Assignee(s): ZHENG ZHAO CHESS

Abstract:
Source: TW288712S

Machine translation: This creation is about one kind “the bicycle security hard helmet” design the new model, You Zhi one kind has product of the especially special shape, must be possible to be deep affection the consumer to advance together purchases the user. ; Please refer the attached figure to show the foundation creation, its overall shape department is a water–drop modelling, also is equipped with several streamline shapes in its crown to harass the launder and the air vent, as soon as front is equipped with protrudes the sweepback projecture above, and after front tapers in about both sides, causes the square shape to become the circular suddenly earthen mound, underneath is coordinating the smooth gentle curve, but caused it to fuse the streamline and the circular arc modelling of, the reality conforms to the modern feeling to savor high the design, the sufficient share revealed the special remarkable breath. ; In summary, this creation was aloof completely has used habitually the bicycle security hard helmet stereotypical physique, change its modelling and the use shape, was in the similar product unprecedented, speaking of its originality, has conformed to stipulation the patent, handed in the application specially, beseeched the honored bureau to award the woman this case patent.



0) US5023596A – BICYCLE ALARM

250) Family number: 4633233 (US5023596A) © PatBase

Title: BICYCLE ALARM

Priority: GB19890023105 19891013

Family:

Publication number	Publication date	Application number	Application date
GB2237913 A1	19910515	GB19890023105	19891013
GB2237913 B2	19940202	GB19890023105	19891013
GB8923105 A0	19891129	GB19890023105	19891013
US5023596 A	19910611	US19900469388	19900124

Probable Assignee: S AND B MOTORCYCLES LTD

Assignee(s):(std)**:** DATATOOL ALARMS LTD

Assignee(s): S AND B MOTORCYCLES LTD ; DATATOOL ALARMS LIMITED

Inventor(s):(std)**:** FOTI IVAN F S ; FOTI IVAN FRANCIS SILVAIN ; SIRMAN JAMES B ; SIRMAN JAMES BRIAN

Inventor(s): IVAN FRANCIS SILVAIN FOTI ; JAMES BRIAN SIRMAN

International class (IPC 8–9): B62H5/20 E05B45/00 G08B13/14 (Advanced/Invention); B62H5/00 E05B45/00 G08B13/14 (Core/Invention)

International class (IPC 1–7): B62H5/20 G08B13/00 G08B13/14

CPC: Y10T70/5872 B62H5/20 E05B45/005 G08B13/1436

European class: B62H5/20 E05B45/00C G08B13/14F

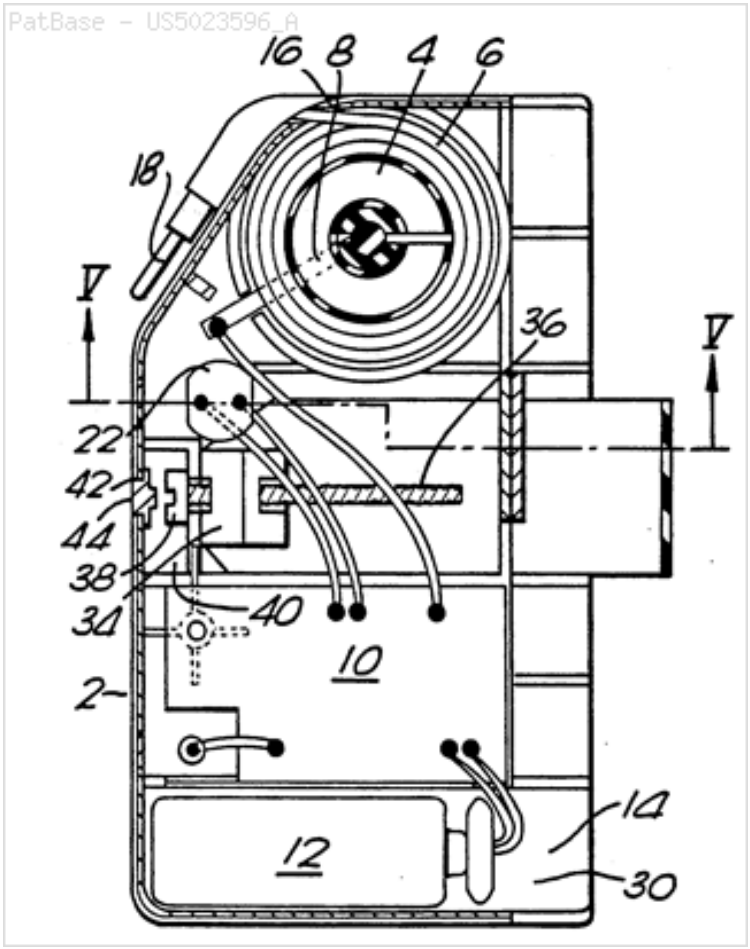
US class: 340/571 70/233

Classification Explorer

Cited documents: US4833456 A, US4462023 A, US3910081 A, US3781861 A, US3772645 A, US3755778 A, GB2224771 A1, GB2148248 A1, GB2128790 A1, GB1369399 A,

Forward Citations: WO9616861, WO9526016, WO9501111, WO9416420, WO10009916, WO08009148, US9555744, US9523218, US8528372, US7318563, US7104091, US6040764, US5924159, US5832753, US5832752, US5574429, US5548915, US5507160, US5408212, US5404735, US2010141425, US2006226963, US2006162407, GB2451634, GB2408827, GB2254719, GB2247553, GB2242555, DE4430377, DE29512415,

Abstract:
Source: US5023596A An alarm lock particularly suitable for use with a bicycle or similar article to be secured, comprising a casing having an integral clamping device and containing an alarm siren which can be actuated either by an internal motion sensitive device, or by breaking or disconnecting a security loop which is connected around the article. Both of the alarm devices are connected to an automatically resettable detector circuit which includes a timer for resetting after a predetermined period. A battery for the circuit is contained in a compartment which is closed by abutment of the alarm lock against the body of the article, when it is attached by the integral clamping device.



0) US2011272203A – ELECTRIC WHEELED APPARATUS POWERED BY BATTERY P...

251) Family number: 49900906 (US2011272203A) © PatBase

Title: ELECTRIC WHEELED APPARATUS POWERED BY BATTERY PACKS

Priority: JP20100108484 20100510

Family:

Publication number	Publication date	Application number	Application date
CN202089202 U	20111228	CN201120149807U	20110509
EP2386474 A1	20111116	EP20110164081	20110428
JP2011235749 A2	20111124	JP20100108484	20100510
US2011272203 AA	20111110	US20110094238	20110426
US8490732 BB	20130723	US20110094238	20110426

Probable Assignee: MAKITA CORP

Assignee(s):(std)**:** KAWAI KENICHI ; KUMAGAI RYUNOSUKE ; MAKITA CORP ; SUGIMOTO MANABU

Inventor(s):(std)**:** KUMAGAI TATSUNOSUKE ; SUGIMOTO MANABU ; KUMAGAI RYUNOSUKE ; KAWAI KENICHI ; RYUNOSUKE KUMAGAI ; MANABU SUGIMOTO ; KENICHI KAWAI

Agent(s): KRAMER BARSKE SCHMIDTCHEN; OLIFF AND BERRIDGE PLC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): B60K1/04 B60L11/18 B62J11/00 B62M6/40 B62M6/60 B62M6/90 (Advanced/Invention)

CPC: B60K1/04 B62M6/60 B62M6/90

European class: B60K1/04 B62M6/60 B62M6/90

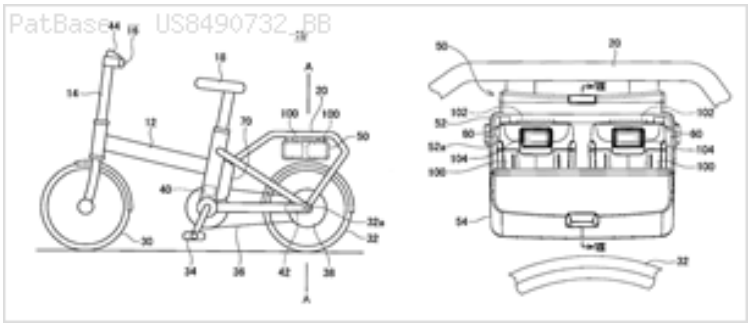
US class: 180/206.1 180/206.100P 180/206.5 180/207.3 180/220 180/65.27 180/65.31 180/65.310S

Classification Explorer

Cited documents: WO9317904 A1, USRE37583 E, US5489002 A, US5237263 A, US3921745 A, US2010206652 AA, US2010096198 AA, US2007251738 AA, US2005177285 AA, NL2000965 C1, JP9226664 A2, JP9024889 A2, JP8207877 A2, JP5319104 A2, JP319104, JP207877, JP2007112406 A2, JP2003034281 A2, JP2002321675 A2, JP2001247069 A2, JP119853, JP11129959 A2, JP10119853 A2, EP1097863 A2, EP0716009 A2, CN2936891 Y, CN201392867 Y, CA2310974 C,

Forward Citations: WO14119130, USRE45897, US9583793, US9502702, US9434445, US9406915, US9282695, US9260157, US9085342, US9027694, US8851215, US2016272278, US2016268817, US2015367911, US2015266543, US2014045367, US2013256049, US2013233631, US2012150377, US2011056177, DE202014005762,

Abstract:
Source: US2011272203A An electric wheeled apparatus comprises a main body, a drive wheel supported by the main body in a rotatable manner, an electric motor configured to apply torque to the drive wheel, a battery holder configured to removably receive a plurality of battery packs, and a circuit unit configured to electrically connect one or more battery packs attached to the battery holder to the motor regardless of a number of battery packs attached to the battery holder.



0) DE102010032721A1 – CHAIN NETWORK DEVICE FOR BICYCLE, HAS SWITCHING...

252) Family number: 50522927 (DE102010032721A1) © PatBase

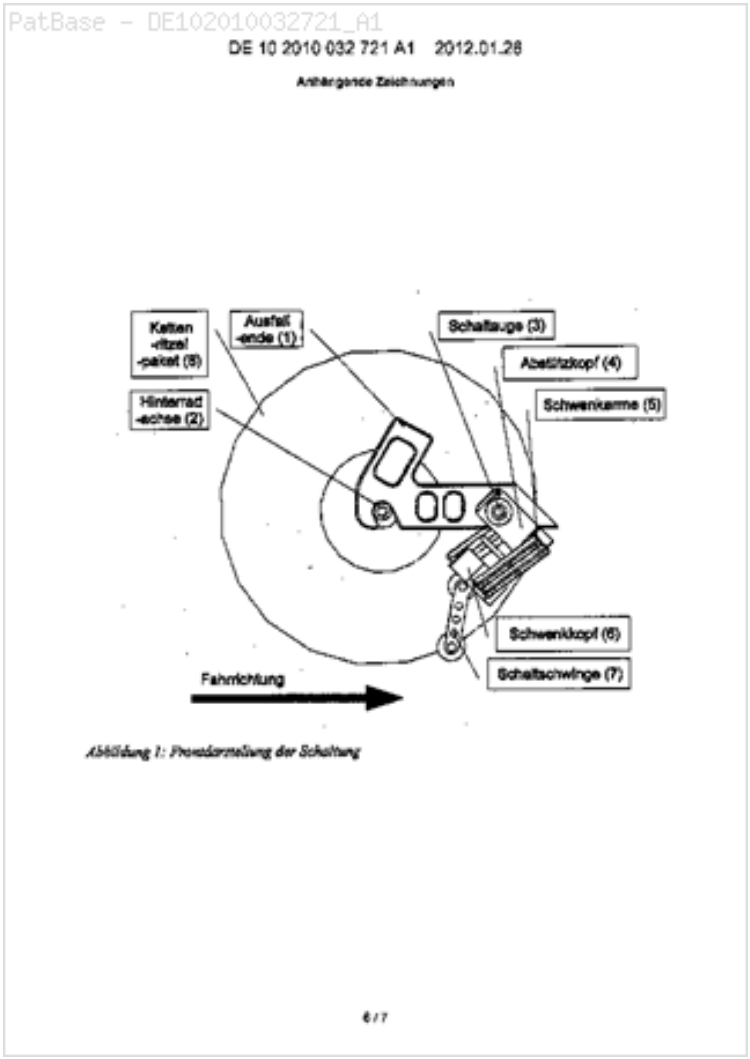
Title:	CHAIN NETWORK DEVICE FOR BICYCLE, HAS SWITCHING DEVICE SUPPORTED WITH SWITCHING EYELET, WHERE COMPONENTS E.G. SUPPORTING HEAD OF DEVICE ARE TIED UP TO BICYCLE FRAME IN TRAVELING DIRECTION OF FRONT WHEEL AXLE
Priority:	DE201010032721 20100726

Family:

Publication number	Publication date	Application number	Application date
DE102010032721 A1	20120126	DE201010032721	20100726

Probable Assignee:	RYDYGER TILL
Assignee(s):(std):	RYDYGER TILL
Assignee(s):	RYDYGER
Inventor(s):(std):	RYDYGER TILL
International class (IPC 8–9):	B62M9/121 (Advanced/Invention)
CPC:	B62M9/121 B62M9/125
European class:	B62M9/121 B62M9/125
Classification Explorer	
Cited documents:	FR1271896 A, DE9015408 U, DE69113445 T2, DE3406566 A1, CH233715 A,

Abstract:
The device has a switching device supported with a switching eyelet (3) and rotatably placed in a local proximity, where the components such as a supporting head (4), pivotal arms (5), a swivel head (6) and a switching rocker (7) of the device are tied up to a bicycle frame in a traveling direction of a front wheel axle. A rotating bearing is supported by a torsion spring that presses the device in upward direction against an adjustable stop. The pivotal arms comprise four individual levers that are supported at the supporting head and the swivel head.



0) DE102011108075A1 – CRANK COMPONENT FOR BICYCLE I.E. CHILDREN'S BIC...

253) Family number: 52840709 (DE102011108075A1) © PatBase

Title: CRANK COMPONENT FOR BICYCLE I.E. CHILDREN'S BICYCLE, HAS SPIDER ROTATIONAL TORQUE–LOCKING CONNECTING CHAIN RING WITH CRANK ARM, WHERE SPIDER AND CRANK ARM ARE TWO–PIECE FORMED, MATERIAL–FIT JOINED WITH EACH OTHER AND PRESSED TOGETHER

Priority: DE201110108075 20110721

Family:

Publication number	Publication date	Application number	Application date
DE102011108075 A1	20130124	DE201110108075	20110721

Probable Assignee: FISCHER JUERGEN

Assignee(s):(std)**:** FISCHER JUERGEN

Assignee(s): FISCHER

Inventor(s):(std)**:** FISCHER JUERGEN

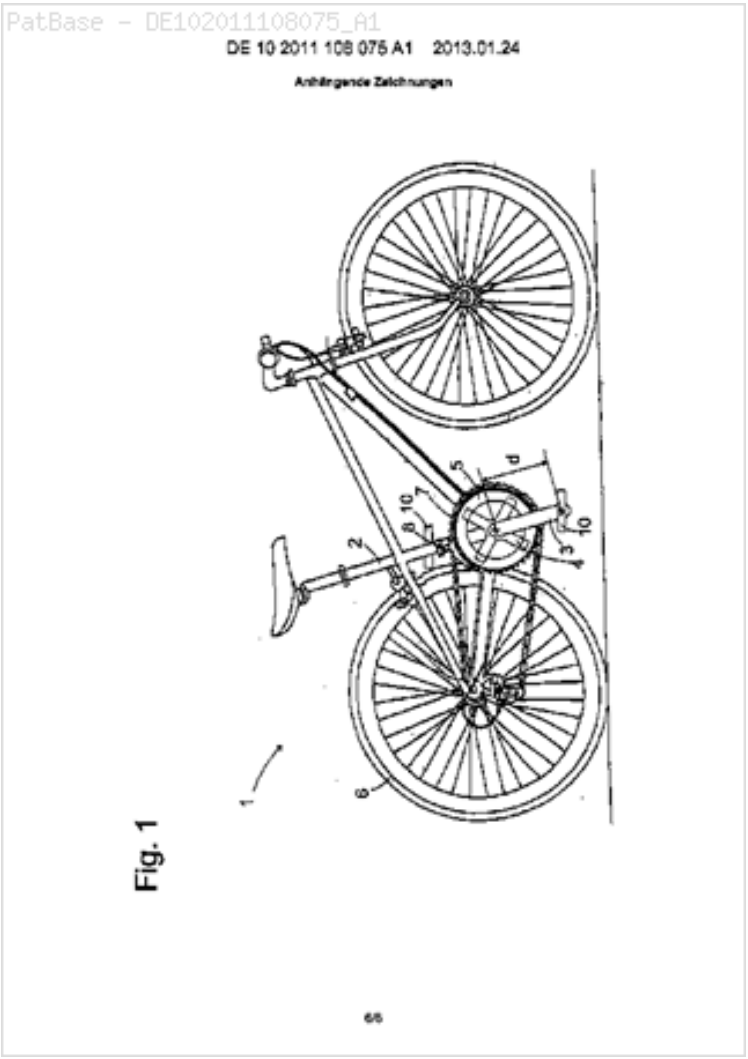
International class (IPC 8–9): B62M1/36 B62M3/00 (Advanced/Invention)

CPC: B62M3/00 B62M9/105

Classification Explorer

Cited documents: WO9503207, WO95003207, DE69621159 T, DE29515640 U, DE12007001544 T, DE112007001544 T,

Abstract:
The component has a crank arm (3), a chain ring (5) and a spider (4), where the spider rotational torque–locking connects the chain ring with the crank arm. The spider and the crank arm are two–piece formed, material–fit joined with each other and pressed together, where the spider includes an inner gear, and teeth of the gear are pressed in the crank arm. A distance between an axis of the spider and a pedal axis determined at the crank arm is measured about 160 mm. The chain ring and the spider are detachably connected with the each other by screws, where the spider includes a set of holes.



0) DE102012108800B4 – LEISTUNGSUNTERSTUETZENDES GETRIEBESYSTEM EINES ...

254) Family number: 56013851 (DE102012108800B4) © PatBase

Title: Leistungsunterstuetzendes Getriebesystem eines leistungsunterstuetzenden Fahrrads

Priority: DE201210108800 20120918

Family:

Publication number	Publication date	Application number	Application date
DE102012108800 A1	20140320	DE201210108800	20120918
DE102012108800 B4	20160303	DE201210108800	20120918

Assignee(s):(std)**:** UNIQUE PRODUCT AND DESIGN CO

Inventor(s):(std)**:** LIAO GORDON

International class (IPC 8–9): B62M6/45 B62M6/55 (Advanced/Invention)

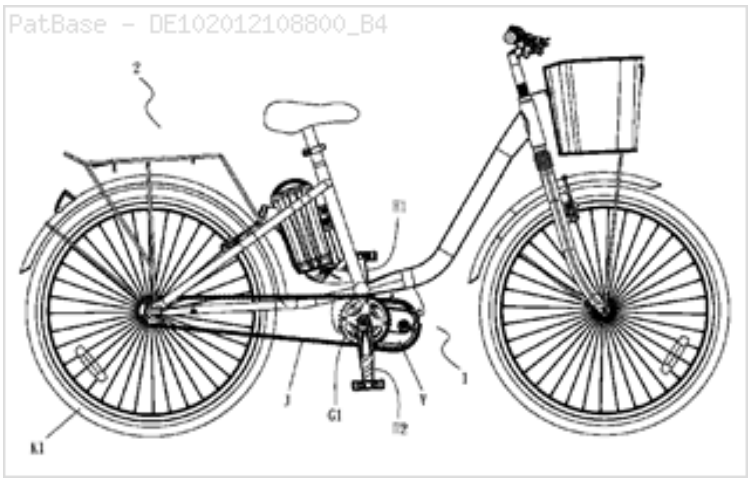
CPC: B62M11/06 B62M6/55

Classification Explorer

Cited documents: DE202011005503 U1

DE10215964 C1,

Abstract:
Source: DE102012108800B4
Leistungsunterstuetzendes Getriebesystem eines leistungsunterstuetzenden Fahrrads, umfassend: mindestens zwei Paare von ineinander eingreifenden Zahnradsaetzen mit ersten und zweiten Zahnradsaetzen und wobei die ersten und zweiten Zahnradsaetze jeweils ein Zahnrad und eine Schiebezahnrad umfassen und mindestens entweder der erste oder der zweite Zahnradsatz einen Zahnradsatz, bestehend aus zwei schraegverzahnten Zahnraedern (C, F), aufweist; wobei das Zahnrad des ersten und zweiten Zahnradsatzes auf einer ersten Getriebewelle befestigt ist und beide Enden der ersten Getriebewelle (A) mit einer Pedalkurbel (H1, H2) verbunden und durch eine Pedalkraft angetrieben sind und das Zahnrad des zweiten Zahnradsatzes ein Ende einer gepaarten Steckverbindung (Q) aufweist, welches axial angeordnet ist, und wobei das schraegverzahnten Schiebezahnrad (D, E) des ersten und des zweiten Zahnradsatzes auf einer zweiten Getriebewelle eingebaut und durch die entsprechenden Zahnraeder (C, D, E, F) des ersten und des zweiten Zahnradsatzes auf der zweiten Getriebewelle (L) in Eingriff gebracht und gedreht wird, um sich axial und horizontal zu bewegen, und ein elastisches Element aufweist, welches an einem axialen Ende angebracht ist; eine Tellerfeder (T), angebaut auf einer Seite des Zahnrads (F) des zweiten Zahnradsatzes und an einem durch Rueckwaertspedalieren (Rueckwaertstreten) verschiebbaren Ende des Schiebezahnrads (E) des ersten und des zweiten Zahnradsatzes angeordnet; einen ringfoermigen Magneten (M1), welcher auf einer Seite des Schiebezahnrades (E) des zweiten Radsatzes angebaut ist und durch eine aeussere Kraft synchron verschoben wird; einen Hall–Sensor (N), welcher an einem durch Tretbewegung verschiebbaren Ende des ringfoermigen Magneten (M1) zum Erfassen einer Verschiebungsveraenderung des ringfoermigen Magneten (M1) eingebaut ist; eine Sperrscheibe (B), welche an einer Zahnradkante (C) des zweiten Getriebesatzes angebaut ist und ein Kettenrad (G1), das an einer Kante befestigt ist, und ein weibliches Ende einer gepaarten Steckverbindung (Q) aufweist, der auf einer inneren Seite angeordnet ist und zu einem maennlichen Einsteckende der gepaarten Steckverbindung (Q) passt, so dass die Sperrscheibe (B) angetrieben wird, um sich ausgewaehlt mittels des Zahnrades (C) des zweiten Getriebesatzes vorwaerts und rueckwaerts zu drehen; und einen Antriebsmotor (O), welcher mit einem Untersetzungsgetriebe an einem vorderen Ende einer Abgangswelle des Motors ausgestattet ist und aus einer Vielzahl von Untersetzungszahnraedern (Q1, R1, S1) besteht und wobei das letzte Untersetzungszahnrad (S1) auf einer aeusseren Seite der Sperrscheibe (B) angebaut ist.



0) US2016258758A – DIFFERENTIAL HAPTIC GUIDANCE FOR PERSONAL NAVIG...

255) Family number: 58512905 (US2016258758A) © PatBase

Title: DIFFERENTIAL HAPTIC GUIDANCE FOR PERSONAL NAVIGATION

Priority: US20050694468P 20050627 US20060476436 20060627 US20120422453 20120316 US20110030663 20110218 US20110453739P 20110317 US20110511268P 20110725 US20130865380P 20130813 US20140972596P 20140331 WO2014US50724 20140812 US20140773119 20140812 US20140046404P 20140905 US20130844100P 20130709 US20120607092P 20120306

Family:

Publication number	Publication date	Application number	Application date
US2016258758 AA	20160908	US20140773119	20140812
WO15023670 A1	20150219	WO2014US50724	20140812

Probable Assignee: GENERAL VIBRATION CORP

Assignee(s):(std)**:** COACTIVE DRIVE CORP ; GENERAL VIBRATION CORP

Inventor(s):(std)**:** GRAHAM GABE ; HOUSTON JOHN ; MORRIS ROB ; MURPHY JOEL A ; SIMPKINS JR CHARLES ALEXANDER

Agent(s): ZIDEL ANDREW ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B06B1/04 B06B1/10 B06B1/12 B06B1/16 G01C21/20 G01C21/36 G01D5/12 G01D5/26 G01D5/40 (Advanced/Invention)

CPC: B06B1/10 B06B1/0207 B06B1/161 G01D5/145 G01C21/20 G01D5/12 G01D5/40 G01C21/3652 B06B1/16

US class: 701/526

Classification Explorer

Cited documents: US8981682 BB, US6424333 BA, US2012232780 AA, US2011102332 AA, US2008252594 AA, US2005077845 AA, KR20120116710 A, KR20100125941 A,

Forward Citations: WO16160284, WO16153029, US9564029, US9501912, US2016059928,

Abstract:
Source: US2016258758A One aspect of the technology involves a system for measuring the rotational position of a rotating shaft, including a field source configured to generate a measurable field, a sensor configured to measure the generated field, and a target that is configured to modify the generated field as measured by the sensor to have a shape with (a) at least one measurable feature for a zero reference point, and (b) a shape that varies throughout one or more angles such that a rotational position of the shaft is determined with a selected angular accuracy. There is also a device that receives a query for the rotational position of the shaft a device that responds to the query. Another aspect involves generating multi−frequency vibrations with a single linear resonant actuator (LRA). This LRA can exhibit a beat pattern in response to being driven by the sum of two different sinusoidal functions.

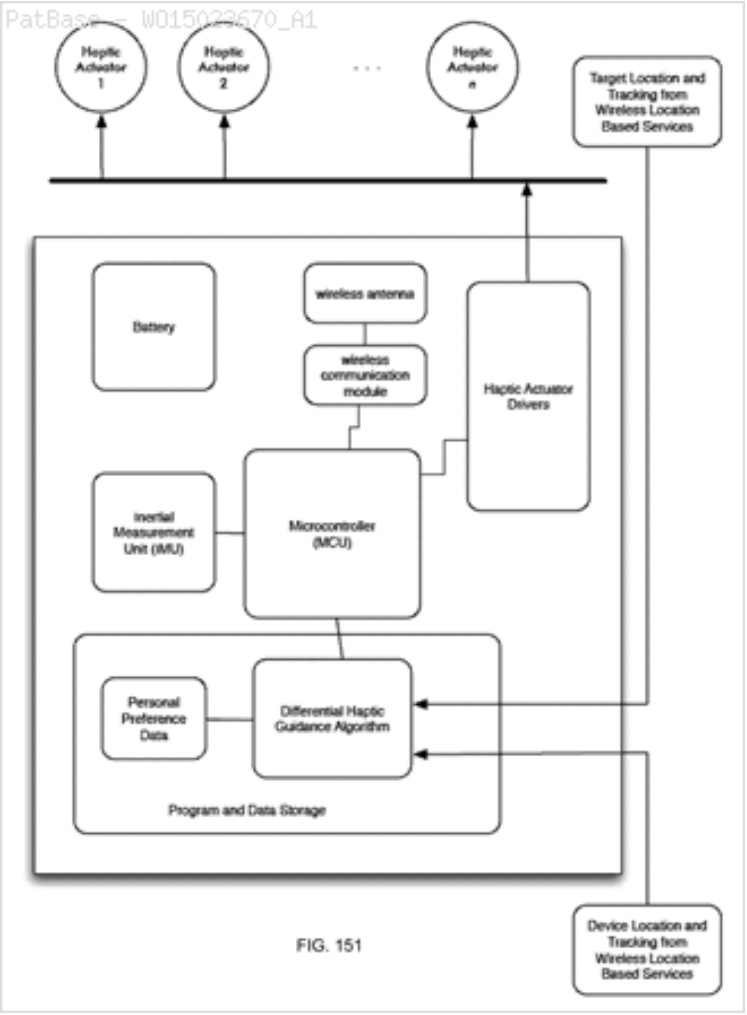


FIG. 151

256) Family number: 60259237 (CN204609411U) © PatBase

Title: INCREASE AUTOMATIC FENCE AND DETECTION DEVICE'S LIFTING AND HORIZONTAL MOVING PARKING EQUIPMENT

Priority: CN201520258893U 20150427

Family:

Publication number	Publication date	Application number	Application date
CN204609411 U	20150902	CN201520258893U	20150427

Probable Assignee: LIANG CHONGYAN

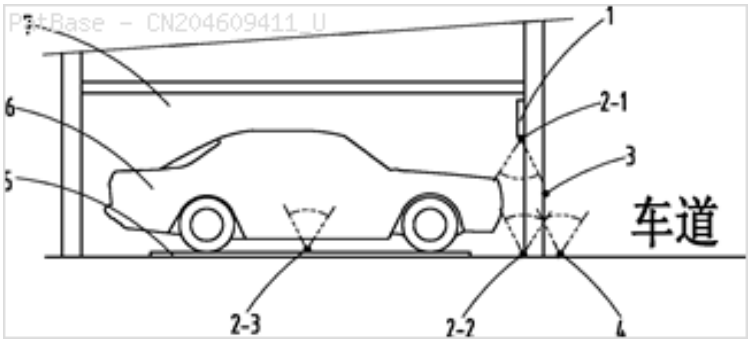
Assignee(s):(std)**:** LIANG CHONGYAN

Inventor(s):(std)**:** LIANG CHONGYAN

International class (IPC 8–9): E04H6/42 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN204609411U The utility model relates to an increase automatic fence and detection device's lifting and horizontal moving parking equipment. The automatic fence that increases install parking equipment come in and go out the car layer each vehicle access and exit just before the facade position, by the man–machine interface device or the controlling means controlled shutdown of equipment or open for personnel and vehicle can only be followed the mechanical grate field of having opened and put out / go into, ensure the operation safety of parking area. The detection device that increases is that detection device is felt on ultrasonic wave detection device or ground, cooperates former equipment at the correlation detection device of vehicle access and exit department installation, and user's bicycle parking, to be the vehicle drive in into from the lane, and carry the sweep and the user picks up the car, to be the vehicle roll the process in lane away from from carrying the sweep, and the correlation detection device that will trigger above–mentioned detection device who increases and former equipment produces regular signal to be changed, through the analysis, can differentiate the state of vehicle on carrying the sweep. The utility model discloses an use widely, will have great social and economic benefits.



0) CN204850611U – THERE IS WAREHOUSE STYLE STEREO GARAGE WHO CARR...

257) Family number: 61070622 (CN204850611U) © PatBase

Title: THERE IS WAREHOUSE STYLE STEREO GARAGE WHO CARRIES SWEEP

Priority: CN201520466653U 20150702

Family:

Publication number	Publication date	Application number	Application date
CN204850611 U	20151209	CN201520466653U	20150702

Probable Assignee: WANG ZHONGLI

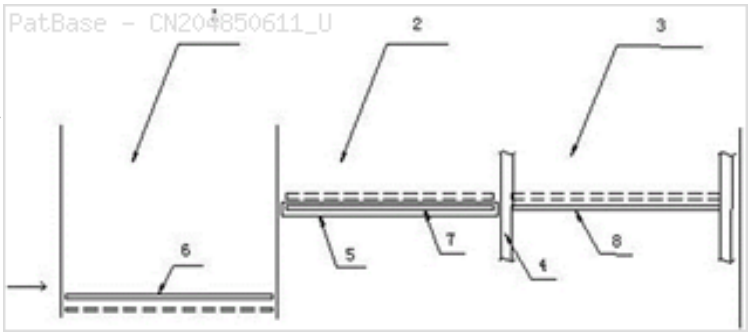
Assignee(s):(std)**:** WANG ZHONGLI

Inventor(s):(std)**:** WANG ZHONGLI

International class (IPC 8–9)**:** E04H6/22 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN204850611U The utility model discloses a there is warehouse style stereo garage who carries sweep, it relates to warehouse style stereo garage, and concretely relates to has the stereo garage who carries the sweep for one kind. It includes lift part, carrier part, parking stall part, steel construction, tray conveyor, tray A, tray B, tray C, lift part is near the carrier part, and the carrier part is near the parking stall part, and the steel construction is between carrier part and parking stall part, and the partial rear in parking stall also is equipped with the steel construction, and tray conveyor installs in the carrier part, and tray A establishes in the lift part, and tray B establishes in the carrier part, and tray C establishes in the parking stall part. The utility model discloses beneficial effect does: it not only practices thrift installation manufacturing cost, can shorten the garage again by a wide margin and between the access vehicle –hour, adopt the bicycle parking mode that has the board but to obtain not have between the access vehicle –hour of board promptly.



0) CN205012724U – DOUBLE –DECK ROTATION TYPE PARKING STALL OF INT...

258) Family number: 61589823 (CN205012724U) © PatBase

Title: DOUBLE –DECK ROTATION TYPE PARKING STALL OF INTELLIGENCE

Priority: CN201520745963U 20150924

Family:

Publication number	Publication date	Application number	Application date
CN205012724 U	20160203	CN201520745963U	20150924

Probable Assignee: UNIV TIANJIN SCIENCE AND TECH

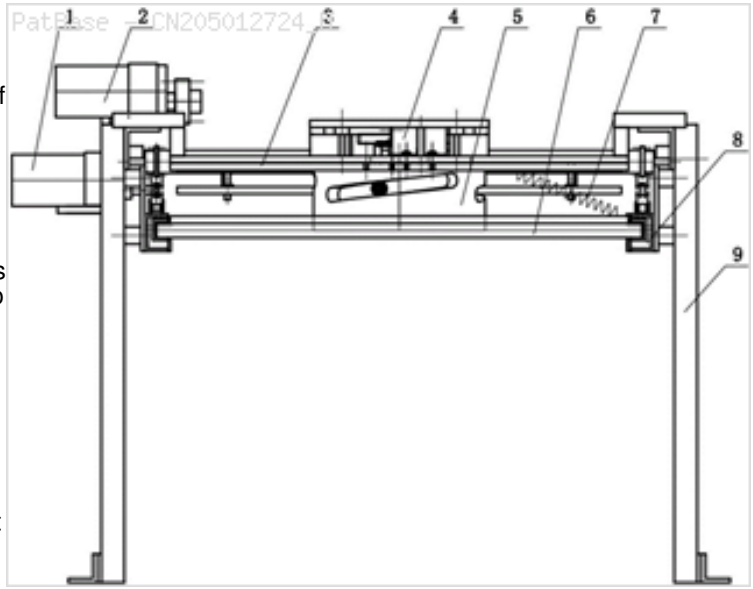
Assignee(s):(std)**:** TIANJIN UNIV OF SCIENCE AND TECHNOLOGY ; UNIV TIANJIN SCIENCE AND TECH

Inventor(s):(std)**:** CHEN GUANLIN ; DONG XIAOLEI ; HONG YONGKANG ; JI WENCHAO ; LI SHUAIFEI ; LI ZHONGXIANG ; LIU HUI ; LIU XIHAO ; WANG DONGSHENG ; WANG XIAOFEI ; XIAO ZHIPENG ; ZHANG CHENG ; ZHANG SHUNLI ; ZHANG XIAOFEI ; ZHU HUANGCHAO

International class (IPC 8–9): E04H6/06 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN205012724U The utility model relates to a double –deck rotation type parking stall of intelligence, including base, flexible roof beam, support sweep, vertical lift mechanism, rotary lifting mechanism and safe anti –skidding fixture, flexible roof beam direction slidable mounting is on base upper portion, and vertical lift mechanism connects the flexible vertical lift of roof beam of drive, install on flexible roof beam rotary lifting mechanism's bottom, and the support sweep is connected to rotary lifting mechanism's upper end, the safe anti –skidding fixture of installation on the support sweep. The utility model discloses a helicla flute rotary lifting mechanism is not having under any motor drive's the circumstances, utilizes the helicla flute mechanism of torsion spring, safe anti –skidding fixture, rotatable lift ingeniously, accomplish automobile the come in and go out rotation and the switching –over of parking stall, eliminated the vexation that the user backed a car the position and picked up the car and turn around, reduced the driver drive into the distance, saved bicycle parking space and time.



0) CN205077434U – PARALLEL BEVEL GEAR DRIVES BICYCLE OF SWEEPING ...

259) Family number: 61832078 (CN205077434U) © PatBase

Title:	PARALLEL BEVEL GEAR DRIVES BICYCLE OF SWEEPING FLOOR
Priority:	CN201520760168U 20150929

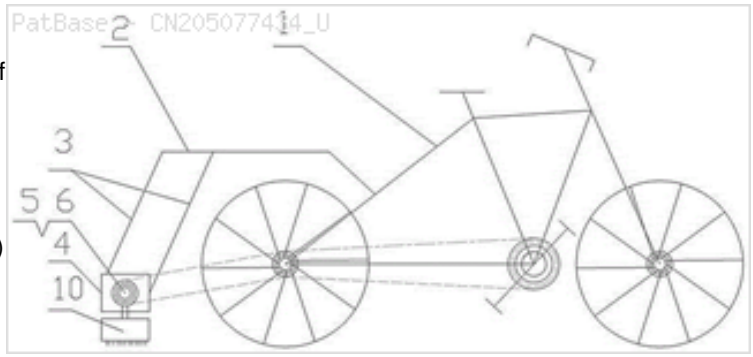
Family:

Publication number	Publication date	Application number	Application date
CN205077434 U	20160309	CN201520760168U	20150929

Probable Assignee:	DALIAN OCEAN UNIV
Assignee(s):(std):	DALIAN OCEAN UNIV
Inventor(s):(std):	AN XIANGHUA ; NIU CHUNLIANG
International class (IPC 8–9):	E01H1/05 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN205077434U The utility model discloses a parallel bevel gear drives bicycle of sweeping floor, including proper motion automobile body (1), its characterized in that: be provided with on back seat frame (2) of proper motion automobile body (1) mounting bracket (3), the bottom of mounting bracket (3) is provided with gear box (4), it has pivot (5) to support at gear box (4) upper bearing, pivot (5) are located and are provided with input sprocket (6) on gear box (4) outer end, input sprocket (6) links to each other through chain (7) pivot with the rear wheel of proper motion automobile body (1), be provided with two sets of bevel gear groups (8) on lieing in gear box (4) inside pivot (5) still symmetrically, and the rotation in the opposite direction of two horizontal tooth (9) in two sets of bevel gear groups (8), the below of horizontal tooth (9) is connected with brush dish (10) that are located gear box (4) bottom, it has the brush hair to distribute on the outer circumference of brush dish (10) bottom, and the bottom of brush hair can contact with ground.



0) CN205493744U – DUST TUFT IS SWEPT TO ONE HAND

260) Family number: 63339410 (CN205493744U)

© PatBase

Title:	DUST TUFT IS SWEPT TO ONE HAND
Priority:	CN201620164100U 20160304

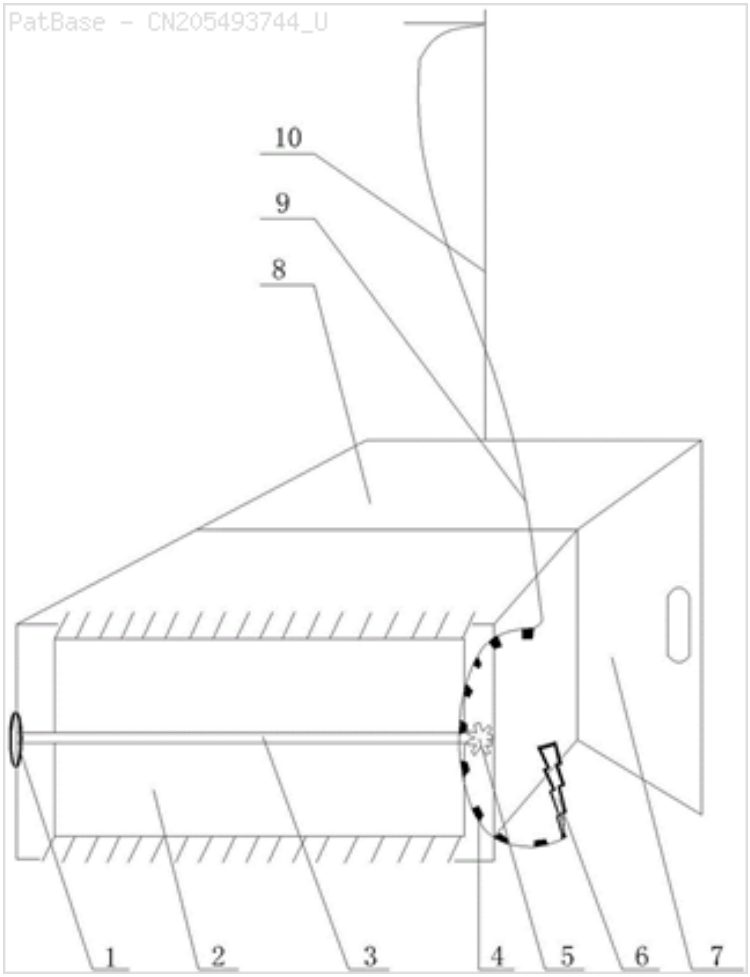
Family:

Publication number	Publication date	Application number	Application date
CN205493744 U	20160824	CN201620164100U	20160304

Probable Assignee:	ZHAO PEIHAN
Assignee(s):(std)**:**	ZHAO PEIHAN
Assignee(s):	ZHAO PEI CONTAINING
Inventor(s):(std)**:**	ZHAO PEIHAN
International class (IPC 8–9):	A47L13/52 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN205493744U The utility model relates to a dust tuft is swept to one hand belongs to daily life articles for use technical field, just only can sweep the floor through a hand, moreover convenient and fast, strong, the easy operation of practicality. The utility model discloses a tuft body, with tuft support that tuft body links to each other, its structural feature is: one side of tuft body is provided with the opening, at opening part installation tuft door, the both sides of the entrance of tuft body are provided with the fixed axle, the one end and the clamping rings rotation that sets up in tuft body entrance of fixed axle are connected, the other end installation bicycle freewheel of fixed axle is equipped with the broom on the fixed axle, still be equipped with semi – circular gear installing bicycle freewheel one side, semi – circular gear places on fixed track, semi – circular gear is connected with the bicycle freewheel meshing, semi – circular gear's lower extreme even has the spring, and the other end and tuft body of spring are fixed, and even there is the rope semi – circular gear's upper end, and the other end of rope and the upper end of tuft support link to each other.



0) DE2826830A1 – VORRICHTUNG ZUM FUEHREN DER HANDSTOECKE ZUM AKT...

261) Family number: 1726216 (DE2826830A1) © PatBase

Title: VORRICHTUNG ZUM FUEHREN DER HANDSTOECKE ZUM AKTIVIEREN DER ARMKRAFT AN EINEM TRAININGSTRETGERAET PEDAL OPERATED TRAINING MACHINE WITH BICYCLE FRAME – USES GUIDES AND RODS WITH GRIPS FOR MANUAL ASSISTANCE

Priority: DE19782826830 19780619

Family:

Publication number	Publication date	Application number	Application date
DE2826830 A1	19791220	DE19782826830	19780619

Probable Assignee: KREIS TRUMA GERAETEBAU

Assignee(s):(std)**:** KREIS PHILIPP GMBH AND CO ; KREIS TRUMA GERAETEBAU

Assignee(s): PHILIPP KREIS GMBH AND CO TRUMA GERAETEBAU

Inventor(s):(std)**:** KREIS PHILIPP

International class (IPC 8–9): A63B22/12 A63B23/035 (Advanced/Invention); A63B22/06 A63B23/035 (Core/Invention)

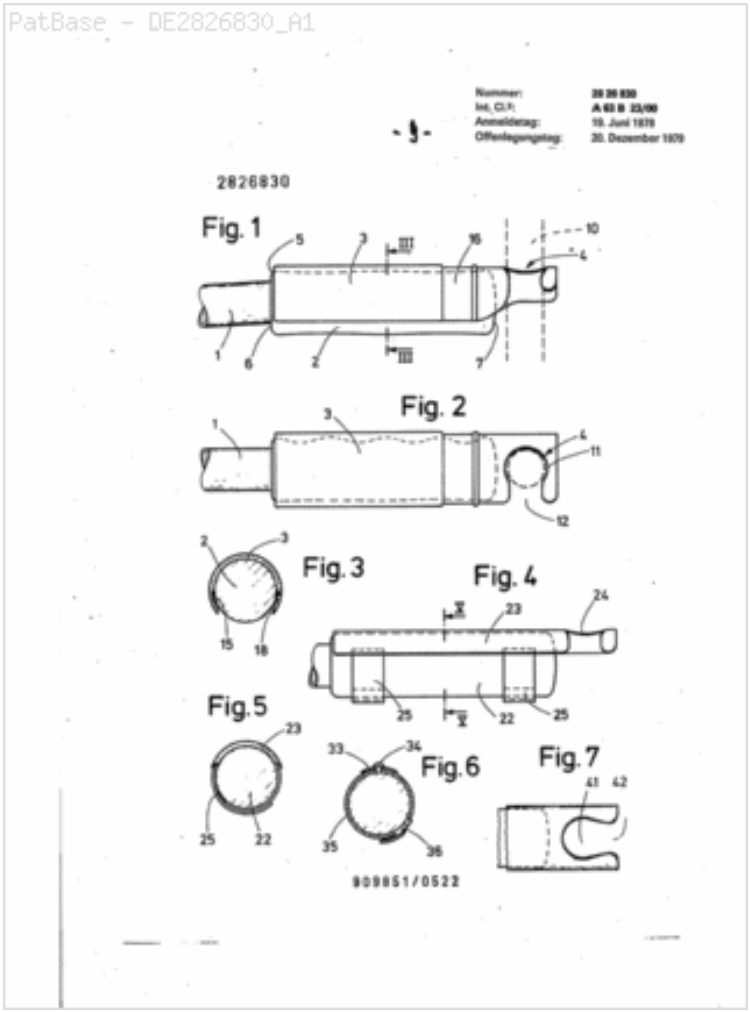
International class (IPC 1–7): A63B23/00

CPC: A63B23/03575

European class: A63B23/035G

Classification Explorer

Abstract:
Source: DE2826830A1 Titel: Vorrichtung zum Fuehren der Handstoecke zum Aktivieren der Armkraft an einem Trainingstretgeraet (Zusatz zu P 28 14 756o) Patentansprueche: Vorrichtung zum Fuehren der Handstoecke zum Aktivieren der Armkraft an einem Trainingstretgeraet, an dessen an einem stationaeren fahrradaehnlichen Rahmengestell drehbar gelagerten Tretpedalen je ein Handstock zum Uebertragen der Armkraft des Benutzers auf die Pedale eingreift und wobei zur Halterung jedes Stockes an einer Lenkstange ein die Auf– und Abbewegung der Handstoecke zulassender Fuehrungshalter mit einem Haltebuegel vorgesehen ist, nach Patent (Patentanmeldung P 28 14 7560), dadurch gekennzeichnet, dass der Fuehrungshalter von einer an einem Handgriff (2) der Lenkstange (1) zu befestigenden Auflageplatte (3, 23, 33) gebildet ist, deren Querschnittsform dem Handgriff angepasst ist und deren aeusseres Ende mit dem Haltebuegel (4, 24, 42) ueber den Handgriff hinaussteht 2. Training apparatus with pedals operated in the manner of a bicycle, is fitted with manually guided rods to utilise the power of the arms. The rods transmit the force of the arms to pedals with a bearing on a stationary fram resembling the bicycle. To hold each rod on a guide bar, a guide holder with a holding bow is fitted which permits the rods to move and down, as in the main patent. The guide holder is formed by a superimposed plate (3) attached to a grip (2) of the handle bar (1). Its cross sectional shape corresponds to that of the grip and the outer end of which, with the holding bow, projects beyond the grip.



0) US2178939A – BICYCLE FRAME OR THE LIKE

262) Family number: 21045729 (US2178939A) © PatBase

Title:	BICYCLE FRAME OR THE LIKE
Priority:	US19360117636 19361224

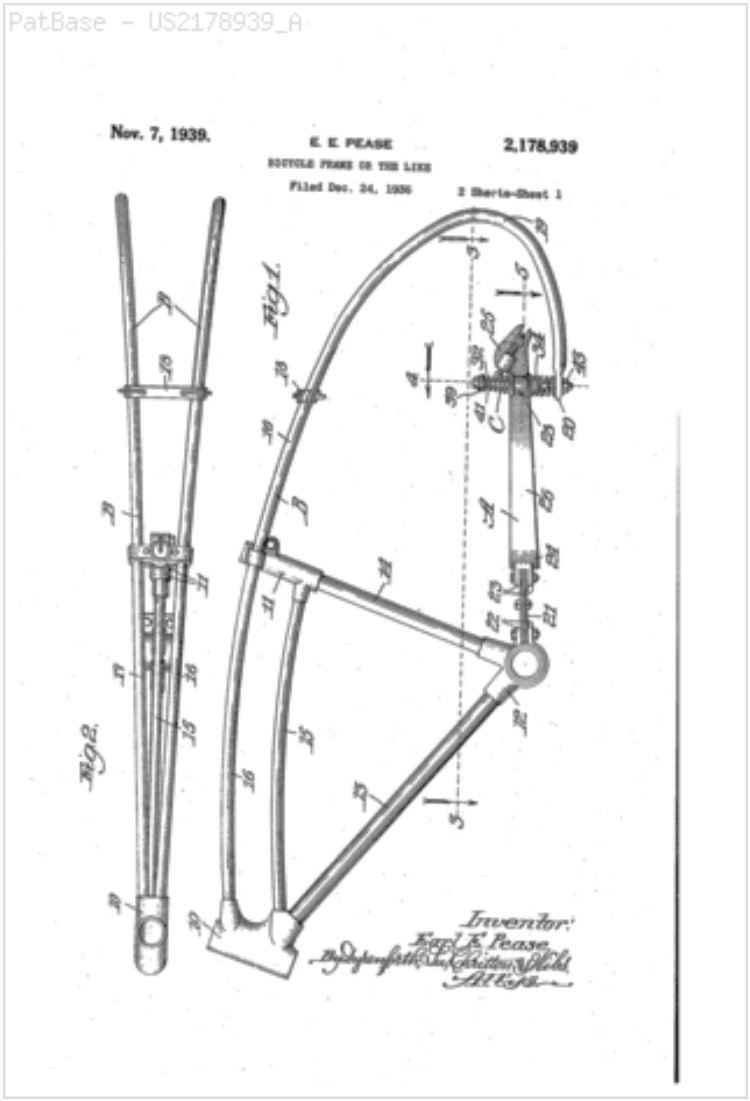
Family:

Publication number	Publication date	Application number	Application date
US2178939 A	19391107	US19360117636	19361224

Probable Assignee:	BATTERY PATENTS CORP
Assignee(s):(std)**:**	BATTERY PATENTS CORP
Inventor(s):(std)**:**	PEASE EARL E
International class (IPC 8–9)**:**	B62K25/04 (Advanced/Invention); B62K25/04 (Core/Invention)
CPC:	B62K25/04 B62K2025/041 B62K2201/04 B62K2201/06
European class:	B62K25/04 L62K201/04 L62K201/06 L62K25/04B
US class:	280/283
Classification Explorer	
Forward Citations:	US9359039, US9302732, US9156521, US7533895, US7516971, US7140628, US7140628, US6783142, US4371185, US3954284, US2015175238, US2006138743, US2005151344, US2005040622,

Abstract:
Source: US2178939A 1. In a bicycle frame of the character set forth, having head, hanger and cluster members, a supporting member adapted at its rearward end to engage a rear Wheel shaft, spring means connecting the forward end of said supporting rneniber with said hanger member, said means being adapted to permit movement of the forward poi'– tion of said supporting member relative to said hanger member, a pair of rearwardly extending tubes attached to said cluster member and having their lower portions extending below and forwardly of said rear wheel shaft, and spring means connecting the forward ends of said tubes and said supporting member at a point forward of said wheel shaft and providing a spring lulcrum for said rear wheel shaft and by means of which said nrst–mentioned spring moans is Hexed.

PatBase - US2178939_A



0) DE675648A – KETTENLOSES FAHRRAD MIT TRETHEBELN CHAIN SEAML...

263) Family number: 21571311 (DE675648A)

© PatBase

Title:	KETTENLOSES FAHRRAD MIT TRETHEBELN CHAIN SEAMLESS BICYCLE WITH TRETHEBELN (Machine translation)
Priority:	DE1937W101436 19370701

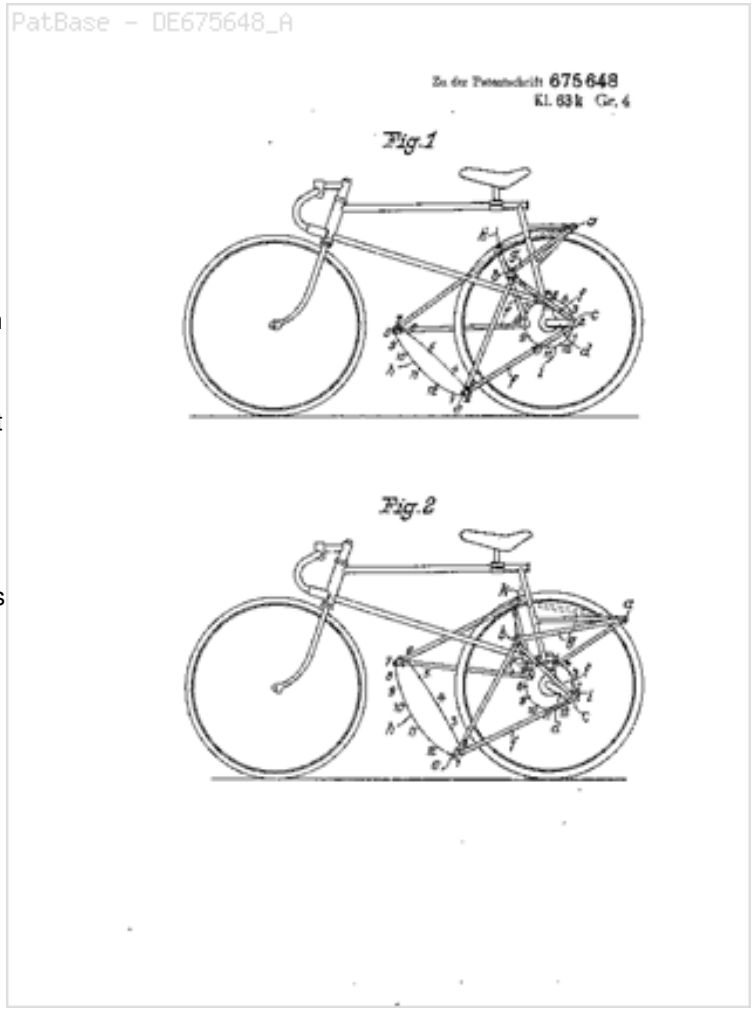
Family:

Publication number	Publication date	Application number	Application date
DE675648 A	19390513	DE1937W101436D	19370701

Probable Assignee:	EUGEN WOERNER
Assignee(s):(std):	EUGEN WOERNER
Inventor(s):(std):	WOERNER EUGEN
International class (IPC 8–9):	B62M11/00 (Advanced/Invention); B62M11/00 (Core/Invention)
International class (IPC 1–7):	B62M1/04
CPC:	B62M11/00 B62M2700/006
European class:	B62M11/00 L62M700/63K4

Classification Explorer

Abstract:
Source: DE675648A (Claim 1) 1. Kettenloses Fahrrad mit Trethebeln, die an ihren vorderen Enden die Fuss tritte traegen, an in der Hinterradmitte ge lagerten, um vorzugsweise i 8o gegen. einander versetzten Kurbeln angreifen und durch Lenker:oder Gleitfuehrungen so ge lenkt werden; dass die Fusstritte kuench–a– idenartig in sich geschlossene Trethahnen beschreiben, dadurch gekennzeichnet, dass., zur Erzielung der Tiefstlage jedes Fuss trittes bei gleichzeitiger Lage des ande ren Fusstrittes im vorderen Teil seiner Tretbahn (h) unter ihrem hoechsten Punkt die dem @obenliegenden Fusstritt zugeord nete Kurbel (d) im oberen vorderen und die dem untenliegenden Fusstritt zugeord nete Kurbel (d) im hinteren unteren Vier– lel des Kurbelkreises (i) liegt und die @@enkpunkte (b) der Trethebel (f) @obierhalb des Kurbelkreises liegen.



Machine translation: (claim 1) 1 Chainless bicycle Trethebeln, the steps at their front ends of the foot contracts, in the rear middle–level GE, preferably about i 8o against. attacking each other offset cranks and handlebars: or sliding guides so–steers are, that kicks kuench–a–idenartig describe self–contained Trethahnen, characterized, know that, to achieve the lowest position of each foot kick in at the same time capable of the other reindeer foot kick front part of his Tretbahn (h) below their highest point, the @ overhead kick assigned designated crank (d) front in the upper and the lower lying kick assigned designated crank (d) in the lower rear four–iel of the crank circle (i), and the @ @ enkpunkte (b) of the treadle lever (f) @ lie obierhalb the crank circle.

0) US6386410B – VEHICLE MOUNTED ARTICLE CARRIER RACK

264) Family number: 23351732 (US6386410B) © PatBase

Title: VEHICLE MOUNTED ARTICLE CARRIER RACK

Priority: US20000699831 20001030

Family:

Publication number	Publication date	Application number	Application date
US6386410 BA	20020514	US20000699831	20001030

Probable Assignee: THULE SWEDEN AB

Assignee(s):(std)**:** STEEL HORSE AUTOMOTIVE ACCESSO

Assignee(s): STEEL HORSE AUTOMOTIVE ACCESSORIES INC ; THULE INC ; THULE SWEDEN AB ; BERRYMAN PRODUCTS INC ; BVG IND ; G INDUSTRIES BV

Inventor(s):(std)**:** HUGHES JERRY ; VAN DUSEN DONN

International class (IPC 8–9): B60R9/06 (Advanced/Invention); B60R9/00 (Core/Invention)

International class (IPC 1–7): B60R9/10

CPC: Y10S224/924 B60R9/06

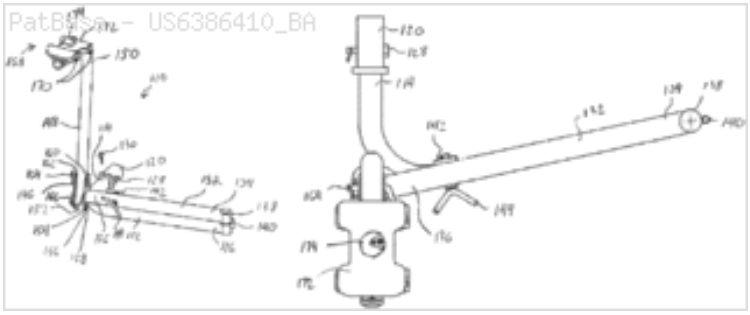
European class: B60R9/06

US class: 224/509 224/519 224/535 224/536 224/924

Classification Explorer

Cited documents: US6237823 BA, US6234372 BA, US6199735 BA, US6123498 A, US5845832 A, US5664717 A, US5593076 A, US5518159 A, US5114120 A, US5094373 A, US5004133 A, US4948021 A, US4946084 A, US4875608 A, US4863080 A, US4561575 A, US4434922 A, US4002364 A, US3804308 A, US3753520 A, US3326434 A,

Forward Citations: USRE46253, USD482314, US9475353, US9381868, US8820598, US8596508, US8540125, US8281969, US7604450, US6830423, US2012305612, US2012292357, US2008205985, US2008179363, US2008105802, US2008047985, US2007029756,



Abstract:
Source: US6386410B The vehicle mounted article carrier rack mounts equipment to the back end of a vehicle. A base arm is formed having an acute angle such that when the base arm is secured to a receiver hitch of a vehicle, the base arm sweeps back towards the rear of the vehicle. A swing arm is pivotally connected to the base arm and also pivotally connected to a vertical article carrier arm. The swept−back design assures that the article carrier rack remains within the width of the vehicle when in a closed position, yet when open, swings out of the way to allow access to the vehicle's rear cargo area. The vertical article carrier arm pivots downwards to lower articles to, or raise articles from, the ground.

0) CH305659A – ALS MEHRZWECKGERAET AUSGEBILDETE, LANDWIRTSCHAF...

265) Family number: 24776677 (CH305659A) © PatBase

Title:	ALS MEHRZWECKGERAET AUSGEBILDETE, LANDWIRTSCHAFTLICHE KLEINMASCHINE. ALS MEHRZWECKGERAET TRAINED, RURAL SMALL ENGINE. (Machine translation)
Priority:	19511006

Family:

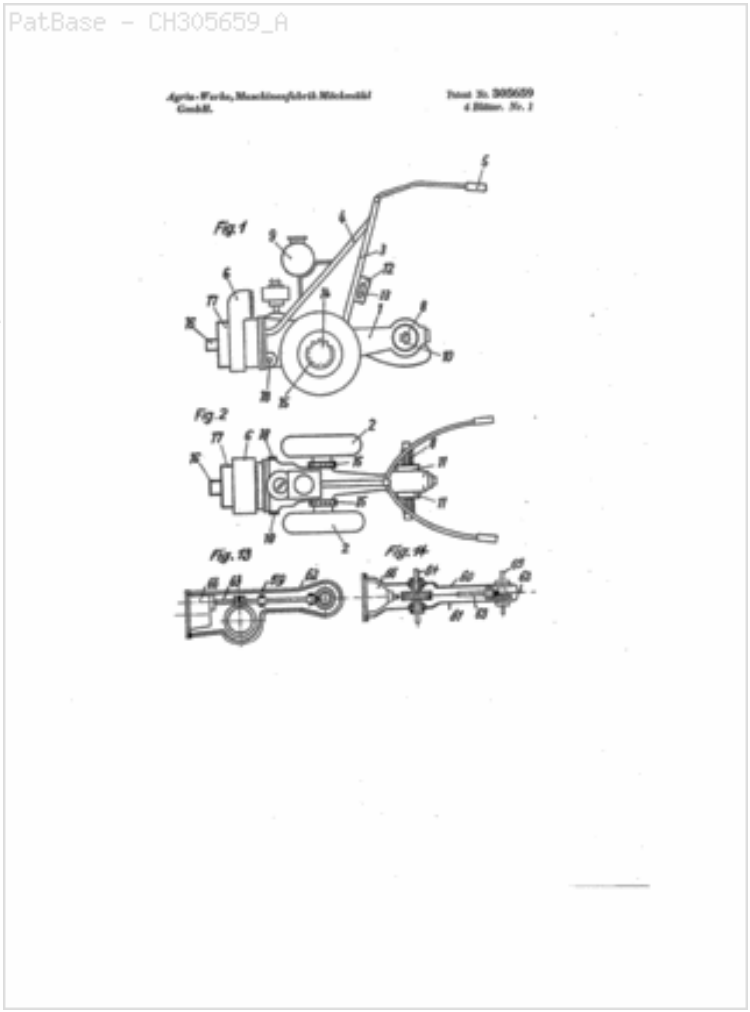
Publication number	Publication date	Application number	Application date	
CH305659 A	19550315		19520922	

Probable Assignee:	AGRIA WERKE MASCHF MO
Assignee(s):(std):	AGRIA WERKE MASCHF MO ; AGRIA WERKE MASCHINENFABRIK MO
Assignee(s):	AGRIA WERKE MASCHINENFABRIK MOECKMUEHL GMBH ; AGRIA WERKE MASCHF MOECKMUEHL GMBH
Inventor(s):(std):	MOECKMUEHL GMBH AGRIA WERKE MA
Inventor(s):	AGRIA WERKE MASCHF MOECKMUEHL GMBH ; GMBH AGRIA WERKE MASCHINENFABRIK MOECKMUEHL
International class (IPC 8–9):	A01B51/02 A01D78/08 (Advanced/Invention); A01B51/00 A01D78/00 (Core/Invention)
International class (IPC 1–7):	A01B51/02
CPC:	A01B51/02 A01D78/08
European class:	A01B51/02 A01D78/08

Classification Explorer

Abstract:
Source: CH305659A (Claim 1) 1. Maschine nach Patentanspruch, dadurch gekennzeichnet, dass das den Rahmen bildende Getriebegehaeuse (1) an seinem vordern Ende mit seitlichen Befestigungsan−saetzen (18) fuer vordere Anbaugeraete und das hinter den Pahrraedern liegende Holmge−staenge (3) oberhalb des Getriebegehaewes mit einer Befestigungslasche (12,13) fuer hintere Anbaugeraete versehen ist.

Machine translation: (claim 1) 1 The machine of claim, wherein the forming the frame GEAR (1) sets Befestigungsan−at its anterior end side (18) for front attachment devices and is situated behind the Pahrraedern Holmge−linkage (3) above the Getriebegehaewes with a mounting bracket (12,13) for rear mounting devices is provided.



0) US2002014755A – RECUMBENT VEHICLE AND APPARATUS FOR FORMING SAM...

266) Family number: 28175850 (US2002014755A) © PatBase

Title: Recumbent vehicle and apparatus for forming same

Priority: US20000205339P 20000518 US20010860748 20010518

Family:

Publication number	Publication date	Application number	Application date
US2002014755 AA	20020207	US20010860748	20010518
US6554308 BB	20030429	US20010860748	20010518

Probable Assignee: BLACKBIRD DESIGNS INC

Assignee(s):(std)**:** BLACKBIRD DESIGNS INC

Assignee(s): BLACK JAMES G

Inventor(s):(std)**:** BLACK JAMES G

International class(IPC 8–9)**:** B62K13/06 B62K3/00 (Advanced/Invention)

International class(IPC 1–7)**:** B62K13/06 B62M1/00

CPC: B62K3/005 B62K5/00 B62K13/06

European class: B62K13/06 B62K3/00C B62K5/00

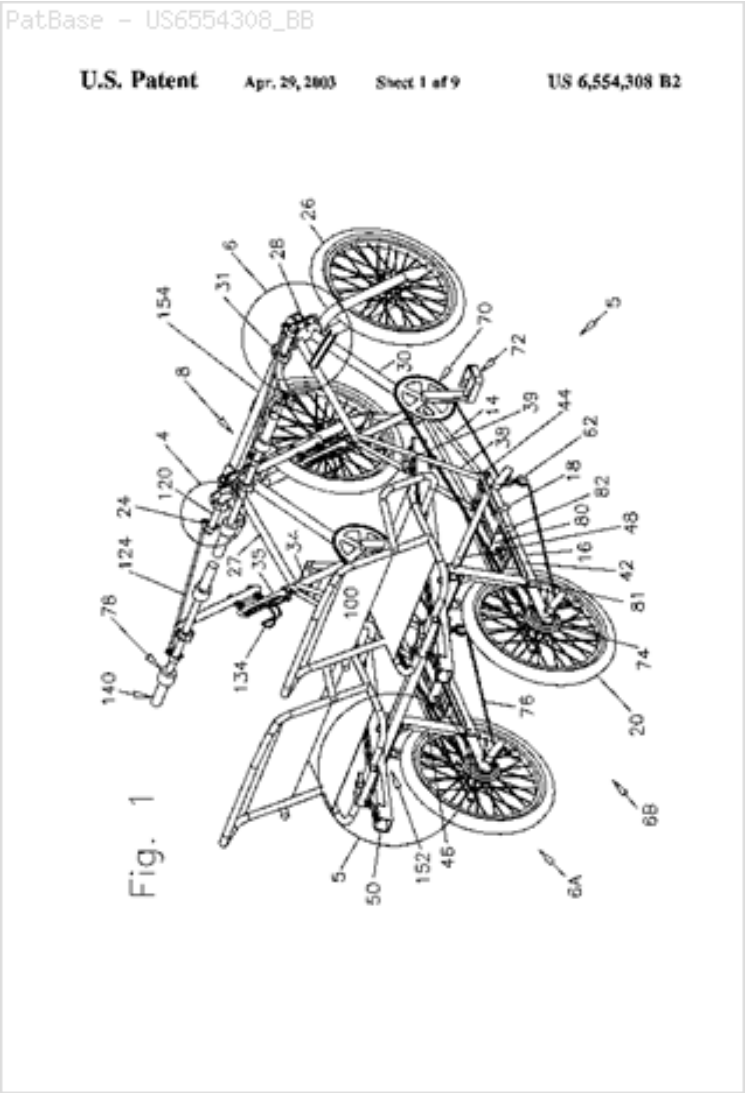
US class: 280/209 280/209S 280/231 280/231P 280/267 280/288.1

Classification Explorer

Cited documents: USD408761 S1, USD385225 S1, US6381777 BA, US6109391 A, US6068278 A, US6022036 A, US5951034 A, US5853062 A, US5584494 A, US5511809 A, US5342074 A, US4925203 A, US4834410 A, US442275 A, US437026 A, US4288089 A, US4227589 A, US4093258 A, US3938827 A, US3902738 A, US3865401 A, US3857583 A, US3836175 A, US3794352 A, US3713671 A, US3592486 A,

Forward Citations: US8672075, US8640796, US8146937, US7967312, US7874566, US7690390, US2011018225, US2010314852, US2009090405,

Abstract:
Source: US2002014755A A recumbent vehicle including parallelally paired recumbent bicycles operatively and reversibly joined by a bracing assembly having less than four brace members, is provided. The parallelally paired recumbent bicycles are easily separable, without the need for tools, for individual riding. A conversion kit for reversibly uniting a pair of recumbent bicycles so as to form a recumbent quad is similarly provided. The kit generally includes a bracing assembly including a pair of braces, and brackets adapted to reversibly receive portions of the braces therein. One of the brackets is a front bracket with another of the brackets being a rear bracket. The front bracket is supported by a front triangle of a diamond frame of the recumbent bicycle, with the rear bracket being supported by a rear triangle of the diamond frame.



0) DE29812585U1 – PEDAL–CLAIMANT TRANSPORT VEHICLE PEDALBETRIEBEN...

267) Family number: 30381724 (DE29812585U1) © PatBase

Title: Pedal–claimant transport vehicle

Priority: DE19982002254U 19980211 DE19982012585U 19980715

Family:

Publication number	Publication date	Application number	Application date
DE29812585 U1	19981022	DE19982012585U	19980715

Probable Assignee: LAMPE FRIEDRICH DIPL ING FH

Assignee(s):(std)**:** LAMPE FRIEDRICH DIPL ING FH

Assignee(s): LAMPE FRIEDRICH DIPL ING FH 32469 PETERSHAGEN DE

International class (IPC 8–9): B25H1/00 B62H3/00 B62K7/04 (Advanced/Invention); B25H1/00 B62H3/00 B62K7/00 (Core/Invention)

International class (IPC 1–7): B62K27/04 B62K27/10 B62K7/04 B62M1/02

CPC: B25H1/0014 B62H3/00 B62K7/04

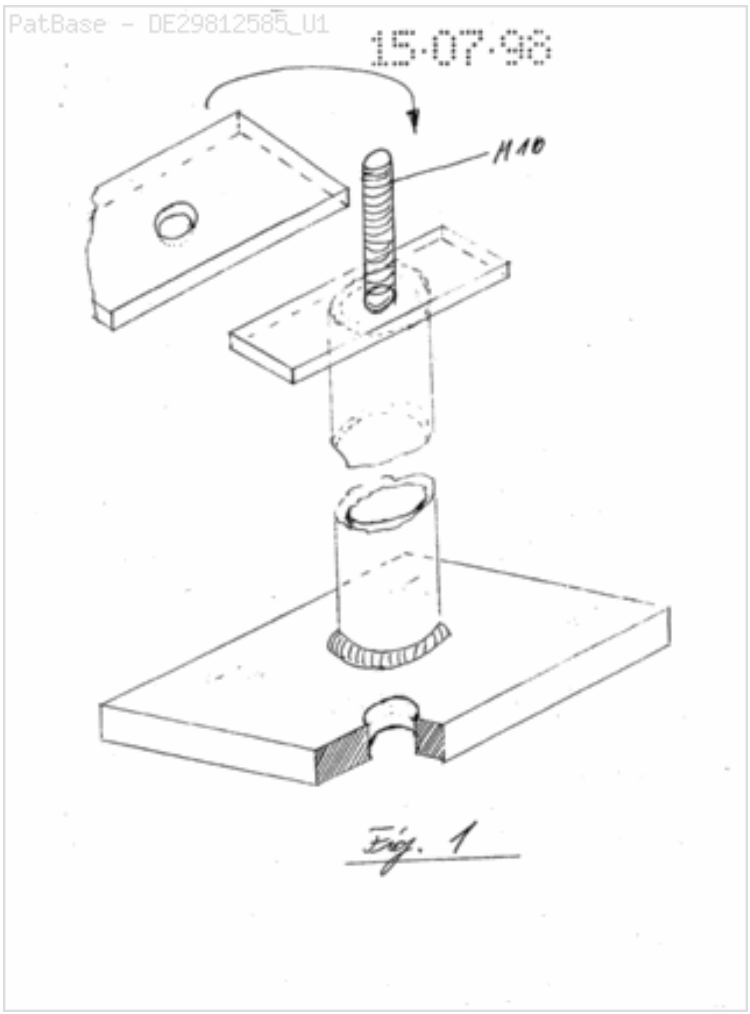
European class: B25H1/00B2 B62H3/00 B62K7/04

Classification Explorer

Forward Citations: DE19953897,

Abstract:
Source: DE29812585U1 (Claim 1) 1. Pedalbetriebe n e s Transportfahrzeug,dadurch gekennzeichnet, dass Befestigungselemente oder eine Grundplatte auf ein Lastendreirad montiert werden, zurAufnahme von Montagevom e hrungen fur zwei Fahrraeder und einer Werkzeugkiste.

Machine translation: (Claim 1) 1 To pedal operations nes transport vehicle, wherein said fastening elements or a base plate mounted on a load tricycle zurAufnahme of e Montagevom currencies for two bicycles and a toolbox.



0) DE3235248A1 – REAR–MOUNTED LUGGAGE RACK WITH BICYCLE HOLDER F...

268) Family number: 3345172 (DE3235248A1) © PatBase

Title: Rear–mounted luggage rack with bicycle holder for motor homes and the like

Priority: DE19823235248 19820923

Family:

Publication number	Publication date	Application number	Application date
DE3235248 A1	19840329	DE19823235248	19820923
DE3235248 C2	19870402	DE19823235248	19820923

Probable Assignee: HYMER LEICHTMETALLBAU

Assignee(s):(std)**:** HYMER LEICHTMETALLBAU

Assignee(s): HYMER LEICHTMETALLBAU 7988 WANGEN DE

Inventor(s):(std)**:** LANG FRITZ

Inventor(s): LANG FRITZ 7988 WANGEN DE

International class (IPC 8–9): B60R9/10 (Advanced/Invention); B60R9/00 (Core/Invention)

International class (IPC 1–7): B60R9/06 B60R9/10

CPC: B60R9/10

European class: B60R9/10

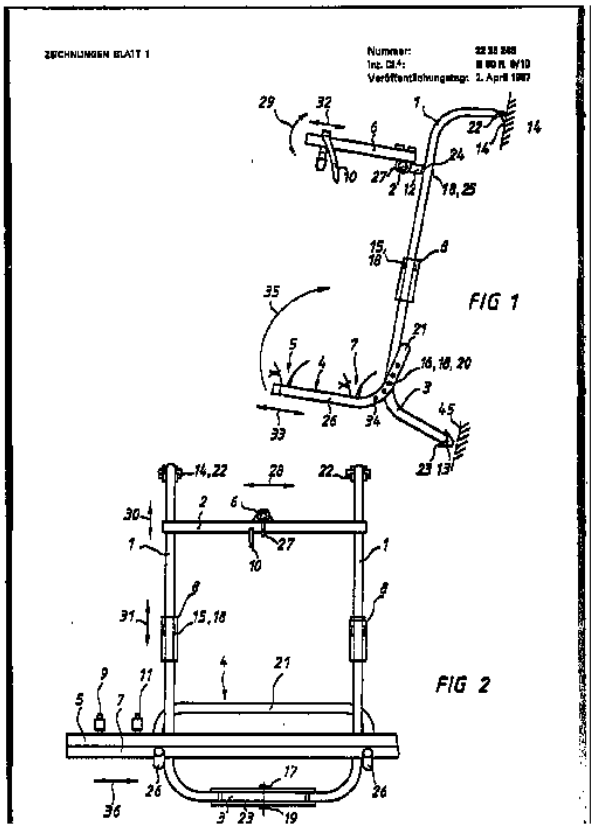
Classification Explorer

Cited documents: US3927811, EP0041889, DE8018067 U,

Forward Citations: US5135145, US4875608, FR2636284, EP0455074, EP0382087, EP0362082, DE9306144, DE9214916, DE9213944, DE9116250, DE3903940, DE3524283, DE19649757,

Abstract:
Source: DE3235248A1 The rear−mounted luggage rack with bicycle holder consists of a base frame and a swivel frame which is connected swivellably to the base frame and on which brackets for bicycles are arranged, the swivel frame having a rear horizontal strut which is arranged next to the rear wall and rests against the rear of the base frame when the swivel frame is swivelled out, a cross tube being mounted on the base frame in parallel with and at a distance from the swivel frame, on which tube a holding tube is attached vertically by means of a clamping clip. These features ensure that two bicycles can be held next to one another on the rear−mounted luggage rack without it being necessary to turn the handlebars of the bicycles in the direction of the longitudinal axis of the bicycle frame.

PatBase − DE3235248_C2



0) US2014150938A – BICYCLE TIRES WITH FOUR TREADS

269) Family number: 50247735 (US2014150938A) © PatBase

Title: BICYCLE TIRES WITH FOUR TREADS

Priority: MX20100000253U 20100616 WO2011MX00009 20110127

Family:

Publication number	Publication date	Application number	Application date
EP2626219 A1	20130814	EP20110796007	20110127
EP2626219 A4	20140723	EP20110796007	20110127
US2014150938 AA	20140605	US20110126645	20110127
WO11159142 A1	20111222	WO2011MX00009	20110127

Probable Assignee: CORDOVA BOONE LUIS

Assignee(s):(std)**:** CORDOVA BOONE LUIS

Inventor(s):(std)**:** CORDOVA BOONE LUIS

Agent(s): AUDIC HERVE; CORDOVA LOPEZ CINDY

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): B60C11/00 B60C11/02 B60C15/024 B60C19/00 B60C3/02 (Advanced/Invention)

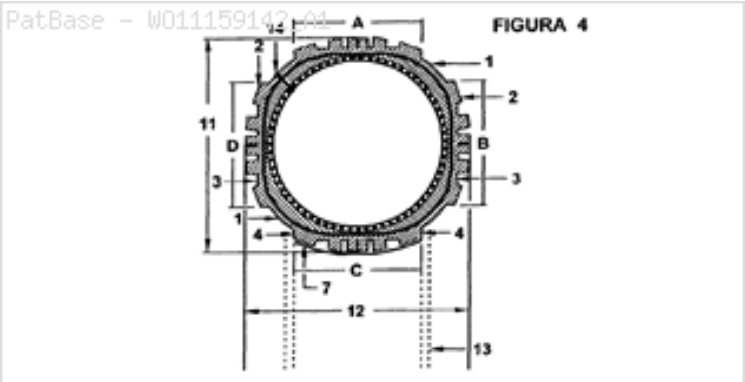
CPC: B60C11/02 B60C3/02 B60C11/00 B60C2200/12

US class: 152/209.1

Classification Explorer

Cited documents: WO06009419 A1, US1381534 A, FR1406806 A, EP1625949 A1, DE4209687 A1, BE510016 A,

Abstract:
Source: US2014150938A The invention relates to a tire having four treads distributed equidistantly on the external part of the body or carcass, which allow the tire to be deflated and rotated in order for a new tread to be placed in contact with the ground when the current tread has been subjected to heavy wear, without the tire having to be replaced. The invention is advantageous for the tire owner since with just a small increase in outlay the owner is guaranteed a tire that will last longer and that can be used for an increased number of kilometers of cycling.



0) DE202012000425U1 – HYPER VARIABLES KOMBINATIONSFAHRRAD HYPER VARI...

270) Family number: 51497265 (DE202012000425U1) © PatBase

Title: Hyper variables Kombinationsfahrrad Hyper Variable Combination bicycle (Machine translation)

Priority: DE201220000425U 20120117

Family:

Publication number	Publication date	Application number	Application date
DE202012000425 U1	20120712	DE201220000425U	20120117

Probable Assignee: WESTERWELLER KURT

Assignee(s):(std)**:** WESTERWELLER KURT

Assignee(s): WESTERWELLER

International class(IPC 8–9)**:** B62M1/00 (Advanced/Invention)

CPC: B62K23/06

European class: B62K23/06

Classification Explorer

Abstract:
Source: DE202012000425U1 Hyper variables Kombinationsfahrrad dadurch gekennzeichnet, dass hier die Hebelkraft vorne durch umlenkende Nutensteuerraeder und damit verbundenen Steuerseilen mit System integrierten Pedalen u. o. Kuppelbaren Kurbelgetriebeseiten mit Kraftarmhebeln oberlaeufigen und unterlaeufigen Nutensteuerraedern u. o. mit Kurbelgetriebeseiten die vorne mit Permanentmagneten besetzte Nutenkraftarmhebel und angepassten Permanentmagnet Kurbelpedalen ausgestaltet sind. In nur wenigen Ausnahmen vorne an den Kraftarmhebeln, eine Stabilisierungssteuerung mit Steuerseil und vier aeusseren Nutensteuerraeder ausgestaltet ist. Die Kraftarmhebel mit teilweise verstrebten und ausgestanzte Freiraeume versehen sind. Wobei die teilweise Kraftrueckuebertragung von den Nutenlastarmhebeln, mit den angegliederten Transmissionen auf die Kurbelgetriebe und die Hebelkraftarme Ausgestaltungen bewirkt. Dabei die Kurbelgetriebeseiten zusaetzlich mit Winkelverstellbaren und festsetzbaren Pedalen ausgestaltet sind. Der Kombinationsfahrradrahmen in drei Variationen an verschiedenen Stellen mit Gelenken versehen ist, die eine senkrecht Rahmen bewegende Schaltung den Verstellvorgang ermoeglicht. So dann damit hinten bei Bedarf die grossen Transmissionszahnraeder zu Boden gesenkt werden. Als dann darauf folgend, die radial ausgerichteten Zusatzzaehne und verteilt Schaufel...

Machine translation: Hyper Variable Combination bicycle, characterized in that here the leverage front by deflecting Nutensteuerraeder and associated control cables with system integrated pedals uo detachable crank gear pages Kraftarmhebeln headwater and unterlaeufigen Nutensteuerraedern uo with crank gear sides are front designed with permanent magnets occupied Nutenkraftarmhebel and custom permanent magnet crank pedals. Constructed in only a few exceptions to the front Kraftarmhebeln, a stabilizing control with control cable and four outer Nutensteuerraeder is. The Kraftarmhebel with partially braced and punched Freiraeume are provided. Wherein the partially Kraftrueckuebertragung effected by the Nutenlastarmhebeln, with its affiliated transmissions to the crank gear and the leverage arms embodiments. Here, the crank gear sides are additionally designed with angle Adjustable pedals and fixable. The combination of bike frames in three variations at different locations is provided with hinges, a vertically moving frame circuit enables the adjustment process. So then reduced back to the great demand for transmission gears to the ground. As then subsequently, the radially oriented and distributed

Zusatzzaehne bucket...

0) CN204567948U – PEDAL TRICYCLE

271) Family number: 59709814 (CN204567948U) © PatBase

Title: PEDAL TRICYCLE

Priority: CN201510168346 20150411 CN201520214652U 20150411

Family:

Publication number	Publication date	Application number	Application date
CN104760654 A	20150708	CN201510168346	20150411
CN204567948 U	20150819	CN201520214652U	20150411

Probable Assignee: MA HONGXING

Assignee(s):(std)**:** MA HONGXING

Assignee(s): MAHON STAR

Inventor(s):(std)**:** MA HONGXING

International class (IPC 8–9)**:** B62K15/00 B62K5/02 B62M1/24 (Advanced/Invention)

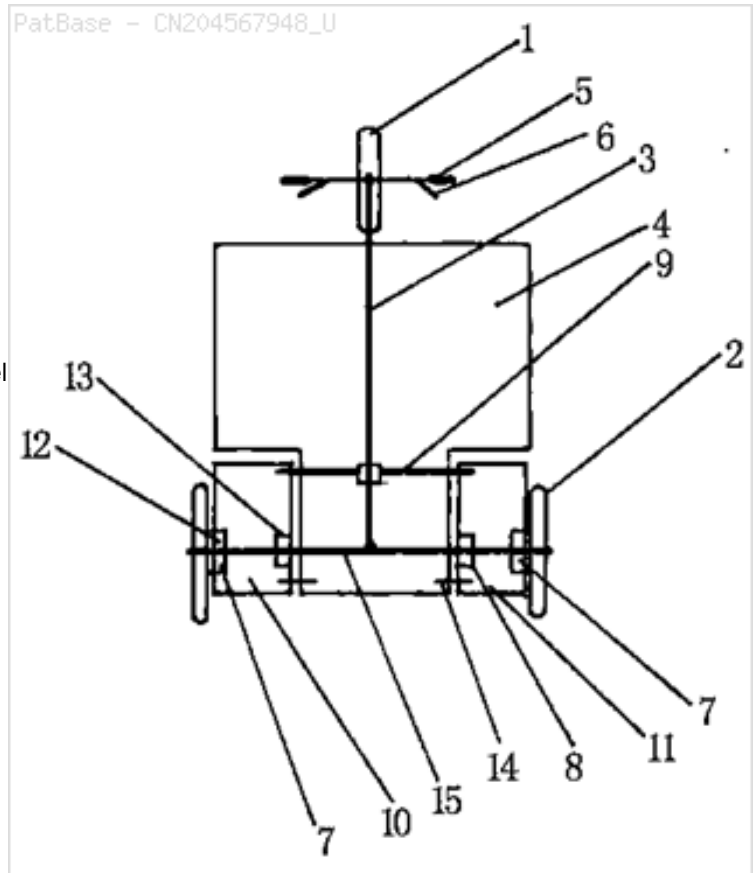
CPC: B62M1/24 B62K5/02 B62K15/00

Classification Explorer

Cited documents: JP2000055163 A2, CN87213233 U, CN2666802 Y, CN204567948 U, CN101693461 A,

Forward Citations: CN104760654,

Abstract:
Source: CN204567948U The utility model belongs to the technical field of the manpower vehicle, a manpower pedal tricycle. Is related to this pedal tricycle front wheel diameter is about 10cm, and back two−wheeled diameter is about 25cm, and the front−wheel steer axle sleeve is to between the trailing axle being the car roof beam, and che liangshang has the sweep, and the upright handlebar more than the lock above the front−wheel steer axle sleeve can be turned back forward, when drawing the handle, folded backward, and portable, it is the orientation labour contractor of tricycle to have stood locking, the rear wheel is that the rear wheel of two bicycle area flywheels is installed on same root rear axle, and two flywheels are all installed in the inboard of rear wheel, and two flywheels all have the function that one−way drive wheels forward advances, respectively inlays a running−board on tooth of two flywheels, and the inboard of running−board has the bearing can wind the about 30 degree angles of rear axle tilting, has below between two running−boards to use the car roof beam as the seesaw of fulcrum, and there is the horizontal bolt that splines at running−board rear portion and sweep rear portion its occupation space is little, and the automobile body is light, rolls over the back before can to fold, easily hand−carries



0) EP2955094A1 – FORTBEWEGUNGSMITTEL, INSBESONDERE ELEKTROFAHRRA...

272) Family number: 61113953 (EP2955094A1) © PatBase

Title: FORTBEWEGUNGSMITTEL, INSBESONDERE ELEKTROFAHRRAD, MIT BATTERIELOSER STARTEINRICHTUNG MEANS OF LOCOMOTION, IN PARTICULAR ELECTRIC BICYCLE, WITH BATTERYLESS STARTER DEVICE

Priority: DE201410211306 20140613

Family:

Publication number	Publication date	Application number	Application date
DE102014211306 A1	20151217	DE201410211306	20140613
EP2955094 A1	20151216	EP20150164199	20150420
JP2016003011 A2	20160112	JP20150119132	20150612

Probable Assignee: BOSCH GMBH ROBERT

Assignee(s):(std)**:** BOSCH GMBH ROBERT

Assignee(s): ROBERT BOSCH GMBH

Inventor(s):(std)**:** GREINER RINALDO ; JOCHEN SCHUELER ; RINALDO GREINER ; SCHUELER JOCHEN

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

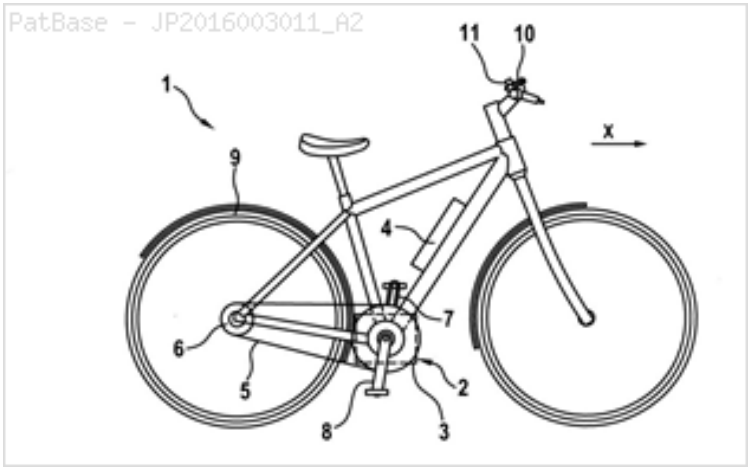
International class (IPC 8–9): B62M6/45 (Advanced/Invention)

CPC: B62M6/45 B62M6/55

Classification Explorer

Cited documents: WO11120124 A1, US2014035356 AA, US2007281828 AA, JP2004201376 A2, EP1733963 A1, EP1306817 A1, EP1188660 A2,

Abstract:
Source: EP2955094A1 Die vorliegende Erfindung betrifft ein mit Muskelkraft und/oder elektrisch betreibbares Fortbewegungsmittel, insbesondere Elektrofahrrad, umfassend ein Antriebssystem mit einer Steuereinheit (10), einem elektrischen Antrieb (3) und einem Akkumulator (4), eine batterielose Starteinrichtung (11) zum Starten des Antriebssystems, wobei die Starteinrichtung (11) eingerichtet ist, bei einem Startwunsch fuer einen Systemstart Umgebungsenergie zur Erzeugung eines Startsignals zu verwenden, wobei die batterielose Starteinrichtung (11) einen mehrstufigen Systemstart mit wenigstens einer ersten Stufe und einer zweiten Stufe ermoeglicht, und wobei in der ersten Stufe ein erstes Startsignal fuer eine erste Einrichtung erzeugbar ist und in der zweiten Stufe ein zweites Startsignal fuer eine zweite Einrichtung erzeugbar ist.



0) WO16174659A1 – ESTIMATING AND USING RELATIVE HEAD POSE AND CAM...

273) Family number: 63916974 (WO16174659A1) © PatBase

Title: ESTIMATING AND USING RELATIVE HEAD POSE AND CAMERA FIELD–OF–VIEW

Priority: US20150153154P 20150427 US20150156918P 20150505 US20150219944P 20150917

Family:

Publication number	Publication date	Application number	Application date
WO16174659 A1	20161103	WO2016IL50408	20160419

Probable Assignee: SNAPAID LTD

Assignee(s):(std)**:** SNAPAID LTD

Inventor(s):(std)**:** SIVAN ISHAY

Agent(s): BINDER SHEM TOV DORIT

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8–9): G06F3/01 (Advanced/Invention)

CPC: G06F3/012 G06F3/013

Classification Explorer

Cited documents: US7716985 BB, US7202941 BB, JP7306467 A2, EP2031418 A1,

Abstract:
A video or still hand–held digital camera is activated or controlled based on estimation of a user head pose or gaze direction. The system comprises uses two wearable devices associated with right and left sides of the user body, each comprises an RF beacon. The head pose or gaze detection is estimated by comparing the signal strength (such as RSSI) or the phase of the RF signals from the wearable devices at the digital camera device. An angular deviation between the head pose (or gaze detection) and the digital camera (such as the line of sight) is estimated, and the digital camera is activated or controlled based on comparing the angular deviation to a set threshold. The RF signals may be Personal Area Network (PAN) signals, such as Bluetooth Low Energy (BLE) signals. The wearable devices may be head mounted, structured as glasses, ear–pieces, headphones, or hat mounted.

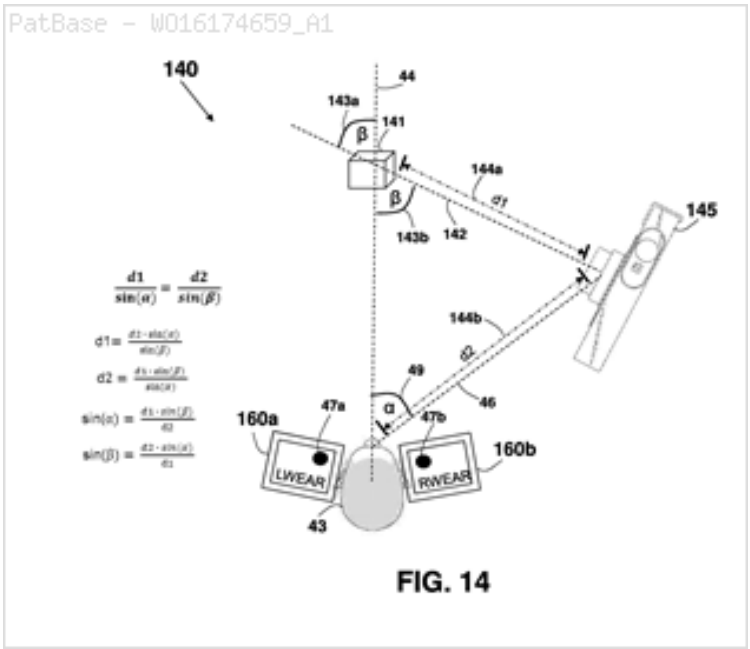


FIG. 14

274) Family number: 11120626 (US5202627A)

© PatBase

Title: PEDALING MONITOR FOR DISPLAYING INSTANTANEOUS PEDAL VELOCITY AND POSITION

Priority: US19910716217 19910617

Family:

Publication number	Publication date	Application number	Application date
US5202627 A	19930413	US19910716217	19910617

Probable Assignee: SALE DARRYL L

Assignee(s):(std)**:** SALE DARRYL L

Inventor(s):(std)**:** SALE DARRYL L

International class (IPC 8–9)**:** G01P3/489 (Advanced/Invention); G01P3/42 (Core/Invention)

International class (IPC 1–7)**:** A63B21/00 A63B23/04 G01P3/36 G01P3/48

CPC: Y10S482/902 G01P3/489

European class: G01P3/489

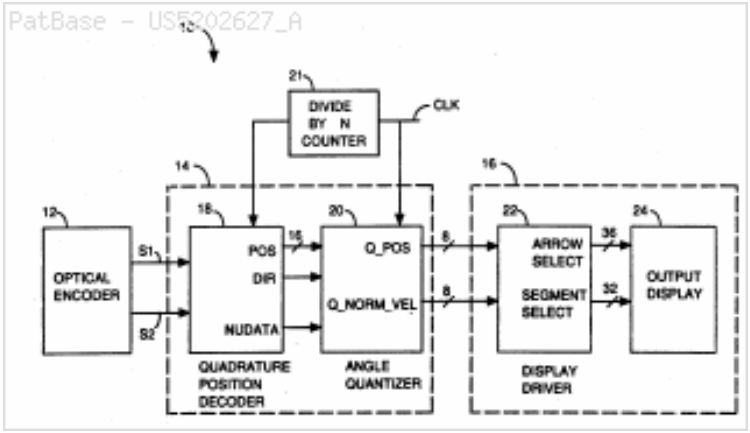
US class: 324/166 324/175 482/8 482/902

Classification Explorer

Cited documents: US5031455 A,

Forward Citations: WO9834088, WO07087610, US9403577, US8607647, US8336400, US8141438, US8011242, US7775128, US7418862, US6418797, US5886490, US5728017, US5569104, US5538477, US2014055772, US2011120232, US2010280766, US2010050785, US2010024590, US2007170688, US2007137307,

Abstract:
Source: US5202627A A circuit for producing a display indicative of a bicycle rider's pedaling technique. The circuit measures the time required for the pedals to move through a given angle of rotation. The circuit then calculates the relative pedal velocity over the angle of rotation. This process is repeated over an entire circle of rotation to determine the variations in pedal velocity as the pedal moves through a full circle. Since the pedal velocity is related to the pedaling force applied by the rider, the variations in pedaling force can be determined. Further, the circuit has a display unit which shows a rotating line of varying length to indicate the pedaling force applied as the pedals move respectively through a full circle.



0) EP0904982A2 – AUTOMATIC VEHICLE LIGHTING AUTOMATISCHE FAHRZE...

275) Family number: 12459060 (EP0904982A2) © PatBase

Title: Automatic vehicle lighting

Priority: GB19970016583 19970805

Family:

Publication number	Publication date	Application number	Application date
EP0904982 A2	19990331	EP19980306257	19980805
EP0904982 A3	19990811	EP19980306257	19980805
GB9716583 A0	19971008	GB19970016583	19970805

Probable Assignee: FORD SIMON J

Assignee(s):(std)**:** FORD SIMON J ; FORD SIMON JOHN

Inventor(s):(std)**:** FORD SIMON JOHN

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

International class(IPC 1–7)**:** B60Q1/14 B62J6/00 B62J6/20

CPC: B62J6/20

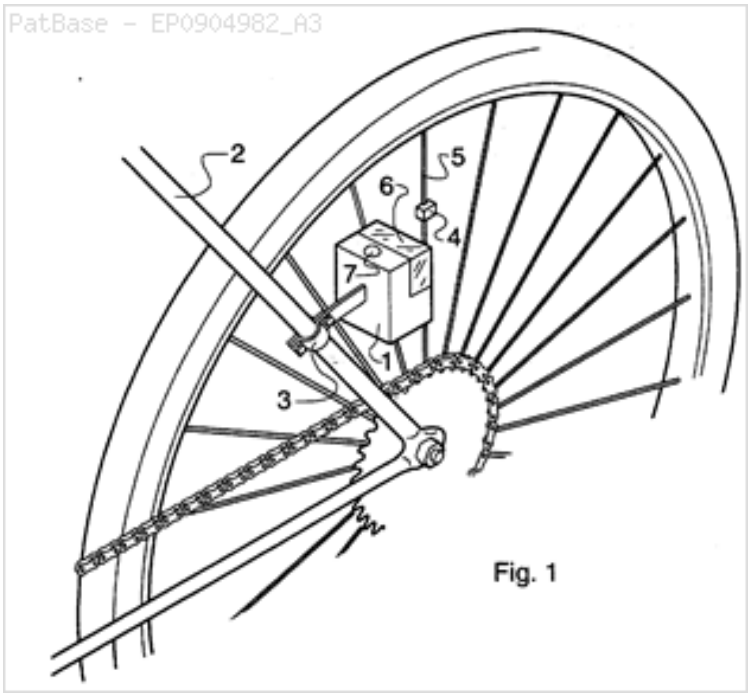
European class: B62J6/20

Classification Explorer

Cited documents: WO9605999 A1, WO9418056 A1, US5690410 A, US3894281 A, JP4078677, DE29611957 U1, DE29611957, DE29509891 U1, DE29509891,

Forward Citations: WO15024854, US7192169, EP1488991, EP1410982,

Abstract:
Source: EP0904982A2 A lighting unit (1) for a bicycle detects the passage of magnet (4) mounted to a spoke (5) of a wheel. A light sensor (7) is provided for sensing ambient light. If the ambient light level is low, the lighting unit (1) automatically turns on a light if movement of the magnet (4) is detected (4). Additional light sources are turned on if the speed of the wheel is determined to be reducing.



0) CN2622324Y – SAFETY APPARATUS FOR MECHANICAL TYPE MULTI–LAYE...

276) Family number: 1637565 (CN2622324Y) © PatBase

Title: Safety apparatus for mechanical type multi–layer parking facilities

Priority: CN20032021613U 20030430

Family:

Publication number	Publication date	Application number	Application date
CN2622324 Y	20040630	CN20032021613U	20030430

Probable Assignee: JIANGSU SHUANGLIANG PARKING EQ

Assignee(s):(std)**:** JIANGSU SHUANGLIANG PARKING EQ

Assignee(s): JIANGSU SHUANGLIANG PARKING EQUIPMENT CO

Inventor(s):(std)**:** QIAN HUIJUN ; XU MINGJIN

Inventor(s): HUIJUN QIAN ; MINGJIN XU

International class (IPC 8–9): E04H6/42 (Advanced/Invention); E04H6/00 (Core/Invention)

International class (IPC 1–7): E04H6/42

Classification Explorer

Forward Citations: CN103526971,

Abstract:
Source: CN2622324Y The utility model relates to a safety apparatus for mechanical type multi–layer parking facilities, which comprises a safety dropping–proof hanging rod or hanging wall panel 3–1, a safety dropping–proof hook 3–2, a gear pin 3–3, a lifting board 3–5, an extension spring 3–7, a safety detector 3–16, a safety test switch 3–12 and a lifting handle 3–15. The lifting board and the safety detector are sheathed from the empty top and bottom on the lifting handle; the safety dropping–proof hook is connected with the lifting board by the gear pin, and is served as integration; one end of the extension spring is connected with the lower part of the safety dropping–proof hook; the other end of the extension spring, the gear pin, and the safety test switch are connected with the loading sweep or the carrier of a parking facility. The safety dropping–proof hanging rod or hanging wall panel is fixed on a guiding column of the parking facility; the lifting handle is connected with the cable or bicycle chain of the parking facility. The device is able to prevent the crashing accident occurring because of the accident fracture of the elevating steel cable or bicycle chain in the working process of the lift mechanism efficiently, and simultaneously the lifting of vehicles with excess freight is prevented.

0) CN2070695U – CLEANING BRUSH FOR BICYCLE RIM

277) Family number: 17405642 (CN2070695U) © PatBase

Title: CLEANING BRUSH FOR BICYCLE RIM

Priority: CN19902004629U 19900413

Family:

Publication number	Publication date	Application number	Application date
CN2070695 U	19910206	CN19902004629U	19900413

Probable Assignee: WANG YONG

Assignee(s):(std)**:** WANG YONG

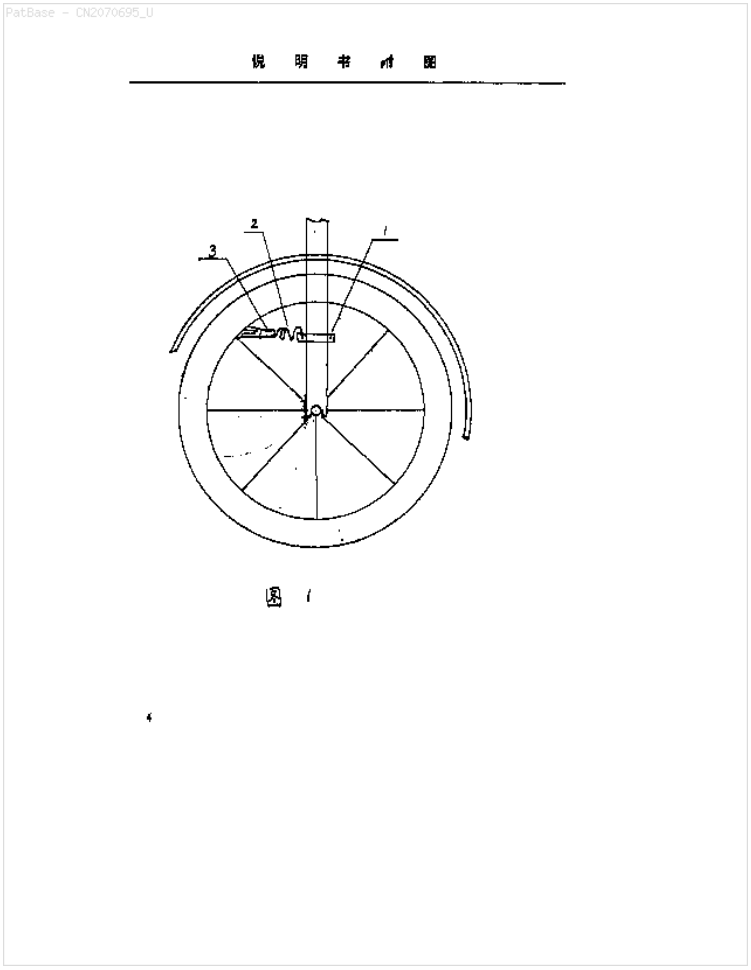
Inventor(s):(std)**:** LINGXIA ZHU ; WANG YONG ; YONG WANG ; ZHU LINGXIA

International class (IPC 8–9): B60S1/68 (Advanced/Invention); B60S1/00 (Core/Invention)

International class (IPC 1–7): B60S1/68

Classification Explorer

Abstract:
Source: CN2070695U The utility model discloses a cleaning brush which can clear dust off a rim while a bicycle is travelling, comprising a fixing clamp, a spring and a brush, wherein, the fixing clamp is fixed on a fork and grips a metal spring, and the other end of the spring is fastened to a hair brush which is in contact with the rim. When the rim rotates, the brush sweeps dust away and keeps the rim clean, prolonging the operating life of the rim.



0) CN2112457U – DERUSTING DEVOCE FOR MOUTH REPARING MACHINE

278) Family number: 17554524 (CN2112457U)

© PatBase

Title: DERUSTING DEVOCE FOR MOUTH REPARING MACHINE

Priority: CN19922000194U 19920114

Family:

Publication number	Publication date	Application number	Application date
CN2112457 U	19920812	CN19922000194U	19920114

Probable Assignee: OIL FIELD CONSTRUCTION CO ZHON

Assignee(s):(std)**:** OIL FIELD CONSTRUCTION CO ZHON ; OIL FIELD CONSTRUCTION CO ZHONGYUAN PETROLEUM PRO ; SHANDONG INST OF MINING AND TECHNOLOGY

Assignee(s): OIL FIELD CONSTRUCTION CO ; OIL FIELD CONSTRUCTION CO ZHONGYUAN PETROLEUM PROS

Inventor(s):(std)**:** DUAN PIWEN ; GUILAN JIANG ; HAO SUN ; JIANG GUILAN ; PIWEN DUAN ; SUN HAO

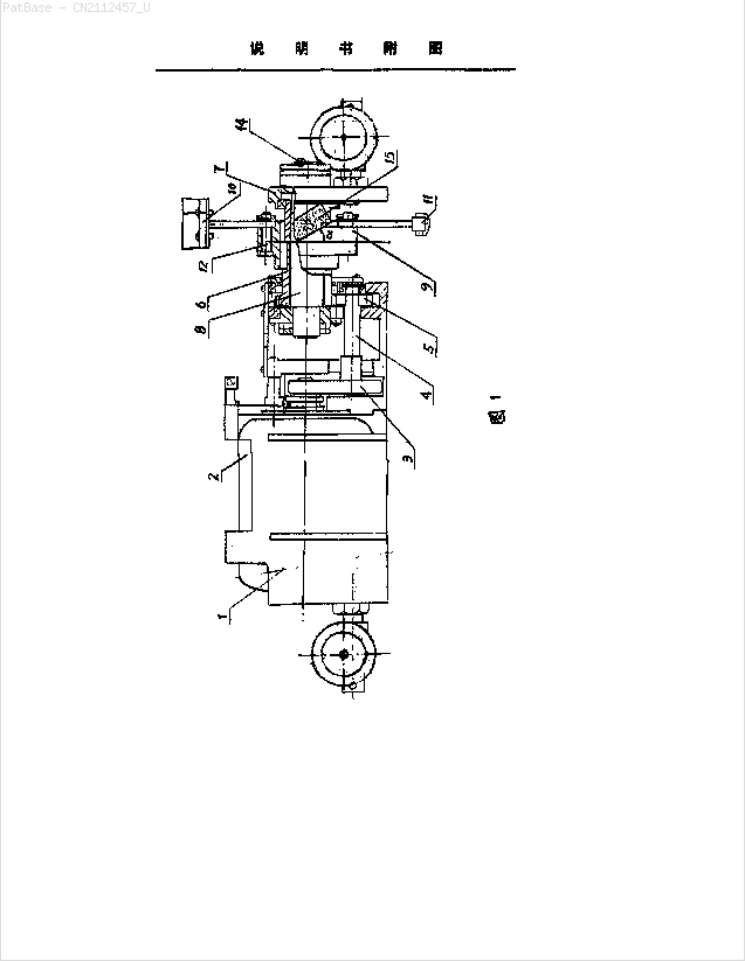
International class (IPC 8–9): B05C7/08 B05D3/12 (Advanced/Invention); B05C7/00 B05D3/12 (Core/Invention)

International class (IPC 1–7): B05C7/08 B05D3/12

Classification Explorer

Forward Citations: CN104339251, CN104339251, CN103433846,

Abstract:
Source: CN2112457U The utility model relates to a rust removing device for a mouth repairing machine, is used for the corrosion prevention of metal pipelines, and is mainly composed of a bicycle body 1, a motor 2, a shaft coupling 3, a hollow shaft 6 and a bracket 7. The bicycle body 1 and the bracket 7 are connected by through shaft 8. A rust removing disc 9 is installed on the hollow shaft 6. Steel brushes 10 and scraping cutters 11 are connected to the rust removing disc 9 by movable hinges 12. Springs 13 are installed between each steel brush 10 and each scraping cutter 11. The utility model has the advantages of big rust removing and sweeping force, high automatization extent and good effect, can clean welding slag and welding beading, and no sundries are remained after a weld crater is cleaned.



0) DE29710220U1 – SIDE STAND SEITENSTAENDER

279) Family number: 17860695 (DE29710220U1) © PatBase

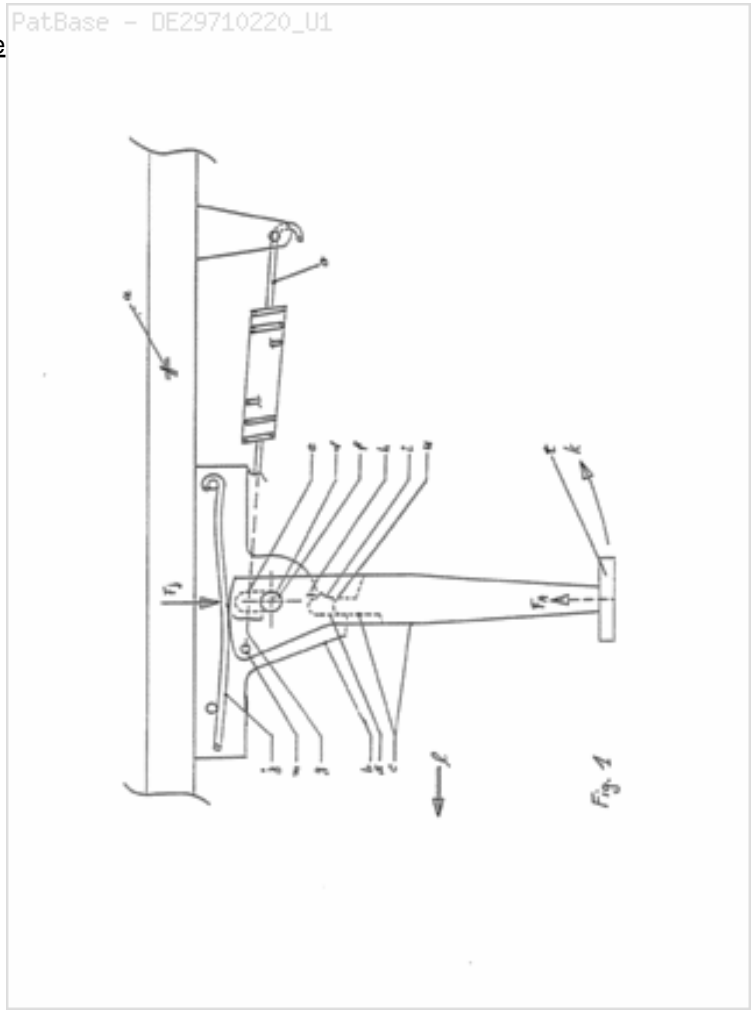
Title:	Side stand
Priority:	DE19972010220U 19970613

Family:

Publication number	Publication date	Application number	Application date
DE29710220 U1	19970731	DE19972010220U	19970613

Probable Assignee:	NESSENIUS DIRK
Assignee(s):(std)**:**	NESSENIUS DIRK
Assignee(s):	NESSENIUS DIRK 49324 MELLE DE
International class (IPC 8–9)**:**	B62H1/02 (Advanced/Invention); B62H1/00 (Core/Invention)
International class (IPC 1–7)**:**	B62H1/02
CPC:	B62H1/02
European class:	B62H1/02
Classification Explorer	
Cited documents:	US1984299 A, GB390484 A, GB211355 A, DE8904914 U, DE8418571 U, DE835557 A, DE800816 A, DE3016865 C1, DE169699 A, CH80159 A,
Forward Citations:	DE102009049277,

Abstract:
Source: DE29710220U1 (Claim 1) Anspruche 1. Seitenstaender fuer Zweiraeder, insbesondere Motorraeder, miteinem Stuetzelement (c), welches zwischen einer Ruheste i lung und einer Arbeitsstellungbewegbar ist,einem Gelenk (d) zum Verschwenken des Stuetze i ements (c) undeinem ersten Arretierungsmitte! (s), das ein Verschwenken des Stuetzeiements (c) ueber die Arbeitsstellung hinaus begrenzt,dadurch gekennzeichnet,dass das Stuetzelement (c) sich in der Arbeitsstellung in Eingriff mit einem zweitenArretierungsmitte! (h) befindet, welches ein Rueckschwenken des Stuetzelements (c)aus der Arbeitsstellung in die Ruhestellung verhindert, und derart angeordnet ist,dass zumindest ein Abschnitt des Stuetzelements (c) bei Bewegung von der Arbeitsstellungin eine Zwischens t e N ung vom zweiten Arretierungsmittel (h) ausser Eingriffgelangt, wodurch ein anschliessendes Verschwenken des Stuetzelementes (c) in die Ruhestellung moeglich ist.



Machine translation: (Claim 1) td exigencies 1 Two side stands for bicycles, motorcycles in particular, with each Stuetzelement (c), which is between a treatment and a Arbeitsstellungbewegbar Ruheste i, a joint, (d) for pivoting the support i ements (c) anda first Arretierungsmitte! (S) that limits pivoting of Stuetzeiements (c) about the working position beyond, characterized in that the Stuetzelement (c) in the operative position in engagement with a zweitenArretierungsmitte! Is (h) is that one Rueckschwenken of Stuetzelements (c) from the working position prevents the rest position, and arranged so that at least a portion of Stuetzelements (c) movement of the Arbeitsstellungin one between TE N UNG from the second locking means (h) If, disengaged, resulting in a subsequent pivoting of the Stuetzelementes (c) in the neutral position is possible.

0) DE2941911C2 – FAHRRADSTAENDER

280) Family number: 1831528 (DE2941911C2) © PatBase

Title: Fahrradstaender

Priority: DE19792941911 19791017

Family:

Publication number	Publication date	Application number	Application date
DE2941911 A1	19810430	DE19792941911	19791017
DE2941911 C2	19910704	DE19792941911	19791017

Probable Assignee: LECHTENBOEHMER HANS

Assignee(s):(std)**:** LECHTENBOEHMER HANS

Assignee(s): LECHTENBOEHMER HANS 4130 MOERS DE

Inventor(s):(std)**:** LECHTENBOEHMER HANS

Inventor(s): LECHTENBOEHMER HANS 4130 MOERS DE

International class (IPC 8–9)**:** A01G13/02 A01G13/10 B62H3/00 (Advanced/Invention); A01G13/02 A01G13/10 B62H3/00 (Core/Invention)

International class (IPC 1–7)**:** B62H3/00 B62H3/04 E04H17/14 E04H17/22

CPC: A01G13/0237 B62H3/00

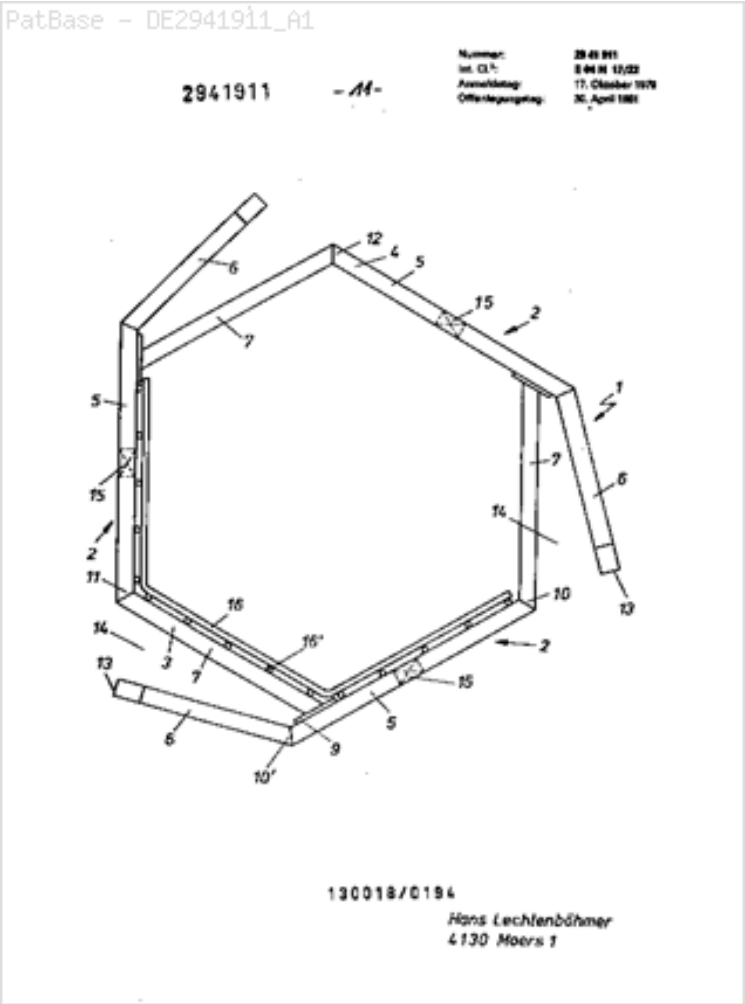
European class: A01G13/02E A01G13/10 B62H3/00

Classification Explorer

Cited documents: US4047614, CH16340 A3,

Forward Citations: NL1002479,

Abstract:
Source: DE2941911A1 Patentansprueche 1 Stuetzankeranordnung vornehmlich fuer das bodenseitige Abstuetzen und Festlegen von Baumschutzgittern udgl, dadurch gekennzeichnet, dass die Stuetzanker (15) mit vorzugsweise im Grundrissbereich zB des Baumschut zgitters in Erscheinung tretenden Fahrradstaendern zusammengebaut sind 2. In provision of ground support and position fixing for lattice structures protecting e.g. trees, use is made of support anchors (15) assembled with bicycle holder posts. These can be arranged on the anchor's periphery. The side of the lattice fence facing the anchor is pref. screwed or similarly connected to the shanks of the anchor frame structure. The open end (13) of the overlapping shank (6) may be offset peripherally from the angled end of the overlapped shank, while the whole frame structure is polygonal. A dual purpose is served, without extra expense.



0) DE662933A – MOTOR– UND FAHRRADSATTEL MIT AUS GUMMI UND FASE...

281) Family number: 21540549 (DE662933A)

© PatBase

Title: MOTOR– UND FAHRRADSATTEL MIT AUS GUMMI UND FASERSTOFFEN ZUSAMMENGESETZTER SATTELDECKE MOTOR AND BICYCLE SADDLE WITH RUBBER AND FIBER MATERIALS COMPOSITE SADDLE (Machine translation)

Priority: DE1935F079335 19350510

Family:

Publication number	Publication date	Application number	Application date
DE662933 A	19380725	DE1935F079335D	19350510

Probable Assignee: FRAMO WERKE GMBH

Assignee(s):(std)**:** FRAMO WERKE G M B H ; FRAMO WERKE GMBH

International class (IPC 8–9): B62J1/02 (Advanced/Invention); B62J1/00 (Core/Invention)

International class (IPC 1–7): B62J1/18

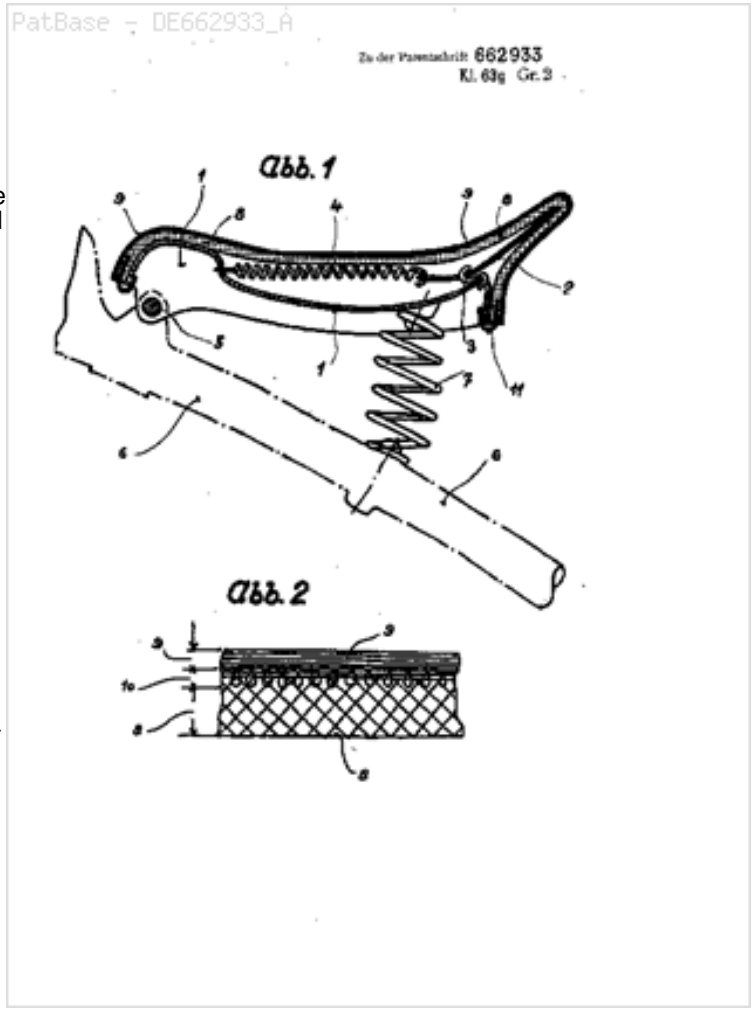
CPC: B62J1/02

European class: B62J1/02

Classification Explorer

Abstract:
Source: DE662933A (Claim 1) 1. PATI:NTANSPRUECfIR: i. Motorrad– und Fahrradsattel mit einer Sitzdecke, die aus eng miteinander ver bundenen Gummi– und Faserstoffschichten zusammengesetzt ist, dadurch gekenn zeichnet, dass die ueber ein federndes Sattel– u:ntergestell uebergezogene Sitzdecke aus einer oberen Gummischicht und einer unte ren, mit ihr unter Verfilzung verbundenen Filzschicht besteht und durch das Unter gestell unter federnder Spannung gehal ten ist. a. Sattel nach Anspruch i, dadurch ge kennzeichnet, dass auch an der unteren Aussenseite auf die Filzschicht ein Gummi anstrich aufgebracht ist.

Machine translation: (claim 1) 1 PATI: NTANSPRUECfIR: i motorcycle and bicycle seat with a seat cover that is composed of closely inter affiliated rubber and fiber layers, features marked by the fact that the over a sprung saddle–u: ntergestell over solid seat cover from an upper rubber layer and a lower Ren with her thatch layer is associated with entanglement and the sub–frame is under elastic tension held th. a saddle according to Claim i, characterized in that paint is applied also to the lower outer side of the felt layer is a rubber.



0) US2661406A – ALTERNATING LIGHT FLASHER FOR BICYCLES

282) Family number: 21764998 (US2661406A) © PatBase

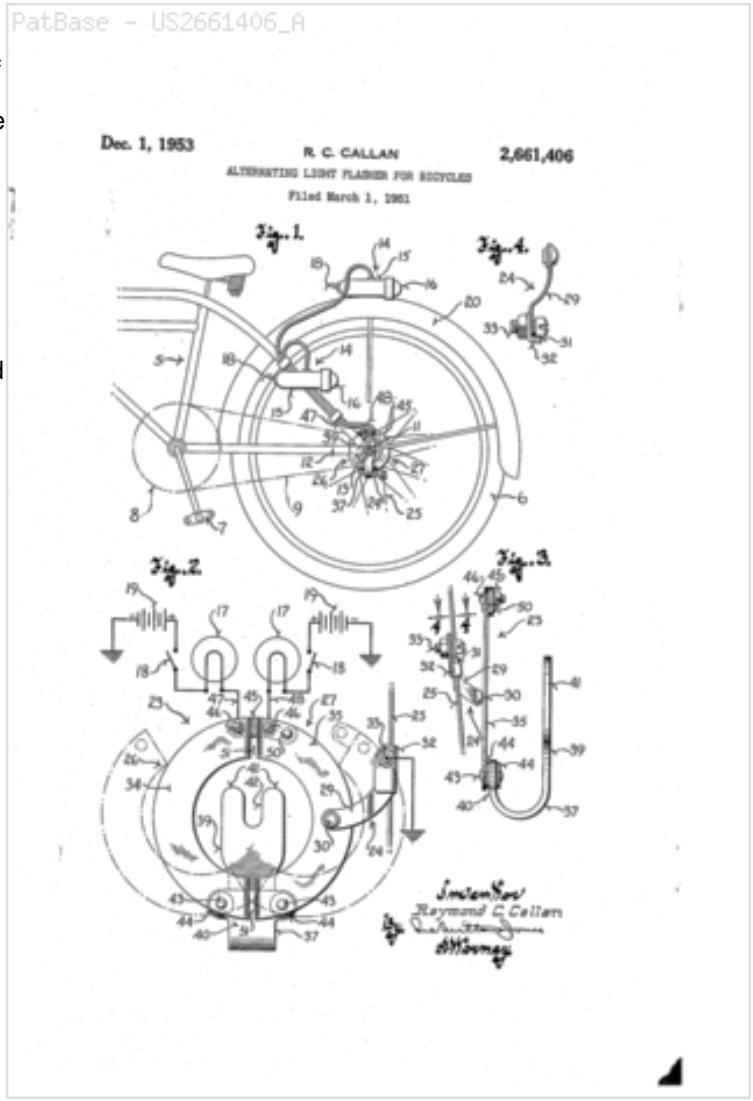
Title:	ALTERNATING LIGHT FLASHER FOR BICYCLES
Priority:	US19510213422 19510301

Family:

Publication number	Publication date	Application number	Application date
US2661406 A	19531201	US19510213422	19510301

Probable Assignee:	MCLAUGHLIN AND SLUGG
Assignee(s):(std)**:**	MCLAUGHLIN AND SLUGG
Inventor(s):(std)**:**	CALLAN RAYMOND C
International class (IPC 8–9)**:**	B62J6/04 (Advanced/Invention); B62J6/00 (Core/Invention)
International class (IPC 1–7)**:**	F21M5/04
CPC:	B62J6/04
European class:	B62J6/04
US class:	200/61.12 315/77 340/432
Classification Explorer	
Cited documents:	US2301250 A, US2283442 A, US2271664 A, US2222765 A, US2222075 A, US1928873 A, US1802684 A,
Forward Citations:	US4019171, US2944833, US2769938, US2767391, US2732541, US2007181053,

Abstract:
Source: US2661406A (Claim 1) 1. Mxed contact _means for a _bleyek light Is flasher of the character described, comprising: a bracket having a flat, bifurcated leg adapted to straddle an axle of a bicycle, with the axle received in the slot defined by the bifurcations, and to be clamped between a part of the fork member supporting said axle and another part fixed on the axle, and another leg_ extending from saidbifurcated leg and bent laterally to one side of the plane of the latter; and a pair of flat substantially arcuate contacts secured to 1(said other leg and insulated therefrom and from one another, with their flat faces disposed in a plane substantially parallel to the plane of the bifurcated leg and concentric to an axis transverse to said plane and passing through the slot 15 defined by the bifurcations.



0) US2788763A – WIG–WAG BICYCLE LIGHT

283) Family number: 22860086 (US2788763A) © PatBase

Title: WIG–WAG BICYCLE LIGHT

Priority: US19550484496 19550127

Family:

Publication number	Publication date	Application number	Application date
US2788763 A	19570416	US19550484496	19550127

Probable Assignee: RIES GEORGE J

Assignee(s):(std)**:** RIES GEORGE J

Inventor(s):(std)**:** RIES GEORGE J

International class (IPC 8–9)**:** B62J6/00 (Advanced/Invention); B62J6/00 (Core/Invention)

International class (IPC 1–7)**:** B62J5/02

CPC: B62J6/001

European class: B62J6/00B

US class: 116/56 362/473 362/523

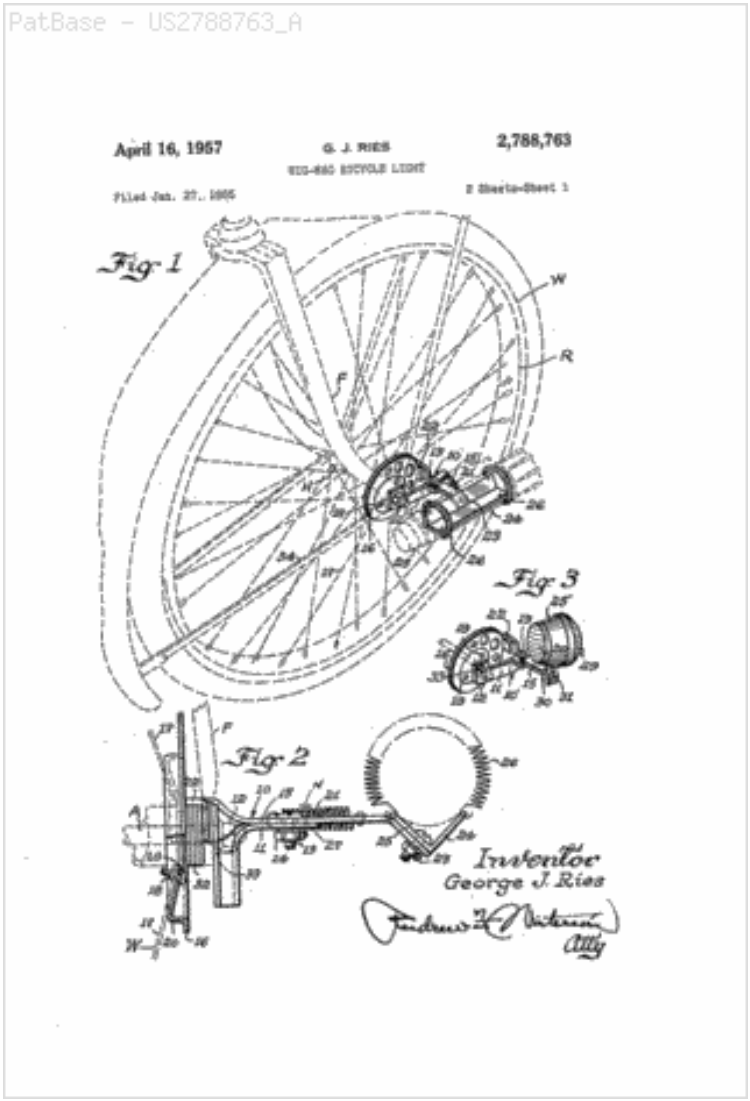
Classification Explorer

Cited documents: US595334 A, GB414096 A, FR771626 A,

Forward Citations: USD685509, US9527540, US9227559, US8905611, US8851719, US8545068, US8337060, US8317377, US7628518, US7621549, US6059431, US5418696, US4970630, US4823673, US4697725, US4688705, US4618081, US4577261, US4541555, US4179935, US3944255, US3887900, US3862410, US3718345, US2014312085, US2009141510, US2008023934, US2004189112, EP1777148,

Abstract:
Source: US2788763A (Claim 1) _The combination with a vehicle wheel, of an arm piyotally mounted for oscillation about a substantially vertic,il axis with respect to,a supporting bracket carried on the.vehicle said arm carrying a signal light to be wigwagged by oscillation of said arm, and means connected with said vehicle wheel at the central portion thereof to –tr,ans,mit oscillatory motion to said arm when the vehicle is in motion,

PatBase - US2788763_A



0) DK200200252U – LOEFTEAPPARAT, NAVNLIG AUTOLIFT LIFTING MACHIN...

284) Family number: 23967124 (DK200200252U) © PatBase

Title:	Loefteapparat, navnlig autolift Lifting machine, especially auto lift (Machine translation)
Priority:	DK20020000252U 20020828

Family:

Publication number	Publication date	Application number	Application date
DK200200252 U3	20020913	DK20020000252U	20020828

Probable Assignee:	STENHOEJ AUTOLIFT AS
Assignee(s):(std):	STENHOEJ AUTOLIFT AS
Assignee(s):	STENHOEJ AUTOLIFT A S
Inventor(s):(std):	NIELSEN ANDERS JUL
International class (IPC 8–9):	B66F3/22 (Advanced/Invention); B66F3/00 (Core/Invention)
International class (IPC 1–7):	B66F3/22

Classification Explorer

Abstract:
Source: DK200200252U 1. Løfteapparat af saksetypen, f.eks. en vognløfter, med et saksestel, som har en nedre, initialt vandretliggende arbejdscylinder (8), der er indskudt mellem modstående opera– tive dele (4,6; 16) af saksestellet med henblik på ved aktivering at fremkalde en frem– adskridende opfoldning af saksestativet fra en helt nedfoldet stilling af dette, hvorhos cylinderen (8) er koblet til den modstående saksegren (16) via en på denne lejret, rela– tivt kort vippearm (22), som fra sin drejeakse (24) strækker sig et kort stykke frem imod en drejeforbindelse (26) med cylinderen (8) og et længere stykke bagud, hvor den ender i en bæredel, f.eks. i form af en glidesko eller bærerulle (28) til samvirke med en nedre, vandret føringsskinnedel (2) på apparatets bundchassis, hvilken vippe– arm (22) er anbragt i en position nærmere ved cylinderen (4) end det modstående op– foldningshjøme (10) af saksestativet, og hvorhos cylinderens drejeforbindelse (26) i stativets bundstilling ligger i et lidt højere niveau end drejeaksen (24) mellem vippe– armen (22) og den modstående saksegren (16), som er ny ved, at der findes anslags– midler (30) til begrænsning af den herved muliggjorte initialopsvingning af vippear– men (22), og at den nævnte føringsskinnedel (2) har en opskrånende del (36), som ved nedsvingningsforløbet af vippearmens ydre bærerulle (28) rammes af denne for acce– lereret hævning af vippearmen (22) under initialopsvingningen af nævnte modstående saksegren (16). DK 2002 00252 U3 m 31 IXI DK 2002 00252 U3 Fej. 1 Lifting apparatus of scissors type, for example. a carriage lift, with a bicycle frame which has a lower initial horizontal working cylinder (8) which is interposed between opposed opera–tive parts (4,6, 16) of the scissor frame in order upon activation to cause a back–adskridende unfolding of shears stand from a completely lowered position of this, wherein the cylinder (8) is coupled to the opposite scissor arm (16) via one of the journalled, relatively short lever arm (22) which from its pivot axis (24) extends a short distance towards a pivotal connection (26) with the cylinder (8) and a further to the rear, where it ends in a support member, for example. in the form of a slide shoe or the carrier roller (28) for cooperation with a lower, horizontal foeringsskinnedel (2) at the bottom of the appliance chassis, which rocker arm (22) is disposed at a position closer to the cylinder (4) than the opposite up–foldningshjoeme (10) of scissors stand, and wherein the cylinder pivot connection (26) in the supporting bottom position is in a slightly higher level than the pivot axis (24) between the rocker arm (22) and the opposing scissor arm (16) which is new for the existence of impact – means (30) for limiting the honor muliggjorte initial swinging up of vippear–men (22) and that the said foeringsskinnedel (2) has a opskranende portion (36) which, by nedsvingningsforloebet of rocker

arm outer supporting rollers (28) are affected by this order accelerated withdrawal of the rocker arm (22) during initial recovery none of said opposing scissor arm (16). DK 2002 00252 U3 m 31 IXI DK 2002 00252 U3 Sweep.

0) ES288716U – BICICLETA GIMNASTICA PERFECCIONADA PERFECTED G...

285) Family number: 29524035 (ES288716U)

© PatBase

Title: BICICLETA GIMNASTICA PERFECCIONADA PERFECTED GYMNASTIC BICYCLE (Machine translation)

Priority: ES19850288716U 19850819

Family:

Publication number	Publication date	Application number	Application date
ES288716 U	19860116	ES19850288716U	19850819
ES288716 Y	19870201	ES19850288716U	19850819
ES288716 Y1	19870227	ES19850288716U	19850819

Probable Assignee: BH SA

Assignee(s): B H S A ; BH SA

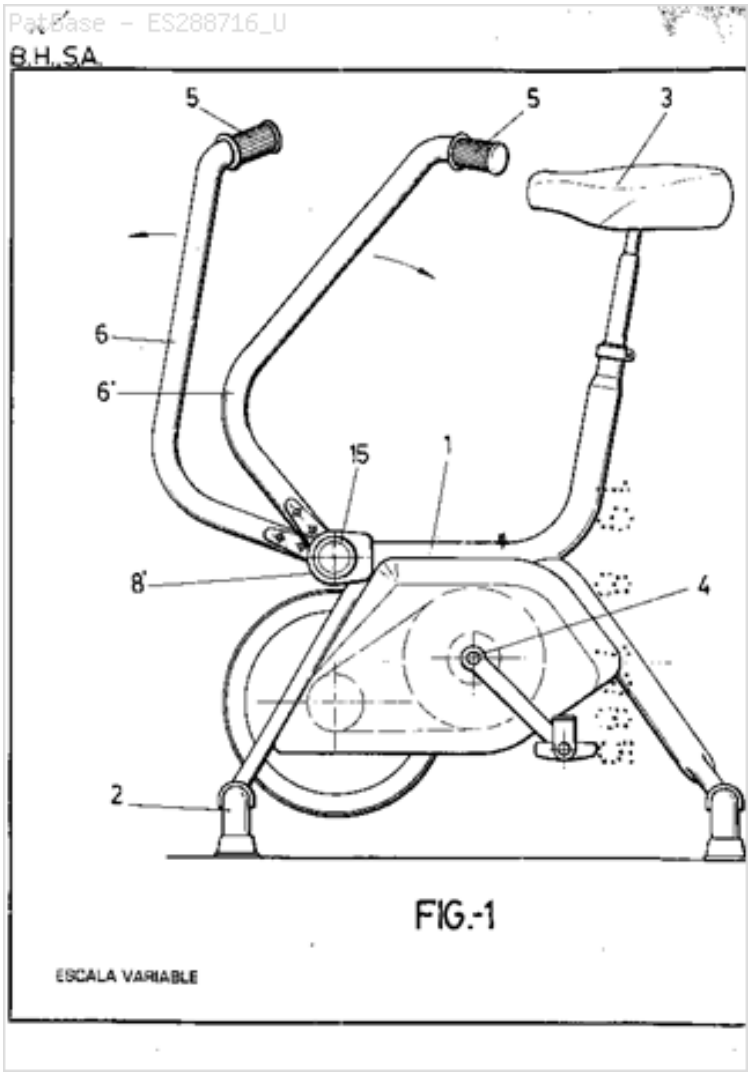
International class (IPC 8–9): A63B69/16 (Advanced/Invention); A63B69/16 (Core/Invention)

International class (IPC 1–7): A63B69/16

Classification Explorer

Abstract:
Source: ES288716U Bicicleta gimnasia perfeccionada, que siendo del tipo de las que incorporan un bastidor estatico, provisto de correspondientes patas de apoyo sobre el suelo, al que se asocia un sillin, un manillar y un eje pedalier para la practica de un ejercicio simulativo del ciclismo, y en las que el manillar es susceptible de abatimiento para simular el ejercicio del remo, esencialmente se caracteriza porque dicho manillar se materializa en dos brazos o barras unidas articulada e independientemente al citado bastidor, de manera que tales barras pueden bascular simultaneamente en un mismo sentido o en sentidos alternativos, permitiendo la practica de un ejercicio simulativo del remo alternativo.

Machine translation: Bicycle perfected gymnastics, that being of the type of which they incorporate a static frame, provided with corresponding legs of support on the ground, to which a saddle is associated, handlebars and an axis to pedalier for practices it of a simulativo exercise of the cycling, and in which the handlebars are susceptible of discouragement to simulate the exercise of the oar, essentially is characterized because this handlebars are materialized in two arms or I sweep independently united articulated and to the mentioned frame, so that such bars can tilt simultaneously in a same sense or alternative senses, allowing practices it of a simulativo exercise of the alternative oar.



0) CN2589311Y – BICYCLE MODULAR STORAGE RACK

286) Family number: 29799942 (CN2589311Y) © PatBase

Title: Bicycle modular storage rack

Priority: CN20022089057U 20021205

Family:

Publication number	Publication date	Application number	Application date
CN2589311 Y	20031203	CN20022089057U	20021205

Probable Assignee: LI BOLIANG

Assignee(s):(std)**:** LI BOLIANG

Inventor(s):(std)**:** DENG JIANXIN ; HUANG GANG ; LI BOLIANG

Inventor(s): BOLIANG LI ; JIANXIN DENG ; GANG HUANG

International class (IPC 8–9)**:** B62H3/00 (Advanced/Invention); B62H3/00 (Core/Invention)

International class (IPC 1–7)**:** B62H3/00

Classification Explorer

Abstract:
Source: CN2589311Y The utility model relates to an assembling bicycle storage rack which is formed by the combination of a plurality of fixed seats, a plurality of plate type racks, a plurality of lock sleeves, a plurality of distance sleeves and two metal liner tubes, wherein, both ends of each of the two metal liner tubes are respectively supported in horizontal holes of four fixed seats arranged on both ends of each of the metal liner tubes, and both end faces of each of the metal liner tubes are respectively butted on end covers of the fixed seats; the plate type racks are ribbed slab structures the middle of which are convex, and both lower sides of each of the plate type rack are respectively provided with a horizontal hole sleeve which bulges outward; the horizontal hole sleeves of two plate type holders, which are opposite to each other, are sheathed with the lock sleeves so as to form a plate type holder; the horizontal hole sleeves are sheathed on the metal liner tubes, and the metal liner tubes of each pair of the plate type racks are sheathed with the distance sleeve s. Thus, the utility model is convenient for transportation and assembly, and road surface around the storing holder is easy to sweep (clean); in addition, the utility model is not easy to hurt passerby.

0) CN2590833Y – TILT TYPE ASSEMBLING BICYCLE STORING HOLDER

287) Family number: 30087599 (CN2590833Y) © PatBase

Title: Tilt type assembling bicycle storing holder

Priority: CN20022090898U 20021212

Family:

Publication number	Publication date	Application number	Application date
CN2590833 Y	20031210	CN20022090898U	20021212

Probable Assignee: LI BOLIANG

Assignee(s):(std)**:** LI BOLIANG

Inventor(s):(std)**:** DENG JIANXIN ; HUANG GANG ; LI BOLIANG

Inventor(s): BOLIANG LI ; JIANXIN DENG ; GANG HUANG

International class (IPC 8–9)**:** B62H3/00 (Advanced/Invention); B62H3/00 (Core/Invention)

International class (IPC 1–7)**:** B62H3/00

Classification Explorer

Abstract:
Source: CN2590833Y The utility model relates to a tilt type assembling bicycle storing holder which is formed by the combination of a plurality of fixed seats, a plurality of plate type holders, a plurality of lock sleeves, a plurality of distance sleeves, a plurality of long metal liner tubes, and two short metal liner tubes, wherein, both ends of each of the long and the short metal liner tubes are respectively supported inside horizontal holes of the fixed seats arranged on the two ends, and both end faces of each of the long and the short metal liner tubes are respectively butted on end covers of the fixed seats; both lower sides of each plate type holder are respectively provided with a horizontal hole sleeve which bulges outward, and the horizontal hole sleeves of two plate type holders, which are opposite to each other, are sheathed with the lock sleeves so as to form a plate type holder; two pairs of plate type holders are sheathed on the long metal liner tubes, a pair of plate type holders are sheathed on the short metal liner tubes, and the fixed seats arranged on both ends of each of the long and the short metal liner tubes are fixed by expansion screws. Thus, the utility model is convenient for transportation and assembly, and a road surface around the storing holder is easy to sweep (clean), so that the utility model is suitable for narrow streets or alleys.

0) JP2005226433A – CLEANING DEVICE

288) Family number: 32298217 (JP2005226433A) © PatBase

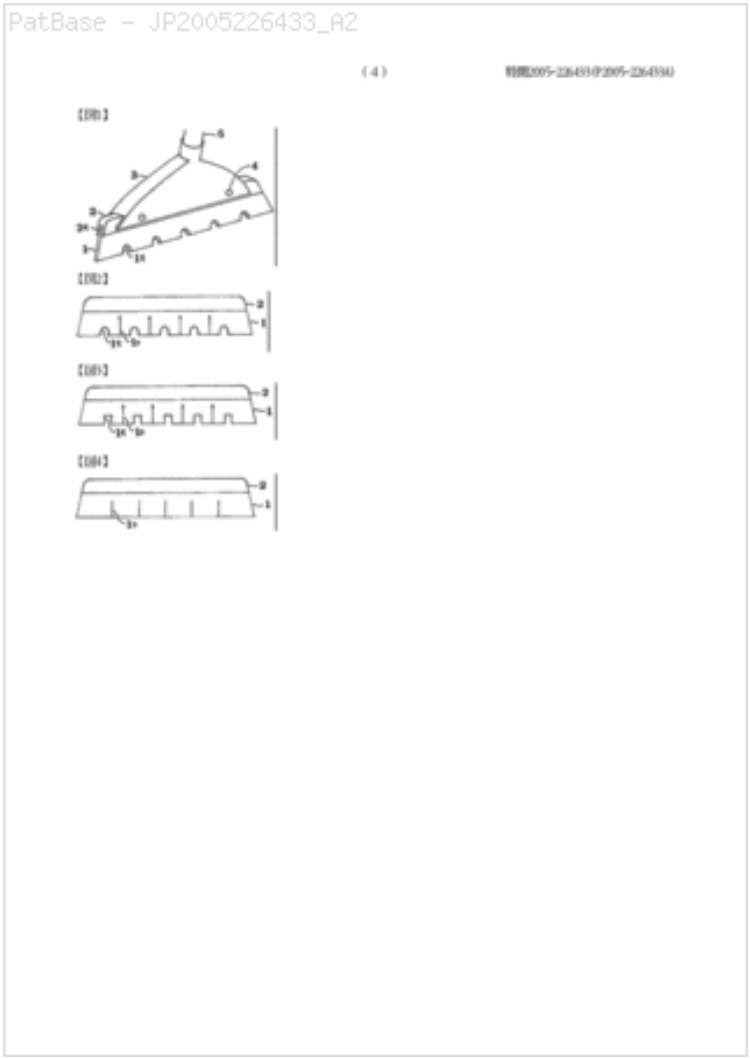
Title:	CLEANING DEVICE
Priority:	JP20040071692 20040213

Family:

Publication number	Publication date	Application number	Application date
JP2005226433 A2	20050825	JP20040071692	20040213

Probable Assignee:	PATENT BANK KK
Assignee(s):(std)**:**	PATENT BANK KK
Inventor(s):(std)**:**	HISAGAI TATSUYA
International class (IPC 8–9)**:**	A47L13/11 A47L13/38 E01H1/12 (Advanced/Invention); A47L13/10 E01H1/00 (Core/Invention)
International class (IPC 1–7)**:**	A47L13/38 E01H1/12
CPC:	A47L13/11
European class:	A47L13/11
Classification Explorer	
Forward Citations:	EP3023043, CN104492737,

Abstract:
Source: JP2005226433A PROBLEM TO BE SOLVED: To provide a lightweight, efficiently, economical, safe and environment−friendly cleaning device to be suitably used in places where a large amount of waste paper is scattered such as a bicycle racetrack, a racetrack and a boat race stadium. SOLUTION: Notches are formed in several parts of the lower section of a sweeping blade made of a material having a large friction coefficient such as rubber, soft resin or the like. The sweeping blade is installed on a blade support member, and then the blade support member is replaced with a support member fixing member and secured with a retainer capable of being replaced.



289) Family number: 32509848 (WO06000679A1) © PatBase

Title: RETRACTABLE STAND FOR TWO–WHEEL VEHICLES

Priority: FR20040005972 20040602

Family:

Publication number	Publication date	Application number	Application date
FR2871132 A1	20051209	FR20040005972	20040602
FR2871132 B1	20070824	FR20040005972	20040602
WO06000679 A1	20060105	WO2005FR01308	20050527

Probable Assignee: CANETTI MARCEL

Assignee(s):(std)**:** CANETTI MARCEL

Assignee(s): MARCEL CANETTI

Inventor(s):(std)**:** CANETTI MARCEL

Inventor(s): MARCEL CANETTI

Agent(s): CABINET PONTET ALLANO AND ASSOCIES SELARL

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B62H1/02 B62H1/04 B62H1/06 B62H1/12 (Advanced/Invention); B62H1/00 (Core/Invention)

International class (IPC 1–7): B62H1/02 B62H1/04 B62H1/06 B62H1/12

CPC: B62H1/06 B62H1/12

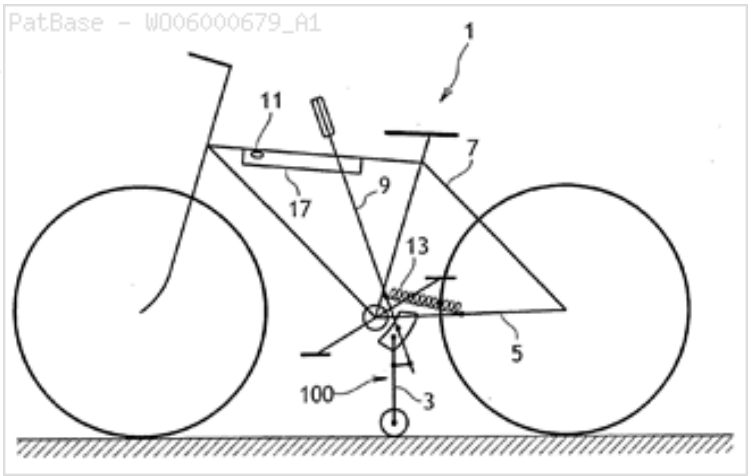
European class: B62H1/06 B62H1/12

Classification Explorer

Cited documents: US4638880 A, US3542 A, GB191203542 A, FR2771368 A1, CH213700 A,

Forward Citations: WO06028519, USD675396, US7398988, NL2006580, ITCT20110015, GB2440927, EP2347946, DE102008039423, CN102632942,

Abstract:
The inventive device (100) comprises at least two arms (3) provided with rollers and movable from a top position to a lower position by the action of a spring (13) and means (11) for holding in the top position which is retractable with the aid of a flexible cable controllable by means of a handle mounted on a cycle handle bar. Said device (100) is particularly adaptable for a bicycle (1). A vehicle provided with the device (100) is also disclosed.



0) CN2747909Y – SAFETY PRACTICAL TYPE RAIN CAPE

290) Family number: 32623275 (CN2747909Y) © PatBase

Title: Safety practical type rain cape

Priority: CN20042113683U 20041126 CN200420113683U 20041126

Family:

Publication number	Publication date	Application number	Application date
CN2747909 Y	20051228	CN200420113683U	20041126

Probable Assignee: WANG LUOQI

Assignee(s):(std)**:** WANG LUOQI

Inventor(s):(std)**:** WANG LUOQI

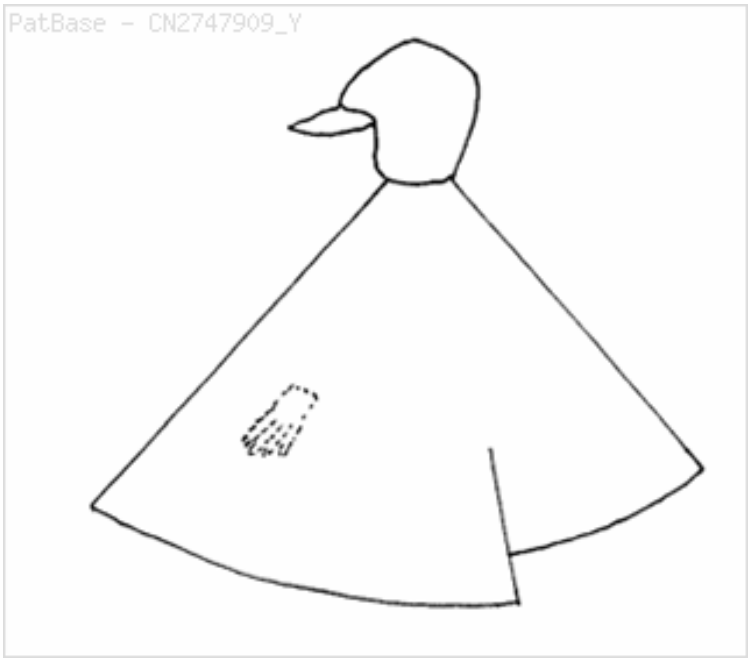
Inventor(s): LUOQI WANG

International class (IPC 8–9)**:** A41D3/04 (Advanced/Invention); A41D3/00 (Core/Invention)

International class (IPC 1–7)**:** A41D3/04

Classification Explorer

Abstract:
Source: CN2747909Y The utility model discloses a safety practical type rain cape. A sunshade with broadside and wide brim is added on a shade of the rain cape to solve problems that the rain falls on the face directly and the rain on the top part flows down along the face. A pair of four–finger gloves (excluding the pollex) is added inside of the bottom sweep of the rain cape in order that people can put their four fingers into the pair of gloves when riding on a rainy day, and thus people control the handle bar with the rain cape pushed off at the front part of the bicycle, preventing the rain cape from scraping the bicycle, adhering to the skin, and wetting trouser legs.



0) EP1693287A3 – SUPPORT DEVICE FOR BICYCLE EINSTELLVORRICHTUNG...

291) Family number: 33252654 (EP1693287A3)

© PatBase

Title: SUPPORT DEVICE FOR BICYCLE

Priority: DE200520002804U 20050222

Family:

Publication number	Publication date	Application number	Application date
DE202005002804 U1	20050414	DE200520002804U	20050222
EP1693287 A2	20060823	EP20060001960	20060131
EP1693287 A3	20071010	EP20060001960	20060131

Probable Assignee: SCHEERER MARTIN

Assignee(s):(std)**:** SCHEERER MARTIN ; SCHNEIDER MARTIN

Inventor(s):(std)**:** SCHEERER MARTIN ; SCHNEIDER MARTIN

Designated states: BE AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR YU

International class (IPC 8–9)**:** B62H3/00 B62H5/00 E04H6/00 E04H6/04 (Advanced/Invention); B62H3/00 B62H5/00 E04H6/00 E04H6/02 (Core/Invention)

International class (IPC 1–7)**:** B62H3/00 B62H5/00

CPC: B62H3/00 E04H6/005

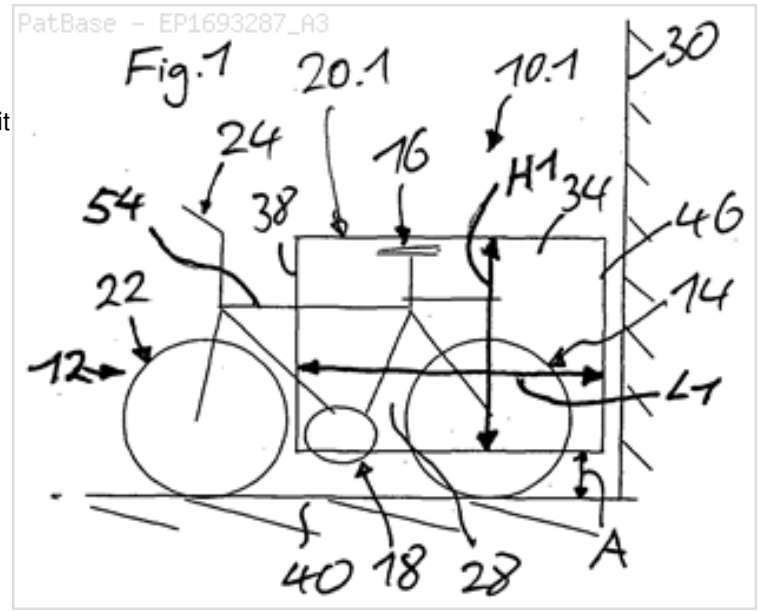
European class: B62H3/00 E04H6/00B

Classification Explorer

Cited documents: US2003097803 AA, EP0015572 A1, DE8913960 U, DE4333228 A1, DE4310487 A1, DE4235158 A1, DE4105817 A1, DE3937013 A1, DE3732522 A1, DE20315976 U1, DE19959097 A1, DE19518793 A1, DE1184930 B,

Forward Citations: DE102010052793,

Abstract:
Source: EP1693287A3 Eine Einstellvorrichtung (10.1) als Diebstahlsicherung und Wetterschutz fuer Zweiraeder (12), insbesondere Fahrraeder, mit einer Gehaeuseeinrichtung (20.1), ist dadurch gekennzeichnet, dass die Gehaeuseeinrichtung (20.1) unterseitig offen ausgebildet ist, die Gehaeuseeinrichtung (20.1) an einer Tragkonstruktion (30) zumindest auf zwei gegenueberliegenden Seiten zumindest bereichsweise beabstandet (A) zu einem Untergrund (40) befestigt beziehungsweise fixiert/befestigbar beziehungsweise fixierbar ist und die lichte Innengeometrie (H, L) Gehaeuseeinrichtung (20.1) so ausgebildet ist, dass sie bei eingestelltem Zweirad (12) dessen Hinterrad– und Sattelbereich (14, 16) sichernd umgibt.



0) JP2006316598A – CLEANER

292) Family number: 34075829 (JP2006316598A) © PatBase

Title: CLEANER

Priority: JP20050168809 20050512

Family:

Publication number	Publication date	Application number	Application date
JP2006316598 A2	20061124	JP20050168809	20050512

Probable Assignee: PATENT BANK KK

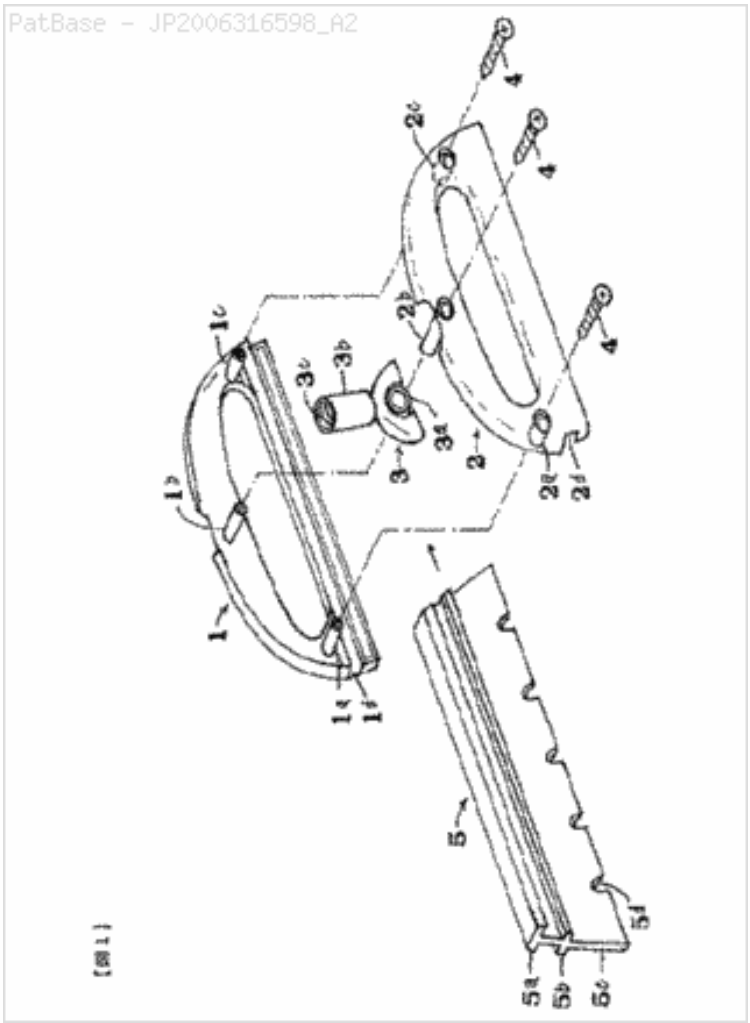
Assignee(s):(std)**:** PATENT BANK KK

Inventor(s):(std)**:** HISAGAI TATSUYA ; KAMATAKI MORITOSHI

International class (IPC 8–9): A47L13/38 A47L25/00 E01H1/12 (Advanced/Invention); A47L13/10 A47L25/00 E01H1/00 (Core/Invention)

Classification Explorer

Abstract:
Source: JP2006316598A PROBLEM TO BE SOLVED: To provide a lightweight and efficient cleaner which allows a sweeping part to be easily replaced, has a strong rotatable handle mounting part and is suitably used in a place where a large amount of waste paper is scattered such as a bicycle race track, a race track and a speedboat race track. SOLUTION: Longitudinally divided main bodies A, B are assembled by inserting a connective pipe D into a connective pipe A and inserting a connective pipe E into a connective pipe part of a connector and then inserting a connective pipe E into a connective pipe B and inserting a connective pipe F into a connective pipe C, and three places are fixed with screws from the outside of the main body B. A sweeping blade is inserted into a gap formed of a blade insertion groove A of the main body A and a blade insertion groove B of the main body B.



293) Family number: 34394024 (US2007087797A) © PatBase

Title: VIDEO GAME ENVIRONMENT THAT TRACKS HELP AND ADVICE PROVIDED TO OTHER PLAYER CHARACTERS

Priority:

US20050727102P	20051014	US20050727121P	20051014	US20060279991	20060417
US20060380489	20060427	US20060421026	20060530	US20060368143	20060302
US20060421025	20060530	US20060355232	20060214	US20060368143	20060303
US20060559158	20061113	US20060535577	20060927	US20060567122	20061205
US20070620542	20070105	US20060559158	20061113	US20060560456	20061116
US20060611059	20061214	US20060535585	20060927	US20060611050	20061214
US20060535572	20060927	US20060545843	20061011	US20060428263	20060630
US20070625225	20070119	US20070624662	20070118	US20070621880	20070110
US20070624659	20070118	US20070625229	20070119	US20070671373	20070205
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Agent(s): GONZALES PATENT SERVICES; ROBERT L ABDON; ANDREW VAN LUCHENE; ELLEN; GONZALES ELLEN M

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

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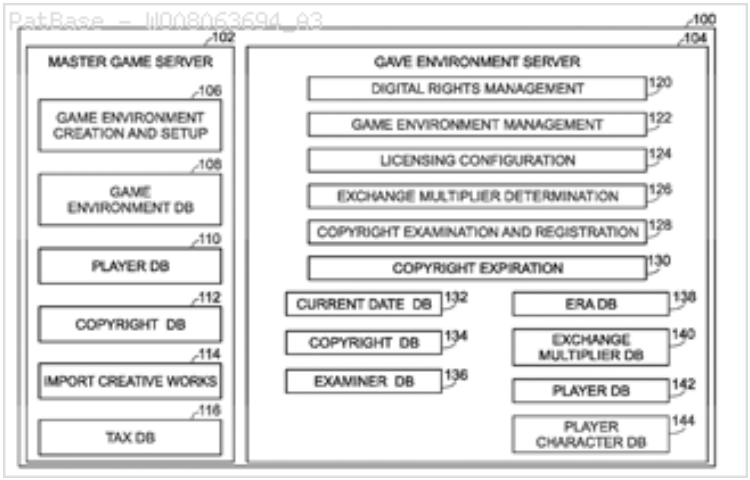
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US2009254442, US2009254441, US2009254431, US2009253494, US2009253475, US2009248544, US2009247282, US2009240722, US2009235350, US2009233718, US2009228391, US2009228355, US2009228307, US2009227368, US2009222560, US2009222274, US2009221342, US2009210803, US2009210449, US2009210333, US2009210324, US2009210301, US2009210213, US2009204898, US2009204628, US2009204514, US2009204496, US2009203439, US2009201299, US2009199095, US2009198604, US2009197669, US2009197667, US2009192891, US2009181777, US2009179917, US2009177979, US2009177976, US2009177717, US2009177583, US2009177578, US2009174702, US2009172540, US2009171164, US2009167766, US2009164893, US2009164549, US2009164503, US2009164458, US2009164403, US2009164401, US2009164370, US2009164369, US2009164368, US2009164364, US2009164363, US2009164353, US2009164352, US2009164350, US2009164320, US2009164302, US2009164280, US2009164132, US2009164131, US2009163777, US2009163266, US2009157813, US2009157751, US2009157660, US2009157625, US2009157482, US2009157481, US2009157323, US2009156955, US2009156907, US2009150804, US2009149248, US2009149244, US2009144633, US2009144148, US2009144132, US2009144073, US2009138355, US2009138333, US2009132656, US2009132435, US2009132422, US2009132416, US2009132403, US2009132393, US2009132361, US2009132357, US2009132297, US2009132296, US2009132267, US2009125383, US2009119188, US2009112718, US2009109213, US2009106673, US2009106669, US2009106145, US2009100354, US2009100035, US2009099930, US2009099925, US2009099836, US2009097630, US2009094225, US2009094134, US2009094106, US2009091565, US2009089168, US2009083192, US2009082092, US2009082076, US2009077672, US2009077472, US2009077161, US2009076912, US2009070180, US2009063463, US2009063168, US2009062014, US2009062013, US2009062012, US2009058862, US2009055246, US2009054154, US2009054141, US2009043683, US2009043682, US2009043604, US2009037364, US2009029779, US2009018910, US2009013321, US2009006247, US2008316227, US2008313105, US2008309677, US2008309675, US2008306681, US2008303830, US2008303829, US2008287194, US2008287193, US2008287192, US2008287175, US2008281597, US2008280684, US2008275789, US2008274811, US2008274806, US2008270320, US2008270165, US2008268953, US2008263460, US2008263458, US2008263446, US2008235237, US2008231627, US2008228607, US2008220876, US2008220873, US2008215434, US2008204450, US2008204448, US2008194333, US2008178302, US2008177650, US2008177558, US2008167965, US2008148165, US2008139317, US2008133392, US2008126234, US2008120416, US2008119272, US2008109765, US2008109338, US2008103951, US2008096665, US2008092065, US2008076530, US2008064496, US2008059570, US2008059536, US2008059426, US2008059211, US2008052224, US2008005014, US2008004122, US2007268299, US2007260984, US2007238528, US2007218996, US2007203828, US2007203817, US2007203725, US2007198305, US2007191097, US2007179879, US2007179839, US2007174183, US2007173324, US2007168214, US2007156509, US2007150986, US2007143119, US2007136185, US2007130001, US2007129148, US2007124239, US2007118420, US2007112660, US2007112624, US2007106576, US2007106526, US2007088656, US2007087819, US2007087797, US2007078929, US2007078737, US2007073614, US2007073582, US2007038559, US2007036328, US2007035549, US2007035548, US2007024613, US2007024005, US2007013692, US2007013691, US2006246976, US2006235791, US2006235790, US2006229976, US2006224505, US2006195394, US2006195378, US2006195377, US2006195376, US2006190284, US2006190283, US2006178985, US2006178975, US2006178972, US2006178970, US2006178968, US2006178967, US2006178966, US2006178965, US2006178964, US2006178899, US2006178218, US2006178217, US2006178180, US2006167708, US2006167707, US2006166733, US2005245308, US2005209699, US2004193469, US2003195787, TWI517070, TWI383828, RU2586834, KR20160001550, KR101586655, KR101221169, JP2016513988, JP2014523319, GB2475648, EP3117883, EP2958647, EP2839868, EP2585989, EP2482944, EP2482944, EP2322257, EP2322257, EP2247353, EP2206540, DE202009007113, DE102007047632, CN105050674, CN104203358, CN103341266, CN103119619, CN102882891, CN102882891, CN102770191, CN102713931, CN102214272, CN102214272, CN102015047, CN101968827, CN101968827, AU2012340089, AU2009345431, AU2008354731,

Abstract:
Source: US2007087797A A virtual game environment in which characters are allowed to give help to one another and in which the game tracks the amount of helpfulness of each character is provided. Characters may be rewarded or paid for giving help to each other. In some embodiments, help may be given in the form of advice.



0) US2007225120A – ZERO–LEARNING–CURVE EXERCISE CONSOLE

294) Family number: 37227442 (US2007225120A) © PatBase

Title: ZERO–LEARNING–CURVE EXERCISE CONSOLE

Priority: US20060389878 20060327

Family:

Publication number	Publication date	Application number	Application date
CN100563757 C	20091202	CN200610090526	20060628
CN101045182 A	20071003	CN200610090526	20060628
EP1839708 A1	20071003	EP20060020973	20061005
TW200735917 A	20071001	TW20060121788	20060616
TWI299669 B	20080811	TW20060121788	20060616
US2007225120 AA	20070927	US20060389878	20060327
US7648443 BB	20100119	US20060389878	20060327

Probable Assignee: STRENGTH MASTER FITNESS TECH CO LTD

Assignee(s):(std)**:** SCHENK PETER ; STRENGTH MASTER FITNESS TECH C ; STRENGTH MASTER FITNESS TECH CO LTD

Assignee(s): STRENGTH MASTER FITNESS TECH CO

Inventor(s):(std)**:** SCHENK PETER ; SCHENK PETER M ; SHENK PETER M ; PETER SCHENK ; PETER M SCHENK

Agent(s): PATE PIERCE AND BAIRD

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR YU

International class(IPC 8–9)**:** A63B24/00 A63B71/00 (Advanced/Invention); A63B24/00 A63B71/00 (Core/Invention)

CPC: A63B22/0605 A63B24/00 A63B9/00 A63B22/02 A63B22/0664 A63B24/0075 A63B69/06 A63B2071/0658 H01H2217/038

European class: A63B24/00 K63B22/02 K63B22/06E K63B22/08 K63B24/00H K63B69/06 K63B71/06D6 K63B9/00 T01H217/038

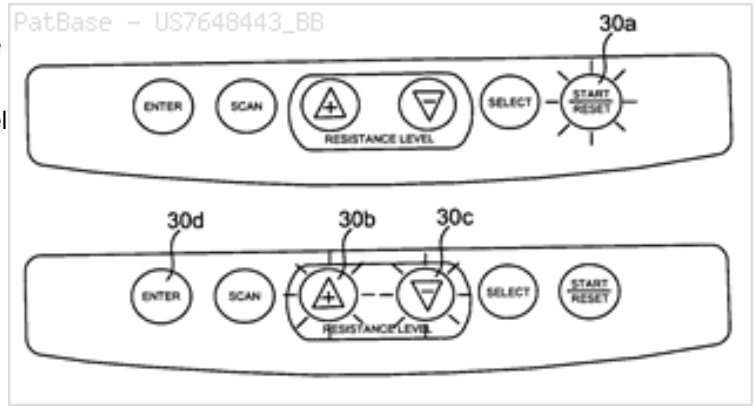
US class: 482/1 482/3 482/4 482/8 482/902

Classification Explorer

Cited documents: WO96/36399, WO0111776 A1, US7507183 BB, US7344481 BB, US7056265 BA, US6776740 BA, US6659916 BA, US6626803 BA, US6458060 BA, US6447424 BA, US6312363 BA, US5947869 A, US5795301 A, US5769755 A, US5704581 A, US5629668 A, US5527239 A, US5512025 A, US5489249 A, US5383826 A, US5364271, US5067710 A, US2006183603 AA, US2005008992 A1, US2005/008992 A1, TWM275861, TWM247237, TWI243699, GB2331904 A1,

Forward Citations: US8951168, US8944968, US8568278, US8152695, US7898429, US7771320, US7762931, US7637850, US2014179420, US2013190136, US2013015945, US2010279825, US2010077564, US2010036736, US2009280964, US2009227429, US2009201165, US2009124460, US2009118099, US2009113335, US2009088299, US2008261774, US2008207402, US2008096726, US2007042868, TWI530313,

Abstract:
Source: US2007225120A An exercise console is disclosed as including a housing and a display incorporated into the housing. The display is adapted to align substantially parallel to the top surface of the housing. A tilt mechanism connects the display to the housing and is operable by a user to tilt the display to a nonparallel angle with respect to the housing. In another aspect in accordance with the invention, the exercise console includes a substantially fixed array of buttons incorporated into the housing. The buttons provide to a user various input options which are selectable in a pre−determined sequence by operation of the buttons to program the exercise console. Various indicators are associated with the buttons and inform the user which input options are next available for selection after the user has selected one or more input options.



0) US2008048888A – DEVICE FOR ACTIVATING INDUCTIVE LOOP SENSOR OF ...

295) Family number: 41555889 (US2008048888A) © PatBase

Title: DEVICE FOR ACTIVATING INDUCTIVE LOOP SENSOR OF A TRAFFIC LIGHT CONTROL SYSTEM

Priority: US20060511115 20060828 US20070800081 20070504

Family:

Publication number	Publication date	Application number	Application date
US2008048888 AA	20080228	US20070800081	20070504
US2008055115 AA	20080306	US20060511115	20060828
US7432827 BB	20081007	US20060511115	20060828
US7907065 BB	20110315	US20070800081	20070504

Probable Assignee: RICHLEY EDWARD ANTHONY

Assignee(s):(std)**:** RICHLEY EDWARD ANTHONY

Inventor(s):(std)**:** RICHLEY EDWARD ANTHONY

Agent(s): EDWARD A RICHLEY

International class (IPC 8–9): G08G1/01 (Advanced/Invention); G08G1/01 (Core/Invention)

CPC: G01D5/204 G08G1/042

European class: G01D5/20C S08G1/042

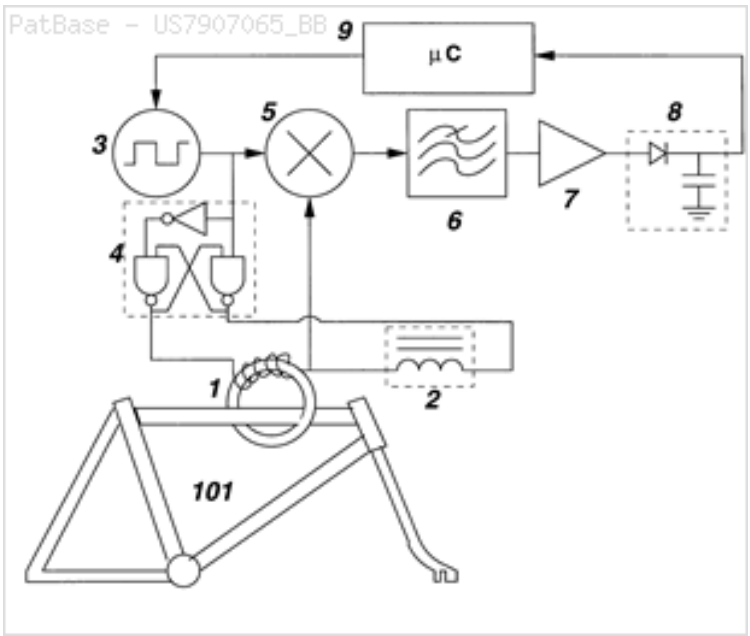
US class: 340/515 340/551 340/561 340/568.2 340/907 340/908 340/917 340/931 340/933 340/941 340/941P

Classification Explorer

Cited documents: US7330132 BA, US6999886 BB, US6072408 A, US5652577 A, US5642043 A, US5242136 A, US5057831 A, US4472706 A, US4276539 A, US3989932 A, US3984764 A, US3943339 A, US3818430 A, US2009057084 AA, US2004095148 AA,

Forward Citations: US9123238, US8386156, US8212690, US2015206429, US2012029799, EP3045872,

Abstract:
Source: US2008048888A A system and method for activating vehicle sensors which are based on inductive loops. A transformer is used to couple the vehicle frame to activation circuitry. Within the activation circuitry, a voltage controlled oscillator which drives the transformer is scanned throughout the required frequency range while a balanced mixer, low–pass filter, and detector are arranged to show the presence of a signal from an inductive loop by the amplitude of the resultant signal at a difference frequency. The voltage controlled oscillator is then made to dwell at or near the frequency of the sensor loop by adjusting so as to keep the amplitude of that low–frequency difference as high as possible.



0) CN2095223U – MEN POWER CLEANING CART

296) Family number: 43756549 (CN2095223U) © PatBase

Title: MEN POWER CLEANING CART

Priority: CN19912007897U 19910517

Family:

Publication number	Publication date	Application number	Application date
CN2095223 U	19920205	CN19912007897U	19910517

Probable Assignee: GUANGHUA SUN

Assignee(s):(std)**:** GUANGHUA SUN

Inventor(s):(std)**:** GUANGHUA SUN

International class (IPC 1–7)**:** B62K5/00 E01H1/04

Forward Citations: CN104330479, CN104330479, CN103790125, CN103790125,

Abstract:
Source: CN2095223U The utility model relates to cleaning vehicles. Solve the problem of energy consumption of motorized sweeper, complex structure, larger self, maintenance problems, high cost, human sweeper from the chassis, running gear, a drive mechanism, transmission mechanism, steering mechanism, cleaning mechanism, the brake mechanism and clothing hat box and toolbox composition, small four–wheel running gear for the front wheels using bicycle wheel, rear wheel as rubber, manpower left front foot drive single wheel drive; the shift to the use of the tension wheel and sprocket set; steering is cross rear wheel steering rod, cleaning mechanism provided on the front portion comprises a roller and a bucket and broom and ash containing ash, a friction drive, with a hat box and rear toolbox. After the trial developed by the light and flexible operation, the cleaning effect is good, suitable for promotion.

0) DE102008045294A1 – MANUAL GEARBOX FOR BICYCLE, HAS PLANET GEAR SUP...

297) Family number: 44447107 (DE102008045294A1) © PatBase

Title: MANUAL GEARBOX FOR BICYCLE, HAS PLANET GEAR SUPPORTED BY PLANETARY ROD AND CONNECTED WITH WORKING STROKE OF CLUTCH BODY VIA CLUTCH, WHERE CLUTCH BODY IS IN PERMANENT CONNECTION WITH ELEMENT OF PLANETARY GEAR MECHANISM

Priority: DE200810045294 20080902

Family:

Publication number	Publication date	Application number	Application date
DE102008045294 A1	20100304	DE200810045294	20080902

Probable Assignee: NICOLAI KARLHEINZ

Assignee(s):(std)**:** NICOLAI KARLHEINZ

Inventor(s):(std)**:** NICOLAI KARLHEINZ

International class (IPC 8–9)**:** B62M11/14 (Advanced/Invention); B62M11/00 (Core/Invention)

CPC: B62M9/12 B62M11/145

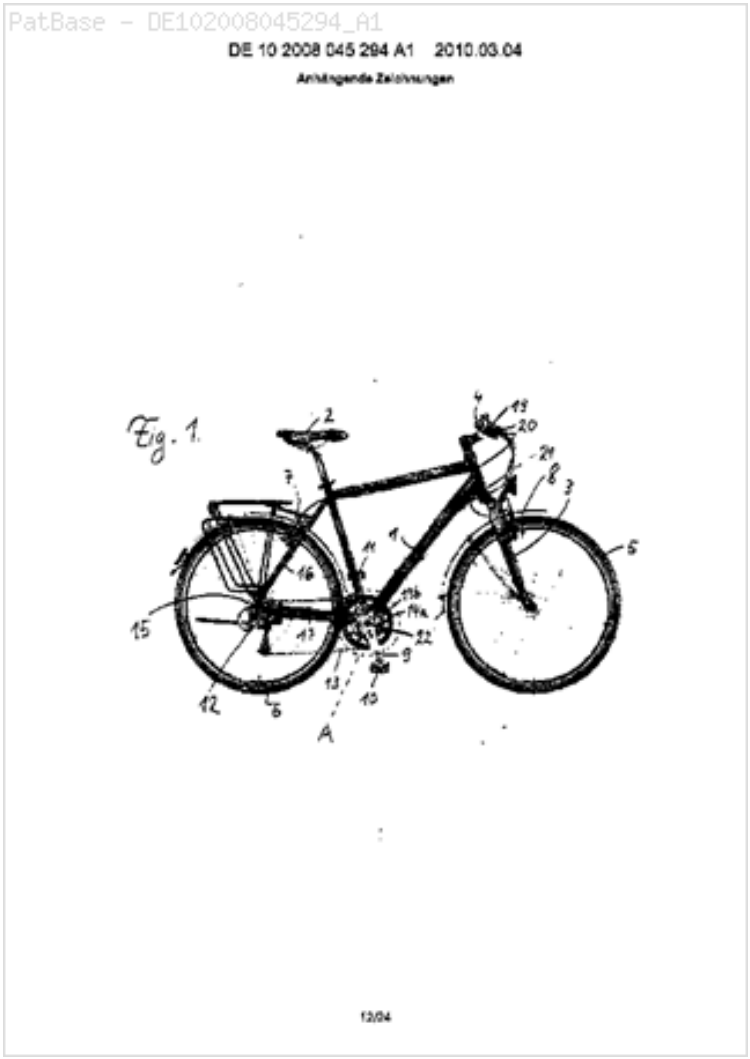
European class: B62M11/14B B62M9/12

Classification Explorer

Cited documents: WO9946160, US6123639, US2003186776, US2003040397, EP0562470, DE69824816 T,

Forward Citations: WO15005810, WO10119372, US8534161,

Abstract:
The gearbox has a planetary gear mechanism formed in a frame or housing that is connected with a bicycle frame (1) at a bottom bracket shell. An element of the mechanism is connected with another element, the housing or a bottom bracket shaft by shifting clutches or shifting free−wheels, with respect to gear ratios. A planet gear is connected with a working stroke of a clutch body via a clutch. The clutch body is in permanent connection with another element of the mechanism. The planet gear is supported by a planetary rod.



0) CN201415040Y – BALL RETRIEVING MACHINE

298) Family number: 44530428 (CN201415040Y)

© PatBase

Title: Ball retrieving machine

Priority: CN200920090792U 20090615

Family:

Publication number	Publication date	Application number	Application date
CN201415040 Y	20100303	CN200920090792U	20090615

Probable Assignee: YAN XIA

Assignee(s):(std)**:** YAN XIA

Assignee(s): XIA YAN

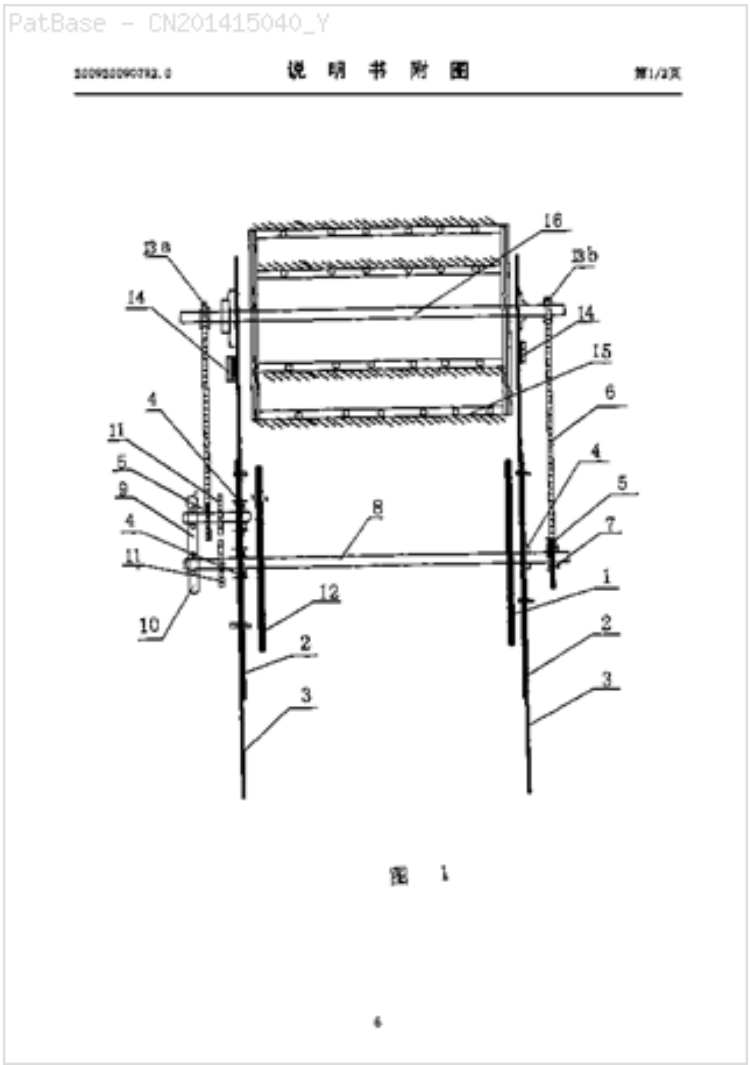
Inventor(s):(std)**:** YAN XIA ; YULIN XIA

Inventor(s): XIA YAN ; XIA YULIN

International class (IPC 8–9): A47L11/22 A63B69/00 (Advanced/Invention)

Classification Explorer

Abstract:
Source: CN201415040Y The utility model is designed according to a principle that a rear wheel can continuously rotate when the disk chuck of a bicycle does not move. The utility model likes two bicycles with juxtaposedlyarranged and inverted front wheels and rear wheels; the two rear wheels are connected by the central shaft of a ball retrieving machine; two ends of the central shaft of the ball retrieving machine are fixed on a vertical frame by a tile rack; two small flywheels are fixed at two ends of the central shaft of the ball retrieving machine as front wheels; the two prior front wheels of the bicycle aremoved behind the ball retrieving device and connected by a main shaft as rear wheels, so that the ball retrieving machine can pick up badminton balls, table tennis balls and other small articles whengoing ahead and can not crush articles required to be picked up on the ground; and when moving backwards, the ball retrieving machine can be taken as a sweeper for cleaning. The utility model is suitable for ball retrieving and cleaning in training centers.



299) Family number: 45669445 (TW249059S)

© PatBase

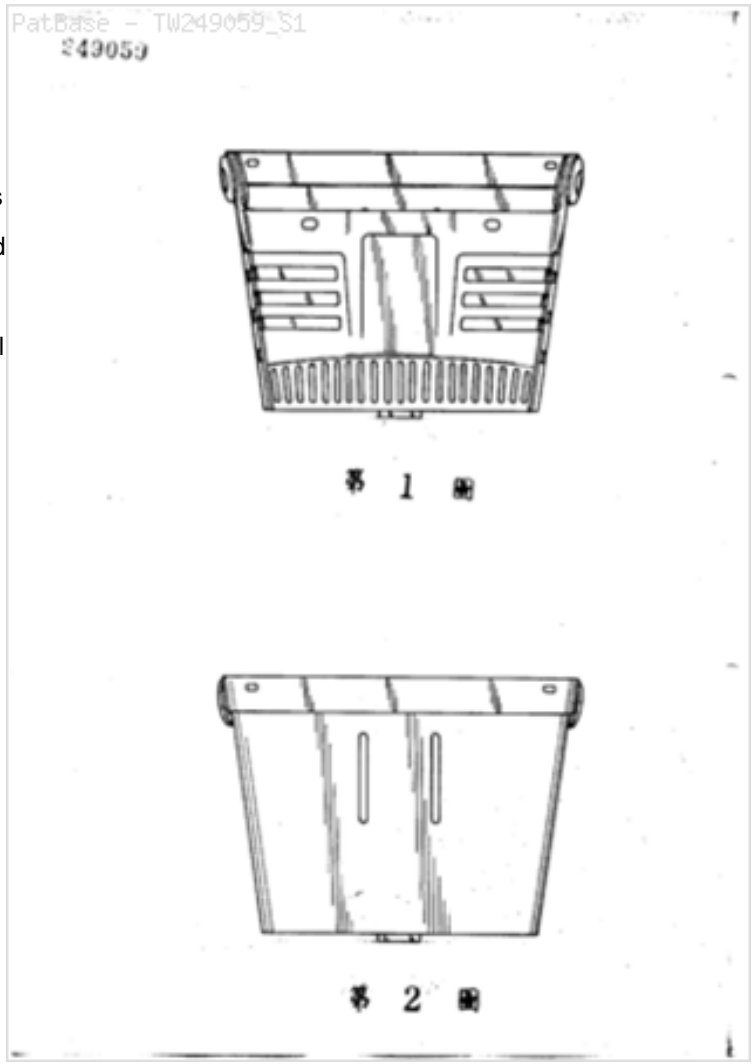
Title: The bicycle sets at the basket (Machine translation)

Family:

Publication number	Publication date	Application number	Application date
TW249059 S1	19950601	TW19940309658F	19941124

Abstract:
Source: TW249059S

Machine translation: This creation is one kind of like attached figure shows it “the bicycle to set at the basket” differently Ying, the new model outward appearance modelling. ; If the attached figure shows, this creation sets at the basket to pick the separation formula design, by the before and after two partial splice constitution, among, basket of body the latter half goes against the reason to form an outside raised flange, the basket body both sides and each several is parallel the crosswise decoration grain, the base in central takes shape a cuboid raised wall; As soon as the first half body for resembles outside the freshwater mussel shell Zhang Zhuanggai the body, the both sides peak extends two arm bodies, and the buckle is in harmony with the latter half basket body by the arm body front end, and extends forward flange of along the latter half basket body to the front assumes the gable shape, simultaneously corresponds the latter half basket body the crosswise decoration grain, the first half body also forward only then extends from the both sides is equipped with the plane of site, causes its symmetry, to echo the effect, also, under the first half body the half inward contracts by a curved surface, increases its curve the gentle esthetic sense, and supposes the strip shape in this curved surface to hollow out, can in the perspective basket; But total perspective it, on under the small beside modelling makes this to create a tool containing feeling greatly, but around echoes the decoration grain to make one symmetrically feel twice as the coordination, as soon as but curve of the multi–change sweeps the custom thing irrevocable obsolete impression, solid is a unique style, the creativity infinite creation.



0) TWD100294S – BOTTOM GUSSET

300) Family number: 45761366 (TWD100294S) © PatBase

Title: BOTTOM GUSSET

Family:

Publication number	Publication date	Application number	Application date
TWD100294 S1	20040911	TW20030304062F	20030630

Probable Assignee: MAGIC CYCLE INDUSTRIAL CO LTD

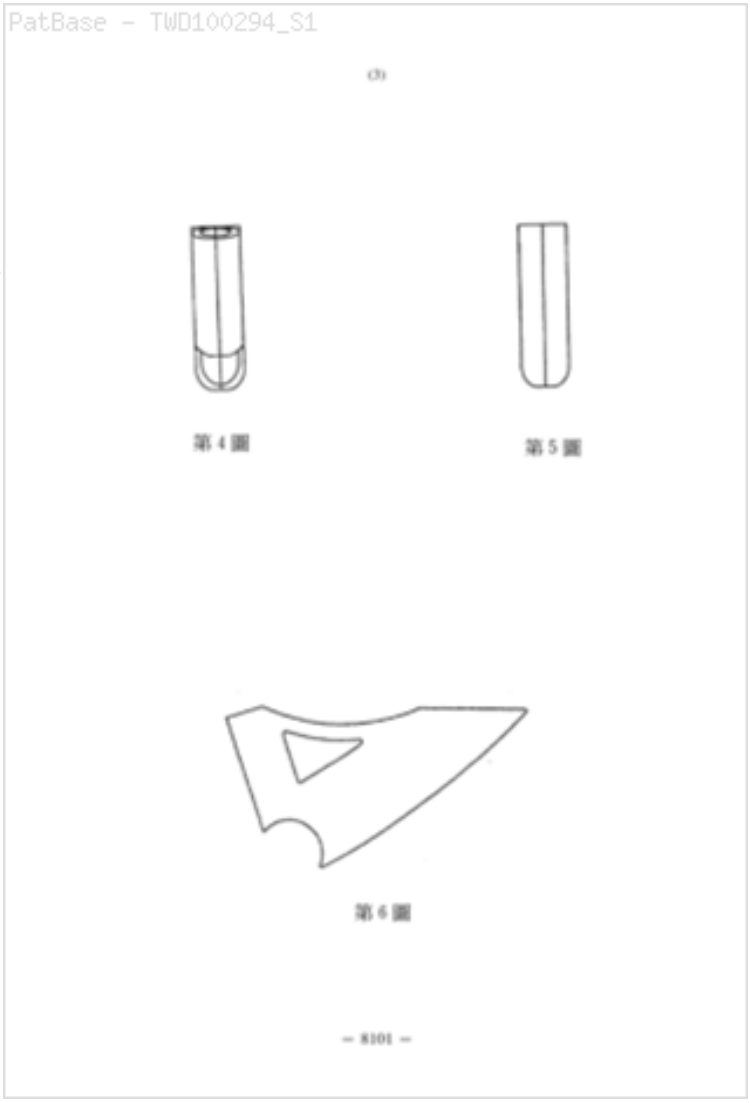
Assignee(s): MAGIC CYCLE INDUSTRIAL CO LTD

Inventor(s): JANTANA TIYAWATCHALAPONG

Locarno class: 12/11

Abstract:
Source: TWD100294S

Machine translation: [Goods use]; This creation is base of corner plate one kind of bicycle new model, You Zhiqi the shape is the novel uniqueness. [Creation characteristic]; This creation base corner plate mainly is the end has an ellipse aperture right flank the crown right flank, from should open the mouth inward the arc to extend downward to the base gap; Left side of the above crown is one inclines the circular to operate the oral area slightly, according to its diagonal angle downward connection to the base gap, forms base of corner plate outline an integrity. ; Ellipse of between the this crown opens the mouth and the circular opens the mouth, by downward hollow sweeping curve each other connection; Around, this creation base corner plate frontage and back the appropriate position opens has triangle of Lou dead slot the symmetry, this Lou dead slot each side is also parallel edge of in the base corner plate supports one another, gives the human a neat good impression. ; This creation whole observation, style alone, fresh refined, is the department provides one kind of innovation base of corner plate regarding the bicycle the creation.



- **search:** SS4 ft=sweep* and manpower* and wheel and friction (Results 4)
- List: SS4 1–50 (ft=sweep* and manpower* and wheel and friction) (Results 4)

0) US2005120715A – HEAT ENERGY RECAPTURE AND RECYCLE AND ITS NEW A...

1) Family number: 30545299 (US2005120715A) © PatBase

Title: HEAT ENERGY RECAPTURE AND RECYCLE AND ITS NEW APPLICATIONS

Priority:

CA20022397847	20020812	CA20022404410	20020920	PH20040000148	20040325
US19880255719	19881013	US19860820082	19860121	US19840631321	19840719
US19880177599	19880405	US19880255657	19881013	US19840631322	19840719
US20050795835	20050727	US19970058062P	19970905	US19900472753	19900131
US19890376002	19890815	US19930097655	19930727	US19910773680	19911008
US19950506335	19950725	US19910811470	19911218	US20050039624	20050120
WO2005US26793	20050727	US19970999729	19971223	US19980137499	19980820

Family:

Publication number	Publication date	Application number	Application date
AP200704109 A0	20070831	AP20070004109	20050727
AU2005325208 AA	20060727	AU20050325208	20050727
AU2005325208 BB	20120329	AU20050325208	20050727
CA2397847 AA	20040212	CA20022397847	20020812
CA2404410 AA	20040320	CA20022404410	20020920
CA2599414 AA	20070823	CA20052599414	20050727
CN101146981 A	20080319	CN200580049207	20050727
EA200701538 A1	20081030	EA20070001538	20050727
EP1851418 A1	20071107	EP20050779535	20050727
EP1851418 A4	20090513	EP20050779535	20050727
IN05612DN2007 A	20070831	IN2007DN05612	20070719
US2005120715 AA	20050609	US20050039624	20050120
US2008155985 AA	20080703	US20050795835	20050727
US4756666 A	19880712	US19840631321	19840719
US4859146 A	19890822	US19880177599	19880405
US5027735 A	19910702	US19900472753	19900131
US5052902 A	19911001	US19860820082	19860121
US5056447 A	19911015	US19880255657	19881013
US5094595 A	19920310	US19890376002	19890815
US5435259 A	19950725	US19930097655	19930727
US5507943 A	19960416	US19910811470	19911218
US6293121 BA	20010925	US19980137499	19980820
US6327994 BA	20011211	US19970999729	19971223
US8051637 BB	20111108	US20050795835	20050727
WO06078315 A1	20060727	WO2005US26793	20050727
WO06078315 C1	20061102	WO2005US26793	20050727

Probable Assignee: CHRISTIAN SCHOOL OF TECHNOLOGY CHARITABLE FOUNDATION TRUST

Assignee(s):(std)**:** CHRISTIAN SCHOOL OF TECHNOLOGY CHARITABLE FOUNDATION TRUST ; CHRISTION SCHOOL OF TECHNOLOGY ; LABRADOR GAUDENCIO A ; LABRADOR GAUDENCIO AQUINO ; GAUDENCIO LABRADOR ; LABRADOR GAUDENCIO ; CHRISTIAN SCHOOL OF TECHNOLOGY

Assignee(s): CHRISTIAN SCHOOL OF TECHNOLOGY CHARITABLE FOUNDATI ; CHRISTION SCHOOL OF TECHNOLOGY CHARITABLE FOUNDATI ; CHRISTION SCHOOL OF TECHNOLOGY CHARITABLE FOUNDATION TRUST

Inventor(s):(std)**:** CHRISTIAN SCHOOL OF TECHNOLOGY ; LABRADOR GAUDENCIO A ; LABRADOR GAUDENCIO AQUINO

Inventor(s): CHRISTIAN SCHOOL OF TECHNOLOGY CHARITABLE ; GAUDENCIO AQUINO LABRADOR ; LABRADOR GAUDENCIO

Agent(s):

ROGER SYN AND CO PATENT AND TRADE MARK ATTORNEYS; FURMAN AND KALLIO; OYEN WIGGS GREEN AND MUTALA LLP; GAUDENCIO AQUINO LABRADOR

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KP KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B01D61/10 B63B1/10 B63B1/12 B63B35/00 B63B35/44 B63B39/06 B63B43/06 B63G1/00 B63G8/30 B63H19/02 B63H9/06 B63H9/10 B63J3/00 B64C31/04 B64C31/06 E02B3/06 F01K13/00 F01K23/10 F01K27/00 F02C1/00 F02C1/05 F02G5/00 F03B13/18 F03D11/04 F03D5/00 F03D5/04 F03G7/00 F24F5/00 F24F6/14 F28D5/00 (Advanced/Invention); B63B1/24 B63J1/00 F24F1/00 (Advanced/Non–invention); B01D61/02 B63B1/00 B63B35/00 B63B35/44 B63B43/00 B63H9/00 B63J3/00 E02B3/06 F01K23/10 F01K27/00 F02C1/00 F02G5/00 F03B13/00 F03D5/00 F03G7/00 (Core/Invention)

International class (IPC 1–7): B01D61/10 B63B17/00 B63B35/00 B63B7/00 F01K23/10 F03D5/02 F03D5/04 F03G7/00 F04B35/00 F24F6/14 F28D5/00

CPC: B63H9/06 B63H9/1021 F05D2260/212 F01K27/00 F02C1/05 F03G7/00 Y02T50/672 Y02T50/676 B63B1/121 Y02W10/33 Y02W10/37 B63B1/107 B63B1/24 B63B39/06 B63B2039/067 B63G1/00 B63G8/30 B63H19/02 B63J1/00 C02F1/04 F05B2240/40 Y02T70/59 B63B35/00 B63B43/06 B63J3/00 E02B3/062 E02B2017/0091 F03B13/182 F03D5/04 F24F5/0035 F24F6/14 Y02B10/30 Y02B10/50 Y02E10/38 F03D13/20 F28D5/00 B01D61/10 B63B35/44 B63B2035/446 B63B2035/4466 B64C31/04 B64C31/06 F03D5/00 F05B2240/921 F05B2240/922 F24F2001/0088 Y02B30/545 Y02E10/70 Y02E10/728 B63H9/10 F05B2210/18

European class: B01D61/10 B63B1/10C B63B1/12B B63B35/00 B63B35/44 B63B39/06 B63B43/06 B63G1/00 B63G8/30 B63H19/02 B63H9/06 B63H9/10 B63H9/10C B63J3/00 B64C31/04 B64C31/06 E02B3/06B F01K27/00 F02C1/05 F03B13/18B2D F03D11/04 F03D5/00 F03D5/04 F03G7/00 F24F5/00C7 F24F6/14 F28D5/00 L63B1/24 L63B35/44 L63B35/44E7 L63B35/44E9 L63B39/06R L63B43/06 L63H9/10 L63J1/00 L63J3/00 M02F1/04 P02B17/00M R05B210/18 R05B240/40 R05B240/921 R05B240/922 R05B240/931 R05B260/212 R24F1/00G1 Y02B10/30 Y02B10/50 Y02B30/14 Y02B30/54D Y02E10/38 Y02E10/70 Y02E10/72L Y02E10/72N Y02E20/18 Y02T50/67B2 Y02T50/67F2 Y02T70/59

US class: 114/102 114/267 114/382 114/39.1 114/39.2 114/39.26 114/39.29 114/39.31 210/136 210/170 210/259 210/321.87 244/153.00R 244/153R 244/24 405/76 415/5 416/8 417/330 417/332 60/39.01 60/506 60/618 60/618P 60/676 60/698 60/698P 60/772 62/304 62/310 62/314 623/40

Classification Explorer

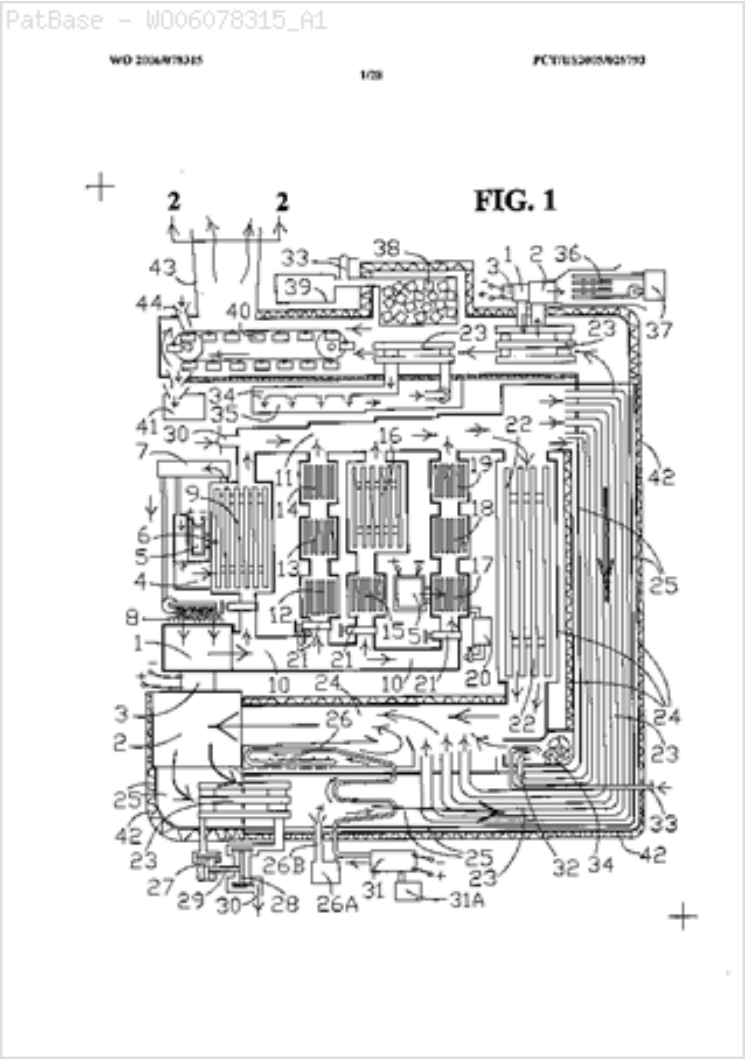
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Forward Citations: WO9604479, WO9510706, WO9421913, WO16176184, WO16154757, WO16130438, WO15083154, WO15049551, WO13150320, WO13150320, WO13063606, WO13052752, WO13052752, WO11121557, WO11024084, WO11024084, WO10151237, WO10096656, WO10096656, WO10043987, WO10043987, WO10000100, WO09118427, WO09059111, WO09058637, WO09052202, WO09052202, WO09003362, WO08124037, WO08072269, WO08054131, WO08031904, WO08006413, WO07065717, WO07027544, WO07000788, WO06117593, WO06113988, WO06078315, WO06028454, WO05064155, WO03092847, WO03092847, WO02072479, WO02063165, WO02056989, WO02056989, WO0141897, USD749231, USD747450, USD746966, USD746425, USD729925, USD729376, USD729375, USD729374, USD729373, USD729372, USD728770, USD728769, USD728092, USD718208, USD581438, US9587630, US9581255, US9581140, US9581135, US9568021, US9568006, US9546099, US9534581, US9513028, US9511859, US9506656, US9502904, US9476615, US9476400, US9458853,

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Abstract:
Source: US2005120715A What has been created is a plurality and a variety of processes and a variety of devices correspondingly supportive to each process, wherein, a new partnership between; (1) a heat absorbing radiator compressed air pipes/tubes and (2) a gas turbine engine or a reciprocating piston engine,–is used to recapture and reconvert the, otherwise wasted, heat energies expelled by engines, by factories, by smelting plants, by distillation plants, by chillers/coolers/freezers, by cooking ovens, by lamps/stoves, by trash burners, and the heat energies created by the solar heat on the desert/ocean water,–into electric power and finally into hydrogen–deuterium fuel,–by having the engine's tailpipes submerged in cold compressed air inside the heat absorbing radiator pipes in reverse air flow, to further drive and re–drive the same engine; wherein, in order to capture fusion heat energy the hydrogen bomb is detonated in the deep ocean to catch the flames by the water and the hot water is used to energize the compressed air inside the heat absorbing radiator pipes; wherein, in order to produce fusion energy, an abundant electric arc is passed across liquid deuterium or across gaseous deuterium by the electro–plasma torch and sparkplug in the internal combustion engine, and by detonating a dynamite inside a liquid deuterium; wherein diamond is produced by placing carbon inside the hydrogen bomb; and wherein, deuterium fusion flame is used first in smelting glass to large sizes before running an engine.



0) CN2294911Y – MANUAL HAND–PUSH, PEDAL TWO–PURPOSE CLEANING VE...

2) Family number: 16429822 (CN2294911Y)

© PatBase

Title: Manual hand–push, pedal two–purpose cleaning vehicle

Priority: CN19962042306U 19961017

Family:

Publication number	Publication date	Application number	Application date
CN2294911 Y	19981021	CN19962042306U	19961017

Probable Assignee: WANG XUEWEN

Assignee(s):(std)**:** WANG XUEWEN

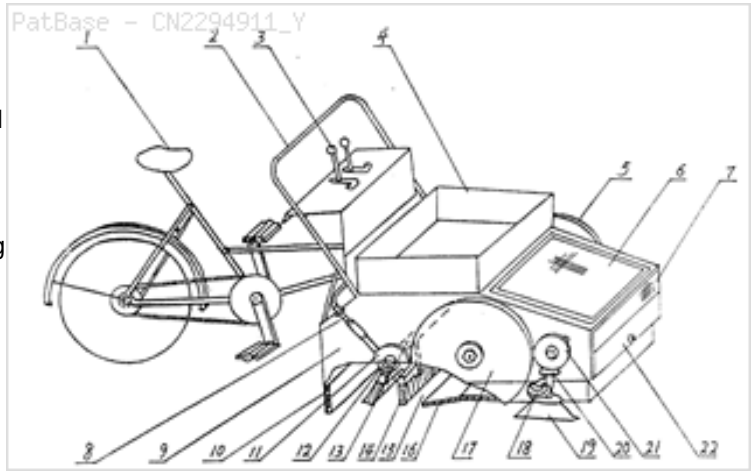
Inventor(s):(std)**:** WANG XUEWEN ; XUEWEN WANG

International class (IPC 8–9): B62K13/00 B62K17/00 (Advanced/Invention); B62K13/00 B62K17/00 (Core/Invention)

International class (IPC 1–7): B62K13/00 B62K17/00

Classification Explorer

Abstract:
Source: CN2294911Y The utility model relates to a dual–purpose manpower cleaning vehicle which is pushed by hands or stepped by feet. The utility model comprises a bicycle body and a cleaning vehicle body. The utility model is characterized in that the cleaning vehicle body is a closed casing, the front part of the cleaning vehicle body is provided with a dust collecting box, and the rear part of the cleaning vehicle body is provided with a sweeping box. A pair of supporting wheels is arranged on both sides of the cleaning vehicle body symmetrically. The bottom of the sweeping box is provided with a sweeping opening, a sweeping mechanism is arranged in the sweeping box, and a friction wheel is arranged on the sweeping mechanism. The front edge of the sweeping opening is provided with a dust guiding rubber plate, and a handle is arranged on the cleaning vehicle body. The utility model has the advantages of high sweeping efficiency, good effect, flexible operation and low cost. Besides, the utility model which is easy to accept by the society has no overflowing dust when the utility model is used for sweeping.



0) CN2223753Y – ROAD CLEANING VEHICLE

3) Family number: 17593676 (CN2223753Y) © PatBase

Title: Road cleaning vehicle

Priority: CN19942029945U 19941205

Family:

Publication number	Publication date	Application number	Application date
CN2223753 Y	19960403	CN19942029945U	19941205

Probable Assignee: SICHUAN POLYTECHICAL COLLEGE

Assignee(s):(std)**:** SICHUAN INST OF TECHNOLOGY ; SICHUAN POLYTECHICAL COLLEGE

Inventor(s):(std)**:** HE MINGJIANG ; MINGJIANG HE ; OU TINGXIANG ; TINGXIANG OU

International class (IPC 8–9): E01H1/08 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7): E01H1/08

Classification Explorer

Forward Citations: CN103741634, CN103741634, CN103334396,

Abstract:
Source: CN2223753Y The utility model relates to a road sweeper which is a sweeping implement. A frame body is supported on road wheels on both sides of the frame body, and a garbage can and a sweeping rolling brush are arranged on both ends of the interior of the frame body respectively. A residue holding slide way driven by an intermittent elevating and tilting mechanism driven by one road wheel matches with the sweeping rolling brush driven by a friction wheel driven by the other road wheel to clean and drive garbage to rise along the residue holding slide way and cast the garbage into the garbage can. A dust filtering net is arranged on the top surface of the frame body, and a foot skirt extending to ground is arranged on the circumference of the bottom surface of the frame to remove dust. The utility model has the advantages of simple structure, good cleaning effect, high efficiency and little blowing dust, and the dust removing mechanism of the utility model is simple and reliable. The utility model can be used for sweeping roads under the driving of manpower or motor power.

0) CN2095223U – MEN POWER CLEANING CART

4) Family number: 43756549 (CN2095223U) © PatBase

Title: MEN POWER CLEANING CART

Priority: CN19912007897U 19910517

Family:

Publication number	Publication date	Application number	Application date
CN2095223 U	19920205	CN19912007897U	19910517

Probable Assignee: GUANGHUA SUN

Assignee(s):(std)**:** GUANGHUA SUN

Inventor(s):(std)**:** GUANGHUA SUN

International class (IPC 1–7)**:** B62K5/00 E01H1/04

Forward Citations: CN104330479, CN104330479, CN103790125, CN103790125,

Abstract:
Source: CN2095223U The utility model relates to cleaning vehicles. Solve the problem of energy consumption of motorized sweeper, complex structure, larger self, maintenance problems, high cost, human sweeper from the chassis, running gear, a drive mechanism, transmission mechanism, steering mechanism, cleaning mechanism, the brake mechanism and clothing hat box and toolbox composition, small four–wheel running gear for the front wheels using bicycle wheel, rear wheel as rubber, manpower left front foot drive single wheel drive; the shift to the use of the tension wheel and sprocket set; steering is cross rear wheel steering rod, cleaning mechanism provided on the front portion comprises a roller and a bucket and broom and ash containing ash, a friction drive, with a hat box and rear toolbox. After the trial developed by the light and flexible operation, the cleaning effect is good, suitable for promotion.

- **search:** SS5 ft=adjust* and lever and cam (Results 89075)
- **search:** SS6 ft=adjust* and lever and cam and sweep* (Results 755)
- List: SS6 1–50 (ft=adjust* and lever and cam and sweep*) (Results 755)

0) US2005112634A – HIGH DENSITY SEQUENCE DETECTION METHODS AND APP...

1) Family number: 31767603 (US2005112634A) © PatBase

Title: HIGH DENSITY SEQUENCE DETECTION METHODS AND APPARATUS

Priority:

CA20032441481	20030918	CA20032441481	20030918	US20030504042P	20030919
US20030504052P	20030919	EP20060739280	20060321	EP20050783340	20050804
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Family:

Publication number	Publication date	Application number	Application date
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Assignee(s):(std)**:** STUDIOSTAMPA INC ; STAMP ARLENE ; REEVE VINCENT ; LU MIKE ; SANDELL DON ; PATEL JAYNISH ; WOUDENBERG TIMOTHY ; OLDHAM MARK ; LIM GARY ; LIVAK KENNETH ; LIU TIMOTHY ; REED MARK T ; SHANNON MARK ; OLDHAM MARK F ; RUFF DAVID ; LU MIKE Y ; SANDELL DONALD ; MACK JEROME A ; NGUYEN HOANG ; REEVE VINCENT M ; YAN TONY S ; WOUDENBERG TIM ; OSTADAN OMEAD ; PRATT MARK R ; STEVENS JUNKO F ; TOMANEY AUSTIN B ; YOUNG GREG ; TOMANEY AUSTIN ; STEVENS JUNCO F ; ULDHAM MARK ; WOUDENBERG TIMOTHY M ; LIVAK KENNETH J ; SHANNON MARK E ; RUFF DAVID W ; BLASENHEIM BARRY ; LI ROBIN ; CARRILLO ALBERT ; HARDING IAN ; KAO H PIN ; ERMAKOV SERGEY ; FAWCETT ADRIAN ; JONES BOB ; JONES ROBERT C ; CARRILLO ALBERT L ; HARDING IAN A ; LEHTO DENNIS A ; FOCARACCI JULIO P ; GUERRA ROBERT ; KAO H P ; HAYASHIBARA KATHLEEN C ; KARGER ACHIM ; LAIRD HYLAND FIONA C ; GUNSTREAM STEPHEN J ; KINNEY PATRICK D ; K LAU ALDRICH N ; AMIN YUSUF ; ANGELICA STEVE ; APLERA CORP ; APPLERA CORP ; APPLIED BIOSYSTEM LLC ; APPLIED BIOSYSTEMS ; BODNER KEVIN ; BODEAU JOHN ; BAHATT DAR ; BLASENHEIM BARRY J ; BODEAU JOHN P ; BEARD NIGEL P ; APPLIED BIOSYSTEMS LLC ; LIFE TECHNOLOGIES CORP

Assignee(s): LIFE TECHNOLOGIES CARLSBAD CORP ; BANK OF AMERICA NA AS COLLATERAL AGENT ; BANK OF AMERICA NA COLLATERAL AGENT AS ; APPLIED BIOSYSTEMS INC ; KAO H ; LIFE TECHNOLOGIES CORP CARLSBAD

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Inventor(s): REED MARK ; YAN TONY ; TOMANEY AUSTIN SAN FRANCISCO ; PRATT MARK ; LEHTO DENNIS ; STEVENS JUNKO ; OLDHAM MARK F LOS GATOS ; OLDHAM MARK LOS GATOS ; LAIRD HYLAND FIONA ; KAO H ; LU MIKE Y SAN JOSE ; MACK JEROME ; KINNEY PATRICK ; K LAU ALDRICH ; GUNSTREAM STEPHEN ; JONES ROBERT ; HARDING IAN A SAN MATEO ; HAYASHIBARA KATHLEEN ; FAWCETT ADRIAN PLEASANTON ; FOCARACCI JULIO ; BEARD NIGEL ; CARRILLO ALBERT L

REDWOOD CITY

Agent(s): WEBER BIRGIT DIPL BIOL DR RER NAT; WOEHLER CHRISTIAN; CRAMPHORN CONRAD ET AL; HARNESS DICKEY AND PIERCE PLC; STEVE ANGELICA; MILA KASAN PATENT DEPT APPLIED BIOSYSTEMS; KILYK AND BOWERSOX PLLC; INVITROGEN C O INTELLEVATE CORP; LIFE TECHNOLOGIES C O INTELLEVATE CORP; JEFFREY L

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8–9): B01J19/00 B01L11/00 B01L3/00 B01L3/02 B01L7/00 B01L9/00 B29C65/00 B29C65/02 B29C65/10 B32B1/08 B32B33/00 B32B37/00 B32B37/02 B65B3/04 B67C3/00 B81B1/00 C07H21/00 C12M1/00 C12M1/14 C12M1/22 C12M1/32 C12M1/34 C12M1/36 C12M1/38 C12M1/42 C12M3/00 C12N15/09 C12N15/10 C12P19/34 C12Q1/68 C40B30/00 C40B30/04 C40B30/10 C40B40/06 C40B60/12 G01J1/10 G01J1/42 G01J3/02 G01N1/10 G01N1/14 G01N15/06 G01N21/00 G01N21/03 G01N21/25 G01N21/63 G01N21/64 G01N31/00 G01N33/00 G01N33/48 G01N33/50 G01N33/68 G01N35/00 G01N35/02 G01N35/04 G01N37/00 G02B7/02 G06F15/16 G06F17/50 G06F19/00 G06F19/20 G06Q10/00 H01L27/146 H01L27/148 H04N5/217 H04N5/225 H04N5/357 H04N5/361 H04N5/372 (Advanced/Invention);
B01L3/02 B01L7/00 B01L9/00 B01L99/00 C12Q1/68 G01N21/27 G01N35/00 G01N35/04 G01N35/10 (Advanced/Non–invention);
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B01L7/00 (Core/Non–invention);
B01L C12N G01N G06F (Subclass/Invention)

International class (IPC 1–7): B01L3/00 C12M1/34 C12P19/34 C12Q1/68 G01N1/10 G01N21/03 G01N21/25 G01N33/00 G01N33/48 G01N33/50 G01N35/00 G06F17/50 G06F19/00

CPC: G01N35/04 B01L2200/0621 B01L2300/0654 B01L2300/0874 B01L2300/0887 C12Q1/6806 B01L3/50857 B01L7/525 B01L2200/027 G01N21/253 B01L2300/0819 C12Q1/6837 H04L51/28 H04L51/12 C12N15/1072 B01L2300/041 B01L2300/12 H04L67/02 G06F17/50 D03C19/005 D03J1/10 D05C15/26 D06P5/003 D06Q1/00 D21F1/0027 G06F2217/32 G06T11/001 H04N5/225 Y10T436/2575 B01L3/0262 B01L3/5085 B01L2200/026 B01L2200/0647 B01L3/0268 B01L3/5088 B01L2200/12 B01L2200/143 B01L2300/0816 B01L2400/0439 G01N35/1016 G01N2035/1034 Y10T436/10 G01N21/6486 G01N35/0099 G01N35/1002 G01N2035/00287 G01N2035/1039 Y10T156/171 Y10T156/1744 Y10T156/1052 Y10T428/14 Y10T428/1476 G01N2201/121 G01N2201/08 G01N2201/062 G01N2201/06113 H04N5/357 G06F19/20 C40B30/04 B01L2300/087 B01L2300/0809 B01L2400/082 B01L2200/142 B01L2300/021 B01L2300/1883 B01L3/545 B01L2200/14 B32B33/00 G01N33/48 G01N33/50 G01N2035/042 G06F19/00 G01N2035/00366 G01N21/6428 H04N5/361 H04N5/367 G01N35/1074 B01L2200/0684 G01N35/028 B01L3/0293 B01L3/5025 B01L3/5027 B01L3/502707 B01L3/502715 B01L3/502723 B01L3/50851 B01L3/50853 B01L7/52 B01L9/50 B01L9/523 B01L2200/021 B01L2200/025 B01L2200/0605 B01L2200/0642 B01L2300/022 B01L2300/044 B01L2300/046 B01L2300/0829 B01L2300/0851 B01L2300/0864 B01L2300/1805 B01L2400/0406 B01L2400/0409 B01L2400/0487 G01N21/274 G01N21/553 G01N21/6452 G01N2035/00148 G01N2035/00356 G01N2035/0405 G01N2035/0425 G01N2035/1037 B01L3/563 B01L2200/0689 B29C65/02 B32B38/10 B32B2038/047 C12Q1/6816 G01N21/648 C12Q1/686 G01N21/27 G01N21/64

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US class: 1/1 141/1 141/130 141/1P 156/250 156/250S 156/499 156/499S 156/542 156/556 156/556S 250/208.1 250/208.100P 250/234 250/234P 250/252.1 250/370.08 250/453.11 250/453.110P 250/458.1 250/459.1 348/241 348/250 348/E05.081 348/E5.081 356/218 356/219 356/236 356/236P 356/243.1 356/243.100P 356/246 356/246P 356/307 356/317 356/318 356/414 356/414P 356/417 356/418 359/811 359/819 359/822 359/823 359/824 422/100 422/100P 422/100S 422/102 422/103 422/104 422/109 422/400 422/400P 422/400S 422/501 422/502 422/503 422/504 422/504P 422/507 422/509 422/509P 422/520 422/520S 422/521 422/521S 422/552 422/552P 422/63 422/63P 422/82.12 422/99 422/99P 422/99S 428/40.1 428/40.100 428/40.100P 428/41.8 428/41.800P 435/287.1 435/287.2 435/287.200 435/287.200S 435/287.9 435/288.4 435/288.7 435/289.1 435/294.1 435/303.1 435/303.100S 435/305.3 435/305.300P 435/6 435/6.1 435/6.100S 435/6.11 435/6.110P 435/6.110S 435/6.12 435/6.120P 435/6.14 435/6.140P 435/6.16 435/6.160P 435/6.18 435/6.180P 435/6.19 435/6.190P 435/6P 435/6S 435/91.1 435/91.100 435/91.100P 435/91.2 435/91.200 435/91.200P 435/91.200S 436/180 436/180P 436/180S 436/8 436/8P 506/12 506/12P 506/16 506/16S 506/37 506/38 506/39 506/39P 506/7 506/7P 506/9 506/9P 536/25.3 536/25.300 536/25.300S 702/19 702/19P 702/20 702/20P 702/20S 702/85 705/7.12 709/206

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Abstract:
Source: US2005112634A Methods for amplifying polynucleotides, e.g., by PCR, in a sample comprising polynucleotide targets present at very low concentration, comprising: (a) applying amplification reactants to the surface of a substrate comprising reaction spots, wherein the reactants comprise the sample and an amplification reagent; (b) forming a sealed reaction chamber, having a volume less than about 120 nanoliters, preferably less than about 20 nanoliters, over each of said reaction spots; and (c) thermal cycling the substrate and reactants. In one embodiment, the forming step comprises loading a sealing fluid, e.g., mineral oil, on the surface so as to cover the reaction spots. The present invention also provides microplates, comprising: (a) a substrate having at least about 10,000 reaction spots, each comprising a primer and a droplet of reagent having a volume less than about 120 nanoliters, preferably less then about 20 nanoliters; and (b) a sealing liquid isolating each of the spots.

PatBase - WO07117445_A2

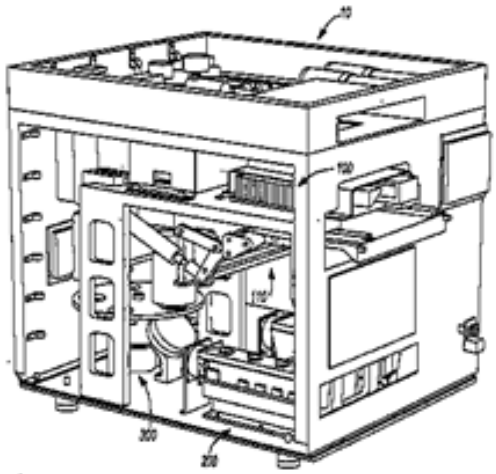


Fig - 1

0) US2005161420A – PRODUCT SECUREMENT AND MANAGEMENT SYSTEM

2) Family number: 32097385 (US2005161420A) © PatBase

Title: PRODUCT SECUREMENT AND MANAGEMENT SYSTEM

Priority:

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

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A47F1/12 G07F11/38 (Advanced/Non–invention);
A47B43/00 A47B47/00 A47B57/00 A47F1/00 A47F3/00 A47F5/00 (Core/Invention)

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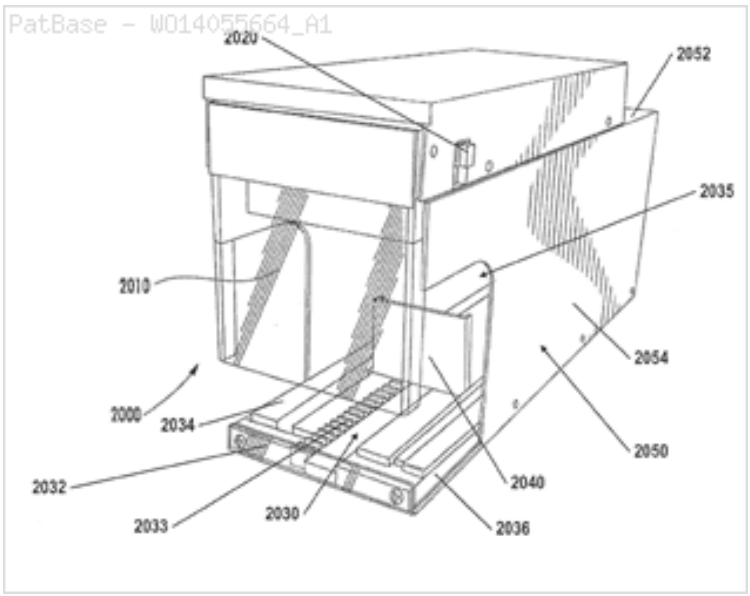
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Abstract:
Source: US2005161420A A system for managing and securing product and deterring theft in a retail setting includes a system that resides either on a standard retailer shelf or may be a stand–alone system. In an embodiment, the system includes a plurality of shelves and product dividers positioned between the shelves and extending from the front edges of the shelves toward the rear of the shelves. Front retaining walls are positioned at the front edges of the shelves and are configured to have a height that inhibits access to products on the shelves. Individual retaining tabs of varying height may be added in front of rows of taller product to inhibit access to these products. In an embodiment, rigid or moveable barriers may be positioned above retaining walls that further restrict access to the products. With the invention, the "sweeping" of numerous products by a thief is deterred. In another embodiment, an alert device may be configured to detect and monitor movement of the moveable barriers and may provide an alert signal corresponding to the management of product on the shelf or corresponding to a potential theft situation. In an embodiment, the alert device may communicate with a security camera to monitor the vicinity and provide a notification to the potential thief that his actions are being monitored and recorded, or provide a notification to store computer, pager, cellular telephone, or the like.



0) US2002014374A – BRAKE MECHANISM AND A METHOD OF CONTROLLING FOR...

3) Family number: 41627670 (US2002014374A) © PatBase

Title: BRAKE MECHANISM AND A METHOD OF CONTROLLING FORCE AMPLIFICATION

Priority: EP20010112015 20010523 EP20010112016 20010523 SE20000002058 20000531
EP20010112017 20010523 SE20000002943 20000818 SE20000002942 20000818
US20040470665 20040109 SE20000003547 20001003 US20010865628 20010525
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Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: HALDEX BRAKE PROD AB

Assignee(s):(std)**:** HALDEX BRAKE PROD AB ; HALDEX BRAKE PRODUCTS AB HALDE ; HALDEX BRAKE PRODUCTS AB LANDS ; HALDEX BRAKES AB ; KHAL DEKS BREJK PRODAKTS AB

Assignee(s): ORTEGREN ANDERS ; SANDBERG STEFAN ; HALDEX BRAKE PRODUCTS AB LANDSKRONA ; HALDEX BRAKE PRODUCTS AB

Inventor(s):(std)**:** STEFAN OERTEGREN ANDERS SANDBE ; SANDBERG STEFAN ; SANDBERG S ; OTGEN A ; OTGEH A ; ORTEGREN ANDERS ; OERTEGREN ANDERS ; IRTEGREN ANDERS ; EHRTEGREN ANDERS ; ANDERS OERTEGREN ; STEFAN SANDBERG

Inventor(s): ANDERS ORTEGREN ; ANDERS IRTEGREN ; A OTGEN ; A OTGEH ; OERTEGREN ANDERS SANDBERG STEFAN ; S SANDBERG

Agent(s): ST ONGE STEWARD JOHNSTON AND REENS LLC

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

International class (IPC 8–9): B60T1/00 F16D1/00 F16D49/00 F16D55/00 F16D55/224 F16D55/225 F16D55/226 F16D65/14 F16D65/16 F16D65/18 F16D65/52 F16D65/56 (Advanced/Invention); B60T13/00 F16D55/00 F16D65/14 (Advanced/Non–invention); F16D55/22 F16D65/14 F16D65/16 F16D65/18 F16D65/38 (Core/Invention); F16D55/00 (Core/Non–invention)

International class (IPC 1–7): B60T1/00 F16D55/00 F16D55/08 F16D55/14 F16D55/224 F16D55/225 F16D55/226 F16D55/2265 F16D65/00 F16D65/092 F16D65/14 F16D65/16 F16D65/18 F16D65/52 F16D65/56

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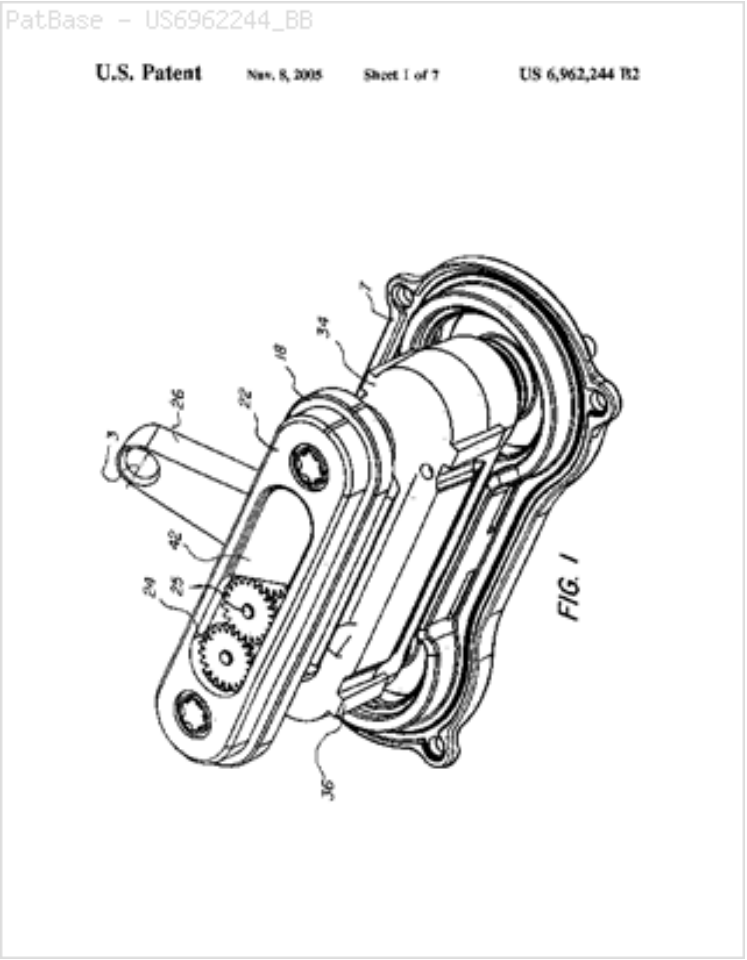
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Forward Citations: WO16206778, WO14021647, WO14021646, WO13143988, WO13079376, WO13079376, WO13053638, WO12168148, WO07057147, WO04102023, WO04070226, WO04013510, USD771540, USD770346, USD770345, USD770344, USD770343, USD515482, USD493754, USD492229, USD488750, USD488414, US9382958, US9377064, US9334912, US9109652, US9062727, US8403114, US7980366, US7896141, US7815743, US7523814, US7493993, US7424358, US7422091, US7395904, US7374026, US7367433, US7267207, US7219772, US7204351, US7152722, US7134532, US7121387, US7000742, US6962244, US6955246, US6904700, US6659235, US6634468, US2015101893, US2014353094, US2014262632, US2013240305, US2013020153, US2011127120, US2010314205, US2009200120, US2007246310, US2007209887, US2007137951, US2007045060, US2006175155, US2006124405, US2005252735, US2005230197, US2005150729, US2005145450, US2005103583, US2005072023, US2005045434, US2004238292, US2004222052, US2004163899, US2004149527, US2004134722, US2004050635, US2004050630, US2004045776, RU2605960, RU2555060, RU2542841, RU2506469, RU2497029, KR20150078760, KR101632171, EP3109499, EP2653744, EP2639473, EP2546541, EP2410198, EP2175156, EP1627159, EP1595087, EP1475551, DE202013102651, DE10331929, DE10260597, DE10260597, DE10258749, DE102014115766, DE102014113848, DE102013100173, DE102013011657, DE102013011657, DE102012009424, DE102012007022, DE102012007022, DE102012006099, DE102012006099, DE102012006096, DE102012006096, DE102012006089, DE102011115466, DE102011107151, DE102010031704, DE102010026076, DE102010026076, DE102010005909, DE102010005909, DE102009013005, DE102009013005, DE102008035753, DE102007048350, DE102007048350, CN104728312, CN103742574, CN103307148, CN103307148, CN103171585, CN102959269, CN102959269, CN102562884, CN102242786,

Abstract:
Source: US2002014374A The present invention concerns a brake mechanism of a disc brake received in a caliper (16) and a method for controlling the force amplification for the brake mechanism. The brake mechanism comprises a lever (26, 31) actuated by a brake actuator. The lever is acting on a cross bar (34, 37) by means of an intermediate part (27). The lever (26, 31) and the intermediate part (27) have a line of contact moving along a circular arc during an application stroke of the brake mechanism. The cross bar (34, 37) of the brake mechanism is closely guided and is only moveable in the thrust direction and in the tangential direction of the brake disc. The force amplification of the brake mechanism is adapted to the force characteristics of the brake actuator.



0) US2003030397A – NATURAL ROBOT CONTROL

4) Family number: 28064294 (US2003030397A) © PatBase

Title: Natural robot control

Priority: US20000234191P 20000920 US20010960293 20010920 US20010960294 20010920 US20020202414 20020722 US20010960293 20010920

Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: SIMMONS JOHN CASTLE

Assignee(s):(std)**:** SIMMONS JOHN C ; SIMMONS JOHN CASTLE

Inventor(s):(std)**:** SIMMONS JOHN C ; SIMMONS JOHN CASTLE

International class (IPC 8–9)**:** A61B5/103 A61B5/117 A61F4/00 B25J9/00 B25J9/16 G06F3/00 G06F3/01 G09B21/00 (Advanced/Invention); A61F4/00 B25J9/00 B25J9/16 G06F3/00 G06F3/01 (Core/Invention)

International class (IPC 1–7)**:** A61B5/00 A61B5/103 A61N1/18 B25J9/18 G05B19/00 G05B19/19

CPC: A61F4/00 B25J9/0006 B25J9/1689 G05B2219/40136 G05B2219/40144 G06F3/011

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US class: 318/568.11 318/568.110P 318/568.12 318/568.17 340/825.19 345/156 600/590 600/595 600/595P 601/33 601/33S 601/5 601/5S 607/47 607/47S 607/48 607/48P 607/49 607/49S 700/245 700/253 701/23 901/23 901/34

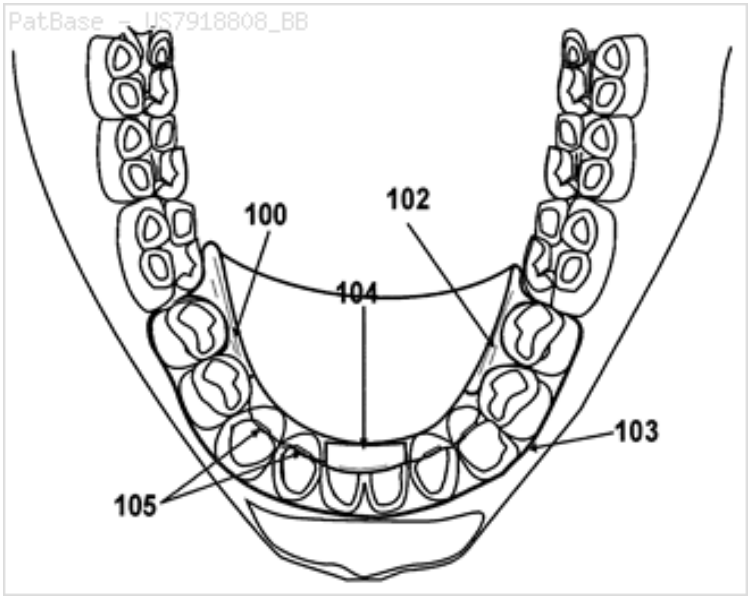
Classification Explorer

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Forward Citations: WO15130748, WO15114601, WO15013371, WO14194257, WO14109799, WO14035996, WO13019749, WO12176200, WO12131667, WO12037555, WO10121227, WO10044087, WO10025419, WO10014750, WO08128192, WO07053795, WO07053795, WO06037101, WO06037101, USRE45870, USD521644, USD520141, USD519638, USD519637, USD508096, US9566173, US9564058, US9561118, US9560318, US9554922, US9526668, US9526636, US9526635, US9504917, US9498886, US9498401, US9477979, US9474673, US9469030, US9465153, US9443536, US9430062, US9429934, US9427865, US9427864, US9403272, US9402759, US9398994, US9380976, US9375843, US9361021, US9358137, US9351900, US9351856, US9345592, US9345591, US9323250, US9296109, US9295604, US9289317, US9271851, US9266233, US9265458, US9264664, US9251313, US9205017, US9198728, US9193065, US9192198, US9174342, US9160783, US9144528, US9138891, US9131873, US9117363, US9114030, US9114028, US9098611, US9089972, US9087355, US9079313, US9078774, US9072463, US9066819, US9060884, US9060551, US9037297, US9030305, US9028557, US9028258, US9014848, US8998828, US8996165, US8988240, US8986397, US8983174, US8979943, US8965579, US8959038, US8951211, US8935005, US8930019, US8926534, US8915968, US8905955, US8905950, US8902278, US8897920, US8892260, US8888722, US8878850, US8870970, US8868216, US8864845, US8861750, US8852292, US8849680, US8849679, US8845566, US8836751, US8834169, US8821587, US8814949, US8814355, US8801802, US8800366, US8792963, US8781548, US8771210, US8731716, US8718837, US8702811, US8679040, US8672864, US8670017, US8657886, US8655808, US8639455, US8585620, US8577081, US8548558, US8516918, US8515577, US8515515, US8514220, US8513055, US8498741, US8498054, US8483873, US8466873, US8463435, US8453340, US8452367, US8449624, US8436834, US8419437,

US8412297, US8409118, US8403081, US8401916, US8401275, US8388694, US8384755, US8364220, US8361076, US8357111, US8353854, US8348875, US8345069, US8340819, US8323354, US8317324, US8279500, US8274244, US8265949, US8265791, US8257274, US8251934, US8240851, US8209051, US8202233, US8175931, US8160743, US8160640, US8147503, US8131374, US8096965, US8094873, US8077963, US8074559, US8069005, US8058823, US8057550, US8052629, US8011229, US8000837, US7995031, US7979102, US7899509, US7896927, US7896112, US7877127, US7877126, US7822453, US7813779, US7811189, US7809420, US7785279, US7744511, US7708708, US7704219, US7698909, US7647198, US7637884, US7621881, US7618389, US7618386, US7615027, US7615023, US7615022, US7615021, US7615020, US7615019, US7537573, US7340323, US7164967, US7153242, US6980919, US6961623, US6704619, US2016229049, US2016189536, US2015321339, US2015266180, US2015232048, US2015196403, US2015190246, US2015105222, US2015091853, US2014336781, US2014296997, US2014277739, US2014277583, US2014121019, US2014114445, US2014081424, US2014053312, US2014053311, US2014039371, US2014012164, US2013297041, US2013296746, US2013278396, US2013274894, US2013246036, US2013237884, US2013216093, US2013158438, US2013145530, US2013073092, US2013040763, US2012194879, US2012184880, US2012092146, US2012082353, US2011288616, US2011288448, US2011218674, US2011214524, US2011213599, US2011202144, US2011187875, US2011186362, US2011153042, US2011137429, US2011130693, US2011112441, US2011109971, US2011009777, US2010318006, US2010305716, US2010280628, US2010277579, US2010262260, US2010216104, US2010211189, US2010211185, US2010208198, US2010204620, US2010188637, US2010179668, US2010177278, US2010174385, US2010131103, US2010131102, US2010130847, US2010113987, US2010106453, US2010106283, US2010100240, US2010094188, US2010070079, US2010045705, US2010039052, US2010038983, US2010036753, US2010010673, US2009315918, US2009306548, US2009281450, US2009276058, US2009271038, US2009271000, US2009260426, US2009222105, US2009215016, US2009204038, US2009192414, US2009139327, US2009131225, US2009128342, US2009125147, US2009105881, US2009088773, US2009087276, US2009036888, US2009030359, US2008318626, US2008290629, US2008281467, US2008267447, US2008243265, US2008216593, US2008195005, US2008161731, US2008071386, US2008065268, US2007257794, US2007233318, US2007225862, US2007155557, US2007135738, US2007135278, US2007129846, US2007129648, US2007078566, US2007060445, US2006258938, US2006224247, US2006211956, US2006161085, US2006106487, US2006070165, US2006070164, US2006069336, US2006052676, US2006042891, US2006030806, US2006030805, US2006030804, US2006030803, US2006030802, US2006026736, US2006026733, US2006026732, US2006020237, US2006011391, US2006004307, US2005282128, US2005275620, US2005204438, US2005172729, US2005143172, US2005140776, US2005131846, US2005130108, US2004246769, US2004223320, US2004219498, US2004130455, US2004068322, US2003144334, US2003120385, TWI410949, KR101204540, KR100854022, KR100814735, EP3001984, EP2564817, EP1949873, CN105263448, CN103534555, CN103153356, AU2011364389, AU2011301828,

Abstract:
Source: US2003030397A An apparatus and process for controlling a remote robot responsive to the integrated sensory perceptions, natural body movements, inertia and gravitation of an operator/user who is himself responding to a three dimensional virtual world of visual and sensory conditions responsive to the environment at the remote site where the robot is operating. The user requires no training, special commands or devices to direct the robot because the user has the perception of actually being at the remote location, handling remote objects he sees and feels in his hands, walking, climbing, viewing and feeling the remote world.



0) US2609241A – BRUSHMAKING MACHINE

5) Family number: 22883295 (US2609241A) © PatBase

Title: BRUSHMAKING MACHINE

Priority: US19500161955 19500515

Family:

Publication number	Publication date	Application number	Application date
US2609241 A	19520902	US19500161955	19500515

Probable Assignee: DEVOE AND RAYNOLDS CO

Assignee(s):(std)**:** DEVOE AND RAYNOLDS CO

Assignee(s): DEVOE AND RAYNOLDS CO INC ; DEVOE AND RAYNOLDS COMPANY INC

Inventor(s):(std)**:** FIRST MELVIN J

International class (IPC 8–9)**:** A46D3/04 (Advanced/Invention); A46D3/00 (Core/Invention)

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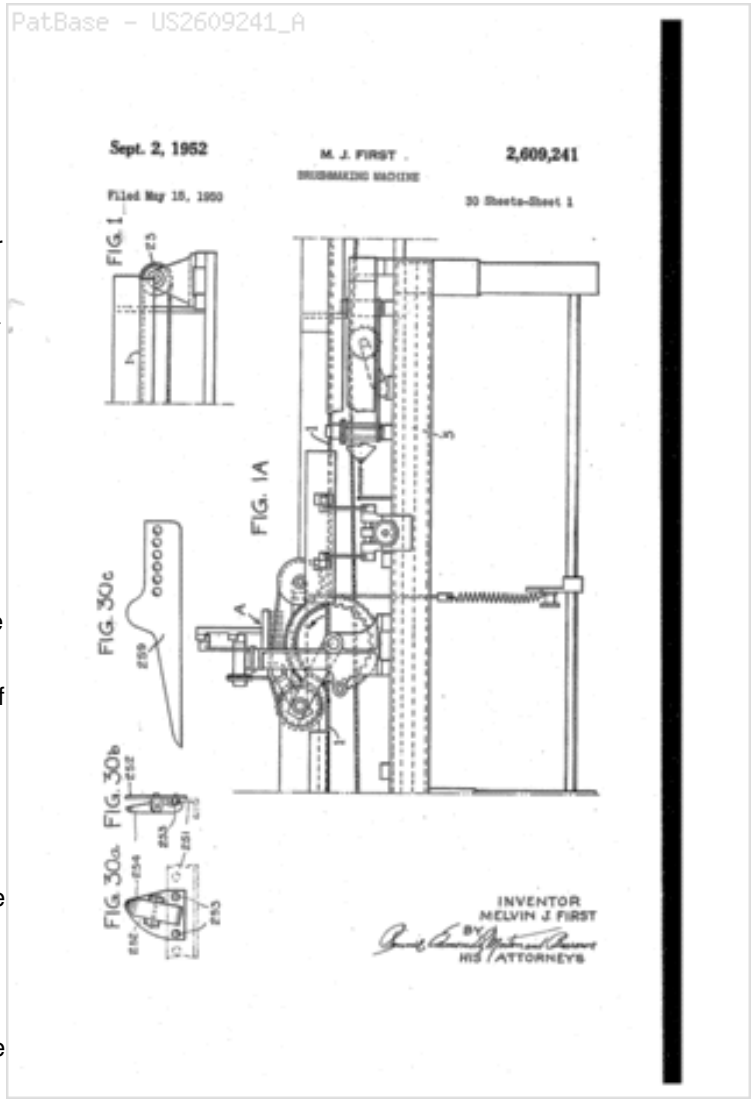
US class: 300/10 300/2

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Cited documents: US2513016 A, US2033258 A,

Forward Citations: US3050337, US2926952,

Abstract:



Source: US2609241A 1. The _bristles are _y carried on–chains I in a–layer averaging about I" in thickness and this layer, _shown at 3 0 in Fig. 3 ,is moved.into feed.box 2 betiveen chains 28 and chains 1, the hei_ht of this b ox being not more than about 2" for the most satisfactory – opera– tion. T–he details o,f, c6nstruction of this feed box a_e not substantially_,different than in the machine of r y 4 prior application and will nbt be repeat6d here. The bristles are moved f6rward in a – m–aiiner to be deseeibed int6 the kn6t formin– or knot _,i6ker pdcket .4 of the knot holder 32 which is fixed to th6 –_ide of the knot picker disc or knot catrier 33 b_ylhleafis bf,suitable screws. A bottom memli_er'31 is EidjustE_bly moiinted in holder 3.2 so that the depthof,pocket 4 can be varied. At the appropria;te time, la,n arcuate blade–like member or needle 34_nibves upward,along the cylindrical e–dge bf'–t4eknbt carrier disc:33 to el6se the .pocket. –4 and s_egregate the needles .the_rein from the mass of.bristles in feed b6x 2 to –form a bristle knot. Edgewise mounted guido lilates 25, front and rear, serve to _keep the. bristles centered on c6nveyor chains I –and to guide the.ends of the bristles –as they move through feed box 2. The ,_fee_d bo–x has _a slot _36 in its roof :to allow the f eeding–motion of the feed 'bar or finger –3 to take place. This bar is operated with a for_vard and back –and –an up and down movenient as indi– cated _by _ the arrows in Fig.'3 by the mechaniswabout _to be described. Feed fniger 3 differs from that of the previous –machine in that it is pivotally mounted in such –a way as to –be 37ieldable in one direction for a purpose *hich will appear later. This mounting is shotn in Figs. 8 and the pivot being indicated ;at 37 on a carrier member 38. A plate 39 fixed to finger 3 _above pivot 37 forms a limiting _stop against the edge of carrier :38 Tendering the finger rigid ' v_hen Pushing the –.bristles f6rward_ in the bbx and a .tension,spriiig,,41D holds the!fingers normally in –this :positibn but all6ws the onward moving ibristles to, niove –finger 3 forw_rd at _one point in veybr chains I and 28 t6. bring up – bristies feed box 2 as required by the feed finger. The first part of this mechanism follows substantially that of my prior:_patent_.qnd also that disclosed in Simms et al. _United States patent, ;No. 2,0331:258, issued 'March;10, .1936 assigned to the same assignee as the –present application. The present description of –this mechanism will therefore –be.as brief _–as possible' First bf –all it comprises four cams,,namely, a raisin_ and _lowering; cam –4 1, a feeding cam:,42 i__hich'imparts–horizontal motion, a control cam –43, a–qd a cam 44. 'Cam_411 _actuates a f6llower roller 45 which is mounted on the rear side. of a vertical bar 46 pivoted at its upper end to a:supporting arm 47 for 'the carrier member: 38 _which supports –bristle feed,flnger:3. –,Lever –.4–7 –.is _pivoted _to the tbp –of an iipstanding –,bracket '48 mounted on the:machine frame. The low6r end: of :bar _46 is forked and –arranged to:slide;on a block 49 _which pivots,bn carnshaft–,2,2. _Flat,pads–,5 0,are_providedion_supporting _arhi – ;,4,7 .which . operate between _guides _ 51 (Figs. j:B and –2B) to laterally stabilize – arm 747. Cam shaft 22, as well as cam,shaft –7, mgkes one revolutionduring each– complete cycle of –the apparatus vlhich represents:the completion of:a single brush :unit. –,Bristle feed 'finger –3 is lowe_ed into the bristle ma_s –within the :feed box just–bef6re the_beginning of each forward_.'feed stroke of _the _finger and is raised above –the mass at_the completion of each strbke'by'–the operat_loii of cam. 41 and –the mechanism iiist described. The forward –and 1 back motion of feed _finger 3 is pr_duced::by feeding cam 4,2 –against _,hich a roller 52 bears. –This roller_is darried_on a lateral _projection 53 _ of a :bell i btank –lever 54 which is pivot0d.–tolthe,machino–frame–at_55'and whose_horizontal'arm 'is _adjustably.connect6d to the upper–end_of a tension_spring 58,'–the lower end of which is _ conneeted t6 the machine frame preferably by an_adjustablebracket_as–indicated in Fig. IB. Near the _upper:_dhd_of,bell c_ahlc–lever,,54,,a horizontal,link 57 –i–s –.pivotally connected at 58, 'the left hand–en–d of link 57 b6iiig pivoted to the lower end of the – feed,–finger– carrier __38. Accordingly as the cam _shaft irotates, _the tension 6f sptin.– 56 ca_ses roller 52 to ;follb_v _the contotir :of cain 42 which leauses– carrier– 38, and _feed finger –3_ t6 swing toward the left and advance the bristles in front 6f it_in box,2 –and _fill knot picker pocket 4. The degree _df eompacting –of th)e bristles in this:pocket depends upon –the tension of –sprin.a 50. Inasmuch.As the%bristles_are_placed_tiponfeed chains I by hand, – tliere – will_be –a vatiation in the _,hickness of –the;bristle;layer _ bn the chains _with the result that,,t–be'density –of the'bri8tles in _ f eed b.ox 2 to the r.ight–,Df.feed,finger73– will–undergo_a

corresponding vaxiation. The._length of:feeding the moveme – "it of _fe_ed flngey,3 depends on the its actvance –where ithe compactness of the bristles 6vercomes the tensiotl,,of –spring _5,6. Feed,finger 3 is looked in this Position–by,a pawl –59 Mounted on the side Pf:stationary–brackRt 48 and,srring biased into.– engagement with a.series of tbeth,in a idek 6,0. at the– _lght–eDd– of _link 5,7. A conttol cam 43– _6o6pbrate_ –_vi,th –a roller – 6 I the cycle of operation of the feedihg mechanism. 7o– oli the_ sidd oi __n __right.levei–.62 which,is opere_tively conne'cted t 't a i s– tipper end –to lower,and _raise pawl .59'–into and out –D –rack 60. _Th , . –f _ibiigagement with i s c o n n e e t i o n c o m p i s e s a h o r i z o n t a l li_nk 63 ,_,_idh –connect_, 16v6r–6_ with aii actuating twbich:o_erates _intermittently the con– 75 arm: 64:inb_'nfed' 6n;the r'e'b,–r end of a shaft 65, The mechanism shown, in Figs. 3, _ 4 and 6 may be_ divided 'intb two parts, %namely, that which operates _bristle feed finger–_–3 to pack the bristles in .knot:picker_.pocket_4 at the desired density, –and tha bn the front end of which pawl 59 is fi–ed (see Flg. 4). The arrangement is such that feed finger 3 swings forward as cam 42 rotates and when cam roll 52 reaches the low point of cam 42, roller GI passes off the high portion of control cam 43 allowing a tension spring 66 to move lever 62 to the left thereby causing pawl 59 to engage the teeth of rack 60 and to lock link 57 and feed bar 3 to prevent further feeding movement of the feed bar. The extent of the feeding movement of feed finger 3 depends upon the density of the brisiles in front of the finger, the movement of the finger ceasing when it meets a predetermined resistance from the bristle mass. When a large quantity of bristles has been brought up by the previous movement of feed chains I and 28, this predetermined resistance will be met when finger 3 has made only a short stroke, cam 42 leaving roller 52 at this point_ The operation of control cam 43 will cause pawl 59 to engage the rack teeth 60 and maintain finger 3 in this position until after it has been withdrawn from the bristles in the feed box. If the density of the bristles gathered in front of finger 3 on a down stroke is comdaratively low or thin, a longer feed stroke of the finger will take place before the bristles are compacted to produce the same resistance to the inovement of the finger, and control cam 43 will cause pawl 59 to engage raelt teeth and maintain the position of feed finger 3 at the end of such long stroke. The second part of the mechanism shown in Mgs. 3, 4 and 6, in accordance with the prese–,it invention, utilizes this change in the length of stroke of the feed finger 3 to control the quantity of movement of the bristle feed chains I and so as to cause these chains to move into feed box 2 a greater or less quantity of bristles depending upon the length of the previous stroke of the feed finger. In this way the feed chains are automatically controlled to replace bristles in feed box 2 at substantially the same rate at which they are fed by feed finger 3 into the knot picker pocket 4. In order to resolve this problem, the driving arm for turning the ratchet wheel which actuates the bristle feed chains is oscilla ted through a constant stroke, and a control device for controlling the engagemer_t of the driving dog with this ratchet whe6l is constructed and arranged to be positioned in accordance with the length of the feed finger stroke. The bristle feed chain driving ratchet is shown at 67 and drives shaft 26 through a sleeve shaft. 68 (Fig. 6) and a slip or yielding clutch 69, the driven portions of which are keyed t6 shaft 26. The oscillating driving arm is shown at 70 and carries the driving dog 71 pivoted at its outer end, this dog being spring biased towards the teeth of ratchet wheel 67. Driving arm 70 is oscillated through a constant stroke as indicated by the full line position and the dot and dash line position of Fig. 3. Arm 70 has a hub 72 (Fig. 6) that is keyed to a sleeve 73, which is arranged to turn freely on shaft 26, and *hich is provided with pinion teeth at one:end. These teeth are engaged by the teeth of a_ rack 74 whicl–i is held in engagement with the pinion teeth by means of a hood 75. Rack 74 extends to the right in Vigs_ _3 _nd 4,_a'nd i_ connected I to the forked:upper end of an 0 erating lever This is a bell crank levier pivoted.at 77 io the m e –irame an(i_ hav' pring4,7 achin ing a tension s 8 connected to its second and horizontal arm. Spring 78 maintains a roller 79, midway of lever 76, in engagement with operating cam 44 and serves to move rack 74 to the left whereas the cam moves it to the riglit. The sdring connection shown in r_ig. 4a.between the forked end of lever, 7 6 and t.he raclc 7 4 eff ects a yielding drive for driving arra on its driving stroke when it is moved by the cam. This connection also in– cludes a knurled screw 80 which is tapped into the end of rack 74 to provide for the adjustment of the position of driving dog 7 1. The control of driving dog 71 is by means of a shiel.d member 8 I which has an extended arcuate surface arranged to engage a roller 82, mounted on the side of driving dogs 7 1, and hold the dog out of engagement with the teeth of ratchet wheel 61. It is light in mass, so as to be automatically positioned quickly. This shield is ap– proximately semi–circular in side view as shown in Fig. 3 and is mounted on a hub 83 which turns freely on sleeve shaft 68 and which is provided with pinion teeth which are engaged by the teeth of a second rack 84, these parts being held in engagement by a hood similar to hood It will be understood that movement of rack 84 will oscillate shield Bi, and this oscillating movemeiit is produced by means of a link connected to the end of rack 84 and having a connection 86 with an actuating lever 07 which is fixed at its upper end on the rear end of a rock shaft 88, this shaft bleing mounted in a part of the machine frame. Connection 86 not only ?,5 includes a pivot for link 85, but provides for the adjustability in a slot in lever 87 to vary the effective length of this lever for a purpose which will presently appear. Rocking motion is imparted to lever 87 by the upper end of _bell crank lever 54. The upper end of lever 54 has a roller 89 which engages a channel 90 cut in the face of a short arm 9 I which is clamped. on the front end of shaft 88. Since rack 60 and link 57 are directly connected with lever 54, it will be understood that the angu– lar movement of lever 07 will be stopped at a position which corresponds to that of feed finger 3 at_the end of each feed stroke of this finger when it is stopped by the resistance of the bristles. Accordingly the racking niovement imparted to lever 87 will cause, through the linkage described, an oscillation of shield member 8 I during each rotation of cam shaft 22. With feed finger 3 at the comniencement of a forward strbke, shield 81 is in the full line position shown in F4g. 3 where its frbnt or control edge 92 is to the right of the greatest moverneiit of d_iving arm 70. 1 1 As finger 3 moves f6rv,7ard to the left, control edge 92 also oscillates tb tl–ie left and, if there were , nobristlbsirifeedboy,2,wo uldassurneamaximtim position _vhich may bi3 about 1801 from the full line positi6n. , Under 6perating conditions however, with, bristles in i,–he feed' bbx, cbntrol edge 92 will stop at some positibn such, for example, as indicated by the dot and dash outline of shield 8 1'. Wh6n driving arm 7 0 oscillates to the right, _oller 82 will po__s along 'he edg6 6f shield 8 I and drop off the 66i_irol edge 92 ther6by allowing dog 7 I to ehga ge the teeth of 7ratchet wheel 67 and rotate this,_Nih6el ior the' remai_nd6r 6f the stroke of arm,70. _ The exalhple just given _ssumes that ratchet wheel 67 Will, be rotat_d during about one–half of the w.,brkin stroke_.of driving arm 70. It v_ill –b6 uiid_r_tood that uiider certain bristle conditio I ns in. feed box 2,'the rotation of ratchet 75 who hiay e ch less, or may be greater. This 1 hiechaiiism is ftilly – autombtic:_ar_d I never requires a:djust–,nent when runriing a _ partictilar

width;ferrule;regarclless of the ferrule thickness. This means th– –t when running 4",_31,/2",–S" or 21/2" brushes,_no adjustment_is needed since–with ,All of _ these the–knot holder liodket 4 has_ the maxi.–num or_2" i,_,idth (h6ight in Fig. 3). The str6ke of feed bar 'S is] dependent upon the depth of' knot .holder; pci–ket,4 'rather than on _ the tidth of !the bri,ish. 'For example, a_l"–brush having a_thi6kness of ' 5/8 bf an inch _Vill require the same feed stroke of fin.–er,3_:as a t" brush having the_sarne thickness,_ dlthough the latter will require a much lo.rger_qLiaiitity.–df 'bristles. Since_the_le,.igth bf the';fe6dzstrbke (if:feed_finger:3 determines_the amount of 1 bri_tles 'Lhat mtist be fed for the – next brti h, the 1 " _bru_h will not requ–ire as great _ an advaiicr–, of feed chains I and_28 even though the iced:flnger:st–roke for_bbth bru_hes is'the–same. This is :accomplished'by _te–positioiiing connection–86_in_ theslot:inlever–87. This,cha,,igesthe position of skid:_81 with_reference to–driving arm 7 0 _and Allows driving dog 71 to, pick up less teeth of ratchet wheel–67 and hence_rotate the feed chain sprockets to'f eed less bristles. I'i7hen running brushes below 2" in width the position of connection 86 in the slot should be cha,nged,for_each size. Accordingly, graduation marks (not.'siiown) for the variouslwidths_from 1/2" up to 2" may conveniently_be placed_along ti–,e side of slot –Referring_'now ' to the–yieldiilg pivotmounting of fecd:flnger:3._shownin_Figs.7)and8,–whenruniiing _4" brushes with thin 'Plugs, a_great 'deal larger aniouiit of bristle is Teqtiired than iv_hen runiiii,ig small. brushes,, for ex.–_mple, 21/21"bru_hes. This reqllires that the feed:flnger be_advanced a greater distance in the–same–_time. By introducing–the yielding pivoted–feed finger,.this feeding–peri(id has been inereased,by causing the advance of bristle'feed chains I and:28 _to commence before:fee_d_bar 3 has been–raised out:of thebristlesirr_fe6dbox2. The,oncomingbristles inerely move –the: feed bar forward _ before and dliring its–.witlidrawal. This feed –chain advancing mechanisrn is –particularly effective –in operation inasmuch –.as I it siipplies to the'feed box the large amount of btistles reqliired at –each –cycle When running 4" brushes,–aird it_moves the_chains aheocd without jerking which iT,7ould cause dislocation of bristles on chains: 1. if7l c It picker a7id knbt transfer me_hanisms The constructioii and operation bf the knot forming mebhanism C is in general like tha_t disc'osed in rny above mentioned a plicatioii –and reference thereto may be had for the details'. only the p_incipal featlres of the,mecharasm beiiis,– touched upon in this specifleation. As previously stated, when knot forming–pobket 4 has been 'filled with bristles by the operation of– feed finger 3, needle 3 4 closes the pockot there;:)y segregating the bristles therein from tlle bristles in the, fee–6 box to form a brush knot or group of bristles, andthereupon knot carrier disc 33 is "indexed," that is, rotated through aii angle of 90" from the–position showri in ng., 3 to t–hat shown in Figs. 11, 12, 13 and 14,:to align,the Icnot vrith, the ferrule at station I (Mgs. 12 and 13),_ ready to' be _iransferred to the ferrule. Knot carrier'–disc 33 is silpported on and turns freely on a –sleeve shaft 93 which is mounted for rocking movement in approPriate.bLiarirgs bn 'is the –ne,–dle cartier 94 1,_hich has an outivard arcuate surface on which needle 34 is fixed, and a downwardly extendiiag tail portion 05. 'rhe indexing movement of disc 33 is irr_parted to it by needle carrier S4, its tail portion_95 engaging the two spaced and adjustable stops 96 and 9'1 for _this l)urpose, these stops being roounted or the face of d–ise 33. Accordingly with the _t–"p of needle 34 uncoverii–ig knot carrier pocket ii io as shown in Fi.–. 3, the first movemeiit of needl–carrier 94 is to slide needle 34 along the circular edge of dise.33 until the bristle segregatioii takes place and –the t–iP. Of needle 24 closes the bristle pocket. During this same iilovem–3nt a br4lst–ie corn'Pressing member 98 _vhich is mounted ori th_, front face of nec_dle carrier–94 (Fig. 1.1) :passes through a slot in the lower or fixed side _xvall 199 of knot holder –32, the opposite –wall I 00 of bristle pocket 4 _beiiig– movable or; expansible for a pur_pose Which will presently appear. The forward edge of –corilpreqsing member 98 engages the –bristles and comprc–sses them against the oppo_ite wall I 00'(Fig. 11) in order to more securely –hold the knot frictionally in the knot holder. Although Mg. 11 has been cited to show this compression of the knot, –it will be understood that the compressio–a takes place while knot holder _32 is still in the,first position (Fig. 3). When the needle has closed pocket 4 –and the knot has been compressed, . tail. portion – 95 en– _gages stop 96 azid the kiiot carrier 33 coinra,–nces to move, and is moved, to the ferrule:aligiiing position of Figs. 11, 12 and 13. 3,,I Needle carrier –94 aiid disc 33 are lo.,ked– relative _to one another by meaiis of a latch I 0 1 –which is _automatically released substantially _as th,_ ferrule reaches aligning position. Tiai.S tains the compression of the bristles. Sleeve shaft–93 is operated, to brlng about the operation just referred to, by means of the niechanism showii centrally at the upper part of Fir,,. –2B and by ore of tle cams inounted on the rea., portio–n. of shoft 22. Two other of these cams operate a celitral shaft 102 within sleeve –shaft 93 with a combined rocking and axial rriotion, this–shaft actuating a slender bristle separating finger 103 (Fig. 2B) which serves to separate the flag end portion 7of the bristle knot, while bristle 50,pocket–4 i–s still at the posit–Lon of 3, from the flag ends of the bristles remaining in feed I box 2. Knot carrie., locking mechanism for automatically locking carrier disc 33 against ro. tation during its period of dwell at both the posi– tion of Fig. 3 –and that of –Fig. II is. provided, this mechanism being indicated. generally by riumeral 104 (I_ligs. 2B and 12), and being described in detail in i–ny previously –m,,ntioned application and patent. Referring briefly to Figs. 9, 10 and 10a (sheet , there is here shoivn an iniprovemeiit in bristle feed box 2 that prevents the loss,of bristles during the closiiia 6f knot forming pocket 4 by needle 34 ivl'iile the pocket is still at the position of Fig. 3. As the point of needle 34 pushes its way up through the mass of bristles there,is a teiidency for the tip of the needle, even though –sharp, topush oiie or more bristles out between the top–.bridge pawl 105 and wall 100 of the 70'k–tot holder. in ofder–to..prevent this, a. tongue I 06 is –formed bil the lo_v6r edge, of. pawl 105 and constructed and arrang6d to _be received within a groove 10–1 irl the edge of wall 100. The arrangement is the machine –'_ra me. X–eydd –to __leeve,shdft'93 75.]8tlbh_that.t6iigue 106 r ains i n t e e m r l o c k e d w i t h pocket 107 until the tip of needle, 34 has passed the edge of wall 100 and closed pocket 4. A slot 108 is provided in needle 34 (Fig. 10a) to provide clearance space for tongue IC 6 on the,bridge pawl until it is cammed back by the tapering rib on the needle. Continuing now w_th Figs. 11, 14 and 15, the expansible or movable wall 100 is provided on knot holder 32 for the purpose of causing a partial spreading out or expansion of _ the bristle knot within pocket 4 whfle the knot is still within the knot forming device. This avoids, the necessity of feeding bristles with a layer thickness comparable to the width of ferrules of the larger sizes. Wall 100 is hinged at 109 to knot holder 32 and is provided with a control arm II 0 extending on the oppo_qite side of the hinge and located at the rear of disc 33. Wall 100 is biased to open position as shown in Fig.– 14 by means of a tension spring III, the upppr end of which, is secured in an eye 112 fastened to the wall, the lower end being secured to a.pin mounted in the face of disc 33. The edge of,dise 33 adjacent wall 100 is cut away as shown in Mgs. 11 and

14 to –permit the free operation of the hinged wall. It is necessary to maintain expansible wall l 00 in its normal or closed position while the knot picker pocket 4 is being filled with bristles and until the indexing movement of dise.33 has taken place, and after indexing and the release of the wall, t6 reset it in closed positio before return to the loading position of Fig. 3. As par,t of this mechanism a T–shaped latch member II 3 is PiYoted at II 4 on the rear of disc 3 31 the lower arm of this member having a catch 115 arranged to engage the end of control arm I I 0 and hold door 100 in closed position against the tension of spring Ill. A tension spring 116 biases latch member i 13 in this position_ This latch is tripped at the proper time to release wall l 00, by a compound lever l 1 7 which is actuated by the tra,n,sfer mechanism. After latch II 3 is tripped, the parts will be in the positions shown in Fig. 14. To return door l 00 to closed position, its conirol arm I IC is engaged by a pin I I 8 which projects laterally from an arm f 19 which is supported on a stud shaft 120 mounted on a bracket, fixed to the frame of the machine. On the hub of arm II 8 is a short arm 121 to which a tension spring 122 is attached. Spring 122 is stiffer than the expansible,wall actuating spring I I I so that as arm I I I 0 strikes pin I I 8, during the return movement of disc 3 3, wall l 00 is swung back to closed position and the arm I re–engaged with cat.ch 11 of,latch member II 3. Referring to Figs.– 12 and 13 compound latch actuating lever f 17 is arranged with two sections each mounted on a projecting stud shaft 123. These two sections are interconnected by a tension spring 124 which_tends to maintain two projections f25, one on each of the.arm sections, in engagement with one another. To actuate l.atch l 1 31 the rear end of lever l 1 7 is raised by the upward motion of a rock arm 126 attached to the transfer mechanism. The purpose of the compoundconstruction of arm II 7 is to cause positive actuation of latch f 13 without applying excessive pressure to it. During movement of this lever, the two sections operate as one until the forward end of the lever engages and trips latch II 3 whereupon a one of the projections 125 engages a :ftxed surface on the machine frame and arrests further downward movement of the forward section. Any further upward motion of the rear section of lever II 7 merely causes stretching of spring 12 4. The transfer mechanism which is shown in Figs. 12 and 13 is like that of my above mentioned application and patent. A carriage 128 is mounted for lateral sliding movement on a fixed rectangular bar 129, mounted at the top of an upright bracket on the machine frame. The transfer jaws 130, upper and lower, are adjustably mounted on actuating arms 131 which are interconnected by an actuating member 132 piv– oted at its opposite ends to the respective arms and keyed at its center to the front end of an operating shaft 133. This is a rock shaft which is mounted in bearing bmekets at the opposite ends of carriage 128. The rocking movement of this shaft in opposite directions causes transfer jaws 130 to be opened and closed, the rear ends of arms 131 being slotted to slide on blocks which are pivotally supported on two screws 134 which are fixed to the forward end of carriage 128. Jaws 130 are adjusted so that the right side of the knot (Fig. 17) will be about –_ of an inch to the left of the right side of the ferrule at station I (Fig. 13). The upwardly projection fork 135, which straddles upper jaw 130 as the jaws close and engages the left side of the bristle knot, is adjustable along lower jaw 130 to accommodate knots of different widths. When running a 4" brush, fork member 135 is adjusted to make the width of the closed jaws considerably larger than the width of the knot picker pocket 4 to accommgdate the expansion of the knot brought about by the operation of hinged wall 100 of the knot picker pocket. This is shown in Figs. 13, Transfer carriage 128 is moved back and forth to carry jaws 130 from a position adjacent knot packer_ disc 33 (Flg.,12) to a position adjacent the ferrule at station I for the purpose of in– serting the flag end of the bristle knot within this ferrule as is indicated in dot and dash lines in Fig. 19. This movement is accomplished by a link 136 which is pivoted at its forward end to carriage 128 and at its rear end to an upstandr)o ing lever 137 (Fig_ 2B) actu,ated by one of the cams on cam shaft 7. Rock shaft 133 has an actuating arm 138 fixed to its rear end to which a link 139 is connected by means of a uiiiversal pivot, the opposite or right hand, end of this link being similarly connected to the upper end of a lever 140 (Fig. 2B) which is arranged t(_gt; cooperate with the innermost cam on cross cam shaft 22. A tension spring 141 maintains lever 140 in engagement with the cam. Arm 126 which actuates lever 1117 to trip the latch for hinged wall 100 is fixed to jaw closing shaft 133. In opera.tion, substantially at the instant that knot forming or knot picker pocket 4 is indexed to its upper position (Fig. 11), link 139 rocks shaft 133 to close transfer jaws f3O. Before these jaws are fully closed, the forward end of compound lever f 17 engages latch II 3 and snaps the hinged expansible wall 100 open. The bris– tles expand to the Ieft as shown in Fig. 4 under their own resiliency and the compression produced by compressing member 98 so that the jaws close on a bristle knot which ha_ been expanded in width somewhat as shown in Fig. 18. A versr stop screw 127 which is adjustably –positioned in substantial expansion or spreading of the knot w I idth is a6comlilished in _this way since the release of door IO 0 removes restrictioii of the width of the knot by knot forniing–pocket 4. 'In order to assi–,It in re'–distributing t3–ie bristles evenly throughout th6 width Df the knot as,trans– fer i.aws f3O close'upon it, theso jaivs may b,_ provided with camming teeth f43_ (Figs. –1.8–.ancl These corriprise–comparatively thin–.met–,tl plates secured by screws or btherwise to: the rear sides of both upper and lower–jaws 130. Teet'_'i jo 143 are pointed as sli6wn in Fig. 18 and 81ope in opposite directions from,– . t_ie points in nearly symmetrical curved,outlines so as to c I ro_i,d _ the bristles in both directions. T,he points of the teeth are preferably offset slightly a_ shown–in Fig. 18a and they are also pteferably offset laterally of tl–le knot as shown in,Fig. 18. The positions of these tw6 teeth c)n the two jaws laterally of the, knot can. be varied to change the distribution bf the bristles _as desired. It has been folnd that_in redistributing the bristles for a 4" ferrlile, a setting about as shown in this figure is eff ective to provide a uniform bristle distri–bution, the points of the, teeth be_ing located somewhat t6 the right of, the center of the closed knot forming pocke,t 4. . The right side of the ferrule at station I is the basing point for their adjustment. Natural biisties are difficult to spread or redistribute in the knot. However, the phys , leal characteristics of nylon bristles are such that the_7 will flow or spread more ea_sily_. Accordingly, for nylon btistles, a knot holder iriay: be used WI–ierein the width of its mouth corresponds with the hei–ght Of the ibristle ieed box 2, the side walls, one or both, being iindercut just in_ide the ffiouth so as to substantially, iiierease the width of the Pocket. Two such modified foriiis of knot holder are shown in Figs. 16 –and Ida. In F–ig. 16, knot holder 32a has a st.–aiglit fixed wall 99a vjhich is siotted so that the compressiiig member 98 may operate through it. The opposite side wall 144 –is not exp6,nsible but fixed like wall 99a and is undercut as indica;ted at 145 iftim6didtely withiri the mouth of thei bristle 41! Pocket 4a so that the average vildth of this pocket is siibstantially greater than 'Lhe width of the mo.uth. The adjustable bottom 3 la of the pocket has a downward sweep o_posite this undercut portion 145 so as to compensate for the thick– 5(,) ness of the undercut portion cif wall 144. in Fig' 16a, knot holder 32b is like holder 32a except the arrangement is

reversed, bottor–i or right hand side wall 99b being Lmdercut and the top or left wall :144a bel–_ig straikht. Also adjustabl_ bottom. 3 lb is curved downward on the right side instedd of on the left. In operating on 4" ferrules with nylon bristles either of these modified fbrins of knot holders may be used, the knot being spread or widened in the kbt'holder itself vvhile it is at the unloading position, the bristles–being patked and distributed therein by the bristle feed finger 3 of the bristle feeding mechanism. Consequently, the additional spreading required'after transfer of ci the knot to the ferrule, when operating with natural bristles, is reduced a;nd under certain circumstances may be substantially eliminated. It vvill be understood tha–t knot holders 32a a–nd 32b, may, if desired, have :both side walls 71) 99a or '99b and 144 or 144a undercut, instead of _only one of these ivalls, thereby widening the knot at both sides frorh the mouth of the knot holder. the flap, end bf the knot is inserted in the ferrule at station I by the transfer jaws 130, a patting Oate 146 of a transfer patter mechaiiism 147 contacts tlle butt end of the bristle knot and commences to plish it forward in the ferrule. The butt end of the knot is advanced until it is flush with the rear of the transfer jaws as indicated in Figs. 74 and 19 (dotted position). Patter mechanism 147 is of the vibrating and parallel–motion type such as is described in detail in my previously mentioned patent and application. The vibratory motion is imparted by an endless belt 148 from the main shaft 5, this belt being trained around a pulley on a short longitudinal shaft 149 which also operates the patters at stations 3 and 4 to be referred to later. Shaft 149 rotates in bearings mounted on brackets 150 which extend forwardly at each end of the cross bar of a T–shaped support 151 (Fig. IB). Transfer patter mechariism 147 is moved from the full line position of Fig. 19 to the dot and dash line position (s_e also Fig. 21) and then advanced to pat the bristle knot flush with transfer jaws 30 by means of a cam 152 on main cam shaft 7, which also retracts the patter. This cam, through the mechanism shown in Fig. 21, actuates an upright lever 153 at the upper end of which a link 154 is connected, the forward end of this link being attached to patter mechanism f 47. When running 4" brushes which are I" t_ick, it is necessary that the patter plate be very riuch wider than in the machine of, my _reviously mentioned apl_lication_ and patent. A wide i)late mounted directly on the previous mechanism however, would strike the top of knou picker disc 33 as mechanism 14T rhoves ba6l–:. To remedy this condition plate 140 is arranged to automatically ride and clear disc 33 '. Arms 155 and 15ri of the patter operating mechanism have been curved at their lower ends to allow patter plate 146 –to pivot upwardly about pivot 157 at thi, lower end of arm 156. Also plate 140:is mounted on a U–shaped support 158 (Fi.gs. 20 and ' 21),,and the lower end of arM 155 is operatively connected with one of the legs of this bracket by means of a pin 159 and a cooperating arcuate. slbt m_hich has its center at pivot _ 1 5 7. An arm f 60 is mounted on the other leg of the U–shaped support, and connected to this arm is a tension spring 161 which tends to maintain the top of the arcuate slot against pin 159. Arm IGO has a roller at its end which engages a cam surfade 162 of a stationary cam, mounted on t suitable fixed bracket, as mechanism 147 returns to the rear after completing a patting movement. This imparts an upward lift to plate 146 to clea_ disc 33, as may be understood from Fig. 19, a reverse operation taking place on the forward movement of the patter mechanism. Bristle disti–ibuting and knot adv_ancing mechanism The spreading of a bristle knot so that it is evenly distributed in a 4" ferrule to produce a uniform brush is difficult to accomplish, as is also the maintenance of the bristles in distributed position in each ferrule as the ferrules and knots are ddvanced step–by–step from stations 1–5 where'the plugs are inserted. The bristle knots being very loose in the ferrules complicates maters. A solution of these problems has been found in the provision of simultaneously movable bris– Referring now to Figs. 19–_21, substantially as j–5 tle control rails, the lowet rail being provided with'bristle camming or crowding teeth and both respecti vely to shafts 166 and 167 and which are upper and lower.rails being movable toward and intercon nected by means. 6f a pin 176 mounted away from each bther to close on or clamp the in arm 175 and projecting laterally tb engage a bristle knots, and both also being shiftable At groove 177 in arm 174. the same time as the ferrule feed bars to advance 5 C ontrol rails 163 remain in closed position durthe compressed knots and their respective _fer– ing most of the operating cycle of the machine as rules from station to station. Upper rail 163 is may be seen from the contour of their operating equipped with yi6lding thin plates (Fig. 25) to cam 178 (Mg. 23) _ This cam is –fixed to, cam engage the knots at some stations, and lower rail shaft 7 and is preferably of the adjustable tylie 163 with camming teeth, both of which will be 10 as indicated so as to permit variation of the l_eexplained later. At each cycle of Oi)eration these riod during which the rails' are held open. 1, –Cam r6,ils, drip the knots at the several stations until 178 contacts a roller ori the upper end of an arm the n6xt knot from the knot picker is transferred 179 which is bia_ed against the cam by a tension to and inserted in the next ferrule at station 1. spring APPro:kihiately at this pbint, or a trifle sooner, 15 T he lower end of this lever is clamped bn the the rails automatically open and quickly return left end of a longitiidinal shaft 18 1. On the right tb the right to their original pos I ition, close again end of this shaft is a shokter lever 182 anct the and gri the new knot. For a given brush unit upper end of this lever is connbcted by a link 183 ,P this cycle repeats itself at each station until the to the loiver arm of a two–armed lever 184 (Fig. unit reaches pliig inserting station 5. 20 22), the hub of which rocks freely on a short The two bristle control rails are shown at 163. horizont al shaft 185 which itself is mounted_for These are two plates of heavy g I auge metal of rocking movemeiit in a bracket rnounted on thei pqub,l length and long enough to extend throughmachine frame below carriage 164._ out ferrule, stations 1–4. Rails 163 are supThe upper arm of this lever carries an adjust_ ported oil and actuated by a carriage 164 mov– 25 able screw 186, which rroves fbrwa:rd and conabl6 iongitudiri_6llSr a distance slightly greater tact s the rear surface of a short bar which is than the ferrule stbltion spacing which is 6". mounted 'in edgewise positibn at the tops of two The_e rails are supported in vertical edgewise arm _ 1:88 which are pinned to shaft 185 so os to spaced relation slightly behind the ferruleg_ at rock in unisoh. The front 'surfoce of bar 187 station_ 1–4. Rails 163 are opened and ci6sed 30 is arre_nged to engage a spherical roller 189 which by movement substantially in a ver tical plane by means of two pairs of rock arms. The rock arms *hich support upper rail 163 are iildicated at 165 and are of approximately inverted U –shape in side view as may– be seen in F_ig. 23. The lower ends of the front legs Of these inv6rted U–shaped arms are clam_ed adjacent the: ol_posite ends bf a rock, shaft 166 (Fig. 22). U–shaped _.irms 165 extend across the top of carrib,ge 164 dnd channel bar 19, upper rail 163 belilg provided with tangs (Fig. 25) which are se_iiked by screws, or otherwise, to the lower ends of the reak legs of these arms. The various sections of the inverted U–shaped arms 165 are adjustably Mounted upon one anbther, so as to provid6 the reqiiired adjustment of the position bf the lower edge of upper rail 163 with respect to the ferrules of the several stations and the bristle kn . ots in these ferrules The lo*er 6ontrol rail _ 163 is somewhat similatly mounted, although its

two supporting arms are of some*hat different shape and oxtend beneath ferrule feed bars 13. The rock s haft which carries these tW o arms is shown at 167 and the arm at I the right end of thi__ shaft at –168.; 'This arm is L–shaped in side view, lower bristle,control rail 163 being provided with a tatig which terminates in a support 169 whibh bolts tb thO end of arm 168. The left supporting arm 170_has a downward offs6t in its horizontal portion shown in dbtted lines in Flg. 23, and the left end of lower rail 163 has a longer tang which terminates in a support 171 somewhat similar to support 169. It will be understood that the sections of arms 168 and 170 are _constriicted with I adjustable connections in order to allow proper adjustment fbr the upper edge oi lower rail 163. Bristle control rails 163 close I un_der spring pressure, being,moved to closed position by a 2cbmpression spri , ng 172 which is inounted between tw6 spaced parallel arrns 173 fixed r_speetively oia rock shaft 166 and 167. These shafts. are made to turn in unison by means of two short is mounted at the lower end of an actuating arm ISO _fbr th6 contrbl rails. This arm is keyed at its upper erid t6 shaft 167 which carries the supporting arms for_ the lower control –rail 163. 35 _ Thus contact of screw 186 with the rear of bar 187 movbs this bar,forward to contact spherical roller 109 which _in turn moves the lower end of actuating arm 190 outivardly thereby simultaneously rocking the.two'interconnected shafts 167 and 166 to open the two bristle control rails 163 in which position they gre completely disengaged from the several bristle knots as, shown in Fig. 25._ 'Wheii the roller on the end of arm 179 moves 45 off the high portion of cam f_78, the upper arm of double armed lever 184 and screw 186 return to the full line position of Fig. 23 and bar 187 moves back accordingly, thereby allowing rails 6 3 to –return to closed position in engagement with the bristle knots as shown in Mg. 234 Spherical roller igg does not follow bar 187 inasmuch as the movement of actuating arm .190 is limited by means of a stop screw 191 which contacts a part of the carriage 164 to limit the closing movement of rails 163. Screw 186 may be adjusted to regulate th.e_ distani3e the control rails may be opened_ Edgewise mounted bar, –1 87 coextensive with –the travel of barriage. 164 is somewhat longer so that openin–, and closing of the rails is independent of the position of their supporting carriage. A.handle 192_ is fix_!d to the right end of rock shaft 185 so that. the bristle rails may be manually –opened for adjusting and "setting up" the machine_ M –prieviously mentioned, carriage 164 moves longitudinally of the machine from a, right hand position _where rails 163 span ferrule stations (Mgs.' 22' aiid 24) to a left _hand position where they spaii stations 2–5 – (–Mg. 25, and dotted lines of,Figs. 22 and 24). To provide fbr this travel'and render carriage 164 movable –With as little friction as possiblei it is supported on tvvo double flanged rollers 193 whioh: roll (jn a _round bar rail i 94 secured by screws or other.– arms 174 and 175 (Mg. 22a) Which are clamped _75 wise adjacofit.the. front edge of a rigid hori_ zontal plate 195. This is securely mounted on an upright supporting pillar which is adjustable from front to rear on the machine frame. I In order to maintain carriage 164 in upright position, 'that is, to prevent tilting movement about rail 194, a pair of spherical rollers 196 (Fig. 23) are arranged to roll on opposite sides of the vertical web of a horizontal angle bar 197, this bar being securely mounted in parallel relation to plate 195 and vertically below itsi outer edge, Rollers 196 rotate on vertical pivot pins secured to carriage 164 and are adjustable by means (not shown) to engage channel 197 substantially without play so as to accurately maintain the position of the carriage. For the purpose of preventing carriage rollers 193 from being displa–ced froin rail 194, two sliheric_al rollers I 98 (Fig. 23a), turning on horizontal axes, are arranged to contact the lower surface of plate 195 immediately below this rail. Rbller I 98 is mounted on the inner end of a bracket, 199 which is pivoted to the carriage frame and has an adjusting screw 200 which engages the lever outwardly of its pivot so as to adjust roller 198 into close contact with the surface of the plate. A long tension spring 201 connected between carriage 164 and the machine frame tends to move thO carriage towards its right hand position. Carriage 164 and bristle rails 163 are moved to the left hand position simultaneously with each feeding movement of ferrule feed bars 13. The carriage is then latched in the left hand position to be' released a moment later and returned to the right hand position by spring 201. Th6 mechanism for bringing about such operation is about to be described but before doin_ so a general statemerit of tlle cycle of operation of the control rails will be given. , As the transfer patter completes its patting of a knot into a ferrule at station I and commences its return movement control rails 163 close by cam 178, Fig. 23 showing the position of the cam at this instant, carriage i64 being at its right hand position. This closing action is rapid because _a feeding movement of ferrule feed bars _l3_ is imminent, 6perating crank 8 (Fig. IC) being approximately at the bottom of its stroke. The arrangement of the driving mechanism for carriage 164 is such that feed bars 13 commence to mo_6 the carriage at the same instant they commence to move the ferrules at the respective stations, and feed bars 13 continue to advance carriage 164 until the end of their stroke at which instant the latching of the carriage for a brief interval takes place. Control rails 163 remain closed on the bristle knots during this movement and, in fELet, remaiii closed for a short period thereafter, or until the brlqtle knot opener or separator at station 5 has–been actuated to open the tvio recesses in the butt ends of the knot and the two plugs have been inserted in these rece__es and the bristles closed on the plugs and, further, until the transfer jaws 130 have inserted the succeeding knot in the succeeding ferrule at station I ' Thereupon, while the trarisfer patter is operating to urge this new knot into the ferrule, cam 178 suddenly opens the control rails and immediately thereafter trips the latch referred to, –allowing a rapid return of carriage l_64 to its right hand position, being stopped by an air check cylinder 202 (Figs. 22 and 23). This motion is so fast that although the carriage does riot leave its left hand position until after feed bars 13 have commenced their right hand stroke, carriage 164 overtakes and passes feed bars 13 and reaches its right hand position before they do. Since carriage 164 must start its return motioii later than ferrule feed bars 1,3, and consequently must return at a greater speed, it cannot be connected directly to feed bars f3. It is operated by the mechanism shown in Figs. 26 lo and.27. A driving block 203 is slidably supported iipon a horizontal bar 204 which is appropriately mounted on a, fixed part of the machine such as the upright supporting bracket for carriage 164 shown in Figs. 22 and 23. This block is moved back and fortli by a clriving lug 205 projecting downward from a bracket 206 which is adjustably positioned on the front ferrule feed bar Control rail carriage 164 is provided –at its rear with a driving arm 207 which extends upward at an angle of about 30' and at its end carries a bracket 208 which pivotally supports a carriage driving pawl 2 0 9, biased by means of a spring 2 1 0 to the dot and dash position shown at the left of 2,,3 r_ig.27. Howeirer,whencarriagel64isinitsright hand position, carriage driving pawl 209 is moved downward tensioning sprin_ 2 1 0 by means of a pin 211 mounted at the lo;7er e_d of a lever 212 which is pivoted on a fixed part of the machine 3 0 and biased by a spring 213 (Mg. 27b) against a stop plate shown in this figure. As ferrule feed bars

13 commence their feeding movement, the end of driving block 203 engages driving pawl 209 which is held in its down posi– 3.5 tion by pin 21 1, as just explained and carriage 164commencestoadvancewiththe–feed7bars. As driving block 203 reaches the end of its stroke toward the left, carriage 164 is temporarily latched to prevent its return movement, as pre– viously mentioned, and as driving bar 203 starts its return movement toward the right, driving pawl 209, being released, moves to the dot and dash position of Fig. 27 under the influence of spring 2 1 0. The mechanism which latches carriage 164 in its extreme left hand position is shown in Figs. 24, 23 and 2B. A latch member 214 is engaged by a lug 215 mounted on carriage 1,64, latch 214 being pivoted on the machine frame at 216 and being biased by spring 217a towards latching position. Immediately above latch 214 on pivot 216 is a tripping member 2 f 7 having a finger which engages a pin 218 projecting upwardly from the latch member to rotate the latch about its pivot 53 and withdraw it from lug 215 and release the carriage. Tripping mernber 217 is actuated by a link 219 which is connected to tlle upper eiid of a long upright lever 220 (Fig. 23) and this lever is moved c_o toward the right by contact of a pad 221 on lever 182 with on adjustable screw 222 on the lower portion of lever 220. Consequently at th_e end of the opening movement of control rails 163, cam 170 continues the rearward movement of lever 179 slightly further and actuates lever 220 to cause the tripping of latch member 214 whereupon control rail carriage 164 returns quickly to its right hand position under the action of spring 2 0 1. _O As previously mentioned, carriage 164 reaches the end of its return moveinent ahead of ferrule feed bars 13. Driving pawl 209 overtakes and passes driving block 203 when the block is approximately halfway on its return sttoke but the pawl, being in its up position, passes over the block. When driving pawl 209 reaches the end of its stroke, it is swung down to the full line position of Fig. 27 by pin 21 1, spring 213 (Fig. 27b) of lever 212 being stronger than spring 2 1 0 of the pawl. Pawl 2 0 9 being in its down po– _tion es u si when sliding block 203 catch p with it the rounded forward end of this block cams pawl 209 tensioning spring 213 and rocking lever,212 which is arranged to permit this movement. Driving pawl again snaps down in. front of the left hand.end of driving block 203 and is ready f or the next cycle. It was menti6ned before that the upper control rail 163 is provided with yiel , ding thin metal plates to engage the bristles and. that lower rail 163 is provided with bristle camming teeth. These are shown in Fig_ 25. The camffiing teeth are indicated at 223 and they are preferably formed in th l e upper edge of sheet metal plates such as shown at 224 in Fig. 25b., Ea,ch of these plates raay be provided with one or more such teeth, and a. plate is mounted on the rear of lower control rail 163 at the first two_ bristle knot locations at the right hand end of these ra l ils. Conseqtiently, when control rails 163 close at .their right hand position, the teeth of one of these plates 224 engages the bristles of the knot on the ferrule at station l aiid the teeth of the other plate engage the bristles at l station 2, their function being to cam or crowd over, the bristles towards the left in the ferrules so as to complete the distiibution of ihe bristles by the time the knot arrives at station 3 where a patter mecha– 'nism 224a (Figs. 1B and 74) on ghaft 149 operates to pat the bristles into alignment. The number, arrangement, shape and position of these teeth depend uloon the bristle distribution desired. The nosition of the_ teeth can be varied by shifting plates 224 lengthwise of lower tral portion being engaged by a pin 234 fixed to plate 2 3 1. The plate s_ide._edges slide beneath the heads of sh6uldered rivets 235 and the central p6rtion is Ongag6d by a smiilar rivet –236 within a bayonet _lo't th_ough the plate, the loiver end of this slot eligagifig p_n 236 to limit the upper position of the plate. . An elongated button member 237 ekt6rids through a slot in the top of ali upward extension from the edge of plates 2 31 and by rotating.this' button into alignment'with the slot_ the plate may, be removed and replac,ed. Plate 231 at the third. bristle knot location may be provided with scall6ped teeth at its lower edge to co–act with the short teeth 230 on the lower rail in engaging the bristles at ferrule station 3 when the.–rails are in their extreme right position (being shown at the_left pbsitio,n in Fig. 25), in order to better grip the knot as it is pilshed at the next feeding m6vemeilt, onto two stationary separators or tines 238. These form a part of the recess_forming mechanism at ferrule station 5 which 'prepares the r6cesses in the butt end portions;of the knot ready for the insertion of the duplex plugs at station 5. While the separatbr tines are being inserted in the knot at station 41 an extension of patter 224a cotitinues the patting to assute alignment prior to inserting the plugs. Short needle_ _xe, also provided on upper rail t 63 at the extreme left bristle location, all of these short needles and the scalloped teeth of the:left hand spring plate 231 serving to maintain the iieed.les. in their distributed position and in an orderly–arrangement in the ferrules as they are advane6d to station 5. l_ristle k,not supporting aizd flare contro,'–F!err4le statio?zs Since the 'bristies of 4" brushes have considerf .can be varied by removing one plate or set o plates and replacing it by 4no er. th The plates are movably:Mounted and adj s,tably positioned on the loiver rail by means of three bayonet slots 225 wh d ich engage shouldere rivets ptojecting from. the rear face of lower rail 163. Plates 224 are locked in position by means of a pin 227 fixed at the end of a resilient tongue 228 on.the lower edge of . each plate. Pin 227 will be received in any one of a series, of holes 229 on the rail. Lower rail .163 1 is also provided with a series of short needles 230 at each of the two bristle knot positions towards the lbft, of which more laier The bristle knotis thickest,at stati6n l before the closing action of the control rails and cam– –ming teeth have crowded over the bristles iowards t–he left hand portions of the (ionsequently,. instead of proi7iding upper control rail 163 with a straight lower edge parallel with the edge of the lower rail, the upper rail is cut away somehat as shown in,Fig 25 and the bristle knots are con eted by a series of –yieldably ta mounted thin– rnetal plat s .231 which are Eli– e ra.ng d at the first three bristle knot – locatioils. Th6 lower edges of these plates_'are subst_niiall.v in line with the lojwer edge of rail 163; at the'extreme lef t kiiot' locaii6n, –wh –en , the, bkistle – raib are operied as shown in Fig. 25. Ea;ch 6t plates 231 is vertie'illy slidable'on the rear surface of iipper rail 163, upwdrd rriovement of each plate being resisted by a _eiii've'd__wire spting 2 1 32, the ends 6f whicii 6re h66ked beiie_th rail 163, and the number and shape of the teeth,40 ablo length the biitt end poitions ov'erhang the rear _of the bristle control rails 163 for some distance creatiiag a very consider_ble, i6ndeiicy to sag. This h_s _b6en overcome by certain parts which ha–ve_ b6_n added to il–i6 mechanism referrea _to_ _in my– prior, application as: the card mechanism– – This' comprises an elongated bar 239 _ rectangular _iii cross–section (Fig. 29) slida,ble oi shiftable lehgthwise m a suppprting head niember _4_ _vhich"is mbunted at the end 'of a hbrizontal pivot_d arm 241 (Fig. 28),_ this arm being pivoted at 242 at about the cross–wise center of ihe machine'(Fig. 2t) 'and controlled m by a a 243_ on cam shaft 7 to raise arid, 16wer head member 240._, The motion imparted to bar–239 by this rnechanism;is siiiiilar to _tiie rnotion of control rail 'ia carr ge 1 6_4 Th t is, tho ba;r is biased to a right hand position, which in the preseiit machine covers ferrule stations i _5 by, means _ pf a, lbng tension spring 244, the front end_.of vvhlich is

connecte_d' ' 'throiigh 0, cord 245 passing (V,er a pull6i:246 to b4r _239 and bias'mg it toward'the righ t As' thb ca__'of ihe control,rail catri.–;tge bar 23 9i_,riiovedtow_irdth leftb_thefeeding.m_"ovep l l .1 ment of f_tr_l_.feed,bars 13, a liig 247 (Fig 29) on,ono of those.b6,rg being arranged e4gage a h_ri_bnta_l ok_tolisio'n 247a on b 239 and,m_ ova r in it tbward t4e'left until b, ca;tch'248_.(Fig . 90) ,9 engageg a _latch 249, pivoted on head: _40, which holds –bar, 2 3 9',iii tho '6xtrome loft position _pan' 7niiig'.f6_rules'tations.2–_6_ TheiiWh_i__hba,d.240 drops th the dotted position of Fig. 28, ; tli6 Jeft en,d of latch 239, is engaged by,an adjustdbl6 stdpins 233 proji_cting_from_ the –r_ar,:__'atid_ th6– cen– '_tio_a?,ry',trip _250o_ Which i7ol__as6s latch _'239– _a–nd b,ilows bar 239 to return rapidly to its right hand position under the action of spring 244. In the machine of my prior application, the purpose of the cardilig mechanism was to overcome the tendency to distort the bristle knots projecting from the ferrules which was caused by the drag of the upper bristle control rail which, in that machine, was stationary instead of movable as in the present machine. This tend,ency to drag and distort the knots was –also produced in that machilie by the fact that the bristle control rails did not open as in the present apparatus, but at all times exerted a frictional drag on the bristle knots. In the present machine, the purpose of this mechanism is not to prevent distortion of the knots by the rails, because rails 163 being movable and openable do not produce such a tendency, but its purpose is to support the overhanging butt end portions projecting from the rear of the bristle control rails to prevent sagging, and to limit the flare of the sides of the knots at the several ferrule stations so as to keep the width of the knot within bounds while the bristle control rails maintain the alig=ent of the knots during the station–to–station movement. For the purpose of supporting the projecting bristle knots, the card bar 239 is provided with what is called a "riser" 2 5 1, this being an angular metal strip fixed to the top of the bar and extending from its right end throughout two knot locations and then tapering off and terminating_ at about the center of the third knot location. As shown in Fig. 29, "riser" 251 is at some distance behind the bristle control rails 163 and supports the projecting knot not far from its end, elevating it into alignment with the ferrule. The pressing action on the knots of the bristle control . rails tends to riiak6 them flare at the sides and cause friction in entering the ferrules under the acti6n of the patters. Ac6ordingly, on this "riser" 251 at the first two bristle kiiot locations, is a pair of "gatherers." These are metal members shown in detail in Fi_s. 30a and 30b (sheet 1). The curved edges of these "gatherers" are constructed and arranged to contact th6 sides of the bristle knots as shown in Mg. 30 and restrict their tendency t6 flare out and keep them slibstantially in aligriment with the sides of the ferrules. I As shown in Figs. 30a iand 30b, these flare control members 252 each have a pair of i_rojecting pins 253 which are received in holes arrang6d near the upper edge of "riser" 2 5 1. They are held in,place by spring biased pivoted grip,members 254. There.is a series of the holes along the edge of "riser" 251 to permit adjustment or positionIng –of _these "gatherers" to produce the amount of flare control desired. At the begi , nning of the third knot lbcatiori the "riser" 251 tapers downwardly to_ enable the thickness of the knot to spreqd u_vvardly and downwardly as the knot passes onto stationary tines 238 of the pltig recess forming mechanism. As, the knot moves from station 3 to . st6,tion 4, the bristles are supported to a less. and –less extent and the support is placed closer to the bristle control rails in order to permit the ve'rtical spread just mentioned. This support is provided by an iipright member 255 at the front edge of the angular member forming "riser" 251. At'station 4 there is a still narrower bristle supporting membe_256. At the third knot location, card bar 239 carries its flrst bank of needles 257. These _serve to keep the bristles in alighment as the knot passes onto the tines 238 in the movement from station 3 to station 4. The needles are continued at stations 4 and 5 for the same purpose, _and at the extreme left knot location on bar 23_9 there is a "gatherer" plate 1458 which in effect produces the same result as "gatherers" 252 in limiting the flare of the knot width to facilitate patting wheti the knot arrives at semi–final patter stalo tion 6 after rece–1ving the plugs at station 5. When needles 257 at station 5 pass through the knot after it has received the plugs, "gatherer" plates 258 limit the widtl,,. of the knot when it is patted at station 6. , As will be seen later the tines 238 are adjustable relative to one another so as to vary the thickness of the middle layer of bristles which is between these tines. Consequently, the sloping end of "riser" 251 is made adjustable by the ad– dition of a tail piece 259 (Flg. 30c, sheet 1). In order to hold this in place, the pins 253 for the extreme left "gatherer" 252 are of sufficient length to pass through the holes in tail pid–ce 259 and hold it in position against the side of "riser" 251. By lateral adjustment of its position, the sloping surface of tail piece 259 is made to correspond with the sloping lower surface of the lower tine 238 when the card bar 239 is shifted to its left hand position, thereby to support the 2o horizontal center line of the bristle knot at the horizontal center line of the tines 238, where these tines are adjusted wide apart for a thick middle layer of bristles, or close to.–ether for a thin middle layer. 3,,–) Duplex plug inserting mee7ianisnt In contrast with the machine of my prior application which inserted a plug made of laminated paper or the like in a single opening in the knot, the present machine opens two vertically spaced recesses in the butt end of the knot and inserts two preformed plugs, one in each recess, these plugs being made of wood or any suitable matbrial. The present machine also will insert 45,6 nly a Single plug if desired. It is an important feature of the new machine that the plugs are not fed into the path of the bristle knot at the plugging station and the knot then moved to enclose the plug, but on the contrary, the kiiot. is fir_t advanced to the plugging station and while the knot remains stationary at this station, the recess'forming devices which have been inserted in the knot at the preceding statio–_i are actuated to open the two recesses in the knot to receive !55 the plugs, and that the plugs are then moved into these recesses and the bristles closed on t,he plligs_ _ Ref6rring to Figs. 32–43 inclusive (sheets 18–20) two columns of preformed plugs are man– 6(ually stacked in an upright duplex magazine indicated generally by numeral 260. The two stacis are'placed one behind the other and ari_an ed so that the plugs can be– automatically . 9– , fed from the bottom of each stack into the two recesses formed in the opened bristle knot at station (Flg. 37), a plug from the front stack becoming the upper plug in the brush um't and a plug.from tlid7rear stack th,– lower plug. The two plugs dividi3 the knot into three bristle layers, upper, middle and lower,, and this formation is retained in the finish6d brush unit (Figs. 80–81, sheet 30) M_ga_ine 260 is _constructed and arran–ed, as will; b_, _resently –described, so that it can be 75 'quickl_ adjusted to handle plugs of any thick– hess and le'rigth ;within the rango bt tho –machiiie. –The jalug thickness varies according to the proi)ortion of bristle and plug specified for the i3ar_ ticular brush being run on the machine. The thickness of the plug becomes the height in stack 260. The magazine adjustments just referred to also include the positioning of its various parts so that the plugs will be deposited in the% knot recesses in properly spaced relation to each other, and in proper relation to the bristle knot and ferrule both vertically and laterally, as

well as at the proper distanoe behind the ferrule. The mechanism for forming the plug receiving recesses in the projecting knot, operates in cOnjunction with the plug inserting mechanism, and is mounted upon it, and will be described before taking up the details of the inserting mechanism. The recess forming mechanism comprises tw6 bristle separators, each consisting of a stationary section (one of the two tines 238), and a movable 26 section26f. _Thetwostbtionarysections_ortines 238 extend from a point just to the right:of the ferrule at station 4 to a point just to the _left 'of th_,– ferrule at station 5 (Fig. 32). Each movable section 261 is approximately 1/2 the, length '–) of its stationary section 238, as may be seen in this figure, and extends from a point somewhat in advance of the ferrule at station 5 substantially to the end of its stationary section. Movable section 261 for the upper stationar_ 30 section 238 is recessed into the upper surface thereof, the lower movable section 261 being similarly recessed in the lower surface Of the lower tine_ These parts are so fitted together and adjusted that when the movable separator sectioris 261 are closed, their surfaces are smooth and continuous with the surfaces of the_ stationary sections 238, and b6ing_highly polished present little or no frictional resistance to the bristles sliding al6ng them. The front portions of stationary sections 238 are sharpe . ned_ or tapered as shown in Fig. in such a _wa l y as to offer the least possible resistan6e to th6 bristles as they slide onto these tapered portions. Also the parallel porti6ns of the tW6 s(_parators 4,– plex plugging mechanism and these brackets are individually. vertically adjustable by means of twco knurled screws 265, being clamped in adjusted position by means of clamping screws, one of which is shown at 265a (Fig. 32). This adjustment provides for variation in the vertical spaeing between the two bristle separator units 238, 2 61 and consequently the thickness of the piddle 1–ayer of bristles. Brackets 263 accordingly also provide for the support of the movable separator sections 26 1. For this purpose each bracket 263 also supports a short shaft 266. The upp6r shaft has an.upwardly extending a6tuating arm 267 clamped at its _ center and the lower shaft a downwardly. extending actuating arm 268. 'Shafts 266 project to the left of bracket 263 (Fig. 35) and each terminates in a head 269 Each head 2 6 9 has. a horizontal aperture, which clamps th6 stem of a swivel 270 (Fig. 32). This swivel has a vertical aperture and in turn clamps the stem of an adapter 271 which has a horizontal dove tail clamij within which isadjustably mounted the shank 272 of a movable separator section 261. It will be understidod that these ' movable separator sectiors are supported in precisely the same manner, one on upper bracket 263 and the other on lower bracket 263. Moreover, the swivel mountings described provide for both angular and lateral adjustment of these sections. The rocking of shafts 266 by meaps of actuating arms 267 and 268 causes the opening and closing movement of the separator sections 261. They are shown in closed position in Fig. 35 and in,seetional views 38, and 39, 75 and 77, while being shown in,,open position in Yig. 33 and seletional views _37_ and 76. Simultaneous movement of ac_tuating arms 267 and 268 is brought about.by a yoke member 273 which has a upper vertical chanriel to cooperatle with a roller 274 mounted on the upper end of actuating arm 267 and a similar roller niounted on the lower end of actuating arm 268. Yoke member 273 is supported for linear front and rear movemeiit on the forward end of a rod are made as thin as consistent with the necessary " 274a which slides in guides 275 whiclh form part streiigth f r the s pf a fixed bracket mounted on the machine frame. ame reason sinc6 the int6ntion The rear end of r_lt;)d 274a i connected by a link is to work the separators into the'bristles with to an, operating lever 2 7 6 which has a cam roll to as little friction_,l resistance as possibl6 and then coope rate with a cam 2 1 77 on cam shaft 7. 1 Th . i ; s open the knots to form the recesses by upwaid motion of the upper movable section 261' and cam is, preferably of the adjustable type so as to b e able to vary the lenath of time durin which downward motion of the lower movable section, 9 th e movable sections 261 are held open. after the knot has reached station 5. A stop collar 2 7 8 is fixed to rod 2 7 4a to limit the The upper and lower' bristle separator_ 238, 261 are rnounted not olily to provide for the openclosin g movement,of this rod by engagement with 1 55 g _iide , 2 7 5. Yoke 2 7 3 is attached to the f ront end ing mo_,ement of the_ upper and lower members of rod 274a by means of a mounting block 279 _6 l'but so as to adjust these two members_ with on which the yoke is horizontally slidable. A respect to their stationary sections 2 38'f or proper k nurled _erew 280–produces an eldjustment of this nestin_g, and blso to peimit adjustment o,f the y oke tb accurately position the separating sections spacing between the two separator uliits 60 2 61, and the parts may be clamped,in adjusted so'thai the thickne_s of the middle layek of P ositi6n,by riieans of a clamp _crew 281., bristles can be changed as desired. Each 6f the it i_ dbsirable to ro ek th6 iipper rAb,_abliB sei)aupper and lower stationary separator sections 238 r ator secti6ii 261 td' a _greater extent than the is:supp6rted by means of ari integral centrally _ 13ar_itor _ectibn because, when the . kn6t is ff set t6 the c lo we se– 16dated shank portion 262 which is o spre_td iiith thr6e bristle secti6ns by the–sei)aka– __ght as shown, in, Fig. 32 and mount,_d for adtb is, the low–ern–i6st section should be opei–ied no t more th_n is _equired fbr irisbtti6ii of the Dlug. iustmen with respect to the ferrules in a bracket meriib'et 263 (Fig. 35). w hile the upper secti6n c:in be opened to a gre_,ter The mounting arre_ngement of shank portions e x tent.' Th6 l_rk(_r the iribvement the lbwer see– 262 Oh bra–ekets 2 1 6i' is such as to pr(jvide for 70 ti on kee6ive_, the gieat6r'the d bwnward angle of angular adjiistiiient.to' bting inemlo,er sep_xator the l_weriiiost brisile and the gr6ater the sections 2 6 1, into acctir_te]_aralleligiii *ith their t6ndency f6r gk:ivit3_ _o.ebu8e th6 _lug tb l_ s. ide out Statio)dary _ectiohs. 238. . 'Upper and lower brack– :of the tecess. et_ 263 gre inoun'ted fo_ vertidal sliding move– The lippOrhio._t,l_ri_tle layer, hoiveiver, . ca_n be m6nt on an up_ight fr6iiie member for the dii– 7r) opened to'form a larger rece_s thbn is requirecl for the plug since the tipper plug is stipported.by the middle bristle – laye_ whi–ch – i hori_ontal and there is iio' tendency for the upper plug to.slide oiit'. Aecordi,_igly, the LiDper actuating arm 267 is slottbd_ as shown in, Fi,_. 33 so as to provide for r) adjust,ii–i.p,.the position (if upper roll.274 to give a ,gre atet openiii.– movement to the upper bristle separator section 2 6 1. Returning now to the construction of the plug inserting mechanism, plug magazine 260 is s.up– ported on frame member 264 previously referred to, and this member is in turn supported for vertical adjustment on an angled bracket 282, bracket 282 in turn being adjustably mounted on a base member 283 which is secured by means of 1;5 bolts shown in Mg. 33 to a part of the machine frame. These bolts pass through a slot in the frame so as to provide front and rear adjustment of the entire plugging mechanism with respect to the ferrules, bristle control rails and card bar 239 (Mg. 37). Angled bracket 282 slides on base member 283 in a direction to adjust the plugging mechanism lengthwise of the ferrule guide rails 16, i 7. The adjustrgent is made by screws 284, one on each –)5 side of the base member and the parts are then clamped tbgether by meaiis of two clamping screws 285. The vertical adjustment of frame member 264 is by means of a long vertical screw 28–6 (Flg. 34) and these parts are then – secured by a single clamping screw 287

having a long stem so as to be accessible from the front of the apparatus. Plug magazine 260 coinprises a right side plate 288 (Mgs. 35 and 42) and a left side plate The front stack of plugs is guided at its right side between an upright angle member 290 whibh. is fixed to side plate 288 and a rail 291 which is vertically adjustable on side plate 288. The left side of the front stack is similarly guided by an angle member 290' and a second rail 291', these two parts being correspondingly mounted on leit side plate 289. The rear stack of plu.–s is guided at its right side by a narrow upright bar 292 fixed to right plate 288 and an adjustable upright rail 293 which like rail 291 is also vertically adjustable. The left side of the rear stack is similarly guided by a rear fixed bar 292' and a front adjusluable rail 293'. The angle members 290 and 290' terminate somewhat short of the top of the magazine and are flared both forward and sideways to facilitate inserting the front stack of plugs. The other:guide members are also shaped at their upper ends to facilitate the loading of the rear stack of plugs as shown in Figs. 35 and 36. The vertical adjustable rail's 2SI and 293 are mounted for such adjustment by meaiis of short sections o__dove tailed slideways as;sho*n at 294 in Figs. 35' and 43 and in sectioii in 'Fig. 4_9. The c, j) left' hand I adjustable rails 291' and 293' are similarly mounted as indicated at 294' in Fig. 36. The reason'for making these rails adjustable is that rails 291 and 291' support at their lower ends a pair of thin short horizontal guide fh–igers r,,) 295 which are constructed and arranged to sup– _port the lowermost plug of the front stack for horizontal feeding movement toward the upper recess which has been opened in the projecting bristle knot as shown, for example in Fig. 37. 'o Such fingers are mounted' one' at the bottom 6f c!a_ch of the two rails 29i and_291' and the exy tend par_llel'with one 'another and h_Lve substantially horizontal upper surfaces which support the bottom plug Tkear its odijosite ends. Mounted on the lower ends of each,of the adjustable rails 293 :and 293' are two somewhat similar guiding members 29G (Fig. 40). Each of these members, however, comprises a pair of guide fingers between which is a spring finger, the purpose of which will– be. described later., Returning. to the adjustment of rails 291 and 293, these rails are interconnected at their upper ends by means of a knurled adjusting screw 297 (Fig. 43) in such a way that by turning this screw relative vertical movement between the rails is produced_ Rail 293 may be clamped in adjusted position by means of a clamping. screw 298, and rail 291 by similar screw 299. By means of this arrangement, either rail may be adjusted in its position by using the other rail as a base, that is, by leaving it clamped to right side plate 288. In order to cause the left hand rails 291' and 293' to be adjusted simultaneously, a pair of horizontal pilot pins 300.– and 301 are used to transmit the adjusting motion of the right hand rail to the left. Plug magazine 260 is adjustable to accommodate plugs of different leng.th as required by a change in the width of the brush unit, that is, with a 4" wide ferrule, the plugs will be longer than with a 31 1. For this reason, the left hand side of the magazine is made so as to be–adjustable with respect to the right. Accordingly, the right hand or fixed side plate 288 of the magazine is mounted in fixed position on the upper part of frame member 264 by means of screws shown, for example, in Flg. 34. Also, rear bar 292 may be similarly secured to this frame member. .–The left hand side plate –289 and rear upriaht bar 292', however, are secured at their lower ends to a bracket member 302. Bracket 302 is supported in two ways. First in orde I r to produce the desired adjustment, it is arranged to slide on a. horizontal stud 303 which_is fixed in frame member 264 and projects to the left as shown in Mg. 35–. A second support for bracket 302 is an extension 304 projecting to the left from frame member 264 in the rear of stud,303. This extension is slotted at 305 (Mg. _35)–_land through this slot passes an adjusting screw 306, (F–i.a. 32) which is tapped into bracket 302_ Pilot pins 300 and 301 . are f ixed to the right adjustable rail –members 29–(and 2 93 and the left rail members 29 I' and 293' ar I e apertured to slide on. these pins. The . feedi,il,g of the . plugs horizontally from the bottom o ' f the magazine is effected by means of a rocking lever 307– which– pivots. at 308 at the bottom,–of frame member 264 (Fig. 35). This lev6r –is actuated by –means of an– –adjustable and Yieldable link 309,which is pivoted to a leverI3IB having, a,cam roll– which co–acts with an actuating cam 311 mounted on cam shaft 7. The cam roll is held against the –cam by means of a tension spring –3–12 connected to the. upper end of lover 3,1 At –the– upper –end.of 'the _rocking feed lever 0–7.–, are the feeding, devices for the, ri_ht ends of_ 6cith'pltigs.qs..sho_vn in Fig. 35,– The feeding d6vi.ces –f6r the left ends of both plu gs – are mounted on,a_ bro_cket 313 which is not only a_rranged to rock simultaneously with lever 307 but, also to be adjustabie simultaneously with the adjustment of– the .16ft sid e o,f the plug ihagazille ivhei:iever it is desired to,.change the length_ of the.plugs beiiig run. Foi– this,.purppse bracket 313. is Pivoted _t the upper end of. an –arm 3 f_4. The lower end of, ariii– 3_114 is forked _s shoi_n _ I in Fig. 36 and mounted by me I ans of a cross pivot pin 315 6n a flat sided head.3.16 whic_h is iiitekral with the end of pivot she_ft, 3 0 8. , By, this _ 6onstructioli a,rm 314 is ca;used to rock by the rocking move–. ment of this'shblft which ig imparted f.rom lever 307. Also arm– 314, cbii _e adjusted , laterally according to tho length of the plugs to give the proper spacing to the feed fingers which will be described. This adjustment is by means of a clamping screw 317 – which _ operates through an elongated slot 3 1 8 in a right hand extension on this bracket to clamp it agairi_t the front face of rocking lever 30 7. Slot 3 1 8, is an arcuate slot formed on a radius equal to the length of arm 314 with its centek to the right of: pivot 3 1 5 so as to form the equivalent of a parallelogram linkage whereby the angular position of Vracket 313 with respect to the base of the parallelogram is maintained constant at all positions of adjustment. The feeding de–_ides f6r feeding the plugs from the front and re_r_ columns or stacks in magazine 260 include means for engaging the rear surface of each individual plug neat its opposite ends so as to push the plugs squarely into the opened knot. Thus a liair of feed fingers 319 are mounted, one on the side face of rocking arm 307 and one on the corresponding face of bracket 313 ' In mounting these filigers provisi6n is made both for vertical and rocking adjustment by means of screws operating in slots as shown in Mgs. 33 and 34. The upper ends of front feed fingers 319 are _ bent inwardly to horizontal position (Fig. 35), _in order to engage the plug which is.to be fed. They are also sufficiently – wide tb hold up the stack of plugs (Fig. 38). In the feeding of the plugs from the front stack, the bottom plug, and in fact the entire stack, rests upon the two horizontal guide fingers 295 (Mg. 39) secured to the lower ends of rails 291 and 291'. –The bottom:plug from the rear stack rests upon the upper horizontal surface Of two angle brackets 320, the vertical portions of these brackets being mounted for vertical adjustment as shown in lqg. 35 by means of two screws 321 passing through slots in the brackets and being threaded into the front faces of frame member_ 264 and bracket 302 respectively. The bottom,plugs are fed forward sliding on the surfaces of these two brackets as shown in Mg. 39 and in a manner to be de– scribed_ In feeding _he bottom plug from the front stack, as feed fingers 319 move toward the left from the position shown in Fig. 39, the cam roll on lever 3 1 0 rides onto the. front or lowe r por– tion of cam 31 1. The same cam action

causes a lower plug to be fed from the rear stack by the mechanism to be described. However, the plug from the front stack is. fed i:Urectly into the opened knot whereas, because of the greater distance of the rear stack from the kriot, it is ,necessary t6 advance the plugs from this stack through a series 6f stations on bracket 320. The action of the feeding mechariism, how– ever, is to m6ve two plugs simultaneously, an upper and a lower one, into the two recesses which have been opened in the knot by the bristle separators 238, 261. These plugs are deposited in the Imot with a double feeding motion, a primary impulse and. 70 a secondary impulsebeing given to the two plugssimultaneously. This is effected by the shape of cam 311 which is provided with a formation 322 at its upper or rear end to impart the secondary impulse. When the cam roll 6n,lever 310 rides onto the for I ward or lo wer Poition of cam 31 11 fingers (319 feed the bottom. plug from th– frolit stack forward from the position'.shbwn in Mg. 75 to,the Position sho,wn in Figs, 37_, and 76 and th6 low.6r feeding mechanism advances a _lug'to the _osition immediately b6low, this. The – upper. plug is _ _inched betweeri thb up er surfaco of' guides p 2 95 _(Mg. 37) and a, pair df spririg pressed pivoted fingers 323 which 6ngage the top of the pliig and hold it in horizontal position during the dwell between the impulses. . Siiiiiiiilrly, the lower plug is held between– the surfaces of brackets 320 at their outer ends and a pair of. flat spring fingers 324 (Mg. 40) which are mounted between the double guiding members 296 for the upper surfaces 6f the lbwer plugs. Durink thi_ dweil of t]_e plugs in the . p6sition shown in Mg. 37, the closing of:movable sections 6 f th lon– 2 1 o e bristle separatbrs against the ptat' ary sections 238, as shown in Figs..38 and 77, takes place. This peimits the upper and lo'w_er bristle lay6_s to close . against the oute'r, surfaces oi the I plugs, apd immediatel_ f6ii6wing thi_, the secondary impulse is impar,ted to,t.he plu_s by formation 322 of cam 311 causing the plugs to be fed forward, releasing them from the grip of the yielding finger_ 323 and 324, and leaving the plu_s supported in the bn'stle knot. To insure that the plugs have been fully inserted in the knot, a knot aligner or "shutter" 325 (Mg. 45) h.aving a rearwardly eiirv_d, i)oint and sharpen6d sl6ping up_er edge portions, rises between the plug feeding devices ond the plugs as shown in Flgs. 39 and 78. Shutter 325 remains in this upper position–until the knot has been advanced to the next ferrule statibn, station 6, where the semi–final patting takes place. The mechanism for op6rating this shutter till be described below. If the plugs were fed into the opened knot without the dwell and partial closure of the bristles on the plugs as described, the plugs midht toll over or turn cross–wise of the knot, but by st6pping the plugs and holding them squarely in horizontal position by means of the yielding fingers 323 and 324, the teridency_for the plugs to tumble or roll as they leav6 the etds of their respective supp6rts 295 and 320 is offset. To complete the description of the feeding of the plugs from the rear stack, these plugs _ are fed to the depositing positiori shown in Fi_. 37 (primary im_uls6 position) ih three stages b'y means of right and left feed fingeis 326 (Fig. 41). Each of _ these feed fingers slide_ back– and forth in a sub_tantially horizonteil _position. The rear end of right feed finger 326 is loosel3F pivote'd at 327 adjac ent the rear end of an L–shaped support 328 by which it is actuated by rock'mg lever 307, this supp6rt being _vertical ahd an.–ularly adjustable on this levet_in a manner similar to feed fingers 310. The forward end of f eed finger.326 is biased upwardly by means of a coil.spring 329 carried o , n the inside of L–shaped support 328. This sprmg I biases the f6rward end of f6ed finger 326 upwardly against a stop (not shown) formed on support $28 (Fig. 41). : The left fe ' ed finger 326 is similarly rpounted on a. _imilar L–shaped support 328 Ohich is in. turn similarly mounted on bracket 313 along side of the left,feed finger 319 for the front stadk plugs–. E4ch, of feed,.fingers',32,6,.is px6Vided with a feeding shoulder 330 (Figs. 37 and 41) and these shoulders feed the plugs successively from. the bottom of the rear stack, the upper horizontal surfaces of these fingers holding back_ the stack and the shoulders feeding the plugs to, tl–ie first step or position. Fingers 326 also have_two feeding teeth 331 which feed the plugs successively to the second stage or position. The tips of fingers 326 at their left ends serve to feed the plugs from the second to the third stage during the primary impulse movement and then into the. opened knot during the secondary impulse movement as previously described. It is necessary to retain the plugs in their positions at the first and second stages during the rea.rward movement of feed fingers 326. This is accomplished by two control members 332 which are yieldably mbunted in recesses in the upper horizontal surfaces of each of the angled brackets 32a (Flgs. 37, 3a and 39). Each of these control members is yieldably mounted on a pair of COil springs 333 which _upport it above the. surface of its recess, the upward movement of the member being stopped by means of a_ small pirl 334 which operates in an elongated slot at the center. Each control member 332 has a pair of teeth, as shown in Fig. 37 which are arrang6d to engage_ the lower rear edges of the plugs at the first and seeond feeding stages and,. during the backward movement of feed fingers 326, hold the plugs. in the positions to which they have been fed. On occasion the machine must be operated through several cycles for setting up and adjusting purposes. Provision is made to prevent the feed of the plugs from the magazine during such times by means of a shut off mechanisn–i. This consists of a block 335 (Fig. 33) at the rear end of a, liorizontal rod having a handle 336 at its front end and provided with sidtable locking means for locking it in either the outer position shown, or in an inner position. V,7hen handle 336 is in the position shown, the plugging mechanism will operate to feed plugs, in the usual manner. By moving handle 336 back, plug 335 is placed beneath a suitable screw 337 adjustably mounted at the end of an arm 338 which is integral with lever 3 1 0, so as to prevent the cam roll on this lever from following cam 31 1, thereby stopping the feeding of the plugs. Shutter 325 (Mgs. 44 and 45) is mounted at the upper end of an upright arm 339 which is arranged to move vertically by a parallelogram linkage consisting of an actuating arm 340 and a link 34 1. Arm 340 is part of a bell crank pivoted at 342 on a bracket fixed to the machine frame and having a rear arm which carries a cam roller 343 arranged to be operated by a cam 344 on cam shaft 7. A tension spring 345 maintains the roll in engagement with the cam and actuates the bell crank lever to raise and lower arm 340 and shutter 325 in timed relation to the feeding of the plugs as previously described. The upper edge and forward surface of shutter or plug aligning plate 325 is highly polished so as to operate against the butts of the bristles with as httle friction as possible to prevent disPlacing the bristle knot. If desired, the shutter can be given a rapid vibratory movement to further facilitate the entrance of the plate between the bristle butts and plugs on one side and the plug feed fingers 319 and 326 on the other. For this Purpose the right end of Iiiik 341 may be pivoted to a short upright arm 346 pivoted at its lower end to the btacket which supports bell crank lever 342 and having a tension spring 347 arranged at its upper end. Mounted on the 5ide of arm 346 is a. roll 348 (Mg. 46), and arranged to, strike this roll is a hammer finger .349, this finger being pivoted on a rotary carrier 350 having a stop shouider 351 to limit the outwdrd movement of hammet finger 349. Carrier 350 is mounted for rapid rotation on a

shaft 352 which is driven by b6lt 353 from main shaft 5. Worki7ig k7_ot with plitgs into ferrule lo Up to the poiiit of inserting the plugs in the bristle kp–ot each ferrule consisted of a loose mass o–f bristlc–,s loosely fitting the ferrule, that is, oc–i_upyiT–lg, for some brush specifications, only aboi–it balf of the area of the ferrule, and . the 1;3 problem wa,s, first to distribute this mass evenly throij,271iout tlif– width of the ferrule and then maintain such even distribution until after ti–ie insert4_on of the plugs. F_:om liere on however the bristle knot with its ri'_ugs ,.ial, s a sni–ig fit in its ferrule and experience has shown that it is difucult, in one conti_uo–az Patting niovement, to push or pat such a knot – ari.til its butt eild is flush with the rear end of the ferrule. Accordingly the present appara– tus does this in two patting stages, the first at station 6, the semi–final patting station, and at statioii 7, the final patting station. As the j'errule and knot are being fed out of plug.–tr_g statioii by the ferrule feed mechanism E (feed bare– 13), plug aligner or shutter plate 325 'clids in kcep–_'ng the two plugs in Position in the kno', and alsq a bank of needles 257, on the end of the card mechanism bar 239, which has been r;assed through the knot between the ferrule and –the tii7o plugs, moves with the ferrule feed bars to riiaintain the aligximent of the knot with the ferrule during the travel to the semi–final patter station, station G. AB soon as the ferrule with its knot comes to rc–st at Statio,–.1 6, the semi–final patter mecha.114ism 354 (Fiigs. 47, 49 and 50) advances its pattill'_' illate 355 against the knot, pushes the plugs aii_ knot a short distance into the ferrule and then dwells just short of touching card bar 239, this i–neciianism advancing the patter plate in primary and secondary movements. During such primary movement, the tendency of the knot to flare at the sidos is controlled to some exterit by means of bristle gathering plate_ 238 which is also mounted on the end of card bar 239 (Fig. 30, sheet 17). Having confined the bristles through this primary patting, plate 258 then drops away from the bristles, together with needles 257, and card bar 239 returns to its right hand position, to rise and engage the next sueceedihg knot. Patter plate 355 immediately resumes its forward Patting motion, the card meel_aiiism being out of the way, and pe_forms the _,secondary patting, advancing the rear of the knots and plugs to within approximateiy from the end of the ferrule. –Lhis completes tho serni–final patting and the ferrule feed mechanism now advances the ferrule and knot Nvith its –plugs to statioli 7 which is the C_5 final Patting station. The final patting mechanism is indicated generally by numeral 356 and has a Patting plate 357. The knot cannot be patted flush with the rear end of the ferrule at one Patting operation both dO because of tl–ie difflculty in forcing bristles tQ move rapidly into a ferrule. and because of the close tirung of the –%,arious mechanisms throughout the entire apparatus. Pushing the bristle knot into the ferrule is a difficult operation I)ecause the bristle butts have a tendency to fiare outwardly and when the patter plate contacts them the_ mushroom further outward with the result that many have a tendency to bend_ over rather than be driven into the fe_rule. To obviate this difficulty the final patting mechanism is provided with flare control mechanism thich includes two movable flare control plates 358 and 359 (Figs. 48 and 49). These are made of sheet metal and have oppositely directed recesses each flanked with tooth–like member's 360 and 361. These plates areconstructed and arranged to embrace the protruding knot from below and above, with the tooth– – like portions 360 overlapping olie another at one side of the knot portibns and 361 ov6rlapping at the other side. In. the patting operation these _ flare control plates 353 and 359 which, at fi_st ar_ bt some distance bel–iind the ferrtle and directly be_low and abbve the pliigs as showii in Fig. 52, cl–ose: about the knot as shown in Flg. 53. As soon aS the8e plates have closed patter plate 357 contacts the rear end of the knot, and patting of the knot into the ferrule comm'ences. As the patter plate moves forward however the two 'flare control plates also, move_ forward at the same rate _o as to impose neither a pushing nor a retarding frictional actioii on the knot, and keeping always; about Ya " ahead of the peitter plate. V%rhen the flare control plates are about to touch the rear end of the ferrule, they fly outwardly to the position shown in Mg. 54 so as– tG permit the patter plate to push the rear surface of knot and plugs flush with the ferrule alld then start its backward movement. It ijill be understood that the flare control plates 358 and 359 are changed fot each ferrule width which is to be run on the machine. It will be,also understood that these plates do not grip the bristle knot tightly between them but control the _bristl_s with a delicate pressure which is obtained by accurate adjustment of the plates and also by mean_ of sensitive spring mountings as will be describ6d. In addition t6– controlling the flare of the bristle knot, plates 358 and 359 exert an aligning action on th_e two plugs. As inserted by the plugging mechanism one plug lies directly over the other, but occasionally, one plug riiay be shifted a, little to the left or right, which'Would produce a poor brush. The cooperation Gf'the flare control plates mounted directly ove_ and beneath the respective pltigs and the patter plate coming against the end of thb knot just after the fla–re control plates have embraced it, has been found to bring both plugs into alignment, oiie over the other. Referring now to Figs. 48–51 for the details of the Patting mechanism_ and the flatb cohtri)l mechanism, the two patting mechanisriis 354 and 356 a–re of the vibrating and Pbraliel–motion type as described in my,pri6r'application, and ih_this respect are like the traiisfer patter mechanisin 147 (sheet 12). Pattermechanisms 354 and 356 function in substantially the sam_e rrianner, but they differ in structure softiewhat because . the Patter mechanism parts available at the I ti I me these patters were added to the machine w6re somewhat differ6nt. It is important to eiiiploy parallel mo_ion patters for working the knots and plugs into the ferrules because otherwise the top –horizonial edge of the knot would be contacted iirst by the pa I tter plate, the remaining portions being oontacted later. This would,be_ detrimental,_ cause misalignment of the bristles in theknot,_7hich w'ould be carried through to the finished brush unit and w6uld be especially disadvantage6us When making shallow hold brushes. The supporting _and vibration producing shaft f6r both patter mechanisms is indicated at 362 and is driven at the desired rotative speed by means'of an endle8g belt 363 from main shaft 5. This shaft Is supported in bearings mounted on a T–shaped_ support 368, the upright member of which is secured to the base 6f the machine. Cams on this sho_ft iiiipart the rapidly vibrating m6tion to the tespective patter plates 355 and 357 through the sii_porting arms aiid linkages shown in the pres6nt drawings and described in detail in mY prior application _The cams for operating the two p6tters into and out of contact with th6 brush knots, and for actuating the bristle fltre control are all arranged on cam shaft 7 and are as follows: Cam 364 operates the_–flare control mechanism back and forth as will be dese_ibed _presently. Cam 365 opens and–_elbses the flare control plates 358 and 359 Cam 366 operates the s_emi–final patter at station. 61 and –cam 367 the final patter at 20– station 7. Cam 366 operates thd semi–final patter mechanism 354 throukh 6,.c[im toll 369 mounted on the upper 6nd of b, tock arm 3 70 which is_ pivoted at its lower end on _a statioiiary shaft 371 fixed to the machine frame_ A link 372 connects the upper end of afm' 370 with patter mechanism $54 –to swing_ patter plate 355 from a withdrawn position. (not shov_n) but som6what similar to the position of transfer patter

mechani8m 147 shown in Fig. 2 1, to briilg _ the patter_ plate into engagem6nt with the rea_ end of the knot and plugs at stati6n 6 and move_them to within about of an inch of _ the rear.6f the ferrule as previously explained. Th6 final patting mechanisiri 356 is moved forward from a similar withdrawn position into patting eil_agement with the' kilot_ and plugs at station 7 'by cam 367 through a link 373 which is connected to the upper end of ail actuating lever I ari ving a cam roll also pivoted on sheift 371' d ha 375 which engages cam 367. This cam roll as well ag cam roll 369 is held a_g6,ifist their respec–tive cams by the tension springs shown in Fig. 47. The forward end of link.373 is pivoted to patter 5o mechanism 356 by a connection which is adjustable in an arcuate slot .376, and the.center of this slot is at the pivot center of the opposite end of link 373 with arm Consequently, the length of stroke of patter plate 357 can be adjusted tithout changing the timing of the patter operation. Adjustment in this stroke is necessary with the patter at station 7 since this patter plate 357 moves the rear of the knot flush with the rear of the ferrule and must be adjusted to the precise position of the ferrule. It is important to have final patter plate 357 engage the entire surface of the knot when it first comes in contact with it, as shown for example in Fig. 53, and for this reason, a universal mount– ing of this patter plate on th6 patting mechanism 356 is provided. This is. shown in Mgs. 48 and 48b. Plate 357, is carried at the front end of a link 377 which forms the hdrizontal member of the parallelogram linkage producing the parallel motioi! of the patter plate. Link 377 Is pivoted . in a clev I is 378 having a vertic6l rod–like stem 379 fitting into a vertical aperture in the lower:'end of the front vertical arm of the parallelogram linkage. Accordingly, link 37 . 7 cari be piv6ted _bout this 5tem to adjust the face of plate 457 so as, to: make qqxltinuous contact from side to side of tlle Itnot, tb_,t is, along the horizontal dimi_nsion of the plate, which may then be clamped in this position by tightening screw 380. To make the adjustment just described means that the rear end of link 377 must be permitted to be adjusted sideways in a horizontal plane aind accordingly rod 381 which constitiites the rear upright member of the:parallelogram linkage is connected to a _tationary bracket 382 (Fig. 48b) by means of a spherical or universal connection 383, the lower encl of rod $81 beiiig connected to link 377 by a similar connection 348a. Coming now to the flare ' control mechanism associated with final patting_mechanism 356 the flare control plates 358 and 359 are supp_rted by mechanism to be described on a crosswise Plate–like carriage 384 which is mounted in edgewise position for sliding movement from front to rear. of the apparatus in four grooved rollers 385 ' Two of these engage the. lower edge of the plate and two the uppet (Flg. 48), and:these rollers are rnounted on and project from the vertical face of an upright plate–like bracket 386 mounted on the base of the machine. A pair of rigid_ parallel horizontal arms 387 having hubs 388 are mounted for rocking movement in a vertical plane on two stud shafts projecting from the face of carriage 384 and near __ 0 the rear edge thereof, these studs being mounted in the same vertical plane. The flare control plates 358 and 359 are carried at the front ends of the respective horizontal arms 387, each plate having a resilient or Yielding mounting thereon. This resilient mounting comprises a lever 389 which is supported for extremely. limited pivoting movement on a horizontal pivot bolt 390 (Mg. 48a). Bolt 390 is a shouldered bolt mounted for adjustment in a longitudinal slot adjacent the outer end of lower arm 387 to provide prbper positioning of plate 358 with respect to the ferrule and Patter Plate 357. Mare control plate 358 has a dove–tail connection with a support 391 by which the plate can be adjusted longi– tudinally of the machine or.widthwise of the ferrule. Sunport 391 in turn has a dove–tail connection with the end of lever 389 for a vertical adjustment of the plate, the parts being clainped together by a screw 392. Thus plat6 358 can be adjusted in all three directions in order to obtaiii the proper operative location_ The flare control plate is held against the knot by the yielding force of a tension spring 393, the lower end of which is connected to a pinpro– jecting from a bracket 394 on lower arm 387, its upper end being connected to a pin proect ing from the rear portion of lever 389. This spring draws the rear end of the lever downwardly (jO against a horizontal ledge formed at the bottom of a stop plate 395 fixed to one fa,ce of arm 387. The mounting of upper flare control plate 359 is the same as just described except for the fact that its bias–ing spring 396 is arran__ecl to move the supporting lever in the opposite direction. The two Pivoted arms 387 are rocked about their pivotal supports to open and ci,o_e the flare control plates by means 6f an arin 397 which Projects downwardly ancl to the right of the lower 70. hub 383 (Mg. 48). A cam roll 3,98 operates on the surface of cam 365. 'the rocking movement thus imparted to the lower arm 387 is transmitted to the upper arm 387 by means of two eqilal length short arrns 399, one projecting, upwardly from lower hub 388 and the other projecting downwardly from upper hub These are interconnected by a horizontal pin carrying a roller 400 which operates in a short vertical slot 401 formed in the end of upper arm 399., In order to maintain cam roll 398 in contact with its cam a tension spring 402 is connected at one end to a pin projecting from the side of carriage 384 and at the other end to the upper short arm 399, thus taking up all lost motion. It was mentioned that as soon as flare control plates 358 and 359 are closed so as to surround the bristle knot, patting plate 357 commences to pat the knot forward into the ferrule, and that the flare control plates then commence to move forward towards the ferrule, keeping always the same distance from the patter plate. Since this motion necessitates the forward movement of plate–like carriage 384, it is necessary to arrange the contour of the flare plate opening and closing cam 365 to take into account the fact that the forward movement of this carria e tends to move cam roll 398 away from this cam. The carriage is moved back and forth by means of an: upright lever 403 having its hub pivoted on .5tud shaft 371 and carryinat its up I per end a roller 404 which projects f;om the side of the lever to engage a short vertical slot 405 in plate–like carriage 384. Lever 403 has a lateral projection on the side of which is a cam roll 406 to operate on the surface of cam 364 (Figs. 43 and 51) which moves the carriage 384 on its forward stroke, the carriage being returned by means of a,tension spring 407. At both the semi–final and final patting stations_ the ferrules are mai–ntained in position to resist the thrust of the patter plates 355 and 357 by means of fixed ferrule retainer fingers 408. These are mounted in pairs at each station, one to engage the upper and one the lower edge of the ferrule. Each pair is adjustably supported upon a bracket structure 409, these bracket structures being mounted on channel rail 19. Knot pulliizg mechanism Oli advancing from the final patter station to station 8, the butt end of the knot is freely exposed, and, if desired, an automatic clipping mechanism 410 (Mg. 74, Sheet 30) may be employed to trim off occasional projecting bristles. Upon arriving at pulling station 9, the flat end of the knot projecting from the front of the ferrule is grasped by two movable pulling jaws 411 of pulling mechanism J and pulled forward in the ferrule to its final position. As previously mentioned, if a standard hold brush is being run on the machine, the bristle knot will be pulled until the front faces of the plugs are more or less in line with the front edge of the ferrule and the rear end of the bristle knot substantially even with the rear of the

plugs (Fig. 80, Sheet 30). In the event that the machine is running shallow hold brushes, after the knot has been pulled forward to the standard hold position, a pair of plug hold–back needles 412 are inserted suddenly in the knot in front of th6 ferrule to hold back the plugs (Mgs. 61 and 63). The pulling jaws are then advanced a further short distance thereby advancing the rear or butt end of the knot to the position as shown, for example, in Flg. 81 (Sheet 30), where the bristle knot will be telescoped only about of an inch within the ferrule, and the plugs will project inward beyond the end lof 'the 'knbt. The hold back needles 412,can _be set to ldcate the front faces of the plugs as desired with Tespect to the front edge bf the ferrule. With brushes as large as 4"', the force re– 6 quired to pull the knot and plugs through the ferrule is very much grea_ter than with brushes of the order of 2_/2" size, and in produ6ing the shallow_ hold bru he,s, the knot must be pulled with great accuracy, that is, so that none of the bristles will be advanced rsubstantially beyond the position ghown in Mg. 81, for 6therwise the hold on the bristles by tlle ferrti . le . would be reduced to _iuch a point that such bristles would fall but during the _handling nee– essary for inspection e_e. before _the_ application of the cementing compound. To overcome these difficulti–es, –the jaws of _t–he pulling mechanism 'of the pr_esent a–pparatus are constructed and 'a–rranged 'so that both '–have _20 opening and elbsing movement and'also so 'that they close sim–ultaneously on ho_izonteil center line of the brush unit. This _ reduces –.and equalizes any tendency of the squeezi ng 'action on the bristles to _hift or 'pull the 'bristles on 25 one –ide (lower or upper_) of 'the ferru.1e –to tL greater e3ttont than tti–e dther. On account of the gr6ater 7resistange 'to tle movement of _a 4" –kndt and 'plugs througli the ferruie,there have been assodiated W'ith tlle PUll– ing inechanism two.forrule rete_iners'in 'the form _lt;)f ha_row fingers 4.13 w–hich are automatically rnovbd irito engagemen't ivith the ferrule at its tw6 naix6w _ides, one to engage the "lo6k._.earA" Because of the nece__ity _of locati–ng –the butt of thd kn6t –with gr,eat accuracy a_nd eveniiess in the ferrule on account of the ._h_llow liold, there is also associated with pulling –medhanism,J 6,_ ferriile –rekister or Plate .4–14 NV–lii6l, is arranged to move ag_in_t _ihe,rear edge of the ferrule just before pul–ling commences to –move the front edge of the ferrule into register with 45 the,ferr.ule retaining fingers 4_13, thus squaring the Lerru le and placing its a xis in ailigr–=ent with the direction of pull. This straightens up any ferrule which, on occasion, mig_ht become _the 6ther Vhich serve as fiilcrunis ior arms 42 0 which carry _the pulling Jaws 414 at –their front ends. _These jaws are dlamped in adjuste_ble pogition on the _ends of these _arms and include replaceable insertst2li (Fig. 6'0) 'of resilient friction materibl _sudh –as _rubber to directly engage the –respective __sur–fates –of the bristle'knot. The jaws .,are _interdependently_ adjustable to suit any brush thiakness. _Cioss–hnd 418 together with –its jaws, _arms and jaw _parts _is _reciprocated horizoiitally 'by means of an upstanding cam lever 4.22 having an elongated_ ar_p–uate slcit, and fulcrumed 'E_t its _lowtr e–nd on ._a'pivot'shg;ft 423 _rnounted on –the _Leve–r'422 carries a cani roll 424 which operates in a closed or slotted oam _425 keyed to main cam shaft 7. A connecting xod 42.6 i_,piv_ted at 427 to crosshead 41.8, and a;t its OPPosite end to a pivot pin which is adjustable in an arcuate slot 429, previously referred to –formed in the –upper.,.portion of lever 422. The arrangement –is Such that when the patts –axe:in –theirextreme_Tear –position as. shown in Flg. '–56 –pivot pin 42 8 ican _be'adjusted:in slot 42 9 _witho_i. affecting – _the.pogi–tion otcross–head 4_18,_'when th–e length of the brush stroke is to be altered –for different _length _brii_tle knots. –By this arTangement _it is _impossible for :Jaws _411 to be actuated accidentally into engagement vftth channel 1–9 –or ferrule ifeed bars IL3, –which –would seriou8ly:damage themachine. 'PuUing jaws 420 are biasedto open position –by mea_ns _of t–wo compression:springs 430 which qre displaced as it is advancedto –the pulling station 9. 5o bar '.440 shaped _sohiewhat like an enor–mous type –cam .4Z2 on_,cam__haft'l, a cam rcill 433 which cooperates with'this eam. being mounted,,on'the side' of– a _cam lever 434 –whidh _is also _pivoted on shaft 42a. The _upper er_d of this _lever is connected by means of _a push rod 435 to one:arm–of a.bell crarik lever 436, this _lever,–bE_ing fixed to the lef–t _._end of a: short shqft 431 _(,Fig. 58) _which _is fulc_rumed in –the lowermost por–tion er franie 14,_'i 6. The orpogi_te end –of _ 8h 1 _–437 –has ..fted_to it.an _arni 438:carrying _at_its upper end a :flanged _roll:439 w_hich_ engages –and _operates the lower jaw arm 42 0. To:operate_ the_upperja_v420_a iff sh Qf the ferrule and the dther tb engage. the 35 _'basedon.a –lug –431 proj_e–otingfrom puller frame ferrull– opl_o_ite the :lo6k seam (Figs. .'63, _and 4.1–6.. The,j a,,ws _are'elosed by,the_operation–of a,E_lot Further in the interst I of obtainiiig accurate positioning of the biitt end of the –k–not in the f6rrule, the present a_paiatus riiakes provi_ion rrtilb at the___ for acting upon the fe Ulling – –station ii, such a manner –as to reduce to some extent the 55 frictional c6ntadt of the inside fl–at surfaces of e e ith thc_ s is ae_'the f rrul w' bristle ino,t. Thi complished by means of tv_6 f6rriiiecompressors .415 in the form of vertical rods whi(,h aie caused to engage the rounded _ _ides .of the ferrule Slib– _60 stant'ialik 6s the..Pulling –of'the'kn6t commence s, These compressors s(lue6_e tlie ferrule –from _,side to side thereby prbducing _an outward'bowing,or expanding of the flat gide_ of _the –ferrule, and temporarily redu I c'ing –tbe –f_iction o_ the kn6t. 6.5 Th' –pulling mechanigm_will–now 'be –d6setibed, is referring to Figs. 5.6–62. !he 'fra ; 7". –for this mechanism is secured eLt its b2Lse to,'the '– –ain machine frame and is fitted with '–fotir flangod roils 417 mount6d n studs p_ojectin –fr 'the _,l 0 –g GM P side of the frame. ' The8e 'r_118 _giiide'theuppor a and_16wer edges of a cross–head th ick' tigid metal 1)la_te, edgewise or 'veitit'_ily moulited. Crost–'h'ead–_4_it,carriestwo–proi6etiilg –4 9 patallel stud ; _hafts 't , one ver ileally 'abovl, ban=a –is Pivoted at Its _lower end_ to the bther a –rm _of _bell_ crank lever _43'6. At its _–u–pper _–end _a bai_ana –s_liap–ed,bar 4'40 is pivoted to _ n arm L441 ifixed –to one end;of –a _shaft '442 v_hi,_h _is –ful–crlA_med.:'at the upper ond:of :an upward ar_d forw_ard 'e3ttension_of puller 'fre_nie :41.'6. Fixed on –sha_f_t!442 _on thedther _side –of –th e fiiierum bea ring is –a; _tand6m lever t443 __having –do_v_nwa_rd and upward extending arms_ Fulcrumed at the bottam of the lawer atrn lis a secondarylever 444 carr_ying o_t its fgrw–ard, end a second,flanged roll 445 which engages _and Operates _the upper _– puller jaw arm 420_ A stro4g tension spring 4_46 is,connected betweenthe TeaT end of lever 4:44 and a _laterdl –extension on the upper ar I m of,tandem lever:443. –By means of this construction utj–,vard pu–iler 'jaw arm 42–0 is;closed under yielding pressure, and if the _elosing _pressure becomes excessive spring 44.6 will,_ieltl befor–e any damage occurs. In the operation of 'the pulling rnechaiiism J, after,t–he f eriule and its knot –have .cDme to rest at st_ition _.11, the puller iaws 4_l 1 which are at th6ir,,rearrnost b6sition which –is the p,osition of Fig.:_56 ci6se 'simult_Lnebusly by;thd op6ration 6f cam 432 and clamp the projecting'flag, end p;)rtion of the knot. Thereupon crosshead 418 is moved forward the required distance by the operation of cam 425:which completes –the pulling of the knot and _positions it in the ferrule as

shown in_ either Fig_ 80 or 81, depending, upon whether it is desired to make standard–hold or shallow–hold brushes. Jaws 411 then open and cross–head 418 returns to the rear, to commence the next cycle. The length of pulling stroke is adjusted to produce the desired hold by setting adjustable pivot pin 428 at the proper position in ,arcuate slot The timing of the plug hold–back, ferrule retainers –and, ferrule expanding mechanism with respect to the pulling mechanism will be set forth later on. Plilg hold–back, automatic ferrule retainers and –ferrule expanding mechanism at knot puzling station Coming to the mechanism for operating the Plug–holdback needles 412, this mechanism is also illustrated.in Figs. 56–58 with details shown in Fig_ 63. Mounted above puller frame 4 1 6 is a super–structure 447 which (Fig. 57) is supported by a downward extension 448 of one of its ver–tical members,. such extension being secured by bolts or . otherwise to one side of puller frame Superstructure 447 at its uppermost part serves to support fulcrum bearings for a horizontal ro ek shaft 449. On the outer ends of this shaft are fixed two equal length parallel horizontal arms 450. At the front ends of these arms are pivoted two vertical downward extending parallel links 451 which are i oined together at their lower portions by an _outwardly bent tiebar. 452. Just below this tie–bar each of links 451 has p_voted to, _t a rearwardly extending horizontal rod 453. These two rods are arranged parallel with the respective levers 450, at the top, and also , are of,equal length _therewith. They are pivoted at _their rear ends to the lower part of su pers.tructure447. Thislinkageformstwoiden.tical parallelograms so that when rocking moiion is imparted to shaft 449 the vertical links 4 _ I will move together up or down. Attach,ed to the lower extremity of each of links 451 is a needle clamp 454 (Mg. 63). I–loldba'ck needles 412 are, in cross–section, relatively i_'m in th I e dire ction of the width of the ferrule (Figs. 63 and 74) b . ut are relatively wide in their other dimension, as indicated in Mgs. 60–62, so as t–0 h.ave the required strength to resist the movement of the plugs. The needles at th eir upper –ends are bent upwardly and toward the fr ont to join horizontal supporting shank Portions 455, ihese shanks being adjustably secured in the respective needle clamps 454. Horiz'ontal shait 449 is rocked in order to rais e and lower the parallelogram linkages, and needles 412, by means of an operating arm 456 fixed to this shaft and connected at its rear end by means of a link 457 with a short arm 458 fixed on a shaft 459 fulcrumed at the base of the machine'. A cam lever 460 also fixed to shaft 459 _is operated .by,erigageme'nt with the plug hold–back cam 461 on cam shaft 7. A long'tension spring 462, the upp l er end of which is connected to one of the horizontal arms 450 and the other end of which is connected to thei base of the ma_chine, erve s s to urge cam lever 4.60 into c6nta:d_ with its cam 46,1 and to mqve the holdb_ck neddles 412 downwardly "fito th 1 e bristle knot.,with a quick o,r su–dd.en motion alt the proper time. The lower position of the needles is de_ termined by means of –an adjustable stop–screv/ 463, also on one of the horizontal arms 450 with its lower end engaging a stop member fixed to superstructure The . f errule register , plate 414,. previously ri_, ferred to (Fig. 64) is mounted at the lower end of a supporting shank 464 which, near –its uppei! end has a rearwardly projecting vertical plate 465 which is pivotally and adjustably mounted on a flat extension 466 by means of the two screws and slot shown in Mg. 56. Extension 466 is secured by welding or otherwise to the lower end of a vertical rod 467_ this rod being adjustably supported near its iipper end by means of a clamp 468, this clamp being a, part of a sleeve 469 which rocks loosely on shaft 442 and which at its outer end has'dn oetuating arm 470. Arm 470 is connected through 6, link 471 with a cam lever 472 having a cam roll 473 cooperatilig with the face of cam 474 on cam shaft 7. A tension spring 475 connected to the end of lever 472 maintains the roll 473 in contact with the cam. Assuniing that the machine is running shallowhold brushes, the hold.–back needle mechanism maintains needles 412 in raised position out of the brush knot at all times except during the last i–L6 of an inch pull of the jaws 41 1. At the instant that the plugs reach substantially the front edge of the ferr,ule as shown in Fig. 61, the quick drop–off on cam 461 releases cam lever 460 and spring 462 snaps the needles downward into the bristles. Thus needles 412 are caused to Pierce the knot _uddenly while the pulling is still in progress. After the pulling has been completed, needles 412 are lifted out of the knot by the operation of, the cam. The entrance of the needles into the knot is so fast that an air 6heck c_linder 476 is preferably 40 provided t 1 o cush'on the end of thei.r movement. Inasmuch as the tendehcy for the plugs to be pulled forward beyohd the end of the ferrule is considerable a stationary slotted brace member 477 is fixed to the front surface of channel 19. Needles 412 descend through the slots in this member and the edges of these slots maintain the needles in close proximity to the ferrule during the pulling. By withholding the hold–back needles from Penetrating the knot until just prior to the final –f".– of an inch pull the needles are prevented from forming objectionable splits or parts in the knot which would tend t.6 injure,the.brushes. As previ usl_7 mentioned, accurate positioning of the ferrule prior to pulling is desirable, and in running shallow–hold brushes, I it is necessary. Consequently just prior to –th6 commencement of the puuing m6tion";of crosshead 418 carrying the pulling jaws, the,ferrule register mechanism swi ate 414 forward, and ngs the f6rrule_regisier Pi' _ regardless of the. angular position in,which the ferrule may arrive at station 9, the contact of register 414 with the rear edge of the ferrule squares it against the feri_ule,retainer fingers 413 so that during the pulling operation the ferrule is properly positioned. The timing of this mechahism will be mentioned below: The.ferrule holdilig or retoining devi6es heretofore employed at th'e'. knot pulling station have been unsatisfact6ry b6causb th6y depend upon a "finger rail" hold on the flat top and bottom edges Of –tht, ferrule. It; is ektrehiely–difficiilt to set such devices so 'a's 0 t6,k6_ full advantag–e of –the metal –i_i__ss _tvithout d' turbirik th,6 brisiies tLs iii6 'eave's the'p on Vkush ui_it _entei7s _and 1 ulijilp., st_ii_' alid if tl_6Sr ate adjusted t6 :_Void –sixch _di9turbarice, 'the fe_rrulb 'is gpt to slip past them. F6trule,reta_iiiing firigeks 413 6f th'E_ _teseiit invention. hdWeVOr 'are so lodated –as to 6ngage th e side_s 6f the ferrule and subst_atitially 6i–i the hori_ zontal center line of th6 f6rrule and'kn'ot soih_t there is little tendency to 'dittiirb the knot. and out cff i6tbiniiig 'liositiot and 66hseqteiitl y cdnn6t inteife're With th6 btistle8 _ts the b _ru_h –e'n–te–rs 6r lea_,e_ th_. _tation. The ierrufe ret_in6f, hie'eh–anism is 'sup _pdrted on _two brack6ts 4718)r6jbctiiig horizontally 'btt_ I Ward _–._om 6haiiri6l i9 at tekt_16 _tati6.ii 9. Alt 'of thd e btacket_ _ie b, kight and the outer ends 1_it bda;rl'n_g _m_e'mber –47 _zo iitalbctuiitingrodksh_ft"486. dlbinpea–t6thi _h6,ft ttte right 'and. It_f t I_itot bl6_'ks 48_I 0_nA 'lil the lbwer 'i_nds theg6 blocks '_Lre t,_fo vertidal E_ ' Ul–es in which;Ei_ pert e – eiiga'g6d 'the fixl_–,itiin pins 'of right ahd 'left –bell orarik 'irierhbi_i__ –4 8_2 which pitot W'lth'_, gerier'ally hdi!izontal hi'ovemdnt. brio akm of dach bell crahk 482 is parallel with dhannel 19 and both are int'ei_6(innebted b_r indats 'of –an adiiistable scre_w,4lj3'9,iid a'_tdiisidn ;sl–p_rihg 484, so tha_t _:ictiiation of t]_e lbft 'bell _craiik tiil dp,6r'ate the tight 6rank. The, ofher L_rm of ea0h, bell'craiik '48 2 6x–tbiids 1,nl#o,t,dly _t6– v__rd charinel '1'9. a__n'd 's'uch ltt;r'm 'bf Tight b6li. crank

directly–__iipp6its ih6 iiiht f6rtul'e retaii_hd fjhde_ 4_'i 9, t_hi_ flngdr being mbuiitedf6rvejrtical–a;dju_tmdi_t_dn h6irin6r'end O'f this atia –bY'_t scrow b;iid _lbt' c6nn_tion'k_i6w _n –i_n 'Fig. 6_7. __he__left feirt_le 'i6tdiiii3_'hjxget'–413 is su]_pbj_t'ed on an 'hda__ter bra6ket _ 49 _ _*liie–h'in turn is fixed to the arm of,l,eft bell_6fdiik 492, e 'pu'rpoge cif the '–itdg'i_for"bka_oket ihounting _b,__ing i:_6 Affbkd b6'th V–dti'ldttl 6_,iid "horikbiit_l i _di'ti_t–m"e'n't–o'f tbi_s_fl_n–ge_r_'s_o_ –a's–t– o accothiii bd–a_te–differ6iit__wiath f6fkiile_ Bell _ahk_,'482 _;re _–bia' –s–ed a'w' _ay ft6_ _m –th_e f'e'ro– 'd'th dbited lihb i_6 t riife, i. t war e gi idil" lfowt it_–iipp'6ri_nd. u c h'ffd v– –'e iheiit 'is l,i'ml;ted b'y– –an,–L–__ api_d ex ension 4'92 on left bbll btbiik 2,_ 66 –tb 68), _t_lkiiit A _%Oi) sdrbv_.–495 _6sfii,o–ne–d o,–,n –b,– ne leg of a'f6iked bf6ck–4–8_l. A iiiiild'r _ckew 4'9',li ilm' its'mo–ve–,mb,nt e o–' " ' ' " – tr6ii. in th'– 'pi_osite diree ed on –a"'pin 'tg:7 –pi6j–ectiiik ir6lh 16it beii_ln__ bloc'k 41.–S'is–sLii_'actiiatiiik_16ve'r _468_ 'khe 1,61 ... . – __ t. _ .1 i t l . _ 11 II.– – i_ l a l wer p,or ion o his lever is cii ve as '.show'n ,–68,'t–o clear tl. in Fi_ ie left eiid 6f –_iia_it 49'0, _and te r" _m'l'n_b'f6s _–fn a 'f6rk 489. T'_his f6rk _6n_a,_es a ,6Eirrel shaped ot sph6_ical roller 496 w'h c–h't'urns oil a 'li6ri_6iiti_i pin._491 –proje6iiiig _'to ilie _ilkht fh –6_teii_ioii 4– 6t e _qp of ,L–shari6d 92 (Fig. .s Pe said,,t,14_t _ihe w6iglii"6f–ili6 _aits telid ck sh–aft 480 count6r(_lockwi_e,_ieierr__ 'to _ Fig. 68, which lowers flngel s, 413 to_ the dott_dposition –in this figure. _When, actu,ating lever 488 –,ls'moved from the .,65 dotted position at F–ig. 68 _to the –full line i3osition aT c_a–r_i., s 'wil–1 –described_ _fork, –489 n its Z_er_ end __f,.Irst – moves flpgers '413. u from the p dot_ed 'p_o_si'tiion 'to the full–line position of Flg. .68 and thpn _moves the fingets i f m the; dotted A – ro _ l .position _,,of, Mg. 66 to the full line position to :,engage –tli–,e,ferrule_ During the_ first –part of _this r._iptiqn, –t_ie_,,.fq_ce o.f, tprsilon_ –spring _486_ kizeps L–shaped exten ion 4_2 ggai t _stop_.–S ;495 –ns i crew _6kt Pi . 69. Aight _i'Vbt _bib6k 48_'i i8 carried 'w_ ith i't, 'the two be g in co e ihaft This rriovement continues until An adjustable stop s6_ew 496 iii6urited at the end of a horizontai projedtibn 497 oh 16ft piv6t blodk 481 engages the b6ttom of left bracket _478. After this contiict the cdhtinued inoti.on oi _a6tuating lever 4 8 8 cg . l_se_ 16it _bell _ckiiiik . 482 'to I turn about its ver– M6reo,Ver –the fingers _win_ attto . indti,6_,ly into 1() iic'al piv6t, ag6irist the 'f6ke6 bf totsion soring i_–ht 'b I – _482 8*inging wi–th it 488, the r 01 cr_hk be'cauqe of the inte'rconhection described com– 1)risiii __dr6w a n d s i t i n g T h i s s i m u l t a n_ous swiiigirig movi_meht of thi3 two'bell c l ranks i5 _.trie the fe e c s r k u l f i n a r s i n w a t d f r o r i i t h e dotted posi tion of Fig. to the full line po8i tion. _kctiiatirig leV6r 498 is 60 , erated by means bf supp_or–t _ h6ri– ,a _lik ',498 Which i8'cohne'eted bt its rear end ih–0 iipp6r end 'of 'a ciirh leve_ 4 9 9 (P–ig. 7 1, Sheet a oll Which ooopis lever carri s a c m r brat_es 'with a b SO'D __ n 'in'shE_ft 7. Whon the 'iiio_7e_ 16v'e–r 4'8'8. e tetaine j fi _ ek in_dh dn'_ thus operat ed by a I yieldiiig corii–iddtibn rvith –cain 500 and afte_ these fingers bngbjze the fekriile, rod 498 slid6s in ah apettiirb of th6 _aniiv r_al cbnnedtion 502 e the i_6r nd'bf 16 6r 488. This soriiig comat up e v pr–es8i–on is t_ari_fei__ dd thiough th6 link to the _id6s bf the _i6rriile _aiid lias b, t6ndency to compke_s the feriule in eoi_hewhe_t the _aiiie manner as the ferriile compressor iiiecha_nism which is b_bout to be if6scribed. Tt is to be noted that a6tii_tin g ser_ew 483 in rikiit fi bell rank4'92 may be placed _ eitlier and c in of –_everai ta_p_6d _h6les so as to – locate this screw 'ar y riiid a P_oximat el –W –v bdtvieen the fulcrums in the two bell cran,ks, _when changing from one width of brush to another. The timing of this retainer mechani sni will be :referre d to later in connecti on with that of the ferrule expandi ng mechani sm. 45 'tii '_pite of _ the fact that the present pulling mechani sm is o–f sturdy construc tion and grips fhe br'istle knot with a very consider able 1)ressur e, it _ha_ been _oun ihat some'bri stles are apt to slip throuah the rubber inserts of the pulling a _o_w– n_,w",,–ar'd 'pr–o,j"_et,io'n 494 at fl_e _ldb bf l_f t'Di–_bt 50 –jaws, resulting in a faulty pull. Such faulty pulls, however, have been eliniinated by the introducti on of . the, ferrule expandin g niechanis m to squeeze _ or compress the sides of the ferrule _ihereby causing t4e_fi,–lt ferrule surfaces to bow or expand outivardly ,:pne up and the other down, and releasing the tight _frictiona l pack of the __Tipt and plugs in the, ferrule. T,his m.echan ism is shoa7n in Figs. Tl_ie two_ f.errule comt_gt;re ssors 415 are in the form of rod–like plunger s _havin g curved lower ends to fit the curved sides of . –the ferrule. These are mounted in 'parts secured to channel member IO in such a manner _as,to frst 'drop down alongsid e of the ferrule and tlien the 10wer end of the left hand, plunger is _ sviuna slightly to the right thereby squeezi ng the ferrule against the right halid compres sor 415 ahd oausinthe require d bowing actioni This _queez ing takes,_ plqce_ prior to the pulling _of the _knot and_:c ontinues uritil this 0]_erati on is finished, vjhereu pon 'the squeezi ng is released and the plunger s. are raised to allow the brush tinit'to_ nioVe_ to the_ne xt"statio n,and a new brtish ui_it.,– to_– MoV6.,i nti_gt;, the_,pti lling. stotion 9. 41AO.. _q_ft _p__Qt bl–ock,,,48–1,,–8,:_swung –.__,_Righ't _–fhqnd com–pr,68sing, pluiiger: 4–1_5 _slides vertically in an –aperture In– a guiding block 503 whi6h is adjust_bly mounted on the *eb of channel 19 by means of the screw and slot arrangement shown in Fig. 69. The left hand compressing plungbr 415 is guided in a piv6ted head 504 which ha8.a trunnion bearing 505 (Mg. 72) in a block 506, which like block 503 is adjustably mounted –on ch_innel 19. By means of these adjustable mountings the two compressors can be located to suit different width ferrules. The motion of:right hand compressor 415 is merely up and down. Left hand compressor however, after being lowered, is rotated by imparting a slight rocking'rhovement to head 504 on its trunnion bearing 505, as will be presently described. The t_vo compressing plungers 415 are given their vertical sliding movement by means of two actuating,levers 507 pivoted in suitable brackets securod to the top of channel 19. These levers are each provided with adjustable stop screws 508 to limii and position the lower ends of the compressors appropriately with respect to the sides of the fe_rule. The connections between compressors 415 and levers 507 are in the form of pins 509 mounted on the inner ends of the levers and engaging bell–mouth apertures 51 0 in the upper ends of the plungers (Mg. 73). Actuating levers 507 are operated by cam 500 on cam shaft 7, the same cam which operates the ferrule relative mechanism. This cam coacts wiih a cam roll on lever .499, this lever being keyed to rock shaft 511 journaled in brackets on the machine base (Mg. 70). A lever 512 is keyod to the right end of shaft 51 1. Links 513 and 514 connected respectively to the upper end of this lever and to cam lever 499, are connected at their frol'it ends to bell cranks 515 which are in turn connected with the outer ends of the right and left actuating levers 507. Tl–iese latter connections are by means of pins 516 projecting from the respective ends of the horizontal levers of bell cranks 515, and swivel blocks 517 which are ' pivoted at the ends of the respective levers 507. 1 The connections betw , een links 1513 a;nd 514 and the respective vertical a_ms of –bell cranks 51 5 are by nieans of compression springs 518 operating between collars fixed to the re spective links, and swivel bloclcs 519 which are pivoted to the si.des of bell cranks 515. '_rith this a ' rrangement when the ferrule compressors 415 have reached

the limit of their downward movement as determined by stop screws 508, any further movement of links 513 compresses sprin.–S 518, the ends of these links sliding in the swivel blocks 519. The turning of pivoted head 504 on its trunnion 505 in order to move the lower end of left hand con–ipressor 415 and cause the squeezing or compressing of the ferrule, is accomplished by means of an L–shaped lever which is made up of an elongated and extremely crooked horizontal leo.– 520, and a short vertical leg 521, the lowet end of this leg being pinned to trunnion 505 (Fig' 72). The extreme left end of the crooked hokizontal lek 520 of this L–sha_ed lever is given vertical movement for the compressing oper._tion by meaiis of a, bell crank lever 522, this lever having a pin 523 at the end of its forward arm which bears against the upper surf6ce of lever 520. 'Thi_ leg is raised to release the compression by nieans of a tension spring 524. The other iirm bf bell crank 522 is operatively coniiected with carii 525 on cam shaft 7 through a link 526 ahd a cam lever 527 which has a cam roll engaging the cam. The connectidn bet%veen link 528 and bell crank 522 is by means of a s*ivel block 528 through which the upper end of thb link slides, and a compression spring 529 operating against this block. An adjustable stop screw 530 (Mg. 69) is arranged to limit the downward inovement of leg 520 of the L–shaped lever 520–521 so as to adjust the amount of compression exerted by the left hand com_ressor 415 against the ferrule. lo Ina_much as the cornpressing of the sides of the ferrule causes an expansion in the thickness of the ferrule, the section of the upper ferrule guide rail 17, at pulling station 9, is removed and in its place a, formed plate spring 531 is employed. This is suitably mounted at the right of station 9 and extends across the upper surface of the ferrule at this station as shown in Mg. 69. While holding the ferrule'in, position and counter–acting the overbalanced weight of the flag end of the knot, the spring permits the vertical expansion caused by the compression. The operation and timing of the plug holdback operation, ferrule retainer operating and ferrule expanding mechanisms in relation to the pullirig mechanism ig as follows when making shallow hold brush units. As soon as the ferrule and its knot have come to rest at pulling station 9, the ferrule bein.m beneath flat spring 531, the ferrule compressing plungers 415 drop alongside of the ferrule. Simultaneously ferrule retaining fingers 413 move into position straddling the ferrule and the secondary mbtion of these fingers closes them against the ferriile and causes the finger lips to extend in front of the ferrule at its opposite sides. Imniediately ferrule register 414 contacts the rear of the ferrule and squares it against the retaining fingers. Just after such registration takes place,,pivoted head 504, which carries the left compressor _lunger 415, pivots on its trunniori 505 swinging the plunger to compress the ferrulia against the right plunger 415 thereby'expandin_ the sides of the ferrule, spring 531 yielding to permit such expansion. . Puller iaws.411 close a–nd clamp the bristles during this compressing operation and, as soon as the ferrule is squeezed, the jaws commence their outward pulling movement. Just as the front of the, plugs is about even with the front edge of the ferrule, hold–back needles 412 drbp, the pulling jaws not hesitating in their pull. Ferrule compressors 415 release the ferrule before the puller jaws start to open at the end of the pull because the release of the compression causes the ferrule to return to its normal shape to clamp and hold the bristle knot. At about the end of the release of the f errule comprese_io–n theferruleregisterDlatemovesback, retaining fingeis 413 move out_rardly and then drop to their lower and_open _osition, and hold– back n6e'dles 412 _ rise out. of the knot. The puller jaws 411 then open and return to their inward '_.bsition adia6eht the pulling station ready to conimence the next cycle on ' the succeeding knot. As mentioned previbusly, –on th.e next movement of ferrule feed bars 13, the brush uiiit at station 9 is advanced to station I 0 which is the discharge statibn where the– row of brush units is acted upon by the final combing mechanism K (Figs. IC and If the machine is making standard hold brushes, the plug hold–back needfes 412 are rendered inoperative and the stroke of the pulling mechanism is shortened so as to leave the knot extending–futther into the fertule. 75 – The– g6neral'operation of the 'complete appara– 2i6O9i241_ tus,has__already.,beem.,giv–en–following–the descrip_ tiidn,.of –the–.figures,.of the.drawingsiiand the de_ tbliled timing and operation.of the,various mechanisms _ suchas _the . automatic _bristle feeding–! and br,istle 'conveyor operating–mechanism–B, the knot pack6r mechanism, C_, knot, transfer mechanism_ F, br,istle,,distr.ibuting and–.station,to–station. knot ad,_ancing mechanism,.G, plug insertihgmecha_ nism.H,_patters–I and_pulling,–mechanism J, with itslautomatir,plug–hold,back, ferrule register, re– tainer.and–,compressor mec hanisms,..have,_been_ glv–en. in– connection with the description! of :these several features or elementsi–.of..the–machine... The_.–present. _ invention has– been . described in all–its.,jd6tails–,as–embodied.–iri one par–ticular ap– iiaratus,–,and it..will–.be.understood, that.–the invention, is: not Iiinited to.,the ..,particular... embodi_ ment _illustrated–inlthe..dr–awings and,.set f6rtli–, in the description, but that the scope:6f the –in_ vention –includes _ such– modificati6ns . or, changes a_,come,–Within the terms–of.,the. appended cla–ims._ i'_ li__a–biusli–machine;–a.khot, forming,device,means –for..–part_all_, spreadihg,,out. tlie–knot to suit thewidtli of tlie,ferrule, means for.ilisertirig. 25 thepartizill__ spread.–knot in a –ferrule– so that tlie, biitt i3ortion–project_ f tom–th:e rear of the f errule, mech,_nigm–for..opening,said biittlp6rti6n. and iriserti'rig,,plug,,m,eans.,tlierein,– means ..intermit_ tenti_,,operat6d f6r f6edihg–,.a–successi6n–of said 30 fe'r,rul6 s,–and–Proj_cting,_khot_. ffom_.station_tost,,itibn–of '_,i–series of _tatfons.to– _said.plug. insertirig,,meeb:ani_m,–,clamping.,means –for. alternatel–y engEtgirig_and'. releasing, a _.pltiralit_,, of_ said Pro_ jectirig kiiot_land.operatirig–mechanism f6r.said 35 eldmpiiig,.,means. to, cause,.said_.means to en.–age. said_khots t6 – compl6te:th6 –spreading of –the khots t6_.prodtice_,unif'cirm. di_tributi(in of thb br_istl6s in tli_–,irespectiv.e,f6_rulcisAnd move–..witli..th6–knots, fiom, statidnto_stdtfon_ to . k6ep, the. distr..ibuted – 40 kiiots iri– –ali_nment. with the– _ feirules . until th6, iriser.tf(in.of tlie. pliig means, said_ bperating mechani_m causirig said 6ldmping means to release Tsaid kiibts_ –at tli6 end.'bf – _6ach'f dediiig. movement.– 2: A,bkusl_. machine as_. set. fo_tli in–,clairii– 1. in which ' thb _means for partifill_.spreadiilg,out the,. k–not ig iricorpqrated iri th_e knot –forming d6vicei.. 3 _ A brush. machine.as set f6rth. in, claim,.l. in. whict_'th6 means'f6r,.parti6.11_–spreadiiig out._tlib_ kii0t'is in_part,.iricor–porated iri the. knot, forming 5.1 v ddvide –and,iii part'_m' themeans –for i?iserting,,the – pattfal.r_,Spread knot in th6 f6rrule.. 4._ A. b'rush machirie –as_ set _f(irth ih.claim– 1 in whtdh – pottirig –rnechani_m i_ arranged– at one ..or mor;6 –,of the statibns.–.of._thb–seri6s of 8tatiOns to 55 even–uptho b'utt_ end of the knot,.and _advance i–t in,.the.ferrule and.wherein means tosupport the overhanging kiiotg beyond, the conttol rails. and to'_–control– their'sid6 _flbre_ duririg, patting, is arrAligOd'.tcf'cooporat6–with– the elbmpirig ineans. 60 5.,_ Abiush machine'as setfdrth' in claim l'in w . h_ch–the kiiot"forming device,is constructed and a.rr,afi'ged– ta,f(irnr knotg ofa lired6termined width fdr aferrule'stibstantially –wid6r than said width, and means is'provide'd –fcir feeding bri_tl6s to said 6, d6,Vide–'iri

–a–layer– of 'tub 'Stantiall'y' the sartle d6pth of %h6 said "knot –width. 6 Ifi_ a– brush –maehine, a knot forming. device co hgt',rutted'andarrEinged'to.form,,knots havin b–ristli_–volurrie– to fill__a f_rr ule substantially– wider than the width of the formed"knot, means for f dedilhgl Vii_tle's t6 _said'device", means for insertiiigAhe.–knbt–_in a_,ferrul'e'.'so that,–the_butt portion pf'Oj_6et_ftbra'the rearof _:th_ fdrrul6;,mechanism fdi–,oponirig_'sal–d"butt portib ii–'and'ingerting pliAg"_75 means therein,.means intermitt ently_operatedfor feeding.. a _ succession of said ferrules and, projecting knots from station–to–station of a,series_ of stations to said plug inserting mechanism, and clamping m–eans for alternately engagingi and re–_ leasing a plurality of said projecting knots, and operating mechanism for said clamping means to% cause said means to engage said knots to, com_. plete the spreading of the knots to produce uniform distribution of the bristles in the respectiver ferrules and move with the knots fromi station–, to–station to keep the distributed knots _ in, align–ment with the–ferrules until e insertion.of plug means, said operating mechanism causing_ said clamping,means to release said, knots z at –the', end of each: feeding movement. 7. A brush machine 1 as set forth in claim 6, in', which patting mechanism is'arrai_iged at_one–or, more of the stations of the series to even up the butt end of_ the knot and, advance it in_the ferrule: wherein means to support the _ overhanging knots, bey6nd the control rails al'id to control their side–. flare during patting is arranged to cooperate–with the clamping–means. 8. In a brush;machinei a _knot forming device,,;– means for partially spreading out tlle knot, means' for inserting . the _partially spread–knot _in a7 fer,– rule so that the_butt portion projects–_from_the' rear of the ferrule, mechanism for'opening said–, butt portion and inserting plug. means therein,%, means. for feeding a succession _of said, ferrule_ 1 and projecting knots from station;_to–station– of a series of _statioiis to said plug inserting mecha_nism, clamping_means for altern ately.,engaging_: and releasing a_ plurality –of said projecting knotg:_ to complete the spreading of –the knots and theri maintain them in _ spread conditioii_ until thei in–, sertion of the plugging means therein, _said meaiis _ being timed cto engage said?knots ag _they move–from station–tostatioli, means _ for –feeding _ said ferrules _ and projecting –knots from– station–tO– ___ station of a second series of stations after the –in–L_ sertion of the plugging – means, means at each– of,t two adjacent stations o.'L_ said isecoiid serieg :for–' patting, said projecting_ knot _with its_ _pluggirig means flush with the rear end of said ferrule!in.', two _ stages, means _ associated _ with . said_ second' patting means for. embracing_ the _knot adjacent–! thereto to control the fi,,ire –of.'the knot tot facilil_. tate its, entrance into the f errulel–;and meam at7 a subsequent station _for _pulling the_ _knot foi_Ward_' to position ii. in the f errlile. b 9.L In a.brush machine, means_ foti feedirigrush units fromr station–to–station'of a series _of tions, each of said units inrluding a fe_triiie bnd a bristle knot projecting therefrom_ with pliigg!3ig means in said knot means at one: of se_id –_t I ations_' for patting said projecting knot with–its pluggii–lg,.–. means_ _into _ sa–id ferr_ule,, means _associbtbd_;with r_ said patting means for:embra;cing the knot adjEi;._,cent said patting__means,.–to_ control th6 flare'of' the knot: to f acilitat6 its'entrbhce; into th6 f errillei4. and means,_ at: _a ;subsequent_–sta_tioii for,–.Pulling the: knot_ forward to positibii;it in the–,feiTule.'._. 10., In– a__brush_– machine,: meang 'for_'–feedifig–_–_ brush.' _units –from, _station_–to–_stati(jh of "a __ser–_ies_ of stations, each of _aid _units. incltiditiga 'fe_r–r'i_1–6 and a ibristielkhot projectitig: th6reftbm With]_liig–_–, ging _means iin_ said'knot, nf6gri8 –_at each – of_. t_W6 adj–a_cent sta;tions of _said. setie_ fot:pa ttirig_– _Aid projecting knot !With, its_ plugging_ :iri6_n_i –'fiti'sh__' with the._rear end_of _aid ferrule in rtwb sti_ges;' riieans: associated with . sgid second pattiiig ineam_ f oi_, embi_gcing the'_kriot 'adj a'66nt tlyereto'.,td –corri__ tl'ol th_ flare of the knot'to fa_cilita_to it's__entt_an–c'e'._ into the ferrule, and mea–,is at a subsequent station for pulling the knot forward to position it in the ferrule. 11. In a brush macliine, means f_lt;)r feeding brush units from station–to–station of a series of stations, each of said u–_iits including a ferrule and a bristle knot projecting therefrom with plugging means in said knot, means at each of tvio adjacent stations of said series for patting said projecting knot with its plugging means flush with the rear end of said ferrule in two stages, means associated with said second patting means for embracing the knot adjacent thereto to coiitrol the flare of the knot to facilitate its entraiice into the ferrule, and knot pullin– mechanism to complete the brush unit includin.– a ferrule expander to reduce the bristle friction in the ferrule as the knot is being pulled therethrough. 12. In a brush machine, a knot forming device, ferrule feeding means for feeding ferrules from station–to–station throughout a plurality of successive stations, mechanism for transferring the bristle knots successively from the knot forming device to the ferrule at the first of said stations leaving the butt portions projecting, mechani.4m incorporated in the knot forming device for expanding the width of the knot substantially as it is delivered to the transfer mechanism to partially spread the bristles to the ferrule width, clamping means for alternately engaging and releasing a plurality of said projecting knots to c–omplete the spreading of the knots and then maintain them in spread condition until the insertion of the plugging means therein, said clamping means beii–ig timed to engage said knots as they move from station–to–station, mechanism for forming a recess in the butt end of the bristle knot at one of said stations, mecha_nism for depositing plug means within said recess, said recess–forming mechanism thereafter closing the bristles upon said plugs, means for moving the knot butts and plug meaiis flush with the rear edge of said ferrule, and knot pulling mechanism to draw 'Lhe knot into final position in the ferrule. 13. A brush machine as set forth in claim 12 in which the knot pulling mechanism includes ferrule expanding means to reduce bristle friction in the ferrule as the knot is drawn therethrough to final position. 14. A brush machine as set forth in claiw– 13 in which the knot forming device is constructed and arrar).ged to form 2" wide knots for a ferrule substantially wider than 2", and means is provided for feeding bristles to said device in a substantially 2" layer. 15. In a brush machine, a knot forming device ferrule feeding means for feeding ferrules fro_; station–to–station throughout a plurality of successive stations, mechanism for transferring the bristle knots successively from the knot forming device to the ferrule at the first of said stations leaving the butt portions projecting, mechanism incorporated in the knot forming device for expanding the width of the knot substantially as it is delivered to the transfer mechanism to partially spread the bristles to the ferrule width clamping means for alternately engaging ana releasing a plurality of said projecting knots to complete the spreading of the knots and then maintain them in spread condition until the insertion of the plugging means therein, said clamping means being timed to engage said knots as they move from station–to–station, mechanism for forming a recess in the butt end of the bristle knot at one of said stations, mechanism for depositing plug means within said rece5*, saia. rOrPSS forming mechanism thereafter closing the]5ristles upon said plugs, a patter at each of two adjacent succeeding stations, for pushing the bristle butts and plugs flush with the rear edge of said ferrule _7 in two

stages, the second of said patters havidg flare control mechanism associated therewith, and knot pulling mechanism to draw the knot into final position in the ferrule. 16. A brush machine as set forth in claim in which the knot pulling mechanism includes ferrule expanding means to reduce bristle friction in the ferrule as the knot is drawn therethrough to final position. 17. A brush machine as set forth in claim in which the knot forming device is constructed and arranged to form 2" wide knots for a ferrule substantially wider than 21' and means is provided for feeding bristles to said device in a substantially 2" layer. 20_ 18. In a brush machine, a knot forming device, ferrule feeding means for feeding ferrules from station–to–station throughout a pluralit'y of successive stations, mechanism for transf erring the bristle knotssuccessively from the knot forming 2,5 device to the ferrule at the first of said stations leaving the butt portions projecting, mechanism incorporated in the knot forming device for expanding the width of the knot substantially as it is delivered to the transfer mechanism to par–, tially spread the bristles to the ferrule width, clamping means for alternately engaging and releasing a plurality of said projecting knots to complete the spreading of the knots and then maintain them in spread condition until the in– sertion of the plugging means therein, said clamping means being timed to engage said knots as they move from station to station, mechanism for forming a recess in the butt end of the bristle knot at one of said stations, mechanism for 4o depositing plug means within said recess, said recess forming mechanism thereafter closing the bristles upon said plug means, means for moving the knot butts and plugs flush with the rear edge of said ferrule, knot pulling mechanism including a ferrule expander to reduce the bristle friction in the ferrule as the knot is being pulled therethrough to complete the brush unit, automatic ferrule retainers constructed and arranged to engage the front edge of the ferrule substantially centrally of the opposite sides thereof to maintain the position of the ferrule during said pulling operation and an automatic ferrule register device for squaring the ferrule against said retainers prior to the pulling operation to cause the bristles to be pulled evenly from side to side of the ferrule. 19. A brush machine as set forth in claim 18 in which plug hold–back mecbanism is associated with the knot pulling mechanism, the plug holdback mechanism having means movable into the knot projecting from the front edge of the ferrule at a predetermined point in the pulling operation to maintain the plugs even with said edge as the pulling operation is continued. 20. A brush machine as set forth in claim 18 in which the knot forming device is constructed and arranged to form 2 " wide knots for a ferrule substantially wider than 2", and means is provided for feeding bristles to said device in a sub– stantially 2" layer. _ 21. In a brush machine, a knot forming device, ferrule feeding means for feeding ferrules from station to station throughout a plurality of successive stations, mechanism for transferring the bristle knots p4 pee,_sively from the knot formin_ device__to._the–ferrule at,,the__first – of,–said,,stations,., leaving_,the.,butt__por,tions–projecting,,mechanism' incorpiDy,ated–.–.ifi_l_the.–knot forniing_l.device__for._.ex"_pa3iding__,the:width,_of;_ the_ knot, silbstaritia;llyas' it–___ is– deliveri_d,– to – the transfeir mech–anism,–. to_ pa–rtio,ily,–sptead,_thebristles:tolthe:ferrUle__width,,. clampitig:_, mea–ns–.. foralternatoly, 6 engagiffg,.__ and' releasitg a" pluralitsr. of said 7proi,eeting,,__ knots'to" completb,t the, sl3r–eading'of tho–._knots' an'_d'thenr maintain, them_ iry.. spread.–. cGndi–tioir,. until _ the' insertion–,. of – the _ plugging, m, 6ons:_ therein,,_ said _ clamping_meails_being tinied to eng4ge, said, knotg–,as th_ylma vefroftr_StoLtion to__station,__mech,.axiism_,, for_,forming..:tWa–': superposod,"reeesses–in –.the–,.endof _,the._bristld–lknot a t'one–,of_said_statioxis,'_inecha__.nism'– _.f6r–simultaneously_–deposi,ting%.,_.;'twoi plug–s_,_ one,,v,ithin–eaeh,_of said r6ces8t_s,,sbidrecesg,_–torm–._ing,,_ mechanism–.:theretLftet closirig_..,lthe bristles,,' iip.on _ said– plugs'lmetlns, forf, moving _ the kn6tbutts – aridd _plugs –flush with the–:reat,edge_ of sELid,_ 26– ferrirle,,_. knot _ pulling" rftechaiiisul _ in–.ludirig,_, a;' fettule,,_expan66r:,tol_ reduce _tho– b7ristld_ friction in, thp–:–.fer.tule, as–the,–:klio t,lis_tbeing._ijulled–7tlYere_ throu–g_h–,,.to_ coihijl6te the. brilshz_lunit,_:,aUtomatic– _zi6oa;z4l,_ sit6_sid6sL_ther,4_of ._toi –maintaiii.–the–l–liogtion_ th6l', f6ttUle',, dilring I said pulling _ olieratioh_, an___ aiitbmatic'.f_rr'ale:,register device__fo–r– _6_s4uaring,the'fer.'",rule,,.a;gaitst sald._Tetainers,–Prior t(i,the7_pulliifg bp_,._ 5__, erotion,.to_–:cause–the,Vristles–;to be"pitlled.eVenly,,,: fiorm,_sidt7to',side.of."the'2–fOrrule;_and,' plug'hald__. back means_,_,movabl6 into –the',projecting,kiiot__at'. the, ftoilt –,..edge _ of,'the.– fer_ule–'at–I al predetermiihed__ point,:irt.–., the,.,– pulling,,. operation– t6;'maintairiE_ the_ lo" plugs even–_with 'said edge,, 24.' A_ brush rhachinelas.–set'–forthi.in–el 23 in.–owhich–. _the," knot–forming,d – evice.,is.!,constrfioted,and'attanged.–,to,form,2 _' 'wide_,.–knotz –f6r –a–ferrtii'e' stibstantiall_yj.,wider_.,thOn–2!.", vided for feeding bristles to said devide_–.iiia_– stfli_stilritiall_r _2'–"laYer" 25. In"a,,btUsh–machine,_a_,kn ot,f6rrnirfg–'.d6vico_ means_:fotlpartiE_lly"sprea_di–iig,.the'_kiicft–of–'brfs;__ tles_to,, suit _'the– ,ferrul6,: f6trule,–feedihgi–=6aris toi__ feeding.– ,fer_rules;ffom__ stati6ri– :to_statibn_ through"out__a _vitirality–,of sucressive stationsi mechanistff–, for–._' ttansferrink...– the _– bristle 7 knotg" s ticdessi–voly,_: from.– the_,,kn'bt :f 6tming,. deviipe_ t6'_ ttie_ f errdler_at' –ttie–_fi'rst–,Of said:,st_ttions–l'eavin–gl the butt_pbf,_ferrule retainers,–. coristrilcted–. alid, arranged tO__ 25_ ti6ns,,p'roiecting,– a,,pai_:bf 10 eng_vge_–,the –ftiont. edge_of –the'_ferrule_,– sub'sta,.,n–_ tic'a;llymovable_control tiall–Y, centrally of_, the_ opposite_:sides_.1thereof., to; wi8e,,,mounted,,onelabovel.and_,.,oti6 Velo*ltho_ ktiotg' maintairy,tliec.– Position_.0f,,thb,ferrule durin–g._said._ projeetirig, –frOin–.theferrUleg.–,at a_ plifrglity of s –aid. –oper.ation – an –autb –r ilg_ t6_; pulliirg,,, matic__ ferrUle,_regi4 ter stations, operating niochoniqih"f6r" said_ll 9, device_,,_for, squariig,_–th4e –ferrulo –ag6,1–nst – sftid,–. _re–_,, so_, caiiso tliem, td: close 'on, said–,,l–cnots;to _corAi)lete, t]_e spreadino–_ofthia,.b_iStleS:ih tIY6,regpettiVd'fbr_nle said_,ogerE_tinginbehanisin'thoroELfter'baiisirig 8:kid' closed, rail_ tb' mbve' with,–'i th–6 fOrti!16_ f6t_dihg'_'_ mee_ns t6 keerCtl_e'spread_knots"i'n PIiiiifn6fit witl:f.the"_fetrulos until–thd.'it8ettibii of–th6'plugiii'e_ih_6–t in'_the'knot said.'.'operatink'mt_chigh–t_nit optiilng._' said:–rails af ter.soid'–.'f Oodirfg 'rAovoffii__nt a;nd– –theil_4, t(y,std_rtiti'g"pb8iti6n,– rilechanism,,. foropeniilg__ said ' pr–oJ6dtii_ig –biitt 'Potti6ii__l' atton_'to,ma,intain theel__plugs_,– ,even,–,With_.–.,said_'_,_eddo"4(–, of –,:BucOessi,_e–'kri–ots,' rhedha rnOEins'_'ther__in',,nieans_'foir'_'iffbvi –h'g_the'k'nbt'bi,_ttg' and__pltig _iii8a'ris– flti8h" with, ithe! rbai edge'–' of– th_e' f of–tiale '_'_and,,'knot _ptil;ling ifti_ch__6f]7is'm'–t6: dfaW."–tlf#' knbt –ifito–fin'al'position –lh– thO"f6rtule'__26';–_ A'– brush. rriabhini6_ a8'set%f'otth "iii–'cl_:ilh– . or irVlWliiclYt]Ye_l,,iftt_ati,_.fth__,'k_not ig'incoi!l)otAtOd in,_'th6 '–kriot'fdr–rhiiig–.'_'d6z vice. 27. A btush_imothin e,.as_'S n' f t t i i ifi–'whioh' t mean–s' or 'pat–tiAlly"sot6a;diiig:'_–tl_6_' kliot'_islift'T"_patt_incorpbrELti_d–"iii–'_tf–i–i_ – 1_n6t,,,f6rtt._ ing'd evi rifl inl– 28–_' A'briish compldte– t]Ye sp_ead'i'ng,. I of –tl_0. knots', and.,then., 5,5,–,, iriWhicl_'_PAttin'g

ffechbh'ism'is'_'_ar'ran"ge 'd_–a(li'a"–'_ c_iit_tli6l'moV etbl(__coritiol railst6_ev6ri'u the6iitt: eild_ of –thi_'___kn'ot'an_d _adv'ethce it in th6 _fe'r_iil_,_ ai_id'_Whi_tein_ rrita m'_tb ' siY])Dbrt'tli6_'overh'an,gk'n'ot8 beyond_th_ cohttbl railg_bLi–l(Ito ocil_it–roi_ifi_6fi_ siieh. pqtting is _ _al_te_iiged,'t6 opetgte Nvith"SeLid__contrbl,'r;iil__. 29.'_ A– .brU_shnia_hift'ia a,_ set f6rtff'in which__tho'rii agnglf(ii_',iroVi ii_– "thb_l_:_ot'bi ltt – and, o he er–, pl–iig _rri6afis fllhli.' With_ th'b–, _ea _r _ eddti f _i f rUld'ir_elild(_g._ap6,tting, iri6ch a n i s n i h t v i n g m associated therewith for emb'r' 6_ing'–'tfi6 _k'ilbt –t6 .0 contfol'th'e fla–te' f the leP'Ot_'arid, fa–cilft te –itg entfan6e:irito_', th_ – –feiYuld;' 30'_ –'A briish," r)_bcl_in_:as 'setfortti'ln claiiii– 2Z_'iii' pixllifig_,–'rn6ch'Einigrii–_in' cli_dihg.',a'–lfdt Jnile'–bxpo_hddt–'70,4'whi6h_–_.tlfci _ rii6Eirij_ f6r rhoving_ tii6,, k"n6t, 'biitig_ '_nd _th ti_h'–witlithe':_rdar edi rule comprises a patter at eaci_.__of__' 4two adi,6,6eiii– n g a stbtfbn8,,aft6r–thi_,pli_g'i ' ertiji_,,M_dh– 'hi's'm,,the. s(__,Drid_pqttdf,hbviiii_.,_as_6eiiit6d –th6rewi___h meari_ f 0 k_ l e mb t a o i i_k th o – kh_6 t_ t 6:'c,on t–i6T th e fl Of 6 _ o f t_iniers –,–_ ptior,. to,',, the , p_.alling, . . operati6ii,_, to:,– cause,–'_ ttfe.,br,i_stles _'to4, be.–,,Ptilled_e–venly–_ from side. to.,side–_ 22.:,A._brLish,im_cchirie–,,a8 set_"forth–_ iir, claim'._.21" ifi,–w_hitli!plug_liold– ;b,a;ck._'mechanisfh–ig,.associatedw.i,th'the,kiro t,_p.tilling..–,riiechani_m,–_the__'.Vlug,,,hold–_ bo,ok– rnechunism–_having'lneans movable –into– ,,the,,6 knot'_.pi,ojdcting–fromhe–front_edge';ot'the,fer_._ rul6,.at. x,,predetermiiied.,point,,in tht_ –iiullfng'Oper;; as_,_thie,–Pulli.ng_rop,eratiori_,is conti_nued–.' 23._ In–,wbrushmachine,–a _,knot_forming–idevicelferrule feeding–,means–for_feed–ing_._ferrules–from_ st_ition–. t6_ statiork throughout_ a_ plurality:"of;sue–, cessive stations, mechanism for transferring_the__ 45 bristle, knots, successi–vely –from–the,knot forming device,to the;ferrule_at,,the–firstlof–Isaid,,station's_'. leaving,,the butt,portion–s_– projecting,,–_mechanism7, incorporated..in,,the.,,knot –forming,,device,tor – ex–, ,the_width–of,the,kn –su anti–all panding, ot bst ' –y as– it is . delivered; to. the_ transfer . mechanism– to–par, tidli_ 'spread,–.the, brigtles,, to' . the – f6rrule. Widthiclamping, means f6r alternat6ly4 –.engaging,, nd re_ ,a leasing, a pl_irality of sa id–'proj6ctifig,"knots,_to wo,inta__– tlieia. in–sMegd'. c –on–dit'i'o'–n'_'uiitll'.tl_i6 in–' serti'o'n'df't]Yeplfiggiiig'rAeaiis'th'e'r–ein,_sa bl6lm6p–,– ifig–'meang–'Vi_ing–'tilffed,to""engag sa o as tkey'lnove ffoift'statiori to"stgtr6n,,–rffe'ch'ariisni f –o__–r, forming two superp_osed recest4_8,"in the,'–_e 'n'd–__of the–_b_ist–l_e__l_ribt'at'orle,of_' atd'–st:itfdns',_nf_ohq– nism for–,8imult_Ln6–ou,,_l_lde"po8itiiig _of meelya,nigrftl –thereAf–te_,, eldsiM_tfie'–bri tlds _–uVof_' said_'_,bl,dgs_aaLpat,'t6r at_'eabh'_–,of–twd'adiiitdnt_su I ceedihg st . Eitiong–f dr –Vi_ighifig th–e,–Vrigt–l d_b'utt–'_'ahd' pltigs fltish–wit–hthi_–Tear–eddi_f,–se_id–_ferruli–iri't ' w6,_stb_ges,__',the –tedoridtbf sgidlbatt6rs,liEiVing_fli_te_–I asgooi_t6d,' th6te*,i'tfl,'– kiibt,_ the_ki–iot,4s.,b_iiig;puirdd.–.th–erethr6ugh','to.–cot"l, te_ th'e,.,brilshz__ullit,_ atLtdin5,tib str.tietdd–_and_t_t–r–dii'96d"td–.__engggi_;thb frciTit_–' d_6,t o f4 _t hi_ –f 6 i, r i_ii is u b i_t i% tttal fy –t tri tk ttir_ –,b f thle i o p 7 th6 . knot _ and facilitate eritrance into the ferrule. 31 A brush machine as set forth in claim 25 in which the mechanism for opening tl–,e bristle knot is arranged to f_lt;)rm two superposed recesses therein, and the mechanism for inserting the plug means is arranged to simultaneously deposit two plugs, one with each of said recesses, and said recess forming mechanism being constructed and arranged thereafter to close the bristles upon the plugs to retain them in the knot. 32. A brush machine as set forth in claim 25 in which the knot pulling mechanism includes ferrule e:kpanding means to reduce bristle friction in the ferrule as the knot is dram7n therethrough to final position. 33. A brush i,–nachine as set forth in claim 25 in which the knot pulling niechanism comprises ferrule expanding rpeans to reduce the bristle friction in the ferrule as the knot i–s being pulled therethrough to complete the brush unit, auto– matic ferrule retaining means constructed and arranged to engage the front edge of the ferrule substantially centrally of the opposite sides thereof to maintain the position of the ferrule during said pulling operation and an automatic ferrule register device for squaring the ferrule against said retainers prior to the pulling operation to cause the bristles to be pulled evenly from side to side of the ferrule. 34. A brush machine as set forth in claim 33 in i_,hich plug hold–back mechanism is associated ivith the knot pulling mechanism, the plug holdback mechanism having means movable into the knot projecting from the front edge of the fersaid edge as the pulling operation is continued. 35. In a brush machine, a knot forming device, ferrule feeding means for feeding ferrules from station–to–station throughout a plurality of suc– cessive stations, mechanism for transferring the bristle knots successively from the knot forming device to the ferrule at the first of said stations leaving the butt portions projecting, means for patrially spreading out the knot of bristles, to ,.5 suit the ferrule, a pair of longitudinally aiid vertically movable control rails, said rails being edgewise mounted one above and one below the knots projecting from the ferrules at a plurality of said stations, operating mechanism for said rails to cause them to close on said knots to complete the spreading of the bristles in the respective ferrules, said operating mechanism thereafter causing said closed rails to move with the ferrule feeding means to keep the spread knots in alignment with the ferrules, until the insertion of the plug mel,.ns in the knot, said operating mechanism opening said rails after said feeding movement and then returning the rails to starting Position, mechanism for opening said projecting butt portions of successive knots mechanism for inserting plug means therein: means for moving the knot butts and plug means fi–ush with the rear edge of the ferrule, and knot pulling mechanism to draw the knot into final r,5 position in the ferrule. 36. A brush machine as set forth in claim 35 in which the knot forming device is constructed and arranged to form 21, wide knots for a ferrule substantially wider than 2", and means is pro– 70 vided for feeding bristles to said device in a substantially 2" layer. 37. In a brush machine, a knot forming device, ferrule feeding means for feeding ferrules from statio.n to station throughout a plurality of sue– cessive stations, mechanism for transferring the bristle knots successively frbm the knot forming device to the ferrule at the f,,rst of said stations, leaving the butt portions projecting, mechanism incorporated in the knot forming device for expanding the width of the knot substantially as it is delivered to the transfer mechanism to partially spread the bristles to the ferrule width, a pair of longitudinally and vertically movable control rails, said rails being edgewise m_lt;)unted 6ne above and one below the knots projecting from the ferrules at a plurality of said stations, operating mechanism for said rails to cause them to close on said knots to complete the spreading of the bristle_ in the respective ferrules, said operating mechanism thereafter causing said closed rails to move with the ferrule feeding means to keep the spread knots in alignment with the ferrules, said operating mechanism opening said rails after said feeding movement and means for limiting the side flare of the spread bristle knots calised by the closing of said rails, mechanism for forming two _uperposed recesses in the end of the bristle knot at one of said stations, mechanism for simultaneously depositing two plugs, one within each of said

recesses, said recess forming mechanism thereafter closing the bristles upon said plugs, a patter at each of two adjacent succeeding stations for pushing the bristle butts and plugs flush with the rear edge of said ferrule in two stages, '.he second of said patters having flare control mechanism associated therewith and knot pulling mechanism including ferrule expanding means so as to reduce the bristle friction in the retaining means constructed and arranged to engage the front edge of the ferrule substantially centrally of the opposite sides thereof to maintain the position of the ferrule during said pulling operation and an automatic ferrule register device for squaring the ferrule against said retainers prior to the pulling operation to cause the bristles to be pulled evenly from side to side of the ferrule. 38. A brush machine as set forth in claim 37 in which plug hold–back mechanism is associated with the knot pulling mechanism, the plug holdback mechanism having means movable int6 the knot projecting from the front edge of the ferrule at a predete . rmined point in the pulling operation to maintain the Plug means even with said edge as the pulling operation is continued. 39. A brush machine as set forth in claim 37 in which the knot forming device is constructed and arranged to form 2" wide knots for a ferrule substantially wider than 2", and means is provided for feeding bristles to said device in a substantially 21, layer. 40. In a brush machine, a knot forming device including a bristle feed box, a feed finger operating in said box to feed bristles therethrough to said knot forming device, an actuating member for said feed finger, the feeding movement of said finger being arrested when said finger meets a predetermined resistance from the bristle mass, a bristle conveyor for moving bristles into said feed box, intermittent driving means for said conveyor including a driving member which is continuously reciprocated with a uniform stroke and a member intermittently driven thereby, means for inter–engaging said members to cause a step movement of said conveyor, and mechanism to control said inter–enrule at a predetermined point in the pulling op– _ ferrule as the knot is being pulled therethrough eration to maintain the plug means even with the complete the brush unit, automatic ferrule kiik–ing –inb_ins–,,'said –iii6chanism ibeing r_ Odiisivb tg,the exierit–6f._linovement of__ aid f– 6ed,.,__ftng_,. s dchine as set 1 orth _ in _claim AO 41. A'br–ush irri –,f in whidh the_dr–Iven;,memb er–tomprises_nTattehet w,heel 6per,dtivelY –donnerted _to –drive –.the conveyo,r, whereis _the drivingmember _ compmses a_coritinuougly,_OSGill_tin–9l,r_k–Eir'n,i,–iiie__ drralit .engaging:means beiiig_._,ijawl:pivated qtl–_such rock _arm, said pawl being bia_ed 4gainat .the teeth of the ratchet _w–heel, and.,wherein,,the –..coii– 10 trol mechanism _indludes _R '_shif,.table –CaM ranged _to movel.the__pawl,_intoand_out.,.of –contaot Withithe7r–atchet.wheeliteeth. 42. A brugh machine _ as 'set _forth iin _ clai p in which the mechanism to control the into.–r– 15 engaging means is connected to the feed'.finger actuating_member;so gs_,,toposition_th–e_coritrQ! medhanism–accordi_ng–_to,.the feeding movpraer_t of ',the ,feed –,finger bt jeadh .feeding ip–ove there6f __43. _A –.brugh as set fortli in claim in whi6h 'the control –meahanism _,compr_se,,s :a _hield member pi–vbted on _the __,Same 'Oexiter , s –the:r,a_tchet Wheel, satdshield, member.,bavi pig'.4xl t'i arcue,te,–edge__su.rface.,term,ina,ting–lin–,a; forward – end, . said _cam _.andRrc–uate Adgjo _ –qf _.t4,p shield member: engaging ,,said _,paw.1 of i lift gpO hold'the pawl 4out 6f;engagement–.wit h_t)aje..xateiaet –teeth, . and _.in which –.tliere , is _–,axi opgta_ivp or gi nnee,tion–betw.een_said_shield ra _d f.gp–d .30 co ,eMb –finger –actuating._member so–_.as _tolangu,143_ly P.Psition – the _hioldmember. gccorcling raent 'of _,the –feed; finger._rat _:each I lejediag __W7 – ment–theredf. _.44. In –a br–ush ae,;a brist_e–LI_not_fQ]_M,– ing un_it __comprising "a _,knbt iparrier _bw4g __,4 _bristle :,holdin–g pack–et,..with iop 'pock–et –alter–nately ',,between a –,.bi_istle and a'7b,_.istle' deposition ,vi,c,e–to r–eceiv_e_the knotfr,(m_'said_ppck aid _qt, device_ _ g–_wider,_ an,– aidpocket_,–a4d,,O–qing bei th s n _losabl'e _Gn_ a portionlof–.zaid_knQtp–rQj_.eotingil_–PIP o f the podket _t '_ r–ictionally –Support tlio gt, –mea–ns _._for _Closing said deviae, _.meaps _._o _pand,ing,–ga,id _woli_to–,allowthe_bristles, to.,_pr–e,44 ul3stantiolly _–_ KqAtpr –out i–n sai'd –device 'to a ._s 9 l e l W–1 l –An_d –width–_than–th–e 'dth ofs[aid _pockP–t,.– _r4!_4;Rs _to–r–eset_sa,id_–expa,nsible 11 _ _ l of,–the,–Pock,et–to_–reaeiving,.Pop:ltion. zo –dividually' claitp;respective bx_atle kn(?t–s. 45_ _In_–a–br_msh,__machme.as.,,,set.–,_forth_ip q_pLi,41 53. –A briishr.:machiiie.., as _Qt fQKth.in _44–w–'her–e–i,n–a,_compr–.essing__raemb.er –is,_a!ispc!At_0 .,– which, horizontglly ' Wo,__pble –,_liar._is __.sU ,)?porte,d _w_i th – th e –_ k n o tc ar–r ie r, l s a i d.. m e m b er _, h–e_4 9 _ – C_9_4 7 adjace nt thO,lower–,–.cQptrol strupted and–_–ar–rgnged to 'compr–.ess._the–_]_klptl– _p thereo n_mi3ans tol_supporttl e:Qvqr_h l .a4giil g the bristle ho ld–ing.–po–eket._iWtbLeidireeVion_– ,p_,_4e 5 –knots, jaiid,.gAthering–deviQes gn_–said,bar, to; h'.mit ,expansible–side_,W.qllzf_suchlIP4.D,cket. the 8io6, flare __:of _dertain .Of ,sad,–kAots. 46. _A brushi_,msehine_;asLset,, _orth in,_qlaim;,A4 _;.54.Tl n_–a.brushtiachine,_reciprqq4ting,ferrqle _inthich_the.means forexpanding_the__;_kde_., –1 eedingme6iis,._fori..feediAg– eri_kil W41 _f qs_,f_pxn_ gt i__– –t iopr–atesij–u8t,,b6,for6._the_'cleviee to,repeive,.,tlie_– kppt .t – station% thrQughQut,_a: eries– Qf; su ce sive, t4– :isdompletely..tlosed. ,e.. tions, mechaiiisni. for, insert_ng_ ' I?ri tl _47. –A.–brUsh–Machine as,,,4set!forth_, cessiv _ly into__the,,fei_rule_atthe_f! st of said.–sta– –in–_–which–.the–.expangble,;sidel__ . _wall is,,.hiligq:__bly .,,tions_leaving___the–lbutt,porti n p _gie0_4g, _a;. air Q i i P ing_o'f – cofitrol rails dipposo–'d.,',Qne– ,__al_(–,e, and –.one– –,,be– lgkt –Imots rai ecting – f rQm the ipi7vlps poEkitAqn, .ph low"–.the biased _–by la ._spring _ to _.Gpeii .–a rr._pr,_ –s inember being–_also,,moulited on _tlie 00, – '_O plurblity,, of . said–_ ta_ti=s,_– – nd i_gciprocating._opl' aid,;_w8Lll–in–liclosed'_pos.iti=,.,wtLe_re_n,__ oe_ating.,– rAech_,nisirl r for – sako,. co4t_ol .h6ld l 8 ._a__ls __pq_ntb6 means_for_expanding_the,.sid e_,wa,_ll_loo_npri,s sprisizfg a _carriage. _mounted–,.fQr mo pMqpt,_p__2L_device_ for tr–ipping–,st_idi.,lateh. lel –With –.:sttid – serjes of .,5tpti s, _ m a s– on –pp4,d –48. _IT)_a br–USII– MAchine,'_a,,,bristl6_knotiforming _.c arriage,. to. support – said., ra4ls_'. 9 p –;unit –hatringl–.a: br–istle _ ,h6lding__l)oeket, Means ,to 7.0, closin xnovement,–'to., i3lqm –_,thE_prgj e ;'fer–rule, and k_n rdeans for, plo_ing;sa;id–.. ro .sUpport–, a– ot trahsfer–mebhanis knots,, m –'to, _move–'a:_ bris_tle knot from said_ po6ket, and, –in– '_in_,_..MovmOnt.–,bf stLid,– .ferrqle_.,_fpeang,_,_r4egps_,,_?L4d iilei–_sai m, an ism–,–,including d o_._ paid m .sert –it ii, d_ " 6ch for dpening. them–1 t,,,,thejan qyp; ipn ean, _ fof causing paid...c . e_ito_ (twqll,, pLt,–,,the p6ir__6f_ Eitiv6i_– rnovible t6'–..engage P,.rriag pair–_oi– ri endof.;said, mb;v6merit _s_Lid_. f eding.,,mea ns_.cora– ,_eleE_se– s_id knot,– an6:a;– ib stle 6amming–7 teeth,,one:mounted on pach__ofiiaidjaWA–Ein 4_ K. tooth _xtending _.crosswise –,tb6 rknot ,betw eep the sides of the jaws to shift the bristles of,,, _tt(e kiiat–laterally',.tliexeof as th6.iaws clo–5e,tipon;Vie knoti –4 –aibrush _machine aknqt c–arr_ier_hav 9,. In, a:btistle–holdirig.,Pocl_et _8aid_ca;r–.rier bein g MQVable ftom –a,.bri_itle'r. eceiving, 7, p,,gsition wlioke _ saia pocket is.ver_tioallto ,

a,_kn6.t,disollaxging –IpQstt' ;941 b means_:foT..foedihg– ristlez ipto _sqidpoc_tQt–_at,:t4e receii7ing_Pogitibn, in –alayer –.Of –,substail –tia nie r –i pp sa .thickiiess as _e'.ent ance _ 9 : ineans –.for _iemoving t#e,.knQt _rQm. k; 4gid _pgcl_ot at–the _di_charge –"Positio4,.and ,in_Qrtinff _t . in fdrr–ule,;taid p6dket.._ ayiiig7.9_side Tgll,,u446 cl*_ tb l_tovide' a _pbcket _body –.sjabs_antially .widqT. thali._its entrdnce gothat.the,"kxlot is,_of sumcierxt size –;for –a ferrule –whiqh "is aubs a ia ly. _W14g; than othe – thickriess i_of saicl –bri8t!p fega"laySK–. ' 50._In–_ajbrii,_h.,Mgchirie,'–reciprpepLtin ,f ;r]41_ fedding_meafis for,fqedirig–.ferruleis_f olA A:_ttq4–! to–station throughout a series Of tionsi.mechanisni. for. in5erting,,,bri tletl_pptss cIU ely.into_the ferrule,–attlie–firtit– fs ta cessiv tioiis'leaving...tho_ utt:portiom projpcting, a_.–pai_ of _coiitrol rail_,.disp–oseo–.Qne i abqye loiafthe:knots_ roi–ecting_frbmtlie,fpi_r_ile _:9,t_a "P Plurality_of said.,__tati6ns,_anOLyeoipyoc n Av_ –9 _pp erating _inechanism ,fok _ said .,cQnt_ol rails compr4sing,a,carriage,r ourited_: P_I –M –for_ mQv_i3ipiRt; arallel _–with _sbid _serie8 –of , stations–,,zng_–qqs,,.on __said carriage to _ sutport.–Said _:r,4!s fQr _,Qp_4i4Z A:g!i closing.mbv..ement to.,clarnp–the_ r jpcti –b#ptle ..p_p –. ng,,, knots means_for closing_jsaid K__, , q_ja a ing,moveineiit of aid,ferrule_f __S 4 _ podiqg mo eme meafis_f6k inoving.said,_– carriag_oTin_unison,,,w said;feeding',iteajls'–,during _,.e mentthereQf,land_.niegus r,_yq–tur4i a d cari n, _tlkqt,_of,.–.th6 i–iage_–with a differerit;–mot o –_fKQlp fer–rule _ feeding._'m8ans.' –5l.' A.,brush machine,.As_–qet: irtli _to in_,which:.the,"ldw6r_.bKistle"eQntrol,,Tail is provided .tojeth_ifor,,5pi_q4O_qg.,,pllt_t e –With bristle_ cammibg, h bristles in the knots. z2. –A brush_machine,,.as._.Sd,,:(Q P _gtli i c im i in'which_–the_uppek,,bristle,(_qiltKQ1 ail is _–Dro– –.vided_with'Ithin_i_gt;latememJ)ers;mounted thereon _for yieldilia resilient –vert_qal , m v :,to inencing its return stroke, and means independent of said– feeding means for returning said carriage. . I : 55. A brush machine as set forth in claim 5_o in which the means for returning the carriage causes it to overtake the ferrule feeding means. .56. In a brush machine, brush unit feeding means for feeding bru_h units from station–tostation of a series of successive stations, said umts each comprising a ferrule having the butt portion of a bristle knot projecting therefrom, and mechanism for opening a recess in said knot for the insertion of plug means therein, said mechanism comprising a stationary blade–like device having a vertically movable section, said device being tapered at its front end to facilitate entrance into the bristle knot during a feeding movement of said feeding means, and means operable while each brush unit is in stationary position at one of said stations to actuate said movable section so as to open a plugreceiving recess in the knot. 57. A brush machine as set forth in claim 56 in which the recess opening mechanism comprises a pair of stationary bladelike devices each having its vertically movable section, said devices being mounted in superposed relation, and the movable section of the upper device moving upwardly and that of the lower device moving downwardly, and means for simultaneously actuating said movable sections to open two superposed plugreceiving recesses in the knot. 58. In a brush machine, brush unit feed–il'lg means for feeding brush units from station–tostation of a series of successive statiolis, said units each comprising a ferrule having the butt portion of a bristle knot projecting therefrom, an expansible knot for opening device at oiie of said stations, the projecting knots passing on o said device as they approach said station, means operative while the brush unit is in stationary position at said station for expanding said device to open a recess in the projecting knot, and mechanism at said station for depositing pli–19 means in said recess. 59. In a brush machine, brush unit feeding means for feeding brush units from station–tostation of a series of successive stations, said units each comprising a ferrule having the butt portion of a bristle knot projecting therefrom, mechanism at 6ne of said stations for opening two superposed recesses in the bristle knot at such station, and plug inserting mechanism comprising a magazine for holding two upright stacks of preformed plugs, horizontal guiding devices at the bottom of said magazine for supporting two plugs in vertically spaced relation, and mechanism for simultaneously feeding a plug from the bottom of each stack along said guides and into the respective recesses in said knot. 60. In a brush machine, means for feeding brush units from station–to–station throughout –a series of successive stations, each of said units consisting of a ferrule and a bristle knot projecting therefrom, a patter mechanism at one of sai–d stations for pushing the knot into the ferrule, bristle gathering devices for limiting the fiar–, of said knot during patting, a support for said devices, and operating mechanism for said support to cause said gathering devices to engage the sides of the knot substantially as patting comniences and to cause them to withdraw out of the path of the patter as the patting is continued. 61..In a brush machine, means for feeding a series of successive stations,. each of said units consisting of a ferrule and a projecting knot with plug__means inserted therein, a patter mechanism for pushing the knot and plug means into the ferrule, a pait of cooperating flare control plat,es movable to embrace the knot, and operating mechanism for moving said plates into knot embracing position substantially as the patting commences, and to move the plates forward in unison with the patter mechanism. 62. A brush machine as set forth in claims 61 in which the flare control plate operating mechanism removes the plates to permit the patter to push the rear of the plug fiush with the, fer1,5 rule. 63. In a brush machine, means for feeding brush units from stationto–station throughout a series of successive stations, each of said units consisting of a ferrule and a bristle knot with inserted plugs having its flag end projecting from the front of the ferrule, mechanism at one of said stations for pulling the flag end of the knot to draw the knot to final position in the ferrule, said mechanism including mechanism for compressing the sides of the ferrule during said pulling to expand the faces of the ferrule and reduce bristle friction therein. 64. A brush machine as set forth in claim 63 in which autorhatic ferrule retaining devices are provided for engaging the front of the ferrule. 65. A brush machine as set forth in claim 64 in which an automatic ferrule register device is provided to square the ferrule against the ferrule retaining devices, a pair of plug hold–back needles being movable vertically into the bristle knot substantially at the front edge of the ferrule, and mechanism being provided to move said needles into sbid position during the pulling movement and substantially as the front faces of the plugs reach the front edge of the ferrule. 66. In a brush machine means for feeding brush units from station–t_–station throughout a series of successive stations, each of said units consisting of a ferrule and a bristle knot with in–serted plugs having its flag end projecting from the front of the ferrule, mechanism at one of said stations for pulling the flag end of the knot to draw the knot to final position in the ferrule, said mechanism comprising upper and lower jaws 5o movable to clampingly engage the projecting knot, and mechanism for causing said jaws to close on said knot substantially equidistant from the center line of the ferrule so as to reduce and equalize shifting of the bristles in the ferrule during the clamping of the knot. 67. In a brush machine means for feediiig brush units

from station−to−station of a series of successive stations, said units each comprising a ferrule having the butt portion of a bristle knot projecting therefrom, and mechanism for.opening a recess in said knot for the insertion of plug means therein, said mechanism comprising a pa_ir of stationary blade−like devices each having a vertically rnovable section and being tapered at its front end to facilitate entrance into the bristle knot during a feeding movement of said feeding means, said devices being mounted in superposed relation and vertically spaced from one another to allow the entrance of bristles be− 7o tween said _evices, the movable section of said upper device being arranged to move upwardly and that of the lower device downwardly, and means operable while each brush unit is in stationary position at one of said stations for simulbrush units from station−to−station throughout 7,5 taneously actuating said movable sections to 6i)en two superposed spaced plug receiving recesses in the knot. 68. A brush machine as set forth in claim 58 in which the plug depositing mechanism comprises a horizontal guiding device deposited at the level of the recess opened in the knot, a resiliently mounted finger acting on the top of the plug above the end of said guiding device to support the plug in precise horizontal position, and a plug feeding mechanism which operates with a dwell, first moving thi_ plug to the end of said guiding device and thereafter pushing it in precise horizontal position into said recess. 69. A brush machine as set forth in claim 58 in which the expansible knot opening device is arranged to open two superposed recesses in the knot, and two plugs are deposited by the depositing mechanism, one in each of said recesses, the expansible devices thereupon being contracted to allow the knot to close upon the plugs, and substantially simultaneously with such contraction a plug aligner is moved to engage the rear surface of said plugs to place them parallel to one another. 70. A brush machine as set forth in claim 59 in which the horizontal guiding devices of the plug magazine are each provided with cooperating resiliently mounted fingers acting on the too_ of the respective plugs above the ends of the respective guides to support each plug precisely in horizontal position, and in which th6 plug feeding mechanism operates with a dwell, first moving the plugs to the ends of their guides and thereafter pushing the plugs in precise horizontal position into the recesses of the knot. 71. A brush machine as set forth in claim 61 in which the flare control plates are arranged one above and one below the knot, each plate having a pair of tooth−like portions opposite the sides of the knot, and wherein the operating mechanism moves the plates into engagement respectively with the upper and lower surfaces of the knot with the tooth−like portions overlapping one another and em−bracing the sides of the knot.

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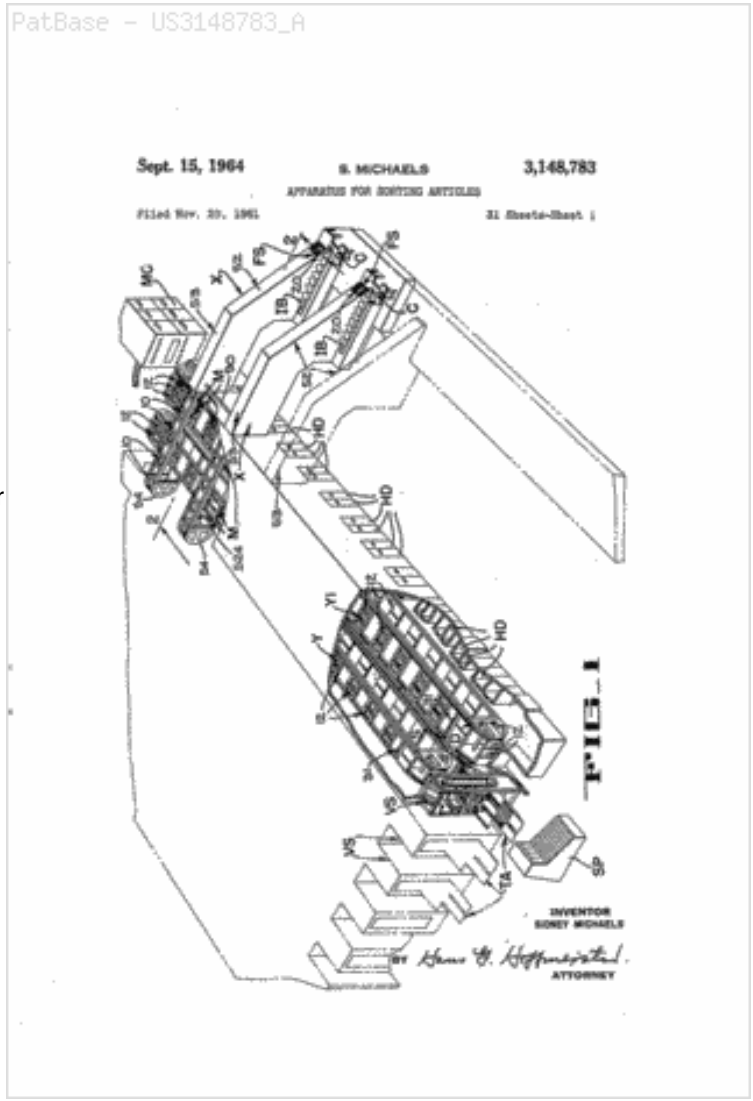
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Abstract:

PatBase - US3148783_A



Source: US3148783A FIG 3 is an enlarged fragmentary plan,of one of the input feed stations of the inachine taken on lines 3–3 of FIG. 2. FIG. 4 is a section at the_ input feed station taken on lines 4–4 of FIG. 3. FIG ' 5 is a fragmentary plan, sin–_ilar to FIG. 3,,shoWing an X jacket of the X_ conveyor at the input feed station, with the feeo pan partially. broken away. FIG. 6 is a section taken on lines 6–6 of FIG. shonving the rale control mechanism for the X jackets. FIGS. 6A and 6B are sections of the track for the X jackets taken on lines 6A–6A and 6B–6B, respectively, of FIG. 6. FIG. 7 is a side elevation of the drive mechanism for the X conveyors. FIG. 7A is a section taken on lines 7A–7A of FIG. FIG. 7B is a fragmentary elevation of the track adjacent the section of FIG. 7A. FIG_ 8 is a plan of the matrix pans for a tfu–ee lane Y conveyor for the high density bins. The X conveyor is indicated above the pans in phantom. FIG. 9 is a fragmentary section through the matrix pans taken on lines 9–9 of FIG. 8, with the X conveyor shown in solid lines. FIG. 10 is a s6etion taken on lines 10–10 of FIG. showing the X conveyor in section, a matrix pan in section, and a portion of the three lane Y conveyor in longitudinal section. FIGS. 11 and 12 are sections taken on lines and 12–12 of FIG. 8, showing details of the operating mechanism. for the rakes on the matrix pans. FIGS. 13 to 21 are plan operational diagrams showing the principles of transferring a ffat from an X jacket a matrix pan, and from the matrix pan to a Y jacket of the Y conveyor. FIG. 22 is a plan of a Y jacket of the Y conveyor. The Y jacket shutter closing mechanism also appears to the 1 left of this fl.–Ure. FIG. 23 is a section taken on lines 23–23 of FIG. showitig a Y jacket in side elevation with parts broken away. FIG. 23A is a fragmentary section taken on lines 23A–23A of FIG. 23 showing the mounfin–. of shutter and the bottom pan of a Y jacket. FIG. 23B is an enlarged section of the shutter closin.– mechanism taken on lines 23B–23B of FIG. 22. FICT. 24 is a section taken on lines 24–24 of FIG. transversely of the Y conveyor shonving a Y jgcket in elevation. FIG. 25 is a sectiori taken on lines 25–25 of FIG. showing a portion of the shutter closing mechanism for the Y jackets. FIG. 26 is a fragmentary perspective showing the cOn–_ struction of the rake mechanism for the Y jackets. FIG. 27 is a section taken on lines 27–27 of FIG. showing the spring mechanism for lowering the rakes on the Y jackets. FIGS. 28 to 33 are operational diagrams showing the operation of the shutters on the Y jackets. FIG. 34 is a side elevation of a Y coiiveyor and a line of sweep pins showing a Y jacket disposed over one of the bins. Parts are broken away. FIG. 35 is a side elevation of the low density bins for the two lane Y conveyor, with a sweep conveyor and ope sweep basket shown below the low density bins. FIG. 35A is a section taken on lines 35A–35A of FIG.35. FIG. 36 is a fragmentary plan of a two lane sweep con– veyor taken on lines 36–36 of FIG. 35. FIG. 37 is an e–nd elevation of the two lane sweep conveyor viewed alOD9 lines 37–37 of FIG. 35. FIGS. 38 and 39 are operational views showing how the sweep conveyor rakes a stack of flats from a densfty bin. FIGS. 40, 42, 43 and 44 form a series of semidiagrammatic operation views shonving the operation of the cam mechanism of the sweep conveyor as the sweep lowers and sweeps a low density bin. FIG. 41 is a view taken on lines 41–41 of FIG. 40_ FIG. 43A is an enlarged side elevation of the gate readying lever shown in the position of FIG. 43. FIG. 44A is a fragmentary view showin– a sweep cam clearing a shutter opening mechanism. FIG. 45 is a side elevation showing the termination of sweep conveyor, with a vertical stacking conveyor and delivery and take–away conveyor for the latter. FIG. 46 is a fragmentary side elevation resembling FIG. 45 but on a larger scale, showing details of the delivery conveyor that transfer__ a stack of flats from the sweep conveyor to the vertical stacking conveyor. FIG ' 46A is a fragmentary elevation of the vertical stacker at a larger scale. FIG. 47 is a perspective showing the principles of rake operation between the vertical stacking conveyor and the delivery conveyor. FIG. 48 is a plan of the delivery conveyor that ex–. tends between the sweep conveyor (not shown) and the vertical stacker (in partial section). Parts of the delivery. conveyor are broken away. FIG. 48A is a section taken on lines 48A–48A of FIG. 48. FIGS. 49 to 52 form a series of operational diagrammatic views showing the operation of the vertical stacker. FIG. 53 is a fragmentary perspective showing a recirculation ch–ute at the end of one X conveyor for receiving mail that could not be received by the Y conveyors due to interference, or for other, reasons. FIG. 54 is an enlarged vertical section taken on line 54–54 of FIG. 53 and shonving the recirculation chute rake. FIG. 55 is a perspective, partly broken

away, of a modified form of the invention employing a Y conveyor that operates in the horizontal plane. FIG. 56 is a fragmentary longitudinal section of a portion of the modified form of the invention. FIG. 57 is a plan of a portion of the Y conveyor of the modi_lied form of the invention. FIG. 58 is a transverse section of the modified Y conveyor taken on lines 58–58 of FIG. FIG. 59 is a longitudinal section taken on line 59–59 of FIG. 57 showing the gripper drive for the modified Y conveyor. FIGS. 60–62 are fragmentary diagrammatic side elevations illustrating the operation of the Take setting mechanism for the Y conveyor. FIG. 63 is a longitudinal section showing the Y conveyor and low density bin rakes. FIG. 64 is a diagrammatic perspective showing the principle of alternately raised and lowered rakes on the Y conveyor. Before describing the various elements of the apparatus of the present invention in detail, a general description of the major cotnponents or elements of the apparatus, coupled with a brief explanation of their principles of op6ration will be presented. As previously mentioned, the apparatus of the present invention to be described has been proportioned for the sorting of thin articles, such as mail flats. GENERAL DESCRIPTION OF THE APPARATUS Major elements of the system.–Referring to FIG. 1, two primary conveyors (to be referred to as X conveyors) are illustrated. These conveyors are single lane conveyors and carry jackets 10 that receive and introduce the unsorted flat mail into the machine matrix. As indicated in phantom, one or more additional X conveyors can and probably would be added, because.the system is inherently modular in concept and design. The secondary or Y conveyors intercept the X conveyors, and carry jackets 12 for the flats. Two types of secondry conveyors appear in FIG. 1. Secondary co–nveyor Y is a two lane device and is arran.aed to feed a row of low density sort bins, LD. These bins are hidden in FIG. 1, but several of such bins appear in FIG. 35. The other type of secon–, dary conveyor YI is a three lane conveyor, and it is arranged to distribute the flats to rows of high density bins HD. Disposed between each of the individual X conveyors and each lane of the Y conveyors, are the'fixed matiix pans M. These matrlx pans act as intermediate flat transfer agents. The matrix paris do not appear clearly in FIG. 1, but they can be seen in plan in FIG. 8, and in elevation in FIGS. 9 and 10, which Figures also show their relation 'lo the associated X conveyor above, and the associated Y conveyor below. Disposed beneath the low dens,.ty bins LD of the two lane Y cor–lveyor 4s a sweep conveyor S (FIG. 35) for clearin.– the bins and deliverin,– them to a vertical stacker VS (FIGS. I and 49). FIGS. 1 and 45 also show delivery conveyors D, for transferring the stacks of flats from the sweep conveyor S to the vertical stacker VS, and a takeaway conveyor TA for removing the stacks of flats from the vertical stacker, for manual distribution. Referr,_'n,– again to FIG. 1, a sweep progranimer SP, the electrical details of which do not form a part of the invention, is provided in order to control the sweep conveyor S, for autox_atically or selectively sweeping various low density b__ns. At each operator's station at the input or feed end of the X co–ilveyors .s an input buffer IB, which pro,–ressively feeds proi)erly o.–iented flats to the operator. The nature of the iniout btiffer or feeder forms no part of the present inven_ion. An inptit feed station FS, manned by t'ne operator, is provided at the input end of each X conveyor. The flats are placed in the input feed station FS by the, operator after they have been coded on a manual coder C, in accordance with the addresses t'_l.–reon. A master control unit MC, which includes a memory dev:ce synchronized with the apparatus, is provided for automatically controliing the matrix sortin.a system in r,– sponse to the coding signals. The unit MC may also contain an address storage urit to serve as a directory that translates the coded addr,–ss inputs to the unit into instructions for operation of the sorting portions of the apparatus. D–_tails of the directory or masier control unit MC do not form part of this invention. Altnou,–b provision of a directory is necessary for fully automatic ooeration, the apparatus of the present invention is not dedendent upon the nature of the directory or other type of master control, because the apparatus itself acts on si.–ri–als. For example, an electro–m_–chanical directory could be replaced by a table on which macnine instriietions are listed that correspond to the various address codes. In ths case, the operator would consult the t,,).ble opposite the address codes (which he has memorized) and would find the cori–esponding machine instr–uctio–_is in the table of instrtictions. He could then press buttons which correspc,–_id to the table indicated machine insti–Liction and the mach:lne would sort the mail. A timer or pii,ser wo–tild operate a conventional memory device, _vhich would keep track of the movement of tl–.e conveyors and the flats in the,jackets, and signal the sorting instructions to the apparatus at the proper times. This explanation is given merely to illustrate that operation of the sortin–, apparatus does not depend upon a specific information storage system and control, memory device or "directory," because being a signal controlled device its utility is indepen,–ient of the nature and details of its controller. The niatrix pi–irciple with i–ake transfer.–As mentioned, there is a priniary or X conveyor (FIG. 1) for each operator. The conveyor is made Lip o_,' X jackets 10 for introducing the flats into the matrix. The X jacke+ls are _paced by one jacket len.–th along the conveyor by open connecting links 13, and the jacket bottoms are slotted at 11, as seen in FIG. 5. The X conveyors all cross the secondary conveyors Y and YI at an angle of 90'. The stationary matrix or transfer pans M are fixedly mounted bet–vvee–_l the X and Y conveyors, at each of their intersections. These pans hav_– directory controlled ralces 26 (FIG. 9) for raking the flats (when raised by the directory) from the X jackets 10 into the matrix pans. Each Y conveyor has shuttered ;ackets 12, and in the preseit example the Y jackets 12 (FIG.– 10) are also spaced by open links 15 ' The upper reach of each Y conveyor runs beneath the matrix pans M, and the Y jackets carry rales 28 (FIG. 10). The bottoms of the matrix pans are slotted along the extent of the Y conveyors to receive the rakes 28 'of the Y jackets for transferring the flats to the Y jackets. The rakes 28 of the Y jackets are not director controlled, rather these rakes rake through every matrix pan that tiey cross. It would appear that lo "interference" would result, but this is prevented by directory control of the flats before they are permitted to drop into a matrix pan. Because of the memory unit of the directory, the raking of a flat into a Y jacket must have been accomplished b– –cause the directory , track i5 found that such Y jaclet will intercept the designation bin, and ;_n fact is a certain number of units away from the bin. Thus this Y jacket is "being kept track of," and when this pr6viously loaded Y jacket happens to cross a second matrix pan that would ordinarily, contain a flat, the directory countermands its distribution orders and prevents transfer of the interfering flat to the second matrix van. The lower reach of each Y conveyor runs over a row of bins, there be–Ing at least one bin for each destinat;on. For exar_ipl,–, and as previously explained, the sec–ondary conveyor Y is a two lane conveyor that serves low density bins LD (FIG. 35), whereas the secondary conveyor YI is a 'chree lane conveyor that serves the high density bins HD, (F' G. 1). The flats are automatically transferred from the Y conveyor jackets (when the latter are oli the lower reach) to the designated destination bii. As in the transfer of the flats_ from the X conveyors to the matrix pans, this transfer rom the Y jackets to the

distination bins is –,ilso directory controlled, so that th– Y jacket shutters are opened when over the proper bins. The flats remain substantially horizontal dtiring the entire transfer process, and under.–o a gentle combined dropping and releasing action as they are transferred from the input feed basket to the destination bin. The modularity of this system will be apparent, in that ti'iere is no inhereiit li–init to the number of X and Y conveyors that can be assembled into a matrix sorting system. Inpitt feeding niechanism.–Contini–iing this general description, special means are provided for introduction of flats into the machine'. At the input feed station FS, the c_–nerator reads the address of the flat, codes the address on 1,,eyboard C, and places the flat in an input basket 20 (FIGS. 3 and 4). The flat eclipses the beam of electric eye unit 22, 22a_ The op–rator also pushes an "operate" button on the keyboard of coder keyboard C. When the 5o electric eye beam is eclipsed (FIG. 4), rakes 24 on the X jacket l_O approach,_,– qg the basket 20 are raised by mechanism to be described, and rake the flat from the input basket 20 into the X jacket. SimulitaneoLisly, the coded address si.–nal goes to the inew_ory and control unit or directory MC, whicli now takes control of the apparatus for distributing the coded flat in the i–_iatrix to its assigned destinallion b;n. A pulser P (FIG. 3), whi,ch is illustrated as an electric eye unit, sends timing signals, representing a s_–ries of one jacket length (pitches) to the directory, for synchronizing the memory device. As irentioned, the first instruction –'Lrom the directory to the matrix ;s that of selecting the one matr–'_x pan M, that lies above the Y conveyor lane, which will eventually pass over the des–ired destination bin. Tra;isfer from the X coitveyor to a Matrix pan.–This o_eration has been briefly described, but additiopal major elements viill be mentiolied before proceeding w;th th–. detailed description. When the X jacket 10, containing the flat in question, reaches the stationary matrix pan M loca'Led at the intersection of the X conveyor and the directory des;gnated Y conveyor (the designated Y conveyor is the _onveyor that crosses the row of bins that includes the proper destination bin), the directory pro. vides a signal that causes lifting of the rake 26 (FIG. 9) on the far side ol' the stationary matrix pan M. The bot– tom of the X jacket has slots 11 (FIGS. 3, 9 and 10) that extend in the direction of X conveyor motion. 'Ple leading end wall of the X jacket is also slotted at lla, (FIG. 9). As seen in FIG. 9, the ral__e 26 on the matrix pan, when lifted, is above the bottom of the X jacket. Thus as the flat–bearing X jacket overlies and then moves past the matrix pan, the slotted bottom and trailing end wall of the X jacket moves throu.–h the rake 26 on the matrix pan (lifted by directory signal) so that the rake 26 first stops the flat F (shown in phantom in FIG. 9), and as the X jack–et moves out from under the flat, the suppo_–t of the flat by the X jacket 110 is pro,–ressively removed. The flat faus through the gap between links 13 that join the X jackets, and into the stat_'_onary matrix pan M lying beneath it. The flat is now in a matrix pan M that overlies the designated Y conveyor. This trans–'ker operation from the X jacket to a matrix pan is diagranimed in FIGS. 13–19, and the step by step timing will be explained in the more detailed description to follow. The rakes 24 on the X jackets, which, a'itcr having raked a flat out of the input basket, serve to carry the flats up the initial inclined portion 52 of the)C co–.iveyor, (FIGS. I and 2), are omitted these – dia.–rams of FIGS. 13–19 for clarity. It is again poin'ej out that in these diagrams the Y conveyor is mov–'_ng twice the speed of the X conveyor, in terms of jacket !en_–l,hs. Ti–ansfer from the matrix pan to a Y jacket.–At the time the coded flat was loaded in the X conveyor, the directory not only determined the proper Y conveyor in terms of X jaclet lengths (pitches) from the input basket 20 to a matrix pan M overlying the desig–iated Y conveyor, but it also determined the distarce in terms of Y jacket lengths (pitches) from the matrix pan to the proper destination bin under the lower, or return reach, of the designated Y conveyor. In the form of the in– vention being described, the Y conveyor moves two jacket lengths for one jacket length motion of the X – conveyor, but so long as the conveyors are synchronized, their relative speed is not critical. As mentioned, in the fonn of the invention illustrated the Y jackets are connected by links 15, which construction coupled with the double speed operation of the Y conveyor, reduces statistically the occurrence of interference (previously referred to) between X conveyors caused by the presence of flats in the downstream Y conveyor jackets. As mentioned in the explanation of the matrix principle, each Y jacket is formed with a rake 28 at its trailing edge (FIG. 10), but unlike the selectively projectible rakes 26 for the matrix pans, 'Lhe rakes on the Y jackets are all in their rake position when the Y jackets are on the upper reaches of the Y conveyors, so that the rake on each Y jacket sweeps through the entire row of matrix pans above. This obviates the need for direct control of the Y jacket rak–es. It is only necessary to provide means in the memory control that takes special action in case of incipient interference to prevent the Y jackets from raking in a flat from more than one matrix pan. The bottoms of the stationary matrix pans M are actually fomied of – proj.–cting bars 29 (FIG. 8) that provide slots. 29a between the bars, the bars 29 and slots 29a extendin.– in the direction of the extent of the Y conveyor (FIG. 10). Thus, the rakes 28 on the Y jackets all pass througli the slots 29a in each matrix pan, and if there is a flat F in a matiix pan (FIG. 9) the flat will be raked out into the Y jacket. As seen in the diagram of FIG. 19, when the flat F is fully deposited in the matrix pan, a Y jacket 12b wiff be partially underneath the matrix pan, and the rake 28 on the trailing edge of the Y jacket 12b, is about to engage the edge of the flat and push it off the matrix pan. As seen in FIGS. 20 and 21, as the rake 28 on the Y jacket 12b passes through the slots 29a formed by bars 29 of the matrix pan, the jqat is gradually pushed off the matrix pan, to be deposited in the aforesaid Y jacket 12h. –fro destinatioii bin.– Transfer m the Y jacket to a The directory memory includes a countdown system that is synchomized with the X and Y conveyors by the pulser P. From the coded signal input to the directory, the directory "knows" the number of Y jacket lengths from the matrix pan under consideration that was just emptied, to the destinatioii bin that corresponds with the coded address or destination signal originally fed into the directory. As previously mentioned, there is a "roll top" shutter 30 on each Y jacket (FIG. 10) that closes the top of the jackets that contain a flat, after the jackets have passed beneaih all of the matrix pans at the various X conveyors (FIG. 29), but while they are s'cill on the upper reach of the Y conveyor. When the Y jacket shutters 30 are closed, they ke_–p the flats from falling out of the Y jackets on the lower or return reach of the Y conveyor. The shutters 30 are closed by a signal from the directory, that operates a shutter closing mechanism 31 when the Y jacket contains a flat (seen to the left of FIG. 23 and in diagrim FIGS. 28 and 29). As the lower reach of the Y conveyor i–uns over a series of bins, such as low density bins LD (FIGS. 32 and 33), the Y jackets are now upside down with the shutters 30 supporting the flats, ready to drop their flats into the selected bin Nyhen their shutters are opened. For example, referring to the diagrams of FIGS. 32 and 33, the directory operates a solenoid for a shutter opening mechanism 31a at the assigned low density sweep bin LD, there being one such shutter opening mechanism 31a at each bin. As the Y jacket passes over the assigned bin, the solenoid operated mechanism 31a,

when fired, moves into the path of the shutter, restrains, and hence op–.ns the shutter 30 of the Y jacket, to drop the flat from the Y jacket into the low dens_'_tv bin. Clearing the low density bins aizd stacki7ig.–As mentioned, there are two types of bins, high density bins HD for heavy volume destinations, and low density bins LD for lighter volume destinations. The higb density bins HD receive a large number of flats and are manually wheeled out for emptying. The low density bins are automatically emptied, or cleared, when the stack of flats reach a certain height, such as 5", as detected by a photocell lamp pcl and photoelectric device pe (FIG. 37). This automatic clearing does not prevent selected clearir_g of the various biiis. The low density bins LD are actually relatively shallow baskets 32 (FIGS. 34–44) motinted in tracks for limited vertical motion. They are spring urged to their normal, upper position, by wire wind up reels 33. There is a row of such bins directly under each Y conveyor. The bottoms of the baskets 32 are slotted at 34 (FIG. 35). One end of the basket is open, and the other end is slotted at 36. Running beneath each of the two lane rows of low density bins, and parallel to the associated Y conveyors, is a two lane sweep conveyor S, having spaced and sta:ggered sweeps 14 provided for emptying the baskets 32 of a given row of low density bins before they are overfilled. Each lane of the sweep conveyor is provided with a series of open ended rake pans having stack supporting bars 42 that are aligned with the slots 34, 36 in the low density bins disposed above the sweeps (FIGS. 36 and 37). When the low density bins are lowered, the bars 42 on the sweep rake pans nest in the slots 34 of the low density bins. Each sweep unit 14 has a rake 44 at its trailing edge. The rake bars are also aligned with slots 34, 36 in the low density bins (FIG. 37). When the stack of flats in any low densi,ty bin becomes 5" high, the photocell beam of the electric eye unit pcl, pc is interrupted, and the resultant signal readies a bin lowering mechan.ism mounted on the frame at the low density bin in question. There is one bin lowering mechanism for each bin. When the next sweep 14 reaches the fully loaded bin, a gate cam 46 on the sweep lowers the low density bin in front of the rake 44 on the sweep (FIGS. 38 and 42–44) and the svveep rake pushes the stack of flats from the basket 32 of the low density bin onto the sweep pan bars 42, as can be seen in the diagram of FIG. 39. The bars forming rake 44 on th6 sweep pass through the slots 34, 36 in the, low density bin apd the svveep rake empties th–, low density bin throu.–h the latter's open end. The loaded sweep of the sweep conveyor S contin ties on, and carries the classified stack (all pieces in the stack have the same destination) to the delivery conveyor D (FIG. 1), which loads lo the stack into the vertical stacking conveyor VS mounted at the end of the sweep conveyor. Intermediate transfer belts of the delivery conveyor D transfer the s_lack from the end of the sweep conveyor to baskets 50 of the vertical stackin.– conveyor VS (FIGS. 49–51). The vertical i5 stace,n– conveyor VS is an endless vertical conveyor that intermittently and successively presents slotted pockets 50 (FIGS. 45 and 47) to matching delivery elements of the delivery conveyor D for receiving individual stacks of flats. The vertical stacker VS tums the inverted 2o stacks of flats over and deposits them one by one, at each indexing, to the take–away conveyor TA (FIGS. and 49–52) for examination, manual removal, and distribution. This comple_les the –eneral description of the major u–.iits of the apparatus of the present invention. Various details of the construction of these units apd their operating mechanisms wiU now be described. DETAILED DESCRIPTION OF THE UNITS X cotiveyor constriiction.–Details of the construction of the X conveyor appear in FIGS. 2–6B, and Referring to FIG. 2, it can be seen that the X conveyor has an inclined section 52 and a straight section 53. The inclined section 52 leads up from the operator at the input feed station FS to the straight section 53, wliich is elevated sifficientiy so that the upper reach of the X conveyor is above the upper reach of the Y conveyor. The Y conveyor in tum must be elevated so that its lower reach is above the row of low density bins LD, and these in tui–n must be above the upper reach of the sweep con– d– 0 veyor S. The strai.–ht tracks of sections 52 and 53 of the X conveyor, which are mounted in the frame of the apparaltis, connect to generally semi–circular castings at each end of the conveyor, which serve to reverse the direction of the upper and lower reaches. The inclined section 52 of the X conveyor is joined to the straight sec'Lion 53 by upper and lower arcuate straight track connecting portions 56 and 58. The major elements of the X jackets have been mentioned and the construction of these jack–ets will now be described in somev_hat more detail. Referrin._ to FIGS. 5, 6, 6A, 6B, 9 aid 10, the X jacket is in the form of an aluminum casting. The slots 11, in the bottom of the castin.– and slots IIa in the leading wall 60 (FIGS. and 10) for receiving the rakes 26 on the matrix pans (when the rakes are lifted) have been described. Referring to FIG. 5, at each corner of the X jacket is mounted a stub shaft 66, and the frame of the jacket is broken away in FIG. 5 to show one shaft. Each the X conveyor. The end castings 54 have curved track sections 72 for the rollers 68, as seen in FIG. 6 a–id 6B. The arcuate stral:ght track connecting portions 56 and (FIG. 2) are also formed with tracks 72 for the rollers 68 of the X jackets. The tracks 7–) in the setni–eircular castings 54 are not exactly semi–circul–,ir. Since the links 13 and the X jackets 10 are relatively long as compared to the eircumference of the tracks 72, the polygonal form assumed by the X conveyor paits 10 and 13 has a circumference th–,t is less than that of the semicircle in which these parts are inscribed. To maintain uniform linear speed of all parts of the conveyor, and to avoid the necessity for providin.– lost motion in the pivots of the conveyor links and jackets, the tracks 72 in end castings 54 aresemi–elliptical to provide the necessary extra pivot to pivot distance of the inscribed circumference of the tracks. As seen in FIGS. 7, 7A and 7B, an auxiliary track section 73 is also formed in the arcuate castings 56 which functions in connection with rollers of the rake lifting mechanisms to hold the X jaclet rakes 24 up, as will be described presently. As seen in FIG. 5, in order to assist in guiding the X jackets laterally, side rollers 74 are provided at each corner of the X jacket, and these rollers bear against the edge of the bottom flange of the channel–like tracks 70 (FIG. 10). As is also seen in FIG. 5, links 13 pivot on pins 13a that are in axial alignment with the stub shafts 66 that mount the rollers 68. The general construction details of the X conveyor has now be_en described. Before explaining the operation of the X conveyor rakes 24, the drive train f6r all of the conveyors in the apparatus, X, Y and Sweep, will be explained briefly. Di–ive train foi– the conveyors.–Details of the drive train for the conveyors do not form part of th.e invention, and only those necessary for anunderstanding of the operation of the apparatls appear in FIGS. 2 and 7. Seen at the lower left of FIG. 2, is a horizontal shaft 80, which is the master driveshaft for all of theconveyors. This shaft is connected to a drive motor which does not appear in the drawings. Between the two and three lane Y conveyor units, is ap angle gear box 82, which is driven from the main driveshaft by a chain and sprocket drive o4. The a,–i.–le gear box 82 is provided to drive the X conveyors. To this end, an X conveyor countershaft 86 is provided just below the lower reach o'L the X conveyors. Countershaft 86 is driven by a chain and sprocl,,et drive 88 fropi the an.–le gear box. . A gripper drive

countershaft 90 is mounted beneath the upper reach of the X conveyors, and is driven from the countershaft 86, just described, by a chain and sprocket drive 91. Countershaft 90 drives a gripper drive G, there being one such drive for every X conveyor in the system. The gripper drive G will be explained after the balance of the drive train, of the apparatus has been described. At the lower left of FIG. 2 appeats a countershaft 92 which is driven from the main drive shaft 80 by a cha;n and sprocket drive 94. Countershaft 92 drives a gripper drive m–,chanism GI, which operates the sweep conveyor S. In order to operate the two lane conveyor Y, a shaft 96 is mounted below tile upper reach of the Y couveyor and is driven by a chain and sprocket drive 98 from the co,–Intershaft 92 that drives the s,,veep conveyor. Shaft 96 operates a pair of gripper devices GZ, wh:lch dri–ve each side of the two lane Y conveyor. The three lane conveyor YI is driven by a countershaft 100 that is jiist below the main drive shaft 80, and is driven from shaft 30 through _ chain and sprocl_et drive 101. A shaft 102, that is disposed below the upper reach of the three lane conveyor YI, is driven by a chain and sprocket drive 104 from countershaft 100. Shaft 102 drives two gripper drive devices G3 for the tbree vice G for drivin,_ the X convey6rs. This device is the same as the gripper devices GI, G2 and G3 that drive the sweep a,nd Y conveyors pre_,iously referred to. Co_iinter_5haft 90, also previbusly referred to, and driven by chain 91, drives a large sprocket 110 for a gripper device drive chain 112. The chain is also trained arotmd an idler sproclcet 114. Opposed pairs of grippers 1.16, 118, in the form of belleranks, are pivotally mounted at 119 cn the gripper device drive chain 112. A gripper cam track 120 is formed arotind the periphery of drive chain 112 _and gripper control rollers 122 ride in the cam track. The grippers also mount –ripper drive rollers 124, for engaging with drive lugs 126 that depend from the X jackets. TI–ie drive lugs 126 for the X jackets also appear stub shaft 66 cariies rohers 68 that support the jacket in Go. lane convevor YI. the straight tracks 70 for straight sections 52 and 53 of FIG. 7 shows the major elements of the gripper de– in FIGS. 3, 5 and 10. As the gripper–S 116, 118 _ass frorii the curv–.d section of the cam track 120 to the strai_ht section, the cammin.– section is such as t6 bring the grip, pers progressively but lirmly into engagement with tlie driving lugs 126 on the X jae,_ets, whereupon the X jackets are smoothly _and positiiely advanced until the grippers are released by the curved car_i tr_ck at the other end of the derive. There will always be at least two sets of grippers firmly driving the X ccinveyor. The deta–ils of the gripper device G do not form –part of the present inventioli, such devices being known in the co–iiveyor art. The inpvt feed mechanism.–As has been mentioned, when flats are placed in the input feed basket, –an electric eye beam is eclipsed causin.– the rak– 24 o–.1 the X jacket to be lifted as the jacket approaches the input feed baslcet, and rake the flat out of the basket into the X jacl–,et. The lifted rake retains the flat in the X jacket as it climbs the inclined section 52 of the X coilveyor, and as tle X jackets reach the strai.aht section 53 af the X conveyor, the rakes are automatically IoNvered. Their flat holding action is now no longer necessary, and they are lowered in order to permit the X jacket to pass tnrough the lifted rakes 26 of whatever matrix pan is destined to rake the flat out af t:ie X 4acket. Details of structlre for accompl_'_shing these resu'its will now be described. The structure of the input feed bask–et 20 of thp i–..iput feed station FS appears in FIGS, 3 and 4. A masking plate 130 is secur6d to frame rails 132 at the op.–rator's feed station, and the masi–in.– plate is formed with an opening 134 for receiving tlie Pats. On the operator's side of the unit, a f_lat guide ranip 136 projects downwardly to_ward the bottom of the basket 20. On the opposite side, a vertical side pla:te 138 is provided. At the lower end of the baslret there is fitted an inclined flat deflector plate 140, ,vhich merges with the rear wall 141 of the feed basket. The bot"orr_ o' the feed basket is formed by a flat support plate 142 which is slotted at 144, and these slots also extend throu,,h the rear wall 141 of th–_ feed basket. As seen in F'IG. 4, the slots ar–. provid_d to perrrit the fingers of rake 24 of the X jacliets to pass throii,–h the feed basket and push the flats out of the feed basket and into the X jacket at the unsteam end of the fe_–d basket. An inclired throat plate 146 is mounted oil the main castin.– of the basket at the Lip_tr,–am end there6f. Three photocell units 22a are also mounted in the feed basket cas_ing, and the deflector plate 140 a–id th–_ flat supporl bars 142 at tlie bottom of the basket are blpertured at 147, 14,8, respectively, for passage of the electric eye bedm from lamps 2,–7 below. Rake operating 7i7echanisri.–The rake operating mechanism is carried by each of the X jackets and cooperates with a rake raising cam and r,–setting mechanism that is mou– _ited on the frame at the lower c–ild of the input feed basket. Referring to FIGS. 3–6B, the fingers of the X jacket rakes 24 extend in oppositedirections from a rake crossbar 150. In fact, the fiigei–s and the ralce crossbar are formed as a one–piece aluminum castin._. Tn order to pivotally mount the rakes 24 on the trailing ends of the X jackets, the crossbar 150 mounts p,.'Vot pins 152 (FIG. 5) which extend through side plates 153 of the X jacket ' A rake lower;n.– spfing 154 conn–.cts to one of the ra_ke pivot pins 152 and to the X jacket, and urges tbO Takes 24 to their horizontal or lowered position. The rota:tion of the rakes in response to the force of the rake lowering spring 154 is limit,–d by a stop bar 155 that extends across the X jacket. The position of –an X jacket rake that has not been lifted at the feed baslcet, and h–.nce is urged against the stop bar 155 by the rake' lowering spring is illustrated in FIG. 9. As seen in FIG. 5, in order to provide_ for lifting of the rake 24 to both snveep the flat out of the basket and keep the flat in the X jacket on the inclined section 52 of tho X conveyor, a rake lifter crank 156 is fastened to the rake pivot 152 at one end of the rake mechanism. Referring to FIG. 6, the rake lifter cra–nk 156 is provided with both an operatina roller 158 and a latch reset caiii surface 160 both of ,T_hicii cooperate with a rale raising cam and reset mechanism mounted on the 'Lrame of the apparatiis. Rake raisin,_ cam and reset mechai7ism.–Referring to FIGS. 3–6B, the iiiechanism is mounted on a mounting plate 164 which is secured to frame member 132, previously referred to, through spacers 166. An operating cam lever 168 for the rake lifter crank 156 is pivotally lo mounted on plate 164 by a pivot shaft 170. Pivot shaft 170 also forms a shaft for a rotary solenoid 172 Nvhich contains a spring for urgin– the ralce operating cam lever 168 in the clockwise direction, as viewed in FIG. 6, to the, iion–caniming positio_i. The cam lever 168 is also biased clockwise by a counterweight 173a on an extensio–Ai arm 173 of the lever. When tue solenoid 172 is energized, it turns the lever counterclockwise to its camming position, bringin–. thc, arm 173 of the lever into en.–a,_ement with a stop 174 mounted on plate 164. The other arm 175 of the lever 168 is formed with a catn surface 176 on the underside thereof, for camming down the roller 158 on the rake lifter crank 156, as the, latter nioves along the cam suri–ace 176 witn the X jacket. In order to hold the 1–ver 168 in the down or camming posiion, as illustrated in FIG. 6, a pivoted latch lever 180 is provid–.d. This lever is mounted on the plate 164 by a pivot 182 and carries a latch roller 184 for engaging a det.–nt notch 186 formed in the upper corner of arm 175 of the lever 168. A bias sprin_, 188 urges the latch lever ISO toward its position of latchin_ enga,_ement with the cam lever 163. The

lower end o'f the latch lever 180 carries a roller 190 for resetting the latch 180 to permit the cam lever 168 to rotate in a clockwise direction, as viewed in FIG. 6, so that cam surface 176 oji the lever will be restored to its non–camn–iing position. 'in order to hold the ra–ke 24 in its lifted position, as seen in FIGS. 6, 6A, and 6B, a hojd–down bar 192 is bolted to the end i)f casting 54 and forms a prolongation of the cam surface 176 of the lever 168, when the lever is in its lowered or camming position. As seen in FIGS. 6 and 6A, the track section 70 on the straight section of the conveyor has an offset flan.–e position 194 that forms a continuation of the hold–down bar 192 on casting 54. Thus when the roller 158 on the rake lifter crank 156 is cammed down by the cam sur'ace 176 on the underside of lever 16'_, the roller 158 will first pass under the hold–down bar 192, and will then pass under the flange portion 104 of the track 70. With the roller under these track surfaces, the rake 24 of the X jacket is held in its raised or rake position against the force of the rake lowering spring 154, and the rake lifter crank 156 is in the positio–_i illustrated in sol_id lines in FIG. 6. The fingers of rake 24 are shown in phantom in this figure, because of the location of the section. To review t–h–_ operation of tne mechanism, reference is made to FIGS. 6, 6A and 6B. NVhen the b,–am of the electric eye unit 22, 22a of the input feed basket is interrupted by the –introduction of a flat thereto, a signal is provided to rotary solenoid 172 which turns the cam lever 163 ,,,terclockwise. This places the cam surface 176 of lever 163 in the path of the roller 153 on the rake operating crank 156 of the next approaching X jacket, the rake of which will have been previously lowered. This coxidition of the approaching X jacket rake and rake lifter crank 156 is shown in phantom to the right of FIG. 6. VVhen the arm 175 of lever 168 is lowered by the rotary solenoid 172, the latch lever 180 sprin.–S to the –right as viewed in FIG. 6 so that the roller 184 on the latch lever enters the detlent notch 136 in the camming lever 163, and latches the camming lever in its down or camming position ' As the roller 158 of the rake lii.ter crank 156 rides along the cam surface 176 of lever 168, the crank 156 is rotated in a clockwise direction, as viewed in FIG. 6, which lifts ihe X jacket ralke 24, and as the roller 158 leaves the cam s_irface 176 on the lever, it rides under th–, track section 192 (FIG. 6B) which keeps the rake lifted. As ti–.e '_ jacket pro,_resses, the roller 158 of the rake lifter crank rides under the traclc. section 194 on th–_ member 70 (FIG. 6A). Before this happens, however, the cam slarface 160 on the rake lif ,Cr crank 156 is brought P.gainst the roll_r_r 190 on the la,Ch lever 180, which pivots the latch lever against the force of spring 188 and releases the cain lever 168. The latter can now return to its upper, or rion–cammin,_ position. After the X jacket passes the latch lever 180, the bias spring 198 for the lever 180 pulls the 1,–Ver to the right, z_s viewed in FIG. so that roller 186 on the latch 1,–ver is brou.–ht against the curn,ed erd 178 of cam lev–r 163, whirh end serves as a stop for i'_,irther motion of the latch lever 180. Vv"_ien the X jacket reaches tne end of the inclined sec– tion 52 of the X conveyor, the rake 2,11 on the X jacket must be lowered to its horizontal position to accommodate passa,–e of a rake 26 on one of the matrix pans, as the X jacket moves throu,_h such rake 26. This is automatically accom,31–'shed by termination of the track that holds ,he roller 153 and the rake lifter lever 156 in their ra.1–e lifl;ng positions. Referring to FIGS. 7 and 7B, it can be seen that the arcuate track casting 56, which joins the inclined and straiaht sect;ons 52, 53 of the X conveyor, is formed with an auxiliary track portion which proiects laterally inwardly of the track portion 72 that is T)rovided for the inain rollers 68 of the X co–_ivcyor. this auxiliary track portion 73 terminates jiist as the roller 158 on the rak.– lifter crank 156 reaches the straight section 53 of the X conveyor, so +hat as the roller 153 clears the track section 73, t'_ie X jacket rake 24 is released, and is reti–irned to its horizontal position by means of the rake spring 154 (FIG. 5). This brings the rak,–24 a,–ainst the stop bar 155, and hence to its horizontal posieion, as –lillistra,ed in FIG. 9. Referrin–, a.–ain to FIG. 6, a rake assenibly is shown in phantom to _,he lp–ft of the rake operating mechanism, and with tha rake 'Z4 in its hbr4zontat position. This is the rosition of the –ake Nvhen an X jacliet passes the input feed baske", and no flat is introduced in+,o the basket to interriipt the beam of the electric eye un;t. In this case there is r–o si,–nal to soleioid 172 to cause operation of the rake raisin– lever 163 mounled on the fiame, apd roller 158 passes abolie the various track ej'.ements with the rake in its retracted position. MATRr,_' PAN AND R–A–KE DE–IAILS As previously mentioned, a matrix pan is disposed betwe_,n the ir,.tersection of each X conveyor and each Y conveyor lane. Each matri,–, pati has a projectable rake controlled by the directory for transfe.,ring a flat Irom the X co–tiveyor that runs over the n–ialrix i)an to the Y conveyor that runs beneath it. A plan of three malrix pans that overlie the thi–ee main conveyors YI appears in FIG_ S. FIG. 9 is a section of the same assembly taken along the exteiit of the X conneyor which overlies the three pans, atid shows the relationship of the matrix pan to the X and Y conveyors. As previously described, in this fl.–Ure a flat F is in the process of bein,– raked from an X iacket into the central matrix pan M by the rakes 26 r '0 of the matr,'_X pa–ii. FIG. 10 is a section through the sa.me assembly takeyi in the direction of 'Lhe ektent of the Y co–Tilieyor be–.ieath the –Tr_atrix pan. This flgure shows a ilq–t P bei–i.– raked from the matrix pan into the Y jacket by fne rakes 23 of the Y jacket. FIGS. 8, 9, and also show construct;on details of the matrix pans which will now be described. As b,–st seen in FIG. 8, the central matrix pan M has a mouritin –, Range 200 at 'the left side thereof and a mountitig fiaig– 202 at the right side thereof. Flanges 200, of adjacen' matrix pans bolt to.–ether to form a 3 matrix pa–.i aqsenlbly that extends along the X conveyor overhead, the 1–_ conveyor appearing only in phantom in FIG. S. Bolts 203 co–_iiiect the riialrix pans together. Spaced fron,, bLt pa–allel io i–langes ZOO, 292 are side flanges 204_ for guiding the ed,–es of th6 flats disposed in the matrix pans. Gu;de flange 204 is joined to the side flange 200 by webs 206. These webs and the. gu_'_de flanges 20_l are notcned to receive the rak–e assembly 26. The other guide flailge 2 1 04a for the flats is joined to the side flange 202 by vi_–bs 210. The matrix pan has an upstream end wall 214 which has slots 29b formed therein (FIG. 9) that form contintiations of the slots 29a betw.–en the bars 29 that form the bottom of the pan, previously described. As seen in FIGS. 8 and 10, a stiffening bar 216 cxtends across the open or downstream end of the pan at the top portion of the pan. The fingers of the matrix pan rake 26 are integral with a rake crossbar 218 which extends along the left side of the pan as viewed in FIGS4 8 and 9, the crossbar lyin_ betiveen the Ran,_es 200 and 204. The fingers and crossbar forming the matrix pan rake 26, are a unitary alumh–ium casting. The rake 26 is _ivotally mounted in the matrix pan by means of pivot pins 220 projecting from each end o_L the erbssbar 218. The matrix pan rake is urged to its lowered positioil by a rake lowering spring 222 vrhich, as seen in FIGS. 8 and 10, has one end conr.,ected to a rake finger and the other end bearin.– against the matrix pan. The notched portions of guide wall 204 form stops for the rake 26 of the matrix pan wh_–n the latter is lowered by the spring 222. In order to lift the rakes for transferring a flat from the X jacket overbead into the matrix pan, a rotary rake lifting solenoid 224 is provided (FIG. 8). The solenoid is mounled on a bracl–et 226 attach–.d to

the matrix pan. The operatin.– portion of the solen6id armatlire mounts an eccentric pin 229 for raising the rake. Cooperatiiig with this pin is a combined rake lifting and latch cam 230 mounted on one end of one of the pivot pins 220 of the rale crossbar 213 (FIG. 8). Referring to FIGS. II and 12, rake lifting cam 230 is formed with an a!oultment shbtilder 232 for engagement by the solenoid pin 223. Also formed in the cam 230 is a notch 234 which serves as a latching notch –vvhile the cam is hldin.– the Take in its raised position. A latch pin 236 that fits in notch 234 (FIG. 11) projects from a latch pin bar 238 that slides in a groove 239 formed in a boss 239a of the r_natrix pan, as seen in FIGS. 8 and 12. The latch pin bar 233 is coiifined in its grove by the brackets 226 that mounts the rotary solenoid. A link 240 is pivotally connected at one end to the latch pin bar 238 and at ttic other end to a latch bar operating lever 242, which lever is pivotally mounted on tho end flan.–es 214 of the ma,rix pan by means of a bolt 243 (FIG. 11). A sprin.– 244 connec_,ed between the latch operating lever 242 and t_ie matrix pan caiises counterclocl,*ise rotation of ttic latch operating lever 242, as it is viewed i–ii FIGS. II and I . The free end of the lever 242 mounts a latch pin reset roller 246 for engagement by a cam 250 (FIGS. 9 and II) that depepds Lrom each of the X jackets. The operation of the rilatrix pan rake mechanism is as follows: Assuw–e that the matrix pan rake 26 is in its loivered position, as seen at the r–ight hand matrix pa–_i M in FIG. 9 and in phantom at the left of FIG. 12. The I _t rake i' ing and latch cam 230 will now be i–ti the position sliown in phantom in FIG. 12 and will be Lirged aga;nst the pin 223 of the rotary solenoid 224 by the rake lowering spri–qg 222. When the solenoid is energized by a signal –'Lrom the directory, the rake IFfting cam 230 is rotated by the solenoid in a clockwise direction as viewed in FIGS. 11 and 12,,the solenoid pin 228 turning from the position shown in phantom in FIG. 12 to that shown in phantoin in FIG. II. The solenoid pin 228, therefore, presses against the shoulder 232 on the rake lifting cam 230, causing the cam to rotate in a clockwise direction from the position shown in phantom in FIG. 12 to the position shown in solid lines in FIG. 11. This lifis the rake 26 to its raised position shown in solid lines in both FIGS. I 1 and 12. As the cam 230 is rotated 'm a cloclcwise direction as just described, the arcuate surface 235 of thd cam moves under the latch pin 236, which pin is positioned as indicated in phantom in FIG. 12. Latch pin 2,16 is urged against surface 235 of the cam 230 by the latch lever spring 244, operating lever 242, link 240, and latch pin bar 238. When the rake reaches its rais,–d position, as seen in FIG. 11, latch pin 236 snaps inlo the detent 234 formed in the cam 230, and retains til–e rake in its raised position a.–ainst the force of tlae ral_e lowering spring 222. With th;s construction, energization of tile, rotary solenoid 224. by tl–ie directory need only be momentary, and as seen in FIG. 11, the rake 2.5 w;ll remain in its rais–.d position even tliough l..ie soleioid pin 223 is returned to its normal position (shown in solid lip.–.s in FIG. 11) upon de–energization of the solenoid 224. The arrow leading from tlle solenoid pin 223 in FIG. 1 1 shows th–. motion of the pin when the soleiioid is energized, to rotate the cam 230 and lift the matrix pan rake 26. Referring to FIG. 9, the ra'Ke 26 on the central matric pan M has been raised, and is in the process of raking a flat from the X jacket 10 (moving to the left in the figare) into the central matrlx pan. Also appearing at the right of FIG. 9 is an approaching X jacket 10, which may carry a flat that is not desi.–nated for the central matrix pan of FIG. 9. Thus it is necessary immediately to reset the matrix pan ral_–e 26 to avoid uncalled for clearing of the approaching X jacket, and this is the function of the rake resettin.– cams 250 mounted on the trailing end of each of the X jackets. In FIG. 11, wh–ich view ;s taken in a d–.rection different from that of FIG. 9, so that the X jacket 10 is traveling to the rigbt in FIG. 11, the matrix pan rake 26 has been raised and a reset can–i 250 is approaching the roller 246 of the latch cover 242. When the X jacliet cam 250 strikes the lever roller, the lever is moved to the ri–_ht by the cam, as indicated in phantom in FIG. 12, which moves the latch pin 236 out of the detent 234 in the rake lifting cam 230. The X jacket 250 holds the latch lever 242 to the right long enough for the matrix pan rake 26 to return to its lowered position, as indicated in phantom in FIG. 12. The matrix pan rake is returned by the rake lowering spring 222 (FIG. 8). This simultaneously rotates the cam 230 to bring the cam shoulder 232 against the solenoid pin 228, as indicated in phantom in FIG. 12, and to bri_l.– the surface 235 of the cam 230 behind the latch pin 236, Nvhich pin was displaced to the ri,–ht (as seen in phantom in FIG. 12) when the roll.–r 246 on latch lever 242 was engaged by the X jacket cam 250. When the cam 250 on the X jacket clears the roller 246 on latch lever 242, the lever 242 is prevented from retuming to its solid line position in FIG. 12 by engagement of the latch pin 236 with the surface 235 on the cam 230. Thus the matrix pan rake 26 is in its lowered position ready to be reset to its raised position in case the solenoid 224 is energized by the directory before the next or succeeding X jacket reaches a position wherein the leadin.– edge of the jacket is at, or close to the position of the matrix pan rake 26. Y JACKET AND RAI(E MECHANISM As previously described, the Y jackets do not have slotted bottoms as do the X jackets and the rnatrix pans, but have open pans that are closed by shutters 30. The Y jackets also have rakes 28 which sweep through the slots in all of the matrix pans, and so empty the first matrix pan that they encounter. Details of the cons!ruction of the Y jackets appear in FIGS. 9, 10, and 22– 27. The Y jackets are formed of a pair of cast side rails 260 (FIG. 22) to which a paii is connected. The bottom 262 of the pan is best seen in FIGS. 10 and 22. The pan has sides 263 also seen in these figures. As seen in F'XGS. 23 and 23A, the sides 263 of the pan are bolted to the side rails 260 by means of bolts 263a. The pan also has front and rear end walls 264, the rear w,,ill appearin.– in section in FT_G. 10. three lalie assemblicis Y, YI previoasly referred to. For example, opeii spacer blocks 265 (FIGS. 9, 22, 24 and 27) are bolted to the qide rails 260 of the pans, as indicated in F' G. 22, and a plate 266 is screwed to the bottom of the spacer blocks 265 to stren–then the structure. Passing through each end of the side rails 260 of the Y jacl–ets are cross tubes 268 which mount the rollers 270 that supdort jackets in a track 272. This construction is best seen ii FIGS. 22, 23, and 24. As has been previ– ously described, links 15 pivotally connect the Y jackets, by niears of the cross tubes 268. In order to guide the Y jackets laterally, lateral guide rollers 273, Nvhich are offset along the len.–th of each jacket, ride in a track 274 (FIGS. 9 and 23), ti'l– trae–k being mounted on frame structure 274a, as illustrated in FIG. 9. As seen in F–IG. 9, side guide rollers 273 are mounted on the central plate 26–6. In order that the two gripper drives G3 (FIG. 2) may drive the Y jackets, _ripp–r lugs 275 depend from the two outboard side rails 260, as seen in FIGS. 22 The shutter 30 for closing the Y jackets has been previously m_–nLioned. It is formed of a rubber belt member 30a to whch is bonded a se,–ies of slats 30b, as seen in FIGS. 10 and 23A, this provides a laterally rigid, longi– tudinally flexible closi–,re for the Y jackets. Theshilitters 30 ride in tracks 276 formed in side rails 260 (FIGS. 9, 10, and 23A) and at the ends of the shutters are striker clips 278 for engagement by the means 31 and 31a that opens ai–d closes the shu–_ters. As seen in FIG. 22, stop –, 0 blor–Ics 279 are moupted for e–_igaging the upper

ends of the shutters when the shtitters are in their closed position. De_ails of the Y jaei:–,t rake mechanism 28 will now be described. As best seen in the perspective of FIG. 26, the fin,–ers of rake 23 are cast ititegally with a crossb–.tr 280, and as seen in FIG. 22, crossbar 280 extends from one side of each Y jacket to the other. As is also seen in FIG. 22, at the outboard end of the crossbar 280 for the rake that is adjaceit the tracks 270, there is connected a rake control crank arm 232 havirg a collar 282a that is pivol,ed on the associaled cross tube 268. This construction also appears in the persp_–ctive of FIG. 26. The constrlction is du.,_3licated at the outboard cnd of the Y jacketthatisadjacenttheframe. Th einboardendsofrake crossbars 200 mount cranks 283 (FIG. 27) which have col' ars 233a that are likewise rotatable on cross tube 268. As seen in FIG. 9, in the three lane YI conveyor assenib'jy, t_ie central Y jacket 1,,as cranks 283 on both ends of the crossbar 230 for the rake assembly. Adjacent craiiks 283 have tleir collars 283a connected by a sleeve 233b (FIG. 22) so that all of the rakes rotate in unison. The outboard rake control cranks 282 mount rollers 284 which function to hold the rakes up in their raised position. These rollers ride in tracks 285 (FIGS. 23 and 24) which tracks have an entrance ramp 285a for lift– ing the rollers (and hence raising the rakes, and exit ramps 285b (FIG. 23) for allowing the rollers and rakes to –radually become lowered, as the Y jackets reach the end of the upper reach of the Y conveyor. As best seen in FIGS. 22 and 27, rake lowering springs 286 are con– nected between an arm 288 on the cranks 283 and a spring post 289 that extends between the side rails 260 of the Y jackets. Stops 290 are provided for determining the lowered position of the rakes, as indicated in phantom in FIG. 27. Referrin._ to the right of FIG. 23, as the Y jack'et starts its travel on the upper reach of the Y conveyor, as seen in phantom at the right of the figure, the roll,–rs 284 ride up the ramp section 285a of the track so that the rakes 28 are soon brou.–ht to theirraised position, as shown in solid lines in the figure. The rakes 28 now pass through all of the matrix pans, as previously described, and when the Y jacket reaches the end of the upper reach of the Y conveyor, the rollers 284 ride down the exit ramps 285b with v,,bich the rake lowering springs 286 gradually lower the rakes 28 to the position shown The Y jack(,ts are bolted together to form the two Or 7,5 in phantom in FIG. 27. Y JACKET SHUTTER OPERATING MECHANISM The shutters 30 of the Y jackets are all open as they traverse the upper reach of the Y conveyor and pass beneath the matrix pans. If a Y jacket does not receive a flat there is no need to close the shutter as it turns over and traverses the lower reach of the Y conveyor. On the contrary, if the Y jacket does receive a flat, the shutter closing mechanism 31 controlled by the directory, is provided to close the shutters of those jackets that receive flats. The shutter closing mechanism 31 is mounted near the end of the upper reach of the Y conveyor, just before the Y conveyors are turned over. Such a mechanism appears to the left of FIG. 23, and duplicates 31a of this mechanism are provided for opening the shutters over each designated high or low density bin. The shutter opening mechanisms 31a are also reinotely controlled but on a different basis, in that there is one shutter opening mechanism for every bin, and the directory only operates that mechanism which isassociated with the bin that is desi,–nated to receive a flat from the approaching Y jacket. Referring to FIGS. 22, 23, 23B, 25, 34 and 35, a rotary solenoid 291, controlled by the directory, is provided for each of the shutt_–r controlling mechanisms 31 and 31a. Since these mechanisms are substantially identical, only the shutter closing mechanism 31 will be described in detail. Attached to the rotary solenoid shaft is a fflpper arm 296 for operating the mechanism. A cross shaft 297 mounted in bearin.– plates 298 (FIG. 22) is mounted on the frame, and at the end of the cross shaft adjacent the solenoid flipper arm 296 is an overcenter crank arm 299. The axis of the cross shaft 297, and that of the rotary sblenoid 294 are in alignment. Projecting outwardly from th,– overcenter crank arm 299 on the cross shaft 297 is a pin 299a for enga.–Cment by the solenoid flipper arm 296. The overcenter crank arm 299 on the cross shaft is held in its extreme positions by an overeenter spring 300. An upper stop 304 is Provided for the overcenter crank arm for limitina the upper position of the overeenter crank arm 29–9, a, ,_n in FIG. 23B. The solenoid flipper arm 296 and a rubber pad 296a limits the lower position of overeenter crank arin 299 as is also seen in FIG. 23B ' The eleinents that actually open the shutter are right and left lu,_s 308 that are vertically slidable in the housings 310 secured to plates 293. As seen in FIG. 25, notches 312 are formed at the lower end of lugs 308 to receive balls formed on the ends of crank pins 302, which crank pins extend from the cross shaft 297. Each of the vertically slidably shutter opening lugs 308 mouiits a reset roller 314. A reset cam 316 (FIG. 23) projects downwardlv from each of the side rails of the Y jackets when the latter are on their upper reach, for engaging the rollers 314 on the shutter closing lu.–s 308. The shutter openin– mechanisms 31a (FIG. 34) are like the shutter mechanisms 31 just described except that they are at the lower reach of the Y conveyor. As previously mentioned, there is one of these shutter mechanisms 31a at each bin, and the solenoids thereof are controlled by the directory oii a different basis from that on which the shutter closing mechanisms are controlled. Cams 316a (FIG. 23) which are directly above cams 316 vihen the Y jackets are on the upper reach of the Y conveyor, are provided for resetting the shutter op enin.mechanisms 31a as the Y jackets, the shutters of which have been opened by suchmechanisms pass over the mechanisms on the lower reach of the Y conveyor. FIG. 23B shows a shutter closing mechanism 31 in its retracted position, viith the solenoid flipper arm 296 and the overcenter crank arm 299 in their lowered positions, causing the crank arm 302 (not seen in FIG. 23B but appearin_ in FIG. 25) to lower the shutter opening lugs 308. When the directory supplies a shutter closing signal to the solenoid 294, the solenoid flipper arm 296 is momentarily turned counterclockwise (as viewed in FIG. 23B) which lifts the overeenter crank arm 299 and brings it against the stop 304. When the solenoid 294 returfis to its de–energized position, as shown in FIG. 23B, the overcenter crank arm 299 will be in its upper position, as seen in FIG. 23, which also corresponds to the position of the parts in FIG. 25. When this action occurs, the crank pins 302 on cross shaft 297 (FIG. 25) will lift the shutter opening lugs 308 to their shutter engaging positions, shown in FIGS. 23 and 25. As a Y jacket containing a flat progresses towards lugs 308, the shuttler closing clips 278, shown in dotted lines in FIG. 23, approach the lifted ligs 308 and engagement iDf these parts begins the closing motion of the shutter. As the Y' jacket continues on past the mechanism 31 the shutter is closed ' and just before the shutter is fully closed, the reset cams 316, seen at the right of FIG. 23 and mounted on the lower portions of the Y jacket, engage rollers 314 of the shutter opening lugs 308 and lower the lugs so that they clear the clips 278 just as the shutters are fully closed. The shutter opening mechanisms 31a (FIG. 34) operate in the same manner except that they are reset by cams 316a motinted on the opposite side of the Y jackets (the upper side in FIG. 23). SUMMARY OF Y JACKET OPERATION Operational views 28–33 summarize the operation on the Y jacket shutter _nechanism. In FIG. 28, a Y jacket 12 bearing a flat F, and with the shutter 30 in its opened condition, has just reached the end of the upper

reach of the YI conveyor associated with the jacket. The clips 278 on the ends of the, shutter are shown in engagement with lugs 308 of the shutter closing me–.hanism 31, which lugs are in their raised or projected position in response to a signal from the directory as previously described. Continued motion of the Y jacket to the left as seen in FIG. 28 causes the shutter 30 to approach its fully closed position, until the cams 316 reach the shutter closing mechanism. When this occurs, the cams 316 engage the rollers 314 on the lugs 308 and cams the lugs 308 down. The shutter 30 will be now fully closed as seen in FIG. 29, so that the Y jacket can be turned upside down and the flat will not fall out of the jacket. FIG. 30 shows the sliutter in its closed position with the Y jacket in the process of being turned around at the downstream end of the Yi conveyor. FIG ' 31 shows the jacket on the lower reach of the YI conveyor with a flat F resting on the shutter 30. In FIG ' 32, the jacket has reached a designated high density bin at which one of the shutter opening mechanisms 31a is provided. The clips 278 on the other end of the shutter have been carried into engage– ment with the previously projected lugs 308 of shutter opening mechanism 31a, and as seen in FIG. 32, the shutter is partially cit)ened and the flat F is partially ready to drop into the high density bin HD. In FIG. 33, the shutter is fully opened and the flat F is in the clear and dropping into the high density bin HD. The cams 316a on the Y jacket 12 have reset the shutter opening lugs 308, in ord,–r that they wiH r_ot open the shutter on the succeeding Y jacket unless or until the succeeding Y jacket bears a flat destined for the same high density bin. LOW DENSITY BIN CONSTRUCTION The constniction of the low density bins is illustrated in FIGS. 34, 35 and 37. The basket or bin 32 for receiving flats is in the form of an L–shaped casting having slots 34 in the bottom thereof as previously mentioned. The flats are actually supported on ribbed stipporting bars 322, as I seen in FIG. 37, and the low density bin is supported by its rear end plate 324. As mentioned, the rear plate 324 is slotted at 36 to clear the rakes of the sweep unit. The lovi density bins have side plates 326 fastened to the L–shaped casting, and the end plate 324 of the lo_,v density bin is mounted on a U–shaped saddle 328 best seen in FIG. 37. In order that the saddle can be guided for vertical reciprocation, rollers 330 are mounted thereon and as seen in FIG. 36, the rollers 330 ride in a track 332– forined in vertically extending frame elements 333, also b–.st seen in FIG. 36. The saddle 328 mounts side giiide rollers 334 for en._aging frame elements 333 and –uiding the low density bins in a lateral direction. The bins are si)ring urged to their tipper position, which is the position wherein they receive the flats from th–, Y jackets, by reels 33 previously mentioned. The wires 33a for the reels connect to pins 336 moi–inted on ears at the lower ends of saddles 328, and this construction is best s.–en at the left of FIG. 35. Projecting laterally inwardly from the lower ends of saddles 328 are bin lo,,vering rollers 338. As seen in FIGS. 35 and 37, these rollers functio–n in corinection with the gate cams 46 and 46a (FIG. 37) as will be described in d–tail presently. As seen in FIG. 35, the side plates 326 of the loxv density bins are apertured At 326a to provide a path for the beam of light between a photocell lamp pcl and the photocell pc that senses the height of the stacks of flats in the lo,_v density bips. SW'–QEP UNIT AND BIN LONVERING – MECHANISM The construction and operation of the swe,–p units and the bin lowering mechanisms appear in FIGS. 35 to 44A. As has been previously described, each sweep unit 14 carries a rake 40 . mountin.– horizontally extending flat supporting bars 42. Bars 42 are in alignment with the slots 34 and 36 in the low density b:_ns, and this ali.–nme–it is best seen in FIG. 37. The swe_–p units 14 also include rake bars 44, which are in alignment with the flat supporting bars 42 just describ,–d. This alimment is best seen in FIGS. 36 and 37. The .–ate cam 46, which carries out the initial phase Qf the bin lowel–in,– act_on, has been previously mentioned. However, gate cam 46 ' orms only a. part of th_ bin lowering and raisin.– mechanism o.L the sweep unit. Referring to FIGS. 35, 35A and 36, just behind gate cam 46 is a fixed cam or track section 47 wbich forms one inte.–ral articulated unit, and dov,,nstream of track section 47 is another track sect;on 48 which forms another articulated unit. Pivotally mounted on the trailin.– end of track section 48 is a pivoted track section 49 that controls the raising or release of the bip a4lter a stack of flats have been swept out of the bin by the rakes 44 of the sweep unit. As seen in FIG. 36, there are two gate cams, the _at–. cam 46 being that show–n in side elevation in FIG.,35. Oii the other side of the sweep unit is a gate cam 4,5a t_le construction of which is modified somewhat from that of gate cam 46 as will be described presently. As is also seen in FIG. 36, there are two track sections 47, aiid these are connected by rigid cross bars 339 and by cross rods 340. The cross rods 340 mount plates 340a which are the plates that carry the flat supportin__ bars 42. The rake pan or basket 40 has side plates 3,_l that are bolted to the ends of plates 348–a. The track sections 47 mount guid–. rollers 3,12 which rotate on pins, 342a (FIGS. 35A ai,d 40) that t)roject from the cam track sections. Drive lugs 343 project from cross bars 339 for eiigagement by the grl'pper drive unit GI shonvn in FIG. 2. The gate cams 46, 46a are pivoted to the track sect–ioq 47 by means of pivots 3AI4, as best seen in FIG. 35. The gat.– cams 4ir and 46a are coinected for simultaiieously pivota'l mbtion by a cross bar 3,'45 (FIG. 36). The two cam track sections 48 downstream of sectioiis 47 are connect6d by cro_–s rods 346 (FIG. 36) –,_,hich motint plates 31,Ca. Thes_ plat.–s support the rake lm,–ers 44. At the trailing end of the articulated track section 18 is a cross bar 'A47 (FIG. 36) and a drive lu_ 348 depends from the cross b2,.r 3e_7. As seen in FIG. 35A, another set of guide rollers 349 are mour_ted at the tra;l;__ig ends o'L the track sectiovz The _trailing cam traek section 49 is pivotally mounted on the articulated track section 48 by means Of PivOts 350, se–n in FIGS. 35 and 35A. The trailin.– cam tracksections 49 are connected by a cross bar 352 (FIG. 36) and the sections 49 are urged to a lowered position by springs 354 (FIG. 35). Padded bumper arms 356, integral with cam track sections 49, limit the pivotal mo– tion of these cam track sections. This pivolal mounting of ca–_n track section 49 is provided in order to provide the necessary clearance during operation of the unit, as will be described presently. The guide rol_lers 342 on the articulated track section 47 and the –Uide rollers 349 on th,articul,,.ted seetion 43 run in tracks 353, FIGS. 35 and 36. The trailing end of artic_dlated section 43 is connected to, a Enk 359 (FIG. 36) and a number of these links are pivotally connected to form dead spaces along the sweep conveyor. The last of the links 359 conliects to the leading end of t ar ated track section 47, as also seen in FIG. 36. If the length of the links 359 and the len.–th ol' the uticulated track sections 47 or 4_3 are referred to as "pitches," in –the small two X–coiiveyor installation there will be 82 pitches in the s,_veep conveyor, there being four sweep units 14 in each lane of the sweep conveyors. At the ends of the sweep conveyor, the tr–,cks 353 merge with curved castings 358a (FIG. 45) and these castings have a special curvature as previously de– scribed in the description of the X conveyor. The sets of four sweep units for each lane of the sweep conveyor are stage.ered, and only a sweep unit for o–ne lane is illustrated in FIG. 36. The sweep units are staggered because –the low density bins in both lanes are loviered sir_iultaneodsly for the

sweeping operatio–n. These bins are connegted toaether, as previously explailied, by means of saddles 328 but only one of the low densily bins wil The cleired by the sweep conveyor. Individual sweer),ng of each lane is necessary bec,,iuse ?,o the two low dens;ty bins. that are connected to,_ether by a saddle 323 probably will, not be f.–iven the same assigned destination and therefore should not be cleared by the sweep unit simultineously. The spacinl– of the sweeping units 14 in the two lares between the unit of one lane and the neardst unit of another lane is such that the first sweep Lnit to reach a given pair of low density bir_s will lo,,_i.–r the pair of bins, sweep the one bin –in its lane, and permit the pair of bins to rise to their ii–ormal posit;on underneath the Y conveyor, before the next at)– zLO proachin.– svveer) unit of the othe_– l–,lne reaches the same pair of bl–is. The position of the pivoted i_,ate cams 46 and 46a determires v,,_ether or not they v,,ill be effective to lower a bin into the sweeping position. The bin loweri_ig fl_nc– tion of tl–ie_ gate can–is is d–_ter–roined by signals from the height sen–..ing photocell unit or the snveep pro.–rammer. Rei.Crr;ng to the gate cbntrol mechaTiism that is mounted on aid moves with,the swe–p units 14, each gate cam tS is lori–ied with a gate raisin.– cam track 374, best seen in 0 Fll–'. 35. The presence of thi3 cam track 374 on gate cam 46 marks the difference bot_veen gate cam 4,ri and gate car_i 46a on the other side of the sweep unit, the latter gat_ cam lacking tiae track 374. , Pi–Votally mo,,inted on thc,, artculated track section 47 is a –ate ready,ng lever 360 (FIGS. 35 End 43a), which lever has a h,,ib mounted on __e p;n 3–'2a th,,)t also supports the sweep gi,,ide rollers 342 (FIG. 35A) for each gate cam ass– _mbly 46. The _aate cari readying levers_3_1 are associated only with the cirris 46. The –at.–readying lever 380 is actually in the form– of a bellerank, Lid at the lower e–iid thereof (,__,hen the sweep unit on its r!pper reach) is a coclcin.– roller 382, best seen in F'_G. 35. Th_ other arm of the bellcrank forr_ –_i_il– gate readying lever 38_' is 'Lormed with a triang ar ar)_– rtui–e 334, whieb is provided for rec.–iving 65_ a T)i–,i 335 proectin– laterally out–_vardly Lrom the gate cam_ 4,5. Ref–,rriiag to FIG. 43A, the aT)erti,–re 334 in the gate readyi–_i._ lever 380 is shaned to provide a lock–olt co_–iier 333 which receives the p_,n 306 of the gate cam 45 in one positioii of the app–,ratus. This position appears in phantom at the, ri,_ht of FIG. 40 and also an ears in – p FIG. 43. Relarnin,_ to FIG. 43A, ap.–rture 384 in the _ate readying lever also provides a gate readying cam surfaca 390 that exterds fron–i the loek–out corner 338 to a gate cam ready or bunting deient 3(,2. The pin 386 of the gate cam 46 is sho_7_n in the h,.intiiig detent in FIG. 40. Returning again to FIG. 43A, the other corner 394 of the triang–,ilar aperture 334 of the –ate readying lev.–r, is a pin receivhi– co–,–ner in which the pin 386 of the gate cam 46 rests while thf, sweep units is in the process of lowering a low density bin. FIG. 42 shows th– pin 336 in the aforesaid comer. The gate readyina lever 380 is biased for clockwise rgtation as viewed in FIGS. 35 and 43 for example by a spring 396. As is also seen in FIG. 43, a bumper pad is provided 'Lo limit the downward pivot;ng of the cam .–ate 46, and another buffer is provided for the carn gate 46a on the other side of the sweep unit. The control –mechanisms for the determining operation of the sweep ii–nit are mounted on the frame at the upstream end o each of the low density bins. These control mechanism are in the form of a directory controlled gate liftin mechanism 400. One of the control meciianisms 400 is shown mc_gt;unted on a vertical column 333 of the frame in FIG. 35, and FIGS. 36 and 42 best show how the mech– a_iisms 400 are mounted on the columns 333 by means of brackets 402. Each of _the brackets carries an externally controll,–d rotary solenoid 404, as seen in FIG. a–.id gate lifting niechanisms 400 are also mounted on the other side of the swee–p unit, which is the side opposite that seen in side elevation in FIG. 35. These control mechanisms on the other side _lt;)f the lane also, carry directory controlled solenoids 404a, which operate in conjunction with another series of gate cams 46 associated with the sweep units in said other lane of the sweep con– veyor. There are only four of such sweep units in each lane and becatise of the spacing, and since they are sta.–gered, none of the sweep units for the other lane appear in FIG. 36. Thus, it is to_ be understood that the directory controlled gate cam operating meehanisms sho,;,in on the lo,,ver portion of FIG. 36, control the sweeping of the low density bins in the lane of _the sweep conveyor v_ith Vnich they are associated. The directory controlled units 400, shown at the upper portion of FIG. are provided for c ontrollin_a the sweeping of the de–lisity b– his in that lane. Except for the fact that the, solenoids 404 and 404a are connected to the directory in association with different _lanes, the mer–hanisms are all alike and description of one will suffice for all. Each rotary solenoid 404 operates a gate li'fting arm 406 which carries a gate lif_ting roller 408 best seen FIGS. 41 and 4.2. Since the rotary solenoids 404 are only momentarily actuated, the arm 406 rilounts a permanent magnet 410 which can be brought into engager.qent with a companion magnet 412 rnounted on the bracket 402. Thiis, once the rotary solenoid 404 energized for a per–'_od of time long enough to bring the arm 406 from its idle position, shown in phantom in FIG. 41 a–_id at the ri.–ht of FIG. 43, to its cammina position, shown in ftill in FIG. 41 and in FIGS. to 44, the perma–_ient ma–.nets 410 and 412 Tetaiii 155 the arm 40.6 in its cai–nmin,_ position after the solenoid 40,' has been deenergized at the directory. The gate readyng lever 380 that moves with the snveep units has pre'violisly bee–_i described, and when the lever– 380 has been turned clockwise, to the position shonvn in phantom at the right of FIG. 40, and in solid lines in FIGS. 43 and 43A, tiae lever 380 is in what may inay be termed its locl,–out position. As seen at the ri_–ht of FIG. 40, at the upstreari end of the upper reach of the sweei) co–nveyor a cockin.– cam 416 is provided, vihich cam epga,–es 'the roller 382 on the –,ate readying lever 380 and cocks the lever to its ready position, as illustrated in full lines in FIG. 40. The operqtion of the entire sweep mechanism wiiii now be reviewed but before this review is presented it is to be noted that a switch 420, FIG. 37, is i)rovided for controlling the shutter opening mechanism 31a. When the low density bin is lowered, switch 420 is operated. A circuit, not shown and the details of which are nOt part of the present invention, locks out the shutter openin.–mochanisni associated with tl–ie pair of low density bins that are in the process of being lowered. This prevents the shutter opening mechanisms from opening the shutter of the Y jackets and dropping flats into the low density biiis while they are away from their normal or upper position. OPERATION OF TI–IE SWEEP M,ECHANISM The operation of the sweep mechanism is illistrated dia–,rarnmatically in FIGS. 40 to 44A. As illustrated in phantom at the right of FIG. 40, a gate cam 46 is in its lower or lock–out position"as it approaches the start of the upper reach of the sweep conveyor. The roller 382 on the gate readying lever 380 has just entered a cam track 416, and the pin 386 of the gate cam is in the loclc–out coriier 383 (FIG. 43A) of the aperture 384 in the gate readying lever. As the sweep 1–init moves along the upper reach of the conveyor, the gate readying lever is tumed counterclockwise (as viewed in FIG. 40) during which process the cam surface 390, tha_t bounds one side of the aperture 384, lifts the gate cam 46 sb that by the time that the roller on the gate readying lever 380 leaves the cocking cam d,16 the

lever 380 and the gate cam 46 will be in the position shown in full l_'.nes i–_i FIG. 40. This is the hiinting posi–tion of the gate cam. The pin 386 of the gate cam 46 will now rest in the hunting detent 392 of the aperture 384 in the gate readying lever. With the ga_te cam in the bunting posi_tion, as illustrated in full lines in FIG. 40, the gate lifting cam track 374 ol' the cam 46 is in such a position that the roller 408 on thsolenoid operated aim 406 is in the path of the _approaching gate lifting cam track 374, provided that the solenoid 404 has been energized by the directory so as to lower the arm to the vosition shown in FIG. 40. This conditioil is shown in full lines in FIG. 41. As is also seen in FIG. 41, if the roller 408 has not been lowered by the solenoid 404 (as indicated in phantom in that figure) the roller 403 will be above the gate lifting cam track 374 on the gate cain 46 aiid hence will clear the track. As can be seen in FIG. 41, when the _arrn 406 and roller 408 are in their upper p6sition, the roller 408 is not in the path of the bin lowering cam track 360 on the gate cam 46, because _,he cam track 360 does no–t pi–oiect far enough 'to be engaged by the roller Referring to FIG. 42, the sweep unit has progressed far enough for the solenoid controiled roller 408 to have fully lifted the gate cam 46 by means of the gate lifting cam t–rack 374, so that the gate cam is now in its upper, or bin lowering position. In this position, the bin loweiing track 360 on cam 46 can enga.–e the biti lowering roller 338 on the saddle 328 of the associated low d,–nsity bin. Since the _ate cam 46 cannot rotate any flrther about its pivot 344 when the cam is in its ur)per or bin lowering position, further advance of th–, sweep unit will cam the roller 333 of the associated low density bin down, as the Toller 333 n'des along the cam track 360, A Pc)sition of the sweep unit is then reached wherein the bin lowering roller 338 leaves the track 360 on the gate cam 46 and ent . ers the track 362, ,vhich latter track fornis an extension of track 369. Track 362 is on the articulated cam section 47. This position of roller 338 is shown in phantom in FIG. 42. Cam track _ection 362 on section 47 coinpletes the lowering operation of tne low density bin. In FIG. 43 the low density bin has reached its fully lowered position ar_d the bin lowering roller 338 is about to ride aloiig a straight track section 364 on the cam section 47, which holds the bin in its lowered position. The sweep rake 44 has almost, reached the stack of flats F in the low density bin, ready to push the staclr of flats ou_t of the low density bin oilto the sweep basket. Since:the piv–: oted gate –,,,tm 4,6 is no longer in en_agement w;th the bin lower;ng roller 339, the – a_e cam now falls by grqvity to its loct–_oat posiiion ill,,ist.–ated in FIG. 43. The spring 396 s–_iaps the gale readying lei,,er 3R_O clock,_,vise as viewed in FIG. 43, and the pin 336 on the gate cam now rests in the lock–oi–it corper 383 oj' t'no apertl,.re 38,1 in the _ate ready;n,_ lever. In FIG. A3 the gate cam p 46, ,vhich has been lowered to its locf–out position, is shown behind the next sole–_ioid controlled gate liftinmechanisrii 400, that is, the mechanism that is associated with the low density bin ito the left of the low density bin th–,tt has been lowered in FIG. 42. This mecha–,iism 400, which is indicated in phantom in FIG. 43 for clarity, is also drawn with the roller 408 in its lower or bin lo_,vering position, which would be the case in case t–t_e solerioid 404 had received a signal fiom the sweed gate programmer or fro–rn the height sensi–_ig unit cahing for sweeping of the bin in question. I–lowever, it can be seen that if the left hand bin in FIG. 43 w–.re to be lowered at this time it would be in int–,rfe_–ei–ce with ,the stack of flats jlst being raked onto the sweep mechanism. ThLis, as illustrated in FIG. 43, e–ven if the roller 409 has bee,_i lowered to its bin lowen'ng position, when the gate cam 4–6 is in its lock–out position the bin lowering roller 401. will be above thp. gate cam track 374. Th;s is indicated in the broken horizontal lines in the figure. Referrin–. back to FIG. 42, vihere the bin lo_,vering process has just started ar_d w–ith the bin lowering roller 333 entering –the bin lowering track 360 on the gate cam 46, iL can ba seen that the remolely controlled cam raising roller 4,.08 is about to lea–,ic the gate ra_isin_, track 374 on the gate cani 46. As soon as the gate cam raising roller 408 is cleared by cp_m track 374, it is necessary to _restore the bin lowerir,– roller 408,to its upper pos_'.I'lolll ready for anoth6r biri lowering cycle. This is accomplislied by a reset kicker liig 376 iaiounted on the _ate cam 46. As seen in FIG. 42, the reset lu–. 376 is __out to enga,–e the gate raisiiig roller 408 when the latter is in its lo,,_ie.,:ed position. Once the kicker_ lug 376 does engage rol'_er 408, as illustrated in phailtom in FIG. 43, the solenoid controlled arm 4,86 is raised to its upper pos;tion, ready fo,.– a si_nal that initiates another bin lowering cycle. As seen in FIG. 44, after the bin lowerin.roller 333 leaves the straight trlck section 366 of the trael' section 4–'Q, the roller enters the pivoted track section 49. Tiais perrriits the reels 33 and the associated wires 33a to raise the associated low density bin and return it to its upper or flot receiving posit'ion. As seen _ in FIG. 44A, V;hen the bin lowering roller 338 rides clear of the traclc 358 on the pivoted track sect;on 4_9, the p–1voted track sect–'.on 49 drops to its lower position so that it will el,–ar sticeessi,_e saddles atid bin lowering rollers 333. The operation of tne rakes of _he sweep i–nechari;sm isillustrated diagr_mriatically in FIGS. 38 a– ,id 39. In FIG, 38 a low density bin has alr_iost been 'ioviered to its sweep position, and the ralce 44 of t'_ie sweep uni, 14 iirvolved in the operation isapproachin.– the stack of flats F. In FIG. 39 the bin 1–ias been fully lowered, tl–.e rake klA. has pass,–d tbrougli the slots 36 in tle end wall of tl–e low density bin, aid is passing throu,–a the slots 34 in the bottom of the lovi density bin. The rake has cr_.aaged tne stack of flats F and has started to push the stack of flats out of the low densi'LY bin. As moti_,n of the s,_veep conveyor S continues, the rake 44 will move the fla'es onto the s–upport b–,trs of t_ic sweep basket 40. The mechanisms for handling ttie stacks of flats F, –,Lfter. they have been depos4_ted in the sv,,eep baskets of the sweep iinits ld,, will now be described in detail. THE D–_–LI_EP,_2' COT\T_IEYOR T__e delivery conveyor D and its r–,latioi, to the ot__er el–,ments of tl–ic system are shown in detail in FIG–S. 45 and 48A. The delivery conveyor D ine–ludes a pair of platforms 422, one for each lane of the associeted slveep conv.–yor S. OLtboard side plates 424 are bolted to a platform 422, as are in–board side plates 426. The outboard side plates 424 are mounted on frame elewelits 4,28 a– .id the iiiboard side plates 426 are n–iounted on elen,_ent 430, as seen in FIG; 48. The irput ends of platlori–ps 412 are slotted at 432 to receive fi_e thin bars 42 , the sweep bas.',ets 40 that support the flats as they are bein–de_DosiLed on the delivery conveyor. The delivery ends o'L the plat' orms 422 are slotted at 434 to recei_ie flat pickup fingers 436 forming part of the baskets 50 of the vertical stacher. This arrangeriaeut is irustrated diagrammatically in FIG. 47. In order to transfer a stack of fiats deposited on the delivery conveyor by the sweep basket to a posiiion tb be picked up by the basket 50 of the vertical stacker VS, a series of V be!–ts is provided. As seen in FIGS. 46 ard 48A, pulley mounting brackets 440 are associated with each of the fili.– ers of the platforms 422 forw–ed by the slots 432, 434 previously described. Tiic V belts, indicated at 452 are trained about pulleys 442, 444 at the receiving and delivery ends of the delivery conveyor_ A drive shaft 446 (FIG. 46) is provided wlaich mounts driving pulleys 448. Idlers 450 are also provided for each of the V belts. The V belts 452 pass around con– veyor pulleys 442 and 444, drive pulleys 448 and idler pulleys 450, as best seen in FIG; 46. in

order to drive the delivery conveyor D a niotor 456 (–FIG. 45) is provided, which drives a gear reducer unit having a driiie shaft A53. A driving V belt 460 is trained –10 arour_d a drive pulley 462 (FIG. 48) on drive shaft 446 aid on another pulley (hidden in FIG. 45) on thi– gear reducer shaft 458. As seen in FIGS. 46 and 48, each platform 422 is aperl ured at 464 to pass the beai–n of a lamp and phooeell unit 466, 463 that form part of the control of the delivery conveyor, vertical stacker and the take–a,,vay conveyor, as will be desckibed presently. Lamp and photocell units 481, 483 also form part of this cotitrol. THE VERTICAL STACKER The more importint structural de tails oj' tho verfical stacker VS alopear in FIGS. 45 to 48. The frame of the verlical stacker contains a central box–like pillat inember 472 which has cross webs 473 that are bolted to fran–ie e'_–melits 474 (FIG. 48). The baskets 50 of tne vertical stacker are supported on chains. Single wear pla'tes 476 are mounted o–ii the sides of,pillar 472, and double wear plates 4.78 extend vertically along the midplane of the pillar 472. Associated with tne double wear plates 478 are T–shiped chain retainer plates 480. Mounted at the lower end of pillar 4,72 are drive sprockets 482, ond idler sprockets 484 are adjustably mounted at the upper end of pillar 472. Pa;rs of basket carrier chains 186 are trained ar6u–.id the sprockets aiid ride alon–. tt–ie we–ar platt–s previously described. The vertical stacker baskets 50 have e–.id walls 433 from which project ears 490, 40,Oti thtt are mounted on tne cbains 496. These ears are at,Lached to the chains 4.36 by bolts 492. As seen in FIG. 46A, ears 490a ,ire slotted at file bolt connections to provide accoiimod,,ttion for the d,.F_.erence in ler–,–,th between the spacing of bolts 492 Vqen the chains are on a straight run aiid the chordal distarice betvieen those bolts as the chains pass around the sprockets 482 and 484. In order to drive the vertical stacker, a drive motor _98 is provilled (FIG. 45) which driv_–s a _,ear reducer drive shaft 500. The drive sprocket 482 for the chains of the vertical stacker are driven froni the gear redtiction drive shaft 500 by a chain and sprock–et drive 504 (FIG. 45.1, which is illastrated diagrammati–_ally in that view. The take–,a,,vay conl,,eyor TA is a substantial dtiplicate o–f the delivery conveyor D, and is mounted on the outs;ide of the ver–tical sticker VS. The take–away con–_ veygr TA is ndt illustrated in detail, but the major ele– mcnts thereof appear in FIG. 45. TI–ics_, clements_,are_ given the same reference characters as those appeed to the delivery conv,–yor D, with the letter "a" appended to the characters. The drive shaft 446a of the take–away conveyor TA and the drive pulley 443a are driven by a V belt drive 518 from the same gear reducer shaft that drives the delivery conveyor D. TIMING OF THE VERTICAL STACKER The vertical stacker VS serves as a temporary storage conveyor and perinits one operator to service several of the devices. l_t accepts stacks or bundles of mail which enter at infrequent intervals, and by indexing one pitch per stack provides temporary storage for a number of ,bundles of mO. The delivery conveyor D and tal–eanvay conveyor TA run continuously, but the vertical stacker conveyor VS is indexed and its motion is controlled by –automatic in'terlocks that prevent janu. mng and inter'Lerence. These operations are illustrated diagrammatically in FIGS. 49 to 52 but the details of the specific electric circuits that provide the interlocks with the m'OtGr and clutch drive unit 498, 500 are not il–lustrated because they do not form part of the present invention, and such details are routine matters of electrical wiring. Referring to FIG. 49, a stack of flats F is in the process of being transferred from the sweep conveyor to the vertical stacker by th,– delivery conveyor D. The stack of flats has broken the beam of a lamp and photocell unit 481, 483. This sets a time delay (not sho–,vn) which insures that if the vertical stacker is moving, it will stop with a basket in a load receiving position. The flats then close a limit switch 479 during its process of transfer. T,his overrides any external control to the vertical stacker, and prevents jammin._. As seen in FIG. 50, as the stack of ffats reaches the vertical stacker it interrupts the beam of another lamp and photocell unit 466, 468. A time delay circuit, not illustra',ed, is associated with this unit and has a time constant long enough to permit the stack of flats to be fully deposited in the waiting basket Of the vertical stacker by the delivery conveyor D. After elapse of the predetermmed time, whirh is suffirient to permit the stack of flats to fully enter the waiiing basket of the vertical stacker, the time delay eircui_t automaticahy indexes the vertical stacker one pitch. The vei–y start of this indexing motion is illustrated in FIG. After the vertical stacker travels one full basket pitch, it closes a limit switch 470, which is operated by a lug on each basket. This stops indexing of the conveyor in the position shown in FIG. 52, with Nvhich a bundle of flats is automatically removed by the constantly running take–away conveyor TA. If the operator desires to re– move bundles of flats irom the vertical stacker in succession, he pushes a switch button (not shown) which causes the vertical stacker to begin an indexing operat_ion. The operator controlled circuit and the photocell ,,md limit sviiten circu–its at the sweep and delivery con– veyor are interlocked so that the operator cannot oause an indexing of the vertical stacker when the latter has stopped to a position wherein a bask–et 50 is awaiting delivery of a bundle of flatsthat is approaching from the delivery conveyor D. SUMMARY OF MATRIX TRANSFER OPERATION The construction and operation of the various elements of the system have been described in detail but no stepby–step detailed description of the matrix transfer opera– tion has been presented. The diaarams of FIGS. 13 to illustrate this operation in steps of one quarter pi_tch (jacket ledgth) motion o_,L the X conveyor. In the operation as illustrated, the Y conveyor runs at double speed, so tha–t for each quarter pitch motion of the X conveyor, the Y conveyor moves one–half a pitch. In FIG. 13 an X jacket 10a partially overlies a matnx pan M, and contains a flat F. The X jacket rakes are onn,tted from the diagrams of FIGS. 13 to 21 for el–arity. As is also seen in FIG. 13, a Y jacket 12a is adjacent to_ matrix pan M, and a downstream Y jacl–,et 12b, which is artually the Y j,acket that will receive the flat, is spaced a considerable distance from the mitrix pan M. In FIG. 14, the X conveyor has advanced one quarter of a pitch and the Y jacket 12a has started to pass under the matrix pan M. In FIG. 15, the X conveyor has advanced another qu_arter pitch so that the flat F on the X jacket I Oa is fully overlying the matr_ix pan, but it has not yet been brought against the matrix pan rake 26. The Y jacket 12a is now almost directly under the matrix pan and the Y jacket 12b which is the jacket that is destined to receive the flat is ap–proaching the matrix pan. The directory will have lifted the rake 26 of the matnx pan M to catise the transfer of the flat from the X jacket to the matrix pan. In FIG. 16, the flat F has –enga.–ed the rake 26 of the matrix p;an and the X j,acket 10a is moving through the rake 26 of the matrix pan, the rake restraining t_he flat F from further motion. The first Y jaelcet 12a is star–ting to emer,_,– from under the matrix pan, and the Y jacket 12b wffl be the next Y jacket to pass under the matrix pan. In FIG. 17, the X conveyor has moved another quarter pitch and one–half of the ff at F is supp,orted on the X jacket 10a and the other half is clear for falling on the m_atrix pan M. The Y j,acket 12b is now closer to the matrix pan. In FIG. 18, the X jacket 10a has moved almost entirely clear of the flat F, which flat will have almost com_pletely dropped onto the matrix pan M. The Y jacket .12b is now partially under the matrix pan, but its rake 28 has not yet reached the pan. In

FIG. 19, the flat F has been fully deposited on the matrix pan M and the rake 28 of Y jacket 12b is close to the pan. In FIG. 20, the rake 23 on the Y jacket 12b has reached the flat F on the matrix pan. The neyt succeeding X jacket 10b is, now starting to cro_ss over the matrix pan but even ff this jacket has a flat thereon, as illustrated in phantom, such flat has not yet reached the rake 26 of the matrix pan under consideration. In FIG. 21, the X conveyor has moved another quarter pitch from the position shown in FIG. 20, and the Y conveyor has moved another half pitch. The rake 28 of the Y jacket 12b is in the process of sliding the flat F from the matrix pan so that it can fall into the Y jacket 12b, the shutter (not shown) being open. Thus it can be seen that this transfer from the X conveyor to the Y conveyor via a remotely controlled but stationary matrix pan is accomplished smoothly with the flats remaining substanti0y in their horizontal position, without danger of damaging or tearing the flats, and without danger of the flats catching or hanging up on any parts of the apparatus. To give examples of typical operational speeds, but by way of example only, it has been found in practice that the X'conveyors operate satisfactorily when moving at a linear speed of 27" per second and the Y conveyors when moving at a radial speed of 60" per second. This assumes a pitch (jacket) length of 16.5 inches for each X jacket pan and of 18 inches for each Y jacket. Referring to FIGS. 13 to 21 again, it can be seen that if it is assumed that the X conveyor illustrated in these figures, is the first conveyor in the line, then by operating the Y conveyor at double speed and with a set of full pitch links between each Y jacket, an empty Y jacket will be available for the second X conveyor in the line_ This condition reduces the potential number o'L interferences that would result if it were attempted to assign flats from the X conveyors to the same Y jacket. RECIRCULATION UNIT A recirculation unit 519 is illustrated in FIGS. 53 and 54. One of these units is mounted near the end of each X conveybr, except the first X conveyor, and its, function is to remove any flat that has not been–dropped– into a matrix pan d_,ie to the previously mentioned Dossible interference that might result when t,,vo X conveyors carry flats destined for the same Y jacket. No recirculation unit is necessary on the first X conveyor. The unit 519 includes a plural:ity of rakes 520 that are diS– posed near the end of the upper reach of the X conveyor, the rakes being mounted in fixed upright position on frame elements 522. A chute 524 receives the flats as they are raked out of the X conveyor jackets by rakes with which the flats slide into a recirculation bin for reprocessing or for any other disposition that may be desired. MODIFIED FORM OF THE INVENTION FIGS. 55 to 63 show in somenvhat diagrammatic form a modified form of the invention. In this form, both reaches of the secondary, d–istributing, or Y conveyor are in tht–, horizontal plane. This constr–uction reduces the overall height of the apparatus. The horizontal disposition of both reaches of the modified conveyor Y2 rela– tive to the other elements q_ppears clearly in FIG. In the modified form of the invention, the jackets of the X conveyors and the matrix pans are formed like 'Lhe corresponding elemer_ts in the form just described in detail. Similarly, the low density bins LD and the high density bins (not shown), and the sweep conveyors S associated with the low density bins are like those previously described. As will be seen, the principal changes in the modified form of the invention reside in the horizontal disposition of both reaches of the distribution conveyor Y2, as pr.–viously n–ientioned. In addition, the Y jackets 12c _nd 12d are now rake–out jackets instead of being closed shutter jackets and, therefore, operate similarly to the X jackets 10. Thus, 4_nstead of employing shtitter openin,_ mechan,.Sms at each bin to cause the flats to fall out of the Y jackets into the bi_is, a s–,ries of rak–6.units 530 are provided at each of the bins. Rake units 530 operate rtiechanically in a manner like the mechanism that operates rakes 26 of the matrix pans, previously described biit are controlled by the directory as ate the shutter o_ening mechanisms 31a of the other forn,i of the invention. In the modified 'lorm of the invention, the lo,,ver or retil–m reach of each X conneyor will run adjacent to the floor, and will pass under the lower re–,icl–i of each sweep conveyor S. The Y jaelcets 12c and 12d of the conveyor Y2 are basically constructed as are the X jackets 10 of the X conveyor. I–lowever,therakemechani sms2Sc–and28dof the Y jackets of the modified form of the invention are constructed very similarly to the rakes 23 of the preni– ously described Y jackets. The Y jackets 12c and 12d, which alternate, are connected by center links 532 that mount sta.–gered guide roll,–rs 534, and drive lugs (FIG. 59) for the gripper drive G4. The gripper mechanism is like those previously described and the details thereof do not form paxt of the present i;ivention. It is driven by a drive shaft 535a which is synchronize with the other –ripper drives bysuitable.drive mechanisms so that the Y conveyor Y_? travels, for example, at twice the pitch si)eed of the X conveyor. The stag,_ered rollers co 534 on ti_ecenter links 532 ride in a central track for laterally –uiding the Y jackets of the modified form. The Y jackets also mount outboard side guide rollers 538 that ride in tracks 540 for vertically supporting the Y jaclets. Th– bottom pans of the Y jackets 12c and 12d are slotted at 542 to receive the rakes of the jacket emtying mechanisms 530 associated with the variotis bins and remotely controlled by the directory. As indicated in the diagram of FIG. 64, the rakes 28c of the Y jackets 12c have outboard rake raising arms Only the rakes of the jackets are illustrated in this s_.mplified diagram, for clarity. The rakes 28c are lowered by coil springs 546 (FIG. 57) in a manper similar to that described for the lowering of the rakes 23 of the Y jackets previously described. Th6 rake raising arms 544 of the rakes 28c are formed to ride on tracks 548 (FIGS_ 57 and 64) which may be termed the outboard rake raising tracks. These otitboard tracks have entry cam sections 550 (FIG. 64) for raising the rakes, straight cam sections 551 for holding the ralces in their raised position, and exit cam sections 552 for permiting the rakes to lower at the end of the travel on the associated reach of the Y conveyor. The rakes are lowered to clear those of the jacket emptying mechanisms 530 when the latter receive a rake–out si.–nal. As also seen in FIG. 64, the Y jacket rakes 23c that are raised Gli one reach of the conveyor Y2, are lov7ered on the other reach and the renerse is true for rakes 28d. This is accomplished by a lateral reversal of the position of the rake raising arms, and by correspondingly positionipg their associated tracks. Tlias, rakes 28d for jackets 12d have inboard rake raising arms 554 and are lowered by ra,:e lowerin.– springs 556. The inboard rake raising arms 554 ride on an inboard rake raisin,_ tra–.k 553 dsposed along the olher reach of the conveyor Y2. Inboard tracks 558 hav– an entry rake lifting cam section 560 and ar. exit rake lowering cam section 562. The inboard rake operating tracks and car_i sections are also illustrated in FIGS. 60 to 62, the operation of which is self–explanat–,rv. Each of the Y jackes 12c, 12d are provided with reset cams 570 – tor resetti–ti.– the rake mechanisms 530 associated witn the various bins. As seen in FIG_ 63, the rake mechanisms 530 include a rake 572 which is colistructed like the rake 26 asso–iited vp'th the matrix pans M previolisly described in detail iTi connection wth FIGS. 11 and 12 illustrating the other form of the inventioti. Rake resetting mechanism, including levp–rs 574 (FIG. 63), are provided, which levers correspoiid to the reset levers 2A2, also previously described in conr–lection with FIGS. 11 and 12. The latch and

cain struettire shown in those fi,–Ures are also associated with theniechanisms 530 at the bins of the modifi–,' form, ar.,d hence ',beir construction and operation n–,ed not be describ_–d _n delail. As provio_asly mentioned, these rake mechanisms 530 ftinction mechanically in the same manner ag do the directory controlled rake mechanisms 26 for the n–lalrix pans of the prev,'_ously described form of the invention. However, the rake n–lechanisms 530 for the various bins are remotely controlled from the directory in accordance with priric._'ples pre– ,,lously outlined for control of 'Lhe shutter opening mechan;sms 31a. As a result, in the modified form of the inventioi th– fiats are raked olit of the Y iackets, instead of being dropped therefrom upon opening of a shutter when the Y jackets are i:i th–.ir inverted position o–ver a designated bin. OP:–_RATION OF THE MODIFIED FORM OF THE INVENTION The prir_ciples of operation of the modified form of the invention just described briefly are generally the saine as those of the fji–st described form. Ho,%_,ever, due to the rearrangement of the con_,eyor Y2 so that both reaches thereof are i:l the same horizontal plane, it is preferable to control the apparatus so that fiats are rak–ed into the Y jackets 12d froiii t–ne ma'crix pa–Tis by ral–,es 28d on the rear side of the apparatus, as vie–tved in the drawings, and are ra.,ed from the Y jackets !2d into bins on tie oppos;te or far reach of the conveyor. When the rakes 28d are lowered o_i the opposite or remote reach of the Y2 conveyor, a selected rake 572 on ope cf tlae designated bin niechan;sms 530 is free to be 1; .fted and to rake through a Y jacket on that reach which has its rake lowered. The systp–m is _ilso coiitrolled so tha_, the rakes 28c of Y jackets 12c are afl raised by their associated cam track 548 when the Y jackets are on the remote reach of the Y conveyor. This is the condit–oii i–,i which the rakes 28c of these jackets 12c comb the flits fron–i the matrix pans above and on the remote of conveyor Y2 in the manner previously described. The rqlces 2,lc Oi. Y jacl–,ets 12c are, therel'Ore, lowered on the near reach of the Y conveyor, so that the rake mechanisms 530 of the bins associated with this reach can clear the flats fromthe Y jackets 12c and drop them into their associated bins. This alternate raisin_ of the rakes of the various Y jackets on each of the two reaches of the conveyor Y2 assists in reducing the possibilities of interference that might be caused by the assignment of flats from the downstream X conveyors to any individual Y jaelcet that might have received a flat from an upstream X conveyor. Since the directions of travel of the two horizontal reaches of the conveyor Y2 ol' the modified form of the invention are opposite, the location of the delivery conveyors D and any associated storage conveyors or vertical stackers for each reach wiU be at opposite ends of the machine. This is illustrated diagrammaticafly in FIG. 55 wherein the location of a delivery conveyor D for the sweep conveyor S that serves the remote reach of the conveyor Y2 is shown on the near end of the apparatus. A similar conveyor wifl be provided for the other sweep conveyor S at the far end of the apparatus. As indicated by the broken lines in FIG. 55, the X cotiveyors are not shown complete and the apparatus will also be extended to accommodate one or more conveyors Y2 for ti'ie low density bins LD as well as other conveyors Y2 (not ihustrated) for high density bins, as in the previously described form of the invention. Mention has been made of the fact that the memory device and the directory, which receive input and destination signals from the operator at each X conveyor, and which keep track of X and Y conveyor movements, can be desi,–ned to determine the number of X conveyor pitches to bring a flat to the matrix pan in the proper Y conveyor lane. The directory can also determine the number of Y conveyor pitches from the matrix pan in question to the destination bin represented by the initial coded si.–nal input. The memory device for this function, cotild be a conventional analogue type device such as a pulse synchronized and signal receiving drum or tat)e, the details of which are not part of the apparatus of the present invention because the apparatus of the present invention can be signal controlled either from a directory or directly from operator selected signals. It has also been mentioned that there is a mathematicalpossibility (except at the first X conveyor in the rov of X conveyors) that flats for different destination bins in one lane of a Y conveyor could be transferred to the same Y jacket. In this regard, it has been stated that since the directory "knows" what flats are being sorted, and keeps track of them, the directory can . override or lock out ral–eout signals to any matr:.x pan, in cases wherein such signals would result in the transfer of two flats to one Y jacket. In addition to relying upon the directory to prevent occurrence of this event, which has been termed "interference," or altematively to such a control system, the matrix pans downstream from the first X conveyor can easily be rendered self monitoring. For example, and referring to FIG. 14, a photocell and lamp unit 580 could be provided for the upstream Y conveyors at a position wherein the presence of a flat Fl in the approaching Y jacket 12b, interrupts the rake lifting signal to the matrix pan and thereby causes the flat F to be carried past the Y conveyor and on to the recirculation bin. In this case, it is apparentthat the boLLoms of the Y jacket pans would be apertured to pass the photocell controlbeamwhennofl atFlisinYjacketl2b. Whenthere is no flat in Y jacket 12b, there can be no interference, and the rake lifting si–,nal to the nearest matrix pan M would not be locked out because the beam of photocell unit 580 is not broketi. Transfer of the flat F into Y jacket 12b would then take place, as shown in the diagrams forming FIGS. 16–21. Althou,–h the detai–led description of the invention has referred to sortin,_ apparatus and method of operating the same which are partictilarly useful for handling flat mail, it is contemplated that in its broader concepts the invention is not limited to the sorting of any partictilar type article. It is apparent that the parts could be dimensioned to sort articles that have dimensions other than those .5 characteristic of flat mail. The invention having thus been described what –s believed to be new and is desired to be prc_'Lected by Letters Patent is: 1. Apparatus for sorting articles comprising a plurality of parallel endless input conveyors, said input conveyors each having a series of article receiving pans, means connecting said pans in spaced relation along the input conveyor for accommodating downward passage of articles between adjacent pans; an endless distributing conveyor having a reach that crosses and extends beneath reaches of said iiiput co_iveyors, said distributor conveyor having a series of jackets for receiving the articles, stationary matrix pans d:_sposed between the intersections of said input and distributor conveyor reaches, means for raking articles from the input conveyor pans into the stationary matrix pans, means for raking articles from the stationary niatrix pans into said jackets; a plurality of article destination bins disposed along each distributor conveyor; selectively operable jacket discharge means for emptying said jac_,ets into selected destination bins; signalcontrolled means for seleelively operating said matrix pan rake means and said jacket discharge means, and means for driviilg said co–tiveyors continuously. 2. Apparatus for sorting articles comprising a plurality of parallel endless input conveyors, said input conveyors each having a series of article receiving pans, means connecting said pans in spaced relation along the input coliveyor for accommodating downward passage of articles between adjacent pans; an endless I distributing conveyor

having a reach that crosses and extends beneath reaches of said input conveyors, said distributor conveyor having a series of jackets for receiving the articles, stationary matrix pans disposed between the int,–rsections of said input and distributor conveyor reaches, means for raking aticl.–s from the input conveyor pans into the stationary matrix pans, means for raldng articles from the stationary matrix pans into said jackets; a plurality of article destination bins disposed along cach distributor conveyor, selectively operable jacket discharge means for eniptying said jackets into selected destination bins; signal con*,rolled means for selectively op,– rating said matrix pan rake means and said jacket discharge means, a sweep conveyor having a reach passing under said bins, article carriers on said sweep conveyor includin.– means for raking stacks of articles from said bins, and sigiial controlled means for causing selected bins to be raked by said sweep conveyor rake means. 3. Apparatus for sorting articles comprising a plurality of parallel endless input conveyors, said input conveyors each having a series of article receiving pans, r–reans connecting said pans in spaced relatioti along the input conveyor for accommodating downward passage of articles between adjacent pans; an endless distributing conveyor having first and second co–planar –reaches that cross and extend beneath reaches of said input conveyors, said distributor conveyor having a series of jackets for receiving the articles; stationary matrix pans disposed between thintersections of said input and distributor conveyor reaches, means for raking articles from the input conveyor 6,5 pans into the stationary matrix pans, means for raking articles from the stationary matrix pans into alternate jackets on each of said co–planar reaches of said distributor conveyor; a plurality of article destination bins disposed aloiig each distributor conveyor reach, selectively operable jacket discharge means for emptyin.a alternate jackets in each co–planar reach into selected destination bins; and signal controlled means for selectively operating said matrix pan rake means and said jacket discharge me,,ins. 4. Apparatus for sorting articles comprisin.– a plurality of parallel endless i–til)ut coiveyors, said input conveyors each havin.– a series of article receiving paqs, i–_ieans connectin.– said paiis in spaced relation along the input conveyor for accommodating downward p,,issage of articles between adjacent pans; an endless distributin_. conveyor having first and second co–planar reachp–s tqat cress and extend beneath reaches of said –.nput conveyors, said dis,tributor conveyor ha,/ing a series of ja(– kets for receivinthe articles; t–he bottoms of sw_d jackets be:ng siolted in their d–',rectio– .i of motion, stationary matrix pans disposed between the intersectio–_is of said input and dis_tributor cotiveyor reaches, means for raling articles fro–_)i the input conveyor pans into the stationaiy matrix pans, means for rakin.– articles from the stationary matrix pans into alternate jackets on each of said co–planar rearbes o–'L said distributor conveyor; a plurality of article destination biiis diSDosed along each distributor conveyor reach, selectively oi)erable rakes at said bins raking the fla_Ls frb–malternate jackets in each co–planar reach into selec'Led destinatio–n bins; and signal controlled mearis for SOlective'lY op–rating said matrix pan rake means and said ja,–ket discharge means. 5. Apparatus for sorting ai–ticles comprisiqg a plurality of parallel endless inplt conveyors, said input conveyors each having a selies of pans, said pans havin.– botto.1s that are slotted in :,,heir directi6n of motio–ti, m,–,ar_s connecting said pans in spaced relation alon._ the inp–at conveyor for acconurodating do,,vnward idassage of articles bet–,_,een adjacent pans; an eiidless distributin.– conveyor having a reach that crosses ald exter_ds beneath reaches Of said inplt cciiveyors, said distribtitor conveyor having a series of jackets for receivi–_ig the ai–licles, the jazlrets of said distributing conveyor having rake i–peans mounted along their trailing edges; matrix pans dispc)sed between the intersections Gf said inp–a_t apd distrib,,itor conveyor reaches, the bottoms of said matrix –,,.)ans h–,Lving slots that extend i–.i the direction of motio–Ti of the d,'_,,t utor conveyor, said matrix pans having pro,;cgtable a–.id retractable rake means mounted alon– their downstream s–ides when co,nsidered relative to n–letion of said input conveyors, said matrix pan rake means, whe_i proliected, exteiid;ng into t'Pe slots in _said input cotiveyor pans as the later efoss the ma,trix pans to rake ar_ticles from the ipput conv–yor pans in,to the matix pans; the rakes bf said distribu,,Or conveyor jacke,,S passing throti–,h the slots ii, the bottom_ of said matr;x patis to rake articles froiii the matrix pans into said jackets, a plurality of article destination bins dispos–,d along each distributol– conveyor, sp–lectively oper–abl_e jacket discharge lpeans for emptyiri.– said jackets into selected destination bins, and si.–nal con_trolled means for selectively 0l)erating said mitrix pan rake means a_id said jacket discharge means. 6. Appara'tjs for sorting artigles co–riprising a plurality of parahel endless inp,,it con,_,eyors, inptit fe.–d baske_Ls for each in–plt conveyor, said inputt feed baskets havi–Ti_., slotted bottoms, said iiivut conveyors each havn._ a series of pans, rikes on the _trailing edges of said pans for cleari–Ti.– articles from the assoc,'_ated input feed baskot, said pans having bottoms that are slotted in their direction of motio.i, means connectipg said pars in spaced i–,latio_i along thc–, input conveyor for ,tccommodating downwud passage of articies between adjacent pans; an endless d;stributin.– conveyor having a reich that crosses and extends beneata reaches of said input conveyors, said distrib,ator conveyor havi–_ig a s,–;ries of jackets for receiving the ar–Licles, the jaecots of said distributing conveyor having rake means mounted al–ong their trailing edges; nialrix pans disposed belween the i_itersections of said input and distributor conveyor reaches, the bottoms ol4 said inatrix pans having slots that extend in the direction of rrotio_l of the dist,,–ibutor co–n–;ieyor, said matrix patis havir_g projectable _and retractable rake means mounted along tli–.ir downstream sides when coiisidered relative to motion of said int)ut conveyoi–s, said mntrlx pan rake m,–ans, when projected, exter–ldin.– into the slots in s–,tid input conveyor pans as the latter crosses the matrix pans to rake articles from ,the input conveyor pans into the matrix pans; the rakes of said distributor conveyor jackets passing throu,_h the slots in the botton–is of said matrix pans to rake ar,,ticles from the matrix pans into said jackets, a plurality of _article destination bins disposed alon–. each distributor conveyor, selectively operabl.– jacket dischirge means for emptying said jackets into selected desitination bins, and signal controlled means for selectively operat– ing said matrix pan rake means and said jacket discharge n–icans. 7. Apparatus 'Lor sorting articles comprisin– a plurali–ty of parallel endless input conveyors, said input conveyors each having a series of pans having bottoms that are slotted in their direction of motion, means connecting said pans in spaced relation _alon– the input conveyor for accommodatin__ passage of articles from the paiis down between adjacent pans; an endless distributing conveyor having upper and lower reaches, said upper reach crossing and extending beneath a reach of said input conveyors, sa;d distriblitor conveyor having a series of open topped jackets for receiving –the ar,.ticles, said jackets having shutters for closing their –tops, said jaclcets having rake means mounted along their trailin.– edges; matrix pans dis– pos.–d between the inters,–ctions of said input and distributor conveyor reach– _s,,the bottoms of said matrix pans having slots that extend in the direction of

motion of the distribu,._tor conveyors, said matrix pans having projectable and retractable rake means mounted –alon–. their down– stream sides_ when considered re at to motion of said input conveyors, said rake means when projeeled extending into the slots in said inout conveyor pans as the latter cross the matrix pans to r_ke articles from ',he input, conveyor pans into the matrix pans;,the rakes of said dis– tributor conveyor jackets passing through the slots in the botioni of said matrix pans to rake;articles from the matrix par–s into said jackets, means ' or closing said jacket shitters Nvhile the j ets in upper reac sai distributor conveyor, a plurality _lt;yf article destination bins 4o disposed beneath the lower reaches of said distributor conveyor, selectiiely operable means for opening the shutters of,said jackets when the latter are over salected bins, and signal controlled means for selectively operating said matrix pan rake means and said jacket shutter op.–nin.– 4– Or meaiis. 8. Apparatus for sorting articles comprising a plurality of r)arallel endless input conveyors, said inp–,it corveyors each having a s.–,;ies of pans, said pans baving bottoms that are slotted in their direction of motion, means conn.–oling said pans ir,. spaced relation along the input conveyor for accommodaling downward passage of a,rticles betv,_een adjacent pans; an endless distributing conveyor having a reach that crosses and extends beneath reaches of said input conveyors, sal:d distributor conveyor having a series of jackets for receiving the articles, the jackets of said distributing conveyor having rake means mounted alon.– their trailing edges; –natrix pans disposed between the intersections of said input and distribi–itor conveyor rearhes, the botton–is of said matrix pans baving slots that extend in the direotion of motion of the distributor conveyor, said matrix pans having prgjectable and retractable rake meatis mounted along their donvnstream sides Nvhen considered relative to mot_'on of said ;–nput conveyors, said matrix pan rake means, when projected, extending into the slots in said inpu_t conveyor pans at the latter cross then–iatrix pans to rake –arlicles from the input conveyor pans into the ml_trix pans; the rakes of said dilstributor conveyor jackets passing tllrou.–h the slots in +he bottonis of said matrix pans to rake articles from _o the matrix pans into said jackets, a plurality of article I destination bins disposed along each distributor conveyor, selectively operable jack–et dischar.–C means for emptying said jackets into selected destination bins, signal controlled means for selectively operatin.– said matrix pan rake means and said jackei discharge meaps, a sweep conveyor having a reach tha_t runs beneath said destination bins, said sweep conveyor including receptacle means for clearing _articles from said destination bins, and signal controlled means for causing said receptacle means to clear the bins. 9. Apparatus for sortin.– flat flexible articles comprising a plurality of parallel endless input conveyors, said input conveyors each having a series of pans having bottoms that are slotted in their direction of motion, means connecting said pans in spaced relation along the input conveyor for accommodatin– passage of articles from the pans down between adjacent pans; an endless distributing conveyor having upper and lower reaches, said upper reach crossing and extending beneath a reach of said input conveyors, said distributor conveyor having a series of open topped jackets for receivin.– the articles, said jackets having shutters for closing their tops, said jackets having rake means mounted along their trailing edges; matrix pans disposed between the intersections of said input and distributor conveyor reaches, the bottoms of said matrix pans having slots that extend in the d–irection of motion of the distributor conveyors, said matrix pans having projectable and ret.–actable rake means mounted along their downstream sides, when considered relative to motion of said input conveyors, said rake means when projected extending into the slots in said input conveyor pans as the latter cross the matrix pans to rake articles from th.– input conveyor pans into the matrix pans; the rakes of said distributor conveyor jackets passing through the slots in the bottoms of said matrix pans to rake ar–ticles from the matrix pans into said jackets, means for closing said jacket shutters while the jackets are in the upper reach of said distributor conveyor, a pltirality of article destination bins disposed beneath the lower reaches of said distributor conveyor, si,–nal controlled means for selectively operating said matrix pan rake means and said jacket shutter closing means, and selectively operable means for openin.– the shutters of said jackets when the latter are over selected bins. 10. Apparatus for sorting articles comprising a plurality of parallel endless input conveyors, said input conveyors each having a series of pans, said pans having bottoms that are slotted in their direction of motion, medns connectinsaid pans in spaced relation along the input conveyor for accommodatin.– downward passage of articles between adjacent pans; an endless distributing conveyor havin– a reach that crosses and extends beneath reaches of said input conveyors, said distributor conveyor having a series of jackets for receiving the articles, the jackets of saiddistributing conveyor having rake means mounted alon– their trailing edges; matrix pans disposed between the intersections of said input and distributor conveyor reaches, the bottoms of said matrix pans having slots that extend in the direction of motion of the distribtitor conveyor, said matrix pans having projectable and retractable rake means mounted along their downstream sides when considered relative to motion of said input conveyors, said matrix pan rake means, when projected, extending into the slots in said input conveyor pans as the latter cross the matrix pans to rake articles from the input conveyor pans into the matrix pans; the rakes of said distributor conveyor jackets passing through the slots in the bottoms of said matrix pans to rake articles from the matrix pans into said jackets, a plurality of article destin ation bins disposed alon– each distributor conveyor, selectively operable jacket discharge means for emptying said jackets into selected destination bins, signal controlled means for selectively operating said matrix pan rake means and said jacket discharge means, a sweep conveyor having a reach that runs beneath said destination bins, means mountin.– said bins for vertical motion into the path of said sweep conveyor reach, said bins being slotted in the direction of motion of said sweep conveyor reach, said sweep conveyor including receptacles and associated_ rakes for rakin.– articles from said destination bins into the receptacles, bin camming mans associated with the receptacles of said sweep conveyor for lowering bins before the sweep conveyor rakes engage articles in the bins, and signal controlled means for conditioning said bin camfor a bin lowering operation. ,5 ming means 11. Apparatus for sorting articles comprising a plurality of parallel endless input conveyors, said input conveyors each having a series of pans, said pans having bottoms that are slotted in their direction of motion, means connecting said pans in spaced relation along the input conveyor for accommodating downward passage of articles between adjacent pans; an endless distributing conveyor having a reach that crosses and extends beneath reaches of said i–tiput conveyors, said distributor conveyor havin.– a series of jackets for receiving the articles, the jackets of said distributing conveyor having rake means mounted along their trailing edges; matrix pans dis osed ,P between the intersections of said input and distributor conveyor reaches, the bottoms of said matrix pans having slots that extend in the direction of motion of the d–istributor conveyor, said matrix pans having projectable and retractable

rake means mounted along their downstream sides when considered relative to motion of said input conveyors, said matrix pan rake means, when projected, extending into the slots in said input conveyor pans as the latter cross the matr–lx pans to rake articles from the inptit conveyor pans into the matrix pans; means at said input conveyor pans for retracting said matrix conveyor rake means, the rakes of said distributor conveyor jackets passing through the slots in the bottoms of saici matrix pans to rake articles from the matrix pans into said jackets, a plurality of article destination bins disposed along each distributor conveyor, selectively operable jacl_.et discharge means for emptying said jackets into selected destination bins, means at said jackets for resetting said jacket discharge means, signal controlled means for selectively operating said matrix pan rake means and said, jacket discharge means, sweep conveyors having reaches that run beneath said destination bins, said sweep conveyors in– cluding receptacle means for clearing articles from said destination bins, and signal controlled means for causing said receptacle means to clear the bins. 12. Apparatus for sorting articles comprising a plurality of parahel endless input conveyors, said input con– veyors each having a series of pans, said pans having bottoms that are slotted in their direction of motion, means connecting the sides of said pans in spaced relation along the input conveyor for accommodating passage of articles from the pans do– ,vn between said pan connecting means; an endless distributing conveyor having a reach that crosses and extends beneath said input conveyors, said distributor conveyor having a series of jackets for receiving the articles, means connecting said jackets at a spacing substantially equal to the length of the jackets, said jackets havin.– rake means mounted along their trailing edges; matrix pans disposed between the intersections of said input and distributor conveyor reaches, the bottoms of said matrix pans having lots that extend in the direction of motion of the distributor conveyor, said matxix l pans having projectable and retractable rake means mou nted along their downstream sides, when considered relative to motion of said input conveyors, said rake means when projected extendina into the slots in said input conveyor pans as the latter cross the matrix pans to rake articles from the input conveyor pans into the matrix pans; the rakes of said distributor conveyor jackets passing through the slots in the bottoms of said matrix pans to rake articles from the matrix pans into said jackets, means for driving said input conveyor at one speed and said distributor conveyor at substantially twice that speed, a plurality of article destination bins disposed along each distributor conveyor, selectively operable jacket discharge means for emptying said jackets into selected bins, and remotely controlled means for selec– tively operatin_, said matrix pan rake means and said jacket discharge means. 13. Apparatus for handling articles coinprising a fu–st conveyor having a series of pans formed with bottoms that are slotted in their direction of motion, means connecting the sides of said pans in spaced relation al_oiig said first conveyor at a spacing substantiary equal to the length of the pans for accommodating passage of articles from the pans do_,vn betveen said connecting means; a seco–_id conveyor having a reach that crosses and extends ben_–ath said first conveyor, said seconc'L coqveyor having a series of jackets for receiving the articles, said jackets having rake means mounted along th–.ir trailing edges; a matrix pan disposed b–tween the in,,Crsection of said conveyor reaches, the bottom of said matrix pan hanin–. slots 1,5 that extend in the direction of motio–_i of said second conveyor, said matrix p,,in having proj,–ctable and re,ractabl–_ rali–e means mounted along its downstream side when considered relati_ve to motion of sa–ld first conveyor, said matrix pan rake means when project–,d extending inlo 2() the slots in said first conveyor pans as the latter cross th_– matrix pan to rake articles from said first coiveyor patis into the matrix pan; the rakes o.' said jackets pas,–in.– through the slots in the bottoms of said matrix pans to rake articles frol–n the matrix pans into said jack,–ts, means for driving said conveyors continuoiisly. 14. Apparatus for handling articles comprisina a first conveyor having a series of pans formed with tottoms that are slotted in their direction of motiol, means coniiecting the sides o'l said pans in spaced relatioi alo–,ig said first conveyor at a spacing substantially equal to the len.–th of the pans for accommodati–_i.– passage of articles from the pans down betiveen said co–.inectin–, means; a second conveyor having a reach that crosses and extends beneath said first conveyor, said second conveyor havin._ .a series of jackets for receiving th,– .iTticl_–s, means connectin.– said jackets at a spacin.a substantially eql–ial to the length of the jackets, said jackets having rake ipeans mounted alon– their trailin– edges; a matrix pan disposed between the intersection of said conveyor reache!; bottom of said matrix pan having slots that extend in the direction of motion of said second conveyor, said matrix pan having projectable and retractab–e rake means mounted along its dowiistream side when considered relative to motion of said first conveyor, said matrix pan rake_ means when projected extend:ing inio the slots in said first conveyor pans as the latter cross the matrix pan to ra_'Ke articles from said first conveyor pans into the matrix pan, the rakes of said jackets passing through ,he slots in the bottoms of said matrix pans to rake articles froin 5(the matrix oans into said jackets, and means for continuously drivin.– said first conveyor at one speed. and said second conveyor at substantially tnvice that st,,eed. 15. Apparatus f–or handliiig articles comprising a first conveyor having a series of pans formed wi,h botloms that are slotted in their direction of motion, means connecting the sides of said pans in spaced relation along said first conveyor at a spacing substantially equ–,l to the length of the pans for accommodating passage of art cles from the pans down bet–vneen said connectin.–,means; a second conveyor having an article pick up reach crosses and extends beneath said first conveyor, said second conveyor having a. series of jackets,for receiving the articles, means connecting said jackets at a soacing sub.stantially equal to the length of the jackets, said jackets having rake n–ieans mounted along – their trailing edges; a matrix pan disposed between the intersection of said conveyor reaches, the bottom of said matrix pan having –slots 'Lhat ex'_end in the direction of molion of said second co–ilveyor, said matrix pan haiin.– projectable and retractable rake means mounted along its donnstream side wlien considered rela' ive to m(D_'L–lon of said first conveyor, said matrix pan rake means wben projected extelding into the slots in said first conveyor pans as the latter cross e matrix pan, to rale articles from said first conveyor pans into the matrix pan, the rakes of said jackets on said pick u–D reach passing through the slots in the bottoms oll all of the overlying matrix pans to rake articles froni the matriy pans into said jackets, and means coitinuously driving said conveyors. 16. Apparatus for sorting articles comprisin.– a plurality of paraael endless iiiout conveyors, said input conve_ors each having a series o'L article receivin.– pans, means connectiiig said pans in spaced relation along t_e input conieyor for accominodating downward passage of art_cles between adjacent pans; an c–iidless disl,ributing conveyor having a reach _hat crosses and extends beneath reaches oL said input conveyors, said distributor conveyor havin.– a series of jackets –for receivin._ the articles, stationary matrix pans disposed between the intersections of said input and distributor coilveyor reach–s; means for raking

articles fron–i the input conveyor pans into the stationary matrix pans, m–.ans for rakin.– articles from the stationary matrix pans into said jackets; a plurality of trticle destination bins disposed along each distributor conveyor, mea_is mounting said bins for vertical reciprocation, selectively operable jacket discharge means for emptying said jackets into selecteddestination bins; si_nal controlled means for operating said matrix pan rake means and said jacket discharge means; a sweep conveyor having a reach passin_ under said bins, article carriers on said sweep conveyor including receptacles and rakes e_ssociated therenv–th for rakin–, stacics of articles from said bins, cam means on said s)_,eep conveyor at said receptacles for lowering said bins into the path of the associated rakes, a–_id signal controlled me–,i,–,s for conditoning said cam means to lower selected bins.

0) GB761992A – IMPROVEMENTS IN OR RELATING TO MACHINES SUITABL...

7) Family number: 19664903 (GB761992A)

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Title:	Improvements in or relating to machines suitable for trimming the margins of shoe upper materials
Priority:	GB19530030292 19531103

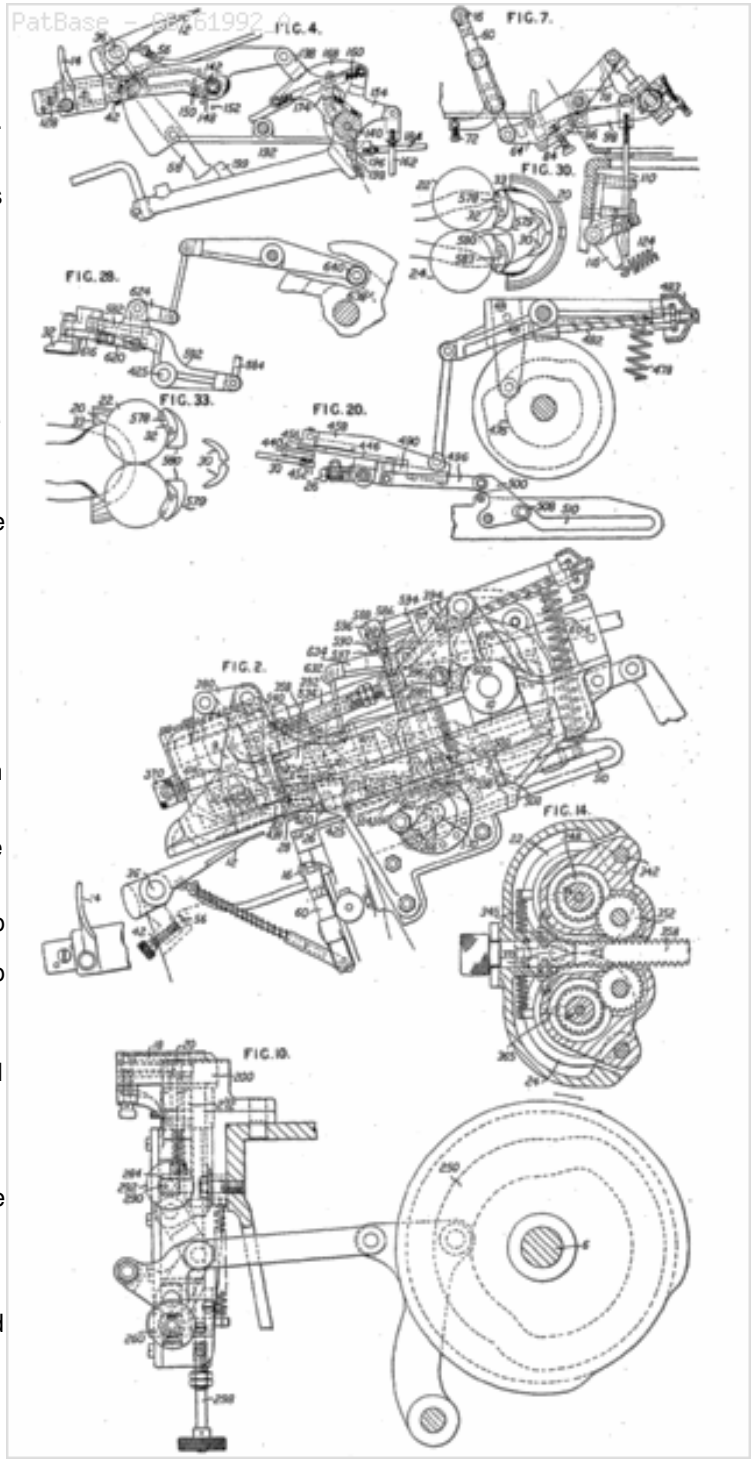
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Probable Assignee:	JOHN WILLIAM PRATT
Assignee(s):(std)	BRITISH UNITED SHOE MACHINERY ; FRANK COLEMAN CHOICE ; JOHN WILLIAM PRATT
Assignee(s):	THE BRITISH UNITED SHOE MACHINERY COMPANY LIMITED
International class (IPC 8–9):	A43D49/00 (Advanced/Invention); A43D49/00 (Core/Invention)
International class (IPC 1–7):	A43D23/06 A43D7/24
CPC:	A43D49/00
European class:	A43D49/00

Classification Explorer

Abstract:
Source: GB761992A 761,992. Trimming shoe upper margins. BRITISH UNITED SHOE MACHINERY CO., Ltd., CHOICE, F. C., and PRATT, J. W. Nov. 1, 1954 [Nov. 3, 1953], No. 30292/53. Class 17 (1). A machine for trimming surplus marginal material from the toe portion of the upper of a shoe on a last has trimming means, a matrix on which the upper materials are supported as they are trimmed, means to spread toe portions of the materials across the matrix, and mechanism to cause the spreading means and the matrix to clamp the upper materials between them. The spreading means and matrix, while clamping the upper materials, are moved so as to apply tension thereto. The trimming means comprise disc knives which are moved lengthwise across the matrix towards the toe end. A pair of side spreaders are provided, each arranged to swing outwardly around the periphery of one of the disc knives and so turn portions of the material, at opposite sides of the shoe, outwardly across the matrix. In operation the inverted shoe is positioned against the toe gauge 26 and treadle 123 (not shown) depressed to cause the heel end abutment 14 and toe rest 16 to clamp the shoe against the bottom plate 12 and insole roll 28. Handle 192 is then used to trip the clutch and cause main shaft 6 to make a single revolution, whereupon the spreaders toe 30 move down to the insole and then move toeward while opening outwardly to spread the upper margins, the toe gauge moving rearwardly and roll 28 moving toewards to support the shoe as plate 18 wipes upwardly. Spreaders 30 then descend to clamp the upper margins against the matrix as the latter rises, thus assisting the wiper plate to tension the upper. As plate 18 completes upwiping side spreaders 32 descend to the insole and swing apart to spread the first portions of upper which are to be trimmed, and the knives 22, 24 descend into their operative positions. Thereafter the knives move toewardly. and rotate to trim the upper, the side spreaders 32 moving rectilinearly, remaining close to the operative portions of the associated knives, and holding against the matrix those portions of upper which are about to be trimmed. Trimming is completed when the main shaft has turned through 240 degrees, and the instrumentalities are returned by the time a single revolution has been completed, treadle 123 being then allowed to rise to release the trimmed shoe. Plate 12 is rockable on shaft 36, its operative position being determined by adjustment of a screw 42 which has a limiting stop 56, and may be held in a downward inoperative position. Toe rest 16 is adjusted forwardly and rearwardly by screw 72. Depression of treadle 123 acts through 110, 78, 64, and 60 to press the rest against the shoe, spring 84 limiting the pressure, and through latch 86 and locking lever 98 to lock the rest in shoe supporting position. Upward movement of the rest is limited if no shoe is present. The parts are returned by spring 124. The heel end abutment 14 is adjustable along slideways 128 pivoted to arm 138 rockable on shaft 140. When treadle 123 (not shown) is depressed it acts through 116, 162, to rock 154 and 138 until abutment 14 meets the shoe and presses it against gauge 26. Thereafter springs 160 yield to permit relative movement of 154 and 138. Eccentric 142 which supports arm 138 is adjusted by moving arm 148 to engage the spring pressed plunger 150 in one of a series of holes 152 in order to adjust the heightwise position of the abutment. The clutch cannot be tripped until springs 160 have yielded, when safety lever 168 drops on to latch 174 and engages notch 196 in the clutch link 184 with catch plate 198 on the trip handle 192. Additionally tripping of the clutch is prevented, when plate 12 is in its lowered position, by a safety lever 58 which then lies immediately above a lug 199 on trip handle 192. The interchangeable shearing block 20 is releasably mounted on slide 200 which is raised and lowered once each revolution of the main shaft under control



of cam track 250, the upper position of the block being adjusted by means of a wedge which is controlled by screw 260. The changeable wiper plate 18, arranged within block 20, is releasably secured to carrier 272 which is adjustable on slide 200 by means of wedge 284 controlled by screw 290/292 to determine the relative positions of plate 18 and block 20 and hence the amount of upper to be trimmed. The upper surface of plate 18 forms the matrix 33 which is always below block 20 and may be shaped and positioned to skive the upper margin as well as trim the lining and toe puff. A slot in slide 200 accommodates the displaced gauge 26. The wiping movement of the plate 18 is regulated by adjustment of a screw 298 which engages slide 200. The head 9 carrying detachable knives 22, 24 is moved rearwardly and forwardly in the guideway 10 during one cycle under control of cam track 310 (not shown), the knives which are urged together by a spring 345 being first moved downwardly into the plane in which they move with the head 9 for trimming. When the head 9 moves along guideway 10 the knives are caused to rotate by pinions 348, 352, as the latter engage a double rack 358, the latter being pivoted so that it may rise and fall as the knives move relatively to head 9. The knife edges tend to pull outwardly away from the shoe those portions of the upper which they are trimming, paddles 365 on the knife shafts preventing trimmed scrap from wedging about the knives. The knives are adjusted so as to be close to each other by means of bolt 370 which causes the knife brackets to pivot about pins 342. Steel balls 373, whose positions are adjustable, provide a honing action. The knives are moved perpendicularly to guideway 10 under control of cam track 398 acting through 396, 394 yielding links 392, and bell crank 380. Carriage 427, carrying the adjustable gauge 26, roll 28, toe spreaders 30, and side spreaders 32, moves in and relatively to head 9 parallel to guideway 10 under control of cam track 434, and can move with head 9 when the latter is moved by cam track 310. Cylindrical ribs 438 on the shaped spreaders 30 are received in carriers 440 and these with spring loaded member 452 allow the flat undersurfaces of the spreaders and member 452 to present a continuous work–engaging surface to the shoe. Block 456 rocks on the spreader carrier 458 to allow the spreaders to accommodate themselves if the work is laterally tilted or uneven, and 458 rocks about 425 under the influence of cam 476 to raise the spreaders and under the influence of spring 478, which is adjusted by the helically–grooved member 482/483, to engage the spreaders with the work. Spreaders 30 are opened and closed under the influence of cam slot 510, acting through 508, 500, 496, 490, 446, when bell crank 500 moves together with carriage 427. Roll 28 is adjusted vertically on lever 534 by screw 540. The path of the roll 28, as carriage 427 moves rearwardly, is controlled, so that the roll continues to support the shoe, by means of cam surfaces 560, 558 acting through rolls 556, 554 to swing lever 534 about its pivot, the position of cam 560 being controlled by an eccentric 566 which is adjustable to one of a variety of positions by an arm 570. Cam 558 is shaped so that roll 28 is raised before it reaches the shearing block. Each side spreader 32 has a substantially triangular work–engaging undersurface which is bounded by concave edge 578 shaped to conform to the cutting edge of the knife,'wiping edge 579, and edge 580, and is substantially flat but curved up at the angle between 578/ 579 to enable the spreaders to ride over the upper. The plate–like portions of the spreaders overlap when the spreaders are closed, the left hand member entering a clearance slot in the right hand member. Each spreader 32 is pivotally linked to a lever 582 pivoted on carriage 427, levers 582 being connected by links 584 and ball joints 586 to a whiffletree 588 pivoted midway at 590 on a pivoted cam lever 594. The limited rocking of the whiffletree about 590 allows the spreaders to bear evenly on work whose thickness varies slightly from one side to the other. A spring plunger 597 urges the whiffletree against abutment 596, when the spreaders 32 move inwardly, so as to align the spreaders and ensure that the one engages slot 583 in the other. A roll on lever 594 engages a cam track 600 which acts to raise the spreaders or to permit spring 604 to engage the spreaders with the shoe. Movement of carriage 427 and head 9 moves spreaders 32 in the direction in which the knives move to trim. A presser block 615 (not shown) moves ahead of the knives to press down the upper on a median line between the spaced apart side spreaders. Swinging movement of the side spreaders is brought about by cam 638 (not shown) acting through roll 640, lever 634 pivoted on head 9, links 632, bell cranks 624, links 620, and triangular members 616 each of which is pivotally connected to a lever 582 and to a spreader 32. For trimming upper close to the " pull–over " tacks ears may be provided on plate 18 to form continuations of matrix 33 which support upper portions heelwards of those supported by the matrix. The sequence and timing of the operation of the different instrumentalities is described and illustrated. Specifications 530,981, 539,234, 622,357 and 668,204 are referred to.

0) US2004013508A – ROTARY PICK AND PLACE TECHNOLOGY

8) Family number: 28360009 (US2004013508A) © PatBase

Title: ROTARY PICK AND PLACE TECHNOLOGY

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Family:

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AU2002332859 AA	20030318	AU20020332859	20020905
AU2002332859 BB	20070913	AU20020332859	20020905
BRPI0212285 A	20040914	BR2002PI12285	20020905
BRPI0212285 B1	20111004	BR2002PI12285	20020905
CA2451145 AA	20031217	CA20022451145	20020905
CA2451145 C	20110222	CA20022451145	20020905
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Probable Assignee: RIVERWOOD INT CORP

Assignee(s):(std)**:** GRAPHIC PACKAGING INT INC ; RIVERWOOD INT CORP ; GRAPHIC PACKAGING INTERNATIONA

Assignee(s): RIVERWOOD INT ; ZIEGLER KELLY ; JPMORGAN CHASE BANK ADMINISTRATIVE AGENT AS ; JPMORGAN CHASE BANK AS ADMINISTRATIVE AGENT ; GRAPHIC PACKAGING INT INC MARIETTA ; BANK OF AMERICA NA ; BANK OF AMERICA NA ADMINISTRATIVE AGENT AS ; GRAPHIC PACKAGING INT

Inventor(s):(std)**:** ZIEGLER KELLY ; KELLY ZIEGLER

Inventor(s): ZIEGLER KELLY CROSBY

Agent(s): HODGKINSON MCINNES PATENTS; IP SOLVED ANZ PTY LTD; CASSAN MACLEAN; MARKS AND CLERK LUXEMBOURG LLP; BAILEY RICHARD ALAN

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GQ GR GW HU IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG UZ VN ZA ZM ZW

International class (IPC 8–9): B65G29/00 B65G35/06 B65G47/84 B65G47/86 B65G47/91 B66C1/00 (Advanced/Invention)

International class (IPC 1–7): B65G0/00 B65G1/00 B65G29/00 B65G47/84 B65G47/86 B65G47/91 B66C1/00

CPC: B65G47/848 B65G47/915

European class: B65G47/84B3 B65G47/91G

US class: 198/474.1 198/797 414/680 414/732 414/732P 414/736 414/737 414/756

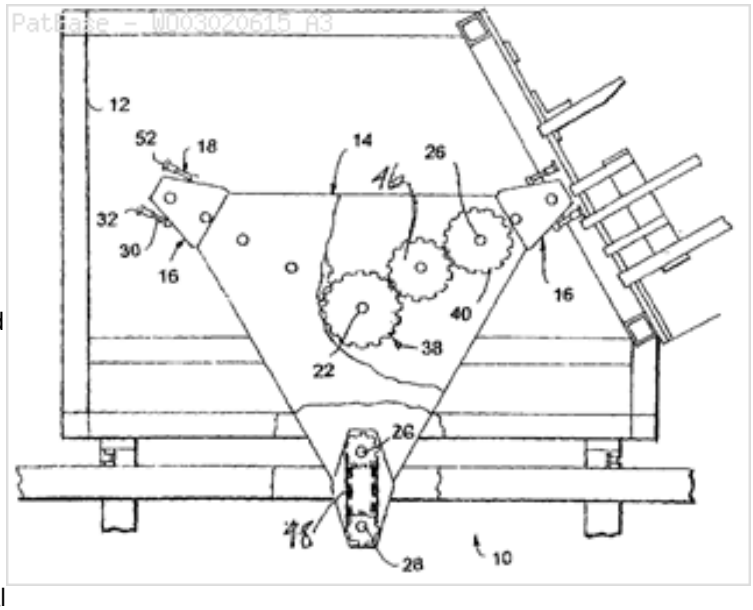
Classification Explorer

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WO00051811, US6273242 BA, US5997458 A, US5910078 A, US5704758 A, US5456570 A, US5431274 A, US5257888 A, US5019207 A, US5019207, US4902192 A, US4901843 A, US4881934 A, US4643633 A, US05019207, JP4279416, JP2002538055, JP04279416, DE4439723 A1, DE4439723, DE4029520 A1, DE4029520, DE19909754 A1, DE19801194 A1, DE19801194, DE04439723, DE04029520,

Forward Citations: WO07089388, WO07015049, US9346631, US9238558, US8302955, US8047530, US7695421, US7603835, US7501037, US7194849, US7040479, US2015056046, US2015013268, US2010130927, US2009071609, US2008159844, US2007001391, US2005028921, EP1910171, EP1388495, AU2004254629,

Abstract:
Source: US2004013508A A rotary transfer apparatus, comprising a frame structure; a rotatable main shaft supported by the frame structure; a first planetary member connected to the main shaft; at least one first planetary shaft rotatably connected to the first planetary member and rotating in relation to the main shaft; a secondary body connected to each first planetary shaft; a second planetary shaft rotatably connected to each secondary body and rotating in relation to the first planetary shaft; an article transfer mechanism connected to each second planetary shaft; and an offset cam mechanism. The article transfer mechanism is adapted for picking and placing articles, and has at least one stem connected to the second planetary shaft. Each stem has a distal end whose motion defines a product path about the main shaft. The product path has at least two apexes, with one apex wherein the distal end of the stem moves in an in−line motion and another apex wherein the distal end of the stem moves in a non−identical motion. The offset cam mechanism is adapted for providing both in−line motion and non−identical motion at the apex(es) of the product path.



9) Family number: 29597636 (US4981547A) © PatBase

Title: MOUNTING AND DRIVE COUPLING FOR THE EXTRACTING ELEMENT SUPPORT OF A LABELLING STATION FOR A LABELLING MACHINE FOR CONTAINERS AND SIMILAR OBJECTS

Priority:

CA19890596125 19890407	CA19890596126 19890407	CA19890596127 19890407
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US19890432113 19891103		

Family:

Publication number	Publication date	Application number	Application date
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DE3908659 A1	19891130	DE19893908659	19890316
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EP0368010 A1	19900516	EP19890118862	19891011
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ES2030229 T3	19921016	ES19890104896T	19890318
ES2030572 T3	19921101	ES19890118862T	19891011
ES2035971 T3	19930501	ES19890104461T	19890314
ES2037301 T3	19930616	ES19890105100T	19890322
JP2032935 A2	19900202	JP19890087143	19890407
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US5004518 A	19910402	US19890335478	19890407
US5017261 A	19910521	US19890335177	19890407
US5062917 A	19911105	US19890335025	19890407
US5062918 A	19911105	US19890432113	19891103
US5227005 A	19930713	US19900495562	19900316

Probable Assignee: ETI TEC MASCHINENBAU

Assignee(s):(std)**:** ETI TEC MASCHINENBAU ; ZODROW RUDOLF

Assignee(s): ETI TEC MASCHINENBAU GMBH DE ; ROSENBERG HEINZ JURGEN ; HOVELER EGON ; ETI TEC MASCHINENBAU GMBH FELDHEIDER STRASSE 45 D 4006 ERKRATH 2 BZW FEDERAL REPUBLIC OF GERMANY ; ETI TEC MASCHINENBAU G M B H ; ETI TEC MASCHINENBAU GMBH ; ETI TEC MASCHINENBAU GMBH 4006 ERKRATH 2 FEDERAL REPUBLIC OF GERMANY ; ETI TEC MASCHINENBAU GMBH 4006 ERKRATH DE ; BUCHHOLZ RAINER ; ETI TEC MASCH

Inventor(s):(std)**:** BUCHHOLZ RAINER DE ; BUCHOLZ RAINER ; HOEVELER EGON ; HOVELER EGON ; RAINER BUCHHOLZ ; RAINER BUCHOLZ ; ROSENBERG HEINZ JUERGEN ; ROSENBERG HEINZ JURGEN ; RUDOLF ZODROW ; ZODROW RUDDF ; ZODROW RUDOLF ; ZODROW RUDOLF DE ; BUCHHOLZ RAINER

Inventor(s): BUCHHOLZ RAINER 4000 DUESSELDORF DE ; ZODROW RUDOLF W 4000 DUESSELDORF DE ; ROSENBERG HEINZ JUERGEN W 4040 NEUSS DE ; HOEVELER EGON W 5657 HAAN DE ; BUCHHOLZ RAINER W 4000 DUESSELDORF DE ; ZODROW RUDOLF 4000 DUESSELDORF DE ; ROSENBERG HEINZ JUERGEN 4040 NEUSS DE ; HOEVELER EGON 5657 HAAN DE

Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY LTD; MACFARLANE ROBERT H; BERESKIN AND PARR

Designated states: AT BE CH DE ES FR GB IT LI NL

International class (IPC 8–9): B65C3/00 B65C3/08 B65C3/10 B65C9/00 B65C9/08 B65C9/12 B65C9/16 F16H35/02 F16H55/14 (Advanced/Invention); B65C3/00 B65C9/00 B65C9/08 F16H35/00 F16H55/02 (Core/Invention)

International class (IPC 1–7): B05C1/00 B65C3/00 B65C3/08 B65C3/10 B65C3/16 B65C9/0 B65C9/00 B65C9/08 B65C9/12 B65C9/16 B65C9/22 B65C9/26 B65C9/36 F16H35/02 F16H35/02 F16H35/2 F16H55/14

CPC: Y10T156/1773 Y10T156/178 Y10T156/1798 Y10T74/19907 Y10T156/1768 F16H35/02 B65C9/00 B65C9/16 F16H55/14

European class: B65C9/00 B65C9/16 F16H35/02 F16H55/14

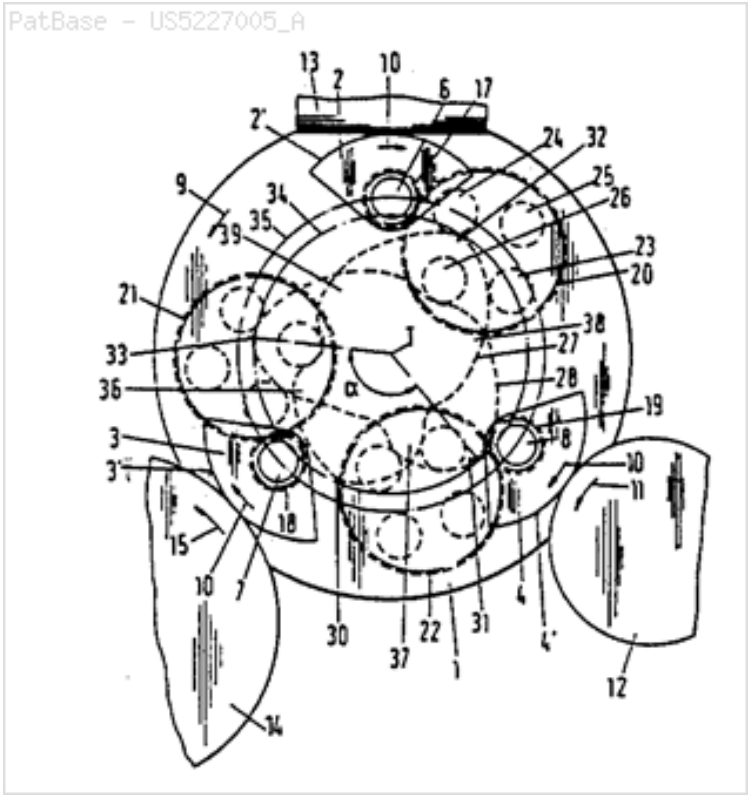
US class: 118/230 118/231 156/358 156/566 156/568 156/571 156/578 156/DIG.32 271/33 74/443

Classification Explorer

Cited documents: US5062917 A, US5017261 A, US4911285 A, US4709796 A, US4589949 A, US4531995 A, US4508330 A, US4450040 A, US4445961 A, US4430141 A, US4361460 A, US4336098 A, US4298422 A, US4092207 A, US4077621 A, US4040887 A, US3919040 A, US288134 A, US2860804 A, US2080414 A, GB979541 A, GB932406 A, GB2143928 A1, GB2095639 A1, FR2496051 A1, FR2469051 A1, FR2437986 A1, FR2344763 A1, FR2279623 A1, FR2129004 A5, EP0337131 A2, DE3534813 A1, DE3435681 A1, DE3206704 A1, DE3134661 A1, DE2954229 C2, DE2935433 A1, DE2709521 A1, DE2449380 A1, DE2436003 C3, DE2436003 A1, DE2435582 A1, DE2435540 B2, DE2435540 A1,

Forward Citations: WO9921765, WO9908937, WO13075774, WO06136276, WO03029083, US9415607, US9382027, US9342999, US9221275, US9132664, US9085402, US8980394, US8978347, US8973755, US8828170, US8800443, US8709198, US8622208, US8230893, US8087147, US7918016, US7918005, US7818866, US7814647, US7704347, US7694843, US7685797, US7623302, US7552841, US7536767, US7509786, US7328558, US6527029, US6450230, US6328832, US5870867, US5227005, US2014216281, US2012125526, US2011217492, US2010319834, US2010206490, US2010192517, US2010160129, US2009282779, US2009173450, US2009145511, US2009046377, US2007157559, US2007107187, US2007028563, US2007006962, US2006283855, US2006281619, US2006281618, US2006266755, US2006150578, US2005188655, JP2015509822, EP2610187, EP1893495, EP1038781, EP1003676, EP0387553, DE4134947, DE3844288, DE19746765, DE19746765, DE19735086, DE19735086, DE19613275, DE19613275, CN104141768, CN104141768, CN103418524, CN103183161, CN103183161,

Abstract:
Source: US4981547A Mounting and drive coupling for the extracting element support of a labelling station for a labelling machine. The mounting of the table which supports the extracting elements is positioned exclusively on the outer edge of the table, while the coupling between the table and the central drive shaft is located in the central space between the transmission and drive mechanisms and above the transmission elements. An alignment marking disc and marking wheel are included to assist in relatively positioning the extracting element with the support shaft.



10) Family number: 11212747 (US5381943A) © PatBase

Title: Endoscopic surgical stapling instrument with pivotable and rotatable staple cartridge

Priority:

CA19932107970 19931007
US19920959184 19921009
US19950442783 19950517
US19950412437 19950329
US19940259322 19940610
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Family:

Publication number	Publication date	Application number	Application date
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ES2183854 T3	20030401	ES19950303991T	19950609
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US5588581 A	19961231	US19960652266	19960523	
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US5607095 A	19970304	US19950412437	19950329	
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US5829662 A	19981103	US19960709961	19960909	

Probable Assignee: ETHICON

Assignee(s):(std)**:** GUTIERREZ JORGE ; HIBNER JOHN A ; PAUL MICHEL A ; OKOROCHA LIVYN O ; ETHICON ENDO SURGERY ; ETHICON INC ; ETHICON ENDO SURGERY INC ; JOHNSON AND JOHNSON ; BISHOP GREGORY D ; SAMBI NARINDERJIT ; RHAD EDWARD ; CONLON SEAN P

Assignee(s): ECHIKON AND SAAJIERII INC ; ETHICON ; SMITH JACK E ; SIEROCUK THOMAS J ; SMITH JACK EDWARD ; BURDORFF MARK A ; ALLEN EUGENE DAVID ; BEDI JAMES J ; ETHICON INC SOMERVILLE N J US ; PARASCHAC JOSEPH ; HUGHETT J DAVID ; ORTIZ MARK S ; GRAVES THOMAS HOWARD JR

Inventor(s):(std)**:** ALLEN EUGENE DAVID ; BEDI JAMES J ; BISHOP GREGORY D ; BURDORFF MARK A ; CONLON SEAN P ; EDOWAADO RAADO ; HIBNER JOHN A ; HUGHETT DAVID ; HUGHETT J DAVID ; JIYON EI HIBUNAA ; JIYOOJI GUTEIAAZU ; MAIKERU EI POORU ; OKOROCHA LIVYN O ; ORTIZ MARK S ; PARASCHAC JOSEPH ; RIBIN OO OKOROCHIYA ; SAMBI NARINDERJIT ; TOOMASU EICHI GUREIBUSU JIYUNI ; YUUJIIN DEIBITSUDO AREN ; TOOMASU JIEI SHIAROKUKU ; SHIIN PII KONRON ; NARINDAAJITSUTO SAMUBI ; MAAKU ESU OOTEIZU ; MAAKU EI BAADORUFU ; JIYOSEFU PARASHIYAKU ; JIYON EI HAIBUNAA ; JIYATSUKU II SUMISU ; JIEIMUZU JIEI BEDEI ; JIEI DEIBITSUDO HAGETSUTO ; GUREGORII DEI BISHIYOTSUPU ; TOOMASU JIEI SHIIROKUTSUKU ; SIEROCUK THOMAS J ; SIEROCUL THOMAS J ; SMITH JACK E ; RHAD EDWARD ; PAUL MICHEL A ; JIEEMUSU JIEI BEDEI ; GRAVES JR THOMAS H ; SMITH JACK EDWARD ; PAUL MICHAEL A ; OURESHI SALEEM U ; GUTIERREZ JORGE ; GRAVES THOMAS H JR ; GRAVES THOMAS H ; GRAVES JR THOMAS HOWARD ; ALLEN EUGENE D

Inventor(s): ALLEN EUGENE DAVID OKEANA OHIO 45053 US ; HUGHETT J DAVID HAMILTON OHIO 45011 US ; PARASCHAC JOSEPH CINCINNATI OHIO 45236 US ; SAMBI NARINDERJIT MASON OHIO 45040 US ; GRAVES THOMAS HOWARD JR ; GREGORY D BISHOP ; THOMAS H GRAVES JR ; THOMAS J SIEROCUK ; TOOMASU EICHI GUREIBUSU JIYUNIA ; SEAN P CONLON ; MARK A BURDORFF ; MARK S ORTIZ ; MICHAEL A PAUL ; NARINDERJIT SAMBI ; JOHN A HIBNER ; JORGE GUTIERREZ ; JOSEPH PARASCHAC ; LIVYN O OKOROCHA ; J DAVID HUGHETT ; JACK E SMITH ; JAMES J BEDI ; EDWARD RHAD ; EUGENE DAVID ALLEN

Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; FPA PATENT ATTORNEYS PTY LTD; OGILVY RENAULT LLP SENCRL SRL; SWABEY OGILVY RENAULT

Designated states: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

International class (IPC 8–9): A61B1/00 A61B17/00 A61B17/03 A61B17/064 A61B17/068 A61B17/10 A61B17/115 A61B17/12 A61B17/28 A61B17/34 (Advanced/Invention);
A61B1/00 A61B17/00 A61B17/12 A61B17/28 A61B17/34 (Advanced/Non–invention);

A61B17/068 (Core/Invention)

International class (IPC 1–7): A61B1/00 A61B17/00 A61B17/03 A61B17/064 A61B17/068 A61B17/10 A61B17/115 A61B17/12 A61B17/28 A61B17/68

CPC: A61B17/0682 A61B17/0684 A61B17/3421 A61B2017/2903 A61B2017/2923 A61B2017/2927 A61B2017/2929

European class: A61B17/068B A61B17/068B2 K61B17/29F2R K61B17/29H6R K61B17/29J2 K61B17/29J2R K61B17/34G4

US class: 227/175.1 227/176.1 227/177 227/177.1 227/179.1 227/182.1 227/19 600/137 606/139 606/142 606/143

Classification Explorer

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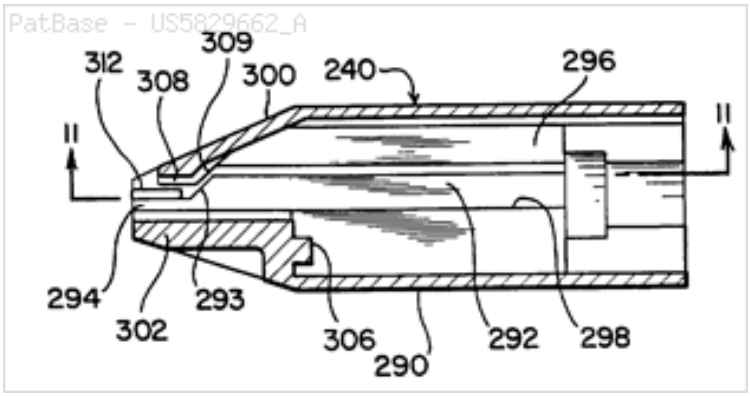
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Abstract:
Source: US5381943A A surgical stapler is provided which is insertable through an endoscopic tube to enable a surgeon to staple a hernia patch to tissue inside a body cavity. The endoscopic surgical stapler includes a staple cartridge pivotally mounted on the distal end of a support tube extending from a handle provided with an actuator mechanism for actuating a staple forming mechanism inside the staple cartridge to fasten staples to the tissue. The staple cartridge is adjustable to different angular orientations relative to the support tube. The staple actuator mechanism is operable to actuate the staple cartridge in any of the angular orientations. The support shaft is rotatable about its longitudinal axis relative to the handle to adjust the rotational orientation of the support shaft and the staple cartridge. The staple cartridge is rotatable about its longitudinal axis relative to the support shaft to adjust the rotational position of the staple cartridge relative to the support shaft. Separate actuator mechanisms are provided on the handle to control the pivotal movement of the staple cartridge, the rotation of the support shaft, and the rotation of the staple cartridge relative to the support shaft.



0) US2002050238A – SEED PLANTER APPARATUS AND METHOD

11) Family number: 29950294 (US2002050238A) © PatBase

Title: SEED PLANTER APPARATUS AND METHOD

Priority:

CA19972213350 19970819
CA19972213354 19970819
CA19992260328 19990125
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CA19972213711 19970819
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US19960700225 19960820

Family:

Publication number	Publication date	Application number	Application date
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CA2213354 C	20020709	CA19972213354	19970819
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CA2213703 C	20020716	CA19972213703	19970819
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CA2557228 AA	19991015	CA19992557228	19990125
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Probable Assignee: BLUE LEAF IP INC

Assignee(s):(std)**:** CNH AMERICA LLC ; CASE CORP

Assignee(s): CASE LLC ; BLUE LEAF IP INC ; BROWN THOMAS ; BERRY STEPHEN D ; BLUE LEAF IP ; OLSON THOMAS A ; DUNHAM LISLE J ; CRABB RICHARD J ; JOHNSON CHAD M ; JOHNSON DONALD ; CNH INDUSTRIAL AMERICA LLC ; OZERS GUNTIS ; SLOWINSKI DAVID N ; STUFFLEBEAM JOHN F ; TIEDT GERALD J ; STUFFLEBEAM F JOHN

Inventor(s):(std)**:** BERRY STEPHEN D ; BROWN THOMAS ; CRABB RICHARD J ; DUNHAM LISLE J ; JOHNSON CHAD M ; JOHNSON DONALD ; MICHALIC JOSEPH A ; OLSON THOMAS A ; OZERS GUNTIS ; SLOWINSKI DAVID N ; STUFFLEBEAM F JOHN ; STUFFLEBEAM JOHN F ; STUFFLEBEANM JOHN F ; TIEDT GERALD J

Agent(s): GOWLING LAFLEUR HENDERSON LLP

International class (IPC 8–9): A01C7/04 A01C7/08 A01C7/10 A01C7/12 A01C7/16 A01C7/20 B01F7/04 (Advanced/Invention)

International class (IPC 1–7): A01C11/00 A01C7/00 A01C7/04 A01C7/08 A01C7/16 A01C7/20 B01F7/04

CPC: A01C7/206 Y10S111/903 Y10S111/90 A01C7/082 A01C7/046 A01C7/102 A01C7/128

European class: A01C7/04B A01C7/04B1B A01C7/08B1 A01C7/10B A01C7/12D1 A01C7/20C

US class: 111/100 111/170 111/181 111/184 111/185 111/200 111/900 111/903 221/211 221/264 221/265 221/266 221/277 221/278

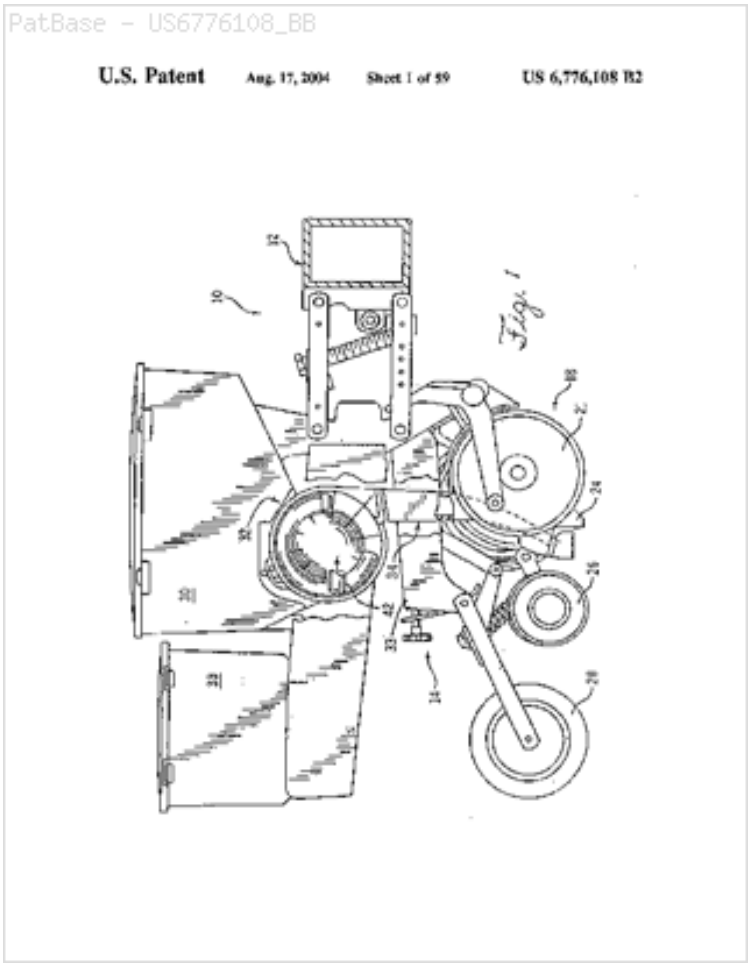
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Forward Citations: WO16118277, WO14088651, WO14066643, WO14066168, WO13049198, WO12167244, WO12094404, WO11119590, WO11037525, WO11031214, WO10141627, WO10129762, WO07024646, WO06068793, WO04062345, USRE45412, USRE43772, USD724907, USD719799, USD712936, USD712437, USD712211, USD712210, USD647542, USD644253, USD502848, US9578802, US9578798, US9526201, US9521804, US9439344, US9433141, US9408337, US9351440, US9313942, US9282692, US9282691, US9277688, US9265190, US9226442, US9215841, US9215840, US9173341, US9125338, US9089088, US9043950, US9037285, US8985037, US8789483, US8733258, US8720352, US8651033, US8631749, US8511242, US8499703, US8479671, US8418634, US8375874, US8375873, US8371240,

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Abstract:
Source: US2002050238A A planter apparatus includes a seed meter including a housing assembly with a cover releasably connected to a shell. The housing assembly includes at least one opening formed therein adjacent a seed discharge area to promote the release of seeds from a disc rotatably attached to the housing assembly. The disc divides an interior of the housing assembly to include a vacuum chamber and a seed chamber. The disc including a plurality of openings formed adjacent a periphery of the disc. The planter apparatus may also include a singulator assembly having rotatably spools, a rotatable chute door, a disc having clusters of openings for simultaneous release, and a one−piece baffle.



0) US3208895A – APPARATUS FOR MOUNTING FILMS AND OTHER INSERTS ...

12) Family number: 22819129 (US3208895A) © PatBase

Title: APPARATUS FOR MOUNTING FILMS AND OTHER INSERTS IN CARDS

Priority: US19570649159 19570328 US19570649372 19570329 US19590842794 19590928 US19590842793 19590928 US19600045631 19600727

Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: MINNESOTA MINING AND MFG

Assignee(s):(std)**:** MINNESOTA MINING AND MFG

Assignee(s): MINNESOTA MINING AND MFG CO ; THE MINNESOTA MINING AND MANUFACTURING ; THE MINNESOTA MINING AND MANUFACTURING COMPANY ; MINNESOTA MINING AND MANUFACTURING COMPANY

Inventor(s):(std)**:** CLARK WILLIAMS LEO ; CLIFFORD PRESTON ROUNSEFELL ; LEO CLARK WILLIAMS ; PRESTON ROUNSEFELL CLIFFORD ; ROUNSEFELL CLIFFORD P ; ROUNSEFELL CLIFFORD PRESTON ; STANLEY TIFFANY ; STANLEY TIFFANY STOOTHOFF ; STOOTHOFF STANLEY T ; STOOTHOFF STANLEY TIFFANY ; TIFFANY STOOTSHOFF STANLEY ; WILLIAMS LEO C ; WILLIAMS LEO CLARK

Inventor(s): TIFFANY STANLEY ; TIFFANY STOOTHOFF STANLEY

International class (IPC 8–9)**:** B31D1/00 B65H9/16 G03D13/10 G03D15/10 G06K13/07 G06K13/103 (Advanced/Invention); B31D1/00 B65H9/16 G03D13/02 G03D15/00 G06K13/02 (Core/Invention)

International class (IPC 1–7)**:** B26F1/38 B42F19/04 B65H9/16 G03B15/10 G03B27/32 G03D15/10 G06K1/02 G06K19/00 G06K19/06

CPC: B65H9/166 G06K13/07 Y10S493/944 Y10T156/195 Y10T156/1309 Y10T156/1746 Y10T156/1994 Y10T83/6571 G06K13/103 B31D1/0087 G03D13/10 G03D15/10 B31D1/00 Y10T83/086 Y10T83/2131 Y10T83/2185 Y10T83/87 Y10T83/8843

European class: B31D1/00 B31D1/00M2B B65H9/16C G03D13/10 G03D15/10 G06K13/07 G06K13/103

US class: 100/257 100/264 100/292 156/344 156/352 156/514 156/557 156/584 156/759 156/767 198/416 198/456 198/624 271/116 271/274 493/344 493/380 493/944 72/330 72/427 83/127 83/152 83/417 83/530 83/61 83/628

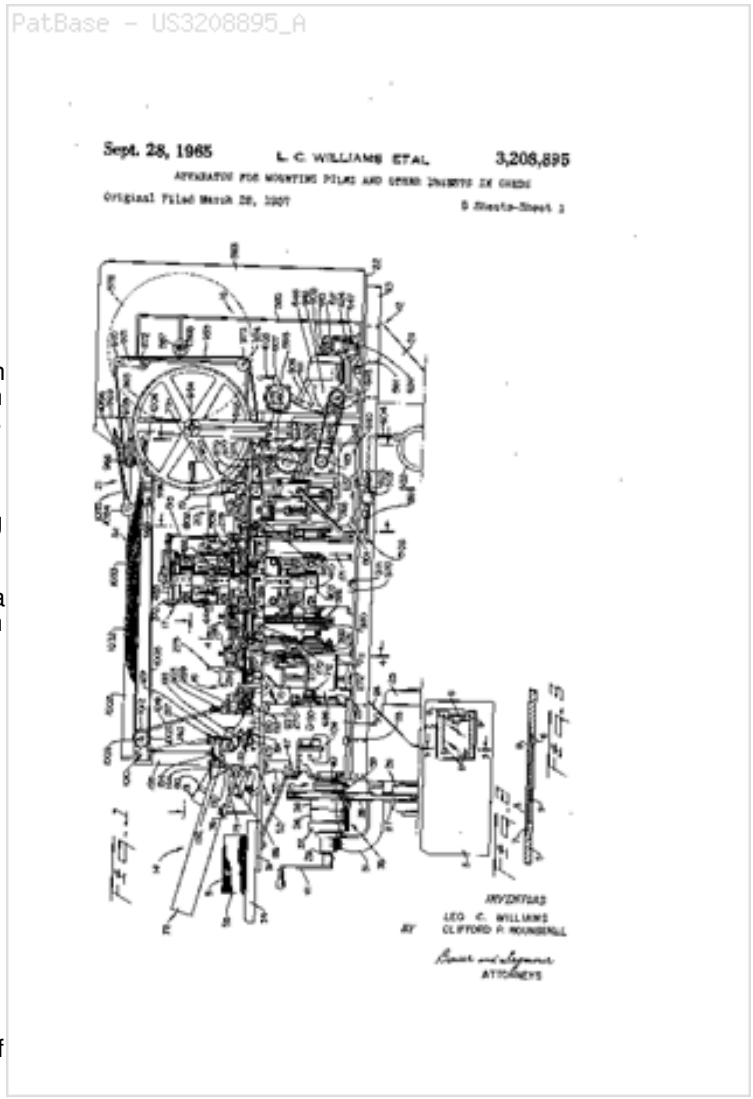
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US5187923, US4844638, US3927586, US3896712, US3866914, US3612513, US3547744, US3532338, US3287015, US3191929, US3122040, US2007120956, US2006091602, EP0107115,

Abstract:
Source: GB869914A 869,914. Cutting and punching apparatus. MINNESOTA MINING and MANUFACTURING CO. Feb. 14, 1958 [March 28, 1957; March 29, 1957], No. 20266/60. Divided out of 869,913. Classes 31 (1) and 31 (2). [Also in Group XV] A rectangular portion is cut out of a series of cards 5, Fig. 1, by a die mechanism 17, Figs. 1, 27 and 28, being one of a plurality of mechanisms constituting a machine for performing various operations on the cards (see also Specification 869,913, Group XV). Each card is fed in turn by a conveyer (see Specification 869,913, Group XVI) to a position above a tube 403 and below a tube 429, which during each machine cycle are moved towards and away from each other by cams on a shaft 388 through levers 393, 402. Secured to the top of the tube 403 is a die holder 415 having a central rectangular opening 417 and carrying two pairs 418, 423 of opposing knives forming a rectangle. When the tube 403 is raised, the knives move upwardly through an aperture in a card supporting plate 172 and cut out a portion of the card in co−operation with an upper cutting block 428 carried by the tube 429, between which and the block is secured a rubber cushioning pad 438. The cut−out portion is contacted by a perforated plate 462 of a rectangular vacuum shoe 459 formed at the lower end of an annular member 464 which slidably fits in a flanged bushing 465 secured in the tube 429, and is secured to a tube 466 received in a cap 473. Vacuum is supplied by a pump 502, driven by an electric motor, through a valve 508 and vertical passages 467 to the shoe. The tube 429 is reciprocated vertically by a cam through the lever 481, and by a compression spring 490. The plate 462 moves with the cut−out into the opening 417, and at the bottom of the stroke of the tube 429, ports 469, 468 in the tube 466 and the member 464 become aligned with ports 470, 471 in the bushing 465 and the tube 429, so as to release the vacuum and allow the cutout to fall on to an annular choke plate 495. The cut−outs thus collect in the form of a pad 496 until the pad is of sufficient thickness for its top to be engaged by the shoe 459, whereafter it is gradually forced through the choke, plate 495, small sections breaking away from the bottom of the pad and falling into a receptacle. Vacuum in the shoe 459 is also cyclically controlled by a cam on the shaft 384 actuating the valve 508. The vacuum pipe from the valve 508 to the shoe passes through a T−fitting, one branch of which leads to a chamber from which a portion 536, Fig. 33, of a plunger protrudes, being retracted against the force of a spring when there is vacuum in the chamber. During each cycle, an arm 545 having a cam surface 544 and mounted on the bell−crank 481 moves downwardly, and if no cut−out is held on the shoe, so that there is no vacuum, the plunger is not retracted and engages the surface 544 to swing the arm 545 about its pivot stud 547 to engage the plunger 552 of a switch 553, which is thereby closed to stop the machine. The cards 5 so treated are thereafter moved to the right in Fig. 1 to a position 5b, Fig. 39, where they are each to receive against an adhesive portion surrounding the cut−out a film frame or section which for this purpose is cut from a film supplied from a roll 578 (see Specification 869,913, Group XVI) to cutting position, Fig. 39, the speed of the feed rollers being regulated so as to stop the film in the exact position required for cutting by a photo−clutch cell sensing the division line between two adjacent sections of film (see Specification 869,913, Group XVI). The cutting mechanism 20 is operated by cams on a shaft 807. The film is located below a holder 829 carrying spaced knives 832 which cooperate with stationary blades 835. The holder 829 is lowered for cutting against the action of a spring 830, by a cam 810. One pair of blades cuts off the end film frame, while the other pair trims the leading edge. The cut−off frame is deposited on a rectangular vacuum head 838 (see Specification 869,913, Group XV). While the head 838 is lowered to remove the frame to the left, the gap between the blades 835 is bridged by a plate 949 which is automatically caused to follow the head 838 by means of a spring 952, being forced back when the head returns. If there is no cut−off frame held on the head 838, no suction will be built up therein, and a plunger 909 will remain projecting therefrom, and will engage a lip 912 to close a switch and stop the machine.



13) Family number: 19034698 (GB470749A) © PatBase

Title: Improvements in or relating to shoe upper conforming machines

Priority: GB19350032104 19351120

Family:

Publication number	Publication date	Application number	Application date
GB470749 A	19370820	GB19350032104	19351120

Probable Assignee: WILLIAM THOMAS BUCKINGHAM ROBE

Assignee(s):(std)**:** BRITISH UNITED SHOF MACHINERY ; WILLIAM THOMAS BUCKINGHAM ROBE

Assignee(s): WILLIAM THOMAS BUCKINGHAM ROBERTS ; THE BRITISH UNITED SHOF MACHINERY COMPANY LIMITED

International class (IPC 8–9)**:** A43D21/12 (Advanced/Invention)

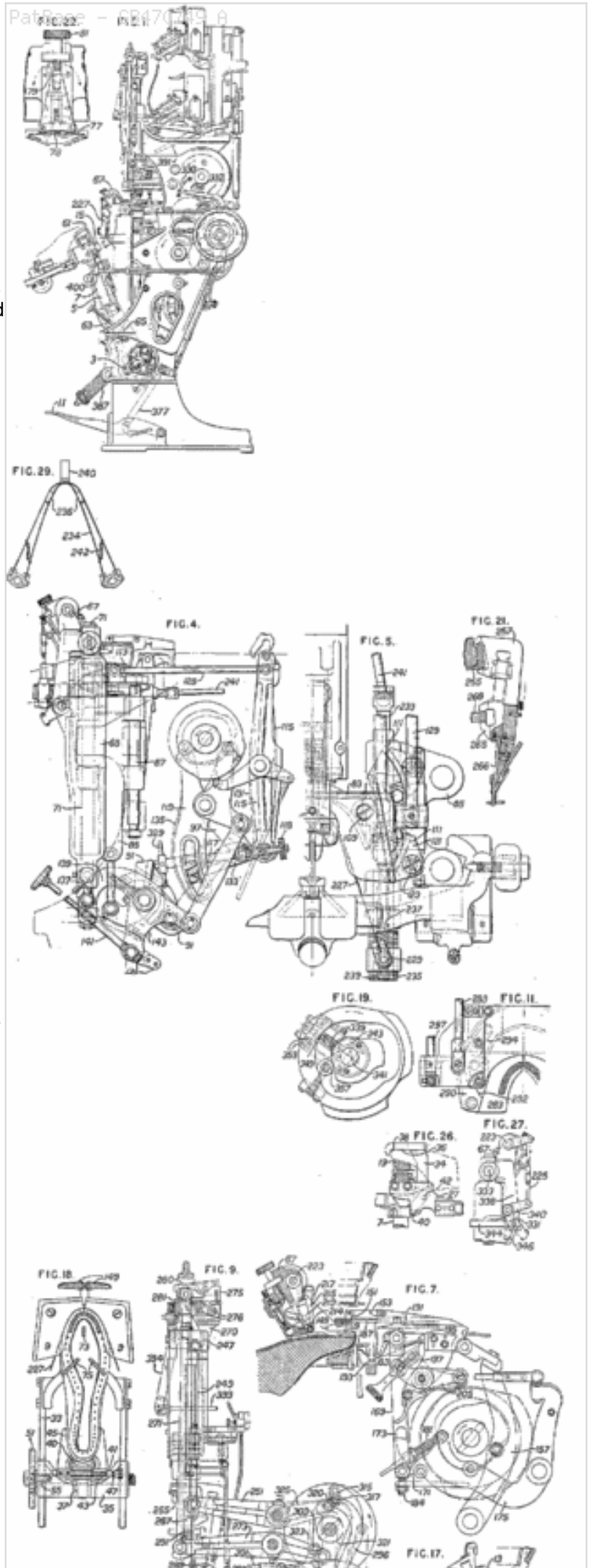
International class (IPC 1–7)**:** A43D21/12

CPC: A43D21/127

European class: A43D21/12W

Classification Explorer

Abstract:
Source: GB470749A 470,749. Boot – making machines. BRITISH UNITED SHOE MACHINERY CO., Ltd., and ROBERTS, W. T. B. Nov. 20, 1935, Nos. 32104/35 and 13491/36. [Classes 17 (i) and 89 (iii)] Lasting.–A machine for lasting the toe portions 29 of shoes by power has a plurality of fastener inserting devices which act automatically to secure the wiped over upper margin in position, these devices being in withdrawn position, heightwise of the shoe, when upper margin engaging means of the machine engage the toe portion of the upper from the inside while wipers engage it from the outside. The jack is, to receive the work, tipped forwardly about a shaft 3, Fig. 1, on which is mounted a sleeve 5 in which slides a jack post 7. As the jack is swung rearwardly and raised by a treadle 11, an arcuate tongue 15 thereon enters a corresponding groove in members fixed to the machine frame, to retain the jack against forward or rearward movement while allowing it to be swung about the axis of the post 7. A large rubber toe–pad 19, Fig. 17, is bonded to a metal block 20 located by dowel pins on a block 25 formed with curved guideways extending widthwise of the shoe. Rubber pads of different thicknesses are used for different shoe sizes, so that the toe end of the insole is at a uniform height for all sizes. The block 25 is secured to a rocking frame 27 engaging an arcuate rib 31 at the top of the post 7, this construction allowing rock of the work–piece both laterally and longitudinally of the shoe, about axes in the tread face of the insole at the toe end. The rocking frame has a pair of parallel bars 33 bridged by a yoke 35, Fig. 18, carrying a pivot pin 37 about which heel–end supporting devices may rock. The pin carries a block having a leather facing 40 and guide rods 41, one above the other, slidably carrying the lugs 43 of fingers 45 each arranged to bear against one side of the shoe. A right–and–left screwthreaded stem 47 engages these lugs to vary the distance the heel end of the shoe may sink into the pocket formed by the members 40, 45. The arms 33 are formed with rack teeth gearing with a pinion rotated by a disc 51 for adjusting the heel end support for length of shoe, the edge of the disc bearing a scale co–operating with a latch 55 for both holding the disc in adjusted position and indicating the position in which it is set. A similar scale indicates the distance apart of the fingers 45. To facilitate the shaping of a rubber toe–pad 19, a gauge member 34, Fig. 26, is provided having a stop pin 40, engaging a hole in the rocking frame 27 and the front of the jack post 7 to maintain the frame in operative position. The member 34 is positioned angularly by a pin 42 and has surfaces 36, 38, at right–angles, for engaging the tread surface of the insole and the toe end of the shoe. The rubber pad is hollowed out until the shoe can be positioned snugly. The scale readings are then noted, and repeated for similar work. The toe end gauge 61, Fig. 1, is coupled to a bell–crank lever 63, the free arm of which engages a fixed abutment 65 as the jack is swung rearwardly, and thus withdraws the gauge to out–of–the–way



position. The shoe hold−down 13, Fig. 17, is carried by a cross−head 67, Fig. 4, secured to a pair of vertical slides 69 engaging vertical rods 71. An insole engaging foot 73, Fig. 18, is positioned about 1" from the toe end of the shoe, and ribs 75 about 1¢" long engage opposite sides of the ball portion. These ribs are carried by a plate 77, Fig. 22, pivoted on a rib 78 and adjustable heightwise and about the rib by a thumb−screw 81 and a handle 79, respectively. Wipers 9, Fig. 7, are mounted on carriers 83 each supported on one of a pair of castings 85, Fig. 4, slidable vertically on the rods 71 and other parallel rods 87, and linked to a lever 91 adjustably linked to a cam−actuated lever 97. The wipers are secured in their carriers by spring pressed studs 109, the carriers being guided by arcuate faces 111 and being swung by rods 113 actuated by a lever 115 connected by a rod 117 with a cam−actuated lever 119, the end of the rod 117 being adjustable along a slot in the lever 119 to vary the extent of movement imparted to the wipers. The arcuate faces 111 engage blocks 121 freely pivoted on studs 123 adjustable by eccentric portions thereon and mounted on brackets slidable lengthwise of the shoe, this movement being produced by rods 129, lever 131 and link 133, the latter being adjustably connected to a cam−actuated lever 135. The slides 69 are coupled by links 137 to a lever 139 coupled by an adjustable rod 141 to a cam−actuated lever 143. Upper spreading and retarding fingers 149, Fig. 7, about 1¢ "long, are mounted on pivot pins 151 which depend from the end of a bar 153 linked to a cam−actuated lever 157. The forward end of the bar is connected by a pair of vertical links 169 to the forward end of a cam−actuated lever 175. A spring 181 bears against an arm 173 secured to a link 171 between the links and lever, and is adjustable along the arm, so that downward swing of the lever produces a yielding downward movement of the fingers. A stop 184 on the lever supports the links. The fingers are swung by links 187 connected to a rack 191 gearing with a pinion 193 actuated by a segment 195 on a cam−actuated lever 197. A second cam−actuated lever 205 is adjustably connected to the segment and functions to separate the fingers slightly prior to upwiping, to urge the margin of the upper outward slightly beyond the edge of the insole. To hold the toe end of the insole firmly down, the cross−head 67 has pivoted to it at 214, Fig. 7, an arm 215 carrying an insole−engaging plate 217 and actuated by an arm 219 on a rod 223 rocked by a cam. To clamp the toe end of the upper against the last when the wipers have reached their fully advanced position, a band 227, Fig. 5, of thin strip steel is carried by pins 229 extending from blocks adjustable on sleeves 235 surrounding stems carried by the castings 85. Springs 237 urge the sleeves forwardly into contact with nuts 239 on rods 233 coupled to rods 241, Fig. 4, actuated by the lever 175 through a lost motion device. The tacking mechanism is carried by a tubular slide 247, Fig. 9, connected by links 249 with a cam−actuated lever 251. Secured to the lower end of the slide is a member 255 of D−shape

carrying a gang of depending tacking arms 257, Fig. 21. Each tack driver 266 is secured to a carrier 265 operated by the D−shaped head 268 of a bar 267, Fig. 9. The bar 267 is urged downwardly by springs, as usual, and is coupled to a cross−head 270 connected by links 271 with a cam lever 273. A latch 275 is carried by the cross−head, is slidable forwardly and rearwardly on rolls 276 and urged forwardly by a spring so that its bevelled edge engages beneath a roll on the bar 267. A latch finger 280 normally maintains the latch in its forward position. As the slide 247 descends to lower the tackers to the shoe, a pivoted latch−tripping member 281 releases the latch and the tacks are driven. The tacking arms are aligned by slots in plates 283, Fig. 11, advanced and closed similarly to the wipers, the outer edges of the slots being geometrically similar to the inner edges of the wipers. The plates 283 are detachably secured to a table 289, Fig. 9, carried by links 291 pivoted to the slide 247 and links 249. A carrier plate 290, Fig. 11, for each plate 283 has cam slots 292 engaging rolls 294 mounted on the table 289. Links 293, Fig. 9, are pivoted to levers 295 depending from a rod 317 and arranged to be connected at their lower ends to the lever 115 which actuates the wipers, so that the wipers and the plates 283 move proportionately. The table 289 is coupled by links 297 to a lever 296 similarly actuated by the lever 131 which actuates the blocks 121. To cause the tacking arms to descend on to the wipers and track across their edges to carry the margin of the upper inwards before descending to press the upper snugly against the insole, the links 293, 297 are each formed as toggies, sleeves 299 providing connecting pivots and each sliding on a stem 301 carried by a bar 303 pivoted at 307 and actuated by a cam roll 309. To prevent the forward edges of the plate 283 from fouling the foot 73, the connections between the levers 115 and 295 comprise a roll on the first and a notch 313 on the second of each pair, providing a lag of the plate 283 when the lever 295 is raised, as allowed by a slot 315 forming the connection between the lever and its pivot. The lever is supported by links 321, 323 connected by a pivot 320 guided by a link 325, the link 323 being pivoted to the bar 303. In case it is desired to open and close the wipers prior to starting the machine, the link 117, Fig. 4, is provided with a hand−wheel 329 and is threaded into a trunnion at the lower end of the lever 115. A notched disc 118 co−operates with a blade spring to hold the link in adjusted position. The lever actuates a finger 332, Fig. 1, moving over a fixed scale 330 to indicate the adjust−. ment of the link. To give extra clearance when it is desired to change the wipers, the cross−head 67 is carried by arms 338, Fig. 27, pivoted at 331 and retained in operative position by spring poppets 333. The cross−head may, therefore, be swung forwardly and downwardly to give complete access to the wipers. As it is swung a pin 346 in an extension of a bell−crank lever 340 forming the connection between a link 225 actuating the shaft 223 and the cam−actuated rod 344, lifts the rod so that the pin enters a

horizontal slot in the rod, and accidental starting of the machine will not damage these parts. To modify the pressure of the wipers on the shoe during the up−wiping, a portion 339, Fig. 19, of the cam is formed on the outer edge of a curved plate 341 pivoted at 343 at one end and adjustable at the other by a screw 349. Four springs 353 urge the curved plate outwardly, thus providing a yield during the upwipe. The p

14) Family number: 29789869 (US2003073060A) © PatBase

Title: INTERACTIVE EDUCATION SYSTEM FOR TEACHING PATIENT CARE

Priority:

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Family:

Publication number	Publication date	Application number	Application date
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International class (IPC 8–9): A61B19/00 A61G12/00 G06F19/00 G06Q50/00 G09B19/00 G09B23/00 G09B23/28 G09B23/30 G09B23/32 G09B23/34 G09B23/38 G09B9/00 (Advanced/Invention); A61B19/00 (Advanced/Non–invention); G06F19/00 G06Q50/00 G09B23/00 G09B9/00 (Core/Invention); A61B19/00 (Core/Non–invention)

International class (IPC 1–7): A61B A61G12/00 G09B23/28

CPC: G06F19/3437 G09B23/28 G09B23/30 G09B23/281

European class: G06F19/34H G09B23/28 G09B23/28B G09B23/30

US class: 1/1 434/262 434/262P 434/262S 434/265 434/266 434/266P 434/266S 434/267 434/267S 434/268 434/270 434/272 434/272P 434/273 434/273P 434/273S

Classification Explorer

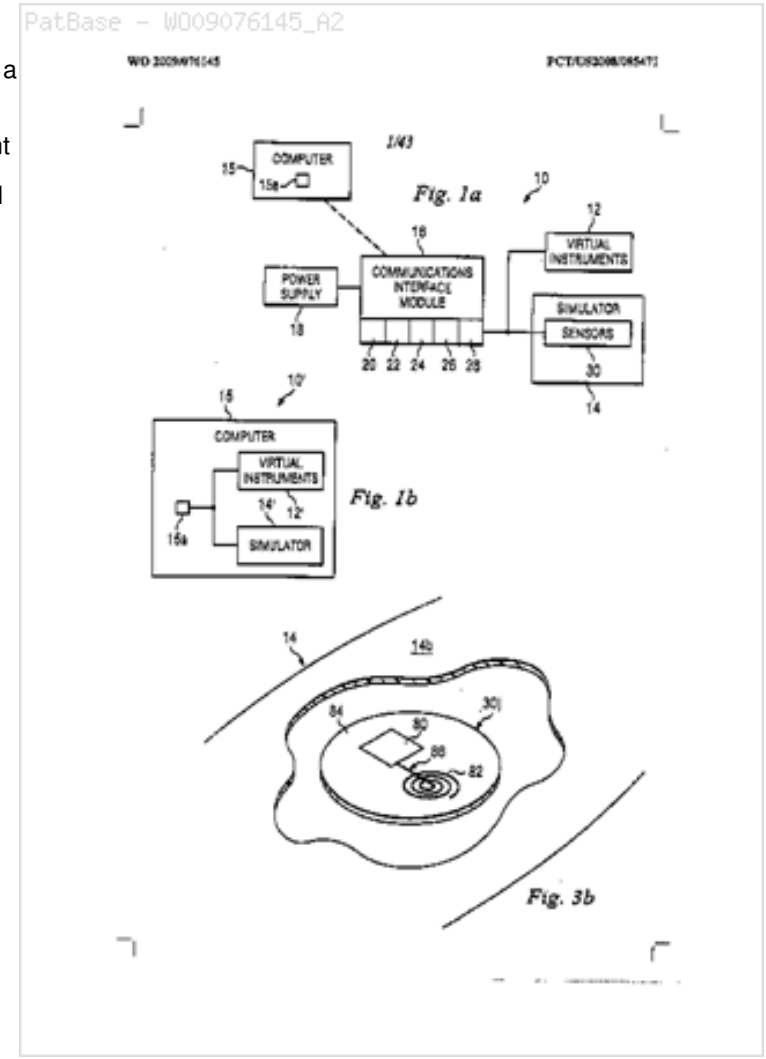
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Abstract:
Source: US2003073060A An interactive education system for teaching patient care to a user is described. The system comprises a patient simulator; a virtual instrument for use with the patient simulator in performing patient care activities; means for sensing an interaction between the virtual instrument and the simulator, and means for providing feedback to the user regarding the interaction between the virtual instrument and the simulator.



15) Family number: 30356140 (US5423183A) © PatBase

Title: HYDRAULIC MACHINE WITH WEDGE–SHAPED SWASHPLATE

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Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: FOLSOM TECHNOLOGIES INC

Assignee(s):(std)**:** EHDVEHNST PAUEHR TEKNOLODZHI I ; EHDVEHNST PAUEHR TEKNOLODZHI INK ; FOLSOM LAWRENCE R ; FOLSOM TECHNOLOGIES INC ; TUCKER CLIVE ; MARTIN MARIETTA CORP ; ADVANCED POWER TECHNOLOGY ; ADVANCED POWER TECHNOLOGY INC

Assignee(s): LOCKHEED MARTIN CORP ; ADVANCED POWER TECHNOLOGY INC ATLANTA GA US ; GENERAL DYNAMICS DEFENSE SYSTEMS INC ; GENERAL DYNAMICS LAND SYSTEMS INC ; L 3 COMMUNICATIONS CORP

Inventor(s):(std)**:** CLIVE TUCKER ; FOLSOM LAWRENCE ; FOLSOM LAWRENCE R ; LAWRENCE R FOLSOM ; LORENS R FOLSOM ; LORENS RFOLSOM ; TUCKER CLIVE

Inventor(s): LORENS R.FOLSOM[US]

Agent(s): MACRAE AND CO

Designated states: AL AM AT AU AZ BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IS IT JP KE KG KP KR KZ LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SN SZ TD TG

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International class (IPC 1–7): F01B13/04 F01C21/16 F01C5/00 F03C2/00 F03C2/22 F03C4/00 F04C15/04 F04C2/00 F04C2/344 F04C29/00 F04C5/00 F16D31/02 F16D39/00 F16H39/14

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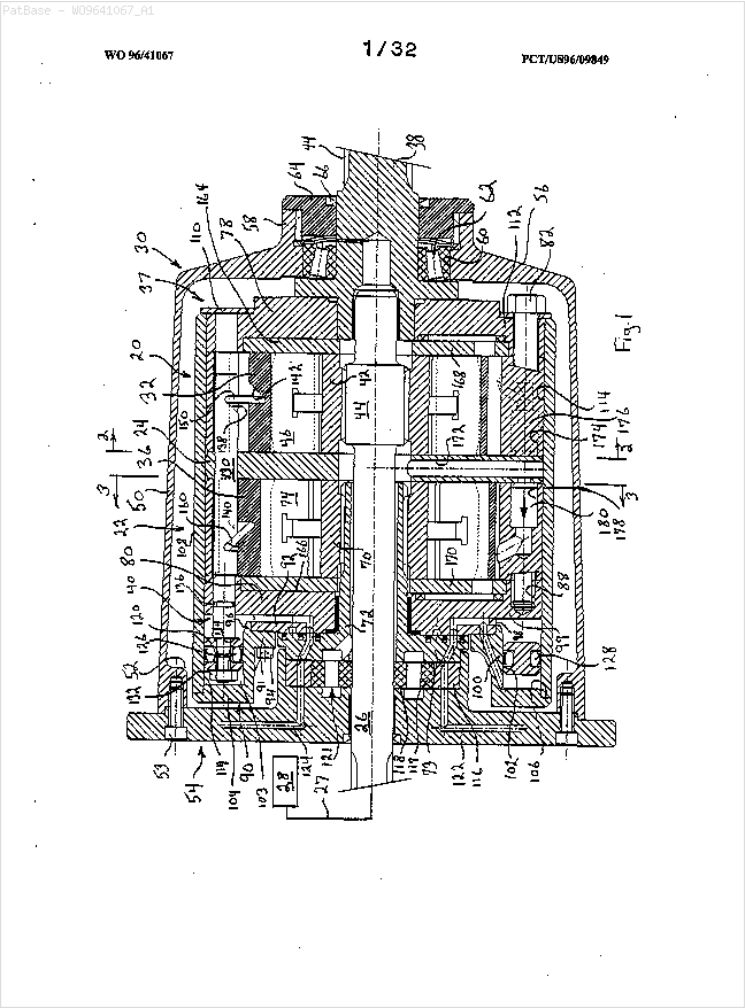
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Forward Citations: WO9951894, WO9849470, WO9849468, WO9849467, WO9744596, WO9714896, WO9709546, WO9631715, WO9630673, WO9623997, WO9623993, WO9623992, WO9616283, WO9614523, WO9614523, WO16149740, WO11061630, WO10068602, WO04042233, WO04042233, US9400043, US9394983, US9132824, US9115770, US8956256, US8840524, US8807972, US8668480, US8622620, US8366412, US8359854, US8336304, US8176838, US8162621, US8162094, US8133036, US8132868, US8087733, US7984783, US7707872, US7698960, US7637724, US7617761, US7562944, US7537075, US7481298, US7337869, US7055507, US6666670, US6604269, US6572344, US6510779, US6485277, US6439335, US6434979, US6413055, US6381842, US6381529, US6354186, US6200114, US6109034, US6062022, US5976046, US5931758, US5896745, US5684694, US5678405, US5540048, US5535589, US5531072, US5524437, US5493862, US5486142, US2015075323, US2012263614, US2012064814, US2012058854, US2011232418, US2010141024, US2010107626, US2010101406, US2010064675, US2009313984, US2009242301, US2009236906, US2009223359, US2009196768, US2009173318, US2009041591, US2008210500, US2008185909, US2008072657, US2007278027, US2007186690, US2006288864, US2006174759, US2006055238, US2006039816, US2005281698, US2005211231, US2005207921, US2004251067, RU2557105, JP2011027097, JP2007261578, FR2769965, EP2733386, EP1845241, EP1582716, EP1343948, EP0975902, EP0918176, CN104482159, CN104482159, CN102753851, AU683782,

Abstract:
Source: US5423183A A continuously variable transmission includes a pump (258) driven by an input shaft (256) against a wedge−shaped swashplate (260). Hydraulic fluid pressurized in the pump flows through ports (402) in a pump cylinder block (422) into kidney−shaped slots (406) in the swashplate (260), and from there flows into and pressurizes a series of cylinders (394) in a motor cylinder block (366). The pump and motor exert first and second components of torque on a swashplate (260) in the rotational direction on the input shaft (256), and the hydraulic system pressure in the swashplate slots exerts a third component of torque in the same direction on the swashplate (260). The third torque component is a product of the hydraulic system pressure and the differential area of the two ends of the high pressure slot (406P) at the narrow and thick sides of the wedge−shaped swashplate (260). The swashplate (260) drives an output shaft (266) through an output sleeve (264) pinned to the outside peripheral edge (416) of the swashplate (260). The input/output ratio of the transmission is controlled by controlling the tilt angle of the swashplate (260) with a control sleeve (268), coupled at one end to the swashplate (260) through a coupling mechanism (267) and coupled at the other end through a bearing (528) to an axially movable control cylinder (270). The axial position of the control cylinder (270) is hydraulically controlled by a follower valve system (269) which moves the control cylinder (270) to positions uniquely corresponding to positions of a manually or automatically positioned control rod (636).



0) US4558984A – WAFER LIFTING AND HOLDING APPARATUS

16) Family number: 6298009 (US4558984A) © PatBase

Title: Wafer lifting and holding apparatus

Priority:

EP19840105036 19840504
EP19840105073 19840505
EP19860106879 19840505
EP19860106879 19840505
EP19860106878 19840505
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US19850763079 19850805
US19840611672 19840518

Family:

Publication number	Publication date	Application number	Application date
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AT36142 E	19880815	AT19840105036T	19840504
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AT54118 E	19900715	AT19840107106T	19840504
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Probable Assignee: RIETER AG MASCHF

Assignee(s):(std)**:** VARIAN ASSOCIATES ; RIETER AG MASCHF ; RIETER MASCHF AG

Assignee(s): MASCHINENFABRIK RIETER AG WINTERTHUR CH ; RIETER MACHINE WORKS LTD A CORP OF SWITZERLAND ; RIETER MACHINE WORKS LTD ; PRAKLA SEISMOS AG ; VARIAN ASSOCIATES INC ; MAS FAB RIETER AG ; MASCHF RIETER AG ; MASCHINENFABRIK RIETER A G ; MASCHINENFABRIK RIETER AG

Inventor(s):(std)**:** ERUNSUTO ENGERI ; GAERTNER GUNTER ; GARRETT CHARLES B ; GARTNER GUNTER ; GIYUNTAA GERUTONAA ; BARUTAA SURABITSUKU ; BISCHOFBERGER JUERG ; BISCHOFBERGER JURG ; MANFURETSUDO SHIYURAIBAA ; MASCHINENFABRIK RIETER AG ; RUDORUFU RUTSU ; SALVIK WALTER ; SCHREIBER MANFRED ; SLAVIK WALTER ; STAPFER JAKOB ; YAKOBO SUTAPUFUEERU ; YURUGU BISHIYOFUBERUGAA ; SLAVIK WELTER ; MASCHF RIETER AG ; LUZ RUDOLF ; GAERTNER GUENTER ; LATTION ANDRE ; ENGELI ERNST ; ANDORE RACHION

Inventor(s): ANDRE LATTION ; WELTER SLAVIK ; SLAVIK WALTER CH 8810 HORGEN CH ; SCHREIBER MANFRED CH 8810 HORGEN CH ; LATTION ANDRE CH 8472 SEUZACH CH ; GAERTNER GUENTER CH 6003 LUZERN CH ; BISCHOFBERGER JUERG CH 8352 ELSAU CH ; STAPFER JAKOB CH 8810 HORGEN CH ; WALTER SLAVIK ; RUDOLF LUZ ; ENGELI ERNST CH 8804 AU ZH CH ; ERNST ENGELI ; GUNTER GARTNER ; JAKOB STAPFER ; JURG BISCHOFBERGER ; LUZ RUDOLF CH 8810 HORGEN CH ; MANFRED SCHREIBER

Designated states: AT BE CH DE FR IT LI NL

International class (IPC 8–9): B65G47/90 B65H54/34 B65H65/00 B65H67/04 B65H67/06 B66F9/18 C23C14/56 D01H1/38 D01H4/00 D01H4/48 D01H4/50 H01L21/677 (Advanced/Invention); B65H67/04 (Advanced/Non–invention); B65G47/90 B65H54/28 B65H65/00 B65H67/04 B65H67/06 B66F9/18 C23C14/56 D01H1/00 D01H4/00 H01L21/67 (Core/Invention); B65H67/04 (Core/Non–invention)

International class (IPC 1–7): B65G47/90 B65H54/00 B65H54/02 B65H54/22 B65H54/26 B65H54/34 B65H67/02 B65H67/04 B65H67/06 B66F9/18 D01H1/12 D01H1/135 D01H1/38 D01H15/00 D01H15/02 D01H4/00 D01H4/48 D01H4/50 D01H9/00

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European class: B65H54/34 B65H65/00 B65H67/04 B65H67/04B4 B65H67/06G C23C14/56 D01H4/50 H01L21/677D10 H01L21/677D2 L65H701/31

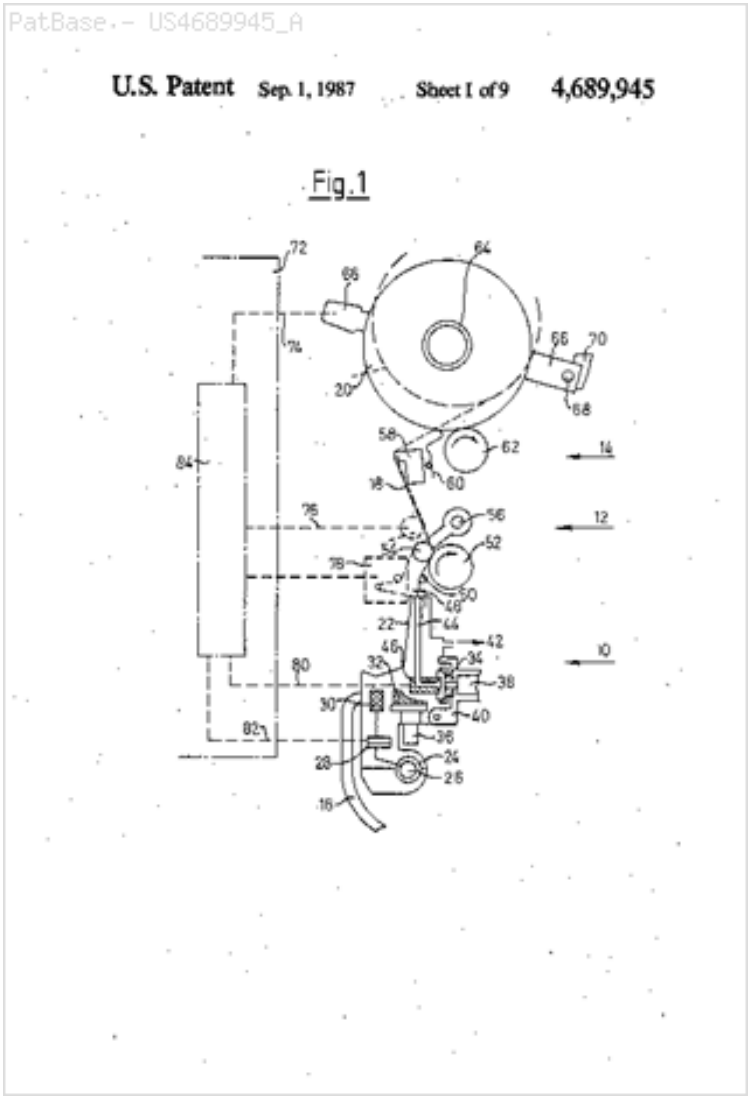
US class: 198/345 198/346.2 198/775 242/18PW 242/35.5A 242/35.5R 242/35.6R 242/473.6 242/475.1 242/476.3 250/492.2 414/217 414/222 414/222.13 414/331 414/416.09 414/417 414/609 414/785 57/22 57/261 57/263 57/405 57/80 57/81

Classification Explorer

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Forward Citations: WO9836115, WO06086300, WO06086300, WO05030620, US9024488, US8823294, US8803513, US8747050, US8680803, US8659205, US8327997, US8283813, US8267636, US8237391, US8008884, US7289166, US6854582, US6847730, US6746198, US6739448, US6679450, US6247579, US6217272, US6176668, US6114705, US6095317, US6000901, US5937629, US5927061, US5806544, US5732543, US5682718, US5681000, US5634602, US5626011, US5588603, US5586427, US5582354, US5487253, US5473879, US5442841, US5353582, US5248103, US5235800, US5150845, US5098245, US5092532, US5083716, US5004924, US4953687, US4923353, US4923132, US4921180, US4920739, US4900214, US4891933, US4890799, US4886412, US4878629, US4873447, US4867631, US4865260, US4790258, US4787800, US4787565, US4781333, US4777790, US4776745, US4727983, US4718615, US4707976, US4705444, US4701096, US4655665, US2013205528, US2012018280, US2009243413, US2009033173, US2009022571, US2009001907, US2008298944, US2007114111, US2006175291, US2006175014, US2006175013, US2002043583, JP8065942, JP63306906, JP63122105, JP5804891, JP2012091935, EP2444348, EP2441719, EP2441718, EP1561717, EP1561717, EP1197463, EP0960225, EP0716169, EP0475485, EP0285186, EP0282105, EP0203508, EP0200077, DE4432702, DE4313325, DE4313325, DE3743948, DE3726508, DE102010049432, CN102658997, CN102658997, CN102453987, CN102453987, AT503541,

Abstract:
Source: US4558984A An automatic sputtering apparatus for coating semiconductor wafers uses shuttle wafer carriers and elevators to handle wafers within the apparatus. The wafer carrier has a hole in the center. One side of the wafer carrier is opened, thereby forming a throat in the shuttle wafer carrier in the form of the letter C. The elevator has a cantilevered shaft. The upper part of the shaft of the elevator is centered under the wafer while the lowest part of the cantilevered shaft is under a point outside the wafer carrier. The connecting portion of the shaft passes through the throat of the wafer carrier as the wafer is lifted. Since the lifting portion of the shaft is outside the wafer carrier, the shuttle can move with the elevator in the up position. The pedestal for holding the wafer on the elevator is equipped with arms which project upward at an angle to the horizontal, thereby confining the wafer to a pedestal.



- **search:** SS7 ft=adjust* and lever and cam and sweeper (Results 46)
- List: SS7 1–50 (ft=adjust* and lever and cam and sweeper) (Results 46)

0) GB1114883A – CARPET SWEEPER

1) Family number: 30910970 (GB1114883A) © PatBase

Title: Carpet sweeper

Priority: DE1965L038779U 19650116

Family:

Publication number	Publication date	Application number	Application date
DE1911642 U	19650311	DE1965L038779U	19650116
GB1114881 A	19680522	GB19660002106	19660117
GB1114883 A	19680522	GB19680000126	19660117
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NL6600141 A	19660325	NL19660000141	19660106
SE300052 B	19680401	SE19660000505	19660114

Probable Assignee: GUENTHER LEIFHEIT K G

Assignee(s):(std)**:** LEIFHEIT INT ; LEIFHEIT INTERNATIONAL ; GUENTER LEIFHEIT K G ; GUENTHER LEIFHEIT K G

Assignee(s): LEIFHEIT G KG ; LEIFHEIT INTERNATIONAL GUENTER LEIFHEIT GESELLSCHA ; LEIFHEIT INTERNATIONAL GUENTER LEIFHEIT GESELLSCHAFT MIT BESCHRAENKTER HAFTUNG NASSAU BONDSREPUBLIEK DUITSLAND

Inventor(s):(std)**:** LIEBSCHER J

International class (IPC 8–9)**:** A47L11/08 A47L11/33 (Advanced/Invention)

International class (IPC 1–7)**:** A47L11/32 A47L11/33

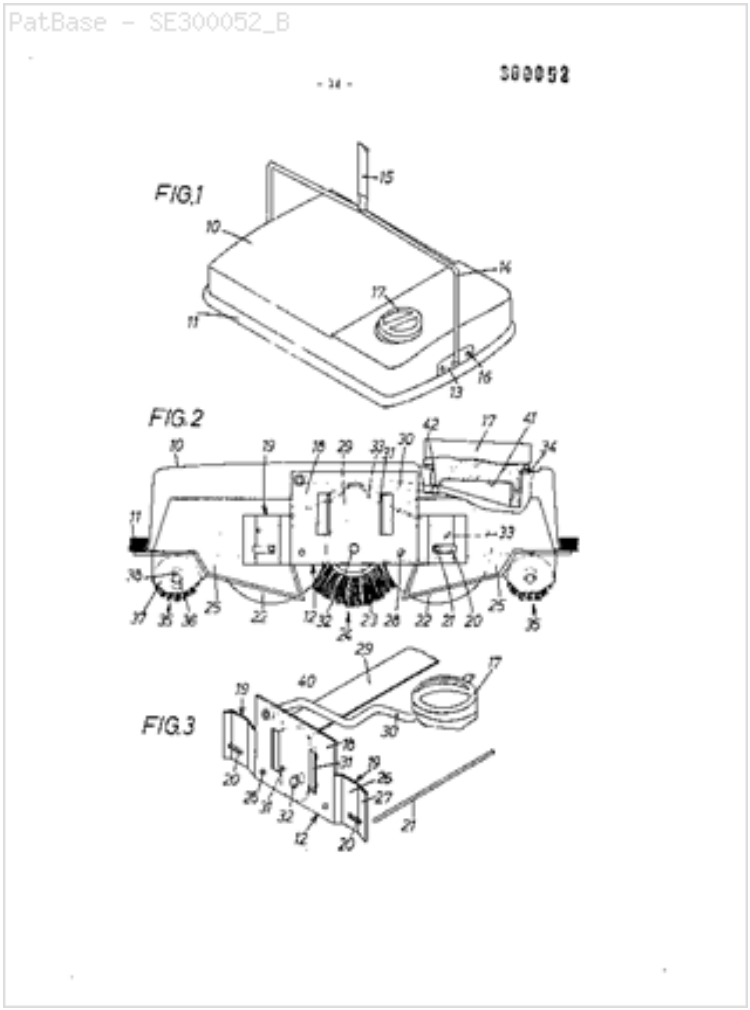
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European class: A47L11/08 A47L11/33 A47L11/40F4 A47L11/40G4

Classification Explorer

Forward Citations: WO07143214, WO07143214, USD689660, USD657573, USD655513, US8377218, US8015650, US8011050, US7721372, FR2038282, FR2031579,

Abstract:
Source: GB1114881A (Claim 1) 1.Printed for Her Majesty's Stationery Office by the Courier Press, Leamington Spa, 1968.Published by the Patent Office, 25, Southampton Buildings, London, W C 2, from which copies may be obtained.r



0) US5115537A – DRIVE SYSTEM

2) Family number: 29372274 (US5115537A) © PatBase

Title: Drive system

Priority: CA19902029256 19901102 US19890442615 19891129 US19920870918 19920420 US19920837157 19920218 US19910708464 19910531 US19910708735 19910531 US19930013789 19930205 US19930088095 19930702 US19920871021 19920420

Family:

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Probable Assignee: SCOTT AND FETZER CO

Assignee(s):(std)**:** SCOTT AND FETZER CO ; THE SCOTT FETZER CO ; THE SCOTT FETZER COMPANY

Assignee(s): LACKNER JOHN R ; MATUSCHEK HANS J ; MEYER ROBERT B ; SCOTT AND FETZER CO THE ; SCOTT FETZER CO

Inventor(s):(std)**:** HANS J MATUSCHEK ; HANSU JIEI MACHIYUSUCHIETSUKU ; JIYON AARU RETSUKUNAA ; JOHN R LACKNER ; KENNEDY DANIEL J ; LACKNER JOHN R ; LACKNER JONN R ; MATSUCHEK HANS J ; MATUSCHECK HANS J ; MATUSCHEK HANS J ; MEYER ROBERT B ; ROBAATO BII MEIYAA ; ROBERT B MEYER

Agent(s): PHILLIPS ORMONDE FITZPATRICK; RIDOUT AND MAYBEE LLP

International class (IPC 8–9)**:** A47L11/40 A47L5/12 A47L5/28 A47L9/00 A47L9/04 F16H63/08 F16H9/24 (Advanced/Invention); B62B5/00 (Advanced/Non–invention); A47L11/00 A47L5/12 A47L5/22 A47L9/00 A47L9/04 F16H63/08 F16H9/02 (Core/Invention)

International class (IPC 1–7)**:** A47L11/40 A47L5/12 A47L5/24 A47L5/28 A47L9/00 A47L9/04 B62D51/04 F16H63/08 F16H9/24

CPC: A47L5/28 A47L9/009 B62B5/0073

European class: A47L5/28 A47L9/00E L62B5/00P6F

US class: 15/328 15/329 15/340.2 15/410 180/19.1 180/19.2 180/19.3 180/192 56/11.3 D15/14

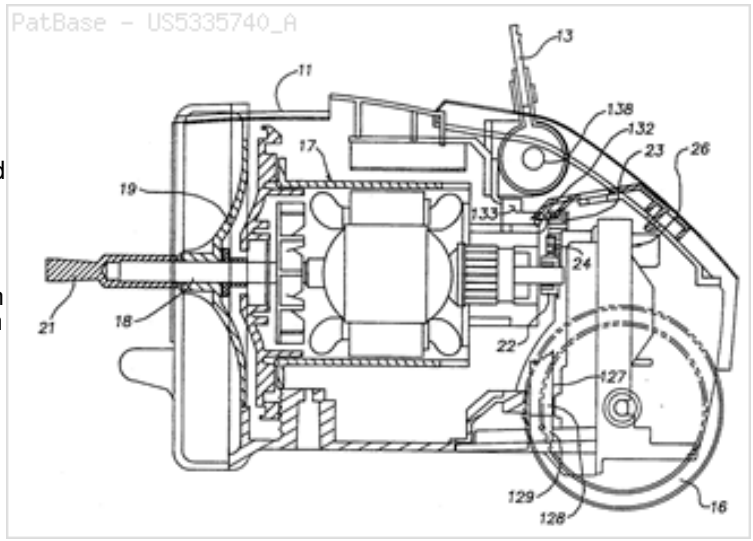
Classification Explorer

Cited documents: US5115537 A, US4947512 A, US4856264 A, US4766640 A, US4716717 A, US4689939 A, US4554780 A, US4538401 A, US4434865 A, US4347643 A, US4306405 A, US4249281 A, US4212141 A, US3802170 A, US3618687 A, US3608333 A, US3451495 A, US3218876 A, US2986765 A, US2950772 A, US2941610 A, US2860473 A, US2814063 A, US2482166 A, US2191426 A, US1806177 A,

Forward Citations: WO10104229, USD780390, USD777795, USD762992, USD726227, USD723068, USD714351, USD676876, USD665823, USD653265, USD652846, USD648354, USD642595, USD628598, USD626971, USD624563, USD622291, USD610167, USD605667, USD600254, USD506586, USD506048, USD429392, USD426356,

USD424578, US9175756, US9163707, US8943647, US8011063, US7937804, US7854038, US7850555, US7845442, US7777444, US7770255, US7725223, US7644781, US7587786, US7523600, US7520112, US7487569, US7293397, US7222390, US7213298, US7178322, US7076830, US7070035, US7062816, US7043794, US7000285, US6769501, US6644002, US6553611, US6484352, US6415880, US6320292, US6308374, US6282747, US6085382, US6082083, US6061869, US5540296, US5504971, US5398567, US5377774, US5335740, US2016047463, US2015308569, US2014329627, US2014208709, US2010307745, US2010307744, US2010199623, US2009282643, US2009249580, US2009133215, US2009127009, US2008185252, US2007272510, US2007271892, US2007214762, US2007130899, US2007094839, US2007061058, US2007039122, US2007000085, US2006242786, US2006218887, US2006211540, US2006067558, US2006021313, US2005279066, US2005071056, US2005015918, US2004188219, US2004168424, US2004163707, US2004135537, US2004134018, US2002174507, TWI380793, TWI364269, KR101030124, KR100695515, GB2383743, GB2383743, GB2363976, GB2363976, GB2348478, GB2321393, GB2321393, EP1266557, EP1219156, CN102232331, AU2009341752,

Abstract:
Source: US5115537A A vacuum cleaner having an improved transmission. The transmission includes speed reduction gearing and forward and reverse clutching elements which provide high power capacity, large speed reduction, durability, quiet operation and smooth power engagement. The main power train elements all rotate on parallel axes and the forward and reverse clutching elements are essentially independent of one another and resistant to wear. The transmission has an actuating mechanism which is connected to an upright handle on the vacuum cleaner and allows the appliance to respond to moderate pushing or pulling forces applied to the handle by the user. The vacuum cleaner also has improved bearings for rotatably supporting the wheel shaft of the appliance and aligning itself to the housing of the appliance.



0) US3517404A – CARPET SWEEPERS

3) Family number: 25655860 (US3517404A) © PatBase

Title: CARPET SWEEPERS

Priority: DE19671628693 19670117 DE1967L055511 19670117

Family:

Publication number	Publication date	Application number	Application date
AT290773 B	19710625	AT19670011616	19671222
CH469476 A	19690315	CH19670018083	19671222
DE1628693 A1	19720518	DE19671628693	19670117
DK126086 B	19730612	DK19680000026	19680104
FR1552379 A	19690103		19680109
GB1208062 A	19701007	GB19680001928	19680112
NL6800345 A	19680718	NL19680000345	19680110
SE370012 B	19740930	SE19680000531	19680116
SE370012 C	19750116	SE19680000531	19680116
US3517404 A	19700630	US19680698275	19680116

Probable Assignee: LEIFHEIT INT

Assignee(s):(std)**:** LEIFHEIT G KG DT ; LEIFHEIT INT ; GUENTER LEIFHEIT KG ; GUNTER LEIFHEIT KG ; OLIN B JOHNSON ; LEIFHEIT INTERNAT GUENTER LEIF ; LEIFHEIT INTERNAT COUNTER LEIF ; LEIFHEIT INTERNATIONAL

Assignee(s): LEIFHEIT INTERNATIONAL GUENTER LEIFHEIT KG ; LEIFHEIT INTERNATIONAL GUNTER LEIFHEIT GMBH ; GUENTER LEIFHEIT K G ; LEIFHEIT INTERNATIONAL COUNTER LEIFHEIT K G ; LEIFHEIT G GMBH DT ; LEIFHEIT INT GUENTER LEIF ; LEIFHEIT INT GUENTER LEIFHEIT KG

Inventor(s):(std)**:** JOHANNES LIEBSCHER ; LEIFHEIT G ; LEIFHEIT G DT ; LEIFHEIT GUNTER ; LIEBSCHER J ; LIEBSCHER J DT ; LIEBSCHER JOHANNES ; GUENTER LEIFHEIT

Inventor(s): GUNTER LEIFHEIT ; LEIFHEIT GUENTER

International class (IPC 8–9): A47L11/33 (Advanced/Invention) ; A47L11/00 (Core/Invention)

International class (IPC 1–7): A47L11/08 A47L11/32 A47L11/33

CPC: A47L11/33 A47L11/40 A47L11/4027 A47L11/4041 A47L11/4058 A47L11/4069 A47L11/4072

European class: A47L11/33 A47L11/40 A47L11/40E A47L11/40F4 A47L11/40G4 A47L11/40J4 A47L11/40K

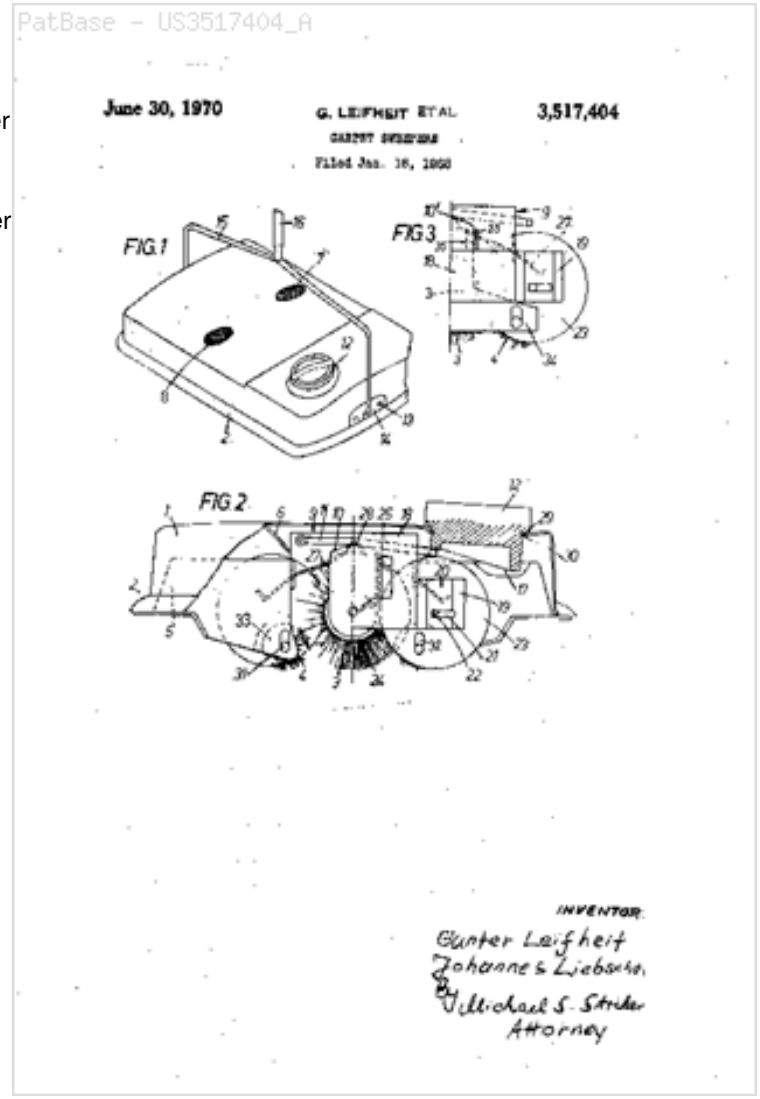
US class: 15/42

Classification Explorer

Cited documents: US346641 A, US330590 A, US3268936 A, US3246353 A, US3145405 A, US240224 A, US238144 A, US2239276 A, US2228528 A, US1879752 A, US182346 A, US1786864 A, US1319836 A, US1038170 A, GB1073942 A, CH6583 A,

Forward Citations: US3631557,

Abstract:
Source: US3517404A ABSTRACT OF THE DISCLOSURE A carpet sweeper having a driven brush roller, at least one additional brush roller engaging the driven brush 15 roller and floor engaging wheels all mounted in a casing, in which one or more of the brush rollers, or the wheels, are mounted in a yoke which is vertically movable in the casing, under the action of a face cam, to vary the extent of engagement of the bristles of the brush rollers with 20 the floor engaged by the wheels.



0) US3234576A – VEHICLE FOR SWEEPING LARGE SURFACES

4) Family number: 22774247 (US3234576A) © PatBase

Title: Vehicle for sweeping large surfaces

Priority: US19610162674 19611228 US19640395631 19640727

Family:

Publication number	Publication date	Application number	Application date
US3193862 A	19650713	US19610162674	19611228
US3234576 A	19660215	US19640395631	19640727

Probable Assignee: AMERICAN LINCOLN CORP

Assignee(s):(std)**:** AMERICAN LINCOLN CORP

Inventor(s):(std)**:** LYON JAMES E

International class (IPC 8–9)**:** A47L11/40 E01H1/04 E01H1/05 E01H1/08 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** E01H1/04 E01H1/05 E01H1/08

CPC: A47L11/4041 E01H1/045 E01H1/0854 E01H1/053

European class: A47L11/40F4 E01H1/04C E01H1/05B E01H1/08C3

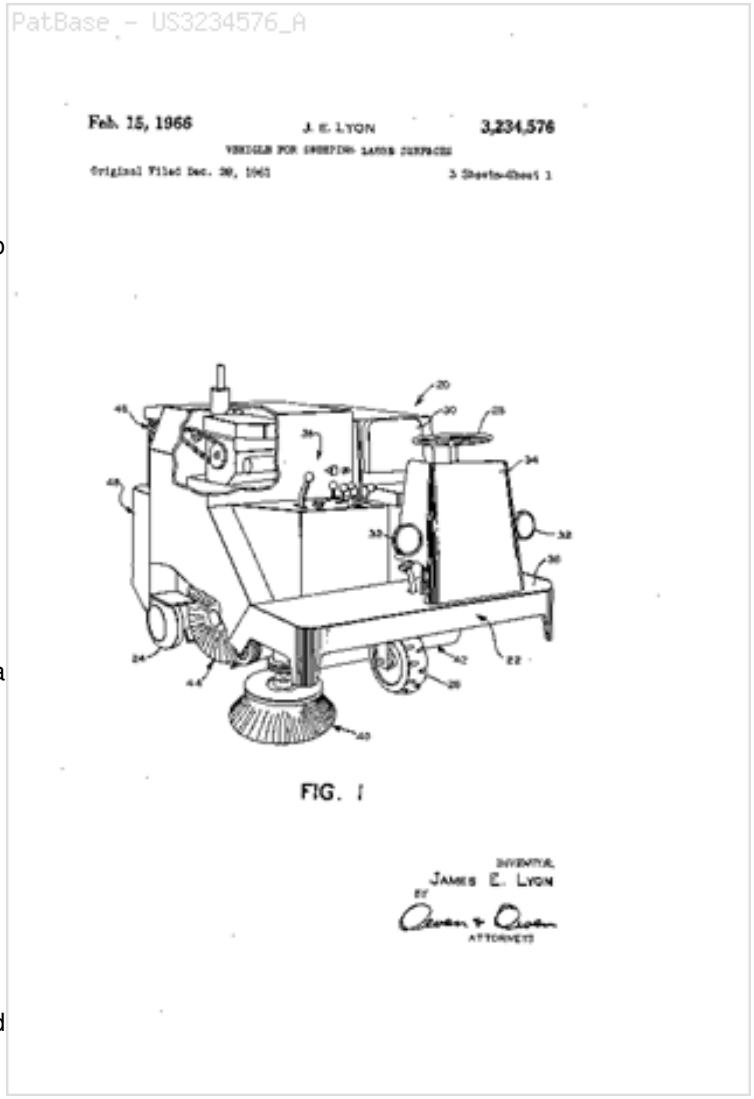
US class: 15/340.3 15/82 15/87

Classification Explorer

Cited documents: US876727 A, US612632 A, US529132 A, US501353 A, US468458 A, US444683 A, US2996742 A, US2859461 A, US2853144 A, US2829391 A, US2739340 A, US2678462 A, US2626418 A, US2621750 A, US2313412 A, US2156065 A, US2055011 A, US1797185 A, US1687728 A, US1374933 A, GB808026 A, GB546123 A, GB188902867 A,

Forward Citations: USD693529, USD654234, US9510721, US9451861, US9192276, US9015887, US8978190, US8887340, US8876577, US8528142, US8438685, US8302240, US8245345, US7533435, US7025834, US6295682, US2012115401, US2011023248, US2009142125, US2007086829, US2006064844, US2005132527, US2004040104, EP0320735,

Abstract:
Source: US3234576A (Claim 1) 1. A power sweeper for sweeping a large surface comprising, in combination, a main frame, a pair of rear wheels rotatably mounted on said frame, a steerable front wheel supporting a front portion of said frame, an operator's seat on said frame, a main broom rotatably held by said frame, a front flap in front of said main broom and located generally perpendicularly to the direction of movement of said sweeper, said front flap including first and second strips and a front flap supporting bar, said first strip being flexible with the width thereof being greater than the distance between said supporting bar and the surface, said second strip being relatively stiff with the width thereof being less than the distance between said supporting bar and the surface, said second strip being mounted in front of said first strip with upper edges of both of said strips being attached to said front flap supporting bar, said front flap supporting bar being rotatably mounted at its ends on said frame, a third, stationary, g backing strip, means for supporting said stationary strip on said frame between said front flap and said main broom, a front flap cable wound around an end of said front flap supporting bar, a cable spring connected between an end of said cable and said frame, a cable arm attached to the other end of said cable, a cable shaft ratably held by said frame and affixed to said cable arm to turn said cable arm when said cable shaft is turned, a roller arm fixed to said cable shaft at a point spaced from said cable arm, a roller mounted on said arm, a cam plate ig pivotally supported by said frame in engagement with said roller, and a front flap handle attached to said cam plate to pivot said cam plate, said cam plate being shaped to force said roller and said roller arm downwardly whether said cam plate handle is moved upwardly or downwardly, downward movement of said roller arm causing said cable to rotate said front flap supporting bar and to raise said first and second strips in an arcuate path.



0) US4380844A – AUTOMATIC FLOOR CLEANING MACHINE

5) Family number: 2475018 (US4380844A) © PatBase

Title: Automatic floor cleaning machine

Priority: CA19810385714 19810911 US19800186420 19800912 US19830487503 19830422

Family:

Publication number	Publication date	Application number	Application date
CA1217611 A1	19870210	CA19810385714	19810911
US4380844 A	19830426	US19800186420	19800912
US4492002 A	19850108	US19830487503	19830422

Probable Assignee: TENNANT TREND INC

Assignee(s):(std)**:** WETROK INC

Assignee(s): WETROK INC A CORP OF NY ; CORNEIL DENNIS J ; TENNANT CO ; TENNANT TREND INC ; WALDHAUSER STEVEN A

Inventor(s):(std)**:** CORNEIL DENNIS J ; WALDHAUSER STEVEN A ; WALDHAUSER STEVEN J

Agent(s): MACRAE AND CO

International class (IPC 8–9)**:** A47L11/293 A47L11/30 (Advanced/Invention); A47L11/29 (Core/Invention)

International class (IPC 1–7)**:** A47L11/292 A47L11/293 A47L11/30

CPC: A47L11/30 A47L11/40 A47L11/4002 A47L11/4011 A47L11/4016 A47L11/4044 A47L11/4061 A47L11/4066 A47L11/4069 A47L11/4075 A47L11/4083 A47L11/4005 A47L11/4058

European class: A47L11/30 A47L11/40 A47L11/40B A47L11/40B2 A47L11/40C A47L11/40D2 A47L11/40F6 A47L11/40G4 A47L11/40H A47L11/40J2 A47L11/40J4 A47L11/40L A47L11/40N2

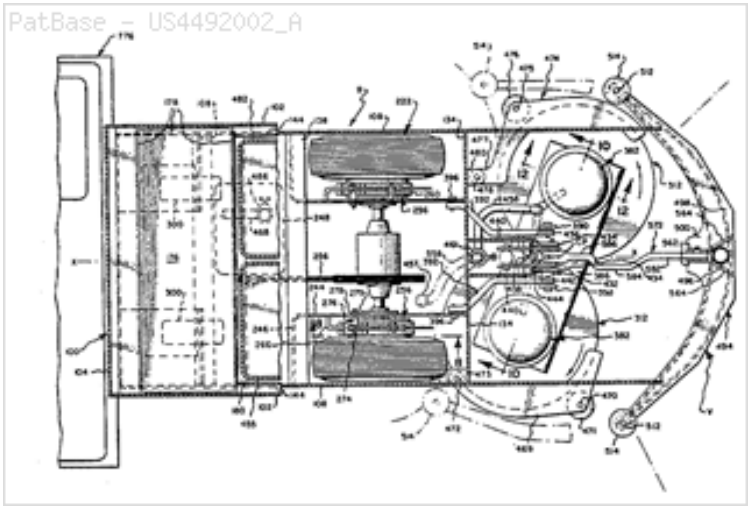
US class: 15/320 15/349 15/353 15/359 15/401

Classification Explorer

Cited documents: US4210978 A, US4173056 A, US4041567 A, US4037289 A, US4006506 A, US3879789 A, US3837029 A, US3837028 A, US3823791 A, US3649995 A, US3496591 A, US3376597 A, US3345671 A, US3290716 A, US3277511 A, US3065490 A,

Forward Citations: WO9721378, WO12065621, WO11057253, WO11017224, USD654234, US9510721, US9451861, US9367044, US9192276, US9015887, US8966693, US8957758, US8887340, US8786429, US8769755, US7644514, US7435160, US7313839, US7254867, US7240396, US7059015, US7025835, US7013527, US6896468, US6836919, US6763544, US6760947, US6557207, US6163923, US6108859, US6081962, US5940928, US5918345, US5881417, US5802665, US5742975, US5611108, US5611105, US5607178, US5524320, US5465456, US5454138, US5386742, US5383251, US5377382, US5369838, US5208940, US5064010, US4825500, US4819676, US4805258, US4803753, US4757566, US4633541, US4619010, US4483041, US4429433, US2017007090, US2016054062, US2013135079, US2013067683, US2011232984, US2011107529, US2011030163, US2008244851, US2007294854, US2007212982, US2007157417, US2007151119, US2006143855, US2006143844, US2005115015, US2005028316, US2005028315, US2005015915, US2004049878, US2004025288, US2003070252, US2002170131, US2002170130, JP2013500830, GB2509038, FR2552650, EP2248455, EP0726057, EP0563432, EP0398393, EP0310093, EP0276396, EP0276396, EP0242654, EP0230665, EP0138096, DE4325211, DE4325211, DE4325211, DE3830847, CN102835939, CN102835938, AU2010279651,

Abstract:
Source: US4380844A An automatic floor cleaning machine includes a unitary, self−contained and propelled, power driven body mounting from front to rear in a normal cleaning direction of travel: a propulsion mechanism including drive wheels and guide wheels for dry tracking on the floor surface to be cleaned, a scrubber mechanism including a pair of rearwardly disposed, vertically articulated counter−rotating magnetically and floatably mounted brushes for wetting and cleaning such floor surface, a vacuum mechanism including a vertically and horizontally articulated quick−detachable squeegee for drying of and proper tracking on the cleaned surface, and a combined mechanical and electrical control system operatively associated with each of such propulsion, scrubber, and vacuum mechanisms, for convenient actuation by a walk−behind operator to control actuation of such machine. Preferably, a sweeper mechanism is mounted on the body forwardly of the propulsion mechanism and operatively associated with such control system for advance sweeping of a debris−laden floor surface.



0) US4356589A – REFUSE COLLECTING APPARATUS

6) Family number: 28672414 (US4356589A) © PatBase

Title: REFUSE COLLECTING APPARATUS

Priority: GB19790039864 19791117 GB19790039865 19791117 GB19800036405 19801113 GB19800010458 19800328 GB19800010457 19800328 GB19800019528 19800614 GB19830005260 19830225 GB19800036472 19801113 GB19830017722 19830630

Family:

Publication number	Publication date	Application number	Application date
AU198064135 A1	19810521	AU19800064135	19801106
AU198064396 A1	19810521	AU19800064396	19801114
DE8030535 U1	19810527	DE19800030535U	19801114
EP0029347 A1	19810527	EP19800304066	19801113
FR2469170 A1	19810522	FR19800024107	19801113
GB2062732 A1	19810528	GB19800036405	19801113
GB2062732 B2	19841003	GB19800036405	19801113
GB2065202 A1	19810624	GB19800036472	19801113
GB2065202 B2	19840418	GB19800036472	19801113
GB2066879 A1	19810715	GB19800036406	19801113
GB2066879 B2	19831005	GB19800036406	19801113
GB2126633 A1	19840328	GB19830005260	19830225
GB2126633 B2	19841107	GB19830005260	19830225
GB2134950 A1	19840822	GB19830017722	19830630
GB2134950 B2	19850220	GB19830017722	19830630
GB8305260 A0	19830330	GB19830005260	19830225
GB8317722 A0	19830803	GB19830017722	19830630
US4356589 A	19821102	US19800206203	19801112
US4368554 A	19830118	US19800206205	19801112

Probable Assignee: HESTAIR EAGLE LTD

Assignee(s):(std)**:** HESTAIR EAGLE LTD

Assignee(s): HESTAIR EAGLE LTD WARWICK GB ; HESTAIR EAGLE EAGLEWORKS SALTISFORD LTD ; HESTAIR EAGLE LIMITED

Inventor(s):(std)**:** BE MEALING ; BOSWELL J ; BOSWELL JAMES ; GILLIVER KEITH MARTIN ; J BOSWELL ; MEALING B E ; MEALING BARRIE E ; MEALING BARRIE EWART ; MEALING BARRY EWART ; PAYNE R H ; PAYNE RAYMOND H ; PAYNE RAYMOND HENRY ; RH PAYNE

Inventor(s): BARRIE EWART MEALING RAYMOND HENRY PAYNE ET... ; BARRIE EWART MEALING RAYMOND HENRY PAYNE ET JAMES ; B E MEALING ; BARRIE EWART MEALING ; BARRY EWART MEALING ; R H PAYNE ; RAYMOND HENRY PAYNE ; JAMES BOSWELL ; KEITH MARTIN GILLIVER

Agent(s): GRIFFITH HACK

Designated states: BE CH DE FR IT LI NL SE

International class (IPC 8–9): E01H1/04 E01H1/05 E01H1/08 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7): A47L5/12 A47L9/00 B65F3/00 E01H1/00 E01H1/02 E01H1/04 E01H1/05 E01H1/08 E05F15/04

CPC: E01H1/047 E01H1/053 E01H1/056 E01H1/00 E01H1/0845 E01H1/05

European class: E01H1/04D E01H1/05 E01H1/05B E01H1/05C E01H1/08C2B

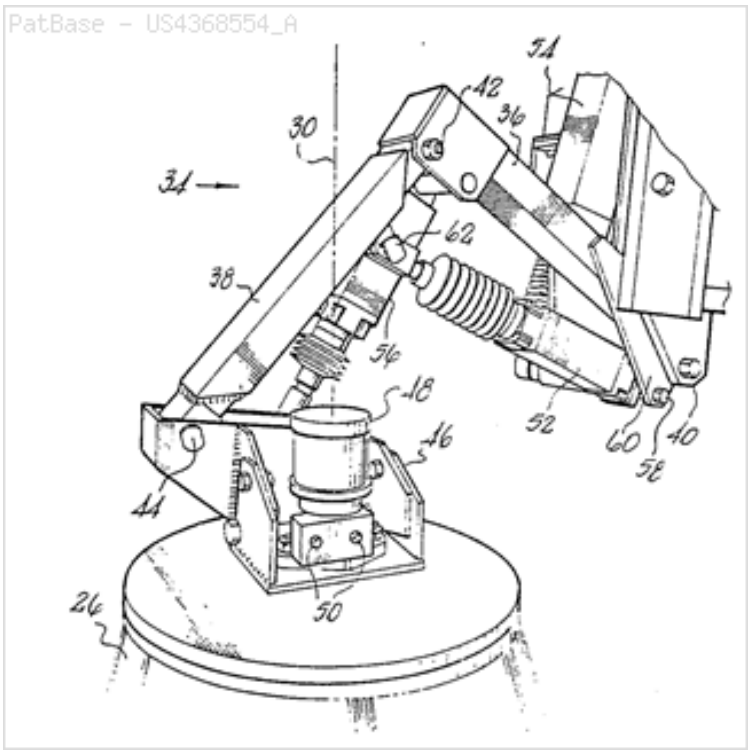
US class: 15/320 15/340 15/340.3 15/354 15/383 15/385 15/412 15/87

Classification Explorer

Cited documents: US4160302 A, US3886623 A, US3825968 A, US3447188 A, US3292195 A, US3241170 A, US3011206 A, US2951632 A, US2887714 A, US2458258 A, GB970674 A, GB938730 A, GB838662 A, GB830453 A, GB2028900 A1, GB1477630 A, GB1184795 A, GB1172611 A, GB1059940 A, GB1028300 A, FR2404072 A1, FR2337790 A1, DK118512 C, DE1950865 B, DE1950865 A1, DE1856542 U, CH582281, CH403824 A, CH364803 A, AT307481 B, AT249733 B,

Forward Citations: WO9210614, WO8401649, WO8401399, WO16157002, WO03094686, US9498099, US9249547, US9248475, US8949340, US8769755, US8700704, US8640300, US8430178, US8265862, US8224298, US8219906, US8190692, US8180829, US8131458, US7302734, US6675424, US6634719, US6427285, US6148476, US5991951, US5419006, US5016310, US4891858, US4831684, US4773119, US4557010, US2014101874, US2013292996, US2013212814, US2011107529, US2010319311, US2010215444, US2009083935, US2004237247, KR100858685, GB2421534, GB2421534, GB2244741, GB2244741, GB2238563, GB2238563, GB2179720, GB2179720, FR2912349, FR2795107, FR2705554, FR2627788, FR2605907, EP1712683, EP1061180, EP0462076, EP0180251, EP0134409, EP0134409, EP0087936, DE4319729, DE4319729, DE4143123, DE4135667, DE19637685, DE19637685, DE102004031435, CN104480883, CN104428977, CN103866726, CN103316900, CN103316900, CH680459,

Abstract:
Source: US4356589A Refuse collecting apparatus for a road sweeper, gully emptier or the like comprises an internal combustion engine driving a fan which is connected to a refuse tank. A refuse collecting nozzle is connected to the tank by a duct whereby suction generated by the fan draws refuse into the tank. The fan is bolted to a flywheel at one end of the crankshaft of the engine whereby the fan is supported for rotation on the bearings of the crankshaft. Thrust means is provided to offset the axial thrust exerted on the crank shaft by fan, the thrust means comprising drillings in a plate of the fan whereby pressure is reduced in a chamber on the non−suction side of the fan. The engine is mounted directly above a water tank in an engine compartment and is cooled by means of a radiator. Air is drawn by another fan into the engine compartment through a radiator from a control compartment in which is located the control equipment for the refuse collecting apparatus.



0) US3499262A – APPARATUS FOR PACKAGING CONFECTIONERY ARTICLES ...

7) Family number: 155505 (US3499262A) © PatBase

Title: APPARATUS FOR PACKAGING CONFECTIONERY ARTICLES IN INDIVIDUAL RECEPTACLES AND GROUPING THE ARTICLES FOR TRANSFER INTO AN UPWARDLY OPEN BOX OR THE LIKE

Priority: US19680705340 19680214

Family:

Publication number	Publication date	Application number	Application date
CH484775 A	19700131	CH19690002263	19690214
DE1907303 A1	19690918	DE19691907303	19690213
FR2005211 A1	19691212	FR19690003558	19690214
GB1263282 A	19720209	GB19690008252	19690214
NL6902441 A	19690818	NL19690002441	19690214
US3499262 A	19700310	US19680705340	19680214

Probable Assignee: KAMAN CORP

Assignee(s):(std)**:** KAMAN AEROSPACE CORP ; KAMAN CORP

Inventor(s):(std)**:** FRANKLIN JOHN THURSTON ; JOSEPH MICHAEL NAZALI ; NAZALI JOSEPH M ; NAZALI JOSEPH MICHAEL ; THURSTON FRANKLIN J ; THURSTON FRANKLIN JOHN

Inventor(s): MICHAEL NAZALI JOSEPH ; JOHN THURSTON FRANKLIN ; JOSEPH M NAZALI ; FRANKLIN J THURSTON

International class (IPC 8–9): B65B35/44 B65B5/12 (Advanced/Invention); B65B35/44 B65B5/10 (Core/Invention)

International class (IPC 1–7): B65B35/00 B65B35/38 B65B35/44 B65B43/44 B65B5/00 B65B5/08 B65B5/12

CPC: B65B5/12 B65B35/44

European class: B65B35/44 B65B5/12

US class: 53/238 53/244 53/251 53/263 53/527 53/534

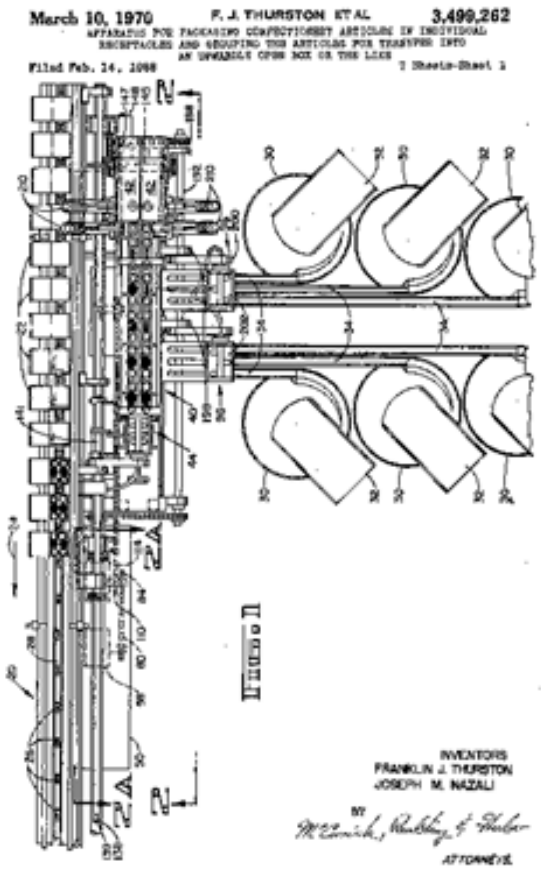
Classification Explorer

Cited documents: US3431702 A, US3389531 A, US3344580 A, US3319396 A, US3290859 A, US3283471 A, US3226912 A, US3225513 A, US3191358 A, US3191357 A, US3109531 A, US3065584 A, US3001344 A, US2976659 A, US2886927 A, US2728508 A, CA480403 A,

Forward Citations: WO14075151, US7770363, US6543639, US4246740, US4048780, US3735556, US2009056283, FR2329513, FR2329513, FR2093598, EP2184233, CN105197296, CN102372097,

Abstract:
Source: US3499262A ABSTRACT OF THE DISCLOSURE Two walking team type conveyors are arranged side–by–side and are driven from a single drive means so that as one beam advances boxes therealong, the second beam is returning after having advanced groups of articles along it. Paper cups are fed onto the second conveyor at its upstream end by a dispensing apparatus which is driven from said single drive means. The articles are loaded either into the paper cups, or directly onto the second conveyor, by an apparatus which operates in timed step–by–step relationship with the second conveyor. A compacting device on the second conveyor compresses the articles and cups into appropriately sized groups and a transfer unit picks up each such group off said second conveyor and lowers the. articles and cups into a box on said first conveyor. The transfer unit is driven by one of the conveyors and as a result of the 180 degrees phase relationship between the two conveyors, each group is picked up off the second conveyor while the second beam is returning and lowered into a box on said first conveyor during return movement of the first conveyor beam. ceptacles for transfer into upwardly open receivers, such as cardboard boxes or the like. A further object of the present invention is to provide conveyors for said receivers and receptacles respectively 5 which conveyors are mechanically interlocked so that they can be operated in timed relationship with one another by a single drive means. A further object of the present invention is to provide dispensing apparatus for handling said article receptacles 10 which apparatus is capable of placing said receptacles on a conveyor in timed relationship with the intermittent motion of said conveyor. A further object of the present invention is to provide mechanism for compacting said articles and their asso–j5 ciated receptacles into groups on one conveyor prior to transferring said grouped articles into receivers on a second conveyor. The drawings show a preferred embodiment of the invention and such embodiment will be described, but it 20 will be understood that various changes may be made from the construction disclosed, and that the drawings and description are not to be construed as defining or limiting the scope of the invention, the claims forming a part of this specification being relied upon for that pur–2r_gt; pose. DESCRIPTION OF DRAWINGS This application is a continuation–in–part application of our copending application Ser. No. 595,447 filed Nov. 18, 1966. B

PatBase - US3499262_A



0) GB803502A – IMPROVEMENTS IN OR RELATING TO CARPET SWEEPERS ...

8) Family number: 20068253 (GB803502A) © PatBase

Title: Improvements in or relating to carpet sweepers

Priority: GB19540015964 19540529

Family:

Publication number	Publication date	Application number	Application date
GB803502 A	19581029	GB19540015964	19540529

Probable Assignee: SHORT BROTHERS AND HARLAND LTD

Assignee(s):(std)**:** SHORT BROTHERS AND HARLAND LTD

Assignee(s): SHORT BROTHERS AND HARLAND LIMITED

Inventor(s):(std)**:** LUNDY ARTHUR JOSEPH

International class (IPC 8–9)**:** A47L11/33 (Advanced/Invention)

International class (IPC 1–7)**:** A47L11/33

CPC: A47L11/33 A47L11/40 A47L11/4041 A47L11/4058 A47L11/4072

European class: A47L11/33 A47L11/40 A47L11/40F4 A47L11/40G4 A47L11/40K

Classification Explorer

Forward Citations: GB2134777,

Abstract:
Source: GB803502A 803,502. Carpet sweepers. SHORT BROS. and HARLAND, Ltd. Dec. 30, 1955 [May 29, 1954], No. 15964/54. Class 138(1). A carpet sweeper comprises a casing 1, Figs. 1 and 2, provided with ground–engaging wheels 8, a rotary brush 16 located within the casing 1, means 17, 19, 23, for mounting the brush in the casing 1 and cam means 25A adapted to be slid horizontally into and out of engagement with the mounting means, so that the brush can be height adjusted relative to the wheels and casing 1 of the sweeper. Referring to Fig. 3, the sweeper includes a chassis 6 having end walls 13 pivotally supporting dust trays 34 and wheel spindles 9 formed as cranked ends of rods 10 carried by cross–members 11. The spindles at each end of the sweeper are urged together and downwards by a spring 14 the spindles being movable within enlarged hole 12 in the end walls 13. The sweeper casing 1, Fig. 1, fits over the chassis 6 and is secured thereto by screws. Each end wall of the casing 1 has an exterior central and vertical shallow groove to receive a vertically slidable lever 19. A pin 17 on the lever passes through an elongated slot 18 in the casing end wall and is engageable in a bearing in a driving drum of the rotary brush (not shown). At its upper end the lever 19 has a flange 20 which passes through vertical slots 21 in the casing end wall and a bracket 22 welded to the inside of the end wall, the flange 20 abutting the inner surface of the bracket. The lever 19 is urged upwardly by a spring 23 connected to the flange 20 and a tongue 24 on the bracket 22. Slidable horizontally and transversely of the bracket 22 is a bar 25 having a stud 26, Fig. 2, which passes through a horizontal slot 27 in the casing. A profiled projection constituting the cam means 25A on the bar 25 engages the flange 20 when the stud 26 is at one end of the horizontal slot 27 to urge the lever 19 downwardly and thus the brush to its lowest position. When the bar is moved so that the stud reaches the other end of its slot the lever rises and the brush rises therewith to its highest position. The brush may be retained in an intermediate position by a notch on the bar 25 engaging one of a pair of bar supporting lugs 28, Fig. 1, on the bracket 22. To adjust the brush the two levers 19 are operated together and to remove the brush the two levers are pulled outwardly so that the pins 17 disengage the driving drums and the flanges 20 engage the latter to urge the brush downwardly. When the bars 25 are in positions corresponding with the low or intermediate of the brush and the levers are moved outwards of the casing 1 the springs 23 cause the flanges to coact with the cams 25A and pivot the levers in planes parallel to the end walls of the casing so that the pins 17 then abut the outer faces of the casing end walls and remain in these positions until the brush is replaced and the levers remanipulated. The levers 19 are retained in their operative positions by a rubber beading 4 with surrounds the lower edge of the casing 1. The dust pans 34, Fig. 3, are provided at each end with slots 30 engaging pivots 29 fixed to the chassis walls 13. Bridge pieces 31 interconnect the ends of the tongs by having pins 32 thereon engaging in the slots 30. One bridge piece has a flange 31A to which is connected a push button which extends through the top of the casing. The trays are opened against the action of springs 33 by pushing down the bridge piece button.

PatBase - GB803502

FIG. 1.

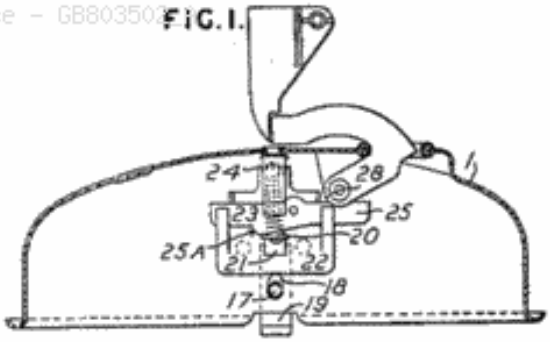


FIG. 2.

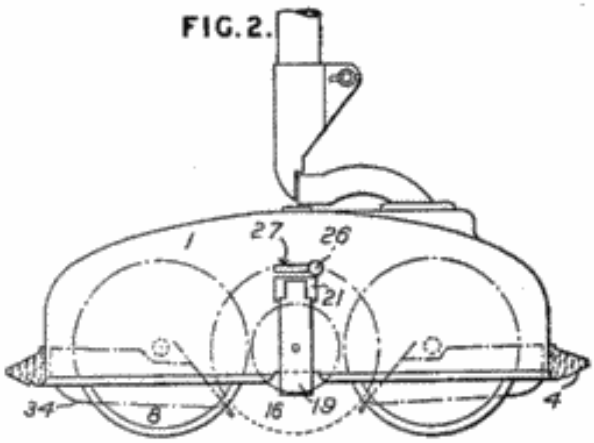
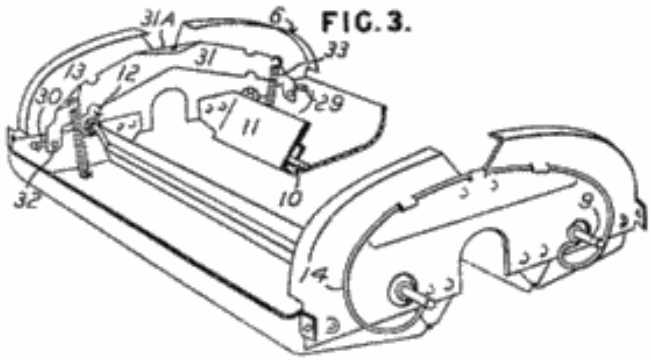


FIG. 3.



0) US3744077A – CARPET SWEEPERS

9) Family number: 7379214 (US3744077A) © PatBase

Title: CARPET SWEEPERS

Priority: AU19700001761 19700708 US19710160422 19710707

Family:

Publication number	Publication date	Application number	Application date
CA944508 A1	19740402	CA19710117442	19710706
DE2134665 A1	19720120	DE19712134665	19710708
DE2134665 C2	19821216	DE19712134665	19710708
FR2098245 A1	19720310	FR19710024968	19710708
FR2098245 B1	19760430	FR19710024968	19710708
GB1358176 A	19740626	GB19710031766	19710706
GB1358177 A	19740626	GB19730003254	19710706
JP1197427 C3	19840321	JP19800103001	19800725
JP56034293 B4	19810810	JP19710050657	19710708
JP56136522 A2	19811024	JP19800103001	19800725
JP58027930 B4	19830613	JP19800103001	19800725
SE377275 B	19750630	SE19710008851	19710708
SE377275 C	19751016	SE19710008851	19710708
US3744077 A	19730710	US19710160422	19710707

Probable Assignee: BRUSH S CO LTD

Assignee(s):(std)**:** BRUSH CO LTD ; BRUSH CO LTD SA ; BRUSH CO SA LTD ; SABCO LTD ; BRUSH S CO LTD ; BRUSH COMPANY LIMITED SA

Assignee(s): SABCO LTD ALBERT PARK SOUTH AUSTRALIA AU ; SMYTH DONALD N ; 4S A BRUSH CO LTD ; BRUSH S CO LTD AU ; S A BRUSH CO LTD ; BRUSH CY LTD SA ; S A BRUSH COMPANY LIMITED

Inventor(s):(std)**:** SMYTH D N ; SMYTH DONALD N ; SMYTH DONALD NATION ; SMYTH D ; DONARUDO NEESHON SUMISU ; DONARUDO NEESHIYON SUMISU

Inventor(s): SMYTH D AU ; SMYTH DONALD NATION PLYMPTON AU

International class (IPC 8–9): A47L11/22 A47L11/32 A47L11/33 (Advanced/Invention); A47L11/00 (Core/Invention)

International class (IPC 1–7): A46B9/00 A47L11/08 A47L11/22 A47L11/32 A47L11/33 A47L13/00

CPC: A47L11/33 A47L11/4013 A47L11/4025 A47L11/4041 A47L11/4052 A47L11/4058 A47L11/4072 A47L11/4075

European class: A47L11/33 A47L11/40D A47L11/40D4 A47L11/40F4 A47L11/40G A47L11/40G4 A47L11/40K A47L11/40L

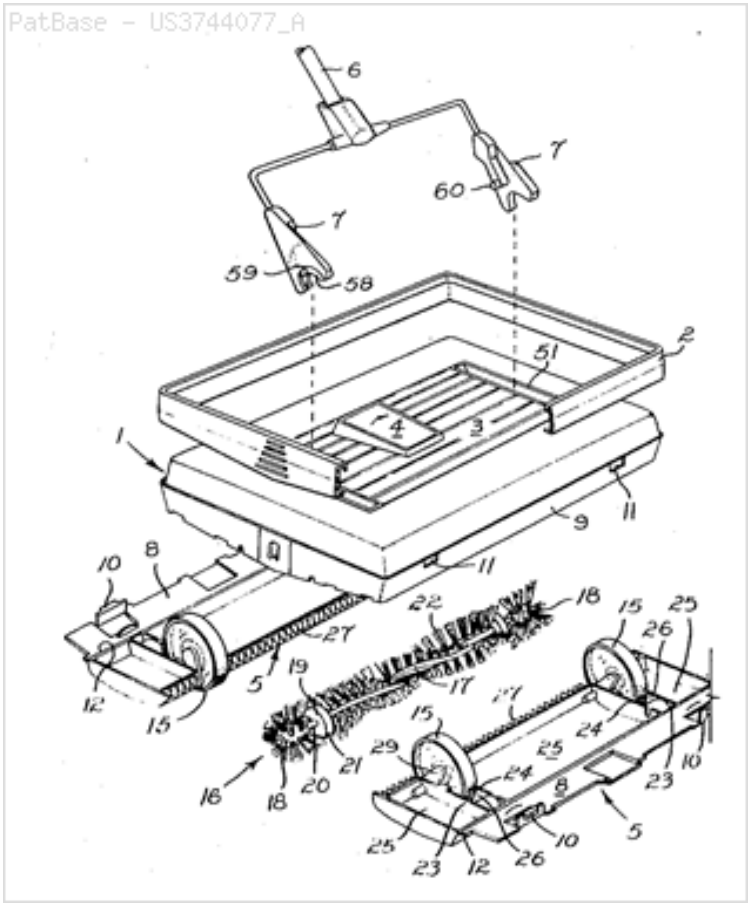
US class: 15/4.1R 15/41.1

Classification Explorer

Cited documents: US642172 A, US525721 A, US3629892 A, US298349 A, US2793378 A, US2634443 A, US2631312 A, US2531430 A, US2371918 A, US1933758 A, US1529144 A, JP45017752, GB490784 A, FR387338 A, DE1887864 U, DE1857593 U,

Forward Citations: WO14094833, US7152267, US7017221, US4815157, US4624025, US4484371, US4222146, US3959847, US2011247651, US2007074358, US2005005377, GB2139879, GB2137486, FR2395735, DE3046723, DE102015005488, DE102012104326, CN104755002,

Abstract:
Source: US3744077A A carpet sweeper in which the brush sweeps over the whole width of the sweeper so that the sweeper can brush the carpet right up to the edge of the wall. The brush is driven by the supporting wheels on a crank mechanism so that increase of pressure on the operating handle gives greater driving force between the wheels and the brush. Also the brush is self−adjusting for height, the handle applying pressure to the brush. The wheels are attached to the dust trays and hence move with the dust trays hinged about the front and rear edges of the sweeper as the trays are opened and closed by a single operating member.



0) US3638266A – ELASTIC WHEEL CONSTRUCTION FOR CARPET SWEEPER

10) Family number: 19095508 (US3638266A) © PatBase

Title: ELASTIC WHEEL CONSTRUCTION FOR CARPET SWEEPER

Priority: DE19690019577U 19690513 JP19680032148 19680515 US19684332148 19680515 US19690823570 19690512 US19710121011 19710304 US19710121012 19710304 US19710121013 19710304

Family:

Publication number	Publication date	Application number	Application date
DE1924651 A1	19691120	DE19691924651	19690514
DE1924651 B2	19720727	DE19691924651	19690514
DE1924651 C3	19730222	DE19691924651	19690514
DE1965959 A1	19701210	DE19691965959	19690514
DE1965959 B2	19711202	DE19691965959	19690514
DE1965960 A1	19701210	DE19691965960	19690514
DE1965960 B2	19720727	DE19691965960	19690514
DE1965960 C3	19730222	DE19691965960	19690514
DE1965961 A1	19701217	DE19691965961	19690501
DE1965961 B2	19730607	DE19691965961	19690501
DE1965961 C3	19740103	DE19691965961	19690501
DE6919577 U	19700205	DE19690019577U	19690513
FR2008584 A1	19700123	FR19690015687	19690514
GB1206098 A	19700923	GB19690024865	19690515
JP50026870 B4	19750903	JP19680032148	19680515
US3628211 A	19711221	US19690823570	19690512
US3638266 A	19720201	US19710121012	19710304
US3673625 A	19720704	US19710121013	19710304
US3715771 A	19730213	US19710121011	19710304

Probable Assignee: HOKY KK

Assignee(s):(std)**:** FUKUBA HIROSHI ; FUKUBA H ; HIROSHI FUKUBA ; FUKUHA HIROSHI

Assignee(s): HOKY KK ; FUKUBA H JA ; FUKUBA HIROSHI NAGAREYAMA CHIBA JAPAN ; HOKY A K A HOKY CORP KK ; HIROSHI FUKUHA

Inventor(s):(std)**:** FUKUBA HIROSHI NAGAREYAMA CHIBA ; FUKUHA HIROSHI ; FUKUBA HIROSHI ; FUKUBA H

Inventor(s): FUKUBA H JA ; HIROSHI FUKUBA ; HIROSHI FUKUHA ; FUKUBA HIROSHI NAGAREYAMA CHIBA JAPAN

International class (IPC 8–9): A47L11/22 A47L11/32 A47L11/33 (Advanced/Invention); A47L11/00 (Core/Invention)

International class (IPC 1–7): A47L11/22 A47L11/32 A47L11/33 A47L13/00

CPC: A47L11/33 A47L11/40 A47L11/4013 A47L11/4041 A47L11/4058 A47L11/4069 A47L11/4072 A47L11/4025 A47L11/4075

European class: A47L11/33 A47L11/40 A47L11/40D A47L11/40D4 A47L11/40F4 A47L11/40G4 A47L11/40J4 A47L11/40K A47L11/40L

US class: 15/4.8 15/41.1 15/42 15/45 15/48

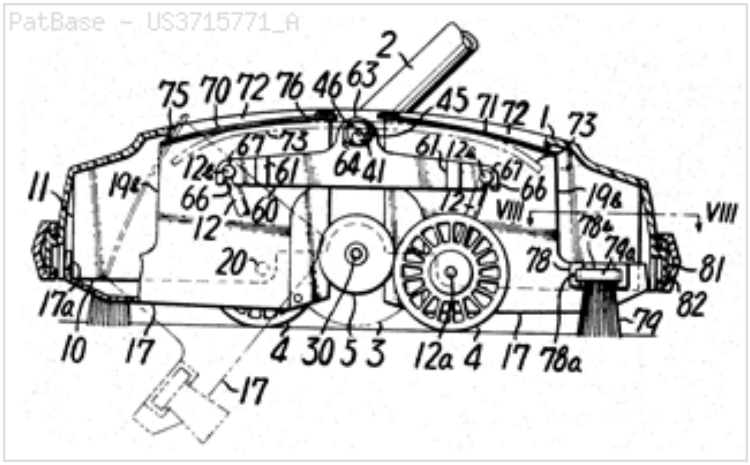
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Cited documents: US371519 A, US3268936 A, US2745125 A, US2642617 A, US2371918 A, US2270197 A, US2121880 A, US2073347 A, US2032345 A, US2001982 A, US1952769 A, US1894882 A, US1813325 A, US1433957 A,

Forward Citations:

WO8202330, WO11044610, USD600420, USD599066, USD581617, USD581616, USD549410, US8726441, US8499849, US7967609, US7152267, US5208935, US4548498, US4502173, US3871047, US3863285, US3754294, US2005005377, JP49127264, FR2118016, FR2064303, EP0056251, CN104248397, CN102858149, CN102858149, AU2010306062,

Abstract:
Source: US3638266A A carpet sweeper to be moved back and forth by operating a handle is provided with a rotary cleaning brush adapted to be moved in contact with the floor by means of four supporting spoked drive wheels each integrally formed of flexible rubber and mounted on a sweeper body. The frame cover of the sweeper body is of a double−wall structure made of a thin, lightweight synthetic resin plate. The sweeper body further comprises dust receptacles covering the under portion and positioned to the front and rear of the rotary brush, means for elevating the drive wheels and comb members to clean the rotary brush. The operating members for opening or closing the dust receptacles and for elevating means are disposed on the upper surface of the frame cover.



0) US3854160A – STREET SWEEPER WITH A HYDROSTATIC TRANSMISSION ...

11) Family number: 1113038 (US3854160A) © PatBase

Title: STREET SWEEPER WITH A HYDROSTATIC TRANSMISSION

Priority: US19730400703 19730925

Family:

Publication number	Publication date	Application number	Application date
CA989123 A1	19760518	CA19740190677	19740122
US3854160 A	19741217	US19730400703	19730925

Probable Assignee: ELGIN SWEEPER CO

Assignee(s):(std)**:** ELGIN SWEEPER CO

Assignee(s): ELGIN SWEEPER CO US ; ELGIN SWEEPER COMPANY ; HILDEBRAND DONALD L ; PRESCOTT ERNEST F ; KIRK DONALD G

Inventor(s):(std)**:** HILDEBRAND D ; HILDEBRAND DONALD L ; KIRK D ; KIRK DONALD G ; PRESCOTT E ; PRESCOTT ERNEST F

Inventor(s): PRESCOTT E US ; KIRK D US ; HILDEBRAND D US

International class (IPC 8–9): E01H1/04 F16H61/42 F16H61/437 (Advanced/Invention); E01H1/00 F16H61/40 (Core/Invention)

International class (IPC 1–7): E01H1/04

CPC: E01H1/04 F16H61/42 F16H61/437

European class: E01H1/04 F16H61/42 F16H61/437

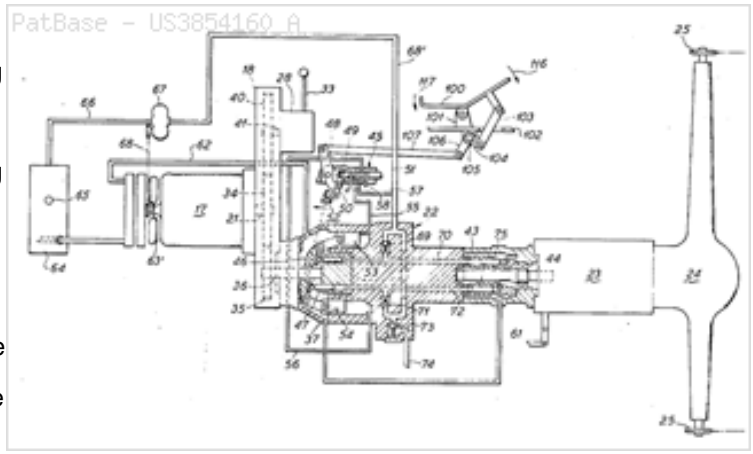
US class: 15/8.4 15/84 60/437

Classification Explorer

Cited documents: US3691579 A, US2833116 A, US2708800 A,

Forward Citations: US9010467, US7150062, US7150062, US6443263, US6308441, US4828452, US4705450, US2005155170, CN104404904,

Abstract:
Source: US3854160A A self–propelled street sweeper having sweeping equipment including a rotatable broom and a conveyor means for depositing material dislodged by the broom into a hopper characterized by a single engine whose output is connected by a power splitting mechanism to a drive train connected to a pair of wheels of the sweeper for propelling the sweeper and to a drive means for actuating the sweeping means. The drive train includes a hydrostatic transmission which enables the operator to vary the speed and direction of movement of the sweeper independently of the speed of the rotating broom which is governed by the engine speed. The operator controls the transmission through a foot pedal which may be disposed on the right hand or the left hand side of the sweeper or a pair of pedals may be provided to provide a dual control system.



0) GB509889A – IMPROVEMENTS IN COIN GAUGING AND SELECTING MECH...

12) Family number: 20524006 (GB509889A)

© PatBase

Title:	Improvements in coin gauging and selecting mechanism, such as used in coin–freed apparatus
Priority:	GB19380001904 19380120

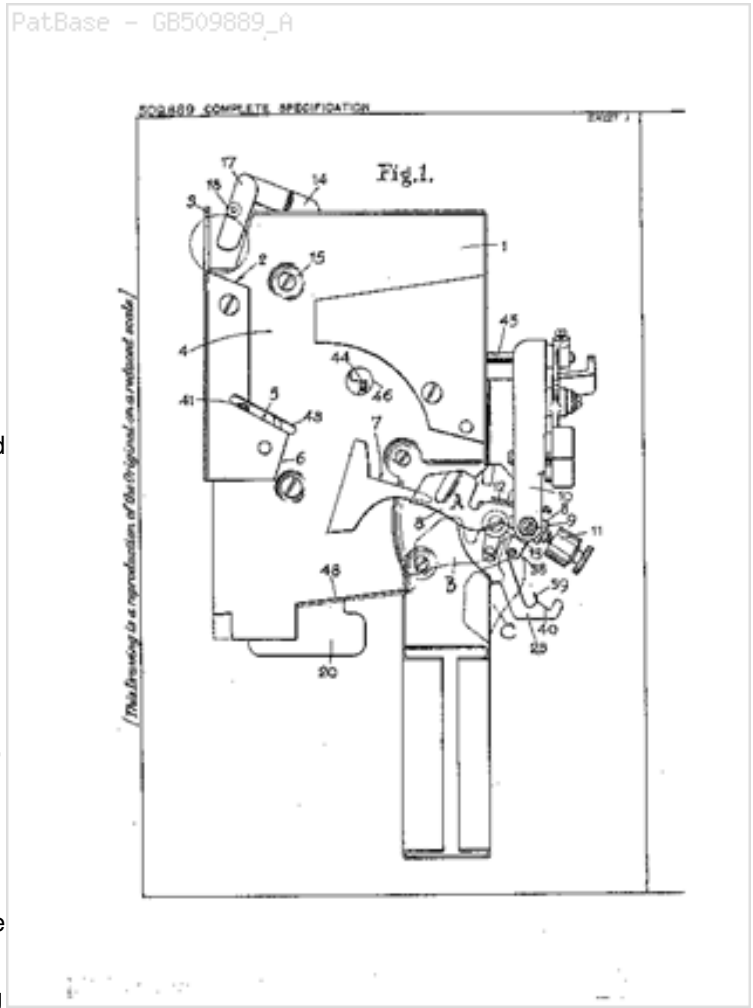
Family:

Publication number	Publication date	Application number	Application date
GB509889 A	19390720	GB19380001904	19380120

Probable Assignee:	PERCY STEPHEN HARPER
Assignee(s):(std):	PERCY STEPHEN HARPER
International class (IPC 1–7):	G07F3/02
CPC:	G07D5/00
European class:	G07D5/00 G07F3/02

Classification Explorer

Abstract:
Source: GB509889A 509,889. Testing coins. HARPER, P. S. Jan. 20, 1938, No. 1904. [Class 27] In a combined annulus and weight–testing device for coins having a pivoted counterbalanced coin carrier and a delay action device, the delay action device is operable by inserting a coin to control means for setting the coin carrier to a particular position after a predetermined time interval without actuating a movable hinged clearing wall of preliminary testing devices. A coin inserted in a slot 3, Figs. 1 and 2, actuates a delay action lever 14 which operates as described in Specification 425,024, and passes down a stationary shoot 4 provided with a bounce test as described in Specification 487,938 from which it is delivered by a shoot 7 to the combined annulus and weight testing carrier 8. This carrier, which operates as described in Specification 471,644, has annulus gauging points 12 to co–operate with a fixed stop 13 and an adjustable counterbalance weight 11 for testing the weight of the coins. The carrier, when released, moves to position A, Fig. 1, to receive a coin, which is delivered at a reject position B, if not of proper weight and thickness, or at position C leading to the coin–freed apparatus. When a coin is inserted, the delay lever 14 releases a double–armed lever 22 which holds a locking lever 23 in position to lock the carrier 8 in the reject position B by a notch 36 engaging a pin 37 on the carrier. A cam portion 24 on lever 23 also holds a weighted lever 26 carrying the stop 13 out of the path of the gauging points. When the lever 23 is released, the carrier moves to position A and the stop 13 is moved into the path of the points 12. If owing to the coin being light in weight, the carrier 8 stops between the positions A and B, the return of the lever 14 after a predetermined delay rotates the lever 22 to move the locking lever 23 back to its initial position by acting on a lug 33 thereon. A cam portion 35 on the lever 23 engages the pin 37 and moves the carrier to position B. If the carrier 8 has moved nearly to position C, a deflector 39 on the lever 23 engages the pin 37 and moves the carrier fully into position C, the carrier being locked in this position by a second recess 40, until another coin is inserted. A sweeper 41 pivoted to the delay lever 14 is reciprocated over the bounce platform 5 to clear this platform. The testing device is constructed as an interchangeable unit.



0) DE4211789A1 – MECHANICAL ROAD SWEEPER DRIVEN BY WHEEL ROLLING...

13) Family number: 10808031 (DE4211789A1) © PatBase

Title: Mechanical road sweeper driven by wheel rolling over surface to be swept – has height adjustable disc brush and bevel gear on common shaft, gear rotating brush by being lowered onto second bevelled gear

Priority: DE19924211789 19920408

Family:

Publication number	Publication date	Application number	Application date
DE4211789 A1	19931014	DE19924211789	19920408
DE4211789 C2	19960725	DE19924211789	19920408

Probable Assignee: KAERCHER GMBH AND CO ALFRED

Assignee(s):(std)**:** KAERCHER GMBH AND CO ALFRED

Assignee(s): ALFRED KAERCHER GMBH AND CO 71364 WINNENDEN DE

Inventor(s):(std)**:** SERVE GREGOR ; URBAN UWE

Inventor(s): URBAN UWE 7056 WEINSTADT DE ; SERVE GREGOR 7150 BACKNANG DE

International class (IPC 8–9)**:** A47L11/24 A47L11/40 (Advanced/Invention)

International class (IPC 1–7)**:** A47L11/24

CPC: A47L11/24 A47L11/4058

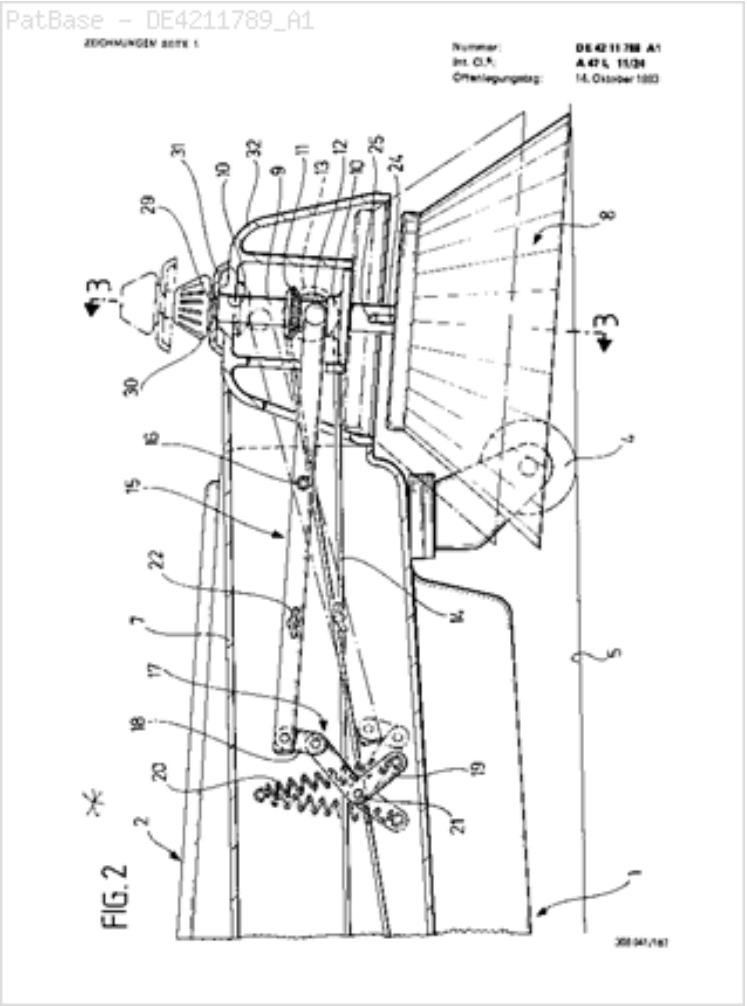
European class: A47L11/24 A47L11/40G4

Classification Explorer

Cited documents: US563869 A, US3233274 A, US1453049 A, DE3711346 C2, DE2407514 B2,

Forward Citations: WO9514423, WO14169944, EP2508112, EP1319758, EP0686371, DE9409333, DE9403678, DE29622115, DE19637685, DE19637685, DE102007055458, DE102007052514, CN105101855,

Abstract:
Source: DE4211789A1 The disc brush (8) and at least one gear (11), which is bevelled, is slidable along the rotating axis. This gear is in engagement with the drive in the lowered position and through meshing with another fixed bevelled gear (12). The brush and the gear (11) are located on a common hollow shaft (9). The brush is adjustable in height along this shaft by being attached to a spindle (29) which slides in the shaft and is set at the correct height by a button (30). The gear to allow the sliding of the brush is a friction wheel which engages a second friction wheel when lowered. ADVANTAGE – Has few moving parts, thus having simple assembly and disassembly. It can also be driven by a motor if necessary.



0) US3041072A – APPARATUS FOR SWEEPING PINS FROM A BOWLING ALLE...

14) Family number: 22714836 (US3041072A) © PatBase

Title: Apparatus for sweeping pins from a bowling alley

Priority: US19560625739 19561203 US19590813860 19590518 US19590815040 19590522

Family:

Publication number	Publication date	Application number	Application date
US3041072 A	19620626	US19590813860	19590518
US3063716 A	19621113	US19560625739	19561203
US3070369 A	19621225	US19590815040	19590522
US3123201 A	19640303		00000000
US3123357 A	19640303		00000000

Probable Assignee: BARROWS ROYAL L

Assignee(s):(std)**:** BARROWS ROYAL L ; DOWD HOWARD M

Inventor(s):(std)**:** BARROWS ROYAL L ; DOWD HOWARD M

International class (IPC 8–9)**:** A63D5/08 (Advanced/Invention); A63D5/02 (Advanced/Non–invention); A63D5/00 (Core/Invention)

International class (IPC 1–7)**:** A63D5/02 A63D5/09

CPC: A63D5/02 A63D5/08

European class: A63D5/08 K63D5/02

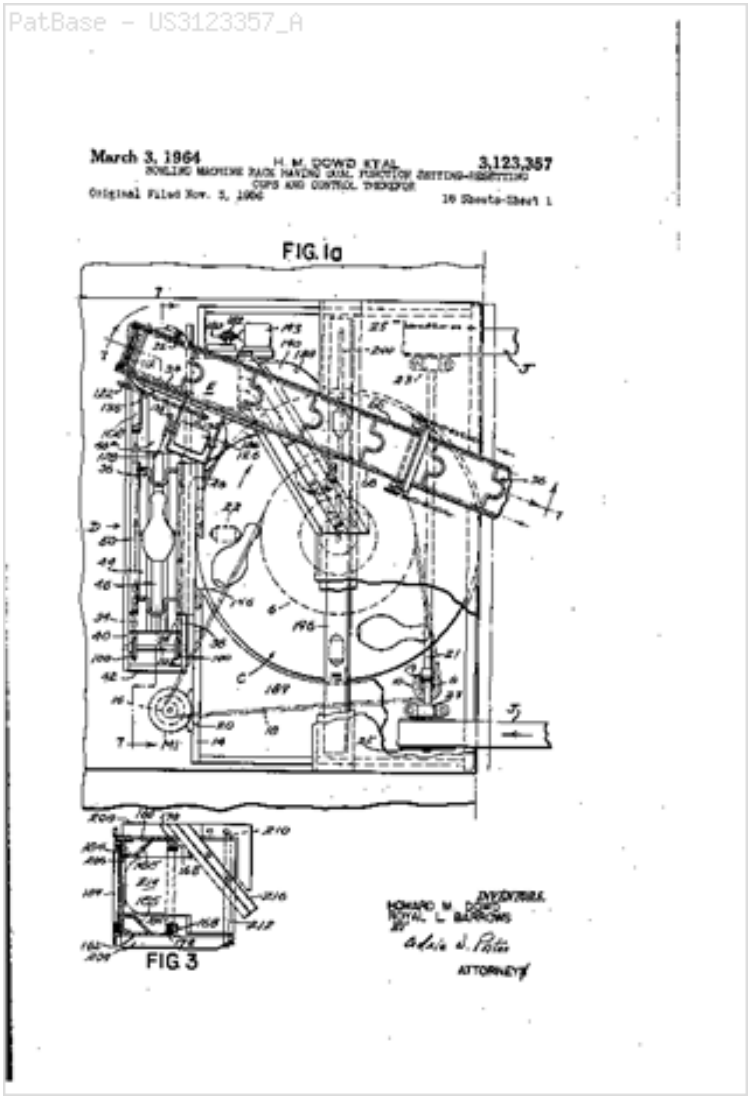
US class: 198/680 198/803.14 294/87.26 473/100 473/111 473/112 473/65 473/73 473/87 473/90 473/96

Classification Explorer

Cited documents: US689563 A, US654369 A, US3063716 A, US2977121 A, US2793858 A, US2739813 A, US2736554 A, US2735681 A, US2714508 A, US2709083 A, US2707105 A, US2702706 A, US2692139 A, US2689128 A, US2688485 A, US2686053 A, US2672341 A, US2656032 A, US2626803 A, US2625397 A, US2580853 A, US2578319 A, US2565834 A, US2531167 A, US2498587 A, US2310218 A, US2231842 A, US2017143 A, US1692796 A, US1584030 A, US1544928 A, US1524241 A, US1375835 A, DE914060 A, DE765898 A,

Forward Citations: US6358155, US6027411, US3704888, US3251597, US3248108, US3245684, US3232612, US3210078, US3208748, US3199870, US3193290, US3123357,

Abstract:
Source: US3041072A (Claim 1) 1. Ina bowling pinsetting machine, –a pin sweep mechianism comprising a pair of endless chains traveling an endless circuit running rearwardly –and forwardly of said machine, a pair of longitudinally extending trackslocated,at the same hei._ht on opposite sides of the machine beneath said chains, a carriage mounted for movement on each track, an arm pivotally secured to each carriage 'iO and depending therefrom, _a sweeper board extending between and connected to the bottom ends of said arms, a longitudinally slotted lever associated with each carriage, each slotted lever being pivotally and slidably secured at its lower end to its carriage by a wrist pin that extends through tihe slot in said lever, and being pivotally connected at its upper end to one of the said endless chains, driving means for moving each chain parallel to said tracks to move said levers rearwardly and then forwardly parallel to said tracks, each slotted lever pivoting about its wrist pin ias it reverses direction at the forward and rear ends of its path of travel so as to be in leading and pulling relationship with its carriage as it moves alon.its path of travel.



0) GB476932A – IMPROVEMENTS IN OR RELATING TO CARPET SWEEPERS ...

15) Family number: 29672408 (GB476932A) © PatBase

Title: Improvements in or relating to carpet sweepers

Priority: GB19380018345 19380621

Family:

Publication number	Publication date	Application number	Application date
GB476932 A	19371220	GB19360012851	19370423
GB477438 A	19371230	GB19370023253	19370423
GB515555 A	19391207	GB19380018345	19380621

Probable Assignee: RICHARD WALTON KENYON

Assignee(s):(std)**:** ENTWISLE AND KENYON LTD ; JOHN PERCY REDFEARN ; RICHARD WALTON KENYON

Assignee(s): ENTWISLE AND KENYON LIMITED

International class (IPC 8–9)**:** A47L11/33 (Advanced/Invention)

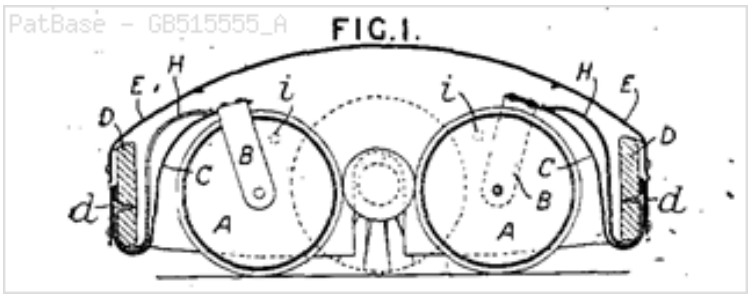
CPC: A47L11/33 A47L11/40 A47L11/4072

European class: A47L11/33 A47L11/40 A47L11/40K

Classification Explorer

Forward Citations: US2657407, US2651796,

Abstract:
Source: GB476932A 476,932. Carpet – sweepers. ENTWISLE and KENYON, Ltd., KENYON, R. W., and REDFEARN, J. P. April 23, 1937, No. 12851/36, [Class 138 (i)] In a carpet–sweeper having each wheel carried on a stub axle which is pressed towards the brush pulley by a spring held in position by the bail cam bracket, the inner end of each stub axle or a plate, disc or nut thereon is located in a recess in the end of the sweeper casing whereby the movement of the axle is limited.



In the construction shown in Figs. 1 and 2, each axle B is carried by a lever C which is mounted on a pivot c and is slotted at c<4>. The axle is engaged by a spring D secured to the bail cam bracket A<4>. The end b of the axle B is located in a recess a in the sweeper casing. In a modification each axle is connected by a link to a second link pivoted on the sweeper casing. In the construction shown in Fig. 6, the axle B is carried by a loop.f in a spring F fixed to the casing. A second spring D secured to the bail cam bracket maintains the wheel A<1> in contact with the brush pulley A<2>. The inner end of the axle B has a disc located for limited movement in a recess in the casing. In a further construction shown in Figs. 10 and 11, the axle B is carried by two springs H<1>, H<2>, one on each side of the wheel A<1>. In a further construction shown in Fig. 13, the axle B is carried in slots k formed in the two arms of a U–shaped bracket K, the ends of which are mounted on a pivot k<1>.

0) US1364550A – COIN–COLLECTING MEANS FOR TELEPHONE SERVICES

16) Family number: 30893140 (US1364550A)

© PatBase

Title: Coin–collecting means for telephone services

Priority: GB19180004373 19180312 GB19180004373 19180902 GB19190018935 19190730 US19190309526 19190708

Family:

Publication number	Publication date	Application number	Application date
FR500880 A	19200326		19190620
GB149361 A	19200812	GB19180004373	19180312
GB154960 A	19201216	GB19190018935	19190730
US1364550 A	19210104	US19190309526	19190708

Probable Assignee: HALL FREDERICK WILLIAM

Assignee(s):(std)**:** HALL FREDERICK WILLIAM

Assignee(s): FREDERICK WILLIAM HALL

Inventor(s):(std)**:** HALL FREDERICK WILLIAM

International class (IPC 8–9)**:** H04M17/02 (Advanced/Invention); H04M17/00 (Core/Invention)

International class (IPC 1–7)**:** H04M17/00

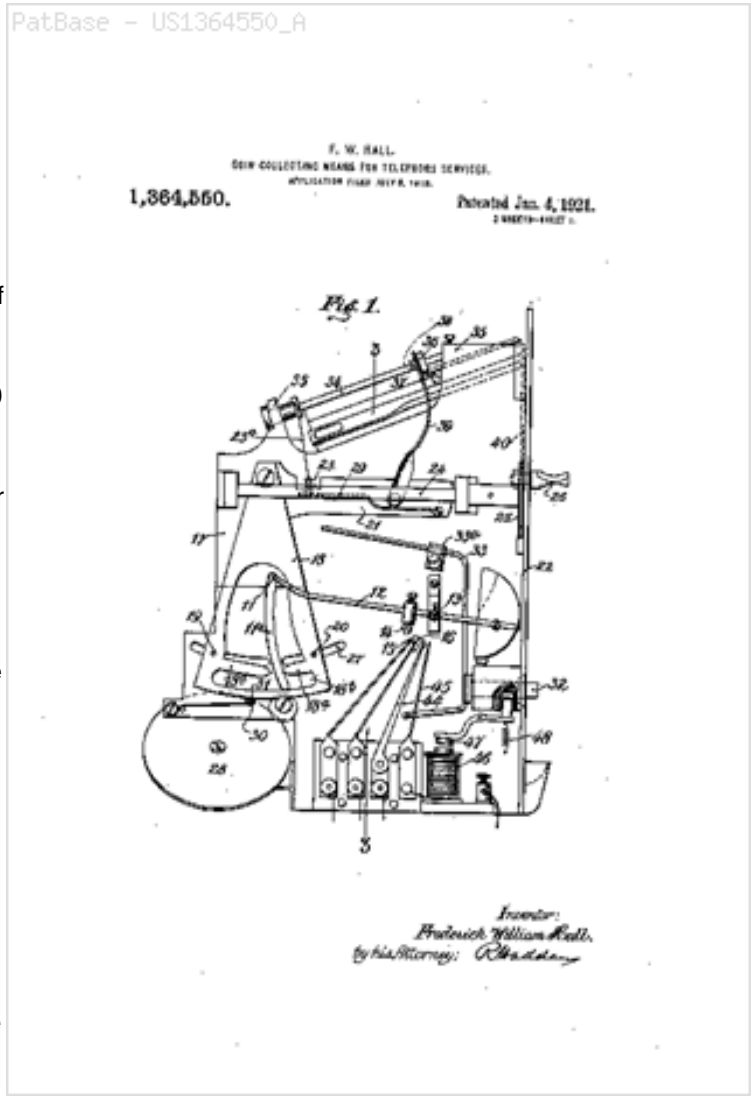
CPC: H04M17/026

European class: H04M17/02C

US class: 379/153

Classification Explorer

PatBase - US1364550_A



Abstract:
Source: US1364550A 149,361. Hall, F. W. March 12,1918. Hiring telephones. – In a coin–freed telephone apparatus, the inserted coins are guided to fall upon a balance and within a rocker, by rocking which in one direction or the other the caller may effect the delivery of the coins to the cash receptacle, or their return to him if a connexion cannot be made. The balance is moved by the weight of the coins to complete the calling and speaking circuit. The return of the rocker after delivery of the coins to the cash receptacle breaks the calling circuit, while the operation of returning the coins to the caller breaks the speaking–circuit. Coins of correct size pass to a shoot 10 and fall upon the end 11 of a balance arm 12 pivoted at 13 which makes the circuit through calling contacts 15, 16 and connects the speaking contact 44, 45. A quadrantal member 18 is pivoted to the outside of shoot 10, and carries pins 19, 20 which project through slots 27 in the shoot and between which the balance arm lies when depressed. The member 18 has a lever arm 21 which is operated by the caller through a handle 26, arm 25, rock–shaft 24 and arm 23 to swing the sector and thrust the coins by the contact of a pin 20 into the cash receptacle, where they fall on a sounder 28. To ensure complete movement of the quadrant 18 there are provided a spring 29, which is first engaged by an arm, and a spring friction catch 30, 31. The member 18 is moved in the reverse direction to return the coins by a push 32 engaging a spring pivoted lever 33, which presses against the lever 21. The member 18 is counterbalanced for movement in one direction by the lever 21, and the shoot 1 may be made to serve as counterbalance in the other direction, being provided for this purpose with a rock–shaft 34 carrying an arm 36 connected by a pin 37 and slot 38 to a link 39 connected to the lever arm 21. The slot 38 permits free movement of the arm 21 when the quadrant is moved to return coins to the caller. Supposing a call to have been made and the coins accordingly diverted into the cash receptacle, the balance arm 1 returns to normal position, and the contacts 15, 16 are separated, but the contacts 44, 45 remain closed in consequence of contact 44 being mounted on a pivoted arm without spring. If connexion cannot be made and the coins are returned, the contacts 44, 45 are separated by the operation of a lower extension of the lever 33 operated by the push 32. The push 32 is, however, locked, if a connexion is made by means of a stud operated by an electromagnet 46, 47. The breaking of the speaking circuit by hanging up the receiver unlocks the push 82 and lever 33. A time switch is inserted in the calling circuit to prevent operation till a predetermined interval has elapsed, after operation of the return–money lever, and comprises an arm 52 moved away by the push 32 from contacts 50, 51 to allow them to separate, and returned by a time train 53 having a fly 54. Diverting improper coins.–Coins are inserted in an angularly–disposed shoot 1 having a fixed rail 3 along the lower edge and a movable rail 4 along the upper edge, and part of the shoot is offset at 5, so as to produce a fulcrum 6 about which small coins unsupported by the rail 4 will tip and drop from the rail 3, and from the shoot into a chamber for return to the caller. The rail 4 is recessed as at 8 so that certain coins will run in this recess till they reach an abutment 9, when they will lift the rail, and being thus unsupported will fall as in the case of smaller coins. A projecting sweeper attached to the handle 26 locks the handle against movement if a coin attached to a wire and c. is inserted.

17) Family number: 3257962 (US4884313A) © PatBase

Title: Street sweeper machine with trash pick–up and transport capabilities

Priority: EP19880107582 19880511 IT19870020586 19870519

Family:

Publication number	Publication date	Application number	Application date
AT78887 E	19920815	AT19880107582T	19880511
DE3873164 D1	19920903	DE19883873164	19880511
DE3873164 T2	19921203	DE19883873164T	19880511
EP0291844 A2	19881123	EP19880107582	19880511
EP0291844 A3	19891123	EP19880107582	19880511
EP0291844 B1	19920729	EP19880107582	19880511
ES2034012 T3	19930401	ES19880107582T	19880511
GR3005876 T3	19930607	GR19920402208T	19921001
IT1205012 A	19890310	IT19870020586	19870519
IT8720586 A0	19870519	IT19870020586	19870519
US4884313 A	19891205	US19880195824	19880519

Probable Assignee: DULEVO INT SPA

Assignee(s):(std)**:** DULEVO INT SPA ; DULEVO SPA

Assignee(s): DULEVO INT ; DULEVO INTERNATIONAL S P A ; DULEVO INTERNATIONAL S P A PARMA IT ; DULEVO S P A

Inventor(s):(std)**:** ZONI SERGIO

Inventor(s): ZONI SERGIO I 43100 PARMA IT

Designated states: AT BE CH DE ES FR GB GR LI LU NL SE

International class (IPC 8–9)**:** B62D7/14 E01H1/04 E01H1/08 (Advanced/Invention); B62D7/14 E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** B62D7/14 B65F E01H1/02 E01H1/08

CPC: B62D7/142 B65H2404/1116 B65H2701/1942 E01H1/042 E01H1/0827 E01H1/0854

European class: B62D7/14B E01H1/04B E01H1/08C E01H1/08C3 L65H404/1116 L65H701/1942

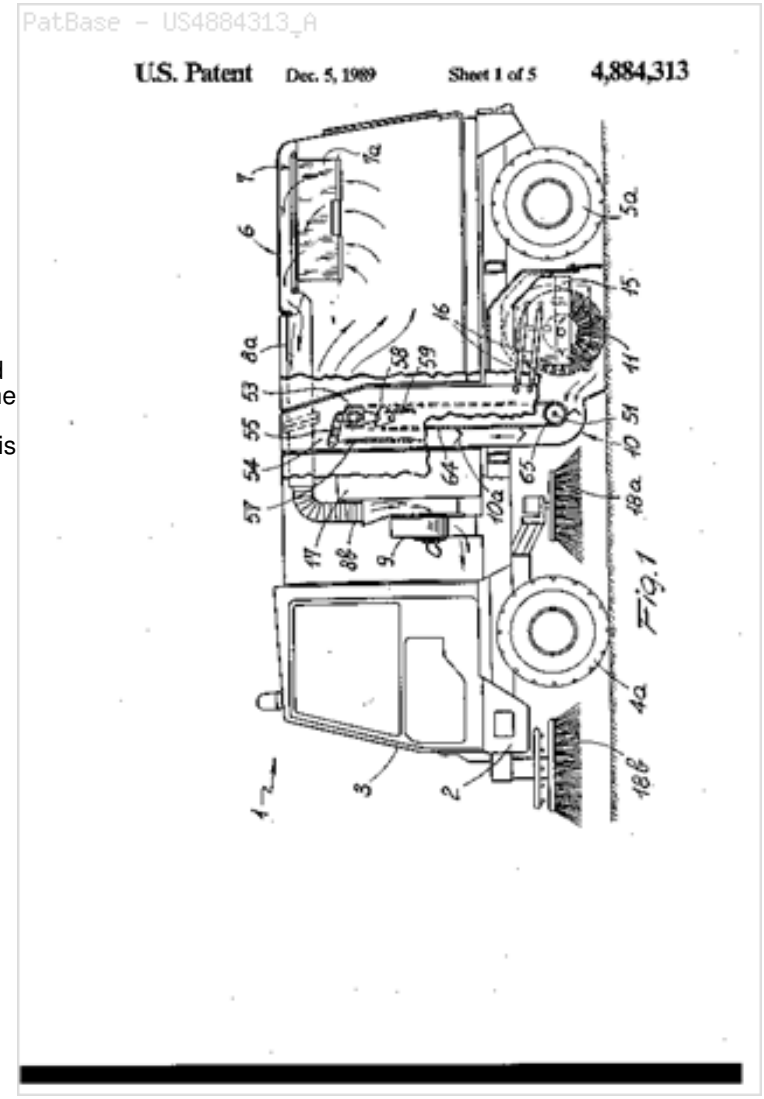
US class: 15/340.3 15/348 180/415

Classification Explorer

Cited documents: WO8401401 A1, US953201 A, US4638883 A, US4269560 A, US3202238 A, US1208046 A, US1181279 A, GB2076759 A1, FR2469337 A1, FR2405332 A1, EP0119144 A1,

Forward Citations: WO13087899, WO07016754, WO07016754, WO04071265, WO04071265, WO03069071, WO0071408, USD654234, US9510721, US9451861, US9192276, US9180907, US9015887, US8966693, US8887340, US8714291, US8365346, US8321993, US8020250, US7996955, US7703173, US7520378, US7424767, US7350264, US7281296, US7140693, US7086118, US6854157, US6842940, US6212731, US6192542, US6142290, US5943733, US5802665, US5630246, US5608947, US5485653, US2014291061, US2011220146, US2011155488, US2010147331, US2010037419, US2009013496, US2008005864, US2006053583, US2006048332, US2005097703, US2005060834, US2004226122, US2004154123, US2004143928, US2004134021, US2004045111, KR100969553, KR100858685, FR2779455, FR2694535, FR2667839, FR2652099, ES2088730, EP2604491, EP2327836, EP2299000, EP1876302, EP0965693, EP0951857, EP0922809, EP0735195, EP0644102, CN105464025,

Abstract:
Source: US4884313A A street sweeper machine is provided for picking up and transporting trash comprising a frame (2) having a main longitudinal dimension and engaging front (4a,4b) and rear (5a,5b) wheels, a driver's cab (3), motor members (44,48), a trash bin (6), a roll brush (11) located between said wheels and having a symmetry axis (12) parallel to a surface to be cleaned and transverse to said longitudinal dimension, a trash conveyor (10) conveying trash from said roll brush (11) to said bin (6), and steering members (22) engaging all of said wheels to make all of them steerable and adapted to define an intersect point (13) for the axes of said wheels in cornering which lies proximate a continuation of said symmetry axis (12) of said roll brush (11).



0) US1824413A – COMB AND HOOD MOUNTING FOR CARPET SWEEPERS

18) Family number: 18763927 (US1824413A) © PatBase

Title: COMB AND HOOD MOUNTING FOR CARPET SWEEPERS

Priority: DE1929A059307D 19291012 DE1929A059328D 19291013 US19290359622 19290501 US19290035962 19291003

Family:

Publication number	Publication date	Application number	Application date
BE364825 A	19291130		00000000
BE364904 A	00000000		00000000
BE364908 A	00000000		00000000
CH147435 A	19310615		19291011
CH154396 A	19320430		19291016
DE560311 A	19320930	DE1929A059328	19291013
DE590626 A	19340110		00000000
DE593999 A	19340308	DE1929A059307	19291012
FR37530 E	19301220		00000000
FR37700 E	19310114		00000000
FR683783 A	19300617		00000000
GB337161 A	19301030	GB19290030037	19291003
GB340604 A	19310105	GB19290030036	19291003
GB340623 A	19310105	GB19300028328	19291003
GB346374 A	19310407	GB19290029984	19291003
NL33124 C	19340716	NL19310057686	19310714
NL34386 C	19350115	NL19290048568	19291017
NL38234 C	19360615	NL19290048557	19291017
US1824413 A	19310922	US19300444501	19300415
US1824414 A	19310922	US19290369316	19290608
US1907587 A	19330509	US19290359622	19290501

Probable Assignee: AMERICAN MACH AND FOUNDRY

Assignee(s):(std)**:** AMERICAN MACH AND FOUNDRY ; SMITH EARLE R

Assignee(s): AMERICAN MACHINE AND FOUNDRY CO ; AMERICAN MACHINE AND FOUNDRY COMPANY

Inventor(s):(std)**:** FOUNDRY CO AMERICAN MACHI ; FOUNDRY COMPANY AMERICAN MACHI ; RUNDELL RUPERT E ; SMITH EARLE R ; ALFRED STEIN JOHN

Inventor(s): AMERICAN MACHINE AND FOUNDRY CO ; COMPANY AMERICAN MACHINE AND FOUNDRY ; STEIN JOHN ALFRED

International class (IPC 8–9): A24C5/14 A24C5/32 (Advanced/Invention); A24C5/00 A24C5/32 (Core/Invention)

International class (IPC 1–7): A24C5/00 A24C5/14 B65G47/84

CPC: A24C5/14 A24C5/326

European class: A24C5/14 A24C5/32T4

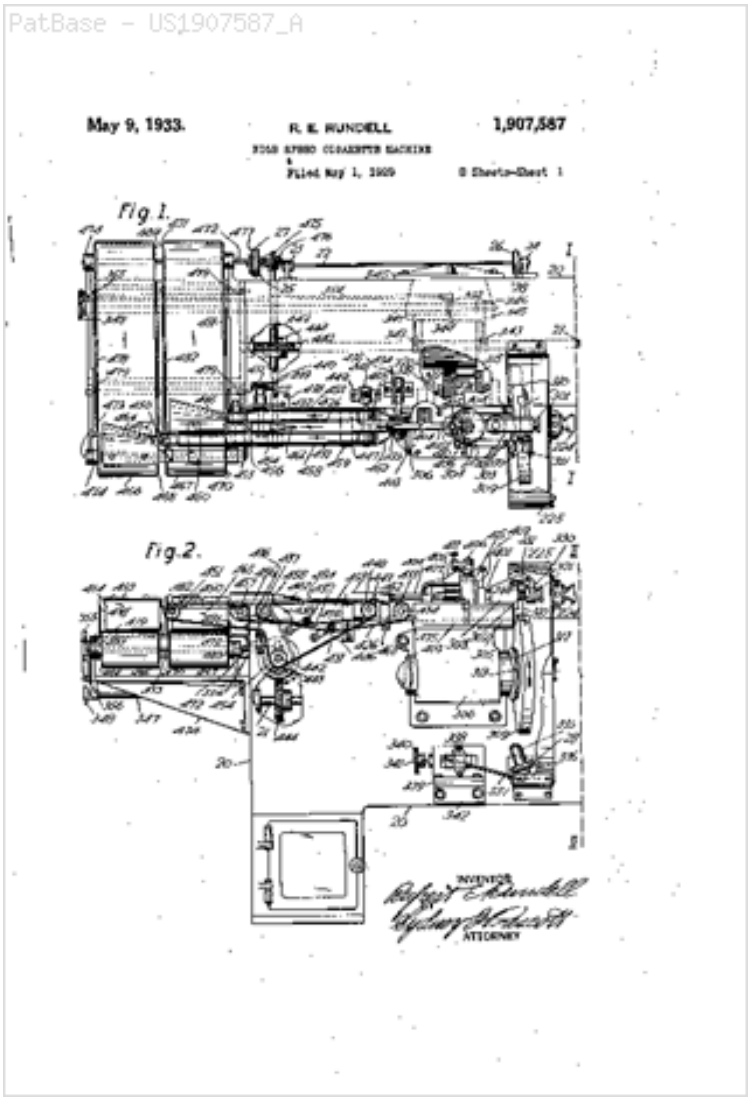
US class: 131/276 131/282 131/287 131/63 131/64.1 131/68 198/437 198/442 198/456 198/457.05 198/457.06 198/481.1 198/578 198/778 53/148 99/483

Classification Explorer

Forward Citations: USRE28383, US8146465, US7296579, US6378691, US5944165, US4779715, US4337856, US4170288, US3838763, US3693313, US3685633, US3664084, US3655026, US3608972, US3601242, US3554362, US3105498, US3088359, US3039606, US3010561, US3008471, US2995880, US2948093, US2944654,

US2929489, US2603375, US2435072, US2009211413, US2009183970, US2004255963, DE946696, DE2846090, DE1228978, DE1214606,

Abstract:
Source: US1824413A 1. A carpet swecpcr, comprising a body having a rotary brush therein, 'a hood covering the brush, sleeves on the hood, and studs secured in the body and extending through the sleeves for supporting the hood in covering rcl ation to the brush.



0) GB2082448A – CARPET SWEEPERS

19) Family number: 29386604 (GB2082448A)

© PatBase

Title: Carpet sweepers

Priority: AU19800005165 19800821 AU19800005165 19800821 AU1980PE05165 19800821 AU19810073652 19810803 AU19810073652 19800821

Family:

Publication number	Publication date	Application number	Application date
AU198173652 A1	19820225	AU19810073652	19810803
AU540764 B2	19841206	AU19810073652	19810803
GB2082448 A1	19820310	GB19810009881	19810330
GB2082448 B2	19840905	GB19810009881	19810330

Probable Assignee: SABCO LTD

Assignee(s):(std)**:** SABCO LTD

Inventor(s):(std)**:** SMYTH DONALD NATION ; SMYTH D N

Inventor(s): DONALD NATION SMYTH ; D N SMYTH ; DN SMYTH

Agent(s): COLLISON AND CO

International class (IPC 8–9)**:** A46B9/02 A47L11/33 (Advanced/Invention); A46B9/00 A47L11/00 (Core/Invention)

International class (IPC 1–7)**:** A46B13/08 A46B15/00 A46B9/00 A46B9/02 A47L11/33

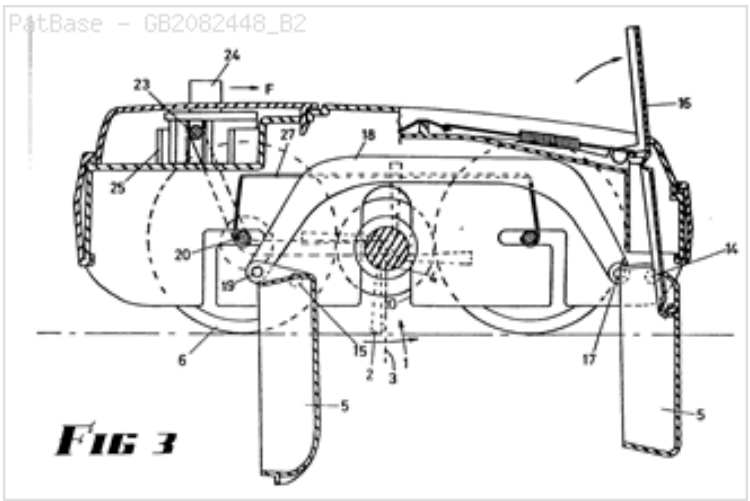
CPC: A46B9/02 A47L11/33 A47L11/4013 A47L11/4025 A47L11/4041 A47L11/4058 A47L11/4072 A47L11/4075

European class: A46B9/02 A47L11/33 A47L11/40D A47L11/40D4 A47L11/40F4 A47L11/40G4 A47L11/40K A47L11/40L

Classification Explorer

Forward Citations: WO07085375, US4546512, US4489457, EP0119288,

Abstract:
Source: GB2082448A A carpet sweeper having a rotatable brush (2) driven by wheels (6). The tufts of the brush (2) are arranged in helical rows with each tuft being in line with a chord line so that the tufts are offset from the centre line of the brush. The carpet sweeper has a control (24) for adjusting the height of the brush (2) and lever (16) for simultaneously opening the dust trays (5) which both open in the same direction.



0) US3436788A – STREETSWEEPER VACUUM PICKUP HEAD ASSEMBLY

20) Family number: 861276 (US3436788A) © PatBase

Title: STREETSWEEPER VACUUM PICKUP HEAD ASSEMBLY

Priority: GB19690001739 19690110 US19670656414 19670727

Family:

Publication number	Publication date	Application number	Application date
DE1816132 A1	19700625	DE19681816132	19681220
FR2019751 A5	19700703	FR19690001124	19690122
GB1202831 A	19700819	GB19690001739	19690110
US3436788 A	19690408	US19670656414	19670727

Probable Assignee: WAYNE MANUFACTURING CO

Assignee(s):(std)**:** WAYNE MANUFACTURING ; WAYNE MANUFACTURING CO ; WAYNE MFG CO ; WAYNE MFG COMPANY

Assignee(s): WAYNE MANUFACTURING COMPANY ; WAYNE MFG

Inventor(s):(std)**:** TAMNY SIMON

Inventor(s): SIMON TAMNY

International class (IPC 8–9)**:** E01H1/08 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** A47L5/00 E01H1/00 E01H1/05 E01H1/08

CPC: E01H1/0845

European class: E01H1/08C2B

US class: 15/340.3 15/385 15/87

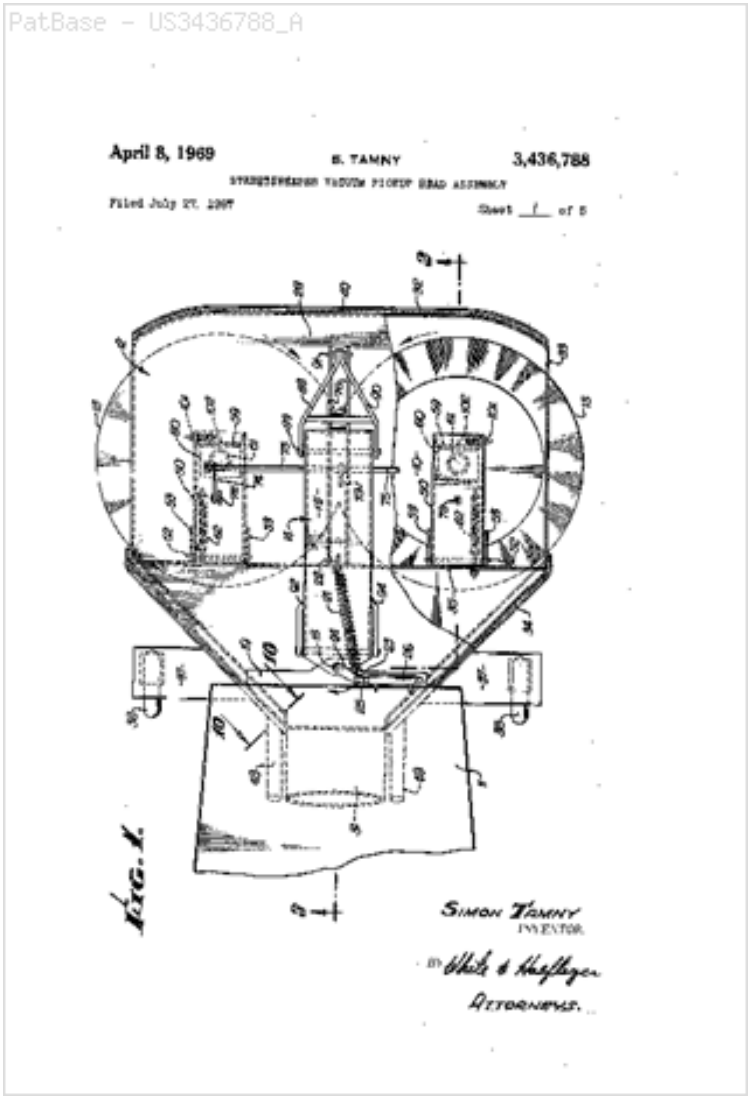
Classification Explorer

Cited documents: US3277511 A, US3186021 A, US1546441 A,

Forward Citations: WO9210614, WO8701404, WO8401649, WO8401399, WO13020202, WO12003572, WO12003572, WO09039621, WO09039621, USD693529, USD654234, US9510721, US9451861, US9375123, US9192276, US9015887, US8978190, US8966693, US8887340, US8528142, US8438685, US8302240, US8245345, US8082625, US7025835, US7025834, US6990709, US6272720, US6249926, US5881417, US5802665, US5768744, US5611268, US5452492, US5048141, US5016310, US5005253, US4831684, US4805258, US4805256, US4754521, US4733432, US4654918, US4580312, US4557010, US4163330, US3879789, US3675267, US2015196183, US2011244137, US2011023248, US2009094784, US2009090385, US2006064844, US2004068825, US2004040104, US2003070252, GB2242467, GB2242467, FR2597130, FR2094097, EP0391457, EP0367732, EP0310727, EP0180251, EP0103471, DE102011003139, AT401944, AT109,

Abstract:
Source: GB1202831A 1,202,831. Road sweeping machines. WAYNE MFG. CO. 10 Jan., 1969, No. 1739/69. Heading B1G. A vacuum pick–up head mounted on the front of a road sweeping machine frame 11 comprises a pair of intermeshing vertical–axis gutter brushes 10 resiliently mounted in and protruding laterally from an overlying suction hood 12. The hood 12, which has depending aprons 40, 42, casters 28 and an elliptical suction conduit 31, is liftably suspended on parallel links 88 from a beam 14 which can be swung to one or other side of the frame to engage one or other gutter, the beam 14 being swung about a pivot 18 by means of a piston 25 and over–centre spring linkage 21– 24. Each brush is driven by a motor 61 and is suspended in the hood 12 on parallel links 51, 54 adjustably loaded by a spring 62, lateral tilt of the brushes, Fig. 8 (not shown) being adjusted by a nut (101) and clamp (104). The hood is raised and lowered by a cylinder 68, bell crank 65 and cable 71, the cable 71 being anchored to an arm 73 on a cross–shaft carrying a pair of arms 74 each having a lost motion connection 79 with the respective brush suspension linkage so that as the hood is raised for transport the brushes are retracted into the hood. Raising of the hood also automatically centres the beam 14 about pivot 18 against the action of spring 21, this being effected, Fig. 4 (not shown) by the movement in a fixed cam slot (82) of the bent–over end of a rod (86) pivoted to the bell crank (65). In a modification, Fig. 10 (not shown), each side apron (42) is. spaced from an inner apron (45) to form an independent suction chamber (46) for fine debris.

PatBase - US3436788_A



0) DE2163692A1 – BUERSTENHERSTELLUNGSMASCHINE MIT BOHRUND STOPFW...

21) Family number: 1733099 (DE2163692A1) © PatBase

Title:	BUERSTENHERSTELLUNGSMASCHINE MIT BOHRUND STOPFWERKZEUGEN SOWIE EINEM DREHBAREN SPANNSTELLENTRAEGER BUERSTENHERSTELLUNGSMASCHINE drilling and tamping AND WITH A ROTATING SPANNSTELLENTRAEGER (Machine translation)
Priority:	DE19712163692 19711222

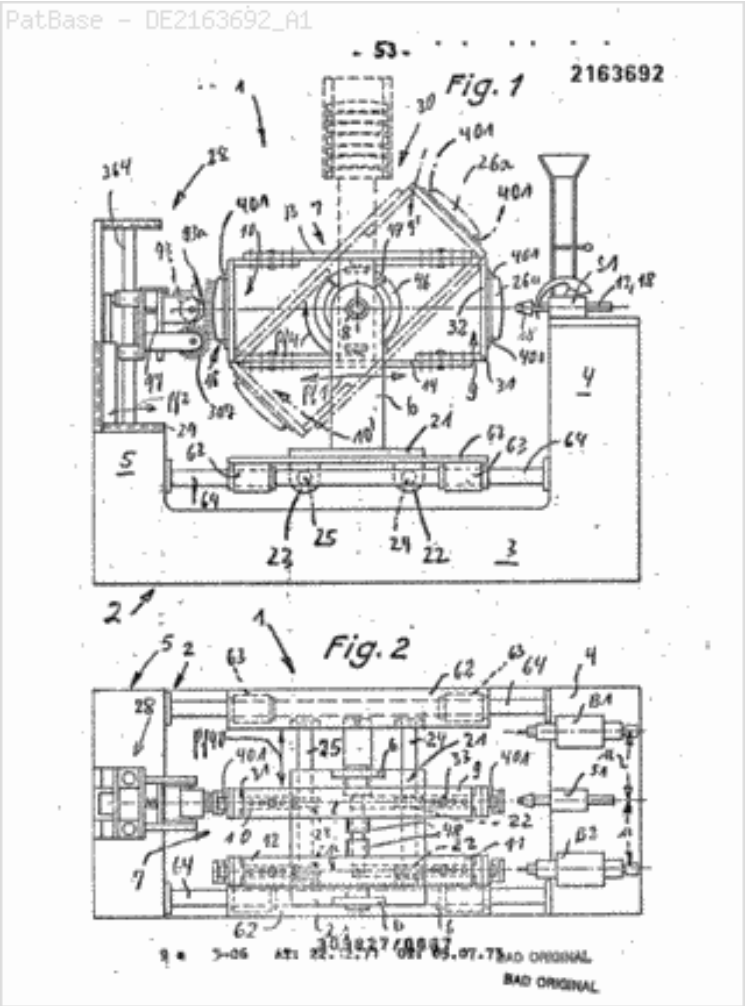
Family:

Publication number	Publication date	Application number	Application date
DE2163692 A1	19730705	DE19712163692	19711222

Probable Assignee:	ZAHORANSKY ANTON FA
Assignee(s):(std)**:**	ZAHORANSKY ANTON FA
Assignee(s):	FA ANTON ZAHORANSKY 7868 TODTNAU
Inventor(s):(std)**:**	ZAHORANSKY HEINZ DR ING
Inventor(s):	ZAHORANSKY HEINZ DR ING 7868 TODTNAU
International class (IPC 8–9)**:**	A46D3/06 (Advanced/Invention); A46D3/00 (Core/Invention)
International class (IPC 1–7)**:**	A46D3/06
CPC:	A46D3/062
European class:	A46D3/06B
Classification Explorer	
Forward Citations:	DE10317485,

Abstract:
Source: DE2163692A1 Patentansprueche f BUrstenherstelhlngsmaschine mit Bohr− und Stopfwerkzeugen sowie einem drehbar gelagerten, mit wenigstens zwei Doppel armen ausgeruesteten Spannelemententraeger (Karussell),dadurchgekennzeichnet, dass wenigstens zwei Bohrwerkzeuge (B) und ein jeweils zwischen zwei benachbarten Bohrwerkzeugen (B1, B2; B3) liegendes Stopfwerkzeug (S1 bzwS2) in an sich bekannter Weise in der Reihenfolge: erstes Fohrwerkzeug (B1), erstes Stopfwerkzeug (S1), zweites Bohrwerkzeug (B2) oder: erstes Bohrwerkzeug (B1), erstes Stopfwerkzeug (S 1), zweites Bohrwerkzeug (B 2), zweites Stopfwerk− zeug (S 2), drittes Bohrwerkzeug (B 3) usw.

Machine translation: Claims f BUrstenherstelhlngsmaschine with drilling and tamping and a rotatably mounted, with at least two double low−accessorized Spannelemententraeger (Carousel), characterized in that at least two drills (B) and one each between two adjacent drilling tools (B1, B2, B3) lying tamping (S1 bzwS2) in a known manner in the following order: first Fohrwerkzeug (B1), tamping first (S1), second drilling tool (B2) or: first drilling tool (B1), tamping first (S 1), second drilling tool (B 2), second stuffing tool (S 2), third drilling tool (B 3), etc.



0) US2830424A – COTTON STRIPPER WITH FIXED STRIPPER COMB

22) Family number: 22080914 (US2830424A) © PatBase

Title:	COTTON STRIPPER WITH FIXED STRIPPER COMB
Priority:	US19560599256 19560720

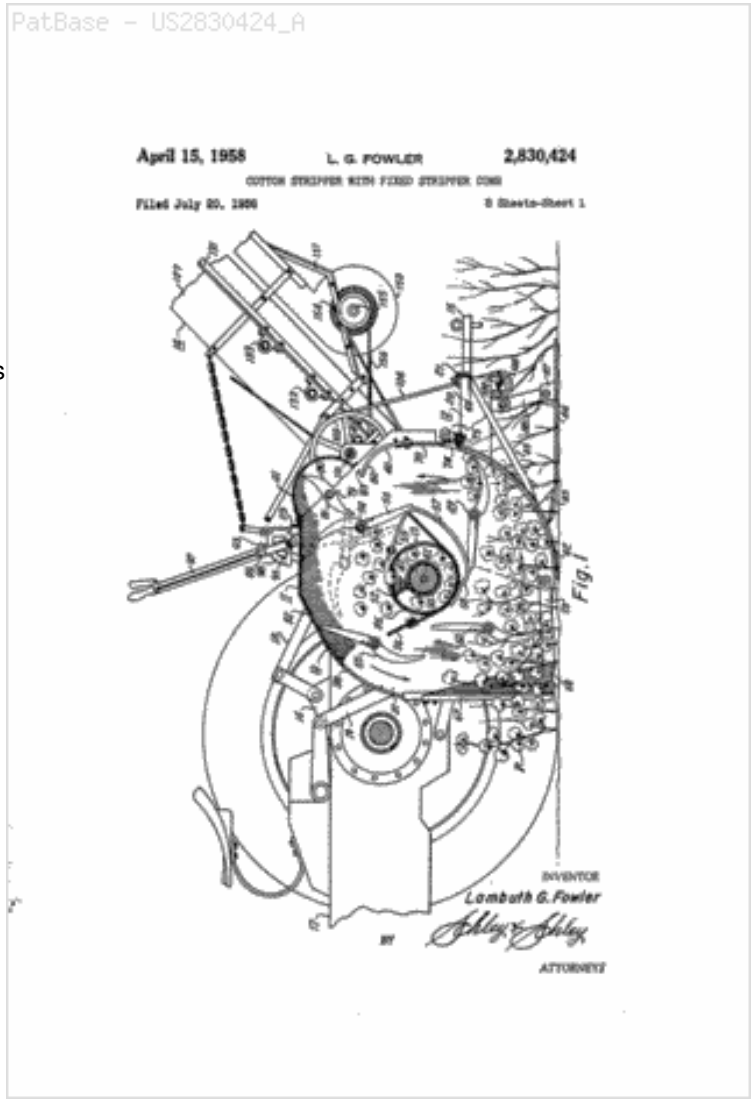
Family:

Publication number	Publication date	Application number	Application date
US2830424 A	19580415	US19560599256	19560720

Probable Assignee:	FOWLER LAMBUTH G
Assignee(s):(std)**:**	FOWLER LAMBUTH G
Inventor(s):(std)**:**	FOWLER LAMBUTH G
International class (IPC 8–9)**:**	A01D46/12 (Advanced/Invention); A01D46/00 (Core/Invention)
International class (IPC 1–7)**:**	A01D45/18
CPC:	A01D46/12
European class:	A01D46/12
US class:	56/333 56/34
Classification Explorer	
Cited documents:	US2691862 A, US2544411 A, US2517063 A, US2504459 A, US1842737 A, US1723587 A,
Forward Citations:	US6134867, US6044635, US2942398,

Abstract:
Source: US2830424A (Claim 1) 1. A cotton harvester including a housing having an open lower portion for straddling a row of cotton plants, stripper members at the lower portion of the housing for receiving the stalks and branches of the plants therebetween to strip cotton from said plants, means mounted in said housing for rotation about a horizontal, trans– verse axis, and a plurality of sweeper elements carried by the rotatable means for revolution about the axis whereby the elements are revolved through the plants and sweep over the stripper mem bers to lift cotton stripped from the plants, the sweeper elements being pivotally mounted on said rotatable means for swinging movement in a plane parallel to the plane of revolution.

PatBase - US2830424_A



0) GB2134777A – FLOOR SWEEPER

23) Family number: 8947800 (GB2134777A) © PatBase

Title: Floor sweeper

Priority: GB19830004695 19830219

Family:

Publication number	Publication date	Application number	Application date
GB2134777 A1	19840822	GB19830004695	19830219
GB8304695 A0	19830323	GB19830004695	19830219

Probable Assignee: PRESTIGE GROUP PLC

Assignee(s):(std)**:** PRESTIGE GROUP PLC

Assignee(s): THE PRESTIGE GROUP PLC

Inventor(s):(std)**:** ROBINSON GEOFFREY

Inventor(s): GEOFFREY ROBINSON

International class (IPC 8–9)**:** A47L11/33 (Advanced/Invention)

International class (IPC 1–7)**:** A47L11/33

CPC: A47L11/33 A47L11/4013 A47L11/4025 A47L11/4041 A47L11/4072

European class: A47L11/33 A47L11/40D A47L11/40D4 A47L11/40F4 A47L11/40K

Classification Explorer

Cited documents: GB803502, GB781675, GB605987, GB533181, GB454621, GB442231, GB211304, GB1192353, GB1049410, GB1044815,

Forward Citations: WO12094106, WO0110283, US8621700, US6553600, US6505371, US5093956, EP1442693, AU765006,

Abstract:
Source: GB2134777A A floor sweeper having a roller brush (14) and dustpan (16) is provided with a mechanism for varying the clearance between brush and dustpan. The mechanism may comprise a lever 21 pivotable about axis 22, a cam 23 attached to shaft 24, and follower 26 which engages in a slot 25 in the cam and which is connected to sliding frame 15, on which the dustpan is mounted.

PatBase - GB2134777_A1

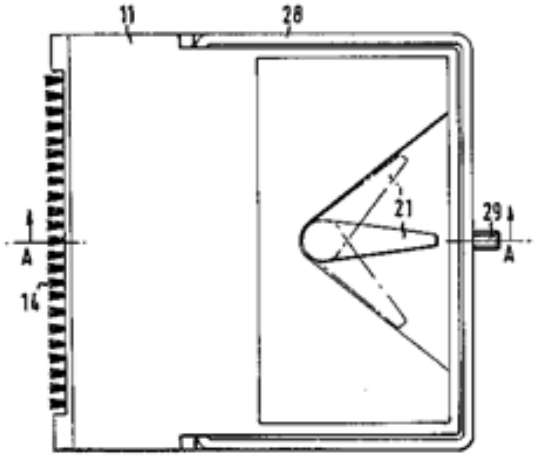


FIG.1

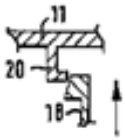


FIG.5

0) US3367147A – YARN SEVERING MEANS FOR STRAIGHT–BAR KNITTING M...

24) Family number: 49187 (US3367147A) © PatBase

Title: Yarn severing means for straight–bar knitting machines

Priority: FR19660064748 19660608 US19650462194 19650608

Family:

Publication number	Publication date	Application number	Application date
BE682256 A	19661208		19660608
DE1585428 A1	19710519	DE19661585428	19660604
FR1482676 A	19670526	FR19660064748	19660608
GB1126220 A	19680905	GB19660025596	19660608
US3367147 A	19680206	US19650462194	19650608

Probable Assignee: TEXTILE MACHINE WORKS

Assignee(s):(std)**:** NORTH AMERICAN ROCKWELL ; TEXTILE MACHINE WORKS

Assignee(s): NORTH AMERICAN ROCKWELL CORP

Inventor(s):(std)**:** ERICH HAEHNEL HERBERT ; HAEHNEL HERBERT E

International class (IPC 8–9)**:** D04B11/00 D04B15/64 D04B35/00 (Advanced/Invention); D04B11/00 D04B15/38 D04B35/00 (Core/Invention)

International class (IPC 1–7)**:** D04B15/64

CPC: D04B11/00 D04B15/64

European class: D04B11/00 D04B15/64 D04B35/00

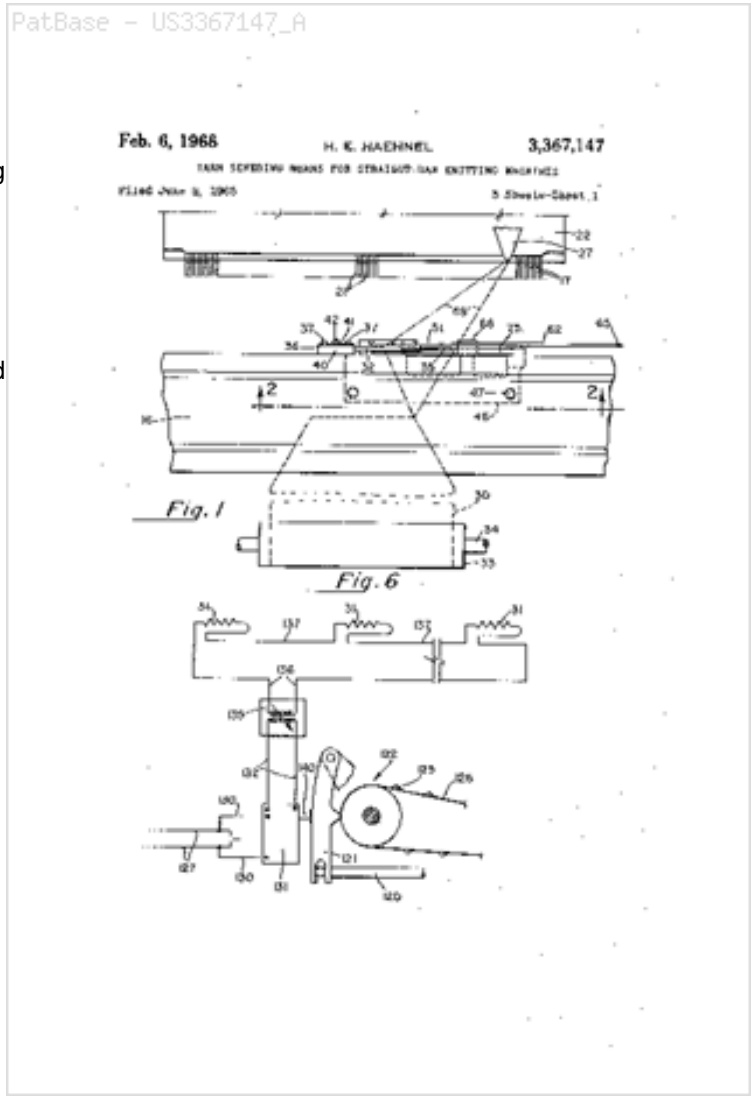
US class: 66/145.00R 66/145R

Classification Explorer

Cited documents: US3120747 A, US2934922 A, US2863310 A, US2844016 A, US2602313 A, GB975548 A, DE1148690 B,

Abstract:
Source: US3367147A ABSTRACT OF THE DISCLOSURE Severing means for straight−bar knitting machines for automatically severing yarn between a completed fabric blank and the machine fabricating elements including a yarn deflecting member movable between an inactive position below the draw−off path of said blank to an active position to engage and deflect the yarn toward a wire element, yarn engaging members receiving said yam from said deflecting member and pressing same into engagement with said element upon return of said deflecting member to inactive position and pattern control means for selective control of said members and the heating of said element to sever the yarn.

PatBase - US3367147_A



0) US5947490A – PEDESTRIAN OPERATED MACHINE WITH FOLDAWAY SEAT ...

25) Family number: 59383118 (US5947490A) © PatBase

Title: Pedestrian operated machine with foldaway seat

Priority: GB19950010701 19950526 WO1996GB01256 19960524

Family:

Publication number	Publication date	Application number	Application date
AT178844 E	19990415	AT19960919902T	19960524
AU199658269 A1	19961211	AU19960058269	19960524
CA2221792 AA	19961128	CA19962221792	19960524
DE69602095 D1	19990520	DE19966002095	19960524
DE69602095 T2	19990923	DE19966002095T	19960524
EP0837790 A1	19980429	EP19960919902	19960524
EP0837790 B1	19990414	EP19960919902	19960524
ES2130830 T3	19990701	ES19960919902T	19960524
GB2301071 A1	19961127	GB19960010926	19960524
GB2301071 B2	19980819	GB19960010926	19960524
GB9510701 A0	19950719	GB19950010701	19950526
GB9610926 A0	19960731	GB19960010926	19960524
US5947490 A	19990907	US19960651781	19960523
WO9637379 A1	19961128	WO1996GB01256	19960524

Probable Assignee: APPLIED SWEEPERS LTD

Assignee(s):(std)**:** APPLIED SWEEPERS LTD ; LOASBY KENNETH MICHAEL ; LOCKHART THOMAS DOBBIE ; MUNNOCH PETER ALEXANDER CLAREN

Assignee(s): APPLIED SWEEPERS LIMITED ; MUNNOCH PETER ALEXANDER CLARENCE ; APPLIED SWEEPERS LTD FALKIRK GB ; APPLIED SWEEPERS LTD FALKIRK

Inventor(s):(std)**:** LOASBY KENNETH ; LOASBY KENNETH MICHAEL ; LOCKHART THOMAS DOBBIE ; LOCKHART THOMAS ; MUNNOCH PETER ALEXANDER CLAREN ; MUNNOCH PETER

Inventor(s): LOCKHART THOMAS DOBBIE GUILSBOROUGH NORTHAMPTON NN6 8QA GB ; MUNNOCH PETER ALEXANDER CLARENCE CLACKMANNANSHIRE FK10 2SF GB ; KENNETH MICHAEL LOASBY ; THOMAS DOBBIE LOCKHART ; PETER ALEXANDER CLARENCE MUNNOCH ; MUNNOCH PETER ALEXANDER CLARENCE ; LOASBY KENNETH MICHAEL FLORE NORTHAMPTON NN7 4LQ GB

Agent(s): BELL G RONALD

Designated states: AL AM AT AU AZ BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IS IT JP KE KG KP KR KZ LI LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SZ TJ TM TR TT UA UG US UZ VN

International class (IPC 8–9): A47L11/40 B60N2/24 B60N2/30 B60N2/38 (Advanced/Invention); A47L11/00 B60N2/24 B60N2/30 (Core/Invention)

International class (IPC 1–7): B60N2/24 B60N2/30 B60N2/38 B62D36/00 B62D51/04

CPC: A47L11/4061 A47L11/4066 B60N2/24 B60N2/305 B60N2/38

European class: A47L11/40H A47L11/40J2 B60N2/24 B60N2/30C2C4 B60N2/38

US class: 15/340.2 15/79.1 180/19.1 180/19.3 280/32.7

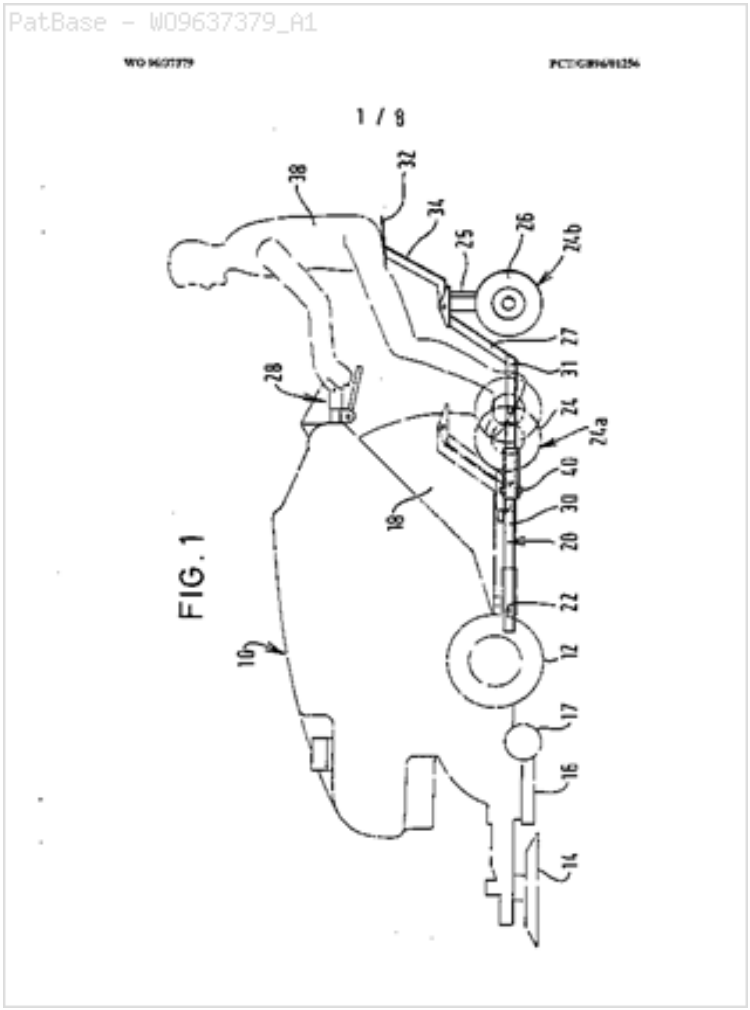
Classification Explorer

Cited documents: US5413364 A, US5388850 A, US5307889 A, US5118123 A, US5004251 A, US4998948 A, US4878339 A, US4828282 A, US4825500 A, US4792153 A, US4666008 A, US4452327 A, US4096920 A, US3984896 A, US3813725 A, US3708823 A, US3670359 A, US3665545 A, US3491399 A, US3485314 A, US3336042 A, US3190672 A, US3099462 A, US2740462 A, GB2287418 A1, GB2271728 A1, GB2198930 A1,

EP0409244 A2, EP0408008 A2, CH684770,

Forward Citations: WO16054529, US9010771, US8684373, US8388262, US8360459, US8196247, US7857342, US7591509, US7571914, US7549651, US7533742, US7389836, US7300061, US7219754, US7059615, US7047716, US6968594, US6935092, US6918603, US6871714, US6692010, US6560952, US6490849, US6059309, US2011236130, US2011169236, US2010101033, US2008036257, US2007289787, US2007181352, US2007145707, US2007013157, US2006273547, US2006243500, US2006197295, US2006102392, US2005242533, US2005116431, US2005098364, US2005098362, US2004256166, US2004168421, US2003227146, US2003221402, US2003163886, US2003079923, GB2359525, GB2359525, GB2338686, GB2323578, EP2724698, EP0867331,

Abstract:
Source: US5947490A A seat assembly for a pedestrian operated machine may be pivotally attached to the rear of the machine at (22) and comprise a frame (20) having a spine (30) with a spine extension (31) supporting a seat (32) on a stalk (34) supported by a wheel (26). The spine extension is movable between a retracted pedestrian operated mode and an extended ride−on mode when the seat can be pivoted from a fold−away position to a position of use. When in its extended position the spine extension allows the frame to be pivoted about a vertical axis (40).



26) Family number: 6390049 (SU865201T) © PatBase

Title: SYNCHRONIZING SYSTEM FOR SPEED OF MOVEMENT OF AGRICULTURAL HARVESTER SET

Priority: SU19802868694 19800116

Family:

Publication number	Publication date	Application number	Application date
SU865201 A1	19810923	SU19802868694	19800116
SU865201 T	19810923	SU19802868694	19800116

Probable Assignee: KUBAN NII ISPYTANIYA TRAKTOROV

Assignee(s):(std)**:** KUBAN NII ISPYTANIYA TRAKTOROV

Assignee(s): KUBANSKIJ NII ISPYTANIYA TRAKTOROV SELSKOKHOZYAJST ; KUBANSKIJ NII ISPYTANIYA TRAKTOROV SELSKOKHOZYAJSTVENNYKH MASHIN

Inventor(s):(std)**:** DEGTYAREV VIKTOR V

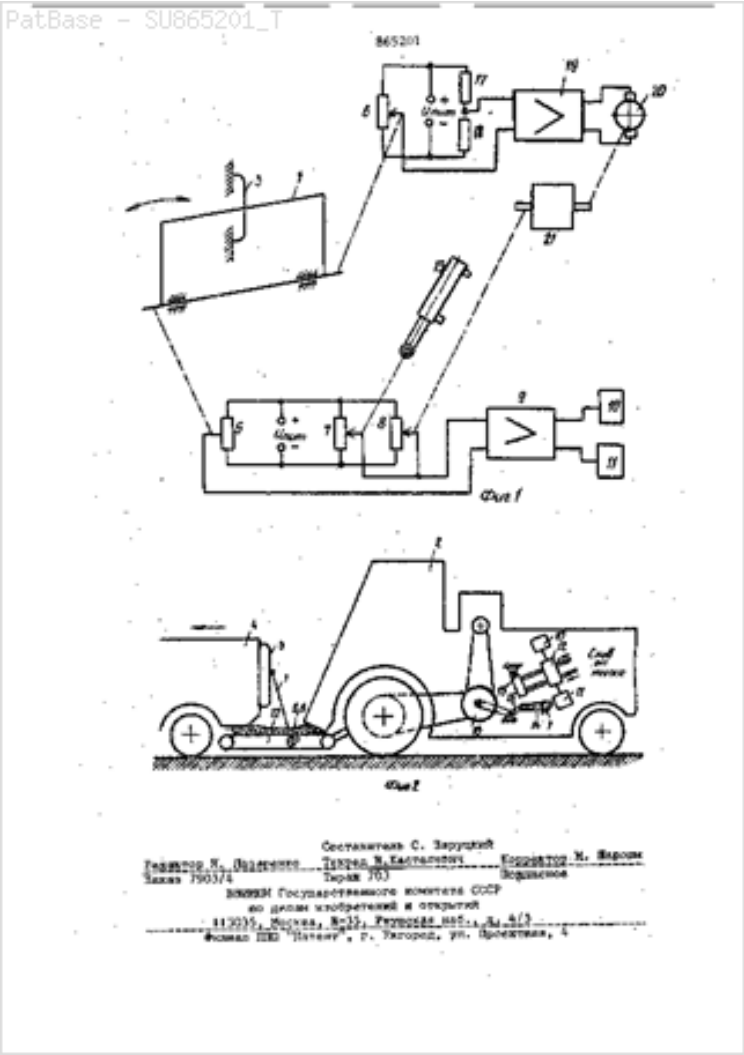
Inventor(s): DEGTYAREV VIKTOR V SU

International class (IPC 8–9)**:** A01D69/02 (Advanced/Invention)

International class (IPC 1–7)**:** A01D69/04

Classification Explorer

PatBase - SU865201_T



Abstract:
Source: SU865201T Invention relates to selskoohoz agronomically engineering, namely to the design of systems but the speed of the synchronization selskohrz–agricultural harvesting machine and can be used in the test for self–propelled agricultural harvesting machines for automatically controlling the speed of the self–sampler with no significant effect on the power machine under test. Known synchronization system of the velocity of movement of an agricultural harvesting machine comprising a cam follower lever sensor distance, sensor feedback, electronic amplifier and actuator rn. The disadvantage of this system is synchronized tion that it does not allow the same to keep the distance between machines with different machine speeds of movement, which leads to loss of n which m retractable mass during operation and v.konechnom account errors in the selection Sample characteristics–j generators performance DUT.. The purpose of the invention – reduction of losses collected mass and reduce the time for additional adjustment of the speed of the synchronization unit. Said. Aim is achieved in that the system is provided with a synchronization bridge circuit with a potentiometric sensor adjustment potentiometer included parallel to the sensor distance, and the electric motor with gear, kotorsh associated with the potentiometer. Fig. 1 shows a block diagram of the synchronization system of movement, Fig. 2 – a general view of an agricultural harvesting machine. Synchronization system includes a follower lever 1 2 probe interacting with the free end of the test machine emphasis 3 4 axis potentiometer sensor distances 5 and 6 sensor adjustment coupled with the shaft of the servo arm 1. Potentiometer feedback potentiometer adjustment 7 and 8 are connected to the system parallel but also in conjunction with the sensor distances form an electrical bridge whose output to the input podkl10chen electronic amplifier 9. 9 The output of the gate loaded electrical windings 10 and Il romagnitov HYDROALLOCATORS 12 connected to acti py 13 kotorsh coupled via a system of levers 14 and 15 with the CVT skoroeti 16 and potentiometer feedback 7. adjustment scheme synchronization system consists of an electrical bridge comprises a potentiometer sensor adjustment 6 and 17 and resistors 18 and 19 electronic amplifier tion reversing motor 20 connected to the first via a reduction gear 21c axis potentiometer adjustment 8, in parallel with the potentiometer feedback 7. bootbornika conveyor 22 about 2 unit is located under the unloading of the test window sweeper 4. Synchronization System speed doors voltage works as follows. During the movement of self–propelled bootbornika 2 test for harvesting MAPP–4 emphasis 1Noy 3 acts on follower lever 1 and turn the potentiometer shaft 5, the balance of Electrical and bridge to 5, 7 and 8 is disturbed at the input of the amplifier is 9 to control signal drive extending ultimately, the displacement rod of the hydraulic cylinder 13 in the direction of reducing speed, if the speed of the self–pro–2 bootbornika above test machine speed 4 and upwardly of the probe 2 when the speed lower than the speed of the machine 4. When this sensor feedback, soedinennsh hydraulic cylinder with piston rod 13 returns the axle 5, 7 and 8 with one of the balance control signal is present, the motion of rod 13 gidrotsilivdra stopped. If the change in velocity was not enough then there are one or more cycles of the system to the full rate matching. However, if you increase the speed of the unit is personal follower lever 1 is deflected by an angle in the direction of its motion, as its position is determined by the position of the hydraulic cylinder rod 13, the control variator 16. The motion of the probe 2 and 4 machines sinhronnm It appears, but the distance therebetween is increased. Thus, the higher the speed of movement of the machine, the longer–distance between its machines. This disadvantage is eliminated Adjustment Scheme system. In the event of the servo arm 1 from the optimal position is impaired by balancing the bridge 6, 17 and 18, the error signal from the amplifier 19 is supplied to a reversible motor 20 bound zannm through gear 21 with potentiometer adjustment system 8. Introduced mismatch in control bridge 5, 7 and 8, by the scheme described above occurs testing of an error signal to an optimum reduction of the distance between the machine unit. Application dannogoustroystva allows to reduce losses collected mass and thus greatly improve the accuracy of the sampling weight of the cleaning device under test simultaneously shortened processing time to prepare the system to work. CLAIMS speed synchronization system dvilseni an agricultural harvesting machine comprising a follower lever, the distance sensor, the sensor feedback, an electronic amplifier and actuator, and a m l sponding that, in order to reduce weight losses collected and abbreviations additional regulation time for system synchronization, the latter is provided with a bridge circuit with the sensor, potentiometer, switched parallel

to the sensor spacing, and the motor with reduction gear, which is associated with the potentiometer. Sources of information received into account in the examination 1. Report Kuban Research Institute testing of tractors and agricultural machines. ? 396–74, 1974 (prototype).

0) GB395944A – IMPROVEMENTS RELATING TO VACUUM CARPET OR LIKE ...

27) Family number: 20629856 (GB395944A)

© PatBase

Title: Improvements relating to vacuum carpet or like sweepers

Priority: GB19320036597 19321224

Family:

Publication number	Publication date	Application number	Application date
GB395944 A	19330727	GB19320036597	19321224

Probable Assignee: AIR WAY ELECTRIC APPL CORP

Assignee(s):(std)**:** AIR WAY ELECTRIC APPL CORP

Assignee(s): AIR WAY ELECTRIC APPLIANCE CORP

International class (IPC 8–9): A47L9/02 (Advanced/Invention); A47L9/02 (Core/Invention)

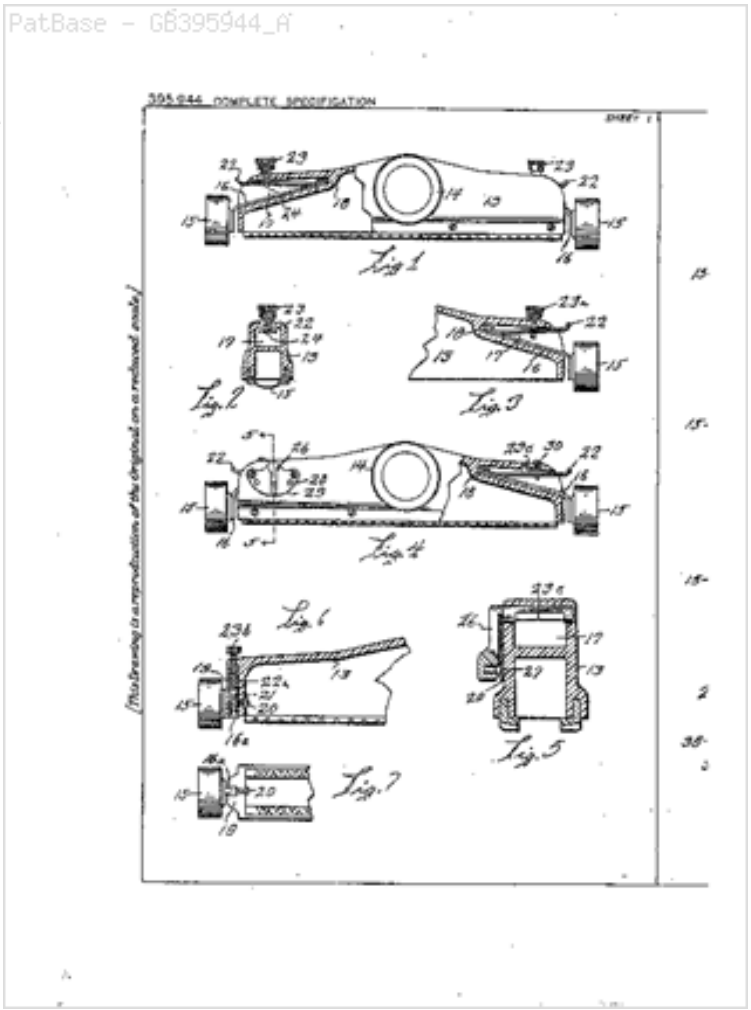
International class (IPC 1–7): A47L9/02

CPC: A47L9/02

European class: A47L9/02

Classification Explorer

Abstract:
Source: GB395944A 36597. [Class 8 (i).] The floor nozzle of a vacuum cleaner is supported by rollers 15, Fig. 1, mounted on separate movable parts 16 attached to the nozzle, these parts being resiliently mounted e.g. by flat springs 22 and screw or other means 23 provided to adjust the resiliency. The adjusting means at the two ends may be simultaneouslv actuated by a common means. Fig. 6 shows the wheels 15 carried by vertically sliding brackets 16a depressed by adjustable coil springs 22a.



0) GB255328A – IMPROVEMENTS IN OR RELATING TO CONTROL MECHANIS...

28) Family number: 18253915 (GB255328A)

© PatBase

Title:	Improvements in or relating to control mechanism for the handle bails of carpet sweepers or other movable apparatus
Priority:	GB19260001109 19260114

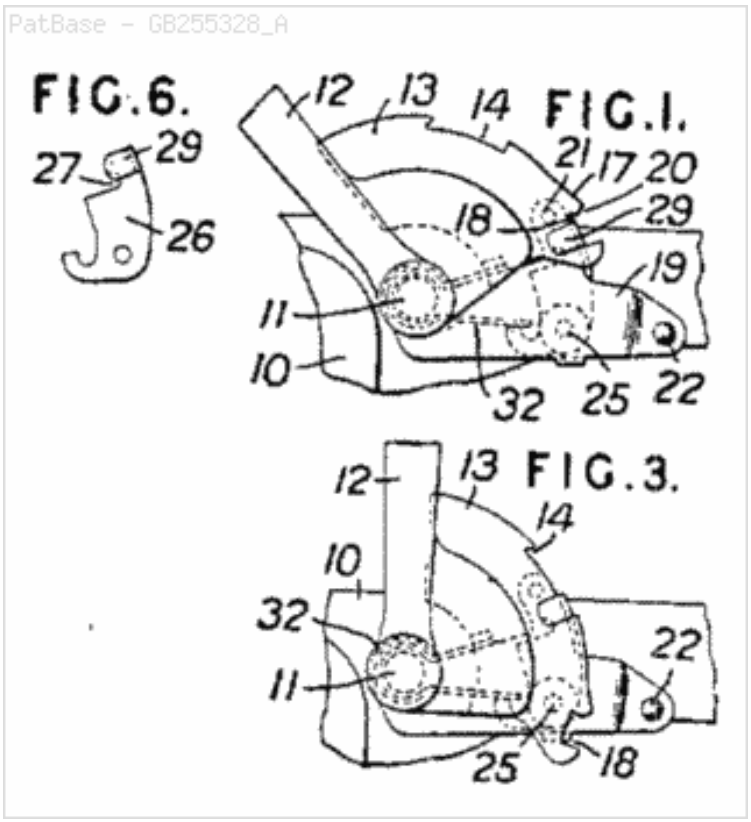
Family:

Publication number	Publication date	Application number	Application date
GB255328 A	19260722	GB19260001109	19260114

Probable Assignee:	HOOVER CO
Assignee(s):(std):	HOOVER CO
Assignee(s):	THE HOOVER COMPANY
International class (IPC 8–9):	A47L11/40 (Advanced/Invention)
International class (IPC 1–7):	A47L9/32
CPC:	A47L11/4075
European class:	A47L11/40L

Classification Explorer

Abstract:
Source: GB255328A 255,328. Hoover, Ltd., (Hoover Co.). Jan 14, 1926. D i s c hinges; pivoting adjustments.– The handle bail of a carpet sweeper, suction cleaner, or other movable apparatus is secured in its storage position by means of a quadrant carried on the bail and a spring–pressed latch normally tending to engage notches in the edge of the quadrant, a separate member being provided for disengaging the latch; a short notch locks the bail in storage position and a longer notch permits limited movement of the bail when the handle is in normal operating position. The bail 12 is mounted on a pivot 11 on the sweeper casing 10 and has secured thereto a quadrant 13 with a short notch 18 and longer notch 14. The latch 26, Fig. 6, is pivoted at 25 to the sweeper casing 10 and is urged in an anticlockwise direction by a spring 32 so that, in the position shown in Fig. 1, the forked end 29 of the latch engages the notch 18, thereby securing the bail in such position that the handle is upright in storage position. Coacting with the latch 26 is a foot lever 19 mounted on the pivot 11 and urged upwards by the spring 32. When the lever 19 is depressed by foot pressure on a pin 22 a rounded pin 21 on the lever rides over the rounded nose of the latch fork 29, thereby pressing back the latch until the pin 21 enters the notch 27 in the latch, which holds the foot lever in depressed position. Movement of the bail and quadrant is now permitted by reason of the rounded edge 20 of the notch 18 riding under the fork 29, the further backward movement of the latch 26 thus produced freeing the pin 21 of the foot lever 19. When the bail is swung over to the position shown in Fig. 3, the fork end 29 of the latch 26 enters the long notch 14, which maintains the handle in its normal operating position but with some freedom to swing. The foot lever is again operated when the latch is to be released from the notch 14, which results in the pin 21 of the foot lever being again caught in the notch 27 of the latch, the latter being held thereby in an outward position released from the notch 14. When the quadrant is swung up to the position shown in Fig. 1, a cam projection 17 rides under the latch fork 29 moving the latch outwardly so that the pin 21 of the foot lever is released and the latch is then free to move into locking engagement with the notch 18.



0) GB706951A – IMPROVEMENTS IN OR RELATING TO WEIGHING APPARAT...

29) Family number: 19419463 (GB706951A) © PatBase

Title: Improvements in or relating to weighing apparatus

Family:

Publication number	Publication date	Application number	Application date
GB706951 A	19540407	GB19520001048	19520114

Probable Assignee: WRIGHT MACHINERY CO

Assignee(s):(std)**:** WRIGHT MACHINERY CO

Assignee(s): WRIGHT MACHINERY COMPANY

International class (IPC 8–9)**:** G01G13/00 (Advanced/Invention)

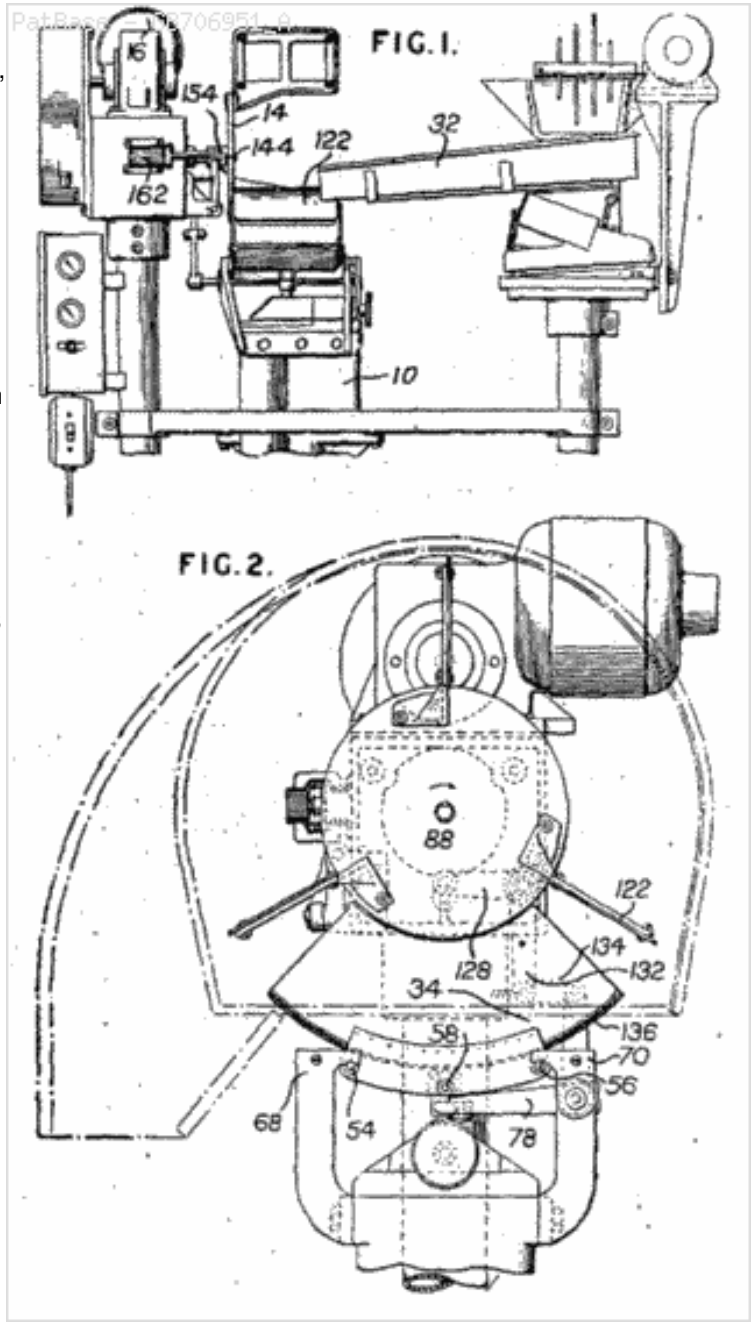
International class (IPC 1–7)**:** G01G13/16

CPC: G01G13/00

European class: G01G13/00

Classification Explorer

Abstract:
Source: GB706951A 706,951. Automatic feed weighers. WRIGHT MACHINERY CO. Jan. 14, 1952 [Aug. 3, 1951], No. 1048/52. Class 143 In an automatic feed weigher, material is fed continuously by a vibrating conveyer into a concave trough–shaped scale pan, which, at the correct weight, is lifted and locked, and the material is swept out by a rotating paddle. The material from the conveyer 32, Fig. 1, falls into the scale pan 34 of a liquid displacement weighing machine 10. The machine is as disclosed in Specification 633,075. When the required weight is in the pan, a mercury switch is closed to energize a solenoid 162 tn withdraw a latch 154 from engagement with an abutment 144, Fig. 5 (not shown), to allow the rotation of a turret 14. The turret, which carries three spaced sweeping paddles 122, is driven by a motor 16 through reduction gearing and a clutch, Fig. 3 (not shown), which slips when the turret is held still by the engagement of the latch 154. A cam 88, Fig. 4 (not shown) and Fig. 2, also rotates with the turret and through a linkage 128, 132, 134, 136 rotates a lever 78 which engages a lug 58 on the scale pan 34 and lifts the pan until further lugs 54, 56 on the pan engage fixed stops 68, 70. In this position the pan is held steady and is swept by one of the paddles 122. The lifting of the pan opens the mercury switch' and the latch 154 is released to engage the next abutment 144 as it comes round. The turret is stopped, a depression in cam 88 releases the scale pan, and the weighing cycle is recommenced.



0) EP2374694B1 – LENKEINRICHTUNG FUER EIN SELBSTFAHRENDES GERAET...

30) Family number: 49713660 (EP2374694B1) © PatBase

Title: LENKEINRICHTUNG FUER EIN SELBSTFAHRENDES GERAET STEERING DEVICE FOR A SELF−PROPELLED DEVICE

Priority: DE201010016363 20100408 EP20110401054 20110404

Family:

Publication number	Publication date	Application number	Application date
DE102010016363 A1	20111013	DE201010016363	20100408
DE502011009158 D1	20160504	DE201150009158T	20110404
EP2374694 A2	20111012	EP20110401054	20110404
EP2374694 A3	20140507	EP20110401054	20110404
EP2374694 B1	20160323	EP20110401054	20110404

Probable Assignee: AMAZONEN WERKE DREYER H

Assignee(s):(std)**:** AMAZONEN WERKE DREYER H

Assignee(s): AMAZONEN WERKE H DREYER GMBH AND CO KG

Inventor(s):(std)**:** KLEIN LAURENT

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class(IPC 8–9)**:** A01B69/00 A01D67/00 B62D11/24 B62D7/14 (Advanced/Invention)

CPC: B62D11/006 B62D11/24

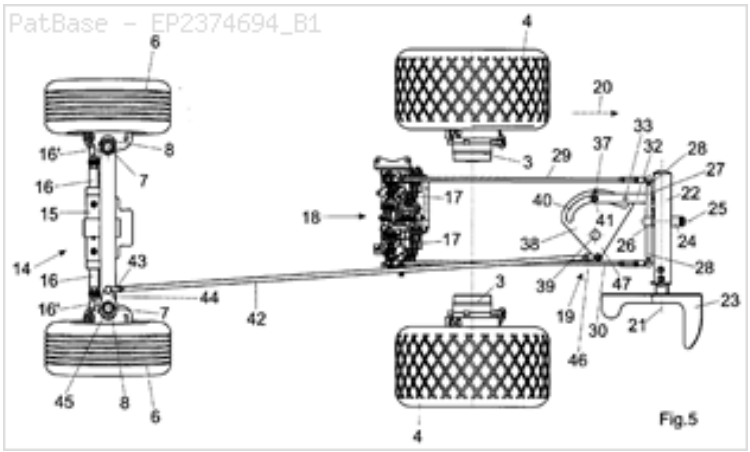
European class: B62D11/00B6 B62D11/24

Classification Explorer

Cited documents: WO0130636 A1, US2009241708 AA, US2001040057 AA, DE9102354 U, DE102006013080 A1

Forward Citations: DE102013215425,

Abstract:
Source: EP2374694A3 Lenkeinrichtung (19) fuer ein selbstfahrendes Geraet, wie beispielsweise Rasenmaeher und/oder Kehrmaschine mit einem Rahmen, zwei angetriebenen Vorderraedern (4), die jeweils von einem oelmotor (3) mit zugeordneten Regeleinrichtungen (17,18) in einstell− und/oder regelbarer Weise antreibbar sind, und mittels eines Hydraulikzylinders (15) zum Lenken des Geraetes ansteuerbaren lenkbaren Hinterraedern (6). Um die bekannte fuer eine auf die Vorder− und Hinterraeder wirkende Lenkeinrichtung geschaffen wesentlich einfacher auszugestalten, ist vorgesehen, dass die Lenkeinrichtung (19) ein Lenkelement (12) zur Ansteuerung des zumindest einem der lenkbaren Hinterraedern (6) zugeordneten Hydraulikzylinders (15) und der den Vorderraedern (4) zugeordneten Regeleinrichtungen (17,18) aufweist, dass die den Vorderraedern (4) zugeordneten Regeleinrichtungen (17,18) mittels uebertragungseinrichtungen (27,32,38,42) durch den Lenkeinschlag der angesteuerten Hinterraeder (6) betaetigbar sind.



0) GB329563A – IMPROVEMENTS IN OR RELATING TO AUTOMATIC WEIGHI...

31) Family number: 18650819 (GB329563A)

© PatBase

Title: Improvements in or relating to automatic weighing apparatus

Priority: GB19290021606 19290713

Family:

Publication number	Publication date	Application number	Application date
GB329563 A	19300522	GB19290021606	19290713

Probable Assignee: AVERY LTD W AND T

Assignee(s):(std)**:** AVERY LTD W AND T ; OTTO MEYER

Assignee(s): W AND T AVERY LIMITED

International class (IPC 8–9): G01G21/00 (Advanced/Invention)

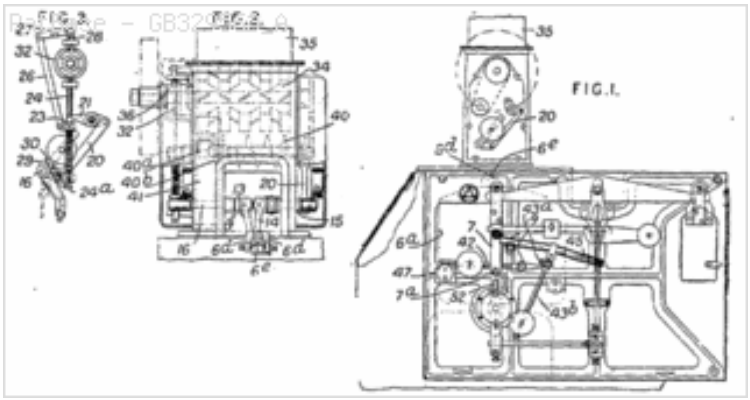
International class (IPC 1–7): G01G13/08 G01G13/22

CPC: G01G21/00

European class: G01G21/00

Classification Explorer

Abstract:
Source: GB329563A 329,563. Avery, Ltd., W. and T., and Meyer, O. July 13, 1929. Automatic–feed weighers. – An automatic weighing–apparatus of the kind embodying a rotatable multi–compartmented weighing hopper, a power–driven feeding mechanism and an automatically operating clutch device for putting the feeding mechanism into or out of operation is characterized in that the clutch device is actuated by means under the control of trigger arms which determine the operation of the main and dribble feed supply gates governing the supply of material to the weighing hopper. The material from the supply hopper 35 is fed to the upper compartment 6a of the weigh hopper by a bladed feed drum 34 for the main feed and a pug screw 40 for the dribble feed. The weigh hopper sinks until a knife–edge projection 6 thereon liberates a trigger 14 and allows the main feed gate to close in the manner described in Specification 284,231. During this movement the shaft 15 of the trigger, operating through linkage 20, Fig. 3, moves a rocker 21 away from a collar 23 connected by a link 26 and lever 27 to a clutch–disengaging plunger 28. The dribble feed is continued through a chamber 41 by the pug screw 40, which carries a sweeper arm 40a and a blade 40 to prevent clogging. When the charge is made up, a second knife–edge projection 6e on the weigh hopper liberates a second trigger 13 and allows the dribble gate to close. The movement of the trigger shaft 16 causes a cam 29 to displace a trip lever 30 from the end 24a of a spring–pressed rod, which then rises and brings its upper end, together with the plunger 28, into engagement with spring–pressed clutch members 32, 36, thus disengaging the clutch and stopping the feed drum 34 and pug screw 40. During the above–described operations, a counterweighted lever 42, Fig. 1, resting on a stop 7 on the supporting–strap 7 of the weigh hopper has been descending with the weigh hopper. One end of the lever 42 engages a roller 43a on a pendulum lever 43b, which also carries a bent tube 45 containing mercury. During the descent of the weigh hopper the pendulum lever is thus raised and the mercury flows gradually along the tube and prevents too sudden or premature release of the lever 42, which ultimately comes to rest on an eccentric stop 47 out of contact with the stop 7. During discharge, the weigh hopper rises and the mechanism is re–set. To permit a weighing operation to be checked, a hand–operated bolt 52 may be turned so as to prevent the weigh hopper from rotating and discharging.



0) DE2428400A1 – STAUBSAUGERDUESE VACUUM CLEANER NOZZLE WITH OSC...

32) Family number: 2148721 (DE2428400A1) © PatBase

Title: STAUBSAUGERDUESE VACUUM CLEANER NOZZLE WITH OSCILLATING SWEEPER BRUSHES – IS DESIGNED WITH CRANK GEARING TO REMOVE DIRT AWAY FROM BRUSHES

Priority: DE19742428400 19740612

Family:

Publication number	Publication date	Application number	Application date
DE2428400 A1	19760102	DE19742428400	19740612

Probable Assignee: BOSCH SIEMENS HAUSGERAETE

Assignee(s):(std)**:** BOSCH SIEMENS HAUSGERAETE

Assignee(s): BOSCH SIEMENS HAUSGERAETE GMBH

Inventor(s):(std)**:** APPEL WOLFGANG

International class (IPC 8–9)**:** A47L9/04 (Advanced/Invention); A47L9/04 (Core/Invention)

International class (IPC 1–7)**:** A47L9/04

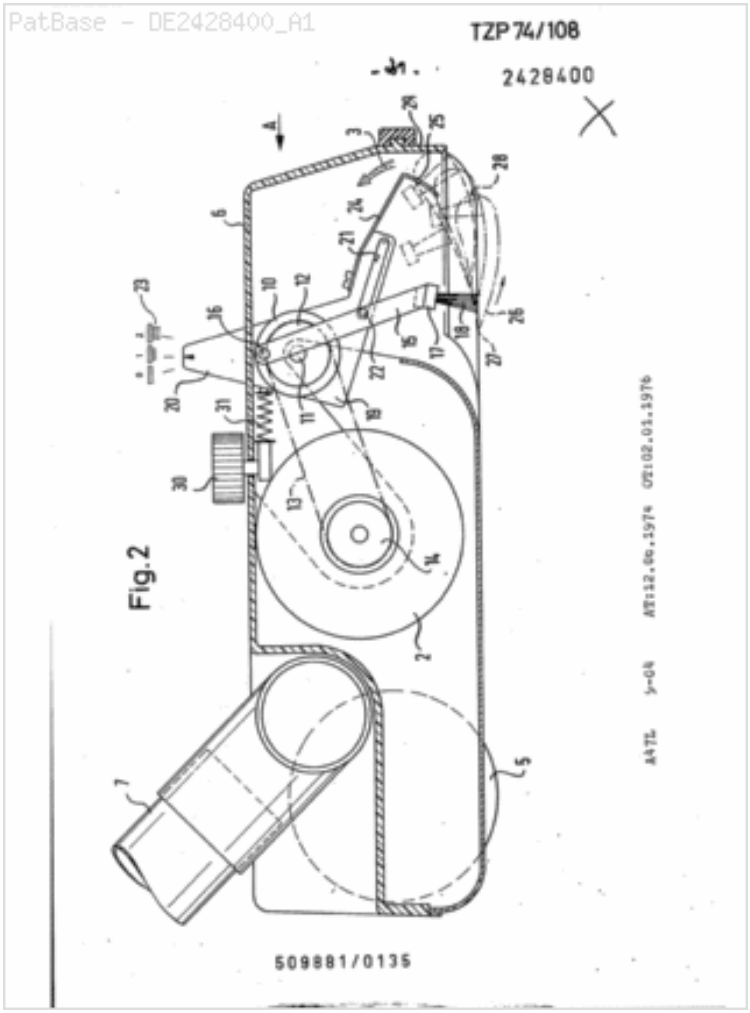
CPC: A47L9/0483 A47L9/0494

European class: A47L9/04E4 A47L9/04F

Classification Explorer

Forward Citations: US8032985, US7657967, US7458131, US6189180, US5901411, EP2016882, EP1676513, EP1554964, EP1495707, EP0786228,

Abstract:
Source: DE2428400A1 Staubsaugerduese mit einer im Bereich der Saugoeffnung angeordneten insbesondere hoehenverstellbaren Kehr– buerste, die zur Du?chfuehrung von pendelartigen Kehr bewegungen gegenueber der Saugoeffnung durch einen An trieb relativ bewegbar ist,dadurchgekennzeichnet, dass die Eellrbuerste (17) an der Koppelstange (15) eines Kurbelgetriebes be festigt ist und bei einer Rotationsbewegung der Antriebs kurbel (Kurbeischeibe 10) eine geschlossene Kurvenbahn durchlaeuft, die in einer zur Ebene des Saugobjektes senkrecht stehenden Ebene liegt und einen in der Ebe ne des Saugobjektes liegenden Kurvenabschnitt auf– weist. The vacuum cleaner nozzle is provided with a movable height–adjustable brush (17) which is fastened to the coupling rod (15) of a crank gear mechanism so that during rotation the crank disc follows an endless cam track which lies in a plane at right angles to the carpet and part of which lies in the plane of the carpet. This means that where the sweeper brushes move in a swing motion the accumulating dirt is stripped off and sucked up whilst the brushes are still in contact with the carpet. The crank gear can be designed so that the sweeper brush follows a very flat elongate curved track wherein at the turning point the brush is practically at a standstill.



0) US2406247A – FLOOR CLEANING MACHINE

33) Family number: 22052018 (US2406247A) © PatBase

Title: FLOOR CLEANING MACHINE

Priority: US19410394007 19410517 US19420439903 19420421

Family:

Publication number	Publication date	Application number	Application date
US2316709 A	19430413	US19410394007	19410517
US2406247 A	19460820	US19420439903	19420421

Probable Assignee: JULIUS H KIEL

Assignee(s):(std)**:** JULIUS H KIEL ; ROBERT B KIEL

Inventor(s):(std)**:** JUNE OWEN IRA

Inventor(s): OWEN IRA JUNE

International class (IPC 8–9)**:** A47L11/32 A47L11/33 (Advanced/Invention); A47L11/00 (Core/Invention)

International class (IPC 1–7)**:** A47L11/22 A47L11/33

CPC: A47L11/32 A47L11/40 A47L11/4075 A47L11/33 A47L11/4013 A47L11/4041 A47L11/4058 A47L11/4069 Y10S15/10

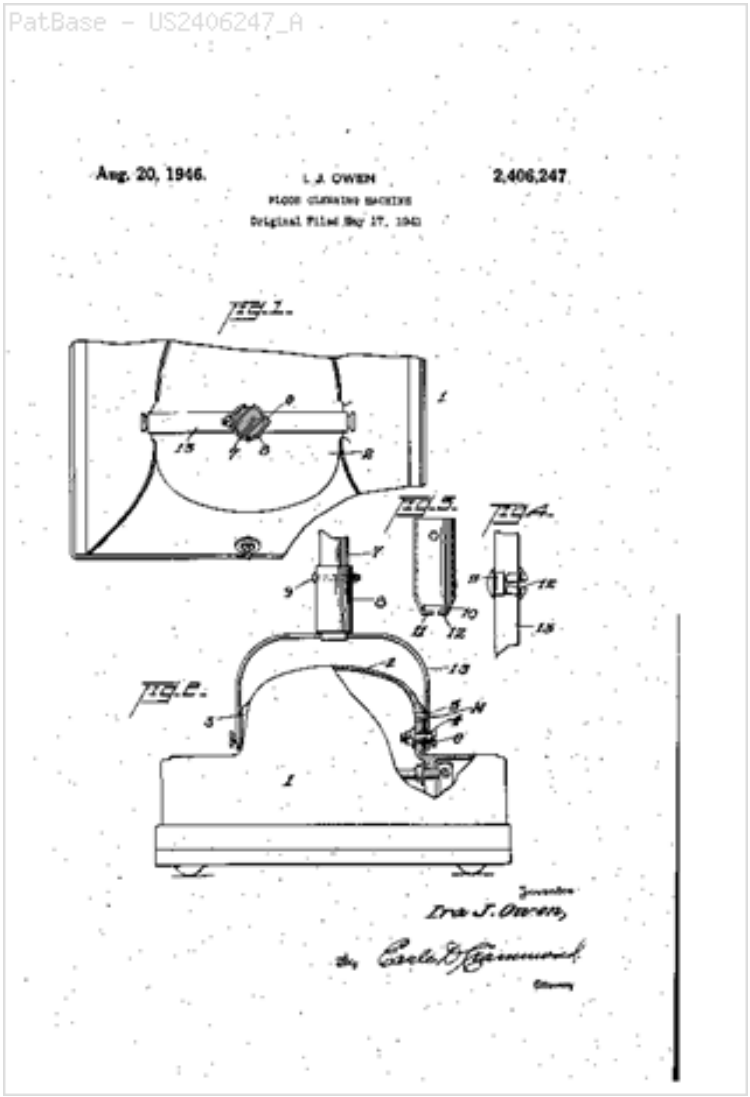
European class: A47L11/32 A47L11/33 A47L11/40 A47L11/40D A47L11/40F4 A47L11/40G4 A47L11/40J4 A47L11/40L

US class: 15/410 15/47 15/DIG.10

Classification Explorer

Forward Citations: USD600420, USD599066, USD581617, USD581616, USD501588, USD501282, US8726441, US5319819, US5285549, US3602933, US2800372, US2003210614,

Abstract:
Source: US2406247A 1. In a carpet sweeper, a molded one−piece housing having substantially vertical sides and a curvedltop, said top being provided with a central raised dome provided on opposite sides thereof with reinforcing and mounting lugs, a pivotal mounting bolt in each of said lugs projecting outwardly therefrom to detachably receive the endsss of a handle bail, a projecting detent disposed vertically above said mounting bolt in each oi' said lugs; and an' operating handle' having ssa strap−like bail straddlirigsaid dome, said bail having vertically aligned apertures in the end thereof for cooperation with said mounting bolt and detent., the bail and its mounting being so constructed and arranged that the bail may pivot on the mounting bolt during operationfof the machine and may be retained in a Vertical position by the detents and bail apertures when the machine is not in use, _



0) GB1326391A – TRANSFER DEVICES

34) Family number: 172089 (GB1326391A)

© PatBase

Title: TRANSFER DEVICES

Priority: JP19690073597 19690918

Family:

Publication number	Publication date	Application number	Application date
CH517023 A	19711231	CH19700013715	19700916
DE2046128 A1	19710506	DE19702046128	19700918
DK131768 B	19750901	DK19700004778	19700917
DK131768 C	19760209	DK19700004778	19700917
GB1326391 A	19730808	GB19700044709	19700918

Probable Assignee: MORINAGA CONFECTIONERY CO LTD

Assignee(s):(std)**:** MORINAGA CONFECTIONERY CO LTD

Inventor(s):(std)**:** FUMIO SATO ; SATO F

Inventor(s): SATO FUMIO

International class (IPC 8–9)**:** B65G17/06 B65G47/50 (Advanced/Invention); B65G17/06 B65G47/50 (Core/Invention)

International class (IPC 1–7)**:** B65B35/10 B65B35/44 B65G37/00 B65G43/08 B65G47/54 B65G47/68 B65G47/82

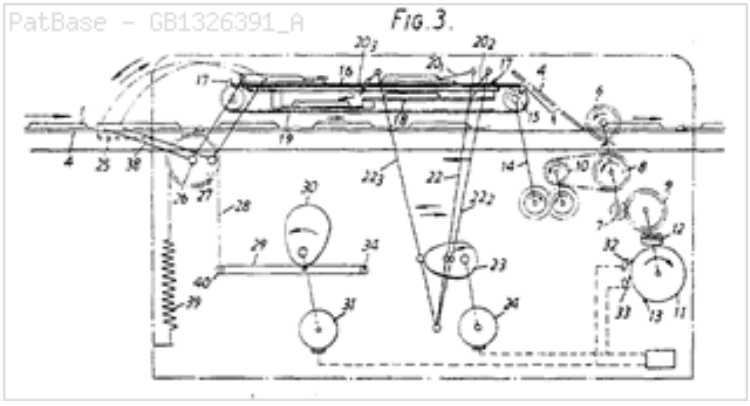
CPC: B65G17/067 B65G47/503 B65G2201/02 B65G2811/0647

European class: B65G17/00 B65G17/06G B65G47/50A L65G201/02 L65G811/06M

Classification Explorer

Forward Citations: WO16195497, GB2301329, GB2301329, DE3700506, DE3700506,

Abstract:
Source: GB1326391A 1326391 Endless conveyers MORINAGA CONFECTIONERY CO Ltd 18 Sept 1970 [18 Sept 1969] 44709/70 Heading B8A In an apparatus for transferring groups of articles e.g. bars of chocolate from an endless conveyer 1 to an endless conveyer 19 extending laterally thereof, the articles are carried on trays 4 with lugs 41 resting on webs 5 mounted on a pair of spaced chains 2. The trays are raised by a pair of pivotal arms 38 from the conveyer 1 to a conveyer 16 with lugs 17 to advance the trays beneath a pusher 20 which is spaced a distance above the conveyer 16 to pass over the trays, which are subsequently discharged from the conveyer 16 and returned to the conveyer 1, but to engage the articles and push the same from the trays and on to a stationary support 18. The pusher 20 is mounted on a reciprocate arm 22 and on movement thereof the pusher is lowered to engage the articles on the support 18 and transfer the same on to the conveyer 19. The arms 38 and 22 are driven in synchronism with the conveyer 1.



0) GB808288A – IMPROVEMENTS IN OR RELATING TO THE APPLICATION ...

35) Family number: 20290998 (GB808288A) © PatBase

Title: Improvements in or relating to the application of granular material, for example sand, to the surfaces of bricks, building blocks and the like

Priority: GB19560001606 19560117

Family:

Publication number	Publication date	Application number	Application date
GB808288 A	19590204	GB19560001606	19560117

Probable Assignee: JOHN ALEXANDER JOHNSON

Assignee(s):(std): FREDERICK VALENTINE WILLIAM SE ; JOHN ALEXANDER JOHNSON

Assignee(s): FREDERICK VALENTINE WILLIAM SEDGLEY

International class (IPC 8–9): B28B11/06 (Advanced/Invention); B28B11/04 (Core/Invention)

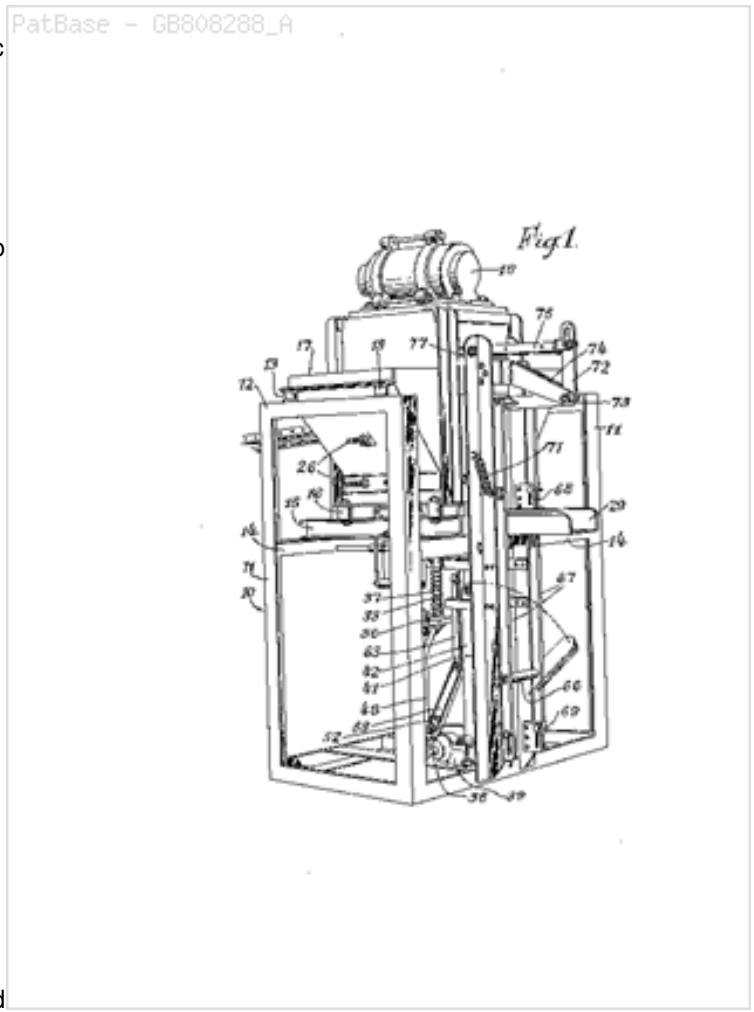
International class (IPC 1–7): B28B11/06

CPC: B28B11/06

European class: B28B11/06

Classification Explorer

Abstract:
Source: GB808288A 808,288. Coating bricks c with sand c. JOHNSON, J. A., and SEDGLEY, F. V. W. Jan 2, 1957 [Jan 17, 1956], No. 1606/56. Class 87(2). Granular material, e.g. sand, is applied from a sand box 17, which is mounted on a frame 10, to the surfaces of bricks, c., which have been raised into the box through a hole 19 in its base, and, after distribution, is embedded in said surfaces. Two pairs of opposing vertical plates 22, 23 are fixedly mounted on rods 26 in the box and vibrate therewith under the action of motor 18. Each brick passes upwardly on lift plate 31 through the vertical passage, of similar cross section, formed by these plates which have recesses 24 on their internal surfaces communicating through opening 25 with the sand mass in box 17. In operation sand passes through these openings, and after distribution, is embedded in the brick by the beating action of the vibrating plates. Lift plate 31 is raised by the initial clockwise movement of a rocking lever 41 which may be operated by the discharge mechanism, Fig. 8 (not shown) of the brick making press from which bricks are fed to the sanding apparatus. The top of lever 41 is connected by a link having parts 52, 53, the former of which is pivotally connected to a forked arm 47. This arm is coupled by a pivoted link 48 to a clevis 49 fixed beneath the table 31. The clockwise movement of the lever 41 is continued, and link parts 52, 53 are released for guided relative movement by the rotation of a cam 59, Fig. 6, which disengages the projections 58 of the blade springs 57 and the shoulders 56 of member 53 so that lever 41 now moves in contact with a rotatable bar 66 independently of the lift plate which thus returns to its lowered position under gravity. Vertical bars 67 which support bar 66 are thus forced downwards and rock a bell–crank lever 72 which moves a pusher plate 78 inwardly



so that sanded bricks are moved onto a conveyer 81. Specification 721,543 is referred to.

0) GB190418397A – IMPROVEMENTS IN CARPET SWEEPERS.

36) Family number: 36888831 (GB190418397A)

© PatBase

Title: Improvements in Carpet Sweepers.

Priority: 19040825

Family:

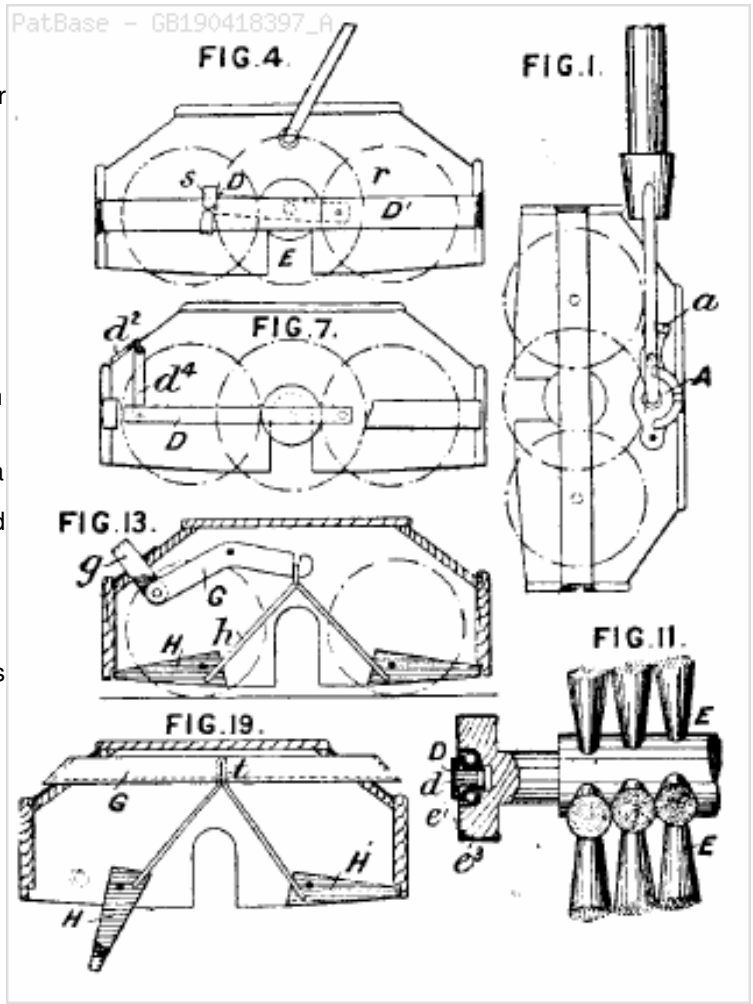
Publication number	Publication date	Application number	Application date
GB190418397 A	19050713		00000000

Probable Assignee: ENTWISLE AND KENYON LTD

Assignee(s):(std)**:** ENTWISLE AND KENYON LTD ; JAMES LIGHTFOOT SHORROCK ; WILLIAM HENRY KENYON

Assignee(s): ENTWISLE AND KENYON LIMITED

Abstract:
Source: GB190418397A 18,397. Entwisle and Kenyon, Kenyon, W. H., and Shorrock, J. L. Aug. 25. Carpet–sweepers.–A carpet–sweeper is constructed to attain the following objects, viz.:–the sweeper to be maintained in alignment with the handle when not in use, the brushes, working in dust–free ball bearings, to be adjustable as to height, and the dust–pane to be easily emptied and replaced. Fig. 1 shows how the sweeper is maintained in a line with the handle by means of the cam–piece A provided with a doubly–inclined projection a. As shown in Fig. 4, the brush E is mounted on a lever D, pivoted at r to the fixed rod D. The height of the brush is maintained by the friction clip s, which is fixed to the lever D. Fig. 7 illustrates a method of operating the lever by means of a link d attached at its other end by a crank to a rod d which can rotate. The lever D may also be actuated by a pivoted rod, the end of which works in a slot in the lever. Fig. 11 shows the method of mounting the brush axle in ball bearings. The socket e', which is either open or close ended, maintains the balls in position and is fixed to the trunnion d of the lever D. To exclude dust c., a flanged plate e is affixed. The dust–pans H are emptied by working the wires h, either by a pivoted lever G, as shown in Fig. 13, or by a rod a slot in which works upon a fixed pin, otherwise a rod G, traversing the case and provided with a vertical slot in which the loop t works, may be used, as illustrated in Fig. 19.



0) US3601238A – COIN SORTER ANVIL MOUNTING

37) Family number: 146407 (US3601238A) © PatBase

Title: COIN SORTER ANVIL MOUNTING

Priority: CA19690048656 19690414

Family:

Publication number	Publication date	Application number	Application date
CA887444 A	19711207	CA19690048656	19690414
DE2013734 A1	19701029	DE19702013734	19700321
GB1258222 A	19711222		19700223
US3601238 A	19710824	US19690849313	19690812

Probable Assignee: VENDALL MACHINES LTD

Assignee(s):(std)**:** VENDALL MACHINES LTD

Assignee(s): WILSON M STEWART ; VENDALL MACHINES LIMITED

Inventor(s):(std)**:** STEWART WILSON M

Inventor(s): WILSON M STEWART

International class(IPC 8–9)**:** G07D5/08 G07F1/04 (Advanced/Invention); G07D5/00 G07F1/00 (Core/Invention)

International class(IPC 1–7)**:** G07F3/02

CPC: G07D5/08 G07F1/048

European class: G07D5/08 G07F1/04K

US class: 194/101 194/321

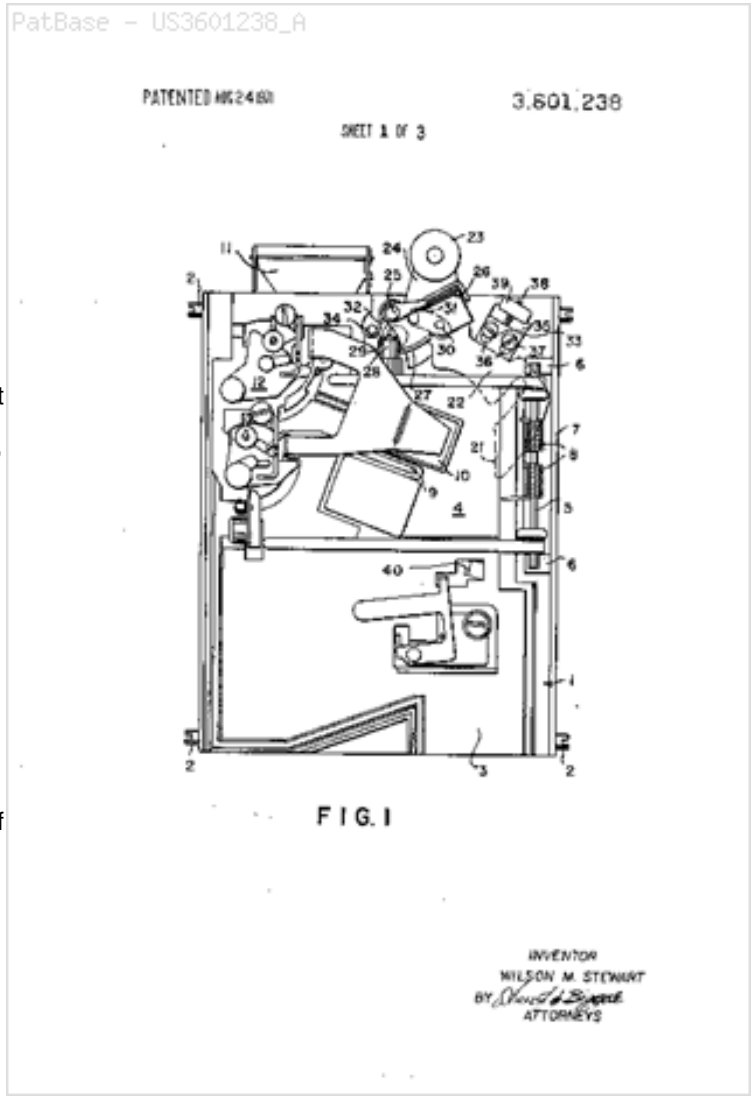
Classification Explorer

Cited documents: US3168180 A, US2763356 A, US2076862 A, US1839874 A,

Forward Citations: US6378685, US4376480, EP1376483, DE2916829, DE2756105, DE2756104,

Abstract:
Source: GB1258222A 1,258,222. Testing coins. VENDALL MACHINES Ltd. 23 Feb., 1970 [14 April, 1969], No. 8505/70. Heading G4V. Coins of above a minimum size falling from shoot 11 in a channel between vertical plates are caught by a cradle (12, Fig. 1, not shown) which then tilts to deposit the coins on runway 9. Ferrous slugs are held by magnet (13, Fig. 2, not shown). The speed at which the coins leave runway 9 is affected by eddy currents induced by magnet 10. Fast moving coins of brass or other low conductivity metal strike anvil 21 and rebound to the left of separator 40. Genuine coins of silver or other medium conductivity metal leave the runway at an intermediate speed and fall to the right of separator 40, whilst slow moving copper coins, i.e. those of high conductivity fall to the left of the separator. Nickel coins, which would otherwise be stopped by magnet 10, are attracted by magnet 16 so that they swing open spring–biased gate 17 in plate (1) to travel along guide (18) at the rear of plate (1) until they fall through aperture 20 into the path of the other genuine coins, thus by–passing magnet 10. Stops (45, 46) limit the forward and rearward movement of gate 17 about pin (41). Anvil 21 comprises the lower part of sweeper 22 which is pivoted at 29 and biased by spring 32 against stop 33, whose position may be finely adjusted by screw 38 to control the normal position of anvil 21. On operation of a coin return lever, roller 23 is depressed, causing member 24 to pivot about 25. Pin 30 thereby produces a clockwise rotation of arm 22 so as to sweep coins held by magnet 10 into the coin return path, whilst cam 27 moves roller (28) so as to rotate plate (3) and thus move runway 9 from the path of arm 22.

PatBase - US3601238_A



0) US3337089A – ORIENTING HOPPER FOR BUTTON FEEDING MECHANISM

38) Family number: 23019597 (US3337089A) © PatBase

Title: ORIENTING HOPPER FOR BUTTON FEEDING MECHANISM

Priority: US19650469523 19650706

Family:

Publication number	Publication date	Application number	Application date
US3337089 A	19670822	US19650469523	19650706

Probable Assignee: BENJAMIN BRONFMAN

Assignee(s):(std)**:** BENJAMIN BRONFMAN

Inventor(s):(std)**:** BENJAMIN BRONFMAN

Inventor(s): BRONFMAN BENJAMIN

International class (IPC 8–9)**:** D05B3/22 (Advanced/Invention); D05B3/00 (Core/Invention)

International class (IPC 1–7)**:** D05B3/22

CPC: D05B3/22

European class: D05B3/22

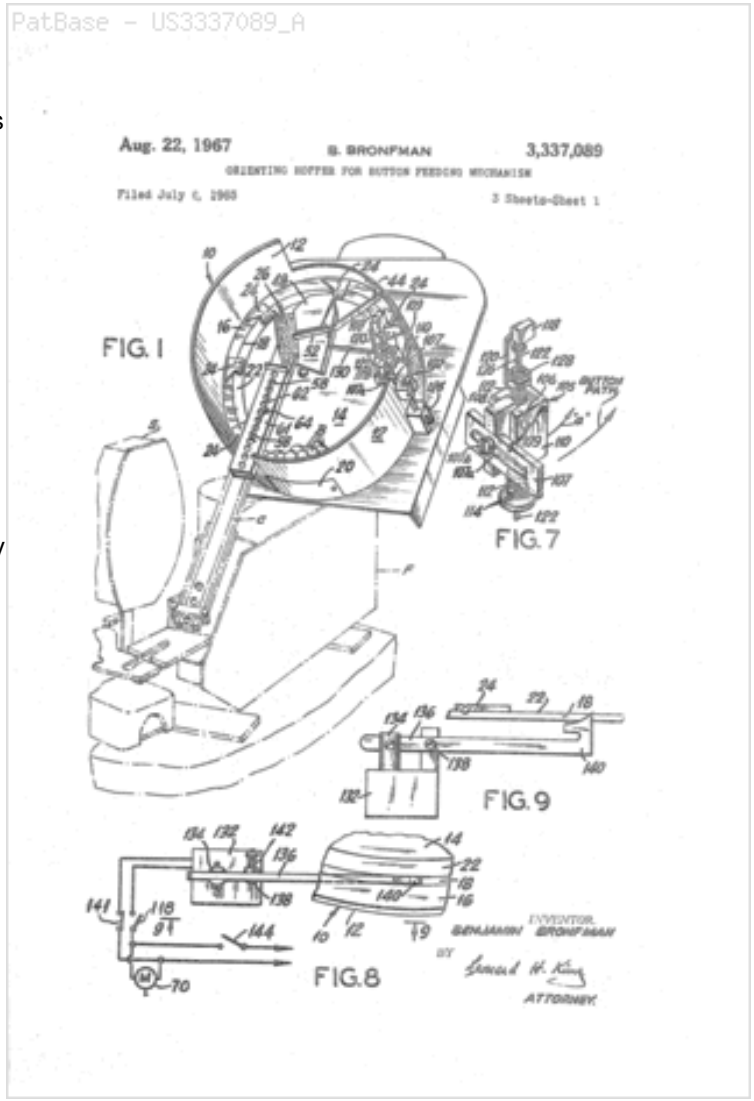
US class: 221/160 453/3

Classification Explorer

Cited documents: US887298 A, US2720209 A, US2639034 A, US2505468 A, US2211511 A, US1850148 A, US1664310 A,

Forward Citations: WO9107535, WO12056545, US9278771, US7647748, US7430839, US4884678, US4690077, US4496039, US4461380, US3870194, US3710920, US3643783, US3485333, US2010083478, US2008313999, US2005284108,

Abstract:
Source: US3337089A (Claim 1) 1. An improved hopper for holding a reserve supply of randomly faced buttons and for automatically delivering correctly faced buttons to a sewing machine button feeding attachment, said hopper comprising: (a) a button chamber adapted to hold the supply of randomly faced buttons said chamber including;]q (1) an upstanding circumferential wall devoid of any openings at the base thereof through which the buttons may pass; (2) a fixed base member having an annular space therein, said base member being rigidly secured at its periphery to said wall; and (3) a ring rotatably disposed within the annular space in said base member; (b) a plurality of angularly displaceable claw members secured to the upper surface of said ring for rota– tion therewith, each of said claw members being adapted to carry a button along a circumferential path; (c) means to intermittently move said claws along the circumferential path; (d) means to sense the facing direction of the button carried by one of said claws when said claw is stationary between intermittent movements; (e) means to eject an improperly faced button after it has been sensed; and (f) means to deliver a properly sensed button to the button feeding attachment.



0) GB1255031A – IMPROVEMENTS IN OR RELATING TO DISTRIBUTORS FOR...

39) Family number: 91442 (GB1255031A) © PatBase

Title: IMPROVEMENTS IN OR RELATING TO DISTRIBUTORS FOR DISTRIBUTING GRANULAR MATERIAL OVER THE GROUND

Priority: GB19680021957 19680509

Family:

Publication number	Publication date	Application number	Application date
AU206954200 A1	19701105	AU19690054200	19690430
BE732756 A	19691016		19690508
DE1922668 A1	19691113	DE19691922668	19690503
ES366996 A1	19710316	ES19690366996	19690509
FR2008159 A1	19700116	FR19690014958	19690509
GB1255031 A	19711124	GB19680021957	19680509
NL6907133 A	19691111	NL19690007133	19690509

Probable Assignee: BAMFORDS LTD

Assignee(s):(std)**:** BAMFORDS LTD

Assignee(s): BAMFORDS LIMITED

Inventor(s):(std)**:** BAMFORD RICHARD HAWTHORN ; HAWTHORN BAMFORD RICHARD

Inventor(s): RICHARD HAWTHORN BAMFORD

International class(IPC 8–9)**:** A01C15/06 A01C15/16 A01C7/08 A01C7/16 (Advanced/Invention); A01C15/00 (Core/Invention)

International class(IPC 1–7)**:** A01C15/00 A01C15/06 A01C15/16

CPC: A01C15/06

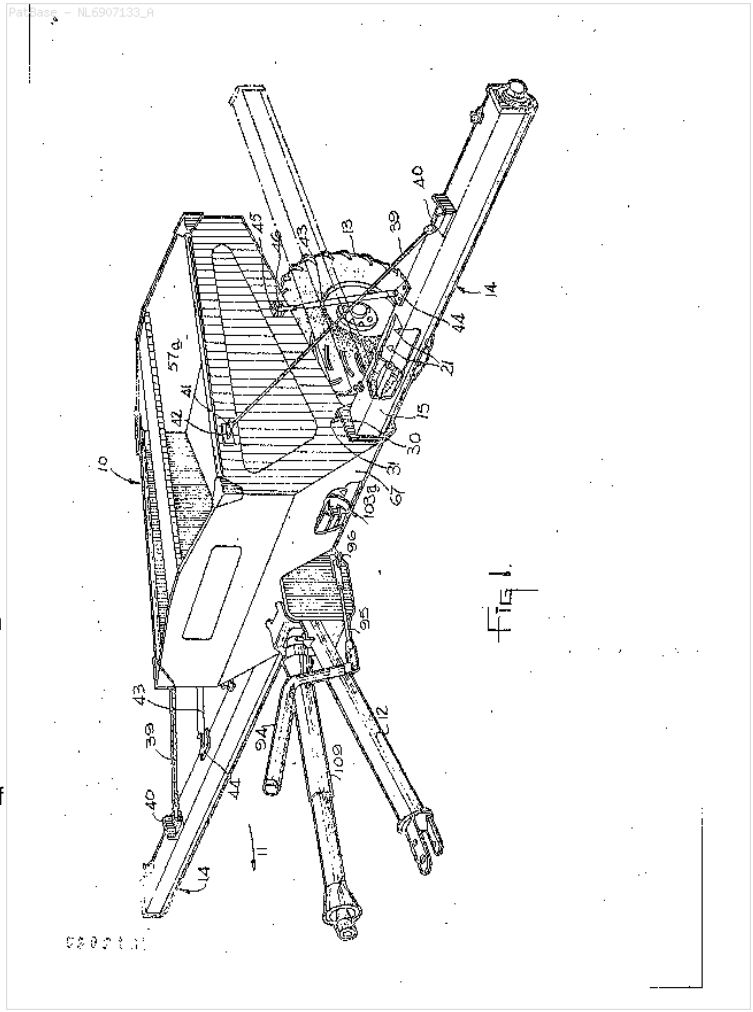
European class: A01C15/06

Classification Explorer

Forward Citations: US9187866,

Abstract:

Source: GB1255031A 1,255,031. Granular material distributor. BAMFORDS Ltd. 25 April, 1969 [9 May, 1968], No. 21957/68. Heading AID. A distributor for granular material comprises a hopper 10, and at least one boom 15 having discharge outlets for the granular material and being moveable between an aperture position and a transport position (dotted lines Fig. 1). The booms are of tubular cross−section and contain feed means 48 preferably in the form of an archimedian screw with the blades 49 formed from flexible filamentary material. The booms pivot about an axis which is transverse to the length of the boom, or upwardly or at some intermediate inclined position and the transmission driving the feed means is automatically disengaged when the booms are pivoted into the transport position. The feed means is arranged to advance material along the length of the boom and to lift material to the level of the discharge outlets 20. The openings to the booms are closeable to prevent the delivery of material when the booms are in the inoperative position and the rate of delivery of the material is selectively variable. The material is carried at least partially by gravity from the hopper 10 to the subordinate chamber 65 which has a series of openings similar to the openings in the booms. The material is then acted upon by the feed means, which, in the central portion of the subordinate chamber comprise a member 103a which has straight vanes. The member 103a is mounted co−axially, or approximately so, with the screw augers 48. The feeding members are arranged so as to be easily removeable. In an embodiment Fig. 9 (not shown) a return screw auger 130 is provided for each boom to return excess material from the ends of the conveyor to the hopper. In a further embodiment Fig. 10 (not shown) the feed means comprises an endless belt whose upper run carrier material along the booms and whose lower run returns the excess material to the hopper. Paddles are provided to lift the material to the outlet openings.



0) FR1272373A – DISPOSITIF POUR DEBARRASSER L'ALLEE D'UN JEU DE...

40) Family number: 23003645 (FR1272373A)

© PatBase

Title:	DISPOSITIF POUR DEBARRASSER L'ALLEE D'UN JEU DE QUILLES DE SES BOULES ET DE SES QUILLES DEVICE TO DISPOSE OF THE ALLEY BOWLING BALLS AND ITS HIS BOWLING (Machine translation)
Priority:	FR19600842549 19601028

Family:

Publication number	Publication date	Application number	Application date
FR1272373 A	19610922	FR19600842549	19601028

Probable Assignee:	PHILIPS NV
Assignee(s):(std):	PHILIPS NV
Assignee(s):	N V PHILIPS GLOEILAMPENFABRIEKEN
International class (IPC 8–9):	A63D5/08 (Advanced/Invention); A63D5/00 (Core/Invention)
International class (IPC 1–7):	A63D5/06
CPC:	A63D5/02 A63D5/08
European class:	A63D5/08

Classification Explorer

Abstract:
Source: FR1272373A (Claim 1) 1. Dispositif pour enlever les boules et les quilles de l'allee d'un jeu de quilles, caracterise par le fait qu'il est dispose au–dessus de ladite allee et qu'il comprend un balai fixe a une tige de balayage s'etendant perpendiculairement a l'allee et anime d'un mouvement de va–et–vient dans la direction longitudinale de cette allee, cette tige de balayage etant articulee a une tige de suspension susceptible de pivoter autour d'un axe fixe dans l'espace et comportant un mecanisme pour imprimer a cette tige de suspension une oscillation autour d'une position moyenne, de preference pratiquement verticale, alors qu'a la tige de balayage est articulee une tige de levage, de preference perpendiculaire a la tige de suspension et comprenant en outre un mecanisme pour imprimer a cette tige de levage une oscillation autour d'une position moyenne, de preference pratiquement horizontale, les deux mecanismes d'oscillations etant accouples entre eux de facon telle que le balai se trouve plus pres de la surface de l'allee pendant son mouvement d'aller que pendant son mouvement de retour.

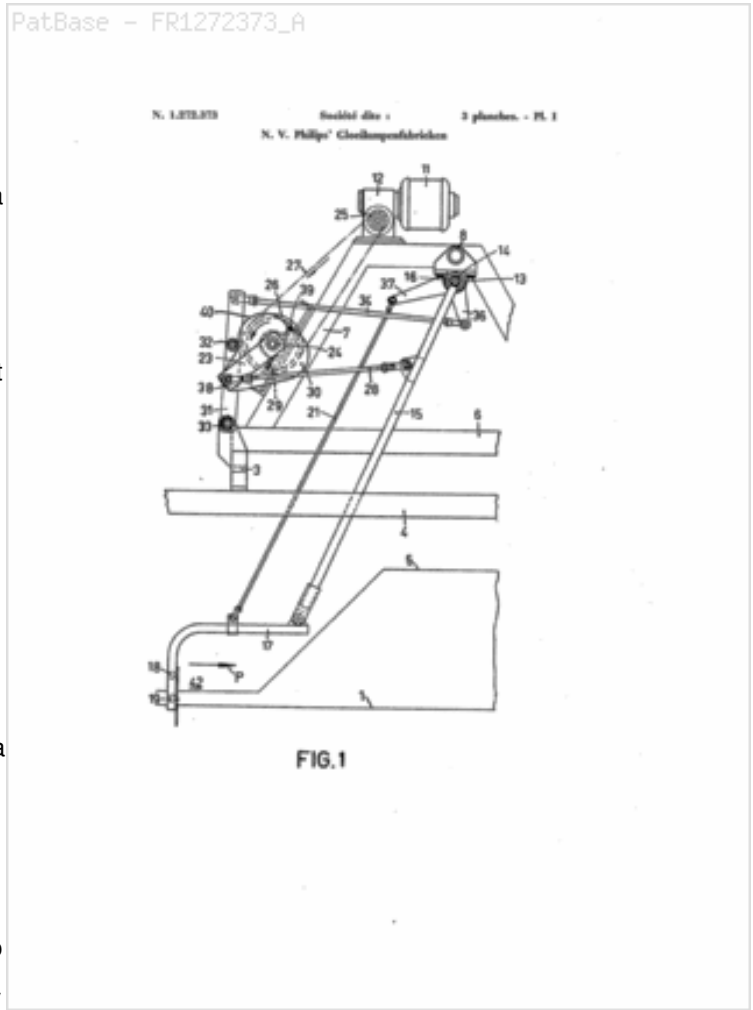


FIG.1

Machine translation: (Claim 1) 1. Device for removing the pins and the balls of the path of a bowling, characterized by the fact that it is prepared above said aisle and comprises a fixed brush has a stem extending scanning perpendicular to the alley and animated by a movement back and forth in the longitudinal direction of the alley, the scanning rod being hinged to a suspension rod pivotable about an axis fixed in space and having a mechanism to print this suspension rod has an oscillation about a mean position, preferably substantially vertical, whereas the rod is hinged scanning a

lifting rod, preferably perpendicular to the suspension rod and comprising further mechanism to print the lift rod has an oscillation about a mean position, preferably substantially horizontal, the two mechanisms of oscillations being coupled together so that the brush is more near the surface of the allee during its movement to go that during its return movement.

41) Family number: 31306421 (US2870261A) © PatBase

Title: ARRANGEMENT OF SUBSCRIBERS' CIRCUITS IN ELECTRONIC TELEPHONE EXCHANGES

Priority: 19540804 DE1955N011001 19550731 DE1955P014566 19550729 DE19803018544 19800514 DE1956N012534 19560726 DE1956N012533 19560726 US19550523901 19550722 US19560592843 19560621

Family:

Publication number	Publication date	Application number	Application date
BE549884 A	19570128		00000000
BE549911 A	00000000		00000000
CH333037 A	19580930		19550804
CH354811 A	19610615		19560728
DE1004674 B	19570321	DE1956N012534	19560726
DE1045451 B	19581204	DE1956N012533	19560726
DE1232241 A	00000000		00000000
DE1232241 B	19670112	DE1955P014566	19550729
DE3018544 A1	19811119	DE19803018544	19800514
DE3018544 C2	19850207	DE19803018544	19800514
DE951014 A	19561018	DE1955N011001	19550731
DK213581 A	19811115	DK19810002135	19810513
FI811476 A	19811115	FI19810001476	19810513
FR1128810 A	19570110		19550803
FR1156990 A	19580523		19560726
FR1167718 A	19581128		19560730
GB333974 A	19300828	GB19290017255	19290605
GB774959 A	19570515	GB19550022012	19550729
GB800657 A	19580827	GB19560023294	19560727
GB809090 A	19590218	GB19560023139	19560726
NL189724 B	00000000		00000000
NL189724 C	19930701	NL19810002207	19810506
NL209353 A	00000000		00000000
NL8102207 A	19811201	NL19810002207	19810506
NL84695 C	00000000		00000000
NL87359 C	00000000		00000000
NO811533 A	19811116	NO19810001533	19810506
SE436509 B	19841217	SE19810002653	19810427
SE436509 C	19850328	SE19810002653	19810427
SE8102653 A	19811115	SE19810002653	19810427
SE8102653 L	19811115	SE19810002653	19810427
US2854579 A	19580930	US19550523901	19550722
US2870261 A	19590120	US19560592843	19560621

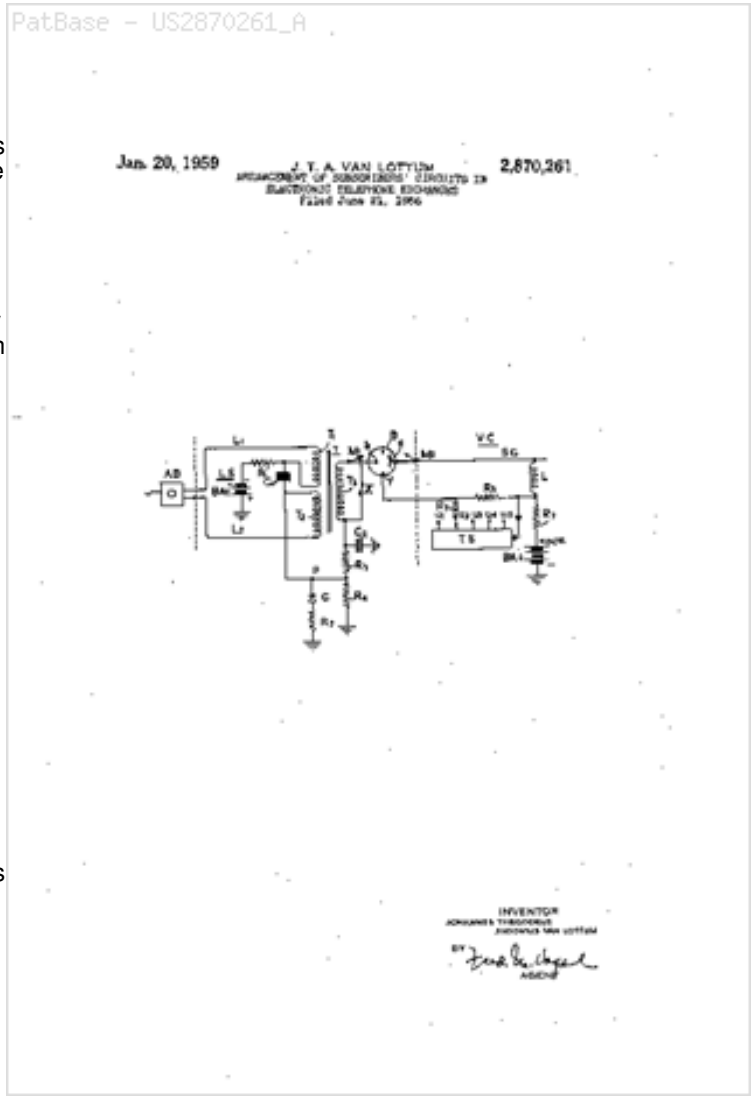
Probable Assignee: NORTH AMERICAN PHILLIPS COMPAN

Assignee(s):(std)**:** ACTIVATED SLUDGE LTD ; AUG WINKHAUS ; AUG WINKHAUS FA ; PHILIPS NV ; PHILIPS CORP ; PHILIPS ELECTRICAL IND LTD ; NORTH AMERICAN PHILLIPS COMPAN ; FIRMA AUG WINKHAUS TE TELGTE BONDSREPUBLIEK DUITSL ; JAMES ALGER COOMBS ; WINKHAUS A ; WINKHAUS FA AUGUST ; PHILIPS PATENTVERWALTUNG ; WINKHAUS AUG ; WINKHAUS AUGUST FA

Assignee(s): PHILIPS PATENTVERWALTUNG G M B H ; PHILLIPS ELECTRICAL INDUSTRIES LIMITED ; ACTIVATED SLUDGE LIMITED ; PHILIPS PATENTVERWALTUNG GMBH ;

	FIRMA AUG WINKHAUS TE TELGTE BONDSREPUBLIEK DUITSLAND ; PHILIPS GLOEILAMPENFABRIEKEN NV ; NORTH AMERICAN PHILIPS CO INC ; NORTH AMERICAN PHILLIPS CO INC ; FA AUG WINKHAUS ; FA AUG WINKHAUS 4404 TELGTE DE ; FIRMA AUG WINKHAUS ; N V PHILIPS GLOEILAMPENFABRIEKEN ; PHILIPS ELECTRICAL INDUSTRIES LIMITED ; NORTH AMERICAN PHILLIPS COMPANY INC ; NORTH AMERICAN PHILIPS COMPANY INC
Inventor(s):(std)**:**	DE VRIJER FREDERICK WILLEM ; FREDERIK WILLEM DE VRIJER ; GRUNEL FRIEDRICH WILHELM ; KORTENBREDE L ; KORTENBREDE LUDGER ; NAUTA CORNELIS ; THEODORUS ANTONIUS VAN LOTTUM ; VERSTER NICO FREDERICK ; L KORTENBREDE ; LOTTUM JOHANNES THEODORUS ANTO ; VRIJER FREDERIK WILLEM DE
Inventor(s):	WILLEM DE VRIJER FREDERIK ; LOTTUM JOHANNES THEODORUS ANTONIUS VAN ; ANTONIUS VAN LOTTUM JOHANNES THEODORUS ; VRIJER FREDERICK WILLEM DE ; KORTENBREDE LUDGER 4404 TELGTE DE
International class (IPC 8–9)**:**	B01D21/00 E05B67/00 H01H36/00 H01H5/02 H03K5/02 H03L7/18 H03L7/183 H04N5/06 H04Q3/52 (Advanced/Invention) ; B01D21/00 E05B67/00 H03K5/02 H03L7/16 H04N5/06 H04Q3/52 (Core/Invention)
International class (IPC 1–7)**:**	B01D21/18 C02C1/34 E05B65/36 E05B67/00 E05B67/02 E05B67/06 E05B67/24 E05B67/36 E05B7/00 E05B71/00
CPC:	H04Q3/525 H01H5/02 H01H36/0073 H01H2003/506 H03L7/18 H03L7/183 H04N5/06 E05B67/003 H03K5/02
European class:	85C6A 85C6E1A 95C20B B01D21/06 B01D21/24A B01D21/24A4 B01D21/24N E05B67/00B H01H36/00C H01H5/02 H03K5/02 H03L7/18 H03L7/183 H04N5/06 H04Q3/52L T01H3/50C
US class:	327/115 327/117 331/16 331/175 331/18 331/23 331/51 331/76 348/E05.011 348/E5.011 379/413
Classification Explorer	
Cited documents:	US2773934 A, US2766326 A, US2715656 A, US2521789 A, DE699682 A, DE6944529 U, DE520540 A, DE402597 A, DE333312 A, DE260167 A,
Forward Citations:	WO9412997, WO07082511, US5864272, US4933014, US4923519, US3851108, US3383619, US3375448, US3369205, US3333695, US3260821, US3251003, US3217267, US3190964, US3165706, US3163823, US3134857, US2985725, US2649412, US2418189, FR2804240, FR2698720, EP0476318, EP0476260, DE978013, DE4230813, DE3335662, DE19937126, DE1640426, DE1271243, DE1260523, DE1208137, DE102010029817,

Abstract:
Source: GB333974A 333,974. Coombs, J. A., and Activated Sludge, Ltd. June 5, 1929. Gravity–separation apparatus.– Matter deposited on the floor of a settling tank is swept or moved centrifugally into pits or sumps provided beyond the edge of the floor. Sewage or other liquid is supplied to the tank 1, Fig. 6, through a central vertical pipe 12 which delivers into a container 12, which is closed at the bottom and directs the liquid upwards into a cylindrical casing 13, from which it passes downwards and is distributed to flow outwardly through the tank, so that solid matter settles on the floor, the clear liquid overflowing into a circumferential effluent trough 9. The settled solid matter is moved from the floor, which is preferably inclined, by rotary sweepers or scrapers 3 and pushed into sumps 7, which may be arranged circumferentially around a circular tank or situated in the corners of a rectangular one. The flow of liquid to the channel 9 may be regulated by means of a vertical cylindrical perforated baffle 20. The liquid is initially supplied to either end of a hollow cross–beam 25 and passes thence to the pipe 12. The arms carrying the scrapers have wheels 16 travelling' on a rail 4 and their inner ends are hinged to the container 12x which is carried by a shaft 14, rotated in bearings in the cross–beam 25 by a motor 27 and worm gearing 26. In the form shown a central sump 32 is provided, the solid matter settling therein being directed to an outlet pipe 34 by scrapers on a frame 13. Vanes or blades 28 which give a rotational movement to the liquid may be provided within the casing 13, these being fixed either to the casing or to the container 12x. Sludge collecting in the sumps 7 may be raised by air lifts to an annular discharge channel 11. The upper edge of the baffle or partition 20 may be formed as an overflow trough similar to and connected with the trough 9. In an arrangement shown in Fig. 1, a rectangular tank is provided with branch overflow troughs 9 extending diagonally over the sumps 7 at the corners and communicating with the trough 9. A modification is described in which an annular channel is provided between the sumps 7 at the edge of the floor and additional sweeping devices at the end of the rotary scraper arms push the matter collecting in the channels into the sump.



0) EP1180320A2 – LAWN TRACTOR RASENTRAKTOR TRACTEUR–TONDEUSE

42) Family number: 17734374 (EP1180320A2) © PatBase

Title: Lawn tractor

Priority: DE20002014087U 20000816 DE20015010216 20010808

Family:

Publication number	Publication date	Application number	Application date
CZ20012679 A3	20020417	CZ20010002679	20010723
CZ298513 B6	20071024	CZ20010002679	20010723
DE20014087 U1	20010118	DE20002014087U	20000816
DE50110216 D1	20060803	DE20015010216	20010808
EP1180320 A2	20020220	EP20010118764	20010808
EP1180320 A3	20040714	EP20010118764	20010808
EP1180320 B1	20060621	EP20010118764	20010808

Probable Assignee: BAUER FRANK

Assignee(s):(std)**:** BAUER FRANK

Inventor(s):(std)**:** BAUER FRANK ; ROTHEL MANFRED ; ROETHEL MANFRED

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

International class (IPC 8–9)**:** A01B51/02 A01D34/64 A01D34/68 A01D42/00 B62D49/06 F16C19/54 F16C35/06 F16D13/40 (Advanced/Invention); A01B51/00 A01D34/63 A01D34/67 A01D42/00 B62D49/00 F16C19/00 F16C35/04 F16D13/00 (Core/Invention)

International class (IPC 1–7)**:** A01B51/02 A01B71/06 A01D34/64 A01D34/68 A01D42/00 B62D49/06 F16D13/40

CPC: F16C19/54 F16C35/061

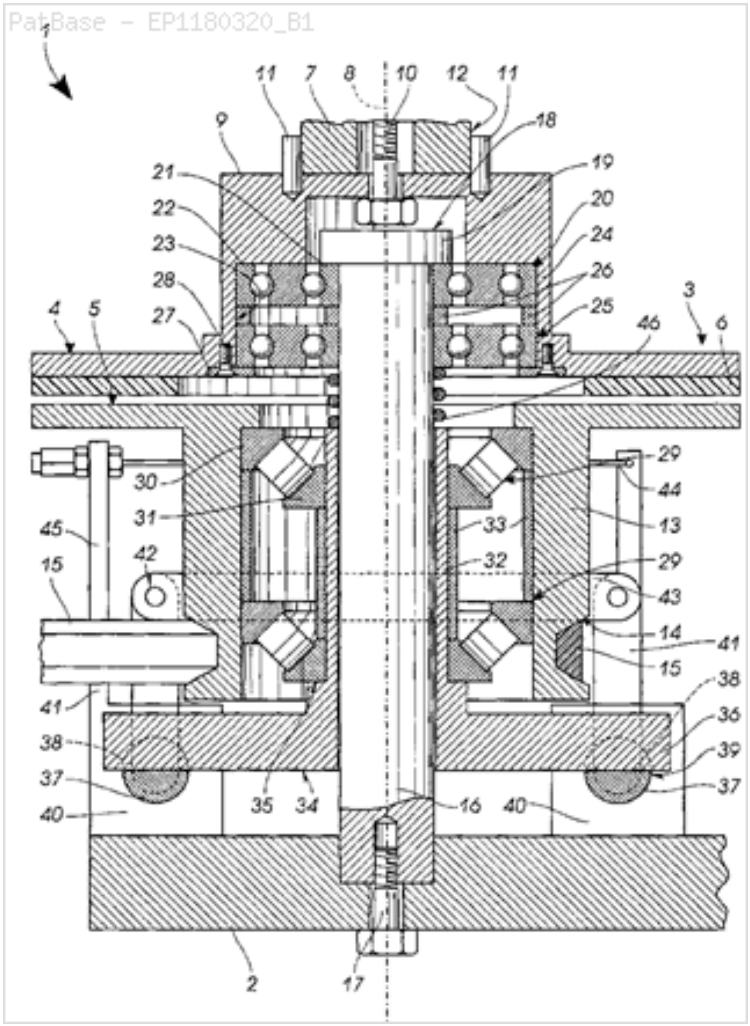
European class: F16C19/54 F16C35/06D

Classification Explorer

Cited documents: US5117617 A, US3871159 A, US2993329 A, US2706545 A, FR1263233 A, DE9315842 U, DE20014087 U1, DE20007388 U1,

Forward Citations: WO03085277, US6715913, EP1180320,

Abstract:
The lawn tractor (1) is equipped with a clutch (3), fitted with a first clutch disc (4), which is permanently joined to the vertical drive shaft (7). The second clutch disc (5) works in combination with the power take off. Various tools and devices can be started and switched off while the engine of the tractor is running. Attachments can also be exchanged because the transmission is interrupted by the clutch.



0) DE357461A – MOTORPFLUG MIT AN EINEM ZWEIRAEDRIGEN MOTORKARR...

43) Family number: 18576310 (DE357461A) © PatBase

Title: MOTORPFLUG MIT AN EINEM ZWEIRAEDRIGEN MOTORKARREN ANGELENKTEN, DIE PFLUGRAHMEN TRAGENDEN, AUF RAEDERN LAUFENDEN TRAGRAHMEN MOTOR PLOW WITH ON A TWO MOTOR CART articulated, THE PLOUGH FRAME BEARING, wheeled CURRENT SLING (Machine translation)

Family:

Publication number	Publication date	Application number	Application date
DE357461 A	19220825		00000000

Probable Assignee: POEHL WERKE ZWEIGNIEDERLASSUNG

Assignee(s):(std)**:** POEHL WERKE ZWEIGNIEDERLASSUNG

Assignee(s): POEHL WERKE ZWEIGNIEDERLASSUNG DER MASCH U KRANBAU AKT GES ZU DUESSELDORF ; POEHL WERKE ZWEIGNIEDERLASSUNG DER MASCHINEN UND K ; POEHL WERKE ZWEIGNIEDERLASSUNG DER MASCHINEN UND KRANBAU AKT GES ZU DUESSELDORF

International class (IPC 8–9): A01B3/56 (Advanced/Invention); A01B3/00 (Core/Invention)

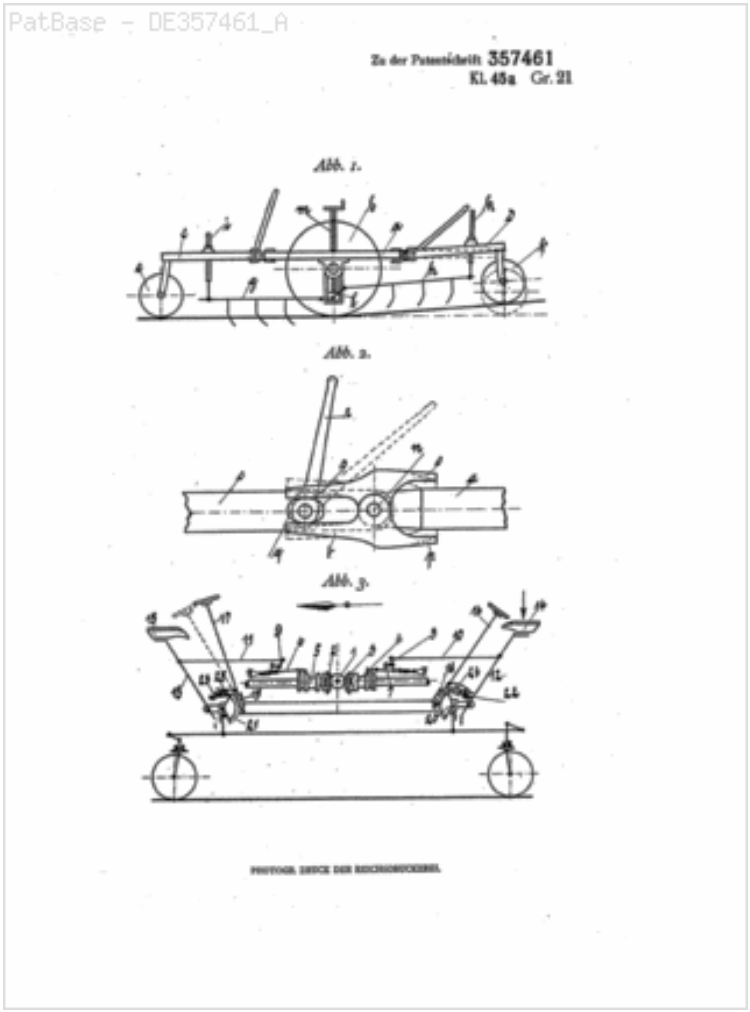
International class (IPC 1–7): A01B3/56

CPC: A01B3/56

European class: A01B3/56

Classification Explorer

Abstract:
Source: DE357461A [Source: Claim 1] 1. [Source: Claim 1] 1



0) SU995722A – MACHINE FOR FILLETTING FISHES

44) Family number: 2763950 (SU995722A) © PatBase

Title: MACHINE FOR FILLETTING FISHES

Priority: SU19813275225 19810409

Family:

Publication number	Publication date	Application number	Application date
SU995722 A1	19830215	SU19813275225	19810409

Probable Assignee: PROIZV T OB TEKHRYBPROM O

Assignee(s):(std)**:** PROIZV T OB TEKHRYBPROM O

Assignee(s): O PROIZV T OB TEKHRYBPROM

Inventor(s):(std)**:** AVDONKIN FEDOR N ; KAZHARIN EVGENIJ I ; LAVRENTEV BORIS F ; MARKOV VLADIMIR F ; SEMYANOV ARKADIJ P

Inventor(s): SEMYANOV ARKADIJ P SU ; MARKOV VLADIMIR F SU ; LAVRENTEV BORIS F SU ; KAZHARIN EVGENIJ I SU ; AVDONKIN FEDOR N SU

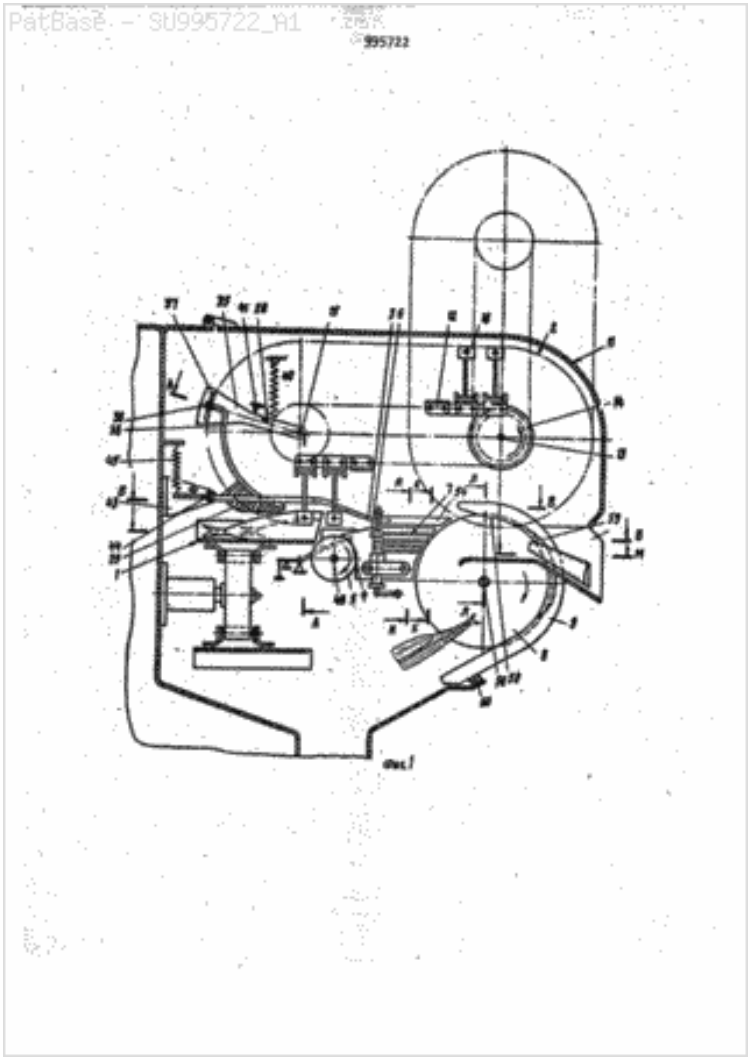
International class (IPC 8–9): A22C25/16 (Advanced/Invention); A22C25/00 (Core/Invention)

International class (IPC 1–7): A22C25/16

Classification Explorer

Forward Citations: US5391167,

Abstract:



Source: SU995722A 1 Invention relates to the fishing industry, namely, fish processing equipment, and can be used on shore and floating enterprise–x for Mfr (edstve and canned fish cookery. mrshina known for fish filleting containing perpendicularly disposed relative to one another and filleted cutting parts, the first of which consists of operating conveyor chutes, fortified with the possibility of a cyclic motion, and set him over the tools for cutting fish for fish, and the second includes conveyor and placed along a knife for cutting the abdomen, rasplastyvatel with clamps and filleted knives f. disadvantage of this machine is of limited use as it is intended to be the certain species of fish, as well as low productivity. closest to the invention, the technical essence and the achieved result is a machine for filetiravani fish, comprising one–. diet conveyor positioned above them tools for cutting fish for fish, multistrand conveyor for moving the fish in the process and filetiryuvani. installed along each ruch perehbdnoy tray, knife for cutting the abdomen, paciinactyvatel, top and side clamps and filleted knives, with multistrand pipeline consists of several branches with pads, the inner surface of which is shaped by (| yurme poperechyogr sectional TE20 la fish C 2. . In the known machine provided high quality filleting fish with high performance, however it is achieved by processing of small fish in a relatively small ra–dimensional range. When processing a medium–sized fish (Z O–rAOO mm) machine is difficult to provide reliable centering filetirova fish before, because the difference in size would ry thickness is more significant when using transporting pad must make them replace the Mi and sort fish. The purpose of the invention – the expansion pa dimensional range of processed fish and improving quality by providing filetirova no centering languid fish.. The goal is achieved by those in the car d–l filleting fish containing feed conveyor, many streams conveyor for moving the fish in the process of filleting and races laid along ruch each transition the output tray, a knife for cutting the abdomen rasplastyvatel, top and side clamps and filleted knives multistrand conveyor is provided with transverse plates, each of which are mounted in the grips if honors corresponding to the number on the axis of the stream and multi–ribbed conveyor located by feeding KOHBeifepa, set hingeably frame with cantilever lennymi strengthen her by number of streams pushers with brushes at the ends, with each plate grips kinematically coupled with the frame, and the upper clamps are designed as fixed on the guide shafts with slanted toward movement of fish Profiling slats. Side clamps are mounted on hollow shafts, and above them on rotary axes, placed in hollow shafts side clamps, fitted associated sectors and spring–loaded flap for centering the tail of the fish. The machine is equipped with a set of knives for filleted arched slats with bevels or fillets for section. Fig. 1 schematically shows a machine for filleting fish, a side elevational view; Fig. 2 – section A–A in Fig. One; Fig. 3 – section B–B in Fig. One; Fig. – Section B–B in Fig. One; Fig. 5 – section A–A in Fig. 4; Fig. 6 – section E–E in Fig. 5; Fig. 7 is a section F–F in Fig. 5; Fig. 8 – I–section and Fig. One; Fig. K–9 K–sectional view of Fig. One; Fig. 10 – cut LL Fig. One; to–Fig. 11 – M–M sectional view of Fig. One; Fig. 12 – section of H–H in Fig. 3. Machine for filleting fish comprises a feed conveyor 1 with trays for fish, multistrand 2 conveyor for moving the fish filleting process, overloading mechanism, the upper clamps 3, transitional trays k, 5 knives for cutting the abdomen, rasplastyvateli 6, side clamps 7, filleted knives 8, 9 dividing strips, trays for removing fillets 10 and the housing 11. Banded conveyor 2 comprises two chains 12, the traction, the driving shaft 13 with the sprockets 15 fixed to the axis of the driven sprocket 16. on the traction chains 12 are rigidly fastened two or more groups of transverse plates 17. Each plate carries the grippers 18 whose number equals the number of streams and filleted which are symmetrically arranged relative to the latter. Hooks 18 are comprised of a lever 19 mounted on shafts 20 and bonded pairs sector gear 21 and spring 22. Worksurface seizures (sponges) have grooved pad 23 – Between each pair of jaws 18 on the plates 17 are adjustable stops 2k, providing optimum the gap between the jaws when they are in the operating state, for the passage of the blades filleted. At opposite ends of the jaws of the levers 19 fastened rollers 25, 26 interacting with cams. The outer side provided with gripper jaws spherical protuberances 27 necessary for unimpeded passage between the side clamps jaws. Gripping a fish may be provided one or more grippers, depending on the size of the fish (given embodiment with two grippers). Each group of plates 17 is provided with two grippers 18 flanged mechanisms 28. Carrier mechanism comprises a housing 29 with a rod 30 therein, a spring–loaded by a spring 31. Rod 30 coupled to a lead 32 on the end of

which a roller 33 cooperating with a cam mounted axis 15. overload mechanism is configured as a frame formed by two crowns 35 and Stein article zhkoy SC, mounted on bracket 15 with the axis to pivot around it. Each bracket has a recess 37 in which flax strengthen appropriate end tie–rods 36 on the frame according to the number of streams filleted cantilever reinforced pushers with brushes 38 39 – For the impact gate frame in the original position is designed spring LO and to limit its progress with this – stay 4 Adjusting pushrod stroke 38 is performed by moving the tie rods in the SC–pazah37 Each upper clamp 3 is mounted on the guide 2, fortified to the possibility of turning to the bracket 43 with the axis 44. The guide 42 in this case is designed as a U–shaped bracket. Prifilirovannym clamp 3 is on the back of fish and tilt toward the feeder fish. Spring 54, which is provided with a guide, provides a snug fit to the clip 3 back fish.Pushers 38 with brushes pass inside the guide providing a clear recording of the first with respect to fish, for which each guide is mounted directly above the tray feed conveyor. 3 nip length is designed so that it detects fish, starting from the transition 4 to the middle tray rasplastyvatel 6. For cutting knives 5 are mounted at the abdomen transition trays 4 on a common shaft 46. Rasplastyvatel 6 is inclined towards the knives 5 podrezakytsim edge 47 and the upper horizontal edge 48. 7 Side clamps are mounted on hollow shafts 49, located on a common base plate 50. Inside axes 49 set associated toothed sector E 51 and springs 52 53 axle bearing upper clamping flap 54, is ensured alignment and fiksirova of the tail of the fish coring process fileychikov. Fish hooks held in the district of prigolovno cutoff tail of it remains uncommitted, that if there is no pressing flaps 54, would negatively affect the quality of filleting. On hollow shafts 49 are movably mounted clamps 7, the spring–loaded torsion spring 55. These clamps ensure pressing of fish abdominal flaps rasplastyvatelyu to 6. Filleted blades 8 are mounted on a common shaft 56 by means of hub 57, which enables regulation. Vat gap between them. Isolating strips E intended for separating fillets have an arcuate shape, a front edge 58 adjacent to the blades, and the bevels 59, deflecting file.na for discharging trays 10. Slats are mounted on axle 60. Dampers 61 serve to prevent the displacement of adjacent fish hooks disclosed. The machine works as follows. Decapitated and eviscerated fish trays conveyor 1 is fed into position belly down in the zone filleting. At the time of the stop–trays. filleted fish streams opposite rods 30 of the driving mechanism mounted on the conveyor 2, while the latter movement abut the brackets 35, and with an overload mechanism for pushers 38 rotates about axis 15. tappets 39 with brushes thus lowered and the fish is moved from the tray conveyor 1 to Tray 4 transition to the knives for cutting the abdomen. extending inside the U–shaped guide 42. Moving fish sliders with brushes going until until she zazhmets grippers 18. Prix, the rollers 25 captures previously been disclosed, gathering t–cams 26, and under the action of the springs 22 and 21 sectors both arms synchronously converge and capture fish. Simultaneously, the rollers 33 of the driving mechanisms 28 t converging cams 34 by springs 31 of the rod 30 extend from the contact with the brackets 35 and 40 under the action of the spring overload mechanism returns to its initial position. At the same time the fish being moved along the chute 4, 5 knives sheared abdomen. When fed larger fish, then due to the fact that the tray 4 is biased, it is lowered, and the depth of the cutting in a large fish uveichivaets. Cutting the fish fed on rasplastyvatel 6 with 7 Khrebtova bone misses her first on the slope ing edge 47 rasplastyvatel. Due lifting edge 7 and the pressing clamp 3 on it pri.vyhode Hor tal edge 48 rasplastyvatel It appears tightly crimped at last. All this, together with the centered position grippers 18, causes the exact alignment of filleted fish before knives. When driving on fish rasplastyva Tieliu 6 abdominal wall fish are pressed with a rasplastyvatelyu clamps 7 and back and fish tail portion complementarity tsentriruyuts sweeper 54. Thus stsentrirovanna with high precision and with tight to rasplastyvatelyu ventral valve fish fed to two parallel set filetiruyuschi knives 8 kbtorye separated from the two fish fileychika, cutout spinal and rib bones. In the process of filleting in the first initial moment of holding up fish from bias and influence provided a complete cut through the front edge 58 of arcuate cross members 9 on the back of the fish. Upon further movement fileychiki hit the bevels 59 strips 9 to deflect them on trays 10 for discharging Khrebtova piece of fish with bones deflected strips down and withdrawn from the tray othodbv. The proposed machine is provided reliable transfer of cutting–oriented fish filleted in part with great performance. Application groups seizures for transporting fish processing capability is ensured chalk cal and medium–sized fish, with good hold of it, the tail of the fish, which contributes to a good quality filleting. And highly productive machine logabaritna m, which is essential in ex pluatatsii its fishing conditions in annual economic effect from the introduction of a single machine will be P4, 4 th. February 8 Claims 1.Machine for filleting fish comprising a feed conveyor, multistrand conveyor for moving the fish during filleting, and along each ruch transition tray, a knife for cutting of the abdomen, rasplastyvatel upper and filleted side clamps and the blades, characterized in that, for the purpose of expansion processed fish size range and increasing the quality of the filleting by providing accurate centering of fish, multistrand transverse conveyor provided with plates on each of which the grippers are mounted in an amount corresponding to the number of streams, but in multi–ribbed conveyor axis positioned by the feeding conveyor, hingeably mounted frame with cantilever fixed on it by number of streams pushers with brushes at the ends, while seizures of each plate is kinematically coupled to the frame, and the upper clamps are designed as fixed on the guide shafts with slanted toward movement profiled bars.. 2.Mashina according to claim 1, characterized as that the side clamps are mounted on hollow shafts and above them on rotary shafts arranged in the hollow shafts of the side clamps are installed and associated sectors resilient flap for centering the tail part of the fish. 3.Mashina according to claim 1, for t h and l and Forgiving and the fact that it is provided for established filleted knives arched beveled strips to separate fillets.. Sources of information received into account in the examination 1.Avtorskoe USSR certificate number 562 258, cl. A 22 C 25/1A, 1975. 2.Avtorskoe evidence on the application of the USSR ? 32i48l20/28–13, cl. A 22 C 25/16, 19VO. Ft. w–w srig. 6 / /–I. 5 5J 5L7 5 .7 k to Fig. MM

0) FR2334443A – DISPOSITIF D'EVACUATION DES PIECES OBTENUES A L...

45) Family number: 3593995 (FR2334443A)

© PatBase

Title: DISPOSITIF D'EVACUATION DES PIECES OBTENUES A LA PRESSE AUTOMATIC EJECTION DEVICE FOR COLD PRESSES – HAS ROCKER ARM FITTED TO PRESS DRIVE SHAFT TO ACTUATE SWEEPER ARM

Priority: FR19750038187 19751212

Family:

Publication number	Publication date	Application number	Application date
FR2334443 A1	19770708	FR19750038187	19751212
FR2334443 B1	19780512	FR19750038187	19751212

Probable Assignee: RENAULT

Assignee(s):(std)**:** RENAULT

International class(IPC 8–9)**:** B21J13/14 B30B15/32 (Advanced/Invention); B21J13/00 B30B15/32 (Core/Invention)

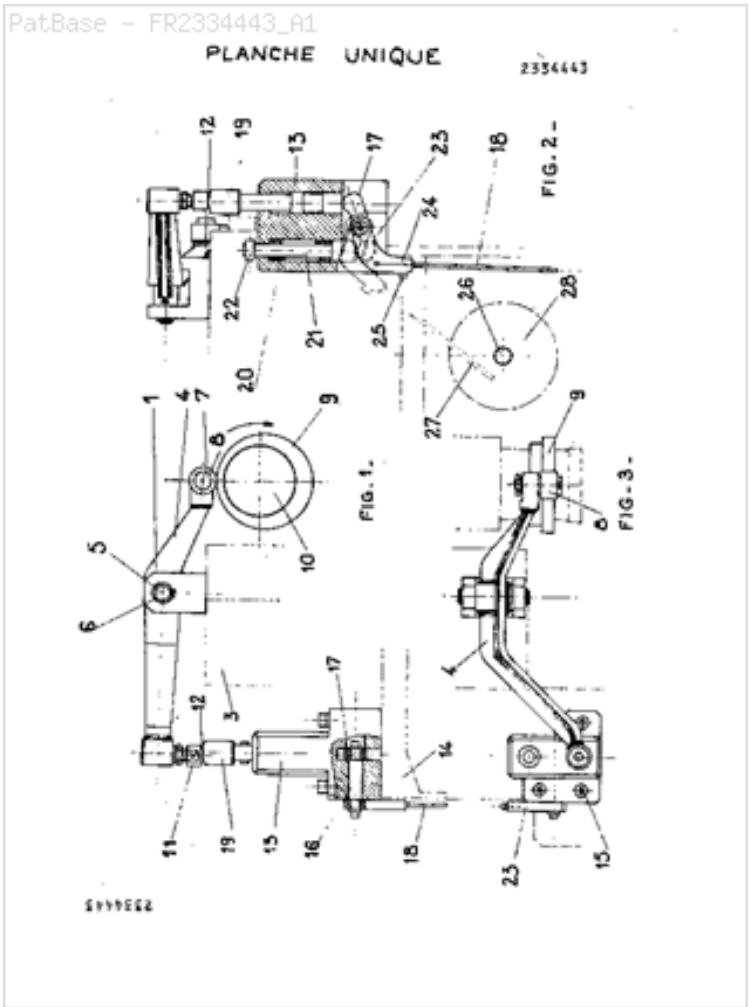
International class(IPC 1–7)**:** B21J13/14 B30B15/32

CPC: B21J13/14 B30B15/32

European class: B21J13/14 B30B15/32

Classification Explorer

Abstract:
Source: FR2334443A (Claim 1) 1. Dispositif d'evaFuation des pieces obtenues sur le dernier poste de transfert d'une presse, caracterise par un organe de balayage (18,23) de l'espace situe devant la matrice de frappe (28), actionne par le bras d'un levier de commande (4) exterieur a la presse, dont l'autre bras suit le contour d'une came (9) montee sur l'arbre de commande (10) des doigts de transfert de la presse. A rocker arm (12) is driven by a cam fitted to the drive shaft of the press. The tocker drives a plunger (19) which actuates a lever to move a sweeping arm (18). This clears the workpiece from the die, and a spring returns the sweeping arm to its original position ready for the next stroke of the press. The plunger and a return device are pref. mounted in a casing fixed to the body of the press. the automatic ejection device may be easily fitted to existing machines.



0) GB921619A – IMPROVEMENTS IN AUTOMATIC BOWLING PIN SETTING M...

46) Family number: 21017660 (GB921619A) © PatBase

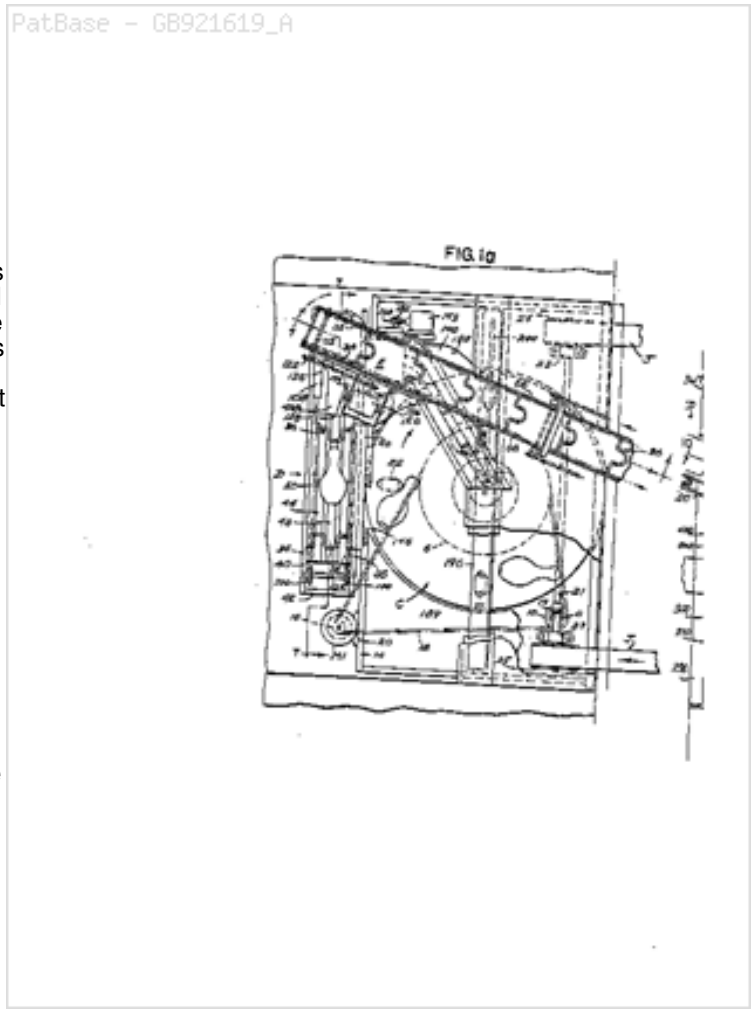
Title:	Improvements in automatic bowling pin setting machine
Priority:	GB19600026072 19600727

Family:

Publication number	Publication date	Application number	Application date
GB921619 A	19630320	GB19600026072	19600727

Probable Assignee:	BOWL MOR COMPANY INC
Assignee(s):(std):	BOWL MOR COMPANY INC
Assignee(s):	BOWL MOR CO INC
Inventor(s):(std):	BARROWS ROYAL LIONEL ; DOWD HOWARD MATHEW
International class (IPC 8–9):	A63D5/08 (Advanced/Invention)
International class (IPC 1–7):	A63D5/09
CPC:	A63D5/08
European class:	A63D5/08
Classification Explorer	
Forward Citations:	WO9313838, US5562549,

Abstract:
Source: GB921619A 921,619. Skittle alleys. BOWL–MOR CO. Inc. July 27, 1960, No. 26072/60. Class 132 (2). In an automatic pin–setter for a skittle alley, swept pins are raised by an elevator and deposited in a receiver holding ten pins which are deposited in a store from which a set of pins is dropped when required into a positioning board provided with ten holders each closed at the bottom by two half cups which support the pins by their bottoms during a setting operation and by their heads during a resetting operation, the half–cups being movable in opposite directions for opening and closing. Pit (Figs. 1a and 2a). Dead wood is moved from the alley bed into pit B by a sweep and by continuously moving gutter conveyers J operated by motor M1 The peripheral parts of the pit slope downwards to a central rotating platform C also driven by motor M1 which carries the pins and balls round in a clockwise direction. A central transverse pad 196 in the pit causes dead wood to drop on to the platform C and across the upper half of the platform, as shown in Fig. 1a has a bottom roller 200 spaced above the platform by a distance greater than the pin diameter but less than the ball diameter. This diverts balls to trough 190 from which they are lifted by a ball elevator E (see below). Pins under the influence of centrifugal force migrate to the periphery of platform C and ultimately pass through aperture 146 in the rear wall 14 of the pit to pin elevator D (see below). Ball elevator E (Fig. 2a). This consists of a forwardly–facing, vertical U–shaped channel 160, 162 provided with a pair of side chains 170 driven by a motor M3 and spanned by bars 184 disposed across the open side of the channel. These bars engage under balls in



trough 190 and roll them up the rear wall of the channel until they meet an inclined part 166 which forces them off the bars into return run−way 202. The rear wall of the channel has an aperture 164 which is not in contact with the balls but if a pin should have found its way into trough 190 and up the conveyer it can move part way into the aperture and fall clear of bars 184 down the channel. A pivoted flap 214 just below aperture 164 intercepts the falling pin and diverts it out of the channel, whereupon it is guided by an oblique plate 216 to fall again on to turn−table C in the pit. Flap 214 is pivoted upwards by rising balls and pins and falls back to intercepting position after they have passed. Pin elevator (Figs. 1a 2a, 2b). This consists of a channel which runs transversely behind the lower part of rear wall 14 of the pit, then vertically upwards, and then obliquely forward across the top of the pit to a discharge point above the pin receiver. The three sections are denoted by 26, 28 and 30 respectively. Along each side of the channel run chains 32, 34 spanned by yokes 36 shaped as shown to pull the pins along by their heads. Pins passing through aperture 146 in pit rear wall 14 fall on to the yokes moving in channel part 26 and carried to the discharge point 92 at the extremity of channel part 30 where they are automatically released from the yokes to drop into the pin receiver. Any pins entering the conveyer wrong way round are corrected at the junction of channel parts 26, 28. Chains 32, 34 are driven only when pins are required by the receiver by motor M2. Sweep (Figs. 2b, 2c). Along each side of the alley above the bed thereof extend beams 260 having upwardly−extending front portions 264 and provided with rails 261 along which trolleys 312 are pulled by chains 296 driven by motor M4. The trolleys are coupled to the chains by pivoted pin and slot arrangements 306, 318 so that as the chains make a complete circuit, the trolleys move from front to back and then from back to front along rails 261. Suspended from each trolley is a link 320 the lower ends of which are joined by sweep board 330. This is connected by pin and slot means to links 320 so that if it should hit a pin as it descends it will not jam. Fig. 2c shows the sweep in stowed and sweeping positions (full and broken lines). As it moves it operates switches to prevent operation of the pin setter while the sweep is in the way and to stop itself in stowed position. Pin receiver (Figs. 2b and 10). Above the alley bed is mounted a rotatable array of ten cylindrical holders G1..., in which the pins are held by detents 368 carried by a common ring 366. The array is rotated to bring the holders in turn under discharge point 92 of the pin conveyer and is driven step by step from the pin conveyer drive through a special clutch. When a pin drops into a holder it actuates a switch SW8 to advance the array one step by engaging the clutch but if the receiver be full this action is interrupted and the pin conveyer is stopped. When all ten holders have their pins, and pins are required by the setter, a solenoid 51 is energized to withdraw all the detents from the holders so that the set of pins can drop into the pin store. Pin store (Fig. 14). Disposed beneath the

receiver is a stationary array of pin−holders 492 arranged directly above the pin positions on the alley bed. Pins dumped from the receiver are guided into holders 492 by shoots 498 appropriately disposed and are prevented from dropping out of the holders by retainers 504 mounted on strips 500 forming a network which is retracted at the appropriate time in the cycle to allow the pins to drop on to the positioning board 530. Positioning board (Figs. 2b and 14). The board 530 is mounted on the bottom ends of three rack bars 532, 533 which are vertically slidable in the fixed frame of the machine and which are driven by cog wheels rotated through suitable gearing from a bull gear 560. This gear is rotated to and from by a chain 574 and crank 576 driven by a motor at the appropriate time. Beneath each holder 492 of the pin store, the board 530 has an aperture 600 in which are slidably mounted two half−cups 608, 610 so formed as to fit the base of a pin but which are cut away to present two edges 616 spaced apart, when the halves are closed, a distance greater than the pin neck diameter but less than the pin head diameter. All the half−cups 608, 610 are coupled together in two sets, the sets being moved in opposite directions by common cam means to open and close the cups at appropriate times. In operation, after the first ball, crank 576 is rotated to lower the board but, when it reaches the level of the heads of any standing pins the halfcups 608, 610 have been opened and an arm is introduced into the path of a projection 568 on bull gear 560 and stops further descent of the board. The half−cups are closed on to the heads of standing pins and chain 574 goes slack. As the crank 576 continues to rotate the slack in the chain is taken up and the board is lifted to its top position. Sweep 320 then moves along the alley bed to sweep dead wood into the pit and returns to raised position. The board 530 descends again to intermediate position, the half−cups open to deposit the pins in the bed, and then the board rises to top position the cups closing. After the second ball, the sweep moves to clear the bed, retainers 504 are retracted to allow ten pins to drop from the store to the cups 608, 610 and the board descends. This time rotation of bull gear 560 is not interrupted and the board descends to the bed, the cups open to deposit the pins and the board rises to top position. An electric control circuit is described.

- **search:** SS8 ft=lift and lever and cam and sweeper (Results 18)
- List: SS8 1–50 (ft=lift and lever and cam and sweeper) (Results 18)

0) US3234576A – VEHICLE FOR SWEEPING LARGE SURFACES

1) Family number: 22774247 (US3234576A) © PatBase

Title: Vehicle for sweeping large surfaces

Priority: US19610162674 19611228 US19640395631 19640727

Family:

Publication number	Publication date	Application number	Application date
US3193862 A	19650713	US19610162674	19611228
US3234576 A	19660215	US19640395631	19640727

Probable Assignee: AMERICAN LINCOLN CORP

Assignee(s):(std)**:** AMERICAN LINCOLN CORP

Inventor(s):(std)**:** LYON JAMES E

International class (IPC 8–9)**:** A47L11/40 E01H1/04 E01H1/05 E01H1/08 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** E01H1/04 E01H1/05 E01H1/08

CPC: A47L11/4041 E01H1/045 E01H1/0854 E01H1/053

European class: A47L11/40F4 E01H1/04C E01H1/05B E01H1/08C3

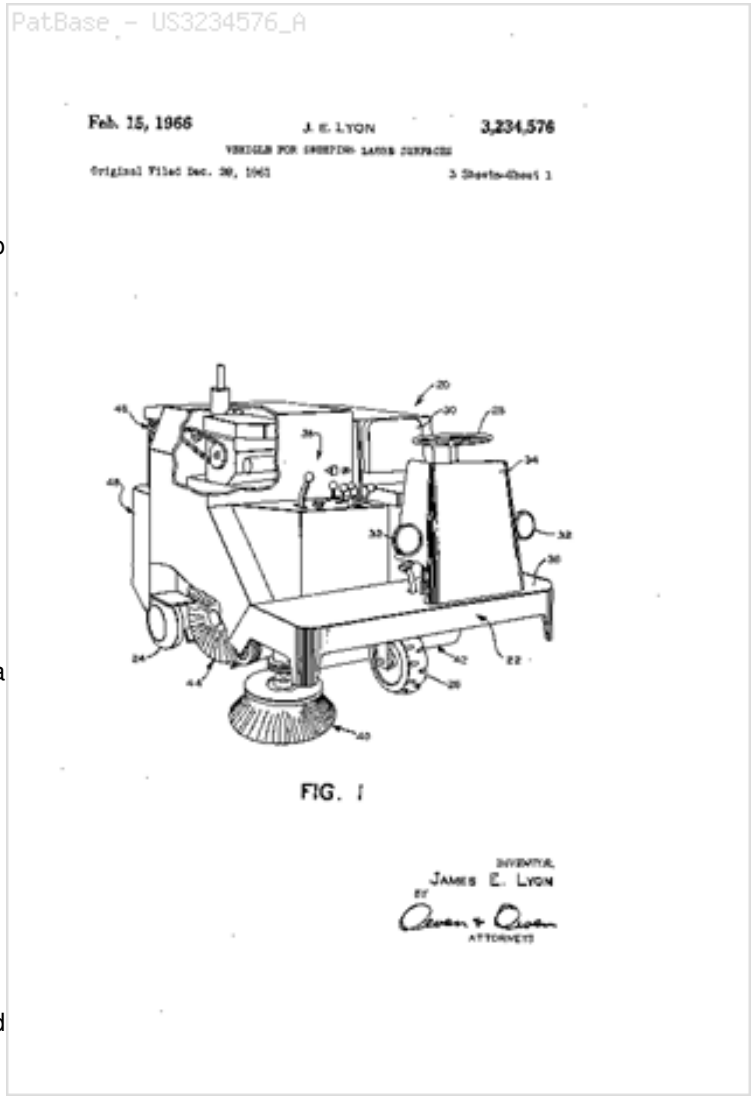
US class: 15/340.3 15/82 15/87

Classification Explorer

Cited documents: US876727 A, US612632 A, US529132 A, US501353 A, US468458 A, US444683 A, US2996742 A, US2859461 A, US2853144 A, US2829391 A, US2739340 A, US2678462 A, US2626418 A, US2621750 A, US2313412 A, US2156065 A, US2055011 A, US1797185 A, US1687728 A, US1374933 A, GB808026 A, GB546123 A, GB188902867 A,

Forward Citations: USD693529, USD654234, US9510721, US9451861, US9192276, US9015887, US8978190, US8887340, US8876577, US8528142, US8438685, US8302240, US8245345, US7533435, US7025834, US6295682, US2012115401, US2011023248, US2009142125, US2007086829, US2006064844, US2005132527, US2004040104, EP0320735,

Abstract:
Source: US3234576A (Claim 1) 1. A power sweeper for sweeping a large surface comprising, in combination, a main frame, a pair of rear wheels rotatably mounted on said frame, a steerable front wheel supporting a front portion of said frame, an operator's seat on said frame, a main broom rotatably held by said frame, a front flap in front of said main broom and located generally perpendicularly to the direction of movement of said sweeper, said front flap including first and second strips and a front flap supporting bar, said first strip being flexible with the width thereof being greater than the distance between said supporting bar and the surface, said second strip being relatively stiff with the width thereof being less than the distance between said supporting bar and the surface, said second strip being mounted in front of said first strip with upper edges of both of said strips being attached to said front flap supporting bar, said front flap supporting bar being rotatably mounted at its ends on said frame, a third, stationary, g backing strip, means for supporting said stationary strip on said frame between said front flap and said main broom, a front flap cable wound around an end of said front flap supporting bar, a cable spring connected between an end of said cable and said frame, a cable arm attached to the other end of said cable, a cable shaft ratably held by said frame and affixed to said cable arm to turn said cable arm when said cable shaft is turned, a roller arm fixed to said cable shaft at a point spaced from said cable arm, a roller mounted on said arm, a cam plate ig pivotally supported by said frame in engagement with said roller, and a front flap handle attached to said cam plate to pivot said cam plate, said cam plate being shaped to force said roller and said roller arm downwardly whether said cam plate handle is moved upwardly or downwardly, downward movement of said roller arm causing said cable to rotate said front flap supporting bar and to raise said first and second strips in an arcuate path.



0) US3041072A – APPARATUS FOR SWEEPING PINS FROM A BOWLING ALLE...

2) Family number: 22714836 (US3041072A) © PatBase

Title: Apparatus for sweeping pins from a bowling alley

Priority: US19560625739 19561203 US19590813860 19590518 US19590815040 19590522

Family:

Publication number	Publication date	Application number	Application date
US3041072 A	19620626	US19590813860	19590518
US3063716 A	19621113	US19560625739	19561203
US3070369 A	19621225	US19590815040	19590522
US3123201 A	19640303		00000000
US3123357 A	19640303		00000000

Probable Assignee: BARROWS ROYAL L

Assignee(s):(std)**:** BARROWS ROYAL L ; DOWD HOWARD M

Inventor(s):(std)**:** BARROWS ROYAL L ; DOWD HOWARD M

International class (IPC 8–9)**:** A63D5/08 (Advanced/Invention); A63D5/02 (Advanced/Non–invention); A63D5/00 (Core/Invention)

International class (IPC 1–7)**:** A63D5/02 A63D5/09

CPC: A63D5/02 A63D5/08

European class: A63D5/08 K63D5/02

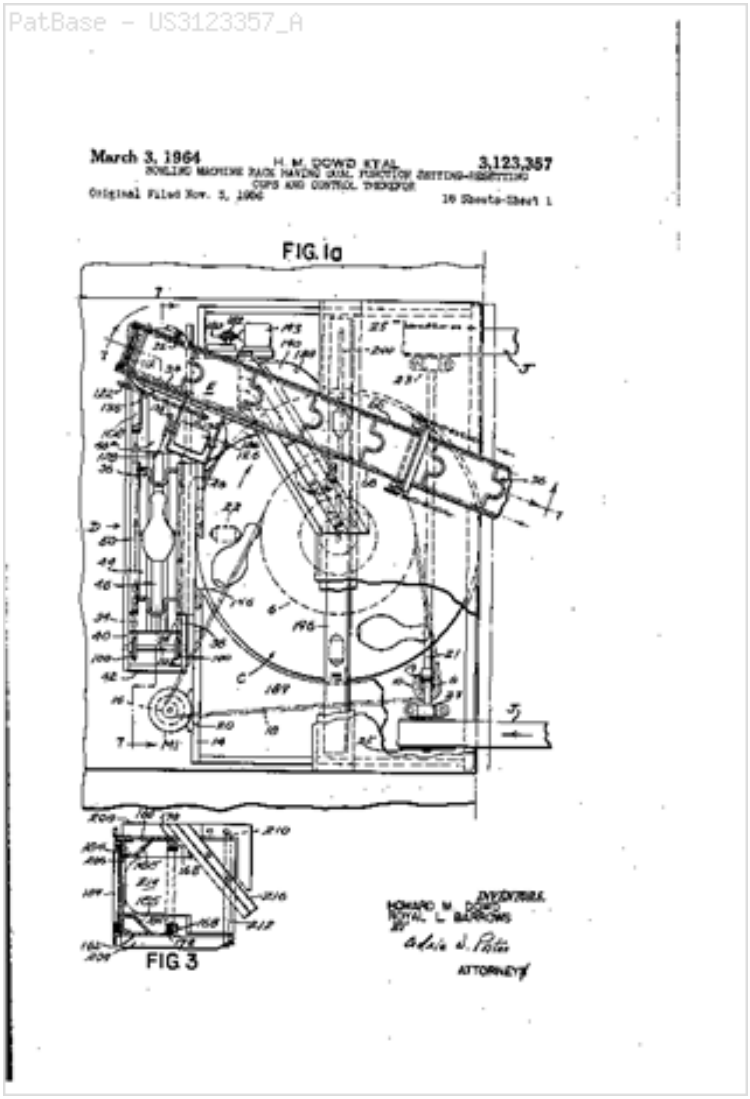
US class: 198/680 198/803.14 294/87.26 473/100 473/111 473/112 473/65 473/73 473/87 473/90 473/96

Classification Explorer

Cited documents: US689563 A, US654369 A, US3063716 A, US2977121 A, US2793858 A, US2739813 A, US2736554 A, US2735681 A, US2714508 A, US2709083 A, US2707105 A, US2702706 A, US2692139 A, US2689128 A, US2688485 A, US2686053 A, US2672341 A, US2656032 A, US2626803 A, US2625397 A, US2580853 A, US2578319 A, US2565834 A, US2531167 A, US2498587 A, US2310218 A, US2231842 A, US2017143 A, US1692796 A, US1584030 A, US1544928 A, US1524241 A, US1375835 A, DE914060 A, DE765898 A,

Forward Citations: US6358155, US6027411, US3704888, US3251597, US3248108, US3245684, US3232612, US3210078, US3208748, US3199870, US3193290, US3123357,

Abstract:
Source: US3041072A (Claim 1) 1. Ina bowling pinsetting machine, –a pin sweep mechianism comprising a pair of endless chains traveling an endless circuit running rearwardly –and forwardly of said machine, a pair of longitudinally extending trackslocated,at the same hei._ht on opposite sides of the machine beneath said chains, a carriage mounted for movement on each track, an arm pivotally secured to each carriage 'iO and depending therefrom, _a sweeper board extending between and connected to the bottom ends of said arms, a longitudinally slotted lever associated with each carriage, each slotted lever being pivotally and slidably secured at its lower end to its carriage by a wrist pin that extends through tihe slot in said lever, and being pivotally connected at its upper end to one of the said endless chains, driving means for moving each chain parallel to said tracks to move said levers rearwardly and then forwardly parallel to said tracks, each slotted lever pivoting about its wrist pin ias it reverses direction at the forward and rear ends of its path of travel so as to be in leading and pulling relationship with its carriage as it moves alon.its path of travel.



0) US4380844A – AUTOMATIC FLOOR CLEANING MACHINE

3) Family number: 2475018 (US4380844A) © PatBase

Title: Automatic floor cleaning machine

Priority: CA19810385714 19810911 US19800186420 19800912 US19830487503 19830422

Family:

Publication number	Publication date	Application number	Application date
CA1217611 A1	19870210	CA19810385714	19810911
US4380844 A	19830426	US19800186420	19800912
US4492002 A	19850108	US19830487503	19830422

Probable Assignee: TENNANT TREND INC

Assignee(s):(std)**:** WETROK INC

Assignee(s): WETROK INC A CORP OF NY ; CORNEIL DENNIS J ; TENNANT CO ; TENNANT TREND INC ; WALDHAUSER STEVEN A

Inventor(s):(std)**:** CORNEIL DENNIS J ; WALDHAUSER STEVEN A ; WALDHAUSER STEVEN J

Agent(s): MACRAE AND CO

International class (IPC 8–9)**:** A47L11/293 A47L11/30 (Advanced/Invention); A47L11/29 (Core/Invention)

International class (IPC 1–7)**:** A47L11/292 A47L11/293 A47L11/30

CPC: A47L11/30 A47L11/40 A47L11/4002 A47L11/4011 A47L11/4016 A47L11/4044 A47L11/4061 A47L11/4066 A47L11/4069 A47L11/4075 A47L11/4083 A47L11/4005 A47L11/4058

European class: A47L11/30 A47L11/40 A47L11/40B A47L11/40B2 A47L11/40C A47L11/40D2 A47L11/40F6 A47L11/40G4 A47L11/40H A47L11/40J2 A47L11/40J4 A47L11/40L A47L11/40N2

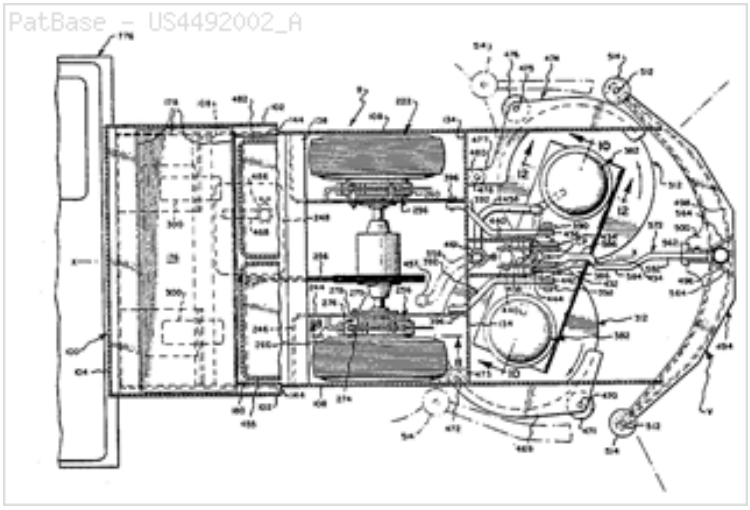
US class: 15/320 15/349 15/353 15/359 15/401

Classification Explorer

Cited documents: US4210978 A, US4173056 A, US4041567 A, US4037289 A, US4006506 A, US3879789 A, US3837029 A, US3837028 A, US3823791 A, US3649995 A, US3496591 A, US3376597 A, US3345671 A, US3290716 A, US3277511 A, US3065490 A,

Forward Citations: WO9721378, WO12065621, WO11057253, WO11017224, USD654234, US9510721, US9451861, US9367044, US9192276, US9015887, US8966693, US8957758, US8887340, US8786429, US8769755, US7644514, US7435160, US7313839, US7254867, US7240396, US7059015, US7025835, US7013527, US6896468, US6836919, US6763544, US6760947, US6557207, US6163923, US6108859, US6081962, US5940928, US5918345, US5881417, US5802665, US5742975, US5611108, US5611105, US5607178, US5524320, US5465456, US5454138, US5386742, US5383251, US5377382, US5369838, US5208940, US5064010, US4825500, US4819676, US4805258, US4803753, US4757566, US4633541, US4619010, US4483041, US4429433, US2017007090, US2016054062, US2013135079, US2013067683, US2011232984, US2011107529, US2011030163, US2008244851, US2007294854, US2007212982, US2007157417, US2007151119, US2006143855, US2006143844, US2005115015, US2005028316, US2005028315, US2005015915, US2004049878, US2004025288, US2003070252, US2002170131, US2002170130, JP2013500830, GB2509038, FR2552650, EP2248455, EP0726057, EP0563432, EP0398393, EP0310093, EP0276396, EP0276396, EP0242654, EP0230665, EP0138096, DE4325211, DE4325211, DE4325211, DE3830847, CN102835939, CN102835938, AU2010279651,

Abstract:
Source: US4380844A An automatic floor cleaning machine includes a unitary, self−contained and propelled, power driven body mounting from front to rear in a normal cleaning direction of travel: a propulsion mechanism including drive wheels and guide wheels for dry tracking on the floor surface to be cleaned, a scrubber mechanism including a pair of rearwardly disposed, vertically articulated counter−rotating magnetically and floatably mounted brushes for wetting and cleaning such floor surface, a vacuum mechanism including a vertically and horizontally articulated quick−detachable squeegee for drying of and proper tracking on the cleaned surface, and a combined mechanical and electrical control system operatively associated with each of such propulsion, scrubber, and vacuum mechanisms, for convenient actuation by a walk−behind operator to control actuation of such machine. Preferably, a sweeper mechanism is mounted on the body forwardly of the propulsion mechanism and operatively associated with such control system for advance sweeping of a debris−laden floor surface.



0) GB808288A – IMPROVEMENTS IN OR RELATING TO THE APPLICATION ...

4) Family number: 20290998 (GB808288A)

© PatBase

Title: Improvements in or relating to the application of granular material, for example sand, to the surfaces of bricks, building blocks and the like

Priority: GB19560001606 19560117

Family:

Publication number	Publication date	Application number	Application date
GB808288 A	19590204	GB19560001606	19560117

Probable Assignee: JOHN ALEXANDER JOHNSON

Assignee(s):(std): FREDERICK VALENTINE WILLIAM SE ; JOHN ALEXANDER JOHNSON

Assignee(s): FREDERICK VALENTINE WILLIAM SEDGLEY

International class (IPC 8–9): B28B11/06 (Advanced/Invention); B28B11/04 (Core/Invention)

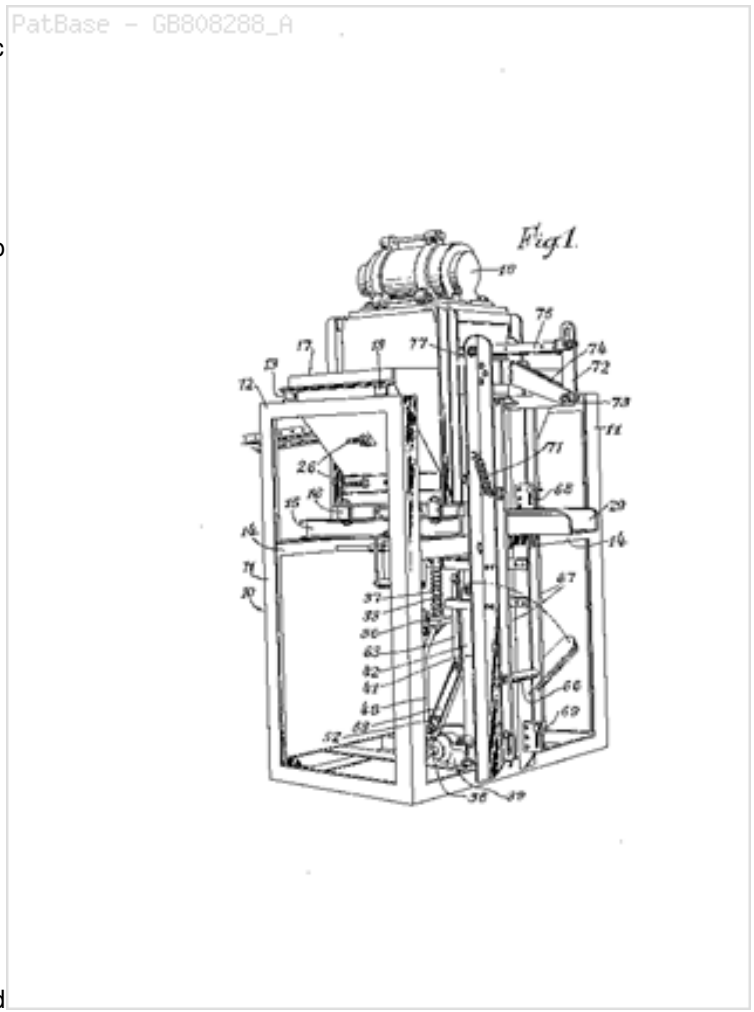
International class (IPC 1–7): B28B11/06

CPC: B28B11/06

European class: B28B11/06

Classification Explorer

Abstract:
Source: GB808288A 808,288. Coating bricks c with sand c. JOHNSON, J. A., and SEDGLEY, F. V. W. Jan 2, 1957 [Jan 17, 1956], No. 1606/56. Class 87(2). Granular material, e.g. sand, is applied from a sand box 17, which is mounted on a frame 10, to the surfaces of bricks, c., which have been raised into the box through a hole 19 in its base, and, after distribution, is embedded in said surfaces. Two pairs of opposing vertical plates 22, 23 are fixedly mounted on rods 26 in the box and vibrate therewith under the action of motor 18. Each brick passes upwardly on lift plate 31 through the vertical passage, of similar cross section, formed by these plates which have recesses 24 on their internal surfaces communicating through opening 25 with the sand mass in box 17. In operation sand passes through these openings, and after distribution, is embedded in the brick by the beating action of the vibrating plates. Lift plate 31 is raised by the initial clockwise movement of a rocking lever 41 which may be operated by the discharge mechanism, Fig. 8 (not shown) of the brick making press from which bricks are fed to the sanding apparatus. The top of lever 41 is connected by a link having parts 52, 53, the former of which is pivotally connected to a forked arm 47. This arm is coupled by a pivoted link 48 to a clevis 49 fixed beneath the table 31. The clockwise movement of the lever 41 is continued, and link parts 52, 53 are released for guided relative movement by the rotation of a cam 59, Fig. 6, which disengages the projections 58 of the blade springs 57 and the shoulders 56 of member 53 so that lever 41 now moves in contact with a rotatable bar 66 independently of the lift plate which thus returns to its lowered position under gravity. Vertical bars 67 which support bar 66 are thus forced downwards and rock a bell–crank lever 72 which moves a pusher plate 78 inwardly



so that sanded bricks are moved onto a conveyer 81. Specification 721,543 is referred to.

0) GB509889A – IMPROVEMENTS IN COIN GAUGING AND SELECTING MECH...

5) Family number: 20524006 (GB509889A)

© PatBase

Title:	Improvements in coin gauging and selecting mechanism, such as used in coin–freed apparatus
Priority:	GB19380001904 19380120

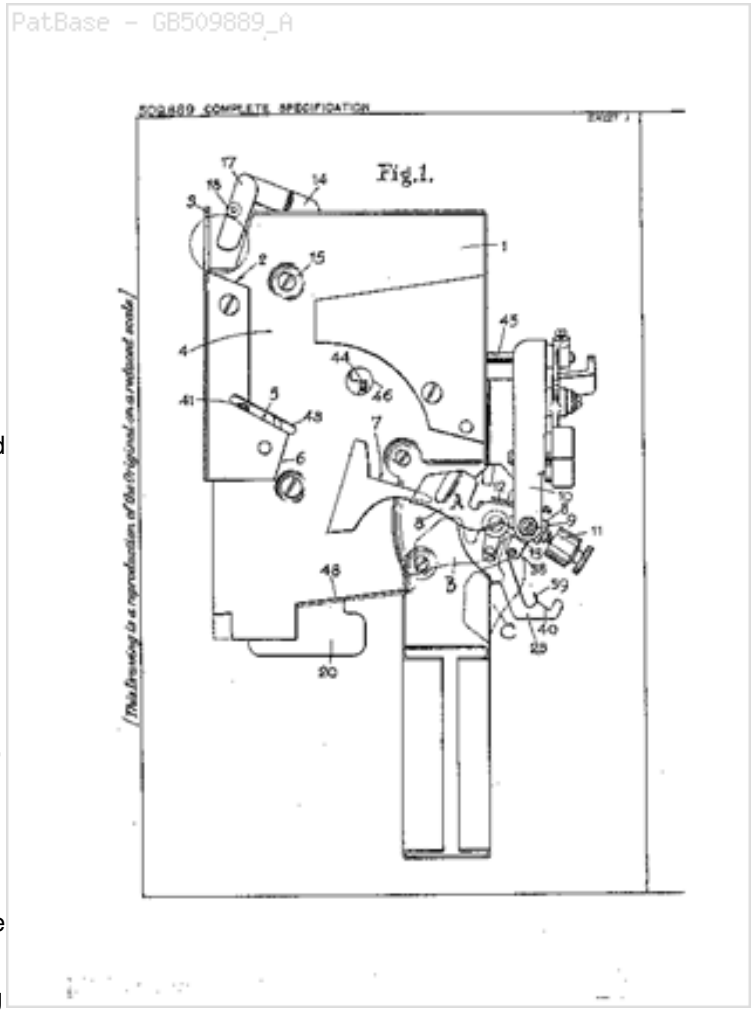
Family:

Publication number	Publication date	Application number	Application date
GB509889 A	19390720	GB19380001904	19380120

Probable Assignee:	PERCY STEPHEN HARPER
Assignee(s):(std):	PERCY STEPHEN HARPER
International class (IPC 1–7):	G07F3/02
CPC:	G07D5/00
European class:	G07D5/00 G07F3/02

Classification Explorer

Abstract:
Source: GB509889A 509,889. Testing coins. HARPER, P. S. Jan. 20, 1938, No. 1904. [Class 27] In a combined annulus and weight–testing device for coins having a pivoted counterbalanced coin carrier and a delay action device, the delay action device is operable by inserting a coin to control means for setting the coin carrier to a particular position after a predetermined time interval without actuating a movable hinged clearing wall of preliminary testing devices. A coin inserted in a slot 3, Figs. 1 and 2, actuates a delay action lever 14 which operates as described in Specification 425,024, and passes down a stationary shoot 4 provided with a bounce test as described in Specification 487,938 from which it is delivered by a shoot 7 to the combined annulus and weight testing carrier 8. This carrier, which operates as described in Specification 471,644, has annulus gauging points 12 to co–operate with a fixed stop 13 and an adjustable counterbalance weight 11 for testing the weight of the coins. The carrier, when released, moves to position A, Fig. 1, to receive a coin, which is delivered at a reject position B, if not of proper weight and thickness, or at position C leading to the coin–freed apparatus. When a coin is inserted, the delay lever 14 releases a double–armed lever 22 which holds a locking lever 23 in position to lock the carrier 8 in the reject position B by a notch 36 engaging a pin 37 on the carrier. A cam portion 24 on lever 23 also holds a weighted lever 26 carrying the stop 13 out of the path of the gauging points. When the lever 23 is released, the carrier moves to position A and the stop 13 is moved into the path of the points 12. If owing to the coin being light in weight, the carrier 8 stops between the positions A and B, the return of the lever 14 after a predetermined delay rotates the lever 22 to move the locking lever 23 back to its initial position by acting on a lug 33 thereon. A cam portion 35 on the lever 23 engages the pin 37 and moves the carrier to position B. If the carrier 8 has moved nearly to position C, a deflector 39 on the lever 23 engages the pin 37 and moves the carrier fully into position C, the carrier being locked in this position by a second recess 40, until another coin is inserted. A sweeper 41 pivoted to the delay lever 14 is reciprocated over the bounce platform 5 to clear this platform. The testing device is constructed as an interchangeable unit.



0) US1364550A – COIN–COLLECTING MEANS FOR TELEPHONE SERVICES

6) Family number: 30893140 (US1364550A) © PatBase

Title: Coin–collecting means for telephone services

Priority: GB19180004373 19180312 GB19180004373 19180902 GB19190018935 19190730 US19190309526 19190708

Family:

Publication number	Publication date	Application number	Application date
FR500880 A	19200326		19190620
GB149361 A	19200812	GB19180004373	19180312
GB154960 A	19201216	GB19190018935	19190730
US1364550 A	19210104	US19190309526	19190708

Probable Assignee: HALL FREDERICK WILLIAM

Assignee(s):(std)**:** HALL FREDERICK WILLIAM

Assignee(s): FREDERICK WILLIAM HALL

Inventor(s):(std)**:** HALL FREDERICK WILLIAM

International class (IPC 8–9)**:** H04M17/02 (Advanced/Invention); H04M17/00 (Core/Invention)

International class (IPC 1–7)**:** H04M17/00

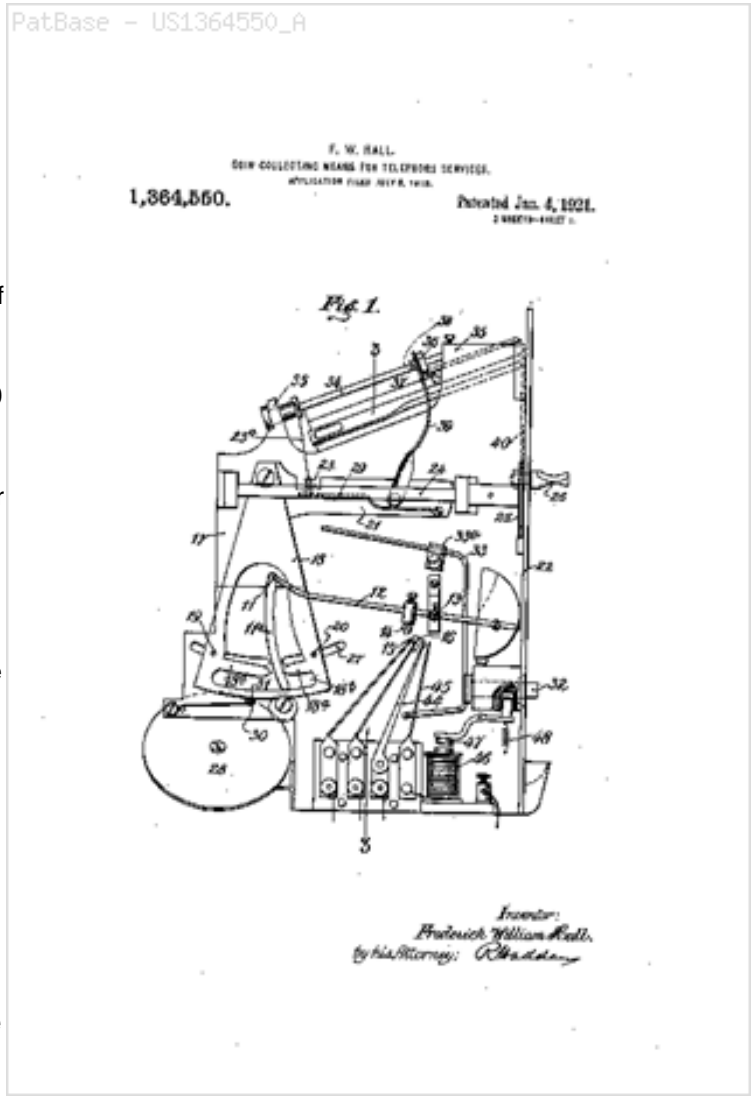
CPC: H04M17/026

European class: H04M17/02C

US class: 379/153

Classification Explorer

Abstract:
Source: US1364550A 149,361. Hall, F. W. March 12,1918. Hiring telephones. – In a coin–freed telephone apparatus, the inserted coins are guided to fall upon a balance and within a rocker, by rocking which in one direction or the other the caller may effect the delivery of the coins to the cash receptacle, or their return to him if a connexion cannot be made. The balance is moved by the weight of the coins to complete the calling and speaking circuit. The return of the rocker after delivery of the coins to the cash receptacle breaks the calling circuit, while the operation of returning the coins to the caller breaks the speaking–circuit. Coins of correct size pass to a shoot 10 and fall upon the end 11 of a balance arm 12 pivoted at 13 which makes the circuit through calling contacts 15, 16 and connects the speaking contact 44, 45. A quadrantal member 18 is pivoted to the outside of shoot 10, and carries pins 19, 20 which project through slots 27 in the shoot and between which the balance arm lies when depressed. The member 18 has a lever arm 21 which is operated by the caller through a handle 26, arm 25, rock–shaft 24 and arm 23 to swing the sector and thrust the coins by the contact of a pin 20 into the cash receptacle, where they fall on a sounder 28. To ensure complete movement of the quadrant 18 there are provided a spring 29, which is first engaged by an arm, and a spring friction catch 30, 31. The member 18 is moved in the reverse direction to return the coins by a push 32 engaging a spring pivoted lever 33, which presses against the lever 21. The member 18 is counterbalanced for movement in one direction by the lever 21, and the shoot 1 may be made to serve as counterbalance in the other direction, being provided for this purpose with a rock–shaft 34 carrying an arm 36 connected by a pin 37 and slot 38 to a link 39 connected to the lever arm 21. The slot 38 permits free movement of the arm 21 when the quadrant is moved to return coins to the caller. Supposing a call to have been made and the coins accordingly diverted into the cash receptacle, the balance arm 1 returns to normal position, and the contacts 15, 16 are separated, but the contacts 44, 45 remain closed in consequence of contact 44 being mounted on a pivoted arm without spring. If connexion cannot be made and the coins are returned, the contacts 44, 45 are separated by the operation of a lower extension of the lever 33 operated by the push 32. The push 32 is, however, locked, if a connexion is made by means of a stud operated by an electromagnet 46, 47. The breaking of the speaking circuit by hanging up the receiver unlocks the push 82 and lever 33. A time switch is inserted in the calling circuit to prevent operation till a predetermined interval has elapsed, after operation of the return–money lever, and comprises an arm 52 moved away by the push 32 from contacts 50, 51 to allow them to separate, and returned by a time train 53 having a fly 54. Diverting improper coins.–Coins are inserted in an angularly–disposed shoot 1 having a fixed rail 3 along the lower edge and a movable rail 4 along the upper edge, and part of the shoot is offset at 5, so as to produce a fulcrum 6 about which small coins unsupported by the rail 4 will tip and drop from the rail 3, and from the shoot into a chamber for return to the caller. The rail 4 is recessed as at 8 so that certain coins will run in this recess till they reach an abutment 9, when they will lift the rail, and being thus unsupported will fall as in the case of smaller coins. A projecting sweeper attached to the handle 26 locks the handle against movement if a coin attached to a wire and c. is inserted.



0) US2830424A – COTTON STRIPPER WITH FIXED STRIPPER COMB

7) Family number: 22080914 (US2830424A) © PatBase

Title:	COTTON STRIPPER WITH FIXED STRIPPER COMB
Priority:	US19560599256 19560720

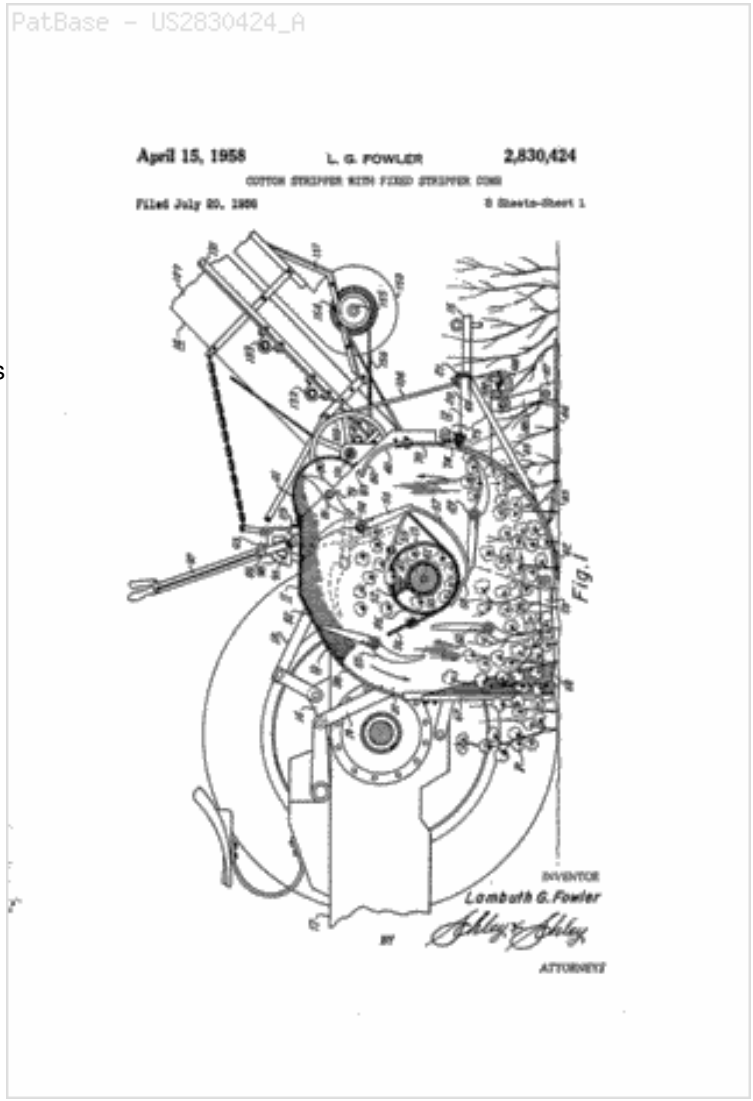
Family:

Publication number	Publication date	Application number	Application date
US2830424 A	19580415	US19560599256	19560720

Probable Assignee:	FOWLER LAMBUTH G
Assignee(s):(std)**:**	FOWLER LAMBUTH G
Inventor(s):(std)**:**	FOWLER LAMBUTH G
International class (IPC 8–9)**:**	A01D46/12 (Advanced/Invention); A01D46/00 (Core/Invention)
International class (IPC 1–7)**:**	A01D45/18
CPC:	A01D46/12
European class:	A01D46/12
US class:	56/333 56/34
Classification Explorer	
Cited documents:	US2691862 A, US2544411 A, US2517063 A, US2504459 A, US1842737 A, US1723587 A,
Forward Citations:	US6134867, US6044635, US2942398,

Abstract:
Source: US2830424A (Claim 1) 1. A cotton harvester including a housing having an open lower portion for straddling a row of cotton plants, stripper members at the lower portion of the housing for receiving the stalks and branches of the plants therebetween to strip cotton from said plants, means mounted in said housing for rotation about a horizontal, trans– verse axis, and a plurality of sweeper elements carried by the rotatable means for revolution about the axis whereby the elements are revolved through the plants and sweep over the stripper mem bers to lift cotton stripped from the plants, the sweeper elements being pivotally mounted on said rotatable means for swinging movement in a plane parallel to the plane of revolution.

PatBase - US2830424_A



0) DE4211789A1 – MECHANICAL ROAD SWEEPER DRIVEN BY WHEEL ROLLING...

8) Family number: 10808031 (DE4211789A1) © PatBase

Title: Mechanical road sweeper driven by wheel rolling over surface to be swept – has height adjustable disc brush and bevel gear on common shaft, gear rotating brush by being lowered onto second bevelled gear

Priority: DE19924211789 19920408

Family:

Publication number	Publication date	Application number	Application date
DE4211789 A1	19931014	DE19924211789	19920408
DE4211789 C2	19960725	DE19924211789	19920408

Probable Assignee: KAERCHER GMBH AND CO ALFRED

Assignee(s):(std)**:** KAERCHER GMBH AND CO ALFRED

Assignee(s): ALFRED KAERCHER GMBH AND CO 71364 WINNENDEN DE

Inventor(s):(std)**:** SERVE GREGOR ; URBAN UWE

Inventor(s): URBAN UWE 7056 WEINSTADT DE ; SERVE GREGOR 7150 BACKNANG DE

International class (IPC 8–9)**:** A47L11/24 A47L11/40 (Advanced/Invention)

International class (IPC 1–7)**:** A47L11/24

CPC: A47L11/24 A47L11/4058

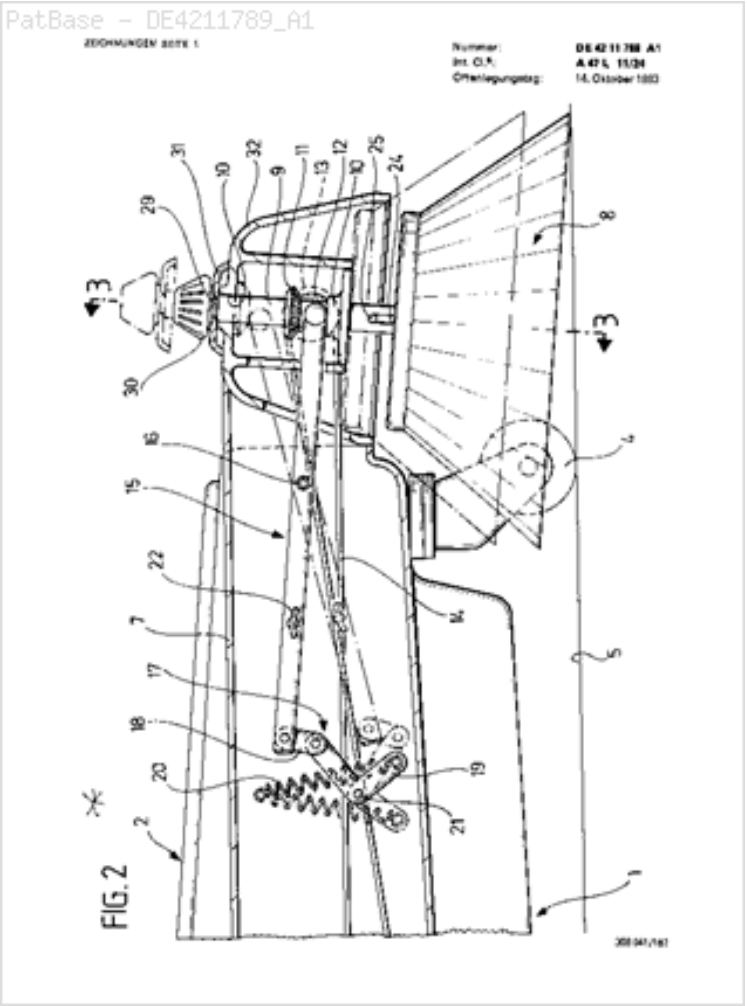
European class: A47L11/24 A47L11/40G4

Classification Explorer

Cited documents: US563869 A, US3233274 A, US1453049 A, DE3711346 C2, DE2407514 B2,

Forward Citations: WO9514423, WO14169944, EP2508112, EP1319758, EP0686371, DE9409333, DE9403678, DE29622115, DE19637685, DE19637685, DE102007055458, DE102007052514, CN105101855,

Abstract:
Source: DE4211789A1 The disc brush (8) and at least one gear (11), which is bevelled, is slidable along the rotating axis. This gear is in engagement with the drive in the lowered position and through meshing with another fixed bevelled gear (12). The brush and the gear (11) are located on a common hollow shaft (9). The brush is adjustable in height along this shaft by being attached to a spindle (29) which slides in the shaft and is set at the correct height by a button (30). The gear to allow the sliding of the brush is a friction wheel which engages a second friction wheel when lowered. ADVANTAGE – Has few moving parts, thus having simple assembly and disassembly. It can also be driven by a motor if necessary.



0) GB255328A – IMPROVEMENTS IN OR RELATING TO CONTROL MECHANIS...

9) Family number: 18253915 (GB255328A)

© PatBase

Title: Improvements in or relating to control mechanism for the handle bails of carpet sweepers or other movable apparatus

Priority: GB19260001109 19260114

Family:

Publication number	Publication date	Application number	Application date
GB255328 A	19260722	GB19260001109	19260114

Probable Assignee: HOOVER CO

Assignee(s):(std)**:** HOOVER CO

Assignee(s): THE HOOVER COMPANY

International class (IPC 8–9)**:** A47L11/40 (Advanced/Invention)

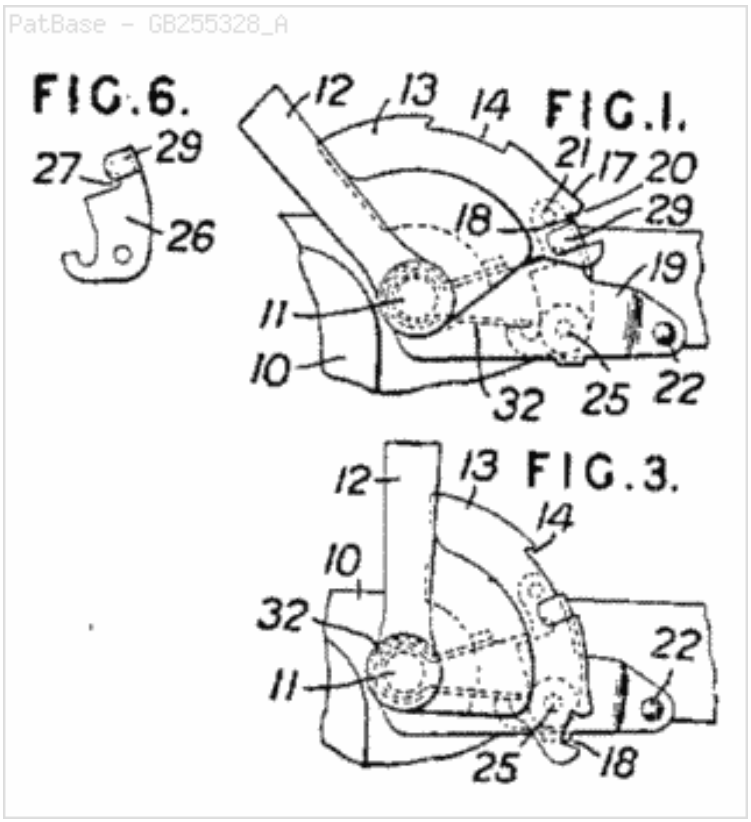
International class (IPC 1–7)**:** A47L9/32

CPC: A47L11/4075

European class: A47L11/40L

Classification Explorer

Abstract:
Source: GB255328A 255,328. Hoover, Ltd., (Hoover Co.). Jan 14, 1926. D i s c hinges; pivoting adjustments.– The handle bail of a carpet sweeper, suction cleaner, or other movable apparatus is secured in its storage position by means of a quadrant carried on the bail and a spring–pressed latch normally tending to engage notches in the edge of the quadrant, a separate member being provided for disengaging the latch; a short notch locks the bail in storage position and a longer notch permits limited movement of the bail when the handle is in normal operating position. The bail 12 is mounted on a pivot 11 on the sweeper casing 10 and has secured thereto a quadrant 13 with a short notch 18 and longer notch 14. The latch 26, Fig. 6, is pivoted at 25 to the sweeper casing 10 and is urged in an anticlockwise direction by a spring 32 so that, in the position shown in Fig. 1, the forked end 29 of the latch engages the notch 18, thereby securing the bail in such position that the handle is upright in storage position. Coacting with the latch 26 is a foot lever 19 mounted on the pivot 11 and urged upwards by the spring 32. When the lever 19 is depressed by foot pressure on a pin 22 a rounded pin 21 on the lever rides over the rounded nose of the latch fork 29, thereby pressing back the latch until the pin 21 enters the notch 27 in the latch, which holds the foot lever in depressed position. Movement of the bail and quadrant is now permitted by reason of the rounded edge 20 of the notch 18 riding under the fork 29, the further backward movement of the latch 26 thus produced freeing the pin 21 of the foot lever 19. When the bail is swung over to the position shown in Fig. 3, the fork end 29 of the latch 26 enters the long notch 14, which maintains the handle in its normal operating position but with some freedom to swing. The foot lever is again operated when the latch is to be released from the notch 14, which results in the pin 21 of the foot lever being again caught in the notch 27 of the latch, the latter being held thereby in an outward position released from the notch 14. When the quadrant is swung up to the position shown in Fig. 1, a cam projection 17 rides under the latch fork 29 moving the latch outwardly so that the pin 21 of the foot lever is released and the latch is then free to move into locking engagement with the notch 18.



0) FR1272373A – DISPOSITIF POUR DEBARRASSER L'ALLEE D'UN JEU DE...

10) Family number: 23003645 (FR1272373A)

© PatBase

Title:	DISPOSITIF POUR DEBARRASSER L'ALLEE D'UN JEU DE QUILLES DE SES BOULES ET DE SES QUILLES DEVICE TO DISPOSE OF THE ALLEY BOWLING BALLS AND ITS HIS BOWLING (Machine translation)
Priority:	FR19600842549 19601028

Family:

Publication number	Publication date	Application number	Application date
FR1272373 A	19610922	FR19600842549	19601028

Probable Assignee:	PHILIPS NV
Assignee(s):(std):	PHILIPS NV
Assignee(s):	N V PHILIPS GLOEILAMPENFABRIEKEN
International class (IPC 8–9):	A63D5/08 (Advanced/Invention); A63D5/00 (Core/Invention)
International class (IPC 1–7):	A63D5/06
CPC:	A63D5/02 A63D5/08
European class:	A63D5/08

Classification Explorer

Abstract:
Source: FR1272373A (Claim 1) 1. Dispositif pour enlever les boules et les quilles de l'allee d'un jeu de quilles, caracterise par le fait qu'il est dispose au–dessus de ladite allee et qu'il comprend un balai fixe a une tige de balayage s'etendant perpendiculairement a l'allee et anime d'un mouvement de va–et–vient dans la direction longitudinale de cette allee, cette tige de balayage etant articulee a une tige de suspension susceptible de pivoter autour d'un axe fixe dans l'espace et comportant un mecanisme pour imprimer a cette tige de suspension une oscillation autour d'une position moyenne, de preference pratiquement verticale, alors qu'a la tige de balayage est articulee une tige de levage, de preference perpendiculaire a la tige de suspension et comprenant en outre un mecanisme pour imprimer a cette tige de levage une oscillation autour d'une position moyenne, de preference pratiquement horizontale, les deux mecanismes d'oscillations etant accouples entre eux de facon telle que le balai se trouve plus pres de la surface de l'allee pendant son mouvement d'aller que pendant son mouvement de retour.

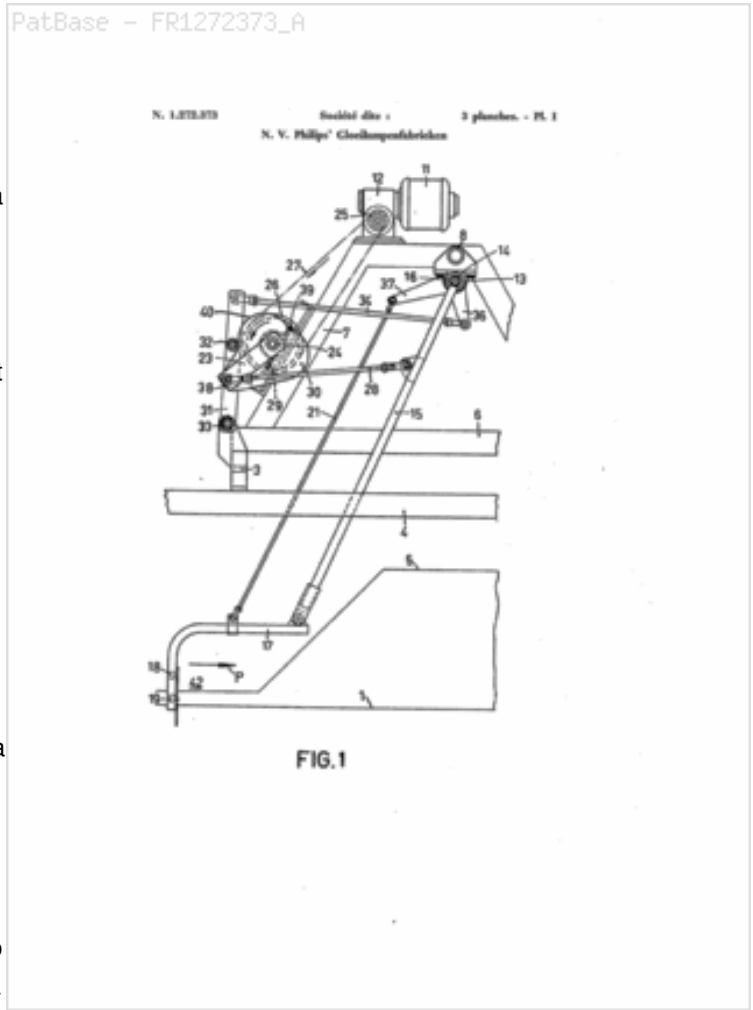


FIG.1

Machine translation: (Claim 1) 1. Device for removing the pins and the balls of the path of a bowling, characterized by the fact that it is prepared above said aisle and comprises a fixed brush has a stem extending scanning perpendicular to the alley and animated by a movement back and forth in the longitudinal direction of the alley, the scanning rod being hinged to a suspension rod pivotable about an axis fixed in space and having a mechanism to print this suspension rod has an oscillation about a mean position, preferably substantially vertical, whereas the rod is hinged scanning a

lifting rod, preferably perpendicular to the suspension rod and comprising further mechanism to print the lift rod has an oscillation about a mean position, preferably substantially horizontal, the two mechanisms of oscillations being coupled together so that the brush is more near the surface of the allee during its movement to go that during its return movement.

0) GB706951A – IMPROVEMENTS IN OR RELATING TO WEIGHING APPARAT...

11) Family number: 19419463 (GB706951A) © PatBase

Title: Improvements in or relating to weighing apparatus

Family:

Publication number	Publication date	Application number	Application date
GB706951 A	19540407	GB19520001048	19520114

Probable Assignee: WRIGHT MACHINERY CO

Assignee(s):(std)**:** WRIGHT MACHINERY CO

Assignee(s): WRIGHT MACHINERY COMPANY

International class (IPC 8–9)**:** G01G13/00 (Advanced/Invention)

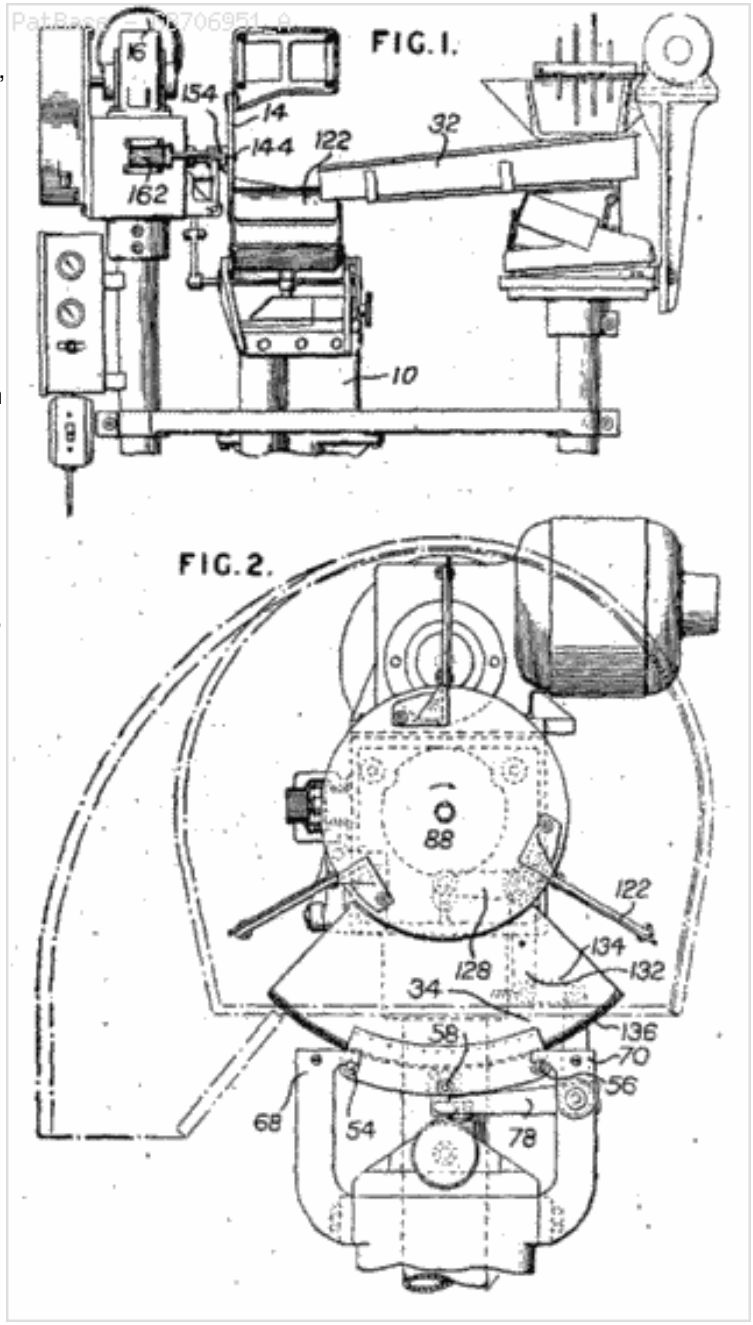
International class (IPC 1–7)**:** G01G13/16

CPC: G01G13/00

European class: G01G13/00

Classification Explorer

Abstract:
Source: GB706951A 706,951. Automatic feed weighers. WRIGHT MACHINERY CO. Jan. 14, 1952 [Aug. 3, 1951], No. 1048/52. Class 143 In an automatic feed weigher, material is fed continuously by a vibrating conveyer into a concave trough–shaped scale pan, which, at the correct weight, is lifted and locked, and the material is swept out by a rotating paddle. The material from the conveyer 32, Fig. 1, falls into the scale pan 34 of a liquid displacement weighing machine 10. The machine is as disclosed in Specification 633,075. When the required weight is in the pan, a mercury switch is closed to energize a solenoid 162 tn withdraw a latch 154 from engagement with an abutment 144, Fig. 5 (not shown), to allow the rotation of a turret 14. The turret, which carries three spaced sweeping paddles 122, is driven by a motor 16 through reduction gearing and a clutch, Fig. 3 (not shown), which slips when the turret is held still by the engagement of the latch 154. A cam 88, Fig. 4 (not shown) and Fig. 2, also rotates with the turret and through a linkage 128, 132, 134, 136 rotates a lever 78 which engages a lug 58 on the scale pan 34 and lifts the pan until further lugs 54, 56 on the pan engage fixed stops 68, 70. In this position the pan is held steady and is swept by one of the paddles 122. The lifting of the pan opens the mercury switch' and the latch 154 is released to engage the next abutment 144 as it comes round. The turret is stopped, a depression in cam 88 releases the scale pan, and the weighing cycle is recommenced.



0) US3436788A – STREETSWEEPER VACUUM PICKUP HEAD ASSEMBLY

12) Family number: 861276 (US3436788A) © PatBase

Title: STREETSWEEPER VACUUM PICKUP HEAD ASSEMBLY

Priority: GB19690001739 19690110 US19670656414 19670727

Family:

Publication number	Publication date	Application number	Application date
DE1816132 A1	19700625	DE19681816132	19681220
FR2019751 A5	19700703	FR19690001124	19690122
GB1202831 A	19700819	GB19690001739	19690110
US3436788 A	19690408	US19670656414	19670727

Probable Assignee: WAYNE MANUFACTURING CO

Assignee(s):(std)**:** WAYNE MANUFACTURING ; WAYNE MANUFACTURING CO ; WAYNE MFG CO ; WAYNE MFG COMPANY

Assignee(s): WAYNE MANUFACTURING COMPANY ; WAYNE MFG

Inventor(s):(std)**:** TAMNY SIMON

Inventor(s): SIMON TAMNY

International class (IPC 8–9)**:** E01H1/08 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** A47L5/00 E01H1/00 E01H1/05 E01H1/08

CPC: E01H1/0845

European class: E01H1/08C2B

US class: 15/340.3 15/385 15/87

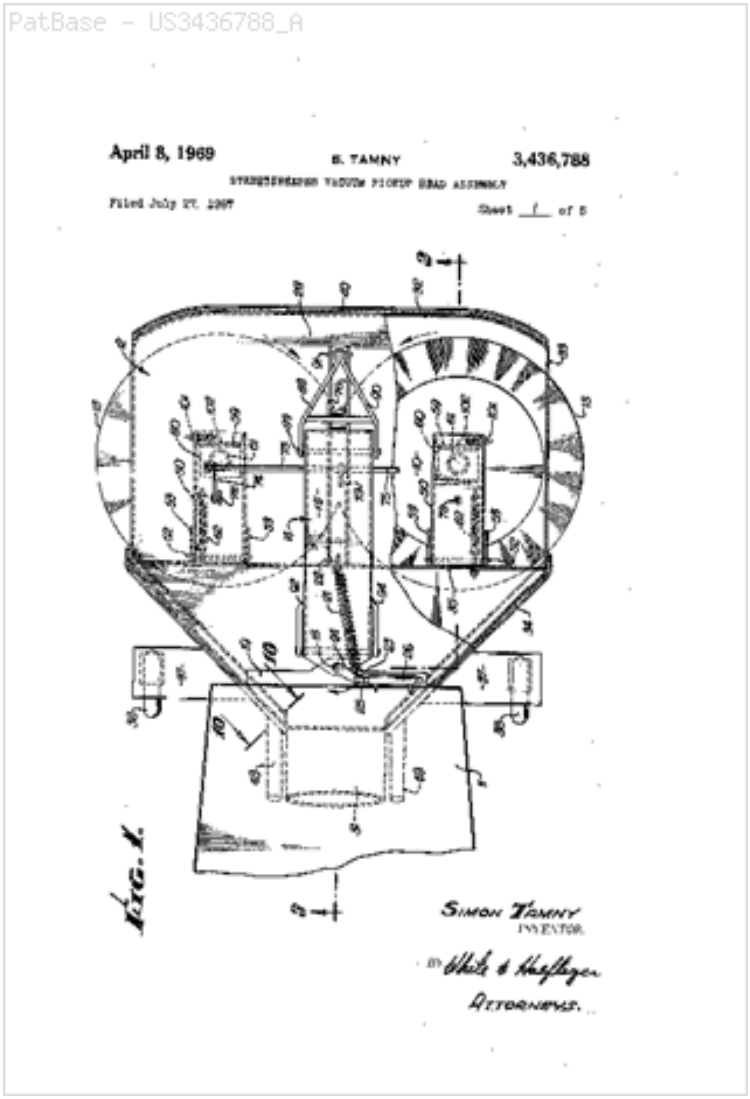
Classification Explorer

Cited documents: US3277511 A, US3186021 A, US1546441 A,

Forward Citations: WO9210614, WO8701404, WO8401649, WO8401399, WO13020202, WO12003572, WO12003572, WO09039621, WO09039621, USD693529, USD654234, US9510721, US9451861, US9375123, US9192276, US9015887, US8978190, US8966693, US8887340, US8528142, US8438685, US8302240, US8245345, US8082625, US7025835, US7025834, US6990709, US6272720, US6249926, US5881417, US5802665, US5768744, US5611268, US5452492, US5048141, US5016310, US5005253, US4831684, US4805258, US4805256, US4754521, US4733432, US4654918, US4580312, US4557010, US4163330, US3879789, US3675267, US2015196183, US2011244137, US2011023248, US2009094784, US2009090385, US2006064844, US2004068825, US2004040104, US2003070252, GB2242467, GB2242467, FR2597130, FR2094097, EP0391457, EP0367732, EP0310727, EP0180251, EP0103471, DE102011003139, AT401944, AT109,

Abstract:
Source: GB1202831A 1,202,831. Road sweeping machines. WAYNE MFG. CO. 10 Jan., 1969, No. 1739/69. Heading B1G. A vacuum pick–up head mounted on the front of a road sweeping machine frame 11 comprises a pair of intermeshing vertical–axis gutter brushes 10 resiliently mounted in and protruding laterally from an overlying suction hood 12. The hood 12, which has depending aprons 40, 42, casters 28 and an elliptical suction conduit 31, is liftably suspended on parallel links 88 from a beam 14 which can be swung to one or other side of the frame to engage one or other gutter, the beam 14 being swung about a pivot 18 by means of a piston 25 and over–centre spring linkage 21– 24. Each brush is driven by a motor 61 and is suspended in the hood 12 on parallel links 51, 54 adjustably loaded by a spring 62, lateral tilt of the brushes, Fig. 8 (not shown) being adjusted by a nut (101) and clamp (104). The hood is raised and lowered by a cylinder 68, bell crank 65 and cable 71, the cable 71 being anchored to an arm 73 on a cross–shaft carrying a pair of arms 74 each having a lost motion connection 79 with the respective brush suspension linkage so that as the hood is raised for transport the brushes are retracted into the hood. Raising of the hood also automatically centres the beam 14 about pivot 18 against the action of spring 21, this being effected, Fig. 4 (not shown) by the movement in a fixed cam slot (82) of the bent–over end of a rod (86) pivoted to the bell crank (65). In a modification, Fig. 10 (not shown), each side apron (42) is. spaced from an inner apron (45) to form an independent suction chamber (46) for fine debris.

PatBase - US3436788_A



0) GB1326391A – TRANSFER DEVICES

13) Family number: 172089 (GB1326391A)

© PatBase

Title: TRANSFER DEVICES

Priority: JP19690073597 19690918

Family:

Publication number	Publication date	Application number	Application date
CH517023 A	19711231	CH19700013715	19700916
DE2046128 A1	19710506	DE19702046128	19700918
DK131768 B	19750901	DK19700004778	19700917
DK131768 C	19760209	DK19700004778	19700917
GB1326391 A	19730808	GB19700044709	19700918

Probable Assignee: MORINAGA CONFECTIONERY CO LTD

Assignee(s):(std)**:** MORINAGA CONFECTIONERY CO LTD

Inventor(s):(std)**:** FUMIO SATO ; SATO F

Inventor(s): SATO FUMIO

International class (IPC 8–9)**:** B65G17/06 B65G47/50 (Advanced/Invention); B65G17/06 B65G47/50 (Core/Invention)

International class (IPC 1–7)**:** B65B35/10 B65B35/44 B65G37/00 B65G43/08 B65G47/54 B65G47/68 B65G47/82

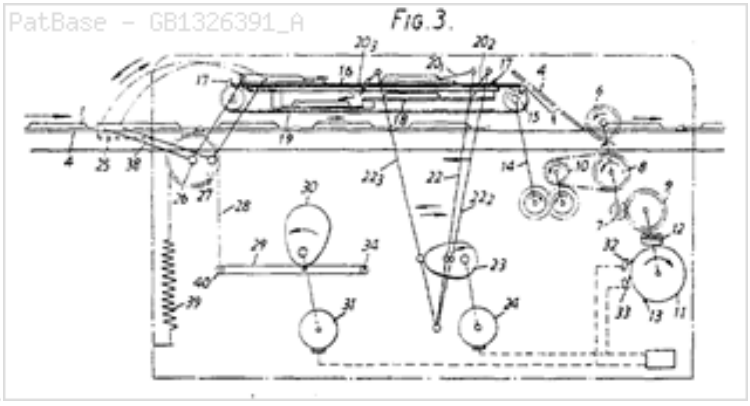
CPC: B65G17/067 B65G47/503 B65G2201/02 B65G2811/0647

European class: B65G17/00 B65G17/06G B65G47/50A L65G201/02 L65G811/06M

Classification Explorer

Forward Citations: WO16195497, GB2301329, GB2301329, DE3700506, DE3700506,

Abstract:
Source: GB1326391A 1326391 Endless conveyers MORINAGA CONFECTIONERY CO Ltd 18 Sept 1970 [18 Sept 1969] 44709/70 Heading B8A In an apparatus for transferring groups of articles e.g. bars of chocolate from an endless conveyer 1 to an endless conveyer 19 extending laterally thereof, the articles are carried on trays 4 with lugs 41 resting on webs 5 mounted on a pair of spaced chains 2. The trays are raised by a pair of pivotal arms 38 from the conveyer 1 to a conveyer 16 with lugs 17 to advance the trays beneath a pusher 20 which is spaced a distance above the conveyer 16 to pass over the trays, which are subsequently discharged from the conveyer 16 and returned to the conveyer 1, but to engage the articles and push the same from the trays and on to a stationary support 18. The pusher 20 is mounted on a reciprocate arm 22 and on movement thereof the pusher is lowered to engage the articles on the support 18 and transfer the same on to the conveyer 19. The arms 38 and 22 are driven in synchronism with the conveyer 1.



0) GB926776A – APPARATUS FOR GROUPING PACKAGES DELIVERED FROM ...

14) Family number: 20221523 (GB926776A)

© PatBase

Title: Apparatus for grouping packages delivered from pneumatic conveyors

Priority: IT19600000748 19600114

Family:

Publication number	Publication date	Application number	Application date
GB926776 A	19630522	GB19610001374	19610112

Probable Assignee: AMF SASIB S P A

Assignee(s):(std)**:** AMF SASIB S P A

International class (IPC 8–9): B65B35/46 B65G47/08 (Advanced/Invention); B65B35/30 B65G47/04 (Core/Invention)

International class (IPC 1–7): B65B35/46

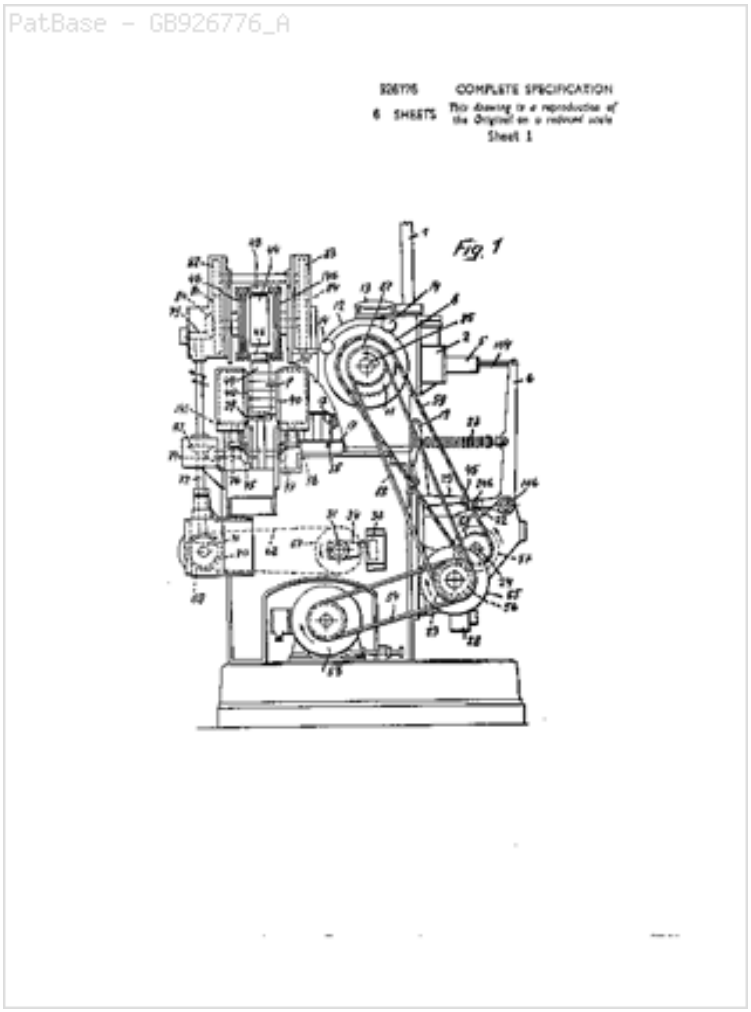
CPC: B65B35/46 B65G47/082

European class: B65B35/46 B65G47/08B

Classification Explorer

Forward Citations: WO07107284, WO07107284, US3527366, EP2123563, EP0893374, EP0126553,

Abstract:
Source: GB926776A 926,776. Packaging machines. AMF–SASIB S.p.A. Jan. 12, 1961 [Jan. 14, 1960], No. 1374/61. Class 94(1). [Also in Group XXX] Apparatus for grouping packages delivered from a pneumatic conveyer tube 1 comprises a housing 12 in which a drum 7 is rotated stepwise so that the leading package may be delivered by a pusher 4 into a pocket 107 on the drum and, after rotation of the drum, fall on to a plate 17, a pusher 18 forming a group of packages in a section of an intermittently rotated spider 35. After the spider 35 carries each group of packages through 90 degrees, one of a pair of sweeper plates 44 (see Group XXX) pivotally secured to endless chains 46, 146 pushes the packages horizontally on to an outlet plate 39, along which they are moved by conveyer belts 40. A photo–electric cell in the delivery tube 1 prevents the operation of the pusher 4 unless the packages in the tube 1 have reached a pre–determined height. The apparatus may be in multiple, Fig. 4, the packages being fed to a single grouping device.



15) Family number: 21017660 (GB921619A)

© PatBase

Title: Improvements in automatic bowling pin setting machine

Priority: GB19600026072 19600727

Family:

Publication number	Publication date	Application number	Application date
GB921619 A	19630320	GB19600026072	19600727

Probable Assignee: BOWL MOR COMPANY INC

Assignee(s):(std)**:** BOWL MOR COMPANY INC

Assignee(s): BOWL MOR CO INC

Inventor(s):(std)**:** BARROWS ROYAL LIONEL ; DOWD HOWARD MATHEW

International class (IPC 8–9)**:** A63D5/08 (Advanced/Invention)

International class (IPC 1–7)**:** A63D5/09

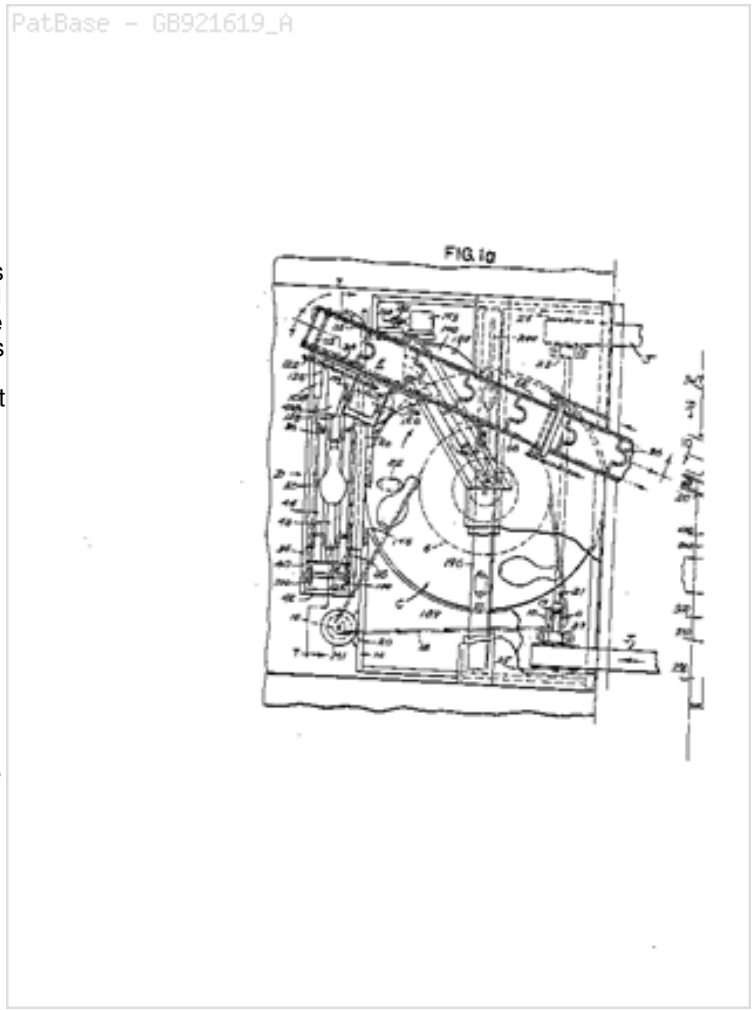
CPC: A63D5/08

European class: A63D5/08

Classification Explorer

Forward Citations: WO9313838, US5562549,

Abstract:
Source: GB921619A 921,619. Skittle alleys. BOWL–MOR CO. Inc. July 27, 1960, No. 26072/60. Class 132 (2). In an automatic pin–setter for a skittle alley, swept pins are raised by an elevator and deposited in a receiver holding ten pins which are deposited in a store from which a set of pins is dropped when required into a positioning board provided with ten holders each closed at the bottom by two half cups which support the pins by their bottoms during a setting operation and by their heads during a resetting operation, the half–cups being movable in opposite directions for opening and closing. Pit (Figs. 1a and 2a). Dead wood is moved from the alley bed into pit B by a sweep and by continuously moving gutter conveyers J operated by motor M1 The peripheral parts of the pit slope downwards to a central rotating platform C also driven by motor M1 which carries the pins and balls round in a clockwise direction. A central transverse pad 196 in the pit causes dead wood to drop on to the platform C and across the upper half of the platform, as shown in Fig. 1a has a bottom roller 200 spaced above the platform by a distance greater than the pin diameter but less than the ball diameter. This diverts balls to trough 190 from which they are lifted by a ball elevator E (see below). Pins under the influence of centrifugal force migrate to the periphery of platform C and ultimately pass through aperture 146 in the rear wall 14 of the pit to pin elevator D (see below). Ball elevator E (Fig. 2a). This consists of a forwardly–facing, vertical U–shaped channel 160, 162 provided with a pair of side chains 170 driven by a motor M3 and spanned by bars 184 disposed across the open side of the channel. These bars engage under balls in



trough 190 and roll them up the rear wall of the channel until they meet an inclined part 166 which forces them off the bars into return run−way 202. The rear wall of the channel has an aperture 164 which is not in contact with the balls but if a pin should have found its way into trough 190 and up the conveyer it can move part way into the aperture and fall clear of bars 184 down the channel. A pivoted flap 214 just below aperture 164 intercepts the falling pin and diverts it out of the channel, whereupon it is guided by an oblique plate 216 to fall again on to turn−table C in the pit. Flap 214 is pivoted upwards by rising balls and pins and falls back to intercepting position after they have passed. Pin elevator (Figs. 1a 2a, 2b). This consists of a channel which runs transversely behind the lower part of rear wall 14 of the pit, then vertically upwards, and then obliquely forward across the top of the pit to a discharge point above the pin receiver. The three sections are denoted by 26, 28 and 30 respectively. Along each side of the channel run chains 32, 34 spanned by yokes 36 shaped as shown to pull the pins along by their heads. Pins passing through aperture 146 in pit rear wall 14 fall on to the yokes moving in channel part 26 and carried to the discharge point 92 at the extremity of channel part 30 where they are automatically released from the yokes to drop into the pin receiver. Any pins entering the conveyer wrong way round are corrected at the junction of channel parts 26, 28. Chains 32, 34 are driven only when pins are required by the receiver by motor M2. Sweep (Figs. 2b, 2c). Along each side of the alley above the bed thereof extend beams 260 having upwardly−extending front portions 264 and provided with rails 261 along which trolleys 312 are pulled by chains 296 driven by motor M4. The trolleys are coupled to the chains by pivoted pin and slot arrangements 306, 318 so that as the chains make a complete circuit, the trolleys move from front to back and then from back to front along rails 261. Suspended from each trolley is a link 320 the lower ends of which are joined by sweep board 330. This is connected by pin and slot means to links 320 so that if it should hit a pin as it descends it will not jam. Fig. 2c shows the sweep in stowed and sweeping positions (full and broken lines). As it moves it operates switches to prevent operation of the pin setter while the sweep is in the way and to stop itself in stowed position. Pin receiver (Figs. 2b and 10). Above the alley bed is mounted a rotatable array of ten cylindrical holders G1..., in which the pins are held by detents 368 carried by a common ring 366. The array is rotated to bring the holders in turn under discharge point 92 of the pin conveyer and is driven step by step from the pin conveyer drive through a special clutch. When a pin drops into a holder it actuates a switch SW8 to advance the array one step by engaging the clutch but if the receiver be full this action is interrupted and the pin conveyer is stopped. When all ten holders have their pins, and pins are required by the setter, a solenoid 51 is energized to withdraw all the detents from the holders so that the set of pins can drop into the pin store. Pin store (Fig. 14). Disposed beneath the

receiver is a stationary array of pin−holders 492 arranged directly above the pin positions on the alley bed. Pins dumped from the receiver are guided into holders 492 by shoots 498 appropriately disposed and are prevented from dropping out of the holders by retainers 504 mounted on strips 500 forming a network which is retracted at the appropriate time in the cycle to allow the pins to drop on to the positioning board 530. Positioning board (Figs. 2b and 14). The board 530 is mounted on the bottom ends of three rack bars 532, 533 which are vertically slidable in the fixed frame of the machine and which are driven by cog wheels rotated through suitable gearing from a bull gear 560. This gear is rotated to and from by a chain 574 and crank 576 driven by a motor at the appropriate time. Beneath each holder 492 of the pin store, the board 530 has an aperture 600 in which are slidably mounted two half−cups 608, 610 so formed as to fit the base of a pin but which are cut away to present two edges 616 spaced apart, when the halves are closed, a distance greater than the pin neck diameter but less than the pin head diameter. All the half−cups 608, 610 are coupled together in two sets, the sets being moved in opposite directions by common cam means to open and close the cups at appropriate times. In operation, after the first ball, crank 576 is rotated to lower the board but, when it reaches the level of the heads of any standing pins the halfcups 608, 610 have been opened and an arm is introduced into the path of a projection 568 on bull gear 560 and stops further descent of the board. The half−cups are closed on to the heads of standing pins and chain 574 goes slack. As the crank 576 continues to rotate the slack in the chain is taken up and the board is lifted to its top position. Sweep 320 then moves along the alley bed to sweep dead wood into the pit and returns to raised position. The board 530 descends again to intermediate position, the half−cups open to deposit the pins in the bed, and then the board rises to top position the cups closing. After the second ball, the sweep moves to clear the bed, retainers 504 are retracted to allow ten pins to drop from the store to the cups 608, 610 and the board descends. This time rotation of bull gear 560 is not interrupted and the board descends to the bed, the cups open to deposit the pins and the board rises to top position. An electric control circuit is described.

0) GB1255031A – IMPROVEMENTS IN OR RELATING TO DISTRIBUTORS FOR...

16) Family number: 91442 (GB1255031A) © PatBase

Title: IMPROVEMENTS IN OR RELATING TO DISTRIBUTORS FOR DISTRIBUTING GRANULAR MATERIAL OVER THE GROUND

Priority: GB19680021957 19680509

Family:

Publication number	Publication date	Application number	Application date
AU206954200 A1	19701105	AU19690054200	19690430
BE732756 A	19691016		19690508
DE1922668 A1	19691113	DE19691922668	19690503
ES366996 A1	19710316	ES19690366996	19690509
FR2008159 A1	19700116	FR19690014958	19690509
GB1255031 A	19711124	GB19680021957	19680509
NL6907133 A	19691111	NL19690007133	19690509

Probable Assignee: BAMFORDS LTD

Assignee(s):(std)**:** BAMFORDS LTD

Assignee(s): BAMFORDS LIMITED

Inventor(s):(std)**:** BAMFORD RICHARD HAWTHORN ; HAWTHORN BAMFORD RICHARD

Inventor(s): RICHARD HAWTHORN BAMFORD

International class(IPC 8–9)**:** A01C15/06 A01C15/16 A01C7/08 A01C7/16 (Advanced/Invention); A01C15/00 (Core/Invention)

International class(IPC 1–7)**:** A01C15/00 A01C15/06 A01C15/16

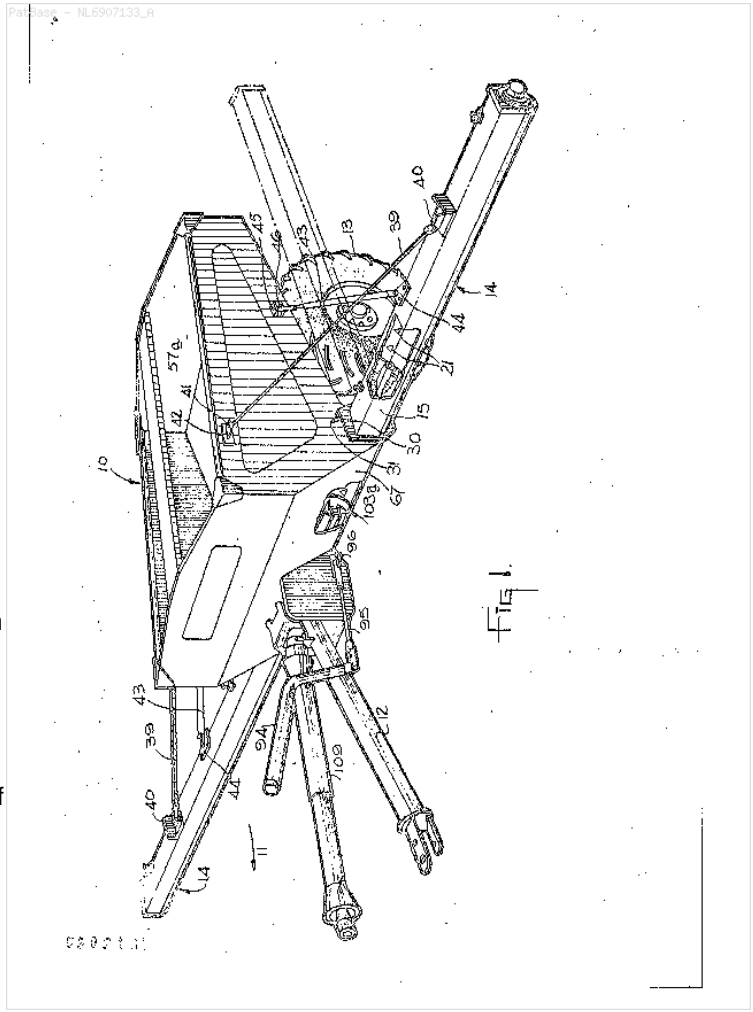
CPC: A01C15/06

European class: A01C15/06

Classification Explorer

Forward Citations: US9187866,

Abstract:
Source: GB1255031A 1,255,031. Granular material distributor. BAMFORDS Ltd. 25 April, 1969 [9 May, 1968], No. 21957/68. Heading AID. A distributor for granular material comprises a hopper 10, and at least one boom 15 having discharge outlets for the granular material and being moveable between an aperture position and a transport position (dotted lines Fig. 1). The booms are of tubular cross−section and contain feed means 48 preferably in the form of an archimedian screw with the blades 49 formed from flexible filamentary material. The booms pivot about an axis which is transverse to the length of the boom, or upwardly or at some intermediate inclined position and the transmission driving the feed means is automatically disengaged when the booms are pivoted into the transport position. The feed means is arranged to advance material along the length of the boom and to lift material to the level of the discharge outlets 20. The openings to the booms are closeable to prevent the delivery of material when the booms are in the inoperative position and the rate of delivery of the material is selectively variable. The material is carried at least partially by gravity from the hopper 10 to the subordinate chamber 65 which has a series of openings similar to the openings in the booms. The material is then acted upon by the feed means, which, in the central portion of the subordinate chamber comprise a member 103a which has straight vanes. The member 103a is mounted co−axially, or approximately so, with the screw augers 48. The feeding members are arranged so as to be easily removeable. In an embodiment Fig. 9 (not shown) a return screw auger 130 is provided for each boom to return excess material from the ends of the conveyor to the hopper. In a further embodiment Fig. 10 (not shown) the feed means comprises an endless belt whose upper run carrier material along the booms and whose lower run returns the excess material to the hopper. Paddles are provided to lift the material to the outlet openings.



0) DE357461A – MOTORPFLUG MIT AN EINEM ZWEIRAEDRIGEN MOTORKARR...

17) Family number: 18576310 (DE357461A) © PatBase

Title: MOTORPFLUG MIT AN EINEM ZWEIRAEDRIGEN MOTORKARREN ANGELENKTEN, DIE PFLUGRAHMEN TRAGENDEN, AUF RAEDERN LAUFENDEN TRAGRAHMEN MOTOR PLOW WITH ON A TWO MOTOR CART articulated, THE PLOUGH FRAME BEARING, wheeled CURRENT SLING (Machine translation)

Family:

Publication number	Publication date	Application number	Application date
DE357461 A	19220825		00000000

Probable Assignee: POEHL WERKE ZWEIGNIEDERLASSUNG

Assignee(s):(std)**:** POEHL WERKE ZWEIGNIEDERLASSUNG

Assignee(s): POEHL WERKE ZWEIGNIEDERLASSUNG DER MASCH U KRANBAU AKT GES ZU DUESSELDORF ; POEHL WERKE ZWEIGNIEDERLASSUNG DER MASCHINEN UND K ; POEHL WERKE ZWEIGNIEDERLASSUNG DER MASCHINEN UND KRANBAU AKT GES ZU DUESSELDORF

International class (IPC 8–9): A01B3/56 (Advanced/Invention); A01B3/00 (Core/Invention)

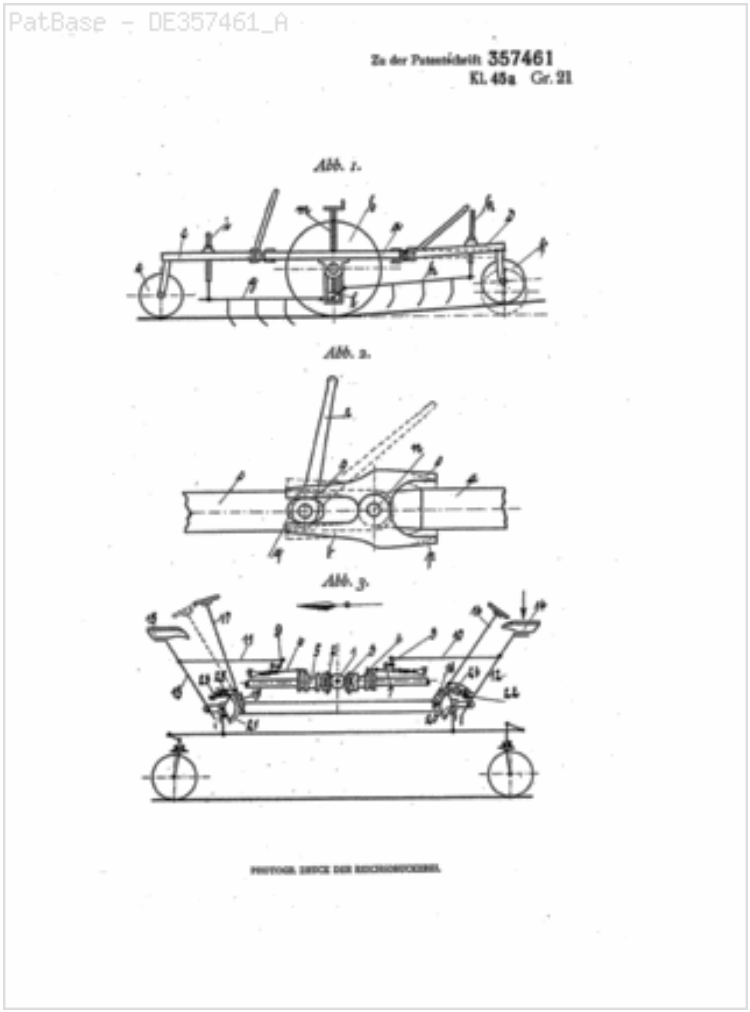
International class (IPC 1–7): A01B3/56

CPC: A01B3/56

European class: A01B3/56

Classification Explorer

Abstract:
Source: DE357461A [Source: Claim 1] 1. [Source: Claim 1] 1



18) Family number: 31306421 (US2870261A) © PatBase

Title: ARRANGEMENT OF SUBSCRIBERS' CIRCUITS IN ELECTRONIC TELEPHONE EXCHANGES

Priority: 19540804 DE1955N011001 19550731 DE1955P014566 19550729 DE19803018544 19800514 DE1956N012534 19560726 DE1956N012533 19560726 US19550523901 19550722 US19560592843 19560621

Family:

Publication number	Publication date	Application number	Application date
BE549884 A	19570128		00000000
BE549911 A	00000000		00000000
CH333037 A	19580930		19550804
CH354811 A	19610615		19560728
DE1004674 B	19570321	DE1956N012534	19560726
DE1045451 B	19581204	DE1956N012533	19560726
DE1232241 A	00000000		00000000
DE1232241 B	19670112	DE1955P014566	19550729
DE3018544 A1	19811119	DE19803018544	19800514
DE3018544 C2	19850207	DE19803018544	19800514
DE951014 A	19561018	DE1955N011001	19550731
DK213581 A	19811115	DK19810002135	19810513
FI811476 A	19811115	FI19810001476	19810513
FR1128810 A	19570110		19550803
FR1156990 A	19580523		19560726
FR1167718 A	19581128		19560730
GB333974 A	19300828	GB19290017255	19290605
GB774959 A	19570515	GB19550022012	19550729
GB800657 A	19580827	GB19560023294	19560727
GB809090 A	19590218	GB19560023139	19560726
NL189724 B	00000000		00000000
NL189724 C	19930701	NL19810002207	19810506
NL209353 A	00000000		00000000
NL8102207 A	19811201	NL19810002207	19810506
NL84695 C	00000000		00000000
NL87359 C	00000000		00000000
NO811533 A	19811116	NO19810001533	19810506
SE436509 B	19841217	SE19810002653	19810427
SE436509 C	19850328	SE19810002653	19810427
SE8102653 A	19811115	SE19810002653	19810427
SE8102653 L	19811115	SE19810002653	19810427
US2854579 A	19580930	US19550523901	19550722
US2870261 A	19590120	US19560592843	19560621

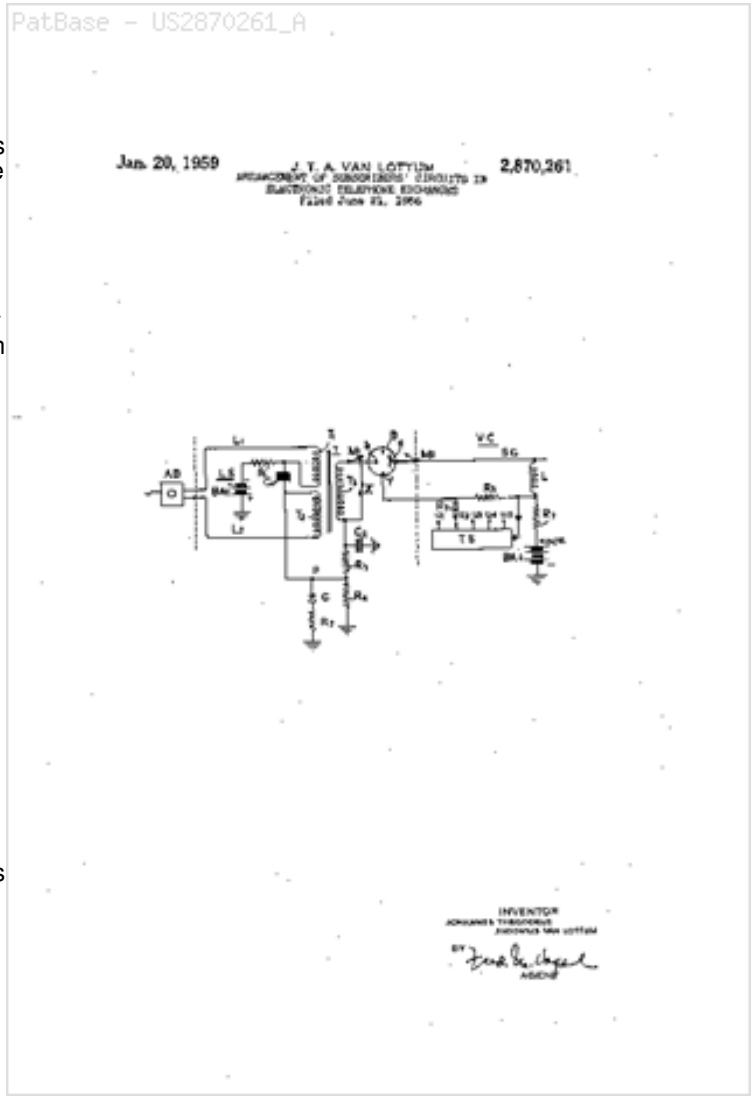
Probable Assignee: NORTH AMERICAN PHILLIPS COMPAN

Assignee(s):(std)**:** ACTIVATED SLUDGE LTD ; AUG WINKHAUS ; AUG WINKHAUS FA ; PHILIPS NV ; PHILIPS CORP ; PHILIPS ELECTRICAL IND LTD ; NORTH AMERICAN PHILLIPS COMPAN ; FIRMA AUG WINKHAUS TE TELGTE BONDSREPUBLIEK DUITSL ; JAMES ALGER COOMBS ; WINKHAUS A ; WINKHAUS FA AUGUST ; PHILIPS PATENTVERWALTUNG ; WINKHAUS AUG ; WINKHAUS AUGUST FA

Assignee(s): PHILIPS PATENTVERWALTUNG G M B H ; PHILLIPS ELECTRICAL INDUSTRIES LIMITED ; ACTIVATED SLUDGE LIMITED ; PHILIPS PATENTVERWALTUNG GMBH ;

	FIRMA AUG WINKHAUS TE TELGTE BONDSREPUBLIEK DUITSLAND ; PHILIPS GLOEILAMPENFABRIEKEN NV ; NORTH AMERICAN PHILIPS CO INC ; NORTH AMERICAN PHILLIPS CO INC ; FA AUG WINKHAUS ; FA AUG WINKHAUS 4404 TELGTE DE ; FIRMA AUG WINKHAUS ; N V PHILIPS GLOEILAMPENFABRIEKEN ; PHILIPS ELECTRICAL INDUSTRIES LIMITED ; NORTH AMERICAN PHILLIPS COMPANY INC ; NORTH AMERICAN PHILIPS COMPANY INC
Inventor(s):(std)**:**	DE VRIJER FREDERICK WILLEM ; FREDERIK WILLEM DE VRIJER ; GRUNEL FRIEDRICH WILHELM ; KORTENBREDE L ; KORTENBREDE LUDGER ; NAUTA CORNELIS ; THEODORUS ANTONIUS VAN LOTTUM ; VERSTER NICO FREDERICK ; L KORTENBREDE ; LOTTUM JOHANNES THEODORUS ANTO ; VRIJER FREDERIK WILLEM DE
Inventor(s):	WILLEM DE VRIJER FREDERIK ; LOTTUM JOHANNES THEODORUS ANTONIUS VAN ; ANTONIUS VAN LOTTUM JOHANNES THEODORUS ; VRIJER FREDERICK WILLEM DE ; KORTENBREDE LUDGER 4404 TELGTE DE
International class (IPC 8–9)**:**	B01D21/00 E05B67/00 H01H36/00 H01H5/02 H03K5/02 H03L7/18 H03L7/183 H04N5/06 H04Q3/52 (Advanced/Invention) ; B01D21/00 E05B67/00 H03K5/02 H03L7/16 H04N5/06 H04Q3/52 (Core/Invention)
International class (IPC 1–7)**:**	B01D21/18 C02C1/34 E05B65/36 E05B67/00 E05B67/02 E05B67/06 E05B67/24 E05B67/36 E05B7/00 E05B71/00
CPC:	H04Q3/525 H01H5/02 H01H36/0073 H01H2003/506 H03L7/18 H03L7/183 H04N5/06 E05B67/003 H03K5/02
European class:	85C6A 85C6E1A 95C20B B01D21/06 B01D21/24A B01D21/24A4 B01D21/24N E05B67/00B H01H36/00C H01H5/02 H03K5/02 H03L7/18 H03L7/183 H04N5/06 H04Q3/52L T01H3/50C
US class:	327/115 327/117 331/16 331/175 331/18 331/23 331/51 331/76 348/E05.011 348/E5.011 379/413
Classification Explorer	
Cited documents:	US2773934 A, US2766326 A, US2715656 A, US2521789 A, DE699682 A, DE6944529 U, DE520540 A, DE402597 A, DE333312 A, DE260167 A,
Forward Citations:	WO9412997, WO07082511, US5864272, US4933014, US4923519, US3851108, US3383619, US3375448, US3369205, US3333695, US3260821, US3251003, US3217267, US3190964, US3165706, US3163823, US3134857, US2985725, US2649412, US2418189, FR2804240, FR2698720, EP0476318, EP0476260, DE978013, DE4230813, DE3335662, DE19937126, DE1640426, DE1271243, DE1260523, DE1208137, DE102010029817,

Abstract:
Source: GB333974A 333,974. Coombs, J. A., and Activated Sludge, Ltd. June 5, 1929. Gravity–separation apparatus.– Matter deposited on the floor of a settling tank is swept or moved centrifugally into pits or sumps provided beyond the edge of the floor. Sewage or other liquid is supplied to the tank 1, Fig. 6, through a central vertical pipe 12 which delivers into a container 12, which is closed at the bottom and directs the liquid upwards into a cylindrical casing 13, from which it passes downwards and is distributed to flow outwardly through the tank, so that solid matter settles on the floor, the clear liquid overflowing into a circumferential effluent trough 9. The settled solid matter is moved from the floor, which is preferably inclined, by rotary sweepers or scrapers 3 and pushed into sumps 7, which may be arranged circumferentially around a circular tank or situated in the corners of a rectangular one. The flow of liquid to the channel 9 may be regulated by means of a vertical cylindrical perforated baffle 20. The liquid is initially supplied to either end of a hollow cross–beam 25 and passes thence to the pipe 12. The arms carrying the scrapers have wheels 16 travelling' on a rail 4 and their inner ends are hinged to the container 12x which is carried by a shaft 14, rotated in bearings in the cross–beam 25 by a motor 27 and worm gearing 26. In the form shown a central sump 32 is provided, the solid matter settling therein being directed to an outlet pipe 34 by scrapers on a frame 13. Vanes or blades 28 which give a rotational movement to the liquid may be provided within the casing 13, these being fixed either to the casing or to the container 12x. Sludge collecting in the sumps 7 may be raised by air lifts to an annular discharge channel 11. The upper edge of the baffle or partition 20 may be formed as an overflow trough similar to and connected with the trough 9. In an arrangement shown in Fig. 1, a rectangular tank is provided with branch overflow troughs 9 extending diagonally over the sumps 7 at the corners and communicating with the trough 9. A modification is described in which an annular channel is provided between the sumps 7 at the edge of the floor and additional sweeping devices at the end of the rotary scraper arms push the matter collecting in the channels into the sump.



- List: SS7 1–50 (ft=adjust* and lever and cam and sweeper) (Results 46)

0) GB1114883A – CARPET SWEEPER

1) Family number: 30910970 (GB1114883A) © PatBase

Title: Carpet sweeper

Priority: DE1965L038779U 19650116

Family:

Publication number	Publication date	Application number	Application date
DE1911642 U	19650311	DE1965L038779U	19650116
GB1114881 A	19680522	GB19660002106	19660117
GB1114883 A	19680522	GB19680000126	19660117
NL145134 B	19750317	NL19660000141	19660106
NL6600141 A	19660325	NL19660000141	19660106
SE300052 B	19680401	SE19660000505	19660114

Probable Assignee: GUENTHER LEIFHEIT K G

Assignee(s):(std)**:** LEIFHEIT INT ; LEIFHEIT INTERNATIONAL ; GUENTER LEIFHEIT K G ; GUENTHER LEIFHEIT K G

Assignee(s): LEIFHEIT G KG ; LEIFHEIT INTERNATIONAL GUENTER LEIFHEIT GESELLSCHA ; LEIFHEIT INTERNATIONAL GUENTER LEIFHEIT GESELLSCHAFT MIT BESCHRAENKTER HAFTUNG NASSAU BONDSREPUBLIEK DUITSLAND

Inventor(s):(std)**:** LIEBSCHER J

International class (IPC 8–9)**:** A47L11/08 A47L11/33 (Advanced/Invention)

International class (IPC 1–7)**:** A47L11/32 A47L11/33

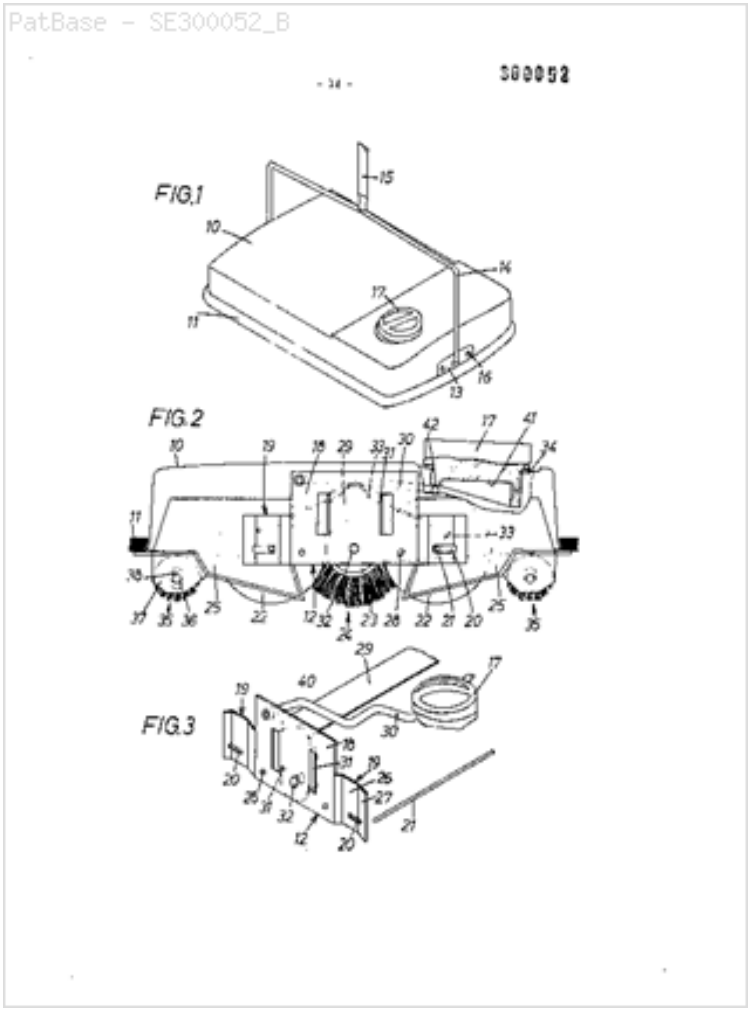
CPC: A47L11/08 A47L11/33 A47L11/4041 A47L11/4058

European class: A47L11/08 A47L11/33 A47L11/40F4 A47L11/40G4

Classification Explorer

Forward Citations: WO07143214, WO07143214, USD689660, USD657573, USD655513, US8377218, US8015650, US8011050, US7721372, FR2038282, FR2031579,

Abstract:
Source: GB1114881A (Claim 1) 1.Printed for Her Majesty's Stationery Office by the Courier Press, Leamington Spa, 1968.Published by the Patent Office, 25, Southampton Buildings, London, W C 2, from which copies may be obtained.r



0) US5115537A – DRIVE SYSTEM

2) Family number: 29372274 (US5115537A) © PatBase

Title: Drive system

Priority: CA19902029256 19901102 US19890442615 19891129 US19920870918 19920420 US19920837157 19920218 US19910708464 19910531 US19910708735 19910531 US19930013789 19930205 US19930088095 19930702 US19920871021 19920420

Family:

Publication number	Publication date	Application number	Application date
AU199066955 A1	19910606	AU19900066955	19901123
AU640711 B2	19930902	AU19900066955	19901123
CA2029256 AA	19910530	CA19902029256	19901102
CA2029256 C	20020108	CA19902029256	19901102
JP2043429 C3	19960409	JP19900333498	19901129
JP3228722 A2	19911009	JP19900333498	19901129
JP7079782 B4	19950830	JP19900333498	19901129
KR940002788 B1	19940402	KR19900019666	19901129
NZ236192 A	19930826	NZ19900236192	19901122
US5115537 A	19920526	US19910708735	19910531
US5187832 A	19930223	US19920870918	19920420
US5251711 A	19931012	US19920837157	19920218
US5285550 A	19940215	US19920871021	19920420
US5316097 A	19940531	US19930013789	19930205
US5335740 A	19940809	US19930088095	19930702

Probable Assignee: SCOTT AND FETZER CO

Assignee(s):(std)**:** SCOTT AND FETZER CO ; THE SCOTT FETZER CO ; THE SCOTT FETZER COMPANY

Assignee(s): LACKNER JOHN R ; MATUSCHEK HANS J ; MEYER ROBERT B ; SCOTT AND FETZER CO THE ; SCOTT FETZER CO

Inventor(s):(std)**:** HANS J MATUSCHEK ; HANSU JIEI MACHIYUSUCHIETSUKU ; JIYON AARU RETSUKUNAA ; JOHN R LACKNER ; KENNEDY DANIEL J ; LACKNER JOHN R ; LACKNER JONN R ; MATSUCHEK HANS J ; MATUSCHECK HANS J ; MATUSCHEK HANS J ; MEYER ROBERT B ; ROBAATO BII MEIYAA ; ROBERT B MEYER

Agent(s): PHILLIPS ORMONDE FITZPATRICK; RIDOUT AND MAYBEE LLP

International class (IPC 8–9)**:** A47L11/40 A47L5/12 A47L5/28 A47L9/00 A47L9/04 F16H63/08 F16H9/24 (Advanced/Invention); B62B5/00 (Advanced/Non–invention); A47L11/00 A47L5/12 A47L5/22 A47L9/00 A47L9/04 F16H63/08 F16H9/02 (Core/Invention)

International class (IPC 1–7)**:** A47L11/40 A47L5/12 A47L5/24 A47L5/28 A47L9/00 A47L9/04 B62D51/04 F16H63/08 F16H9/24

CPC: A47L5/28 A47L9/009 B62B5/0073

European class: A47L5/28 A47L9/00E L62B5/00P6F

US class: 15/328 15/329 15/340.2 15/410 180/19.1 180/19.2 180/19.3 180/192 56/11.3 D15/14

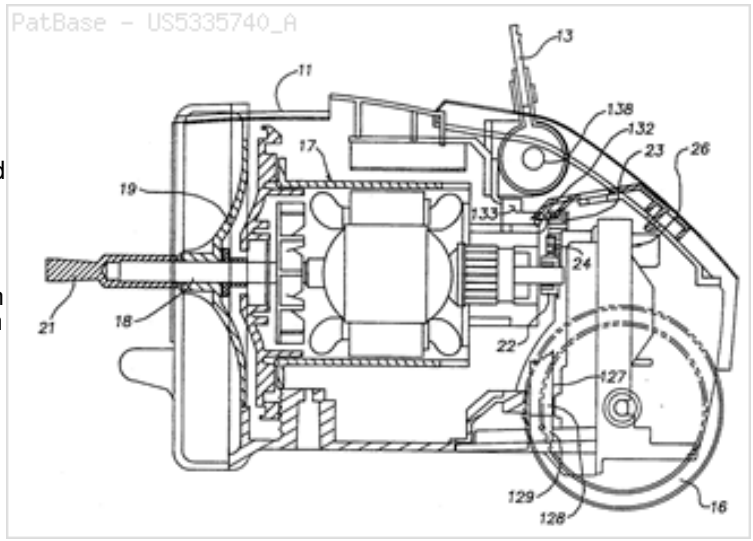
Classification Explorer

Cited documents: US5115537 A, US4947512 A, US4856264 A, US4766640 A, US4716717 A, US4689939 A, US4554780 A, US4538401 A, US4434865 A, US4347643 A, US4306405 A, US4249281 A, US4212141 A, US3802170 A, US3618687 A, US3608333 A, US3451495 A, US3218876 A, US2986765 A, US2950772 A, US2941610 A, US2860473 A, US2814063 A, US2482166 A, US2191426 A, US1806177 A,

Forward Citations: WO10104229, USD780390, USD777795, USD762992, USD726227, USD723068, USD714351, USD676876, USD665823, USD653265, USD652846, USD648354, USD642595, USD628598, USD626971, USD624563, USD622291, USD610167, USD605667, USD600254, USD506586, USD506048, USD429392, USD426356,

USD424578, US9175756, US9163707, US8943647, US8011063, US7937804, US7854038, US7850555, US7845442, US7777444, US7770255, US7725223, US7644781, US7587786, US7523600, US7520112, US7487569, US7293397, US7222390, US7213298, US7178322, US7076830, US7070035, US7062816, US7043794, US7000285, US6769501, US6644002, US6553611, US6484352, US6415880, US6320292, US6308374, US6282747, US6085382, US6082083, US6061869, US5540296, US5504971, US5398567, US5377774, US5335740, US2016047463, US2015308569, US2014329627, US2014208709, US2010307745, US2010307744, US2010199623, US2009282643, US2009249580, US2009133215, US2009127009, US2008185252, US2007272510, US2007271892, US2007214762, US2007130899, US2007094839, US2007061058, US2007039122, US2007000085, US2006242786, US2006218887, US2006211540, US2006067558, US2006021313, US2005279066, US2005071056, US2005015918, US2004188219, US2004168424, US2004163707, US2004135537, US2004134018, US2002174507, TWI380793, TWI364269, KR101030124, KR100695515, GB2383743, GB2383743, GB2363976, GB2363976, GB2348478, GB2321393, GB2321393, EP1266557, EP1219156, CN102232331, AU2009341752,

Abstract:
Source: US5115537A A vacuum cleaner having an improved transmission. The transmission includes speed reduction gearing and forward and reverse clutching elements which provide high power capacity, large speed reduction, durability, quiet operation and smooth power engagement. The main power train elements all rotate on parallel axes and the forward and reverse clutching elements are essentially independent of one another and resistant to wear. The transmission has an actuating mechanism which is connected to an upright handle on the vacuum cleaner and allows the appliance to respond to moderate pushing or pulling forces applied to the handle by the user. The vacuum cleaner also has improved bearings for rotatably supporting the wheel shaft of the appliance and aligning itself to the housing of the appliance.



0) US3517404A – CARPET SWEEPERS

3) Family number: 25655860 (US3517404A) © PatBase

Title: CARPET SWEEPERS

Priority: DE19671628693 19670117 DE1967L055511 19670117

Family:

Publication number	Publication date	Application number	Application date
AT290773 B	19710625	AT19670011616	19671222
CH469476 A	19690315	CH19670018083	19671222
DE1628693 A1	19720518	DE19671628693	19670117
DK126086 B	19730612	DK19680000026	19680104
FR1552379 A	19690103		19680109
GB1208062 A	19701007	GB19680001928	19680112
NL6800345 A	19680718	NL19680000345	19680110
SE370012 B	19740930	SE19680000531	19680116
SE370012 C	19750116	SE19680000531	19680116
US3517404 A	19700630	US19680698275	19680116

Probable Assignee: LEIFHEIT INT

Assignee(s):(std)**:** LEIFHEIT G KG DT ; LEIFHEIT INT ; GUENTER LEIFHEIT KG ; GUNTER LEIFHEIT KG ; OLIN B JOHNSON ; LEIFHEIT INTERNAT GUENTER LEIF ; LEIFHEIT INTERNAT COUNTER LEIF ; LEIFHEIT INTERNATIONAL

Assignee(s): LEIFHEIT INTERNATIONAL GUENTER LEIFHEIT KG ; LEIFHEIT INTERNATIONAL GUNTER LEIFHEIT GMBH ; GUENTER LEIFHEIT K G ; LEIFHEIT INTERNATIONAL COUNTER LEIFHEIT K G ; LEIFHEIT G GMBH DT ; LEIFHEIT INT GUENTER LEIF ; LEIFHEIT INT GUENTER LEIFHEIT KG

Inventor(s):(std)**:** JOHANNES LIEBSCHER ; LEIFHEIT G ; LEIFHEIT G DT ; LEIFHEIT GUNTER ; LIEBSCHER J ; LIEBSCHER J DT ; LIEBSCHER JOHANNES ; GUENTER LEIFHEIT

Inventor(s): GUNTER LEIFHEIT ; LEIFHEIT GUENTER

International class (IPC 8–9): A47L11/33 (Advanced/Invention) ; A47L11/00 (Core/Invention)

International class (IPC 1–7): A47L11/08 A47L11/32 A47L11/33

CPC: A47L11/33 A47L11/40 A47L11/4027 A47L11/4041 A47L11/4058 A47L11/4069 A47L11/4072

European class: A47L11/33 A47L11/40 A47L11/40E A47L11/40F4 A47L11/40G4 A47L11/40J4 A47L11/40K

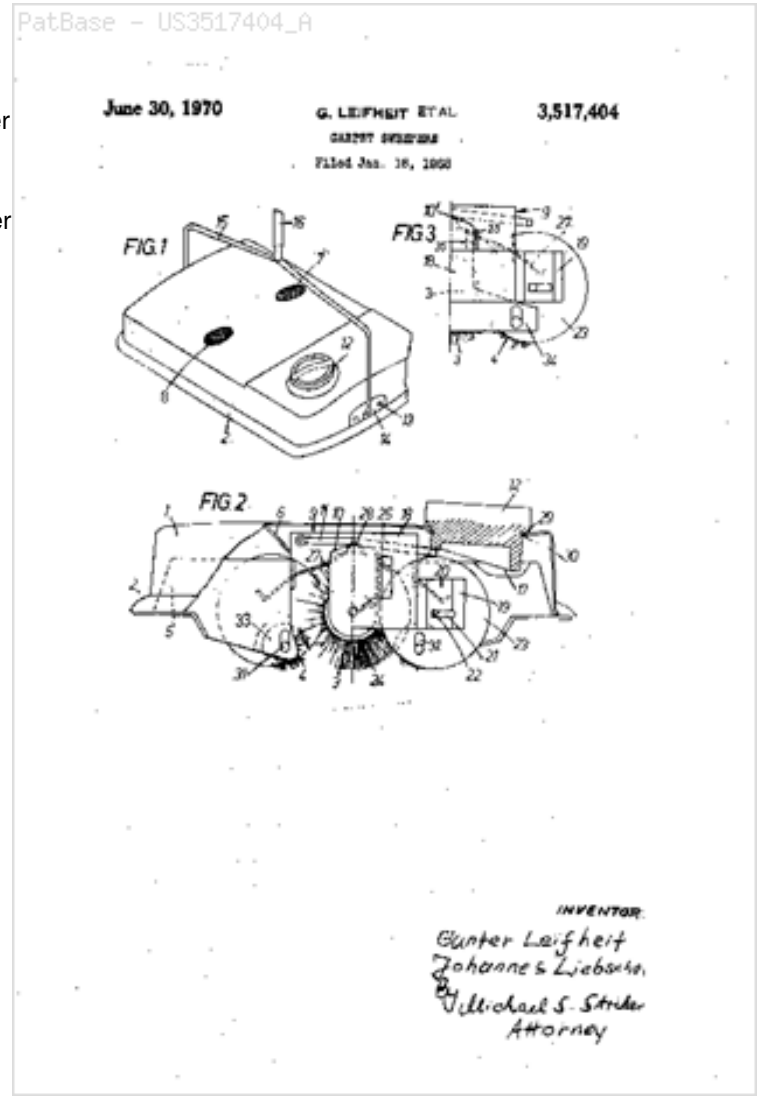
US class: 15/42

Classification Explorer

Cited documents: US346641 A, US330590 A, US3268936 A, US3246353 A, US3145405 A, US240224 A, US238144 A, US2239276 A, US2228528 A, US1879752 A, US182346 A, US1786864 A, US1319836 A, US1038170 A, GB1073942 A, CH6583 A,

Forward Citations: US3631557,

Abstract:
Source: US3517404A ABSTRACT OF THE DISCLOSURE A carpet sweeper having a driven brush roller, at least one additional brush roller engaging the driven brush 15 roller and floor engaging wheels all mounted in a casing, in which one or more of the brush rollers, or the wheels, are mounted in a yoke which is vertically movable in the casing, under the action of a face cam, to vary the extent of engagement of the bristles of the brush rollers with 20 the floor engaged by the wheels.



0) US3234576A – VEHICLE FOR SWEEPING LARGE SURFACES

4) Family number: 22774247 (US3234576A) © PatBase

Title: Vehicle for sweeping large surfaces

Priority: US19610162674 19611228 US19640395631 19640727

Family:

Publication number	Publication date	Application number	Application date
US3193862 A	19650713	US19610162674	19611228
US3234576 A	19660215	US19640395631	19640727

Probable Assignee: AMERICAN LINCOLN CORP

Assignee(s):(std)**:** AMERICAN LINCOLN CORP

Inventor(s):(std)**:** LYON JAMES E

International class (IPC 8–9)**:** A47L11/40 E01H1/04 E01H1/05 E01H1/08 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** E01H1/04 E01H1/05 E01H1/08

CPC: A47L11/4041 E01H1/045 E01H1/0854 E01H1/053

European class: A47L11/40F4 E01H1/04C E01H1/05B E01H1/08C3

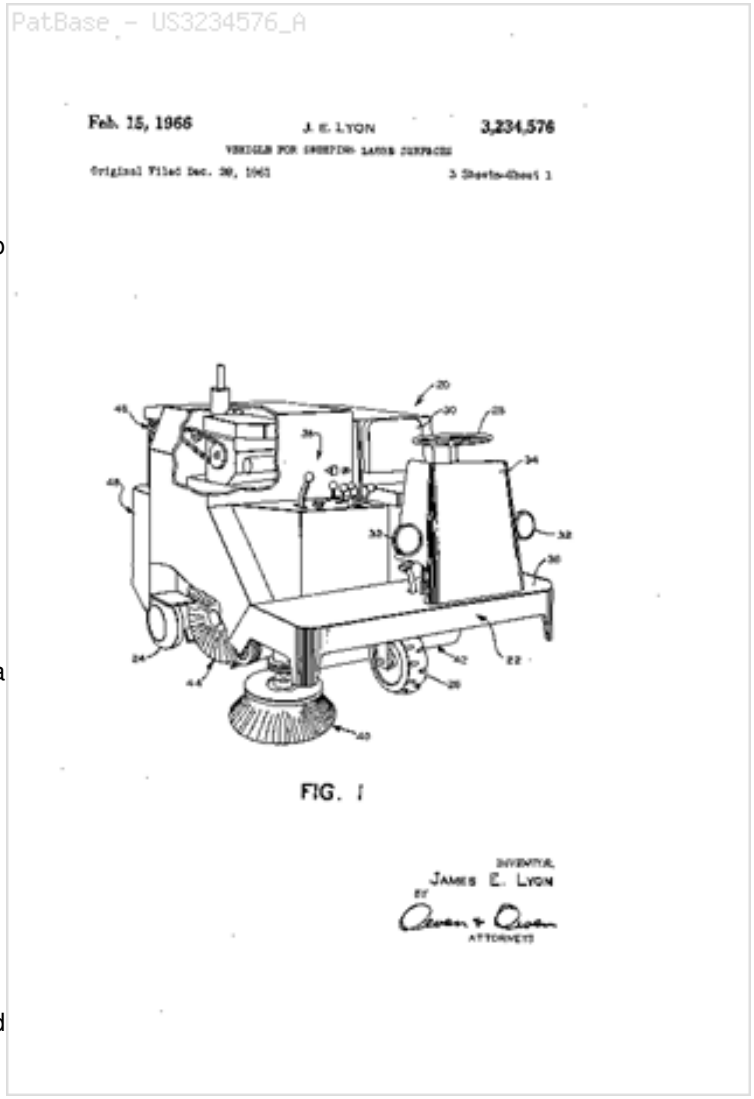
US class: 15/340.3 15/82 15/87

Classification Explorer

Cited documents: US876727 A, US612632 A, US529132 A, US501353 A, US468458 A, US444683 A, US2996742 A, US2859461 A, US2853144 A, US2829391 A, US2739340 A, US2678462 A, US2626418 A, US2621750 A, US2313412 A, US2156065 A, US2055011 A, US1797185 A, US1687728 A, US1374933 A, GB808026 A, GB546123 A, GB188902867 A,

Forward Citations: USD693529, USD654234, US9510721, US9451861, US9192276, US9015887, US8978190, US8887340, US8876577, US8528142, US8438685, US8302240, US8245345, US7533435, US7025834, US6295682, US2012115401, US2011023248, US2009142125, US2007086829, US2006064844, US2005132527, US2004040104, EP0320735,

Abstract:
Source: US3234576A (Claim 1) 1. A power sweeper for sweeping a large surface comprising, in combination, a main frame, a pair of rear wheels rotatably mounted on said frame, a steerable front wheel supporting a front portion of said frame, an operator's seat on said frame, a main broom rotatably held by said frame, a front flap in front of said main broom and located generally perpendicularly to the direction of movement of said sweeper, said front flap including first and second strips and a front flap supporting bar, said first strip being flexible with the width thereof being greater than the distance between said supporting bar and the surface, said second strip being relatively stiff with the width thereof being less than the distance between said supporting bar and the surface, said second strip being mounted in front of said first strip with upper edges of both of said strips being attached to said front flap supporting bar, said front flap supporting bar being rotatably mounted at its ends on said frame, a third, stationary, g backing strip, means for supporting said stationary strip on said frame between said front flap and said main broom, a front flap cable wound around an end of said front flap supporting bar, a cable spring connected between an end of said cable and said frame, a cable arm attached to the other end of said cable, a cable shaft ratably held by said frame and affixed to said cable arm to turn said cable arm when said cable shaft is turned, a roller arm fixed to said cable shaft at a point spaced from said cable arm, a roller mounted on said arm, a cam plate ig pivotally supported by said frame in engagement with said roller, and a front flap handle attached to said cam plate to pivot said cam plate, said cam plate being shaped to force said roller and said roller arm downwardly whether said cam plate handle is moved upwardly or downwardly, downward movement of said roller arm causing said cable to rotate said front flap supporting bar and to raise said first and second strips in an arcuate path.



0) US4380844A – AUTOMATIC FLOOR CLEANING MACHINE

5) Family number: 2475018 (US4380844A) © PatBase

Title: Automatic floor cleaning machine

Priority: CA19810385714 19810911 US19800186420 19800912 US19830487503 19830422

Family:

Publication number	Publication date	Application number	Application date
CA1217611 A1	19870210	CA19810385714	19810911
US4380844 A	19830426	US19800186420	19800912
US4492002 A	19850108	US19830487503	19830422

Probable Assignee: TENNANT TREND INC

Assignee(s):(std)**:** WETROK INC

Assignee(s): WETROK INC A CORP OF NY ; CORNEIL DENNIS J ; TENNANT CO ; TENNANT TREND INC ; WALDHAUSER STEVEN A

Inventor(s):(std)**:** CORNEIL DENNIS J ; WALDHAUSER STEVEN A ; WALDHAUSER STEVEN J

Agent(s): MACRAE AND CO

International class (IPC 8–9)**:** A47L11/293 A47L11/30 (Advanced/Invention); A47L11/29 (Core/Invention)

International class (IPC 1–7)**:** A47L11/292 A47L11/293 A47L11/30

CPC: A47L11/30 A47L11/40 A47L11/4002 A47L11/4011 A47L11/4016 A47L11/4044 A47L11/4061 A47L11/4066 A47L11/4069 A47L11/4075 A47L11/4083 A47L11/4005 A47L11/4058

European class: A47L11/30 A47L11/40 A47L11/40B A47L11/40B2 A47L11/40C A47L11/40D2 A47L11/40F6 A47L11/40G4 A47L11/40H A47L11/40J2 A47L11/40J4 A47L11/40L A47L11/40N2

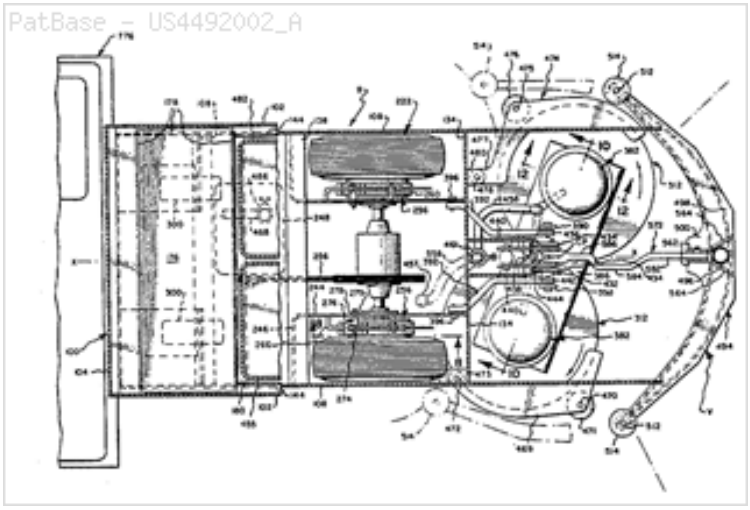
US class: 15/320 15/349 15/353 15/359 15/401

Classification Explorer

Cited documents: US4210978 A, US4173056 A, US4041567 A, US4037289 A, US4006506 A, US3879789 A, US3837029 A, US3837028 A, US3823791 A, US3649995 A, US3496591 A, US3376597 A, US3345671 A, US3290716 A, US3277511 A, US3065490 A,

Forward Citations: WO9721378, WO12065621, WO11057253, WO11017224, USD654234, US9510721, US9451861, US9367044, US9192276, US9015887, US8966693, US8957758, US8887340, US8786429, US8769755, US7644514, US7435160, US7313839, US7254867, US7240396, US7059015, US7025835, US7013527, US6896468, US6836919, US6763544, US6760947, US6557207, US6163923, US6108859, US6081962, US5940928, US5918345, US5881417, US5802665, US5742975, US5611108, US5611105, US5607178, US5524320, US5465456, US5454138, US5386742, US5383251, US5377382, US5369838, US5208940, US5064010, US4825500, US4819676, US4805258, US4803753, US4757566, US4633541, US4619010, US4483041, US4429433, US2017007090, US2016054062, US2013135079, US2013067683, US2011232984, US2011107529, US2011030163, US2008244851, US2007294854, US2007212982, US2007157417, US2007151119, US2006143855, US2006143844, US2005115015, US2005028316, US2005028315, US2005015915, US2004049878, US2004025288, US2003070252, US2002170131, US2002170130, JP2013500830, GB2509038, FR2552650, EP2248455, EP0726057, EP0563432, EP0398393, EP0310093, EP0276396, EP0276396, EP0242654, EP0230665, EP0138096, DE4325211, DE4325211, DE4325211, DE3830847, CN102835939, CN102835938, AU2010279651,

Abstract:
Source: US4380844A An automatic floor cleaning machine includes a unitary, self−contained and propelled, power driven body mounting from front to rear in a normal cleaning direction of travel: a propulsion mechanism including drive wheels and guide wheels for dry tracking on the floor surface to be cleaned, a scrubber mechanism including a pair of rearwardly disposed, vertically articulated counter−rotating magnetically and floatably mounted brushes for wetting and cleaning such floor surface, a vacuum mechanism including a vertically and horizontally articulated quick−detachable squeegee for drying of and proper tracking on the cleaned surface, and a combined mechanical and electrical control system operatively associated with each of such propulsion, scrubber, and vacuum mechanisms, for convenient actuation by a walk−behind operator to control actuation of such machine. Preferably, a sweeper mechanism is mounted on the body forwardly of the propulsion mechanism and operatively associated with such control system for advance sweeping of a debris−laden floor surface.



0) US4356589A – REFUSE COLLECTING APPARATUS

6) Family number: 28672414 (US4356589A) © PatBase

Title: REFUSE COLLECTING APPARATUS

Priority: GB19790039864 19791117 GB19790039865 19791117 GB19800036405 19801113 GB19800010458 19800328 GB19800010457 19800328 GB19800019528 19800614 GB19830005260 19830225 GB19800036472 19801113 GB19830017722 19830630

Family:

Publication number	Publication date	Application number	Application date
AU198064135 A1	19810521	AU19800064135	19801106
AU198064396 A1	19810521	AU19800064396	19801114
DE8030535 U1	19810527	DE19800030535U	19801114
EP0029347 A1	19810527	EP19800304066	19801113
FR2469170 A1	19810522	FR19800024107	19801113
GB2062732 A1	19810528	GB19800036405	19801113
GB2062732 B2	19841003	GB19800036405	19801113
GB2065202 A1	19810624	GB19800036472	19801113
GB2065202 B2	19840418	GB19800036472	19801113
GB2066879 A1	19810715	GB19800036406	19801113
GB2066879 B2	19831005	GB19800036406	19801113
GB2126633 A1	19840328	GB19830005260	19830225
GB2126633 B2	19841107	GB19830005260	19830225
GB2134950 A1	19840822	GB19830017722	19830630
GB2134950 B2	19850220	GB19830017722	19830630
GB8305260 A0	19830330	GB19830005260	19830225
GB8317722 A0	19830803	GB19830017722	19830630
US4356589 A	19821102	US19800206203	19801112
US4368554 A	19830118	US19800206205	19801112

Probable Assignee: HESTAIR EAGLE LTD

Assignee(s):(std)**:** HESTAIR EAGLE LTD

Assignee(s): HESTAIR EAGLE LTD WARWICK GB ; HESTAIR EAGLE EAGLEWORKS SALTISFORD LTD ; HESTAIR EAGLE LIMITED

Inventor(s):(std)**:** BE MEALING ; BOSWELL J ; BOSWELL JAMES ; GILLIVER KEITH MARTIN ; J BOSWELL ; MEALING B E ; MEALING BARRIE E ; MEALING BARRIE EWART ; MEALING BARRY EWART ; PAYNE R H ; PAYNE RAYMOND H ; PAYNE RAYMOND HENRY ; RH PAYNE

Inventor(s): BARRIE EWART MEALING RAYMOND HENRY PAYNE ET... ; BARRIE EWART MEALING RAYMOND HENRY PAYNE ET JAMES ; B E MEALING ; BARRIE EWART MEALING ; BARRY EWART MEALING ; R H PAYNE ; RAYMOND HENRY PAYNE ; JAMES BOSWELL ; KEITH MARTIN GILLIVER

Agent(s): GRIFFITH HACK

Designated states: BE CH DE FR IT LI NL SE

International class (IPC 8–9): E01H1/04 E01H1/05 E01H1/08 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7): A47L5/12 A47L9/00 B65F3/00 E01H1/00 E01H1/02 E01H1/04 E01H1/05 E01H1/08 E05F15/04

CPC: E01H1/047 E01H1/053 E01H1/056 E01H1/00 E01H1/0845 E01H1/05

European class: E01H1/04D E01H1/05 E01H1/05B E01H1/05C E01H1/08C2B

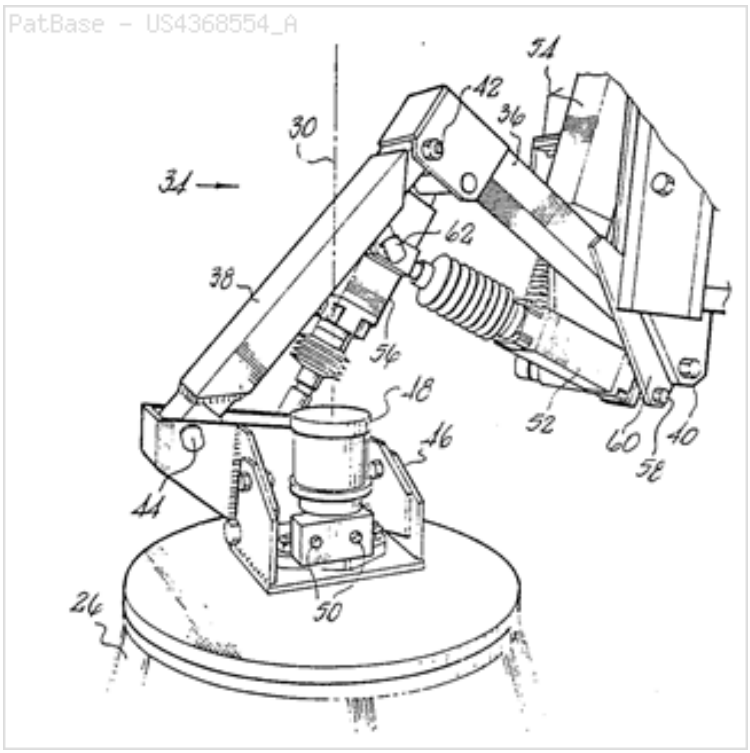
US class: 15/320 15/340 15/340.3 15/354 15/383 15/385 15/412 15/87

Classification Explorer

Cited documents: US4160302 A, US3886623 A, US3825968 A, US3447188 A, US3292195 A, US3241170 A, US3011206 A, US2951632 A, US2887714 A, US2458258 A, GB970674 A, GB938730 A, GB838662 A, GB830453 A, GB2028900 A1, GB1477630 A, GB1184795 A, GB1172611 A, GB1059940 A, GB1028300 A, FR2404072 A1, FR2337790 A1, DK118512 C, DE1950865 B, DE1950865 A1, DE1856542 U, CH582281, CH403824 A, CH364803 A, AT307481 B, AT249733 B,

Forward Citations: WO9210614, WO8401649, WO8401399, WO16157002, WO03094686, US9498099, US9249547, US9248475, US8949340, US8769755, US8700704, US8640300, US8430178, US8265862, US8224298, US8219906, US8190692, US8180829, US8131458, US7302734, US6675424, US6634719, US6427285, US6148476, US5991951, US5419006, US5016310, US4891858, US4831684, US4773119, US4557010, US2014101874, US2013292996, US2013212814, US2011107529, US2010319311, US2010215444, US2009083935, US2004237247, KR100858685, GB2421534, GB2421534, GB2244741, GB2244741, GB2238563, GB2238563, GB2179720, GB2179720, FR2912349, FR2795107, FR2705554, FR2627788, FR2605907, EP1712683, EP1061180, EP0462076, EP0180251, EP0134409, EP0134409, EP0087936, DE4319729, DE4319729, DE4143123, DE4135667, DE19637685, DE19637685, DE102004031435, CN104480883, CN104428977, CN103866726, CN103316900, CN103316900, CH680459,

Abstract:
Source: US4356589A Refuse collecting apparatus for a road sweeper, gully emptier or the like comprises an internal combustion engine driving a fan which is connected to a refuse tank. A refuse collecting nozzle is connected to the tank by a duct whereby suction generated by the fan draws refuse into the tank. The fan is bolted to a flywheel at one end of the crankshaft of the engine whereby the fan is supported for rotation on the bearings of the crankshaft. Thrust means is provided to offset the axial thrust exerted on the crank shaft by fan, the thrust means comprising drillings in a plate of the fan whereby pressure is reduced in a chamber on the non−suction side of the fan. The engine is mounted directly above a water tank in an engine compartment and is cooled by means of a radiator. Air is drawn by another fan into the engine compartment through a radiator from a control compartment in which is located the control equipment for the refuse collecting apparatus.



0) US3499262A – APPARATUS FOR PACKAGING CONFECTIONERY ARTICLES ...

7) Family number: 155505 (US3499262A) © PatBase

Title: APPARATUS FOR PACKAGING CONFECTIONERY ARTICLES IN INDIVIDUAL RECEPTACLES AND GROUPING THE ARTICLES FOR TRANSFER INTO AN UPWARDLY OPEN BOX OR THE LIKE

Priority: US19680705340 19680214

Family:

Publication number	Publication date	Application number	Application date
CH484775 A	19700131	CH19690002263	19690214
DE1907303 A1	19690918	DE19691907303	19690213
FR2005211 A1	19691212	FR19690003558	19690214
GB1263282 A	19720209	GB19690008252	19690214
NL6902441 A	19690818	NL19690002441	19690214
US3499262 A	19700310	US19680705340	19680214

Probable Assignee: KAMAN CORP

Assignee(s):(std)**:** KAMAN AEROSPACE CORP ; KAMAN CORP

Inventor(s):(std)**:** FRANKLIN JOHN THURSTON ; JOSEPH MICHAEL NAZALI ; NAZALI JOSEPH M ; NAZALI JOSEPH MICHAEL ; THURSTON FRANKLIN J ; THURSTON FRANKLIN JOHN

Inventor(s): MICHAEL NAZALI JOSEPH ; JOHN THURSTON FRANKLIN ; JOSEPH M NAZALI ; FRANKLIN J THURSTON

International class (IPC 8–9): B65B35/44 B65B5/12 (Advanced/Invention); B65B35/44 B65B5/10 (Core/Invention)

International class (IPC 1–7): B65B35/00 B65B35/38 B65B35/44 B65B43/44 B65B5/00 B65B5/08 B65B5/12

CPC: B65B5/12 B65B35/44

European class: B65B35/44 B65B5/12

US class: 53/238 53/244 53/251 53/263 53/527 53/534

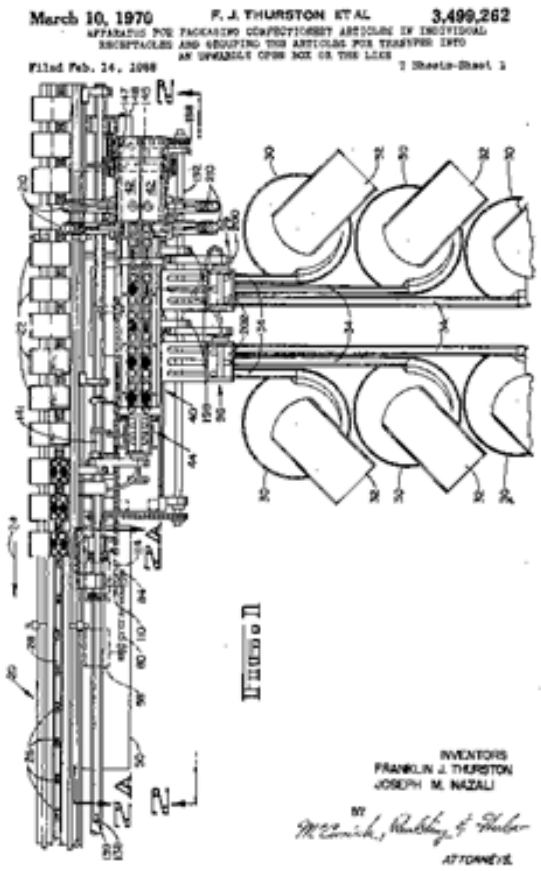
Classification Explorer

Cited documents: US3431702 A, US3389531 A, US3344580 A, US3319396 A, US3290859 A, US3283471 A, US3226912 A, US3225513 A, US3191358 A, US3191357 A, US3109531 A, US3065584 A, US3001344 A, US2976659 A, US2886927 A, US2728508 A, CA480403 A,

Forward Citations: WO14075151, US7770363, US6543639, US4246740, US4048780, US3735556, US2009056283, FR2329513, FR2329513, FR2093598, EP2184233, CN105197296, CN102372097,

Abstract:
Source: US3499262A ABSTRACT OF THE DISCLOSURE Two walking team type conveyors are arranged side–by–side and are driven from a single drive means so that as one beam advances boxes therealong, the second beam is returning after having advanced groups of articles along it. Paper cups are fed onto the second conveyor at its upstream end by a dispensing apparatus which is driven from said single drive means. The articles are loaded either into the paper cups, or directly onto the second conveyor, by an apparatus which operates in timed step–by–step relationship with the second conveyor. A compacting device on the second conveyor compresses the articles and cups into appropriately sized groups and a transfer unit picks up each such group off said second conveyor and lowers the. articles and cups into a box on said first conveyor. The transfer unit is driven by one of the conveyors and as a result of the 180 degrees phase relationship between the two conveyors, each group is picked up off the second conveyor while the second beam is returning and lowered into a box on said first conveyor during return movement of the first conveyor beam. ceptacles for transfer into upwardly open receivers, such as cardboard boxes or the like. A further object of the present invention is to provide conveyors for said receivers and receptacles respectively 5 which conveyors are mechanically interlocked so that they can be operated in timed relationship with one another by a single drive means. A further object of the present invention is to provide dispensing apparatus for handling said article receptacles 10 which apparatus is capable of placing said receptacles on a conveyor in timed relationship with the intermittent motion of said conveyor. A further object of the present invention is to provide mechanism for compacting said articles and their asso–j5 ciated receptacles into groups on one conveyor prior to transferring said grouped articles into receivers on a second conveyor. The drawings show a preferred embodiment of the invention and such embodiment will be described, but it 20 will be understood that various changes may be made from the construction disclosed, and that the drawings and description are not to be construed as defining or limiting the scope of the invention, the claims forming a part of this specification being relied upon for that pur–2r_gt; pose. DESCRIPTION OF DRAWINGS This application is a continuation–in–part application of our copending application Ser. No. 595,447 filed Nov. 18, 1966. B

PatBase - US3499262_A



0) GB803502A – IMPROVEMENTS IN OR RELATING TO CARPET SWEEPERS ...

8) Family number: 20068253 (GB803502A) © PatBase

Title: Improvements in or relating to carpet sweepers

Priority: GB19540015964 19540529

Family:

Publication number	Publication date	Application number	Application date
GB803502 A	19581029	GB19540015964	19540529

Probable Assignee: SHORT BROTHERS AND HARLAND LTD

Assignee(s):(std)**:** SHORT BROTHERS AND HARLAND LTD

Assignee(s): SHORT BROTHERS AND HARLAND LIMITED

Inventor(s):(std)**:** LUNDY ARTHUR JOSEPH

International class (IPC 8–9)**:** A47L11/33 (Advanced/Invention)

International class (IPC 1–7)**:** A47L11/33

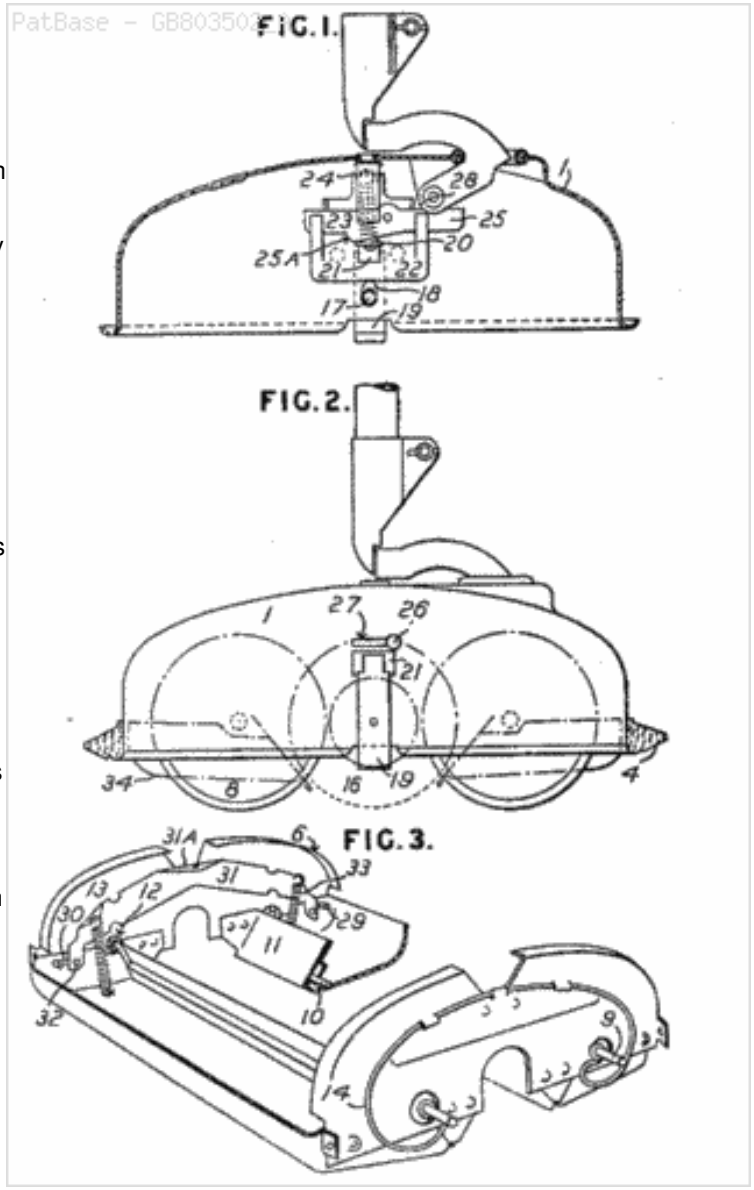
CPC: A47L11/33 A47L11/40 A47L11/4041 A47L11/4058 A47L11/4072

European class: A47L11/33 A47L11/40 A47L11/40F4 A47L11/40G4 A47L11/40K

Classification Explorer

Forward Citations: GB2134777,

Abstract:
Source: GB803502A 803,502. Carpet sweepers. SHORT BROS. and HARLAND, Ltd. Dec. 30, 1955 [May 29, 1954], No. 15964/54. Class 138(1). A carpet sweeper comprises a casing 1, Figs. 1 and 2, provided with ground–engaging wheels 8, a rotary brush 16 located within the casing 1, means 17, 19, 23, for mounting the brush in the casing 1 and cam means 25A adapted to be slid horizontally into and out of engagement with the mounting means, so that the brush can be height adjusted relative to the wheels and casing 1 of the sweeper. Referring to Fig. 3, the sweeper includes a chassis 6 having end walls 13 pivotally supporting dust trays 34 and wheel spindles 9 formed as cranked ends of rods 10 carried by cross–members 11. The spindles at each end of the sweeper are urged together and downwards by a spring 14 the spindles being movable within enlarged hole 12 in the end walls 13. The sweeper casing 1, Fig. 1, fits over the chassis 6 and is secured thereto by screws. Each end wall of the casing 1 has an exterior central and vertical shallow groove to receive a vertically slidable lever 19. A pin 17 on the lever passes through an elongated slot 18 in the casing end wall and is engageable in a bearing in a driving drum of the rotary brush (not shown). At its upper end the lever 19 has a flange 20 which passes through vertical slots 21 in the casing end wall and a bracket 22 welded to the inside of the end wall, the flange 20 abutting the inner surface of the bracket. The lever 19 is urged upwardly by a spring 23 connected to the flange 20 and a tongue 24 on the bracket 22. Slidable horizontally and transversely of the bracket 22 is a bar 25 having a stud 26, Fig. 2, which passes through a horizontal slot 27 in the casing. A profiled projection constituting the cam means 25A on the bar 25 engages the flange 20 when the stud 26 is at one end of the horizontal slot 27 to urge the lever 19 downwardly and thus the brush to its lowest position. When the bar is moved so that the stud reaches the other end of its slot the lever rises and the brush rises therewith to its highest position. The brush may be retained in an intermediate position by a notch on the bar 25 engaging one of a pair of bar supporting lugs 28, Fig. 1, on the bracket 22. To adjust the brush the two levers 19 are operated together and to remove the brush the two levers are pulled outwardly so that the pins 17 disengage the driving drums and the flanges 20 engage the latter to urge the brush downwardly. When the bars 25 are in positions corresponding with the low or intermediate of the brush and the levers are moved outwards of the casing 1 the springs 23 cause the flanges to coact with the cams 25A and pivot the levers in planes parallel to the end walls of the casing so that the pins 17 then abut the outer faces of the casing end walls and remain in these positions until the brush is replaced and the levers remanipulated. The levers 19 are retained in their operative positions by a rubber beading 4 with surrounds the lower edge of the casing 1. The dust pans 34, Fig. 3, are provided at each end with slots 30 engaging pivots 29 fixed to the chassis walls 13. Bridge pieces 31 interconnect the ends of the tongs by having pins 32 thereon engaging in the slots 30. One bridge piece has a flange 31A to which is connected a push button which extends through the top of the casing. The trays are opened against the action of springs 33 by pushing down the bridge piece button.



0) US3744077A – CARPET SWEEPERS

9) Family number: 7379214 (US3744077A) © PatBase

Title: CARPET SWEEPERS

Priority: AU19700001761 19700708 US19710160422 19710707

Family:

Publication number	Publication date	Application number	Application date
CA944508 A1	19740402	CA19710117442	19710706
DE2134665 A1	19720120	DE19712134665	19710708
DE2134665 C2	19821216	DE19712134665	19710708
FR2098245 A1	19720310	FR19710024968	19710708
FR2098245 B1	19760430	FR19710024968	19710708
GB1358176 A	19740626	GB19710031766	19710706
GB1358177 A	19740626	GB19730003254	19710706
JP1197427 C3	19840321	JP19800103001	19800725
JP56034293 B4	19810810	JP19710050657	19710708
JP56136522 A2	19811024	JP19800103001	19800725
JP58027930 B4	19830613	JP19800103001	19800725
SE377275 B	19750630	SE19710008851	19710708
SE377275 C	19751016	SE19710008851	19710708
US3744077 A	19730710	US19710160422	19710707

Probable Assignee: BRUSH S CO LTD

Assignee(s):(std)**:** BRUSH CO LTD ; BRUSH CO LTD SA ; BRUSH CO SA LTD ; SABCO LTD ; BRUSH S CO LTD ; BRUSH COMPANY LIMITED SA

Assignee(s): SABCO LTD ALBERT PARK SOUTH AUSTRALIA AU ; SMYTH DONALD N ; 4S A BRUSH CO LTD ; BRUSH S CO LTD AU ; S A BRUSH CO LTD ; BRUSH CY LTD SA ; S A BRUSH COMPANY LIMITED

Inventor(s):(std)**:** SMYTH D N ; SMYTH DONALD N ; SMYTH DONALD NATION ; SMYTH D ; DONARUDO NEESHON SUMISU ; DONARUDO NEESHIYON SUMISU

Inventor(s): SMYTH D AU ; SMYTH DONALD NATION PLYMPTON AU

International class (IPC 8–9): A47L11/22 A47L11/32 A47L11/33 (Advanced/Invention); A47L11/00 (Core/Invention)

International class (IPC 1–7): A46B9/00 A47L11/08 A47L11/22 A47L11/32 A47L11/33 A47L13/00

CPC: A47L11/33 A47L11/4013 A47L11/4025 A47L11/4041 A47L11/4052 A47L11/4058 A47L11/4072 A47L11/4075

European class: A47L11/33 A47L11/40D A47L11/40D4 A47L11/40F4 A47L11/40G A47L11/40G4 A47L11/40K A47L11/40L

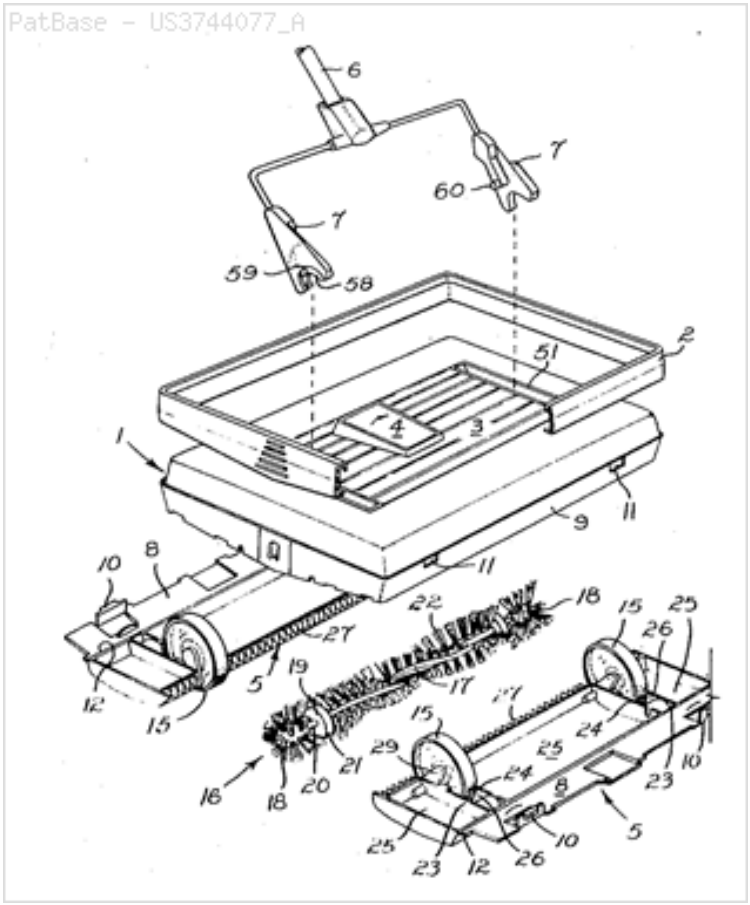
US class: 15/4.1R 15/41.1

Classification Explorer

Cited documents: US642172 A, US525721 A, US3629892 A, US298349 A, US2793378 A, US2634443 A, US2631312 A, US2531430 A, US2371918 A, US1933758 A, US1529144 A, JP45017752, GB490784 A, FR387338 A, DE1887864 U, DE1857593 U,

Forward Citations: WO14094833, US7152267, US7017221, US4815157, US4624025, US4484371, US4222146, US3959847, US2011247651, US2007074358, US2005005377, GB2139879, GB2137486, FR2395735, DE3046723, DE102015005488, DE102012104326, CN104755002,

Abstract:
Source: US3744077A A carpet sweeper in which the brush sweeps over the whole width of the sweeper so that the sweeper can brush the carpet right up to the edge of the wall. The brush is driven by the supporting wheels on a crank mechanism so that increase of pressure on the operating handle gives greater driving force between the wheels and the brush. Also the brush is self−adjusting for height, the handle applying pressure to the brush. The wheels are attached to the dust trays and hence move with the dust trays hinged about the front and rear edges of the sweeper as the trays are opened and closed by a single operating member.



0) US3638266A – ELASTIC WHEEL CONSTRUCTION FOR CARPET SWEEPER

10) Family number: 19095508 (US3638266A) © PatBase

Title: ELASTIC WHEEL CONSTRUCTION FOR CARPET SWEEPER

Priority: DE19690019577U 19690513 JP19680032148 19680515 US19684332148 19680515 US19690823570 19690512 US19710121011 19710304 US19710121012 19710304 US19710121013 19710304

Family:

Publication number	Publication date	Application number	Application date
DE1924651 A1	19691120	DE19691924651	19690514
DE1924651 B2	19720727	DE19691924651	19690514
DE1924651 C3	19730222	DE19691924651	19690514
DE1965959 A1	19701210	DE19691965959	19690514
DE1965959 B2	19711202	DE19691965959	19690514
DE1965960 A1	19701210	DE19691965960	19690514
DE1965960 B2	19720727	DE19691965960	19690514
DE1965960 C3	19730222	DE19691965960	19690514
DE1965961 A1	19701217	DE19691965961	19690501
DE1965961 B2	19730607	DE19691965961	19690501
DE1965961 C3	19740103	DE19691965961	19690501
DE6919577 U	19700205	DE19690019577U	19690513
FR2008584 A1	19700123	FR19690015687	19690514
GB1206098 A	19700923	GB19690024865	19690515
JP50026870 B4	19750903	JP19680032148	19680515
US3628211 A	19711221	US19690823570	19690512
US3638266 A	19720201	US19710121012	19710304
US3673625 A	19720704	US19710121013	19710304
US3715771 A	19730213	US19710121011	19710304

Probable Assignee: HOKY KK

Assignee(s):(std)**:** FUKUBA HIROSHI ; FUKUBA H ; HIROSHI FUKUBA ; FUKUHA HIROSHI

Assignee(s): HOKY KK ; FUKUBA H JA ; FUKUBA HIROSHI NAGAREYAMA CHIBA JAPAN ; HOKY A K A HOKY CORP KK ; HIROSHI FUKUHA

Inventor(s):(std)**:** FUKUBA HIROSHI NAGAREYAMA CHIBA ; FUKUHA HIROSHI ; FUKUBA HIROSHI ; FUKUBA H

Inventor(s): FUKUBA H JA ; HIROSHI FUKUBA ; HIROSHI FUKUHA ; FUKUBA HIROSHI NAGAREYAMA CHIBA JAPAN

International class (IPC 8–9)**:** A47L11/22 A47L11/32 A47L11/33 (Advanced/Invention); A47L11/00 (Core/Invention)

International class (IPC 1–7)**:** A47L11/22 A47L11/32 A47L11/33 A47L13/00

CPC: A47L11/33 A47L11/40 A47L11/4013 A47L11/4041 A47L11/4058 A47L11/4069 A47L11/4072 A47L11/4025 A47L11/4075

European class: A47L11/33 A47L11/40 A47L11/40D A47L11/40D4 A47L11/40F4 A47L11/40G4 A47L11/40J4 A47L11/40K A47L11/40L

US class: 15/4.8 15/41.1 15/42 15/45 15/48

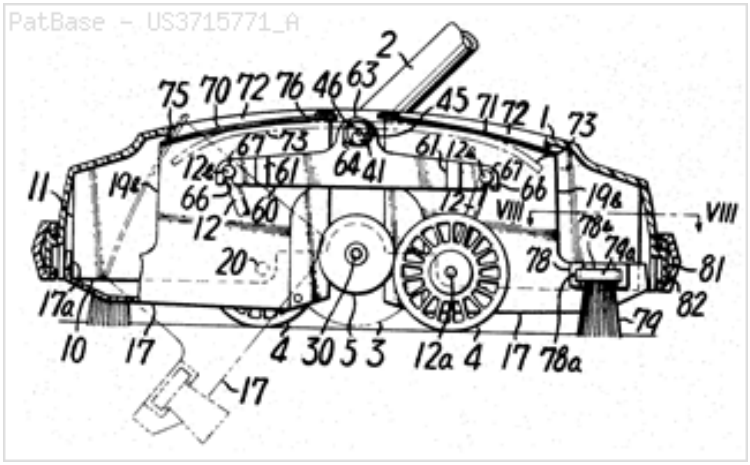
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Cited documents: US371519 A, US3268936 A, US2745125 A, US2642617 A, US2371918 A, US2270197 A, US2121880 A, US2073347 A, US2032345 A, US2001982 A, US1952769 A, US1894882 A, US1813325 A, US1433957 A,

Forward Citations:

WO8202330, WO11044610, USD600420, USD599066, USD581617, USD581616, USD549410, US8726441, US8499849, US7967609, US7152267, US5208935, US4548498, US4502173, US3871047, US3863285, US3754294, US2005005377, JP49127264, FR2118016, FR2064303, EP0056251, CN104248397, CN102858149, CN102858149, AU2010306062,

Abstract:
Source: US3638266A A carpet sweeper to be moved back and forth by operating a handle is provided with a rotary cleaning brush adapted to be moved in contact with the floor by means of four supporting spoked drive wheels each integrally formed of flexible rubber and mounted on a sweeper body. The frame cover of the sweeper body is of a double−wall structure made of a thin, lightweight synthetic resin plate. The sweeper body further comprises dust receptacles covering the under portion and positioned to the front and rear of the rotary brush, means for elevating the drive wheels and comb members to clean the rotary brush. The operating members for opening or closing the dust receptacles and for elevating means are disposed on the upper surface of the frame cover.



0) US3854160A – STREET SWEEPER WITH A HYDROSTATIC TRANSMISSION ...

11) Family number: 1113038 (US3854160A) © PatBase

Title: STREET SWEEPER WITH A HYDROSTATIC TRANSMISSION

Priority: US19730400703 19730925

Family:

Publication number	Publication date	Application number	Application date
CA989123 A1	19760518	CA19740190677	19740122
US3854160 A	19741217	US19730400703	19730925

Probable Assignee: ELGIN SWEEPER CO

Assignee(s):(std)**:** ELGIN SWEEPER CO

Assignee(s): ELGIN SWEEPER CO US ; ELGIN SWEEPER COMPANY ; HILDEBRAND DONALD L ; PRESCOTT ERNEST F ; KIRK DONALD G

Inventor(s):(std)**:** HILDEBRAND D ; HILDEBRAND DONALD L ; KIRK D ; KIRK DONALD G ; PRESCOTT E ; PRESCOTT ERNEST F

Inventor(s): PRESCOTT E US ; KIRK D US ; HILDEBRAND D US

International class (IPC 8–9): E01H1/04 F16H61/42 F16H61/437 (Advanced/Invention); E01H1/00 F16H61/40 (Core/Invention)

International class (IPC 1–7): E01H1/04

CPC: E01H1/04 F16H61/42 F16H61/437

European class: E01H1/04 F16H61/42 F16H61/437

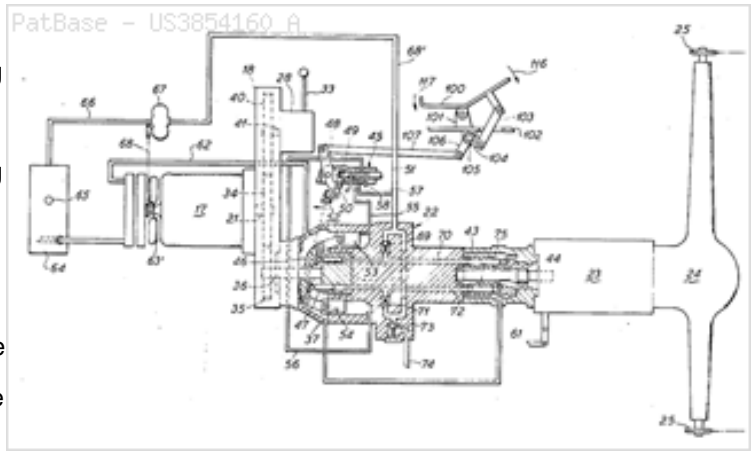
US class: 15/8.4 15/84 60/437

Classification Explorer

Cited documents: US3691579 A, US2833116 A, US2708800 A,

Forward Citations: US9010467, US7150062, US7150062, US6443263, US6308441, US4828452, US4705450, US2005155170, CN104404904,

Abstract:
Source: US3854160A A self–propelled street sweeper having sweeping equipment including a rotatable broom and a conveyor means for depositing material dislodged by the broom into a hopper characterized by a single engine whose output is connected by a power splitting mechanism to a drive train connected to a pair of wheels of the sweeper for propelling the sweeper and to a drive means for actuating the sweeping means. The drive train includes a hydrostatic transmission which enables the operator to vary the speed and direction of movement of the sweeper independently of the speed of the rotating broom which is governed by the engine speed. The operator controls the transmission through a foot pedal which may be disposed on the right hand or the left hand side of the sweeper or a pair of pedals may be provided to provide a dual control system.



0) GB509889A – IMPROVEMENTS IN COIN GAUGING AND SELECTING MECH...

12) Family number: 20524006 (GB509889A)

© PatBase

Title:	Improvements in coin gauging and selecting mechanism, such as used in coin–freed apparatus
Priority:	GB19380001904 19380120

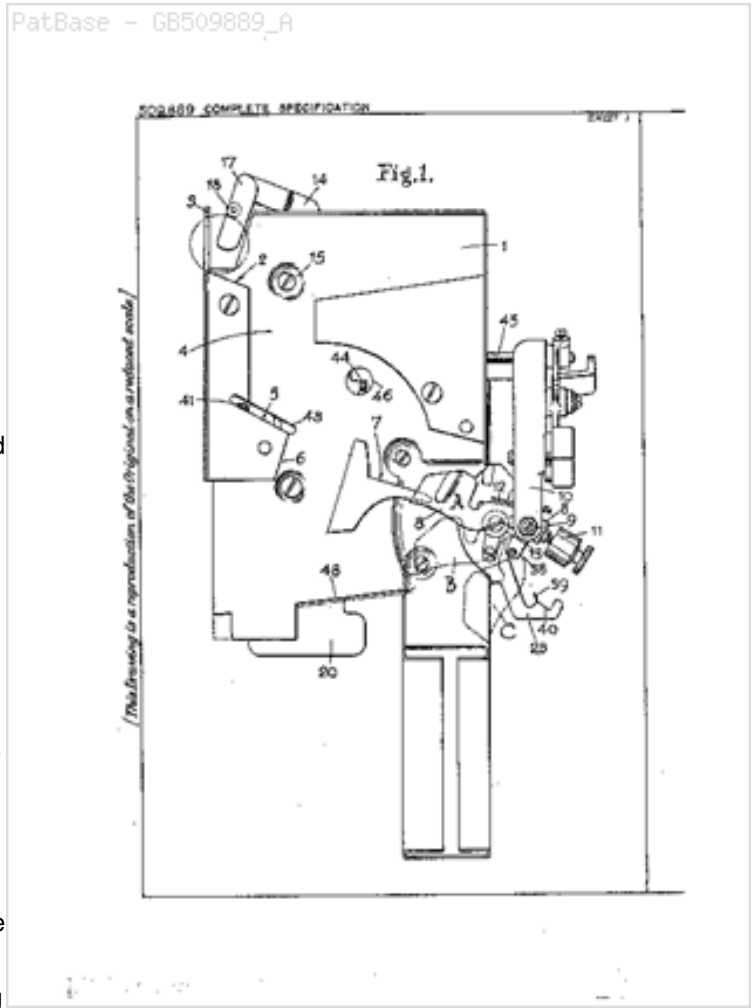
Family:

Publication number	Publication date	Application number	Application date
GB509889 A	19390720	GB19380001904	19380120

Probable Assignee:	PERCY STEPHEN HARPER
Assignee(s):(std):	PERCY STEPHEN HARPER
International class (IPC 1–7):	G07F3/02
CPC:	G07D5/00
European class:	G07D5/00 G07F3/02

Classification Explorer

Abstract:
Source: GB509889A 509,889. Testing coins. HARPER, P. S. Jan. 20, 1938, No. 1904. [Class 27] In a combined annulus and weight–testing device for coins having a pivoted counterbalanced coin carrier and a delay action device, the delay action device is operable by inserting a coin to control means for setting the coin carrier to a particular position after a predetermined time interval without actuating a movable hinged clearing wall of preliminary testing devices. A coin inserted in a slot 3, Figs. 1 and 2, actuates a delay action lever 14 which operates as described in Specification 425,024, and passes down a stationary shoot 4 provided with a bounce test as described in Specification 487,938 from which it is delivered by a shoot 7 to the combined annulus and weight testing carrier 8. This carrier, which operates as described in Specification 471,644, has annulus gauging points 12 to co–operate with a fixed stop 13 and an adjustable counterbalance weight 11 for testing the weight of the coins. The carrier, when released, moves to position A, Fig. 1, to receive a coin, which is delivered at a reject position B, if not of proper weight and thickness, or at position C leading to the coin–freed apparatus. When a coin is inserted, the delay lever 14 releases a double–armed lever 22 which holds a locking lever 23 in position to lock the carrier 8 in the reject position B by a notch 36 engaging a pin 37 on the carrier. A cam portion 24 on lever 23 also holds a weighted lever 26 carrying the stop 13 out of the path of the gauging points. When the lever 23 is released, the carrier moves to position A and the stop 13 is moved into the path of the points 12. If owing to the coin being light in weight, the carrier 8 stops between the positions A and B, the return of the lever 14 after a predetermined delay rotates the lever 22 to move the locking lever 23 back to its initial position by acting on a lug 33 thereon. A cam portion 35 on the lever 23 engages the pin 37 and moves the carrier to position B. If the carrier 8 has moved nearly to position C, a deflector 39 on the lever 23 engages the pin 37 and moves the carrier fully into position C, the carrier being locked in this position by a second recess 40, until another coin is inserted. A sweeper 41 pivoted to the delay lever 14 is reciprocated over the bounce platform 5 to clear this platform. The testing device is constructed as an interchangeable unit.



0) DE4211789A1 – MECHANICAL ROAD SWEEPER DRIVEN BY WHEEL ROLLING...

13) Family number: 10808031 (DE4211789A1) © PatBase

Title: Mechanical road sweeper driven by wheel rolling over surface to be swept – has height adjustable disc brush and bevel gear on common shaft, gear rotating brush by being lowered onto second bevelled gear

Priority: DE19924211789 19920408

Family:

Publication number	Publication date	Application number	Application date
DE4211789 A1	19931014	DE19924211789	19920408
DE4211789 C2	19960725	DE19924211789	19920408

Probable Assignee: KAERCHER GMBH AND CO ALFRED

Assignee(s):(std)**:** KAERCHER GMBH AND CO ALFRED

Assignee(s): ALFRED KAERCHER GMBH AND CO 71364 WINNENDEN DE

Inventor(s):(std)**:** SERVE GREGOR ; URBAN UWE

Inventor(s): URBAN UWE 7056 WEINSTADT DE ; SERVE GREGOR 7150 BACKNANG DE

International class (IPC 8–9)**:** A47L11/24 A47L11/40 (Advanced/Invention)

International class (IPC 1–7)**:** A47L11/24

CPC: A47L11/24 A47L11/4058

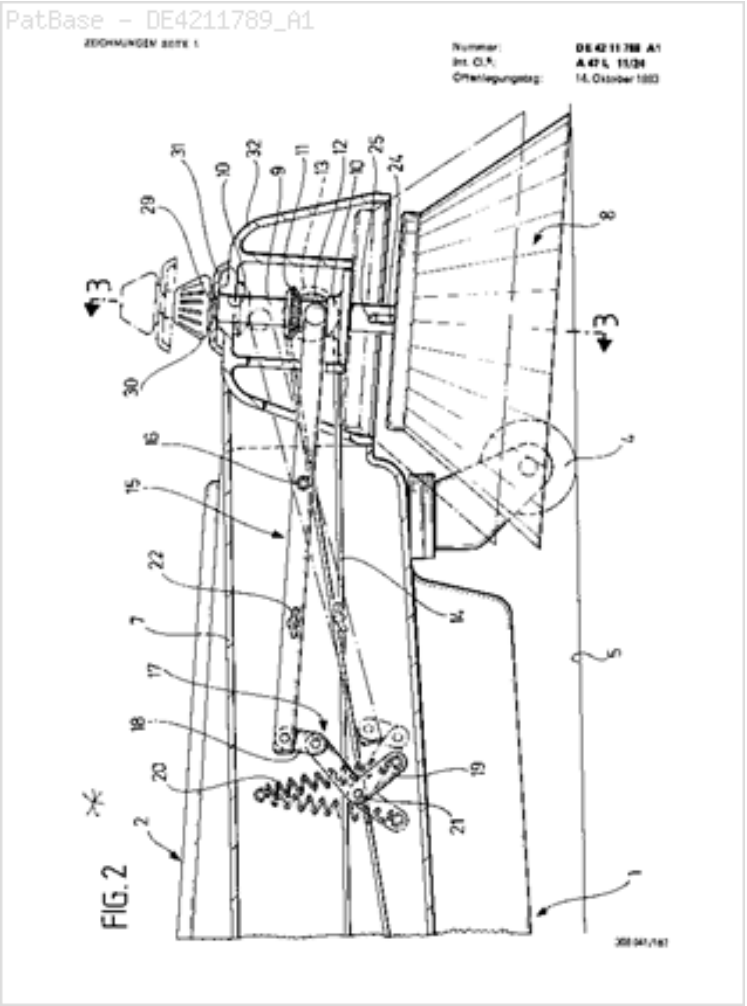
European class: A47L11/24 A47L11/40G4

Classification Explorer

Cited documents: US563869 A, US3233274 A, US1453049 A, DE3711346 C2, DE2407514 B2,

Forward Citations: WO9514423, WO14169944, EP2508112, EP1319758, EP0686371, DE9409333, DE9403678, DE29622115, DE19637685, DE19637685, DE102007055458, DE102007052514, CN105101855,

Abstract:
Source: DE4211789A1 The disc brush (8) and at least one gear (11), which is bevelled, is slidable along the rotating axis. This gear is in engagement with the drive in the lowered position and through meshing with another fixed bevelled gear (12). The brush and the gear (11) are located on a common hollow shaft (9). The brush is adjustable in height along this shaft by being attached to a spindle (29) which slides in the shaft and is set at the correct height by a button (30). The gear to allow the sliding of the brush is a friction wheel which engages a second friction wheel when lowered. ADVANTAGE – Has few moving parts, thus having simple assembly and disassembly. It can also be driven by a motor if necessary.



14) Family number: 22714836 (US3041072A) © PatBase

Title: Apparatus for sweeping pins from a bowling alley

Priority: US19560625739 19561203 US19590813860 19590518 US19590815040 19590522

Family:

Publication number	Publication date	Application number	Application date
US3041072 A	19620626	US19590813860	19590518
US3063716 A	19621113	US19560625739	19561203
US3070369 A	19621225	US19590815040	19590522
US3123201 A	19640303		00000000
US3123357 A	19640303		00000000

Probable Assignee: BARROWS ROYAL L

Assignee(s):(std)**:** BARROWS ROYAL L ; DOWD HOWARD M

Inventor(s):(std)**:** BARROWS ROYAL L ; DOWD HOWARD M

International class (IPC 8–9)**:** A63D5/08 (Advanced/Invention); A63D5/02 (Advanced/Non–invention); A63D5/00 (Core/Invention)

International class (IPC 1–7)**:** A63D5/02 A63D5/09

CPC: A63D5/02 A63D5/08

European class: A63D5/08 K63D5/02

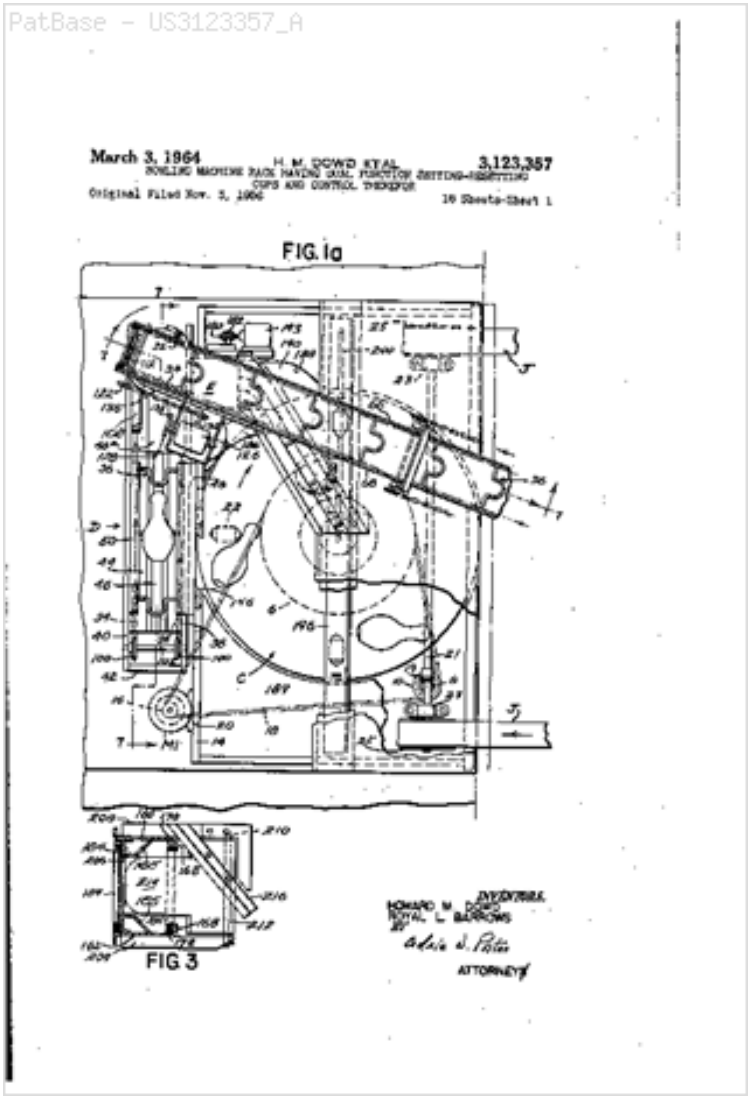
US class: 198/680 198/803.14 294/87.26 473/100 473/111 473/112 473/65 473/73 473/87 473/90 473/96

Classification Explorer

Cited documents: US689563 A, US654369 A, US3063716 A, US2977121 A, US2793858 A, US2739813 A, US2736554 A, US2735681 A, US2714508 A, US2709083 A, US2707105 A, US2702706 A, US2692139 A, US2689128 A, US2688485 A, US2686053 A, US2672341 A, US2656032 A, US2626803 A, US2625397 A, US2580853 A, US2578319 A, US2565834 A, US2531167 A, US2498587 A, US2310218 A, US2231842 A, US2017143 A, US1692796 A, US1584030 A, US1544928 A, US1524241 A, US1375835 A, DE914060 A, DE765898 A,

Forward Citations: US6358155, US6027411, US3704888, US3251597, US3248108, US3245684, US3232612, US3210078, US3208748, US3199870, US3193290, US3123357,

Abstract:
Source: US3041072A (Claim 1) 1. Ina bowling pinsetting machine, –a pin sweep mechianism comprising a pair of endless chains traveling an endless circuit running rearwardly –and forwardly of said machine, a pair of longitudinally extending trackslocated,at the same hei._ht on opposite sides of the machine beneath said chains, a carriage mounted for movement on each track, an arm pivotally secured to each carriage 'iO and depending therefrom, _a sweeper board extending between and connected to the bottom ends of said arms, a longitudinally slotted lever associated with each carriage, each slotted lever being pivotally and slidably secured at its lower end to its carriage by a wrist pin that extends through tihe slot in said lever, and being pivotally connected at its upper end to one of the said endless chains, driving means for moving each chain parallel to said tracks to move said levers rearwardly and then forwardly parallel to said tracks, each slotted lever pivoting about its wrist pin ias it reverses direction at the forward and rear ends of its path of travel so as to be in leading and pulling relationship with its carriage as it moves alon.its path of travel.



0) GB476932A – IMPROVEMENTS IN OR RELATING TO CARPET SWEEPERS ...

15) Family number: 29672408 (GB476932A) © PatBase

Title: Improvements in or relating to carpet sweepers

Priority: GB19380018345 19380621

Family:

Publication number	Publication date	Application number	Application date
GB476932 A	19371220	GB19360012851	19370423
GB477438 A	19371230	GB19370023253	19370423
GB515555 A	19391207	GB19380018345	19380621

Probable Assignee: RICHARD WALTON KENYON

Assignee(s):(std)**:** ENTWISLE AND KENYON LTD ; JOHN PERCY REDFEARN ; RICHARD WALTON KENYON

Assignee(s): ENTWISLE AND KENYON LIMITED

International class (IPC 8–9)**:** A47L11/33 (Advanced/Invention)

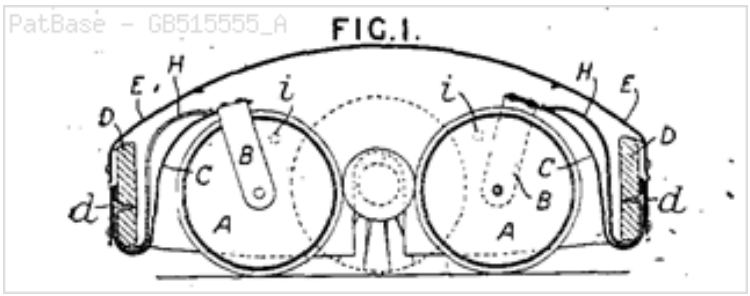
CPC: A47L11/33 A47L11/40 A47L11/4072

European class: A47L11/33 A47L11/40 A47L11/40K

Classification Explorer

Forward Citations: US2657407, US2651796,

Abstract:
Source: GB476932A 476,932. Carpet – sweepers. ENTWISLE and KENYON, Ltd., KENYON, R. W., and REDFEARN, J. P. April 23, 1937, No. 12851/36, [Class 138 (i)] In a carpet–sweeper having each wheel carried on a stub axle which is pressed towards the brush pulley by a spring held in position by the bail cam bracket, the inner end of each stub axle or a plate, disc or nut thereon is located in a recess in the end of the sweeper casing whereby the movement of the axle is limited.



In the construction shown in Figs. 1 and 2, each axle B is carried by a lever C which is mounted on a pivot c and is slotted at c<4>. The axle is engaged by a spring D secured to the bail cam bracket A<4>. The end b of the axle B is located in a recess a in the sweeper casing. In a modification each axle is connected by a link to a second link pivoted on the sweeper casing. In the construction shown in Fig. 6, the axle B is carried by a loop.f in a spring F fixed to the casing. A second spring D secured to the bail cam bracket maintains the wheel A<1> in contact with the brush pulley A<2>. The inner end of the axle B has a disc located for limited movement in a recess in the casing. In a further construction shown in Figs. 10 and 11, the axle B is carried by two springs H<1>, H<2>, one on each side of the wheel A<1>. In a further construction shown in Fig. 13, the axle B is carried in slots k formed in the two arms of a U–shaped bracket K, the ends of which are mounted on a pivot k<1>.

0) US1364550A – COIN–COLLECTING MEANS FOR TELEPHONE SERVICES

16) Family number: 30893140 (US1364550A) © PatBase

Title: Coin–collecting means for telephone services

Priority: GB19180004373 19180312 GB19180004373 19180902 GB19190018935 19190730 US19190309526 19190708

Family:

Publication number	Publication date	Application number	Application date
FR500880 A	19200326		19190620
GB149361 A	19200812	GB19180004373	19180312
GB154960 A	19201216	GB19190018935	19190730
US1364550 A	19210104	US19190309526	19190708

Probable Assignee: HALL FREDERICK WILLIAM

Assignee(s):(std)**:** HALL FREDERICK WILLIAM

Assignee(s): FREDERICK WILLIAM HALL

Inventor(s):(std)**:** HALL FREDERICK WILLIAM

International class (IPC 8–9)**:** H04M17/02 (Advanced/Invention); H04M17/00 (Core/Invention)

International class (IPC 1–7)**:** H04M17/00

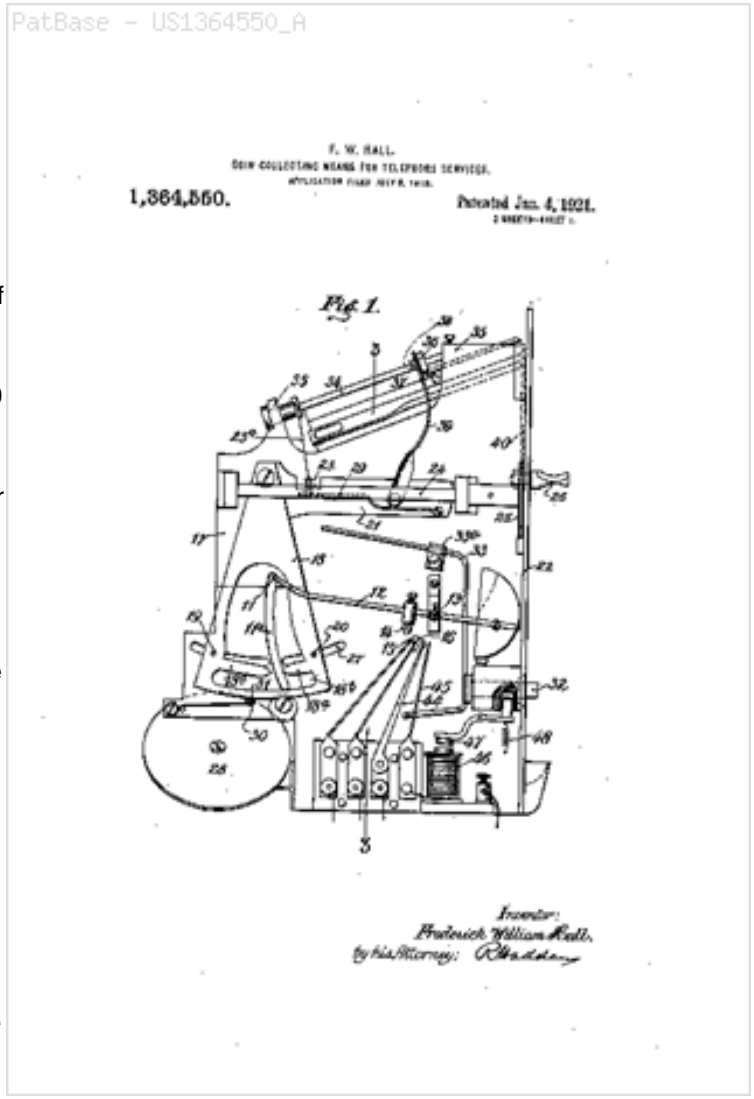
CPC: H04M17/026

European class: H04M17/02C

US class: 379/153

Classification Explorer

Abstract:
Source: US1364550A 149,361. Hall, F. W. March 12,1918. Hiring telephones. – In a coin–freed telephone apparatus, the inserted coins are guided to fall upon a balance and within a rocker, by rocking which in one direction or the other the caller may effect the delivery of the coins to the cash receptacle, or their return to him if a connexion cannot be made. The balance is moved by the weight of the coins to complete the calling and speaking circuit. The return of the rocker after delivery of the coins to the cash receptacle breaks the calling circuit, while the operation of returning the coins to the caller breaks the speaking–circuit. Coins of correct size pass to a shoot 10 and fall upon the end 11 of a balance arm 12 pivoted at 13 which makes the circuit through calling contacts 15, 16 and connects the speaking contact 44, 45. A quadrantal member 18 is pivoted to the outside of shoot 10, and carries pins 19, 20 which project through slots 27 in the shoot and between which the balance arm lies when depressed. The member 18 has a lever arm 21 which is operated by the caller through a handle 26, arm 25, rock–shaft 24 and arm 23 to swing the sector and thrust the coins by the contact of a pin 20 into the cash receptacle, where they fall on a sounder 28. To ensure complete movement of the quadrant 18 there are provided a spring 29, which is first engaged by an arm, and a spring friction catch 30, 31. The member 18 is moved in the reverse direction to return the coins by a push 32 engaging a spring pivoted lever 33, which presses against the lever 21. The member 18 is counterbalanced for movement in one direction by the lever 21, and the shoot 1 may be made to serve as counterbalance in the other direction, being provided for this purpose with a rock–shaft 34 carrying an arm 36 connected by a pin 37 and slot 38 to a link 39 connected to the lever arm 21. The slot 38 permits free movement of the arm 21 when the quadrant is moved to return coins to the caller. Supposing a call to have been made and the coins accordingly diverted into the cash receptacle, the balance arm 1 returns to normal position, and the contacts 15, 16 are separated, but the contacts 44, 45 remain closed in consequence of contact 44 being mounted on a pivoted arm without spring. If connexion cannot be made and the coins are returned, the contacts 44, 45 are separated by the operation of a lower extension of the lever 33 operated by the push 32. The push 32 is, however, locked, if a connexion is made by means of a stud operated by an electromagnet 46, 47. The breaking of the speaking circuit by hanging up the receiver unlocks the push 82 and lever 33. A time switch is inserted in the calling circuit to prevent operation till a predetermined interval has elapsed, after operation of the return–money lever, and comprises an arm 52 moved away by the push 32 from contacts 50, 51 to allow them to separate, and returned by a time train 53 having a fly 54. Diverting improper coins.–Coins are inserted in an angularly–disposed shoot 1 having a fixed rail 3 along the lower edge and a movable rail 4 along the upper edge, and part of the shoot is offset at 5, so as to produce a fulcrum 6 about which small coins unsupported by the rail 4 will tip and drop from the rail 3, and from the shoot into a chamber for return to the caller. The rail 4 is recessed as at 8 so that certain coins will run in this recess till they reach an abutment 9, when they will lift the rail, and being thus unsupported will fall as in the case of smaller coins. A projecting sweeper attached to the handle 26 locks the handle against movement if a coin attached to a wire and c. is inserted.



17) Family number: 3257962 (US4884313A) © PatBase

Title: Street sweeper machine with trash pick–up and transport capabilities

Priority: EP19880107582 19880511 IT19870020586 19870519

Family:

Publication number	Publication date	Application number	Application date
AT78887 E	19920815	AT19880107582T	19880511
DE3873164 D1	19920903	DE19883873164	19880511
DE3873164 T2	19921203	DE19883873164T	19880511
EP0291844 A2	19881123	EP19880107582	19880511
EP0291844 A3	19891123	EP19880107582	19880511
EP0291844 B1	19920729	EP19880107582	19880511
ES2034012 T3	19930401	ES19880107582T	19880511
GR3005876 T3	19930607	GR19920402208T	19921001
IT1205012 A	19890310	IT19870020586	19870519
IT8720586 A0	19870519	IT19870020586	19870519
US4884313 A	19891205	US19880195824	19880519

Probable Assignee: DULEVO INT SPA

Assignee(s):(std)**:** DULEVO INT SPA ; DULEVO SPA

Assignee(s): DULEVO INT ; DULEVO INTERNATIONAL S P A ; DULEVO INTERNATIONAL S P A PARMA IT ; DULEVO S P A

Inventor(s):(std)**:** ZONI SERGIO

Inventor(s): ZONI SERGIO I 43100 PARMA IT

Designated states: AT BE CH DE ES FR GB GR LI LU NL SE

International class (IPC 8–9)**:** B62D7/14 E01H1/04 E01H1/08 (Advanced/Invention); B62D7/14 E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** B62D7/14 B65F E01H1/02 E01H1/08

CPC: B62D7/142 B65H2404/1116 B65H2701/1942 E01H1/042 E01H1/0827 E01H1/0854

European class: B62D7/14B E01H1/04B E01H1/08C E01H1/08C3 L65H404/1116 L65H701/1942

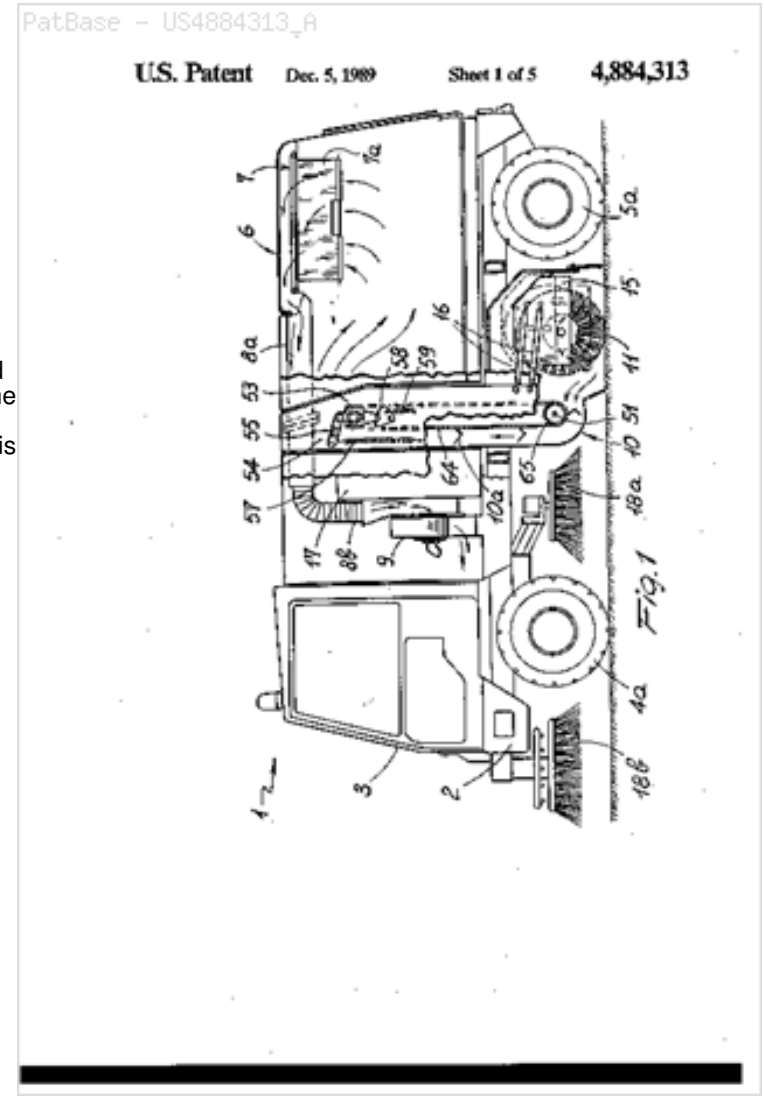
US class: 15/340.3 15/348 180/415

Classification Explorer

Cited documents: WO8401401 A1, US953201 A, US4638883 A, US4269560 A, US3202238 A, US1208046 A, US1181279 A, GB2076759 A1, FR2469337 A1, FR2405332 A1, EP0119144 A1,

Forward Citations: WO13087899, WO07016754, WO07016754, WO04071265, WO04071265, WO03069071, WO0071408, USD654234, US9510721, US9451861, US9192276, US9180907, US9015887, US8966693, US8887340, US8714291, US8365346, US8321993, US8020250, US7996955, US7703173, US7520378, US7424767, US7350264, US7281296, US7140693, US7086118, US6854157, US6842940, US6212731, US6192542, US6142290, US5943733, US5802665, US5630246, US5608947, US5485653, US2014291061, US2011220146, US2011155488, US2010147331, US2010037419, US2009013496, US2008005864, US2006053583, US2006048332, US2005097703, US2005060834, US2004226122, US2004154123, US2004143928, US2004134021, US2004045111, KR100969553, KR100858685, FR2779455, FR2694535, FR2667839, FR2652099, ES2088730, EP2604491, EP2327836, EP2299000, EP1876302, EP0965693, EP0951857, EP0922809, EP0735195, EP0644102, CN105464025,

Abstract:
Source: US4884313A A street sweeper machine is provided for picking up and transporting trash comprising a frame (2) having a main longitudinal dimension and engaging front (4a,4b) and rear (5a,5b) wheels, a driver's cab (3), motor members (44,48), a trash bin (6), a roll brush (11) located between said wheels and having a symmetry axis (12) parallel to a surface to be cleaned and transverse to said longitudinal dimension, a trash conveyor (10) conveying trash from said roll brush (11) to said bin (6), and steering members (22) engaging all of said wheels to make all of them steerable and adapted to define an intersect point (13) for the axes of said wheels in cornering which lies proximate a continuation of said symmetry axis (12) of said roll brush (11).



0) US1824413A – COMB AND HOOD MOUNTING FOR CARPET SWEEPERS

18) Family number: 18763927 (US1824413A) © PatBase

Title: COMB AND HOOD MOUNTING FOR CARPET SWEEPERS

Priority: DE1929A059307D 19291012 DE1929A059328D 19291013 US19290359622 19290501 US19290035962 19291003

Family:

Publication number	Publication date	Application number	Application date
BE364825 A	19291130		00000000
BE364904 A	00000000		00000000
BE364908 A	00000000		00000000
CH147435 A	19310615		19291011
CH154396 A	19320430		19291016
DE560311 A	19320930	DE1929A059328	19291013
DE590626 A	19340110		00000000
DE593999 A	19340308	DE1929A059307	19291012
FR37530 E	19301220		00000000
FR37700 E	19310114		00000000
FR683783 A	19300617		00000000
GB337161 A	19301030	GB19290030037	19291003
GB340604 A	19310105	GB19290030036	19291003
GB340623 A	19310105	GB19300028328	19291003
GB346374 A	19310407	GB19290029984	19291003
NL33124 C	19340716	NL19310057686	19310714
NL34386 C	19350115	NL19290048568	19291017
NL38234 C	19360615	NL19290048557	19291017
US1824413 A	19310922	US19300444501	19300415
US1824414 A	19310922	US19290369316	19290608
US1907587 A	19330509	US19290359622	19290501

Probable Assignee: AMERICAN MACH AND FOUNDRY

Assignee(s):(std)**:** AMERICAN MACH AND FOUNDRY ; SMITH EARLE R

Assignee(s): AMERICAN MACHINE AND FOUNDRY CO ; AMERICAN MACHINE AND FOUNDRY COMPANY

Inventor(s):(std)**:** FOUNDRY CO AMERICAN MACHI ; FOUNDRY COMPANY AMERICAN MACHI ; RUNDELL RUPERT E ; SMITH EARLE R ; ALFRED STEIN JOHN

Inventor(s): AMERICAN MACHINE AND FOUNDRY CO ; COMPANY AMERICAN MACHINE AND FOUNDRY ; STEIN JOHN ALFRED

International class (IPC 8–9): A24C5/14 A24C5/32 (Advanced/Invention); A24C5/00 A24C5/32 (Core/Invention)

International class (IPC 1–7): A24C5/00 A24C5/14 B65G47/84

CPC: A24C5/14 A24C5/326

European class: A24C5/14 A24C5/32T4

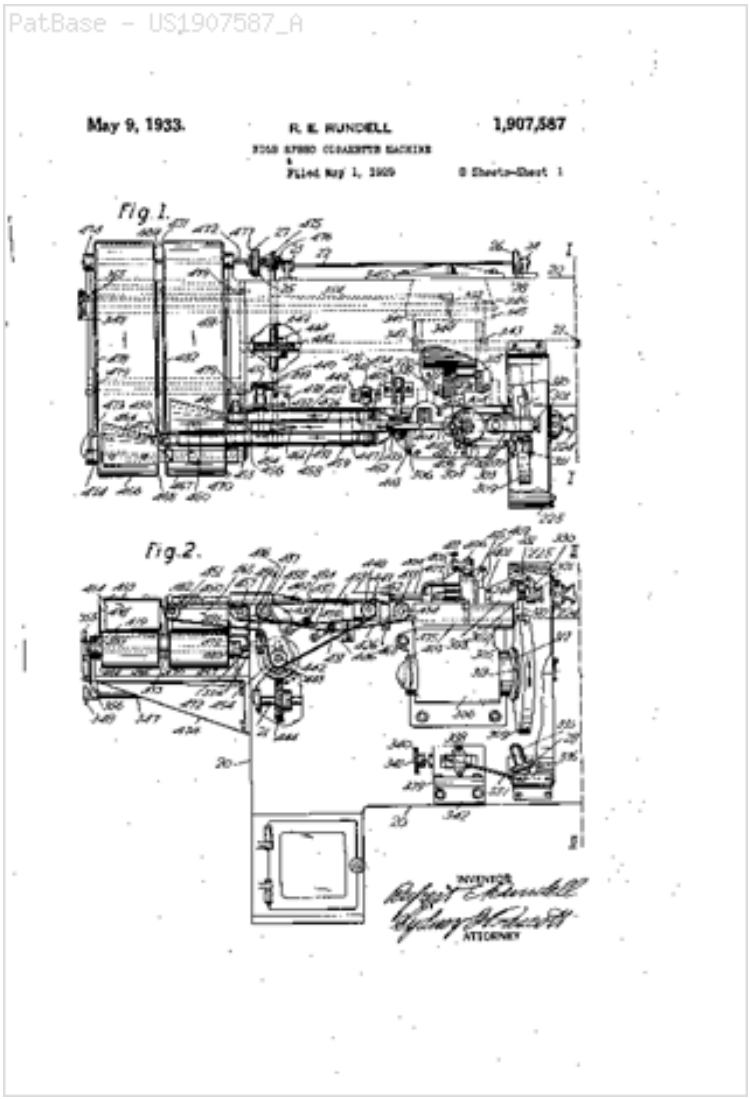
US class: 131/276 131/282 131/287 131/63 131/64.1 131/68 198/437 198/442 198/456 198/457.05 198/457.06 198/481.1 198/578 198/778 53/148 99/483

Classification Explorer

Forward Citations: USRE28383, US8146465, US7296579, US6378691, US5944165, US4779715, US4337856, US4170288, US3838763, US3693313, US3685633, US3664084, US3655026, US3608972, US3601242, US3554362, US3105498, US3088359, US3039606, US3010561, US3008471, US2995880, US2948093, US2944654,

US2929489, US2603375, US2435072, US2009211413, US2009183970, US2004255963, DE946696, DE2846090, DE1228978, DE1214606,

Abstract:
Source: US1824413A 1. A carpet swecpcr, comprising a body having a rotary brush therein, 'a hood covering the brush, sleeves on the hood, and studs secured in the body and extending through the sleeves for supporting the hood in covering rcl ation to the brush.



0) GB2082448A – CARPET SWEEPERS

19) Family number: 29386604 (GB2082448A) © PatBase

Title: Carpet sweepers

Priority: AU19800005165 19800821 AU19800005165 19800821 AU1980PE05165 19800821 AU19810073652 19810803 AU19810073652 19800821

Family:

Publication number	Publication date	Application number	Application date
AU198173652 A1	19820225	AU19810073652	19810803
AU540764 B2	19841206	AU19810073652	19810803
GB2082448 A1	19820310	GB19810009881	19810330
GB2082448 B2	19840905	GB19810009881	19810330

Probable Assignee: SABCO LTD

Assignee(s):(std)**:** SABCO LTD

Inventor(s):(std)**:** SMYTH DONALD NATION ; SMYTH D N

Inventor(s): DONALD NATION SMYTH ; D N SMYTH ; DN SMYTH

Agent(s): COLLISON AND CO

International class (IPC 8–9)**:** A46B9/02 A47L11/33 (Advanced/Invention); A46B9/00 A47L11/00 (Core/Invention)

International class (IPC 1–7)**:** A46B13/08 A46B15/00 A46B9/00 A46B9/02 A47L11/33

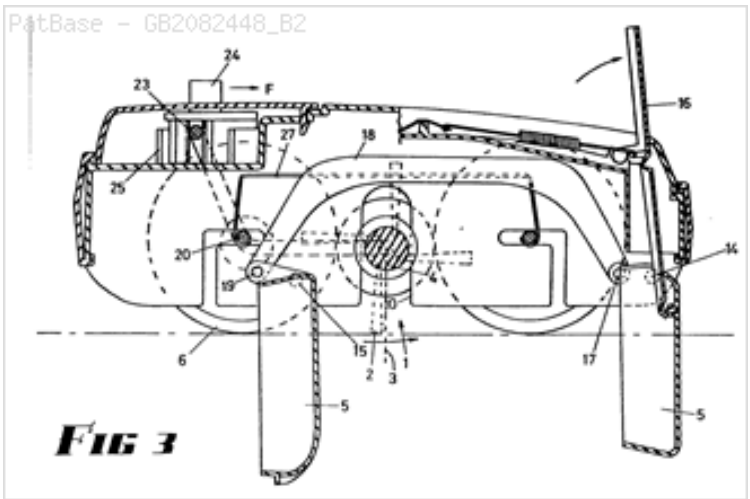
CPC: A46B9/02 A47L11/33 A47L11/4013 A47L11/4025 A47L11/4041 A47L11/4058 A47L11/4072 A47L11/4075

European class: A46B9/02 A47L11/33 A47L11/40D A47L11/40D4 A47L11/40F4 A47L11/40G4 A47L11/40K A47L11/40L

Classification Explorer

Forward Citations: WO07085375, US4546512, US4489457, EP0119288,

Abstract:
Source: GB2082448A A carpet sweeper having a rotatable brush (2) driven by wheels (6). The tufts of the brush (2) are arranged in helical rows with each tuft being in line with a chord line so that the tufts are offset from the centre line of the brush. The carpet sweeper has a control (24) for adjusting the height of the brush (2) and lever (16) for simultaneously opening the dust trays (5) which both open in the same direction.



0) US3436788A – STREETSWEEPER VACUUM PICKUP HEAD ASSEMBLY

20) Family number: 861276 (US3436788A) © PatBase

Title: STREETSWEEPER VACUUM PICKUP HEAD ASSEMBLY

Priority: GB19690001739 19690110 US19670656414 19670727

Family:

Publication number	Publication date	Application number	Application date
DE1816132 A1	19700625	DE19681816132	19681220
FR2019751 A5	19700703	FR19690001124	19690122
GB1202831 A	19700819	GB19690001739	19690110
US3436788 A	19690408	US19670656414	19670727

Probable Assignee: WAYNE MANUFACTURING CO

Assignee(s):(std)**:** WAYNE MANUFACTURING ; WAYNE MANUFACTURING CO ; WAYNE MFG CO ; WAYNE MFG COMPANY

Assignee(s): WAYNE MANUFACTURING COMPANY ; WAYNE MFG

Inventor(s):(std)**:** TAMNY SIMON

Inventor(s): SIMON TAMNY

International class (IPC 8–9)**:** E01H1/08 (Advanced/Invention); E01H1/00 (Core/Invention)

International class (IPC 1–7)**:** A47L5/00 E01H1/00 E01H1/05 E01H1/08

CPC: E01H1/0845

European class: E01H1/08C2B

US class: 15/340.3 15/385 15/87

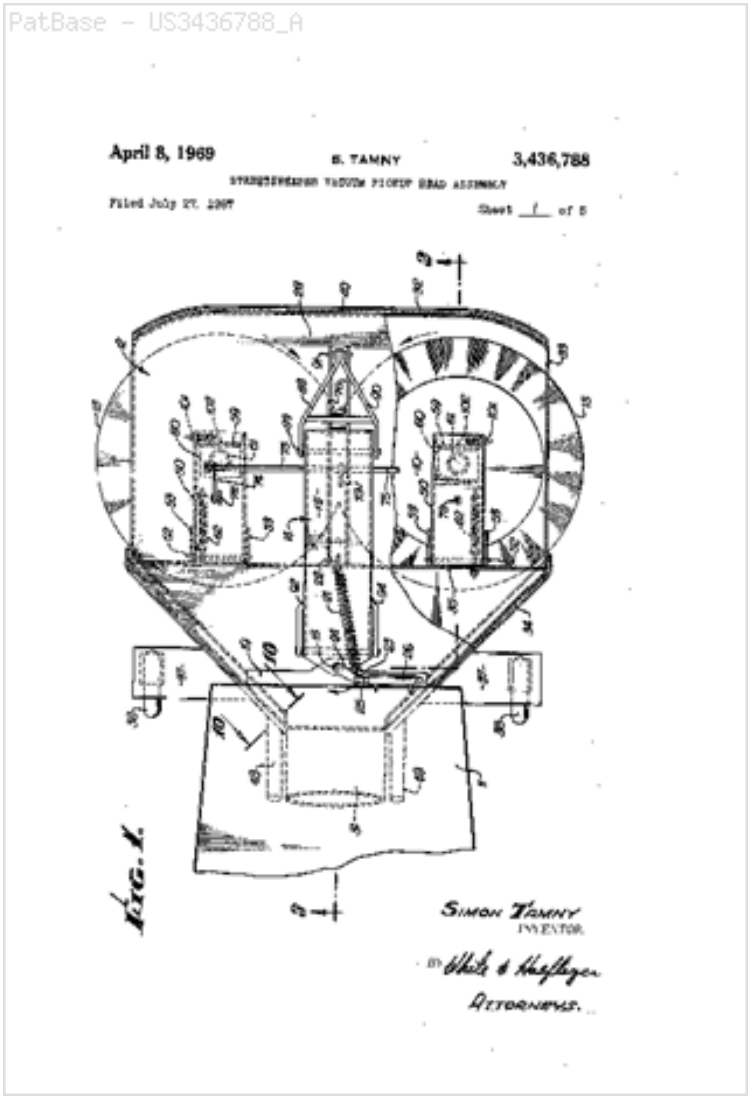
Classification Explorer

Cited documents: US3277511 A, US3186021 A, US1546441 A,

Forward Citations: WO9210614, WO8701404, WO8401649, WO8401399, WO13020202, WO12003572, WO12003572, WO09039621, WO09039621, USD693529, USD654234, US9510721, US9451861, US9375123, US9192276, US9015887, US8978190, US8966693, US8887340, US8528142, US8438685, US8302240, US8245345, US8082625, US7025835, US7025834, US6990709, US6272720, US6249926, US5881417, US5802665, US5768744, US5611268, US5452492, US5048141, US5016310, US5005253, US4831684, US4805258, US4805256, US4754521, US4733432, US4654918, US4580312, US4557010, US4163330, US3879789, US3675267, US2015196183, US2011244137, US2011023248, US2009094784, US2009090385, US2006064844, US2004068825, US2004040104, US2003070252, GB2242467, GB2242467, FR2597130, FR2094097, EP0391457, EP0367732, EP0310727, EP0180251, EP0103471, DE102011003139, AT401944, AT109,

Abstract:
Source: GB1202831A 1,202,831. Road sweeping machines. WAYNE MFG. CO. 10 Jan., 1969, No. 1739/69. Heading B1G. A vacuum pick–up head mounted on the front of a road sweeping machine frame 11 comprises a pair of intermeshing vertical–axis gutter brushes 10 resiliently mounted in and protruding laterally from an overlying suction hood 12. The hood 12, which has depending aprons 40, 42, casters 28 and an elliptical suction conduit 31, is liftably suspended on parallel links 88 from a beam 14 which can be swung to one or other side of the frame to engage one or other gutter, the beam 14 being swung about a pivot 18 by means of a piston 25 and over–centre spring linkage 21– 24. Each brush is driven by a motor 61 and is suspended in the hood 12 on parallel links 51, 54 adjustably loaded by a spring 62, lateral tilt of the brushes, Fig. 8 (not shown) being adjusted by a nut (101) and clamp (104). The hood is raised and lowered by a cylinder 68, bell crank 65 and cable 71, the cable 71 being anchored to an arm 73 on a cross–shaft carrying a pair of arms 74 each having a lost motion connection 79 with the respective brush suspension linkage so that as the hood is raised for transport the brushes are retracted into the hood. Raising of the hood also automatically centres the beam 14 about pivot 18 against the action of spring 21, this being effected, Fig. 4 (not shown) by the movement in a fixed cam slot (82) of the bent–over end of a rod (86) pivoted to the bell crank (65). In a modification, Fig. 10 (not shown), each side apron (42) is. spaced from an inner apron (45) to form an independent suction chamber (46) for fine debris.

PatBase - US3436788_A



0) DE2163692A1 – BUERSTENHERSTELLUNGSMASCHINE MIT BOHRUND STOPFW...

21) Family number: 1733099 (DE2163692A1) © PatBase

Title:	BUERSTENHERSTELLUNGSMASCHINE MIT BOHRUND STOPFWERKZEUGEN SOWIE EINEM DREHBAREN SPANNSTELLENTRAEGER BUERSTENHERSTELLUNGSMASCHINE drilling and tamping AND WITH A ROTATING SPANNSTELLENTRAEGER (Machine translation)
Priority:	DE19712163692 19711222

Family:

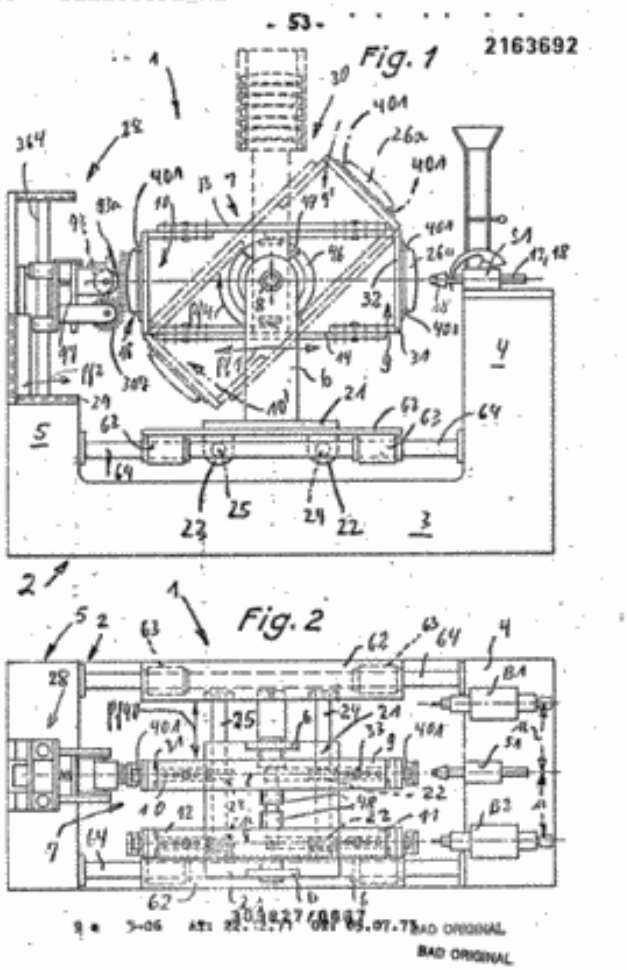
Publication number	Publication date	Application number	Application date
DE2163692 A1	19730705	DE19712163692	19711222

Probable Assignee:	ZAHORANSKY ANTON FA
Assignee(s):(std)**:**	ZAHORANSKY ANTON FA
Assignee(s):	FA ANTON ZAHORANSKY 7868 TODTNAU
Inventor(s):(std)**:**	ZAHORANSKY HEINZ DR ING
Inventor(s):	ZAHORANSKY HEINZ DR ING 7868 TODTNAU
International class (IPC 8–9)**:**	A46D3/06 (Advanced/Invention); A46D3/00 (Core/Invention)
International class (IPC 1–7)**:**	A46D3/06
CPC:	A46D3/062
European class:	A46D3/06B
Classification Explorer	
Forward Citations:	DE10317485,

Abstract:
Source: DE2163692A1 Patentansprueche f BUrstenherstelhlngsmaschine mit Bohr− und Stopfwerkzeugen sowie einem drehbar gelagerten, mit wenigstens zwei Doppel armen ausgeruesteten Spannelemententraeger (Karussell),dadurchgekennzeichnet, dass wenigstens zwei Bohrwerkzeuge (B) und ein jeweils zwischen zwei benachbarten Bohrwerkzeugen (B1, B2; B3) liegendes Stopfwerkzeug (S1 bzwS2) in an sich bekannter Weise in der Reihenfolge: erstes Fohrwerkzeug (B1), erstes Stopfwerkzeug (S1), zweites Bohrwerkzeug (B2) oder: erstes Bohrwerkzeug (B1), erstes Stopfwerkzeug (S 1), zweites Bohrwerkzeug (B 2), zweites Stopfwerk− zeug (S 2), drittes Bohrwerkzeug (B 3) usw.

Machine translation: Claims f BUrstenherstelhlngsmaschine with drilling and tamping and a rotatably mounted, with at least two double low−accessorized Spannelemententraeger (Carousel), characterized in that at least two drills (B) and one each between two adjacent drilling tools (B1, B2, B3) lying tamping (S1 bzwS2) in a known manner in the following order: first Fohrwerkzeug (B1), tamping first (S1), second drilling tool (B2) or: first drilling tool (B1), tamping first (S 1), second drilling tool (B 2), second stuffing tool (S 2), third drilling tool (B 3), etc.

PatBase - DE2163692_A1



0) US2830424A – COTTON STRIPPER WITH FIXED STRIPPER COMB

22) Family number: 22080914 (US2830424A) © PatBase

Title: COTTON STRIPPER WITH FIXED STRIPPER COMB

Priority: US19560599256 19560720

Family:

Publication number	Publication date	Application number	Application date
US2830424 A	19580415	US19560599256	19560720

Probable Assignee: FOWLER LAMBUTH G

Assignee(s):(std)**:** FOWLER LAMBUTH G

Inventor(s):(std)**:** FOWLER LAMBUTH G

International class (IPC 8–9)**:** A01D46/12 (Advanced/Invention); A01D46/00 (Core/Invention)

International class (IPC 1–7)**:** A01D45/18

CPC: A01D46/12

European class: A01D46/12

US class: 56/333 56/34

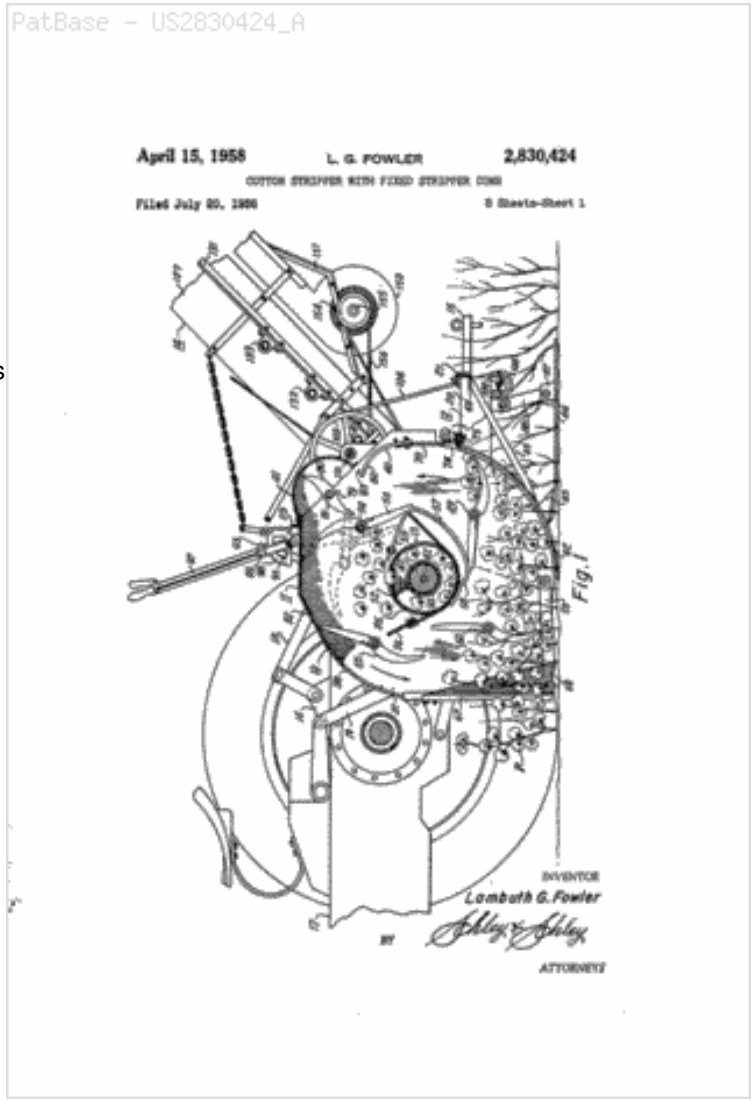
Classification Explorer

Cited documents: US2691862 A, US2544411 A, US2517063 A, US2504459 A, US1842737 A, US1723587 A,

Forward Citations: US6134867, US6044635, US2942398,

Abstract:
Source: US2830424A (Claim 1) 1. A cotton harvester including a housing having an open lower portion for straddling a row of cotton plants, stripper members at the lower portion of the housing for receiving the stalks and branches of the plants therebetween to strip cotton from said plants, means mounted in said housing for rotation about a horizontal, trans– verse axis, and a plurality of sweeper elements carried by the rotatable means for revolution about the axis whereby the elements are revolved through the plants and sweep over the stripper mem bers to lift cotton stripped from the plants, the sweeper elements being pivotally mounted on said rotatable means for swinging movement in a plane parallel to the plane of revolution.

PatBase - US2830424_A



0) GB2134777A – FLOOR SWEEPER

23) Family number: 8947800 (GB2134777A) © PatBase

Title: Floor sweeper

Priority: GB19830004695 19830219

Family:

Publication number	Publication date	Application number	Application date
GB2134777 A1	19840822	GB19830004695	19830219
GB8304695 A0	19830323	GB19830004695	19830219

Probable Assignee: PRESTIGE GROUP PLC

Assignee(s):(std)**:** PRESTIGE GROUP PLC

Assignee(s): THE PRESTIGE GROUP PLC

Inventor(s):(std)**:** ROBINSON GEOFFREY

Inventor(s): GEOFFREY ROBINSON

International class (IPC 8–9)**:** A47L11/33 (Advanced/Invention)

International class (IPC 1–7)**:** A47L11/33

CPC: A47L11/33 A47L11/4013 A47L11/4025 A47L11/4041 A47L11/4072

European class: A47L11/33 A47L11/40D A47L11/40D4 A47L11/40F4 A47L11/40K

Classification Explorer

Cited documents: GB803502, GB781675, GB605987, GB533181, GB454621, GB442231, GB211304, GB1192353, GB1049410, GB1044815,

Forward Citations: WO12094106, WO0110283, US8621700, US6553600, US6505371, US5093956, EP1442693, AU765006,

Abstract:
Source: GB2134777A A floor sweeper having a roller brush (14) and dustpan (16) is provided with a mechanism for varying the clearance between brush and dustpan. The mechanism may comprise a lever 21 pivotable about axis 22, a cam 23 attached to shaft 24, and follower 26 which engages in a slot 25 in the cam and which is connected to sliding frame 15, on which the dustpan is mounted.

PatBase - GB2134777_A1

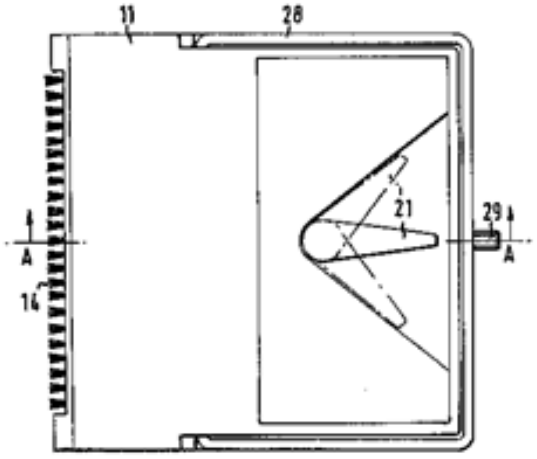


FIG.1

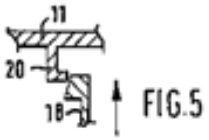


FIG.5

0) US3367147A – YARN SEVERING MEANS FOR STRAIGHT–BAR KNITTING M...

24) Family number: 49187 (US3367147A) © PatBase

Title: Yarn severing means for straight–bar knitting machines

Priority: FR19660064748 19660608 US19650462194 19650608

Family:

Publication number	Publication date	Application number	Application date
BE682256 A	19661208		19660608
DE1585428 A1	19710519	DE19661585428	19660604
FR1482676 A	19670526	FR19660064748	19660608
GB1126220 A	19680905	GB19660025596	19660608
US3367147 A	19680206	US19650462194	19650608

Probable Assignee: TEXTILE MACHINE WORKS

Assignee(s):(std)**:** NORTH AMERICAN ROCKWELL ; TEXTILE MACHINE WORKS

Assignee(s): NORTH AMERICAN ROCKWELL CORP

Inventor(s):(std)**:** ERICH HAEHNEL HERBERT ; HAEHNEL HERBERT E

International class (IPC 8–9)**:** D04B11/00 D04B15/64 D04B35/00 (Advanced/Invention); D04B11/00 D04B15/38 D04B35/00 (Core/Invention)

International class (IPC 1–7)**:** D04B15/64

CPC: D04B11/00 D04B15/64

European class: D04B11/00 D04B15/64 D04B35/00

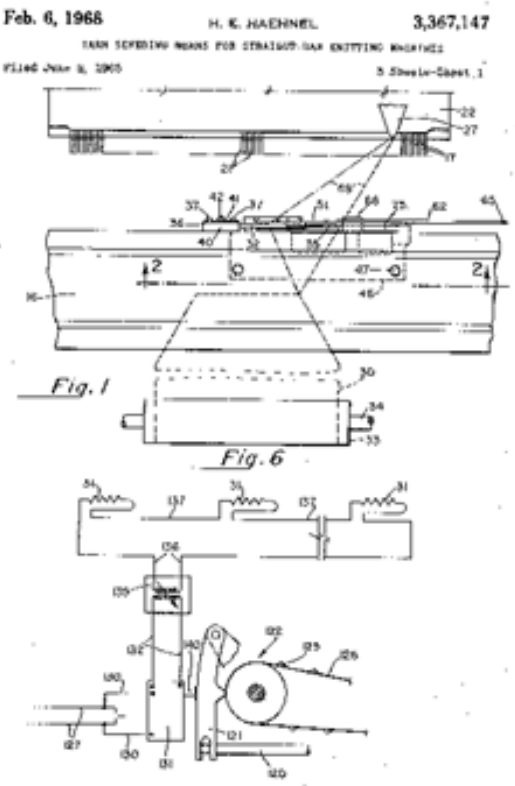
US class: 66/145.00R 66/145R

Classification Explorer

Cited documents: US3120747 A, US2934922 A, US2863310 A, US2844016 A, US2602313 A, GB975548 A, DE1148690 B,

Abstract:
Source: US3367147A ABSTRACT OF THE DISCLOSURE Severing means for straight−bar knitting machines for automatically severing yarn between a completed fabric blank and the machine fabricating elements including a yarn deflecting member movable between an inactive position below the draw−off path of said blank to an active position to engage and deflect the yarn toward a wire element, yarn engaging members receiving said yam from said deflecting member and pressing same into engagement with said element upon return of said deflecting member to inactive position and pattern control means for selective control of said members and the heating of said element to sever the yarn.

PatBase - US3367147_A



0) US5947490A – PEDESTRIAN OPERATED MACHINE WITH FOLDAWAY SEAT ...

25) Family number: 59383118 (US5947490A) © PatBase

Title: Pedestrian operated machine with foldaway seat

Priority: GB19950010701 19950526 WO1996GB01256 19960524

Family:

Publication number	Publication date	Application number	Application date
AT178844 E	19990415	AT19960919902T	19960524
AU199658269 A1	19961211	AU19960058269	19960524
CA2221792 AA	19961128	CA19962221792	19960524
DE69602095 D1	19990520	DE19966002095	19960524
DE69602095 T2	19990923	DE19966002095T	19960524
EP0837790 A1	19980429	EP19960919902	19960524
EP0837790 B1	19990414	EP19960919902	19960524
ES2130830 T3	19990701	ES19960919902T	19960524
GB2301071 A1	19961127	GB19960010926	19960524
GB2301071 B2	19980819	GB19960010926	19960524
GB9510701 A0	19950719	GB19950010701	19950526
GB9610926 A0	19960731	GB19960010926	19960524
US5947490 A	19990907	US19960651781	19960523
WO9637379 A1	19961128	WO1996GB01256	19960524

Probable Assignee: APPLIED SWEEPERS LTD

Assignee(s):(std)**:** APPLIED SWEEPERS LTD ; LOASBY KENNETH MICHAEL ; LOCKHART THOMAS DOBBIE ; MUNNOCH PETER ALEXANDER CLAREN

Assignee(s): APPLIED SWEEPERS LIMITED ; MUNNOCH PETER ALEXANDER CLARENCE ; APPLIED SWEEPERS LTD FALKIRK GB ; APPLIED SWEEPERS LTD FALKIRK

Inventor(s):(std)**:** LOASBY KENNETH ; LOASBY KENNETH MICHAEL ; LOCKHART THOMAS DOBBIE ; LOCKHART THOMAS ; MUNNOCH PETER ALEXANDER CLAREN ; MUNNOCH PETER

Inventor(s): LOCKHART THOMAS DOBBIE GUILSBOROUGH NORTHAMPTON NN6 8QA GB ; MUNNOCH PETER ALEXANDER CLARENCE CLACKMANNANSHIRE FK10 2SF GB ; KENNETH MICHAEL LOASBY ; THOMAS DOBBIE LOCKHART ; PETER ALEXANDER CLARENCE MUNNOCH ; MUNNOCH PETER ALEXANDER CLARENCE ; LOASBY KENNETH MICHAEL FLORE NORTHAMPTON NN7 4LQ GB

Agent(s): BELL G RONALD

Designated states: AL AM AT AU AZ BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IS IT JP KE KG KP KR KZ LI LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SZ TJ TM TR TT UA UG US UZ VN

International class (IPC 8–9): A47L11/40 B60N2/24 B60N2/30 B60N2/38 (Advanced/Invention); A47L11/00 B60N2/24 B60N2/30 (Core/Invention)

International class (IPC 1–7): B60N2/24 B60N2/30 B60N2/38 B62D36/00 B62D51/04

CPC: A47L11/4061 A47L11/4066 B60N2/24 B60N2/305 B60N2/38

European class: A47L11/40H A47L11/40J2 B60N2/24 B60N2/30C2C4 B60N2/38

US class: 15/340.2 15/79.1 180/19.1 180/19.3 280/32.7

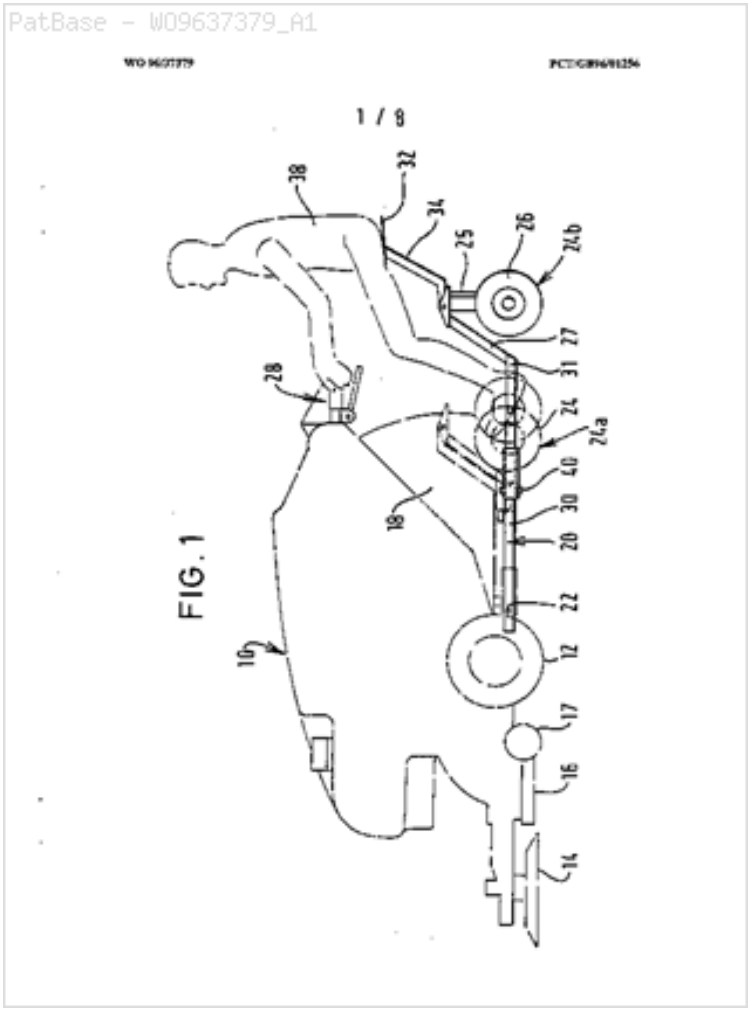
Classification Explorer

Cited documents: US5413364 A, US5388850 A, US5307889 A, US5118123 A, US5004251 A, US4998948 A, US4878339 A, US4828282 A, US4825500 A, US4792153 A, US4666008 A, US4452327 A, US4096920 A, US3984896 A, US3813725 A, US3708823 A, US3670359 A, US3665545 A, US3491399 A, US3485314 A, US3336042 A, US3190672 A, US3099462 A, US2740462 A, GB2287418 A1, GB2271728 A1, GB2198930 A1,

EP0409244 A2, EP0408008 A2, CH684770,

Forward Citations: WO16054529, US9010771, US8684373, US8388262, US8360459, US8196247, US7857342, US7591509, US7571914, US7549651, US7533742, US7389836, US7300061, US7219754, US7059615, US7047716, US6968594, US6935092, US6918603, US6871714, US6692010, US6560952, US6490849, US6059309, US2011236130, US2011169236, US2010101033, US2008036257, US2007289787, US2007181352, US2007145707, US2007013157, US2006273547, US2006243500, US2006197295, US2006102392, US2005242533, US2005116431, US2005098364, US2005098362, US2004256166, US2004168421, US2003227146, US2003221402, US2003163886, US2003079923, GB2359525, GB2359525, GB2338686, GB2323578, EP2724698, EP0867331,

Abstract:
Source: US5947490A A seat assembly for a pedestrian operated machine may be pivotally attached to the rear of the machine at (22) and comprise a frame (20) having a spine (30) with a spine extension (31) supporting a seat (32) on a stalk (34) supported by a wheel (26). The spine extension is movable between a retracted pedestrian operated mode and an extended ride−on mode when the seat can be pivoted from a fold−away position to a position of use. When in its extended position the spine extension allows the frame to be pivoted about a vertical axis (40).



26) Family number: 6390049 (SU865201T) © PatBase

Title: SYNCHRONIZING SYSTEM FOR SPEED OF MOVEMENT OF AGRICULTURAL HARVESTER SET

Priority: SU19802868694 19800116

Family:

Publication number	Publication date	Application number	Application date
SU865201 A1	19810923	SU19802868694	19800116
SU865201 T	19810923	SU19802868694	19800116

Probable Assignee: KUBAN NII ISPYTANIYA TRAKTOROV

Assignee(s):(std)**:** KUBAN NII ISPYTANIYA TRAKTOROV

Assignee(s): KUBANSKIJ NII ISPYTANIYA TRAKTOROV SELSKOKHOZYAJST ; KUBANSKIJ NII ISPYTANIYA TRAKTOROV SELSKOKHOZYAJSTVENNYKH MASHIN

Inventor(s):(std)**:** DEGTYAREV VIKTOR V

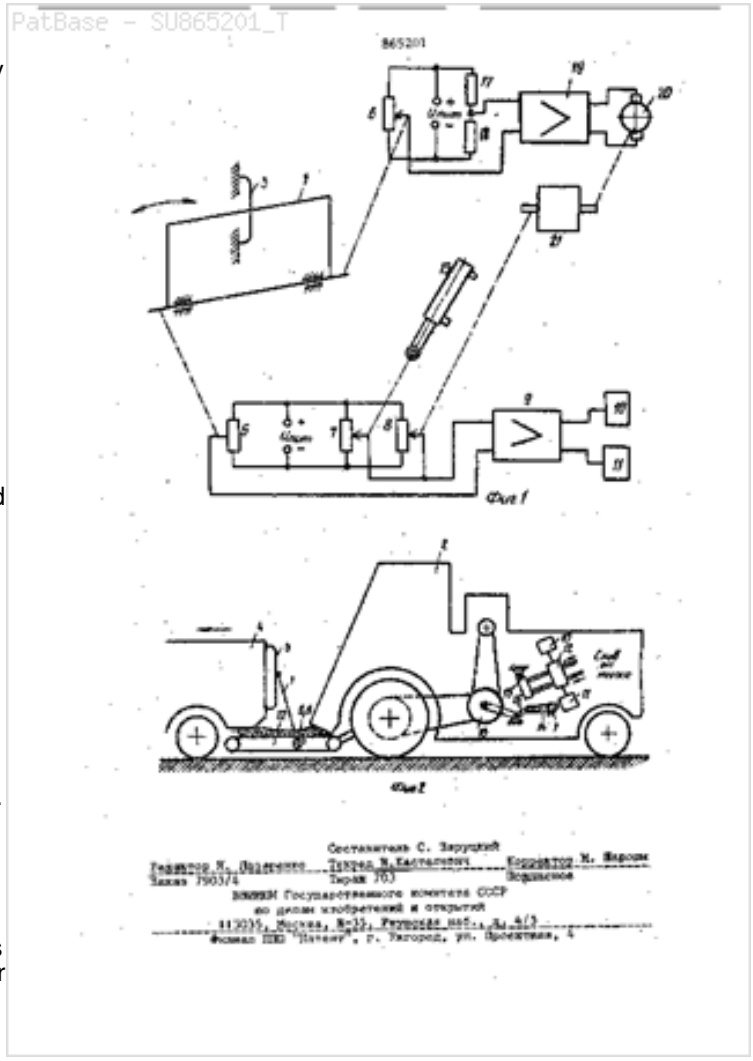
Inventor(s): DEGTYAREV VIKTOR V SU

International class (IPC 8–9)**:** A01D69/02 (Advanced/Invention)

International class (IPC 1–7)**:** A01D69/04

Classification Explorer

PatBase - SU865201_T



Abstract:
Source: SU865201T Invention relates to selskoohoz agronomically engineering, namely to the design of systems but the speed of the synchronization selskohrz–agricultural harvesting machine and can be used in the test for self–propelled agricultural harvesting machines for automatically controlling the speed of the self–sampler with no significant effect on the power machine under test. Known synchronization system of the velocity of movement of an agricultural harvesting machine comprising a cam follower lever sensor distance, sensor feedback, electronic amplifier and actuator rn. The disadvantage of this system is synchronized tion that it does not allow the same to keep the distance between machines with different machine speeds of movement, which leads to loss of n which m retractable mass during operation and v.konechnom account errors in the selection Sample characteristics–j generators performance DUT.. The purpose of the invention – reduction of losses collected mass and reduce the time for additional adjustment of the speed of the synchronization unit. Said. Aim is achieved in that the system is provided with a synchronization bridge circuit with a potentiometric sensor adjustment potentiometer included parallel to the sensor distance, and the electric motor with gear, kotorsh associated with the potentiometer. Fig. 1 shows a block diagram of the synchronization system of movement, Fig. 2 – a general view of an agricultural harvesting machine. Synchronization system includes a follower lever 1 2 probe interacting with the free end of the test machine emphasis 3 4 axis potentiometer sensor distances 5 and 6 sensor adjustment coupled with the shaft of the servo arm 1. Potentiometer feedback potentiometer adjustment 7 and 8 are connected to the system parallel but also in conjunction with the sensor distances form an electrical bridge whose output to the input podkl10chen electronic amplifier 9. 9 The output of the gate loaded electrical windings 10 and Il romagnitov HYDROALLOCATORS 12 connected to acti py 13 kotorsh coupled via a system of levers 14 and 15 with the CVT skoroeti 16 and potentiometer feedback 7. adjustment scheme synchronization system consists of an electrical bridge comprises a potentiometer sensor adjustment 6 and 17 and resistors 18 and 19 electronic amplifier tion reversing motor 20 connected to the first via a reduction gear 21c axis potentiometer adjustment 8, in parallel with the potentiometer feedback 7. bootbornika conveyor 22 about 2 unit is located under the unloading of the test window sweeper 4. Synchronization System speed doors voltage works as follows. During the movement of self–propelled bootbornika 2 test for harvesting MAPP–4 emphasis 1Noy 3 acts on follower lever 1 and turn the potentiometer shaft 5, the balance of Electrical and bridge to 5, 7 and 8 is disturbed at the input of the amplifier is 9 to control signal drive extending ultimately, the displacement rod of the hydraulic cylinder 13 in the direction of reducing speed, if the speed of the self–pro–2 bootbornika above test machine speed 4 and upwardly of the probe 2 when the speed lower than the speed of the machine 4. When this sensor feedback, soedinennsh hydraulic cylinder with piston rod 13 returns the axle 5, 7 and 8 with one of the balance control signal is present, the motion of rod 13 gidrotsilivdra stopped. If the change in velocity was not enough then there are one or more cycles of the system to the full rate matching. However, if you increase the speed of the unit is personal follower lever 1 is deflected by an angle in the direction of its motion, as its position is determined by the position of the hydraulic cylinder rod 13, the control variator 16. The motion of the probe 2 and 4 machines sinhronnm It appears, but the distance therebetween is increased. Thus, the higher the speed of movement of the machine, the longer–distance between its machines. This disadvantage is eliminated Adjustment Scheme system. In the event of the servo arm 1 from the optimal position is impaired by balancing the bridge 6, 17 and 18, the error signal from the amplifier 19 is supplied to a reversible motor 20 bound zannm through gear 21 with potentiometer adjustment system 8. Introduced mismatch in control bridge 5, 7 and 8, by the scheme described above occurs testing of an error signal to an optimum reduction of the distance between the machine unit. Application dannogoustroystva allows to reduce losses collected mass and thus greatly improve the accuracy of the sampling weight of the cleaning device under test simultaneously shortened processing time to prepare the system to work. CLAIMS speed synchronization system dvilseni an agricultural harvesting machine comprising a follower lever, the distance sensor, the sensor feedback, an electronic amplifier and actuator, and a m l sponding that, in order to reduce weight losses collected and abbreviations additional regulation time for system synchronization, the latter is provided with a bridge circuit with the sensor, potentiometer, switched parallel

to the sensor spacing, and the motor with reduction gear, which is associated with the potentiometer. Sources of information received into account in the examination 1. Report Kuban Research Institute testing of tractors and agricultural machines. ? 396–74, 1974 (prototype).

27) Family number: 20629856 (GB395944A)

© PatBase

Title: Improvements relating to vacuum carpet or like sweepers

Priority: GB19320036597 19321224

Family:

Publication number	Publication date	Application number	Application date
GB395944 A	19330727	GB19320036597	19321224

Probable Assignee: AIR WAY ELECTRIC APPL CORP

Assignee(s):(std)**:** AIR WAY ELECTRIC APPL CORP

Assignee(s): AIR WAY ELECTRIC APPLIANCE CORP

International class (IPC 8–9): A47L9/02 (Advanced/Invention); A47L9/02 (Core/Invention)

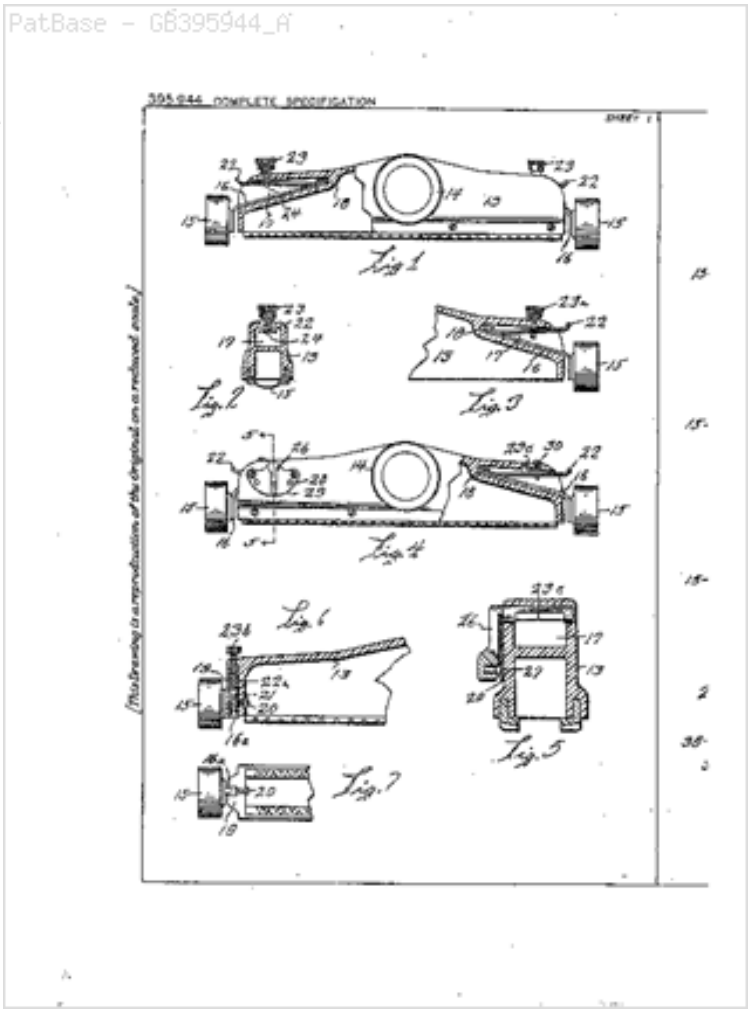
International class (IPC 1–7): A47L9/02

CPC: A47L9/02

European class: A47L9/02

Classification Explorer

Abstract:
Source: GB395944A 36597. [Class 8 (i).] The floor nozzle of a vacuum cleaner is supported by rollers 15, Fig. 1, mounted on separate movable parts 16 attached to the nozzle, these parts being resiliently mounted e.g. by flat springs 22 and screw or other means 23 provided to adjust the resiliency. The adjusting means at the two ends may be simultaneouslv actuated by a common means. Fig. 6 shows the wheels 15 carried by vertically sliding brackets 16a depressed by adjustable coil springs 22a.



0) GB255328A – IMPROVEMENTS IN OR RELATING TO CONTROL MECHANIS...

28) Family number: 18253915 (GB255328A)

© PatBase

Title: Improvements in or relating to control mechanism for the handle bails of carpet sweepers or other movable apparatus

Priority: GB19260001109 19260114

Family:

Publication number	Publication date	Application number	Application date
GB255328 A	19260722	GB19260001109	19260114

Probable Assignee: HOOVER CO

Assignee(s):(std)**:** HOOVER CO

Assignee(s): THE HOOVER COMPANY

International class (IPC 8–9)**:** A47L11/40 (Advanced/Invention)

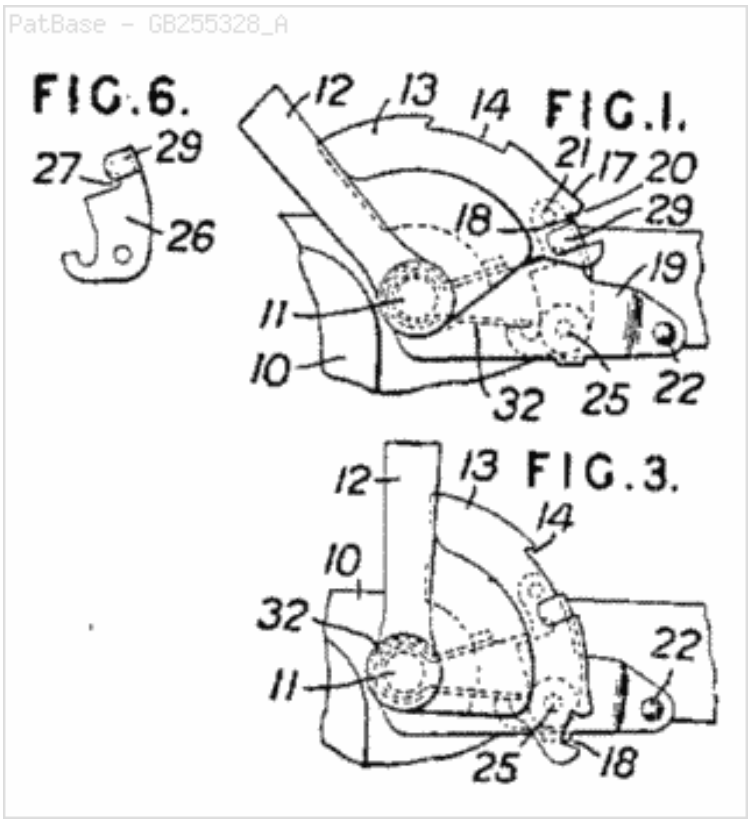
International class (IPC 1–7)**:** A47L9/32

CPC: A47L11/4075

European class: A47L11/40L

Classification Explorer

Abstract:
Source: GB255328A 255,328. Hoover, Ltd., (Hoover Co.). Jan 14, 1926. D i s c hinges; pivoting adjustments.– The handle bail of a carpet sweeper, suction cleaner, or other movable apparatus is secured in its storage position by means of a quadrant carried on the bail and a spring–pressed latch normally tending to engage notches in the edge of the quadrant, a separate member being provided for disengaging the latch; a short notch locks the bail in storage position and a longer notch permits limited movement of the bail when the handle is in normal operating position. The bail 12 is mounted on a pivot 11 on the sweeper casing 10 and has secured thereto a quadrant 13 with a short notch 18 and longer notch 14. The latch 26, Fig. 6, is pivoted at 25 to the sweeper casing 10 and is urged in an anticlockwise direction by a spring 32 so that, in the position shown in Fig. 1, the forked end 29 of the latch engages the notch 18, thereby securing the bail in such position that the handle is upright in storage position. Coacting with the latch 26 is a foot lever 19 mounted on the pivot 11 and urged upwards by the spring 32. When the lever 19 is depressed by foot pressure on a pin 22 a rounded pin 21 on the lever rides over the rounded nose of the latch fork 29, thereby pressing back the latch until the pin 21 enters the notch 27 in the latch, which holds the foot lever in depressed position. Movement of the bail and quadrant is now permitted by reason of the rounded edge 20 of the notch 18 riding under the fork 29, the further backward movement of the latch 26 thus produced freeing the pin 21 of the foot lever 19. When the bail is swung over to the position shown in Fig. 3, the fork end 29 of the latch 26 enters the long notch 14, which maintains the handle in its normal operating position but with some freedom to swing. The foot lever is again operated when the latch is to be released from the notch 14, which results in the pin 21 of the foot lever being again caught in the notch 27 of the latch, the latter being held thereby in an outward position released from the notch 14. When the quadrant is swung up to the position shown in Fig. 1, a cam projection 17 rides under the latch fork 29 moving the latch outwardly so that the pin 21 of the foot lever is released and the latch is then free to move into locking engagement with the notch 18.



0) GB706951A – IMPROVEMENTS IN OR RELATING TO WEIGHING APPARAT...

29) Family number: 19419463 (GB706951A) © PatBase

Title: Improvements in or relating to weighing apparatus

Family:

Publication number	Publication date	Application number	Application date
GB706951 A	19540407	GB19520001048	19520114

Probable Assignee: WRIGHT MACHINERY CO

Assignee(s):(std)**:** WRIGHT MACHINERY CO

Assignee(s): WRIGHT MACHINERY COMPANY

International class (IPC 8–9)**:** G01G13/00 (Advanced/Invention)

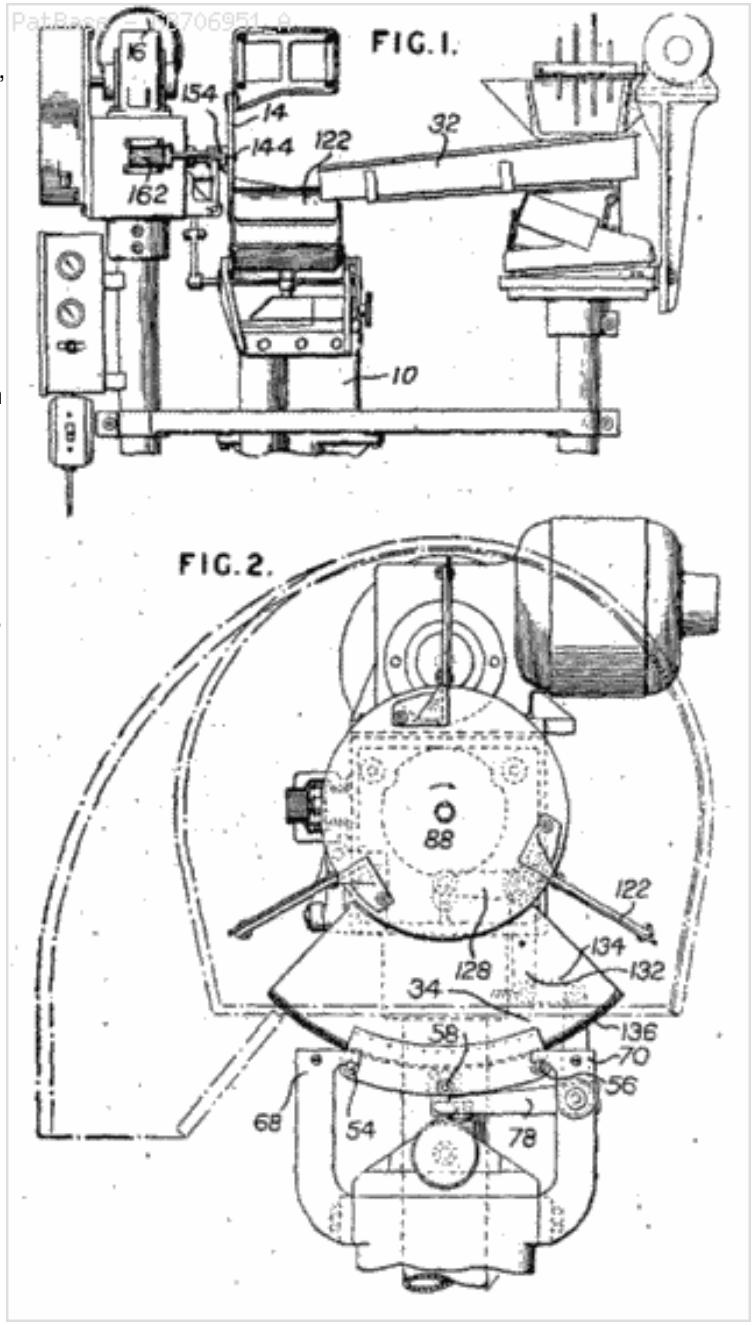
International class (IPC 1–7)**:** G01G13/16

CPC: G01G13/00

European class: G01G13/00

Classification Explorer

Abstract:
Source: GB706951A 706,951. Automatic feed weighers. WRIGHT MACHINERY CO. Jan. 14, 1952 [Aug. 3, 1951], No. 1048/52. Class 143 In an automatic feed weigher, material is fed continuously by a vibrating conveyer into a concave trough–shaped scale pan, which, at the correct weight, is lifted and locked, and the material is swept out by a rotating paddle. The material from the conveyer 32, Fig. 1, falls into the scale pan 34 of a liquid displacement weighing machine 10. The machine is as disclosed in Specification 633,075. When the required weight is in the pan, a mercury switch is closed to energize a solenoid 162 tn withdraw a latch 154 from engagement with an abutment 144, Fig. 5 (not shown), to allow the rotation of a turret 14. The turret, which carries three spaced sweeping paddles 122, is driven by a motor 16 through reduction gearing and a clutch, Fig. 3 (not shown), which slips when the turret is held still by the engagement of the latch 154. A cam 88, Fig. 4 (not shown) and Fig. 2, also rotates with the turret and through a linkage 128, 132, 134, 136 rotates a lever 78 which engages a lug 58 on the scale pan 34 and lifts the pan until further lugs 54, 56 on the pan engage fixed stops 68, 70. In this position the pan is held steady and is swept by one of the paddles 122. The lifting of the pan opens the mercury switch' and the latch 154 is released to engage the next abutment 144 as it comes round. The turret is stopped, a depression in cam 88 releases the scale pan, and the weighing cycle is recommenced.



0) EP2374694B1 – LENKEINRICHTUNG FUER EIN SELBSTFAHRENDES GERAET...

30) Family number: 49713660 (EP2374694B1) © PatBase

Title: LENKEINRICHTUNG FUER EIN SELBSTFAHRENDES GERAET STEERING DEVICE FOR A SELF−PROPELLED DEVICE

Priority: DE201010016363 20100408 EP20110401054 20110404

Family:

Publication number	Publication date	Application number	Application date
DE102010016363 A1	20111013	DE201010016363	20100408
DE502011009158 D1	20160504	DE201150009158T	20110404
EP2374694 A2	20111012	EP20110401054	20110404
EP2374694 A3	20140507	EP20110401054	20110404
EP2374694 B1	20160323	EP20110401054	20110404

Probable Assignee: AMAZONEN WERKE DREYER H

Assignee(s):(std)**:** AMAZONEN WERKE DREYER H

Assignee(s): AMAZONEN WERKE H DREYER GMBH AND CO KG

Inventor(s):(std)**:** KLEIN LAURENT

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

International class (IPC 8–9): A01B69/00 A01D67/00 B62D11/24 B62D7/14 (Advanced/Invention)

CPC: B62D11/006 B62D11/24

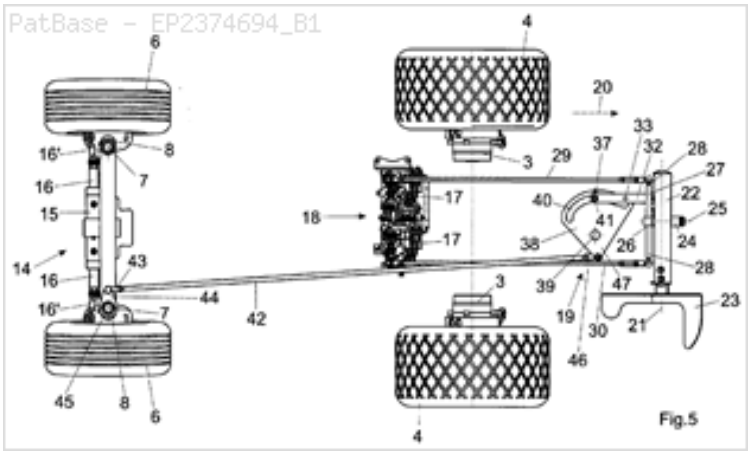
European class: B62D11/00B6 B62D11/24

Classification Explorer

Cited documents: WO0130636 A1, US2009241708 AA, US2001040057 AA, DE9102354 U, DE102006013080 A1

Forward Citations: DE102013215425,

Abstract:
Source: EP2374694A3 Lenkeinrichtung (19) fuer ein selbstfahrendes Geraet, wie beispielsweise Rasenmaeher und/oder Kehrmaschine mit einem Rahmen, zwei angetriebenen Vorderraedern (4), die jeweils von einem oelmotor (3) mit zugeordneten Regeleinrichtungen (17,18) in einstell− und/oder regelbarer Weise antreibbar sind, und mittels eines Hydraulikzylinders (15) zum Lenken des Geraetes ansteuerbaren lenkbaren Hinterraedern (6). Um die bekannte fuer eine auf die Vorder− und Hinterraeder wirkende Lenkeinrichtung geschaffen wesentlich einfacher auszugestalten, ist vorgesehen, dass die Lenkeinrichtung (19) ein Lenkelement (12) zur Ansteuerung des zumindest einem der lenkbaren Hinterraedern (6) zugeordneten Hydraulikzylinders (15) und der den Vorderraedern (4) zugeordneten Regeleinrichtungen (17,18) aufweist, dass die den Vorderraedern (4) zugeordneten Regeleinrichtungen (17,18) mittels uebertragungseinrichtungen (27,32,38,42) durch den Lenkeinschlag der angesteuerten Hinterraeder (6) betaetigbar sind.



0) GB329563A – IMPROVEMENTS IN OR RELATING TO AUTOMATIC WEIGHI...

31) Family number: 18650819 (GB329563A)

© PatBase

Title: Improvements in or relating to automatic weighing apparatus

Priority: GB19290021606 19290713

Family:

Publication number	Publication date	Application number	Application date
GB329563 A	19300522	GB19290021606	19290713

Probable Assignee: AVERY LTD W AND T

Assignee(s):(std)**:** AVERY LTD W AND T ; OTTO MEYER

Assignee(s): W AND T AVERY LIMITED

International class (IPC 8–9): G01G21/00 (Advanced/Invention)

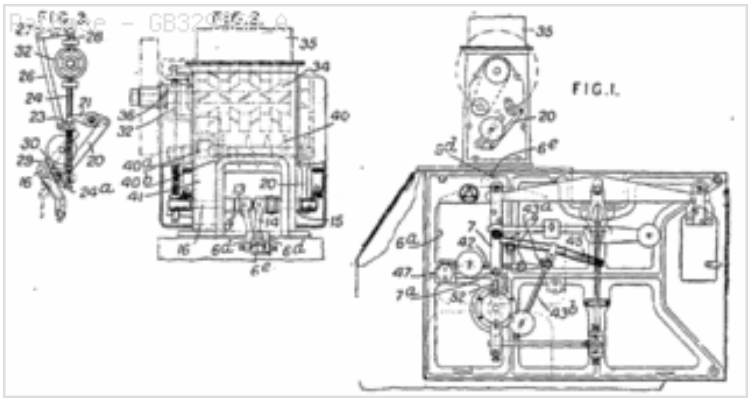
International class (IPC 1–7): G01G13/08 G01G13/22

CPC: G01G21/00

European class: G01G21/00

Classification Explorer

Abstract:
Source: GB329563A 329,563. Avery, Ltd., W. and T., and Meyer, O. July 13, 1929. Automatic–feed weighers. – An automatic weighing–apparatus of the kind embodying a rotatable multi–compartmented weighing hopper, a power–driven feeding mechanism and an automatically operating clutch device for putting the feeding mechanism into or out of operation is characterized in that the clutch device is actuated by means under the control of trigger arms which determine the operation of the main and dribble feed supply gates governing the supply of material to the weighing hopper. The material from the supply hopper 35 is fed to the upper compartment 6a of the weigh hopper by a bladed feed drum 34 for the main feed and a pug screw 40 for the dribble feed. The weigh hopper sinks until a knife–edge projection 6 thereon liberates a trigger 14 and allows the main feed gate to close in the manner described in Specification 284,231. During this movement the shaft 15 of the trigger, operating through linkage 20, Fig. 3, moves a rocker 21 away from a collar 23 connected by a link 26 and lever 27 to a clutch–disengaging plunger 28. The dribble feed is continued through a chamber 41 by the pug screw 40, which carries a sweeper arm 40a and a blade 40 to prevent clogging. When the charge is made up, a second knife–edge projection 6e on the weigh hopper liberates a second trigger 13 and allows the dribble gate to close. The movement of the trigger shaft 16 causes a cam 29 to displace a trip lever 30 from the end 24a of a spring–pressed rod, which then rises and brings its upper end, together with the plunger 28, into engagement with spring–pressed clutch members 32, 36, thus disengaging the clutch and stopping the feed drum 34 and pug screw 40. During the above–described operations, a counterweighted lever 42, Fig. 1, resting on a stop 7 on the supporting–strap 7 of the weigh hopper has been descending with the weigh hopper. One end of the lever 42 engages a roller 43a on a pendulum lever 43b, which also carries a bent tube 45 containing mercury. During the descent of the weigh hopper the pendulum lever is thus raised and the mercury flows gradually along the tube and prevents too sudden or premature release of the lever 42, which ultimately comes to rest on an eccentric stop 47 out of contact with the stop 7. During discharge, the weigh hopper rises and the mechanism is re–set. To permit a weighing operation to be checked, a hand–operated bolt 52 may be turned so as to prevent the weigh hopper from rotating and discharging.



0) DE2428400A1 – STAUBSAUGERDUESE VACUUM CLEANER NOZZLE WITH OSC...

32) Family number: 2148721 (DE2428400A1) © PatBase

Title: STAUBSAUGERDUESE VACUUM CLEANER NOZZLE WITH OSCILLATING SWEEPER BRUSHES – IS DESIGNED WITH CRANK GEARING TO REMOVE DIRT AWAY FROM BRUSHES

Priority: DE19742428400 19740612

Family:

Publication number	Publication date	Application number	Application date
DE2428400 A1	19760102	DE19742428400	19740612

Probable Assignee: BOSCH SIEMENS HAUSGERAETE

Assignee(s):(std)**:** BOSCH SIEMENS HAUSGERAETE

Assignee(s): BOSCH SIEMENS HAUSGERAETE GMBH

Inventor(s):(std)**:** APPEL WOLFGANG

International class (IPC 8–9)**:** A47L9/04 (Advanced/Invention); A47L9/04 (Core/Invention)

International class (IPC 1–7)**:** A47L9/04

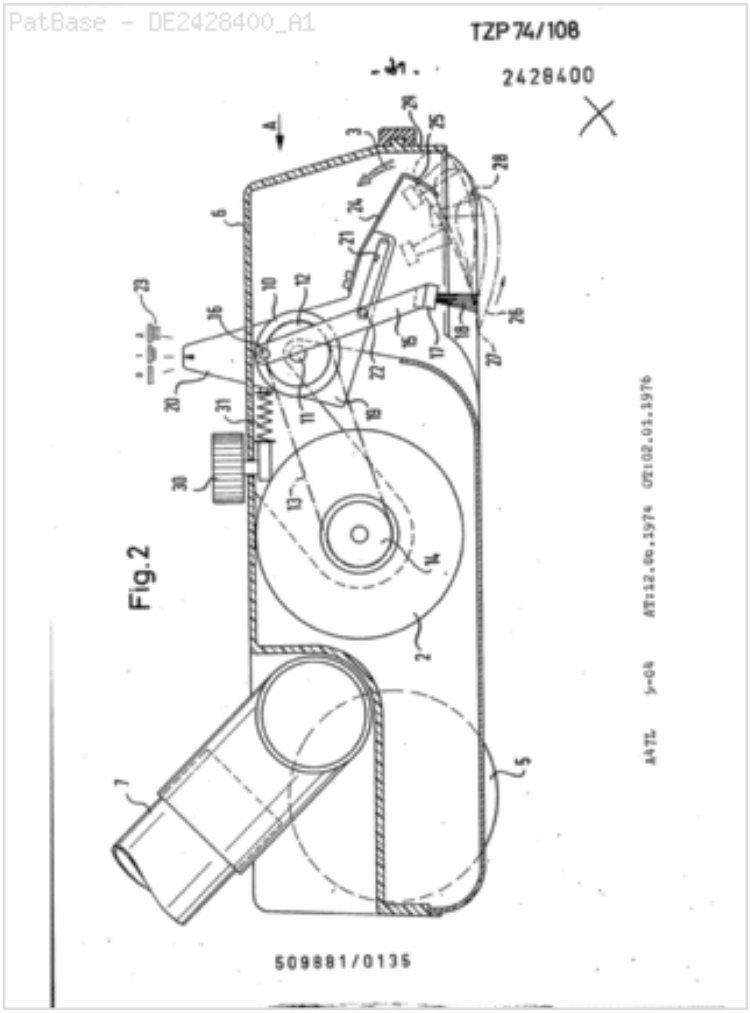
CPC: A47L9/0483 A47L9/0494

European class: A47L9/04E4 A47L9/04F

Classification Explorer

Forward Citations: US8032985, US7657967, US7458131, US6189180, US5901411, EP2016882, EP1676513, EP1554964, EP1495707, EP0786228,

Abstract:
Source: DE2428400A1 Staubsaugerduese mit einer im Bereich der Saugoeffnung angeordneten insbesondere hoehenverstellbaren Kehr– buerste, die zur Du?chfuehrung von pendelartigen Kehr bewegungen gegenueber der Saugoeffnung durch einen An trieb relativ bewegbar ist,dadurchgekennzeichnet, dass die Eellrbuerste (17) an der Koppelstange (15) eines Kurbelgetriebes be festigt ist und bei einer Rotationsbewegung der Antriebs kurbel (Kurbeischeibe 10) eine geschlossene Kurvenbahn durchlaeuft, die in einer zur Ebene des Saugobjektes senkrecht stehenden Ebene liegt und einen in der Ebe ne des Saugobjektes liegenden Kurvenabschnitt auf– weist. The vacuum cleaner nozzle is provided with a movable height–adjustable brush (17) which is fastened to the coupling rod (15) of a crank gear mechanism so that during rotation the crank disc follows an endless cam track which lies in a plane at right angles to the carpet and part of which lies in the plane of the carpet. This means that where the sweeper brushes move in a swing motion the accumulating dirt is stripped off and sucked up whilst the brushes are still in contact with the carpet. The crank gear can be designed so that the sweeper brush follows a very flat elongate curved track wherein at the turning point the brush is practically at a standstill.



0) US2406247A – FLOOR CLEANING MACHINE

33) Family number: 22052018 (US2406247A) © PatBase

Title: FLOOR CLEANING MACHINE

Priority: US19410394007 19410517 US19420439903 19420421

Family:

Publication number	Publication date	Application number	Application date
US2316709 A	19430413	US19410394007	19410517
US2406247 A	19460820	US19420439903	19420421

Probable Assignee: JULIUS H KIEL

Assignee(s):(std)**:** JULIUS H KIEL ; ROBERT B KIEL

Inventor(s):(std)**:** JUNE OWEN IRA

Inventor(s): OWEN IRA JUNE

International class (IPC 8–9)**:** A47L11/32 A47L11/33 (Advanced/Invention); A47L11/00 (Core/Invention)

International class (IPC 1–7)**:** A47L11/22 A47L11/33

CPC: A47L11/32 A47L11/40 A47L11/4075 A47L11/33 A47L11/4013 A47L11/4041 A47L11/4058 A47L11/4069 Y10S15/10

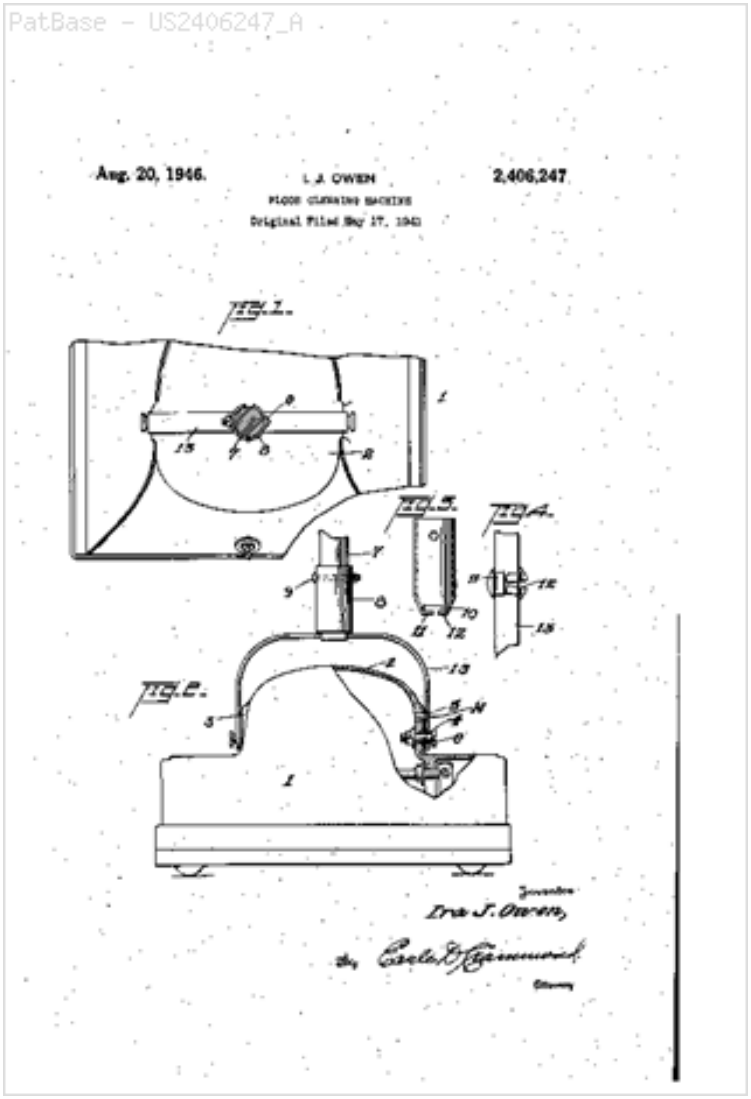
European class: A47L11/32 A47L11/33 A47L11/40 A47L11/40D A47L11/40F4 A47L11/40G4 A47L11/40J4 A47L11/40L

US class: 15/410 15/47 15/DIG.10

Classification Explorer

Forward Citations: USD600420, USD599066, USD581617, USD581616, USD501588, USD501282, US8726441, US5319819, US5285549, US3602933, US2800372, US2003210614,

Abstract:
Source: US2406247A 1. In a carpet sweeper, a molded one−piece housing having substantially vertical sides and a curvedltop, said top being provided with a central raised dome provided on opposite sides thereof with reinforcing and mounting lugs, a pivotal mounting bolt in each of said lugs projecting outwardly therefrom to detachably receive the endsss of a handle bail, a projecting detent disposed vertically above said mounting bolt in each oi' said lugs; and an' operating handle' having ssa strap−like bail straddlirigsaid dome, said bail having vertically aligned apertures in the end thereof for cooperation with said mounting bolt and detent., the bail and its mounting being so constructed and arranged that the bail may pivot on the mounting bolt during operationfof the machine and may be retained in a Vertical position by the detents and bail apertures when the machine is not in use, _



0) GB1326391A – TRANSFER DEVICES

34) Family number: 172089 (GB1326391A)

© PatBase

Title: TRANSFER DEVICES

Priority: JP19690073597 19690918

Family:

Publication number	Publication date	Application number	Application date
CH517023 A	19711231	CH19700013715	19700916
DE2046128 A1	19710506	DE19702046128	19700918
DK131768 B	19750901	DK19700004778	19700917
DK131768 C	19760209	DK19700004778	19700917
GB1326391 A	19730808	GB19700044709	19700918

Probable Assignee: MORINAGA CONFECTIONERY CO LTD

Assignee(s):(std)**:** MORINAGA CONFECTIONERY CO LTD

Inventor(s):(std)**:** FUMIO SATO ; SATO F

Inventor(s): SATO FUMIO

International class (IPC 8–9)**:** B65G17/06 B65G47/50 (Advanced/Invention); B65G17/06 B65G47/50 (Core/Invention)

International class (IPC 1–7)**:** B65B35/10 B65B35/44 B65G37/00 B65G43/08 B65G47/54 B65G47/68 B65G47/82

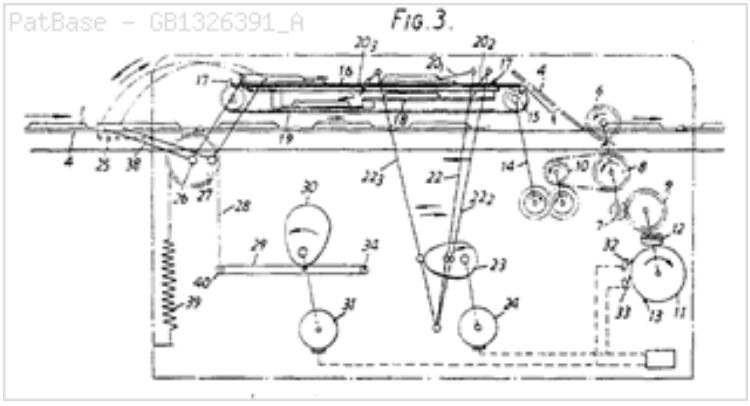
CPC: B65G17/067 B65G47/503 B65G2201/02 B65G2811/0647

European class: B65G17/00 B65G17/06G B65G47/50A L65G201/02 L65G811/06M

Classification Explorer

Forward Citations: WO16195497, GB2301329, GB2301329, DE3700506, DE3700506,

Abstract:
Source: GB1326391A 1326391 Endless conveyers MORINAGA CONFECTIONERY CO Ltd 18 Sept 1970 [18 Sept 1969] 44709/70 Heading B8A In an apparatus for transferring groups of articles e.g. bars of chocolate from an endless conveyer 1 to an endless conveyer 19 extending laterally thereof, the articles are carried on trays 4 with lugs 41 resting on webs 5 mounted on a pair of spaced chains 2. The trays are raised by a pair of pivotal arms 38 from the conveyer 1 to a conveyer 16 with lugs 17 to advance the trays beneath a pusher 20 which is spaced a distance above the conveyer 16 to pass over the trays, which are subsequently discharged from the conveyer 16 and returned to the conveyer 1, but to engage the articles and push the same from the trays and on to a stationary support 18. The pusher 20 is mounted on a reciprocate arm 22 and on movement thereof the pusher is lowered to engage the articles on the support 18 and transfer the same on to the conveyer 19. The arms 38 and 22 are driven in synchronism with the conveyer 1.



0) GB808288A – IMPROVEMENTS IN OR RELATING TO THE APPLICATION ...

35) Family number: 20290998 (GB808288A) © PatBase

Title: Improvements in or relating to the application of granular material, for example sand, to the surfaces of bricks, building blocks and the like

Priority: GB19560001606 19560117

Family:

Publication number	Publication date	Application number	Application date
GB808288 A	19590204	GB19560001606	19560117

Probable Assignee: JOHN ALEXANDER JOHNSON

Assignee(s):(std): FREDERICK VALENTINE WILLIAM SE ; JOHN ALEXANDER JOHNSON

Assignee(s): FREDERICK VALENTINE WILLIAM SEDGLEY

International class (IPC 8–9): B28B11/06 (Advanced/Invention); B28B11/04 (Core/Invention)

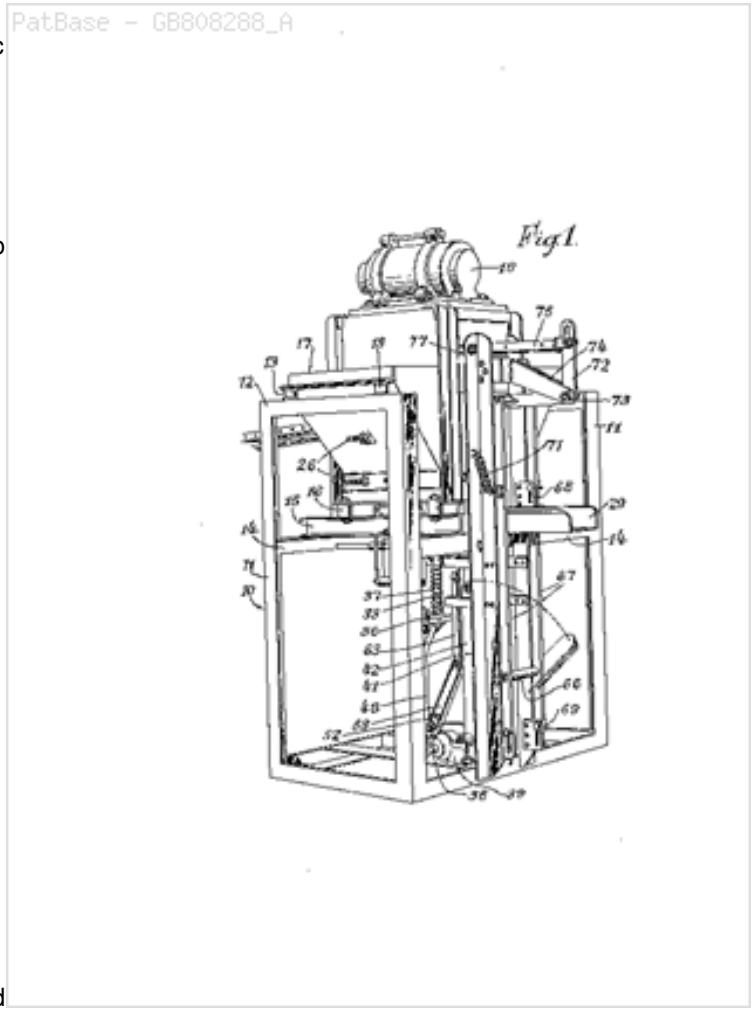
International class (IPC 1–7): B28B11/06

CPC: B28B11/06

European class: B28B11/06

Classification Explorer

Abstract:
Source: GB808288A 808,288. Coating bricks c with sand c. JOHNSON, J. A., and SEDGLEY, F. V. W. Jan 2, 1957 [Jan 17, 1956], No. 1606/56. Class 87(2). Granular material, e.g. sand, is applied from a sand box 17, which is mounted on a frame 10, to the surfaces of bricks, c., which have been raised into the box through a hole 19 in its base, and, after distribution, is embedded in said surfaces. Two pairs of opposing vertical plates 22, 23 are fixedly mounted on rods 26 in the box and vibrate therewith under the action of motor 18. Each brick passes upwardly on lift plate 31 through the vertical passage, of similar cross section, formed by these plates which have recesses 24 on their internal surfaces communicating through opening 25 with the sand mass in box 17. In operation sand passes through these openings, and after distribution, is embedded in the brick by the beating action of the vibrating plates. Lift plate 31 is raised by the initial clockwise movement of a rocking lever 41 which may be operated by the discharge mechanism, Fig. 8 (not shown) of the brick making press from which bricks are fed to the sanding apparatus. The top of lever 41 is connected by a link having parts 52, 53, the former of which is pivotally connected to a forked arm 47. This arm is coupled by a pivoted link 48 to a clevis 49 fixed beneath the table 31. The clockwise movement of the lever 41 is continued, and link parts 52, 53 are released for guided relative movement by the rotation of a cam 59, Fig. 6, which disengages the projections 58 of the blade springs 57 and the shoulders 56 of member 53 so that lever 41 now moves in contact with a rotatable bar 66 independently of the lift plate which thus returns to its lowered position under gravity. Vertical bars 67 which support bar 66 are thus forced downwards and rock a bell–crank lever 72 which moves a pusher plate 78 inwardly



so that sanded bricks are moved onto a conveyer 81. Specification 721,543 is referred to.

0) GB190418397A – IMPROVEMENTS IN CARPET SWEEPERS.

36) Family number: 36888831 (GB190418397A)

© PatBase

Title: Improvements in Carpet Sweepers.

Priority: 19040825

Family:

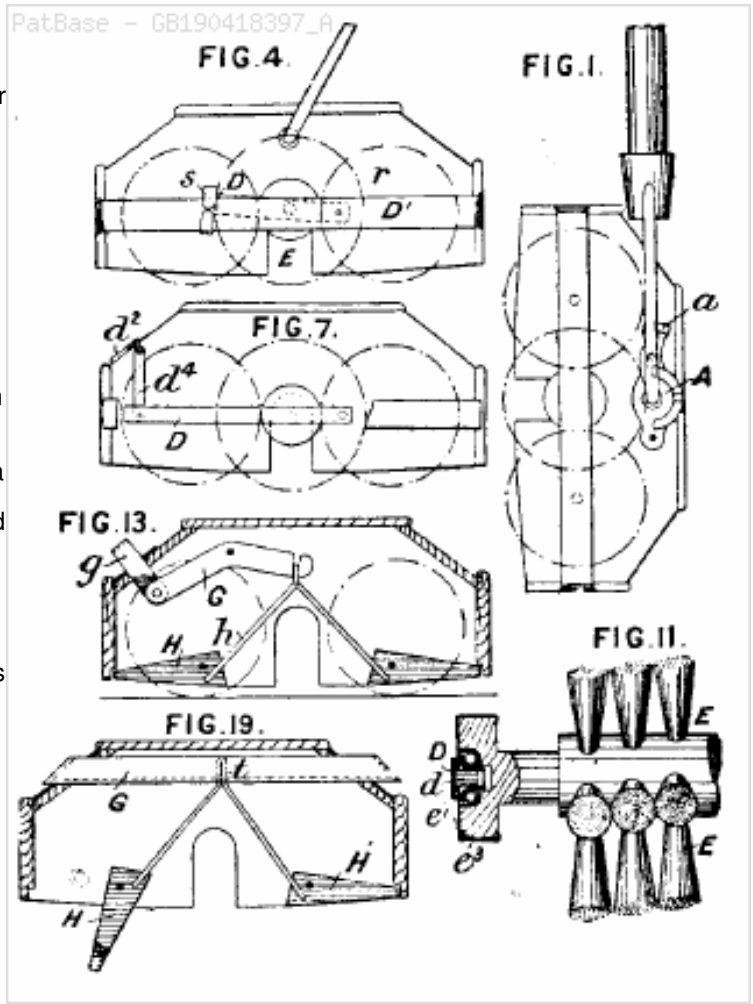
Publication number	Publication date	Application number	Application date
GB190418397 A	19050713		00000000

Probable Assignee: ENTWISLE AND KENYON LTD

Assignee(s):(std)**:** ENTWISLE AND KENYON LTD ; JAMES LIGHTFOOT SHORROCK ; WILLIAM HENRY KENYON

Assignee(s): ENTWISLE AND KENYON LIMITED

Abstract:
Source: GB190418397A 18,397. Entwisle and Kenyon, Kenyon, W. H., and Shorrock, J. L. Aug. 25. Carpet–sweepers.–A carpet–sweeper is constructed to attain the following objects, viz.:–the sweeper to be maintained in alignment with the handle when not in use, the brushes, working in dust–free ball bearings, to be adjustable as to height, and the dust–pane to be easily emptied and replaced. Fig. 1 shows how the sweeper is maintained in a line with the handle by means of the cam–piece A provided with a doubly–inclined projection a. As shown in Fig. 4, the brush E is mounted on a lever D, pivoted at r to the fixed rod D. The height of the brush is maintained by the friction clip s, which is fixed to the lever D. Fig. 7 illustrates a method of operating the lever by means of a link d attached at its other end by a crank to a rod d which can rotate. The lever D may also be actuated by a pivoted rod, the end of which works in a slot in the lever. Fig. 11 shows the method of mounting the brush axle in ball bearings. The socket e', which is either open or close ended, maintains the balls in position and is fixed to the trunnion d of the lever D. To exclude dust c., a flanged plate e is affixed. The dust–pans H are emptied by working the wires h, either by a pivoted lever G, as shown in Fig. 13, or by a rod a slot in which works upon a fixed pin, otherwise a rod G, traversing the case and provided with a vertical slot in which the loop t works, may be used, as illustrated in Fig. 19.



0) US3601238A – COIN SORTER ANVIL MOUNTING

37) Family number: 146407 (US3601238A) © PatBase

Title: COIN SORTER ANVIL MOUNTING

Priority: CA19690048656 19690414

Family:

Publication number	Publication date	Application number	Application date
CA887444 A	19711207	CA19690048656	19690414
DE2013734 A1	19701029	DE19702013734	19700321
GB1258222 A	19711222		19700223
US3601238 A	19710824	US19690849313	19690812

Probable Assignee: VENDALL MACHINES LTD

Assignee(s):(std)**:** VENDALL MACHINES LTD

Assignee(s): WILSON M STEWART ; VENDALL MACHINES LIMITED

Inventor(s):(std)**:** STEWART WILSON M

Inventor(s): WILSON M STEWART

International class(IPC 8–9)**:** G07D5/08 G07F1/04 (Advanced/Invention); G07D5/00 G07F1/00 (Core/Invention)

International class(IPC 1–7)**:** G07F3/02

CPC: G07D5/08 G07F1/048

European class: G07D5/08 G07F1/04K

US class: 194/101 194/321

Classification Explorer

Cited documents: US3168180 A, US2763356 A, US2076862 A, US1839874 A,

Forward Citations: US6378685, US4376480, EP1376483, DE2916829, DE2756105, DE2756104,

Abstract:
Source: GB1258222A 1,258,222. Testing coins. VENDALL MACHINES Ltd. 23 Feb., 1970 [14 April, 1969], No. 8505/70. Heading G4V. Coins of above a minimum size falling from shoot 11 in a channel between vertical plates are caught by a cradle (12, Fig. 1, not shown) which then tilts to deposit the coins on runway 9. Ferrous slugs are held by magnet (13, Fig. 2, not shown). The speed at which the coins leave runway 9 is affected by eddy currents induced by magnet 10. Fast moving coins of brass or other low conductivity metal strike anvil 21 and rebound to the left of separator 40. Genuine coins of silver or other medium conductivity metal leave the runway at an intermediate speed and fall to the right of separator 40, whilst slow moving copper coins, i.e. those of high conductivity fall to the left of the separator. Nickel coins, which would otherwise be stopped by magnet 10, are attracted by magnet 16 so that they swing open spring–biased gate 17 in plate (1) to travel along guide (18) at the rear of plate (1) until they fall through aperture 20 into the path of the other genuine coins, thus by–passing magnet 10. Stops (45, 46) limit the forward and rearward movement of gate 17 about pin (41). Anvil 21 comprises the lower part of sweeper 22 which is pivoted at 29 and biased by spring 32 against stop 33, whose position may be finely adjusted by screw 38 to control the normal position of anvil 21. On operation of a coin return lever, roller 23 is depressed, causing member 24 to pivot about 25. Pin 30 thereby produces a clockwise rotation of arm 22 so as to sweep coins held by magnet 10 into the coin return path, whilst cam 27 moves roller (28) so as to rotate plate (3) and thus move runway 9 from the path of arm 22.

PatBase - US3601238_A

PATENTED AUG 24 1971 3,601,238

SHEET 1 OF 3

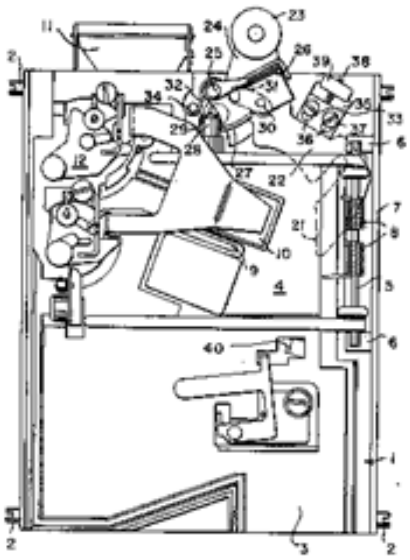


FIG. 1

INVENTOR
WILSON M. STEWART
BY
ATTORNEYS

0) US3337089A – ORIENTING HOPPER FOR BUTTON FEEDING MECHANISM

38) Family number: 23019597 (US3337089A) © PatBase

Title: ORIENTING HOPPER FOR BUTTON FEEDING MECHANISM

Priority: US19650469523 19650706

Family:

Publication number	Publication date	Application number	Application date
US3337089 A	19670822	US19650469523	19650706

Probable Assignee: BENJAMIN BRONFMAN

Assignee(s):(std)**:** BENJAMIN BRONFMAN

Inventor(s):(std)**:** BENJAMIN BRONFMAN

Inventor(s): BRONFMAN BENJAMIN

International class (IPC 8–9)**:** D05B3/22 (Advanced/Invention); D05B3/00 (Core/Invention)

International class (IPC 1–7)**:** D05B3/22

CPC: D05B3/22

European class: D05B3/22

US class: 221/160 453/3

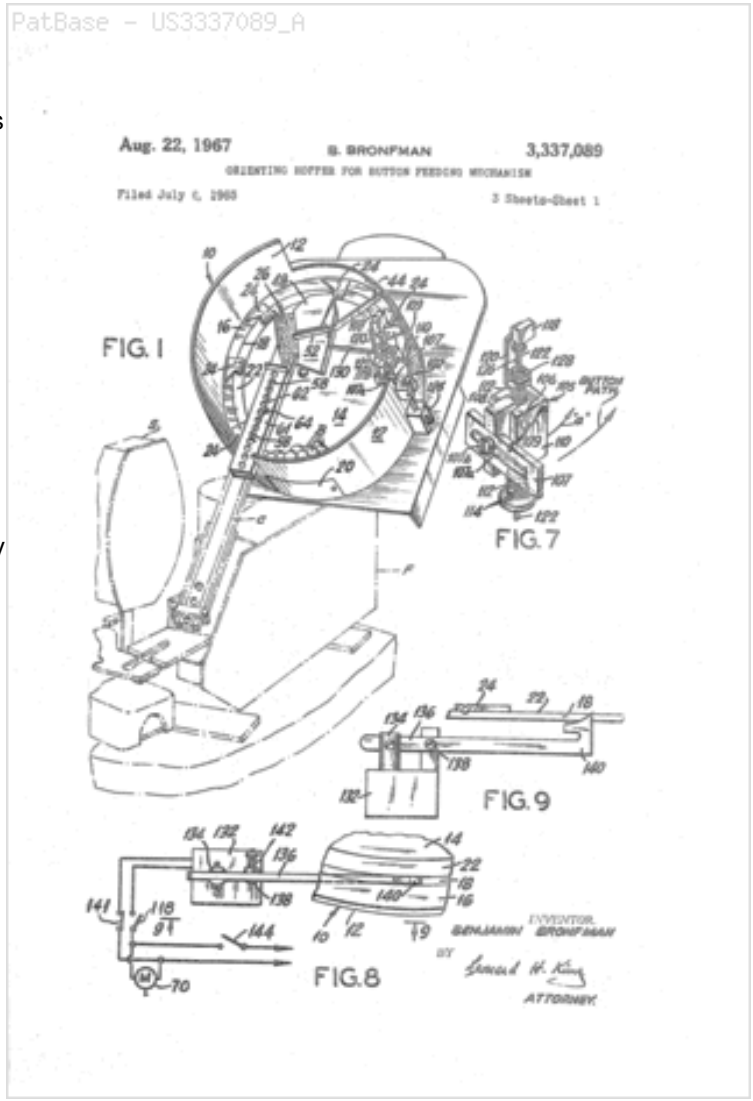
Classification Explorer

Cited documents: US887298 A, US2720209 A, US2639034 A, US2505468 A, US2211511 A, US1850148 A, US1664310 A,

Forward Citations: WO9107535, WO12056545, US9278771, US7647748, US7430839, US4884678, US4690077, US4496039, US4461380, US3870194, US3710920, US3643783, US3485333, US2010083478, US2008313999, US2005284108,

Abstract:
Source: US3337089A (Claim 1) 1. An improved hopper for holding a reserve supply of randomly faced buttons and for automatically delivering correctly faced buttons to a sewing machine button feeding attachment, said hopper comprising: (a) a button chamber adapted to hold the supply of randomly faced buttons said chamber including;]q (1) an upstanding circumferential wall devoid of any openings at the base thereof through which the buttons may pass; (2) a fixed base member having an annular space therein, said base member being rigidly secured at its periphery to said wall; and (3) a ring rotatably disposed within the annular space in said base member; (b) a plurality of angularly displaceable claw members secured to the upper surface of said ring for rota– tion therewith, each of said claw members being adapted to carry a button along a circumferential path; (c) means to intermittently move said claws along the circumferential path; (d) means to sense the facing direction of the button carried by one of said claws when said claw is stationary between intermittent movements; (e) means to eject an improperly faced button after it has been sensed; and (f) means to deliver a properly sensed button to the button feeding attachment.

PatBase - US3337089_A



0) GB1255031A – IMPROVEMENTS IN OR RELATING TO DISTRIBUTORS FOR...

39) Family number: 91442 (GB1255031A) © PatBase

Title: IMPROVEMENTS IN OR RELATING TO DISTRIBUTORS FOR DISTRIBUTING GRANULAR MATERIAL OVER THE GROUND

Priority: GB19680021957 19680509

Family:

Publication number	Publication date	Application number	Application date
AU206954200 A1	19701105	AU19690054200	19690430
BE732756 A	19691016		19690508
DE1922668 A1	19691113	DE19691922668	19690503
ES366996 A1	19710316	ES19690366996	19690509
FR2008159 A1	19700116	FR19690014958	19690509
GB1255031 A	19711124	GB19680021957	19680509
NL6907133 A	19691111	NL19690007133	19690509

Probable Assignee: BAMFORDS LTD

Assignee(s):(std)**:** BAMFORDS LTD

Assignee(s): BAMFORDS LIMITED

Inventor(s):(std)**:** BAMFORD RICHARD HAWTHORN ; HAWTHORN BAMFORD RICHARD

Inventor(s): RICHARD HAWTHORN BAMFORD

International class(IPC 8–9)**:** A01C15/06 A01C15/16 A01C7/08 A01C7/16 (Advanced/Invention); A01C15/00 (Core/Invention)

International class(IPC 1–7)**:** A01C15/00 A01C15/06 A01C15/16

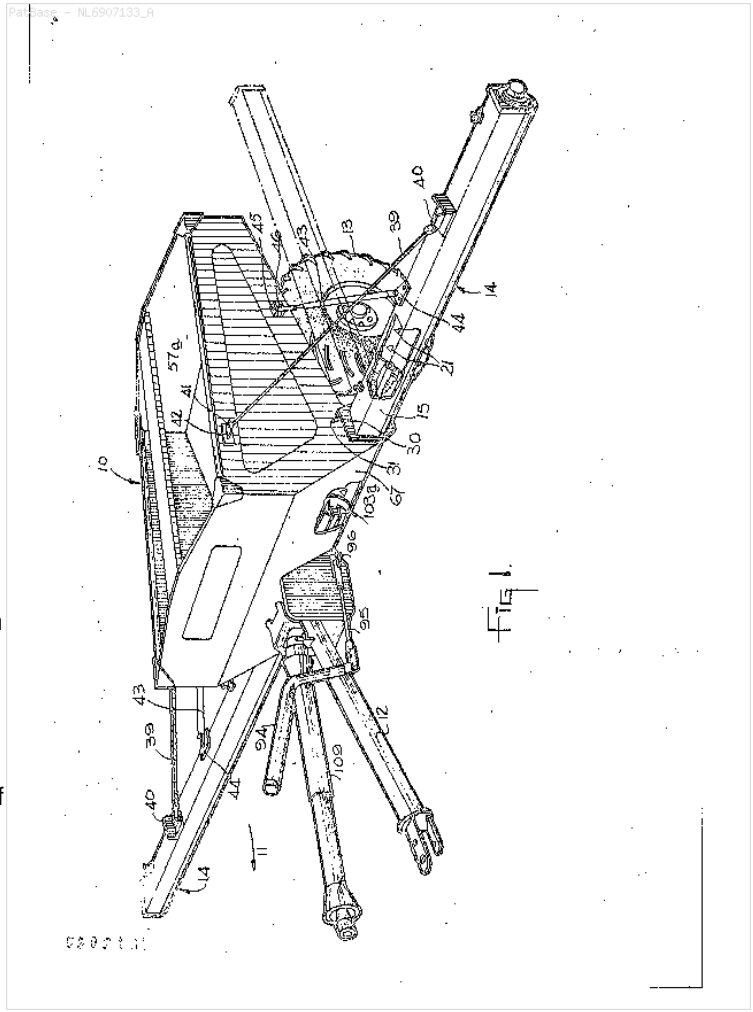
CPC: A01C15/06

European class: A01C15/06

Classification Explorer

Forward Citations: US9187866,

Abstract:
Source: GB1255031A 1,255,031. Granular material distributor. BAMFORDS Ltd. 25 April, 1969 [9 May, 1968], No. 21957/68. Heading AID. A distributor for granular material comprises a hopper 10, and at least one boom 15 having discharge outlets for the granular material and being moveable between an aperture position and a transport position (dotted lines Fig. 1). The booms are of tubular cross−section and contain feed means 48 preferably in the form of an archimedian screw with the blades 49 formed from flexible filamentary material. The booms pivot about an axis which is transverse to the length of the boom, or upwardly or at some intermediate inclined position and the transmission driving the feed means is automatically disengaged when the booms are pivoted into the transport position. The feed means is arranged to advance material along the length of the boom and to lift material to the level of the discharge outlets 20. The openings to the booms are closeable to prevent the delivery of material when the booms are in the inoperative position and the rate of delivery of the material is selectively variable. The material is carried at least partially by gravity from the hopper 10 to the subordinate chamber 65 which has a series of openings similar to the openings in the booms. The material is then acted upon by the feed means, which, in the central portion of the subordinate chamber comprise a member 103a which has straight vanes. The member 103a is mounted co−axially, or approximately so, with the screw augers 48. The feeding members are arranged so as to be easily removeable. In an embodiment Fig. 9 (not shown) a return screw auger 130 is provided for each boom to return excess material from the ends of the conveyor to the hopper. In a further embodiment Fig. 10 (not shown) the feed means comprises an endless belt whose upper run carrier material along the booms and whose lower run returns the excess material to the hopper. Paddles are provided to lift the material to the outlet openings.



0) FR1272373A – DISPOSITIF POUR DEBARRASSER L'ALLEE D'UN JEU DE...

40) Family number: 23003645 (FR1272373A)

© PatBase

Title:	DISPOSITIF POUR DEBARRASSER L'ALLEE D'UN JEU DE QUILLES DE SES BOULES ET DE SES QUILLES DEVICE TO DISPOSE OF THE ALLEY BOWLING BALLS AND ITS HIS BOWLING (Machine translation)
Priority:	FR19600842549 19601028

Family:

Publication number	Publication date	Application number	Application date
FR1272373 A	19610922	FR19600842549	19601028

Probable Assignee:	PHILIPS NV
Assignee(s):(std):	PHILIPS NV
Assignee(s):	N V PHILIPS GLOEILAMPENFABRIEKEN
International class (IPC 8–9):	A63D5/08 (Advanced/Invention); A63D5/00 (Core/Invention)
International class (IPC 1–7):	A63D5/06
CPC:	A63D5/02 A63D5/08
European class:	A63D5/08

Classification Explorer

Abstract:
Source: FR1272373A (Claim 1) 1. Dispositif pour enlever les boules et les quilles de l'allee d'un jeu de quilles, caracterise par le fait qu'il est dispose au–dessus de ladite allee et qu'il comprend un balai fixe a une tige de balayage s'etendant perpendiculairement a l'allee et anime d'un mouvement de va–et–vient dans la direction longitudinale de cette allee, cette tige de balayage etant articulee a une tige de suspension susceptible de pivoter autour d'un axe fixe dans l'espace et comportant un mecanisme pour imprimer a cette tige de suspension une oscillation autour d'une position moyenne, de preference pratiquement verticale, alors qu'a la tige de balayage est articulee une tige de levage, de preference perpendiculaire a la tige de suspension et comprenant en outre un mecanisme pour imprimer a cette tige de levage une oscillation autour d'une position moyenne, de preference pratiquement horizontale, les deux mecanismes d'oscillations etant accouples entre eux de facon telle que le balai se trouve plus pres de la surface de l'allee pendant son mouvement d'aller que pendant son mouvement de retour.

Machine translation: (Claim 1) 1. Device for removing the pins and the balls of the path of a bowling, characterized by the fact that it is prepared above said aisle and comprises a fixed brush has a stem extending scanning perpendicular to the alley and animated by a movement back and forth in the longitudinal direction of the alley, the scanning rod being hinged to a suspension rod pivotable about an axis fixed in space and having a mechanism to print this suspension rod has an oscillation about a mean position, preferably substantially vertical, whereas the rod is hinged scanning a

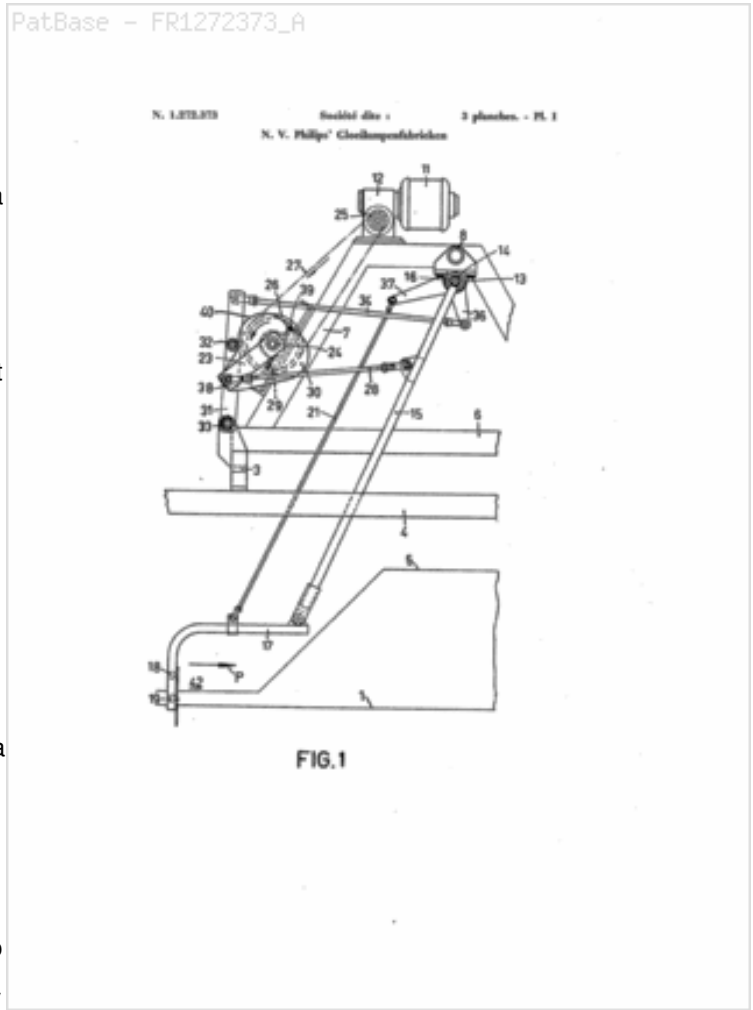


FIG.1

lifting rod, preferably perpendicular to the suspension rod and comprising further mechanism to print the lift rod has an oscillation about a mean position, preferably substantially horizontal, the two mechanisms of oscillations being coupled together so that the brush is more near the surface of the allee during its movement to go that during its return movement.

41) Family number: 31306421 (US2870261A) © PatBase

Title: ARRANGEMENT OF SUBSCRIBERS' CIRCUITS IN ELECTRONIC TELEPHONE EXCHANGES

Priority: 19540804 DE1955N011001 19550731 DE1955P014566 19550729 DE19803018544 19800514 DE1956N012534 19560726 DE1956N012533 19560726 US19550523901 19550722 US19560592843 19560621

Family:

Publication number	Publication date	Application number	Application date
BE549884 A	19570128		00000000
BE549911 A	00000000		00000000
CH333037 A	19580930		19550804
CH354811 A	19610615		19560728
DE1004674 B	19570321	DE1956N012534	19560726
DE1045451 B	19581204	DE1956N012533	19560726
DE1232241 A	00000000		00000000
DE1232241 B	19670112	DE1955P014566	19550729
DE3018544 A1	19811119	DE19803018544	19800514
DE3018544 C2	19850207	DE19803018544	19800514
DE951014 A	19561018	DE1955N011001	19550731
DK213581 A	19811115	DK19810002135	19810513
FI811476 A	19811115	FI19810001476	19810513
FR1128810 A	19570110		19550803
FR1156990 A	19580523		19560726
FR1167718 A	19581128		19560730
GB333974 A	19300828	GB19290017255	19290605
GB774959 A	19570515	GB19550022012	19550729
GB800657 A	19580827	GB19560023294	19560727
GB809090 A	19590218	GB19560023139	19560726
NL189724 B	00000000		00000000
NL189724 C	19930701	NL19810002207	19810506
NL209353 A	00000000		00000000
NL8102207 A	19811201	NL19810002207	19810506
NL84695 C	00000000		00000000
NL87359 C	00000000		00000000
NO811533 A	19811116	NO19810001533	19810506
SE436509 B	19841217	SE19810002653	19810427
SE436509 C	19850328	SE19810002653	19810427
SE8102653 A	19811115	SE19810002653	19810427
SE8102653 L	19811115	SE19810002653	19810427
US2854579 A	19580930	US19550523901	19550722
US2870261 A	19590120	US19560592843	19560621

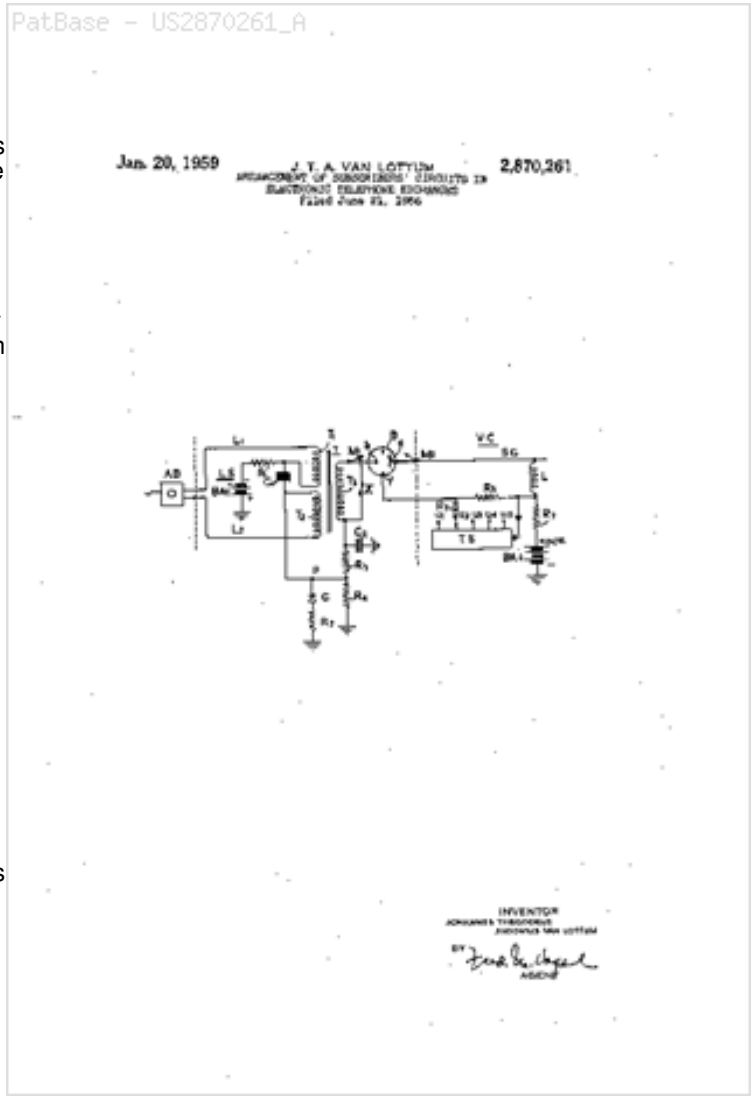
Probable Assignee: NORTH AMERICAN PHILLIPS COMPAN

Assignee(s):(std)**:** ACTIVATED SLUDGE LTD ; AUG WINKHAUS ; AUG WINKHAUS FA ; PHILIPS NV ; PHILIPS CORP ; PHILIPS ELECTRICAL IND LTD ; NORTH AMERICAN PHILLIPS COMPAN ; FIRMA AUG WINKHAUS TE TELGTE BONDSREPUBLIEK DUITSL ; JAMES ALGER COOMBS ; WINKHAUS A ; WINKHAUS FA AUGUST ; PHILIPS PATENTVERWALTUNG ; WINKHAUS AUG ; WINKHAUS AUGUST FA

Assignee(s): PHILIPS PATENTVERWALTUNG G M B H ; PHILLIPS ELECTRICAL INDUSTRIES LIMITED ; ACTIVATED SLUDGE LIMITED ; PHILIPS PATENTVERWALTUNG GMBH ;

	FIRMA AUG WINKHAUS TE TELGTE BONDSREPUBLIEK DUITSLAND ; PHILIPS GLOEILAMPENFABRIEKEN NV ; NORTH AMERICAN PHILIPS CO INC ; NORTH AMERICAN PHILLIPS CO INC ; FA AUG WINKHAUS ; FA AUG WINKHAUS 4404 TELGTE DE ; FIRMA AUG WINKHAUS ; N V PHILIPS GLOEILAMPENFABRIEKEN ; PHILIPS ELECTRICAL INDUSTRIES LIMITED ; NORTH AMERICAN PHILLIPS COMPANY INC ; NORTH AMERICAN PHILIPS COMPANY INC
Inventor(s):(std)**:**	DE VRIJER FREDERICK WILLEM ; FREDERIK WILLEM DE VRIJER ; GRUNEL FRIEDRICH WILHELM ; KORTENBREDE L ; KORTENBREDE LUDGER ; NAUTA CORNELIS ; THEODORUS ANTONIUS VAN LOTTUM ; VERSTER NICO FREDERICK ; L KORTENBREDE ; LOTTUM JOHANNES THEODORUS ANTO ; VRIJER FREDERIK WILLEM DE
Inventor(s):	WILLEM DE VRIJER FREDERIK ; LOTTUM JOHANNES THEODORUS ANTONIUS VAN ; ANTONIUS VAN LOTTUM JOHANNES THEODORUS ; VRIJER FREDERICK WILLEM DE ; KORTENBREDE LUDGER 4404 TELGTE DE
International class (IPC 8–9)**:**	B01D21/00 E05B67/00 H01H36/00 H01H5/02 H03K5/02 H03L7/18 H03L7/183 H04N5/06 H04Q3/52 (Advanced/Invention) ; B01D21/00 E05B67/00 H03K5/02 H03L7/16 H04N5/06 H04Q3/52 (Core/Invention)
International class (IPC 1–7)**:**	B01D21/18 C02C1/34 E05B65/36 E05B67/00 E05B67/02 E05B67/06 E05B67/24 E05B67/36 E05B7/00 E05B71/00
CPC:	H04Q3/525 H01H5/02 H01H36/0073 H01H2003/506 H03L7/18 H03L7/183 H04N5/06 E05B67/003 H03K5/02
European class:	85C6A 85C6E1A 95C20B B01D21/06 B01D21/24A B01D21/24A4 B01D21/24N E05B67/00B H01H36/00C H01H5/02 H03K5/02 H03L7/18 H03L7/183 H04N5/06 H04Q3/52L T01H3/50C
US class:	327/115 327/117 331/16 331/175 331/18 331/23 331/51 331/76 348/E05.011 348/E5.011 379/413
Classification Explorer	
Cited documents:	US2773934 A, US2766326 A, US2715656 A, US2521789 A, DE699682 A, DE6944529 U, DE520540 A, DE402597 A, DE333312 A, DE260167 A,
Forward Citations:	WO9412997, WO07082511, US5864272, US4933014, US4923519, US3851108, US3383619, US3375448, US3369205, US3333695, US3260821, US3251003, US3217267, US3190964, US3165706, US3163823, US3134857, US2985725, US2649412, US2418189, FR2804240, FR2698720, EP0476318, EP0476260, DE978013, DE4230813, DE3335662, DE19937126, DE1640426, DE1271243, DE1260523, DE1208137, DE102010029817,

Abstract:
Source: GB333974A 333,974. Coombs, J. A., and Activated Sludge, Ltd. June 5, 1929. Gravity–separation apparatus.– Matter deposited on the floor of a settling tank is swept or moved centrifugally into pits or sumps provided beyond the edge of the floor. Sewage or other liquid is supplied to the tank 1, Fig. 6, through a central vertical pipe 12 which delivers into a container 12, which is closed at the bottom and directs the liquid upwards into a cylindrical casing 13, from which it passes downwards and is distributed to flow outwardly through the tank, so that solid matter settles on the floor, the clear liquid overflowing into a circumferential effluent trough 9. The settled solid matter is moved from the floor, which is preferably inclined, by rotary sweepers or scrapers 3 and pushed into sumps 7, which may be arranged circumferentially around a circular tank or situated in the corners of a rectangular one. The flow of liquid to the channel 9 may be regulated by means of a vertical cylindrical perforated baffle 20. The liquid is initially supplied to either end of a hollow cross–beam 25 and passes thence to the pipe 12. The arms carrying the scrapers have wheels 16 travelling' on a rail 4 and their inner ends are hinged to the container 12x which is carried by a shaft 14, rotated in bearings in the cross–beam 25 by a motor 27 and worm gearing 26. In the form shown a central sump 32 is provided, the solid matter settling therein being directed to an outlet pipe 34 by scrapers on a frame 13. Vanes or blades 28 which give a rotational movement to the liquid may be provided within the casing 13, these being fixed either to the casing or to the container 12x. Sludge collecting in the sumps 7 may be raised by air lifts to an annular discharge channel 11. The upper edge of the baffle or partition 20 may be formed as an overflow trough similar to and connected with the trough 9. In an arrangement shown in Fig. 1, a rectangular tank is provided with branch overflow troughs 9 extending diagonally over the sumps 7 at the corners and communicating with the trough 9. A modification is described in which an annular channel is provided between the sumps 7 at the edge of the floor and additional sweeping devices at the end of the rotary scraper arms push the matter collecting in the channels into the sump.



0) EP1180320A2 – LAWN TRACTOR RASENTRAKTOR TRACTEUR–TONDEUSE

42) Family number: 17734374 (EP1180320A2) © PatBase

Title: Lawn tractor

Priority: DE20002014087U 20000816 DE20015010216 20010808

Family:

Publication number	Publication date	Application number	Application date
CZ20012679 A3	20020417	CZ20010002679	20010723
CZ298513 B6	20071024	CZ20010002679	20010723
DE20014087 U1	20010118	DE20002014087U	20000816
DE50110216 D1	20060803	DE20015010216	20010808
EP1180320 A2	20020220	EP20010118764	20010808
EP1180320 A3	20040714	EP20010118764	20010808
EP1180320 B1	20060621	EP20010118764	20010808

Probable Assignee: BAUER FRANK

Assignee(s):(std)**:** BAUER FRANK

Inventor(s):(std)**:** BAUER FRANK ; ROTHEL MANFRED ; ROETHEL MANFRED

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

International class (IPC 8–9)**:** A01B51/02 A01D34/64 A01D34/68 A01D42/00 B62D49/06 F16C19/54 F16C35/06 F16D13/40 (Advanced/Invention); A01B51/00 A01D34/63 A01D34/67 A01D42/00 B62D49/00 F16C19/00 F16C35/04 F16D13/00 (Core/Invention)

International class (IPC 1–7)**:** A01B51/02 A01B71/06 A01D34/64 A01D34/68 A01D42/00 B62D49/06 F16D13/40

CPC: F16C19/54 F16C35/061

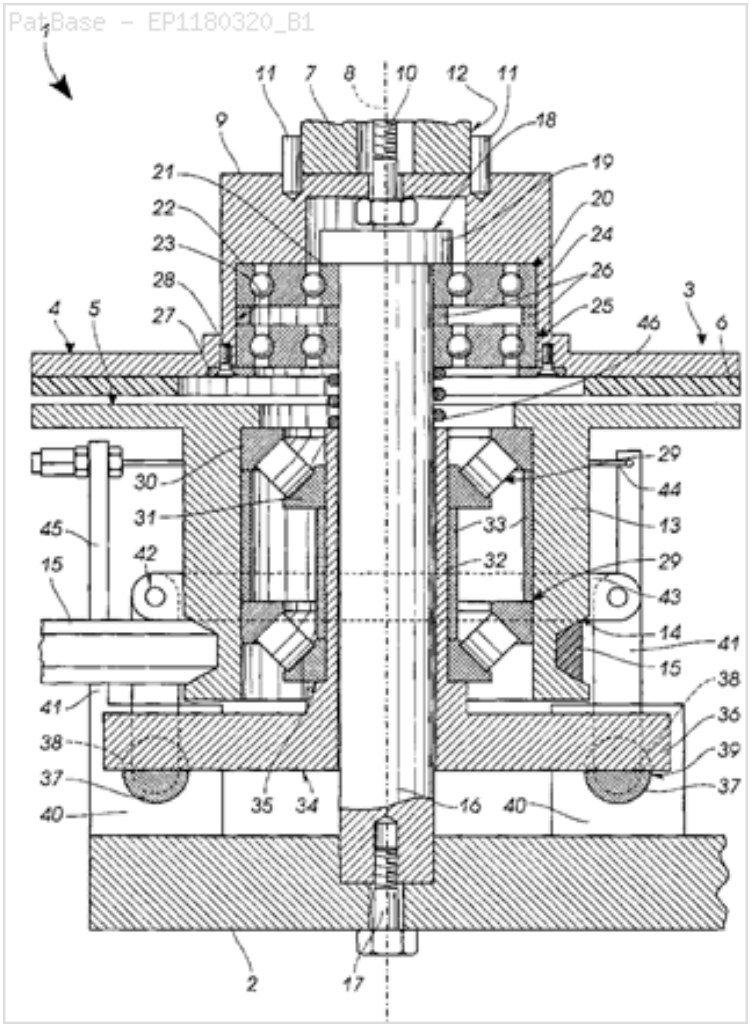
European class: F16C19/54 F16C35/06D

Classification Explorer

Cited documents: US5117617 A, US3871159 A, US2993329 A, US2706545 A, FR1263233 A, DE9315842 U, DE20014087 U1, DE20007388 U1,

Forward Citations: WO03085277, US6715913, EP1180320,

Abstract:
The lawn tractor (1) is equipped with a clutch (3), fitted with a first clutch disc (4), which is permanently joined to the vertical drive shaft (7). The second clutch disc (5) works in combination with the power take off. Various tools and devices can be started and switched off while the engine of the tractor is running. Attachments can also be exchanged because the transmission is interrupted by the clutch.



0) DE357461A – MOTORPFLUG MIT AN EINEM ZWEIRAEDRIGEN MOTORKARR...

43) Family number: 18576310 (DE357461A) © PatBase

Title: MOTORPFLUG MIT AN EINEM ZWEIRAEDRIGEN MOTORKARREN ANGELENKTEN, DIE PFLUGRAHMEN TRAGENDEN, AUF RAEDERN LAUFENDEN TRAGRAHMEN MOTOR PLOW WITH ON A TWO MOTOR CART articulated, THE PLOUGH FRAME BEARING, wheeled CURRENT SLING (Machine translation)

Family:

Publication number	Publication date	Application number	Application date
DE357461 A	19220825		00000000

Probable Assignee: POEHL WERKE ZWEIGNIEDERLASSUNG

Assignee(s):(std)**:** POEHL WERKE ZWEIGNIEDERLASSUNG

Assignee(s): POEHL WERKE ZWEIGNIEDERLASSUNG DER MASCH U KRANBAU AKT GES ZU DUESSELDORF ; POEHL WERKE ZWEIGNIEDERLASSUNG DER MASCHINEN UND K ; POEHL WERKE ZWEIGNIEDERLASSUNG DER MASCHINEN UND KRANBAU AKT GES ZU DUESSELDORF

International class (IPC 8–9): A01B3/56 (Advanced/Invention); A01B3/00 (Core/Invention)

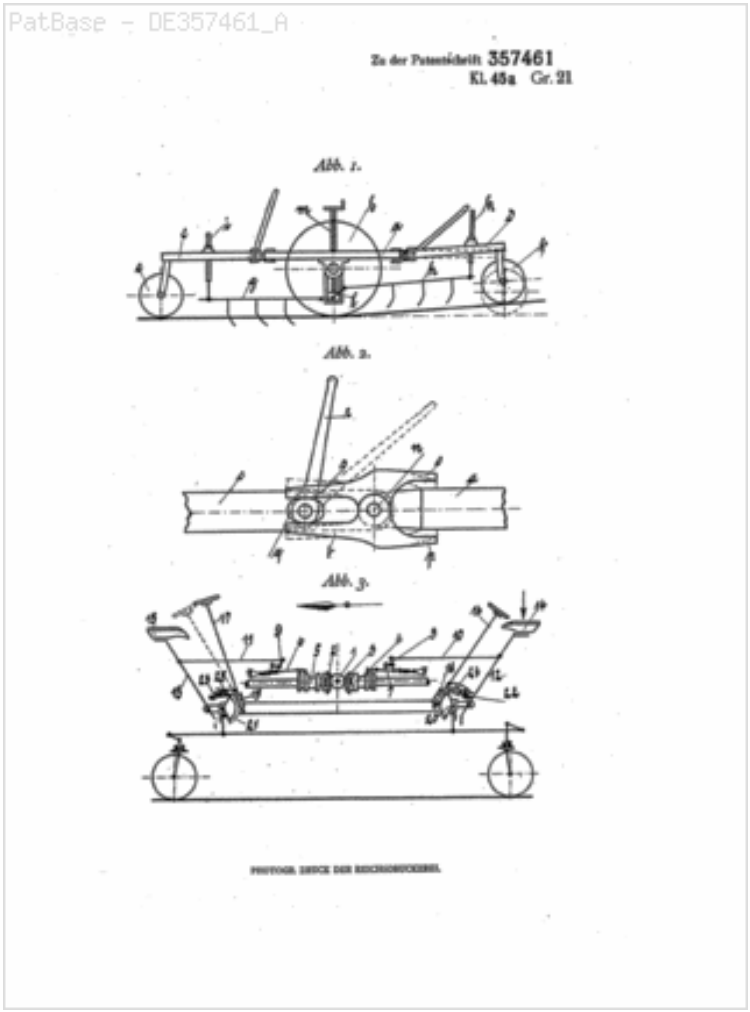
International class (IPC 1–7): A01B3/56

CPC: A01B3/56

European class: A01B3/56

Classification Explorer

Abstract:
Source: DE357461A [Source: Claim 1] 1. [Source: Claim 1] 1



0) SU995722A – MACHINE FOR FILLETTING FISHES

44) Family number: 2763950 (SU995722A) © PatBase

Title: MACHINE FOR FILLETTING FISHES

Priority: SU19813275225 19810409

Family:

Publication number	Publication date	Application number	Application date
SU995722 A1	19830215	SU19813275225	19810409

Probable Assignee: PROIZV T OB TEKHRYBPROM O

Assignee(s):(std)**:** PROIZV T OB TEKHRYBPROM O

Assignee(s): O PROIZV T OB TEKHRYBPROM

Inventor(s):(std)**:** AVDONKIN FEDOR N ; KAZHARIN EVGENIJ I ; LAVRENTEV BORIS F ; MARKOV VLADIMIR F ; SEMYANOV ARKADIJ P

Inventor(s): SEMYANOV ARKADIJ P SU ; MARKOV VLADIMIR F SU ; LAVRENTEV BORIS F SU ; KAZHARIN EVGENIJ I SU ; AVDONKIN FEDOR N SU

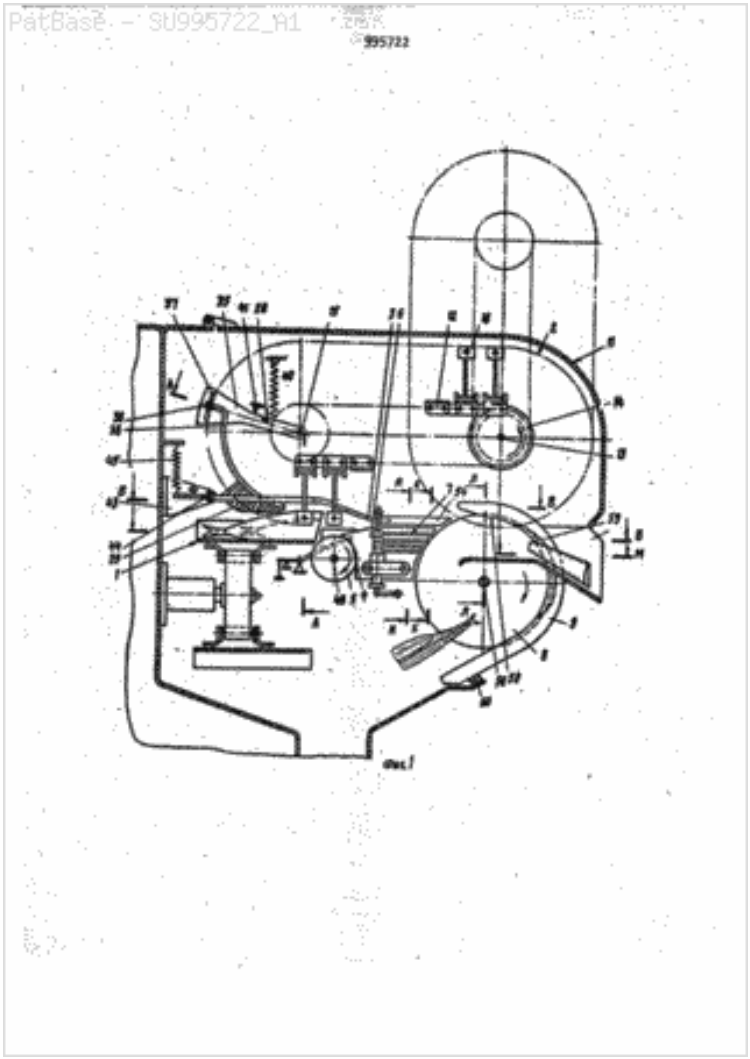
International class (IPC 8–9): A22C25/16 (Advanced/Invention); A22C25/00 (Core/Invention)

International class (IPC 1–7): A22C25/16

Classification Explorer

Forward Citations: US5391167,

Abstract:



Source: SU995722A 1 Invention relates to the fishing industry, namely, fish processing equipment, and can be used on shore and floating enterprise–x for Mfr (edstve and canned fish cookery. mrshina known for fish filleting containing perpendicularly disposed relative to one another and filleted cutting parts, the first of which consists of operating conveyor chutes, fortified with the possibility of a cyclic motion, and set him over the tools for cutting fish for fish, and the second includes conveyor and placed along a knife for cutting the abdomen, rasplastyvatel with clamps and filleted knives f. disadvantage of this machine is of limited use as it is intended to be the certain species of fish, as well as low productivity. closest to the invention, the technical essence and the achieved result is a machine for filetiravani fish, comprising one–. diet conveyor positioned above them tools for cutting fish for fish, multistrand conveyor for moving the fish in the process and filetiryuvani. installed along each ruch perehbdnoy tray, knife for cutting the abdomen, paciinactyvatel, top and side clamps and filleted knives, with multistrand pipeline consists of several branches with pads, the inner surface of which is shaped by (| yurme poperechyogr sectional TE20 la fish C 2. . In the known machine provided high quality filleting fish with high performance, however it is achieved by processing of small fish in a relatively small ra–dimensional range. When processing a medium–sized fish (Z O–rAOO mm) machine is difficult to provide reliable centering filetirova fish before, because the difference in size would ry thickness is more significant when using transporting pad must make them replace the Mi and sort fish. The purpose of the invention – the expansion pa dimensional range of processed fish and improving quality by providing filetirova no centering languid fish.. The goal is achieved by those in the car d–l filleting fish containing feed conveyor, many streams conveyor for moving the fish in the process of filleting and races laid along ruch each transition the output tray, a knife for cutting the abdomen rasplastyvatel, top and side clamps and filleted knives multistrand conveyor is provided with transverse plates, each of which are mounted in the grips if honors corresponding to the number on the axis of the stream and multi–ribbed conveyor located by feeding KOHBeifepa, set hingeably frame with cantilever lennymi strengthen her by number of streams pushers with brushes at the ends, with each plate grips kinematically coupled with the frame, and the upper clamps are designed as fixed on the guide shafts with slanted toward movement of fish Profiling slats. Side clamps are mounted on hollow shafts, and above them on rotary axes, placed in hollow shafts side clamps, fitted associated sectors and spring–loaded flap for centering the tail of the fish. The machine is equipped with a set of knives for filleted arched slats with bevels or fillets for section. Fig. 1 schematically shows a machine for filleting fish, a side elevational view; Fig. 2 – section A–A in Fig. One; Fig. 3 – section B–B in Fig. One; Fig. – Section B–B in Fig. One; Fig. 5 – section A–A in Fig. 4; Fig. 6 – section E–E in Fig. 5; Fig. 7 is a section F–F in Fig. 5; Fig. 8 – I–section and Fig. One; Fig. K–9 K–sectional view of Fig. One; Fig. 10 – cut LL Fig. One; to–Fig. 11 – M–M sectional view of Fig. One; Fig. 12 – section of H–H in Fig. 3. Machine for filleting fish comprises a feed conveyor 1 with trays for fish, multistrand 2 conveyor for moving the fish filleting process, overloading mechanism, the upper clamps 3, transitional trays k, 5 knives for cutting the abdomen, rasplastyvateli 6, side clamps 7, filleted knives 8, 9 dividing strips, trays for removing fillets 10 and the housing 11. Banded conveyor 2 comprises two chains 12, the traction, the driving shaft 13 with the sprockets 15 fixed to the axis of the driven sprocket 16. on the traction chains 12 are rigidly fastened two or more groups of transverse plates 17. Each plate carries the grippers 18 whose number equals the number of streams and filleted which are symmetrically arranged relative to the latter. Hooks 18 are comprised of a lever 19 mounted on shafts 20 and bonded pairs sector gear 21 and spring 22. Worksurface seizures (sponges) have grooved pad 23 – Between each pair of jaws 18 on the plates 17 are adjustable stops 2k, providing optimum the gap between the jaws when they are in the operating state, for the passage of the blades filleted. At opposite ends of the jaws of the levers 19 fastened rollers 25, 26 interacting with cams. The outer side provided with gripper jaws spherical protuberances 27 necessary for unimpeded passage between the side clamps jaws. Gripping a fish may be provided one or more grippers, depending on the size of the fish (given embodiment with two grippers). Each group of plates 17 is provided with two grippers 18 flanged mechanisms 28. Carrier mechanism comprises a housing 29 with a rod 30 therein, a spring–loaded by a spring 31. Rod 30 coupled to a lead 32 on the end of

which a roller 33 cooperating with a cam mounted axis 15. overload mechanism is configured as a frame formed by two crowns 35 and Stein article zhkoy SC, mounted on bracket 15 with the axis to pivot around it. Each bracket has a recess 37 in which flax strengthen appropriate end tie–rods 36 on the frame according to the number of streams filleted cantilever reinforced pushers with brushes 38 39 – For the impact gate frame in the original position is designed spring LO and to limit its progress with this – stay 4 Adjusting pushrod stroke 38 is performed by moving the tie rods in the SC–pazah37 Each upper clamp 3 is mounted on the guide 2, fortified to the possibility of turning to the bracket 43 with the axis 44. The guide 42 in this case is designed as a U–shaped bracket. Prifilirovannym clamp 3 is on the back of fish and tilt toward the feeder fish. Spring 54, which is provided with a guide, provides a snug fit to the clip 3 back fish.Pushers 38 with brushes pass inside the guide providing a clear recording of the first with respect to fish, for which each guide is mounted directly above the tray feed conveyor. 3 nip length is designed so that it detects fish, starting from the transition 4 to the middle tray rasplastyvatel 6. For cutting knives 5 are mounted at the abdomen transition trays 4 on a common shaft 46. Rasplastyvatel 6 is inclined towards the knives 5 podrezakytsim edge 47 and the upper horizontal edge 48. 7 Side clamps are mounted on hollow shafts 49, located on a common base plate 50. Inside axes 49 set associated toothed sector E 51 and springs 52 53 axle bearing upper clamping flap 54, is ensured alignment and fiksirova of the tail of the fish coring process fileychikov. Fish hooks held in the district of prigolovno cutoff tail of it remains uncommitted, that if there is no pressing flaps 54, would negatively affect the quality of filleting. On hollow shafts 49 are movably mounted clamps 7, the spring–loaded torsion spring 55. These clamps ensure pressing of fish abdominal flaps rasplastyvatelyu to 6. Filleted blades 8 are mounted on a common shaft 56 by means of hub 57, which enables regulation. Vat gap between them. Isolating strips E intended for separating fillets have an arcuate shape, a front edge 58 adjacent to the blades, and the bevels 59, deflecting file.na for discharging trays 10. Slats are mounted on axle 60. Dampers 61 serve to prevent the displacement of adjacent fish hooks disclosed. The machine works as follows. Decapitated and eviscerated fish trays conveyor 1 is fed into position belly down in the zone filleting. At the time of the stop–trays. filleted fish streams opposite rods 30 of the driving mechanism mounted on the conveyor 2, while the latter movement abut the brackets 35, and with an overload mechanism for pushers 38 rotates about axis 15. tappets 39 with brushes thus lowered and the fish is moved from the tray conveyor 1 to Tray 4 transition to the knives for cutting the abdomen. extending inside the U–shaped guide 42. Moving fish sliders with brushes going until until she zazhmets grippers 18. Prix, the rollers 25 captures previously been disclosed, gathering t–cams 26, and under the action of the springs 22 and 21 sectors both arms synchronously converge and capture fish. Simultaneously, the rollers 33 of the driving mechanisms 28 t converging cams 34 by springs 31 of the rod 30 extend from the contact with the brackets 35 and 40 under the action of the spring overload mechanism returns to its initial position. At the same time the fish being moved along the chute 4, 5 knives sheared abdomen. When fed larger fish, then due to the fact that the tray 4 is biased, it is lowered, and the depth of the cutting in a large fish uveichivaets. Cutting the fish fed on rasplastyvatel 6 with 7 Khrebtova bone misses her first on the slope ing edge 47 rasplastyvatel. Due lifting edge 7 and the pressing clamp 3 on it pri.vyhode Hor tal edge 48 rasplastyvatel It appears tightly crimped at last. All this, together with the centered position grippers 18, causes the exact alignment of filleted fish before knives. When driving on fish rasplastyva Tieliu 6 abdominal wall fish are pressed with a rasplastyvatelyu clamps 7 and back and fish tail portion complementarity tsentriruyuts sweeper 54. Thus stsentrirovanna with high precision and with tight to rasplastyvatelyu ventral valve fish fed to two parallel set filetiruyuschi knives 8 kbtorye separated from the two fish fileychika, cutout spinal and rib bones. In the process of filleting in the first initial moment of holding up fish from bias and influence provided a complete cut through the front edge 58 of arcuate cross members 9 on the back of the fish. Upon further movement fileychiki hit the bevels 59 strips 9 to deflect them on trays 10 for discharging Khrebtova piece of fish with bones deflected strips down and withdrawn from the tray othodbv. The proposed machine is provided reliable transfer of cutting–oriented fish filleted in part with great performance. Application groups seizures for transporting fish processing capability is ensured chalk cal and medium–sized fish, with good hold of it, the tail of the fish, which contributes to a good quality filleting. And highly productive machine logabaritna m, which is essential in ex pluatatsii its fishing conditions in annual economic effect from the introduction of a single machine will be P4, 4 th. February 8 Claims 1.Machine for filleting fish comprising a feed conveyor, multistrand conveyor for moving the fish during filleting, and along each ruch transition tray, a knife for cutting of the abdomen, rasplastyvatel upper and filleted side clamps and the blades, characterized in that, for the purpose of expansion processed fish size range and increasing the quality of the filleting by providing accurate centering of fish, multistrand transverse conveyor provided with plates on each of which the grippers are mounted in an amount corresponding to the number of streams, but in multi–ribbed conveyor axis positioned by the feeding conveyor, hingeably mounted frame with cantilever fixed on it by number of streams pushers with brushes at the ends, while seizures of each plate is kinematically coupled to the frame, and the upper clamps are designed as fixed on the guide shafts with slanted toward movement profiled bars.. 2.Mashina according to claim 1, characterized as that the side clamps are mounted on hollow shafts and above them on rotary shafts arranged in the hollow shafts of the side clamps are installed and associated sectors resilient flap for centering the tail part of the fish. 3.Mashina according to claim 1, for t h and l and Forgiving and the fact that it is provided for established filleted knives arched beveled strips to separate fillets.. Sources of information received into account in the examination 1.Avtorskoe USSR certificate number 562 258, cl. A 22 C 25/1A, 1975. 2.Avtorskoe evidence on the application of the USSR ? 32i48l20/28–13, cl. A 22 C 25/16, 19VO. Ft. w–w srig. 6 / /–l. 5 5J 5L7 5 .7 k to Fig. MM

0) FR2334443A – DISPOSITIF D'EVACUATION DES PIECES OBTENUES A L...

45) Family number: 3593995 (FR2334443A)

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Title: DISPOSITIF D'EVACUATION DES PIECES OBTENUES A LA PRESSE AUTOMATIC EJECTION DEVICE FOR COLD PRESSES – HAS ROCKER ARM FITTED TO PRESS DRIVE SHAFT TO ACTUATE SWEEPER ARM

Priority: FR19750038187 19751212

Family:

Publication number	Publication date	Application number	Application date
FR2334443 A1	19770708	FR19750038187	19751212
FR2334443 B1	19780512	FR19750038187	19751212

Probable Assignee: RENAULT

Assignee(s):(std)**:** RENAULT

International class(IPC 8–9)**:** B21J13/14 B30B15/32 (Advanced/Invention); B21J13/00 B30B15/32 (Core/Invention)

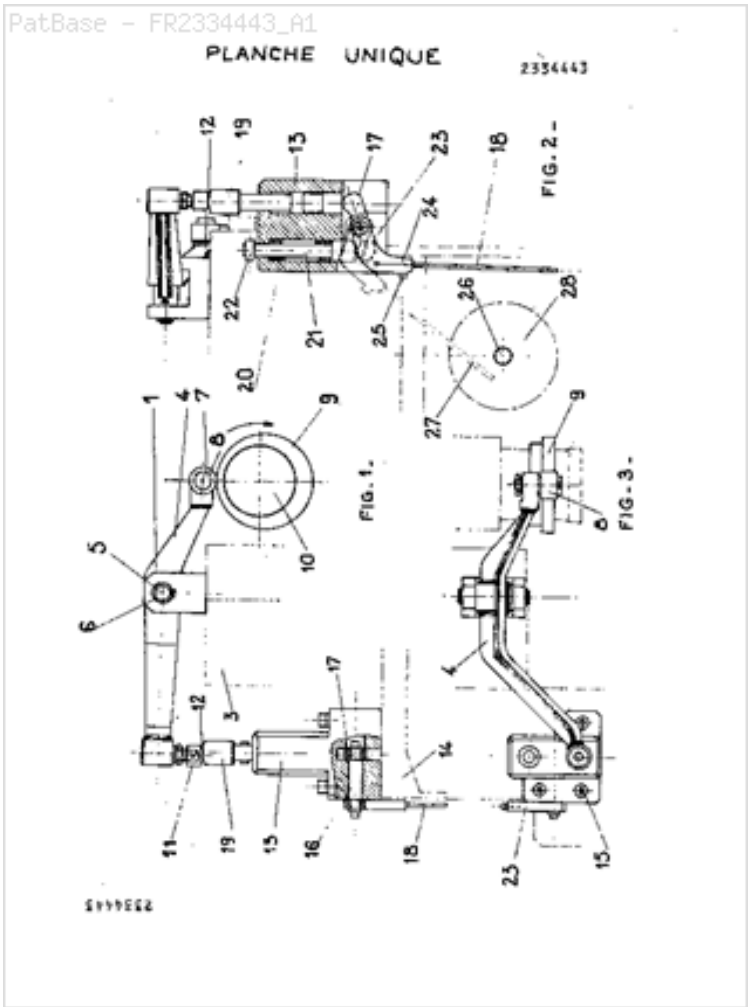
International class(IPC 1–7)**:** B21J13/14 B30B15/32

CPC: B21J13/14 B30B15/32

European class: B21J13/14 B30B15/32

Classification Explorer

Abstract:
Source: FR2334443A (Claim 1) 1. Dispositif d'evaFuation des pieces obtenues sur le dernier poste de transfert d'une presse, caracterise par un organe de balayage (18,23) de l'espace situe devant la matrice de frappe (28), actionne par le bras d'un levier de commande (4) exterieur a la presse, dont l'autre bras suit le contour d'une came (9) montee sur l'arbre de commande (10) des doigts de transfert de la presse. A rocker arm (12) is driven by a cam fitted to the drive shaft of the press. The tocker drives a plunger (19) which actuates a lever to move a sweeping arm (18). This clears the workpiece from the die, and a spring returns the sweeping arm to its original position ready for the next stroke of the press. The plunger and a return device are pref. mounted in a casing fixed to the body of the press. the automatic ejection device may be easily fitted to existing machines.



46) Family number: 21017660 (GB921619A)

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Title: Improvements in automatic bowling pin setting machine

Priority: GB19600026072 19600727

Family:

Publication number	Publication date	Application number	Application date
GB921619 A	19630320	GB19600026072	19600727

Probable Assignee: BOWL MOR COMPANY INC

Assignee(s):(std)**:** BOWL MOR COMPANY INC

Assignee(s): BOWL MOR CO INC

Inventor(s):(std)**:** BARROWS ROYAL LIONEL ; DOWD HOWARD MATHEW

International class (IPC 8–9)**:** A63D5/08 (Advanced/Invention)

International class (IPC 1–7)**:** A63D5/09

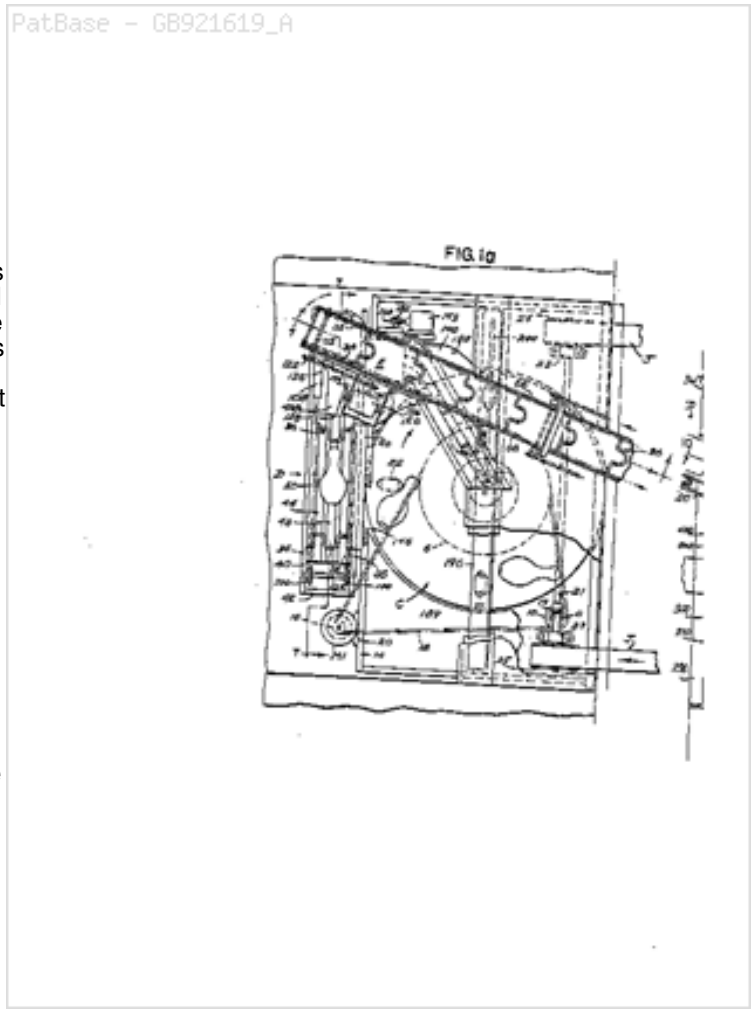
CPC: A63D5/08

European class: A63D5/08

Classification Explorer

Forward Citations: WO9313838, US5562549,

Abstract:
Source: GB921619A 921,619. Skittle alleys. BOWL–MOR CO. Inc. July 27, 1960, No. 26072/60. Class 132 (2). In an automatic pin–setter for a skittle alley, swept pins are raised by an elevator and deposited in a receiver holding ten pins which are deposited in a store from which a set of pins is dropped when required into a positioning board provided with ten holders each closed at the bottom by two half cups which support the pins by their bottoms during a setting operation and by their heads during a resetting operation, the half–cups being movable in opposite directions for opening and closing. Pit (Figs. 1a and 2a). Dead wood is moved from the alley bed into pit B by a sweep and by continuously moving gutter conveyers J operated by motor M1 The peripheral parts of the pit slope downwards to a central rotating platform C also driven by motor M1 which carries the pins and balls round in a clockwise direction. A central transverse pad 196 in the pit causes dead wood to drop on to the platform C and across the upper half of the platform, as shown in Fig. 1a has a bottom roller 200 spaced above the platform by a distance greater than the pin diameter but less than the ball diameter. This diverts balls to trough 190 from which they are lifted by a ball elevator E (see below). Pins under the influence of centrifugal force migrate to the periphery of platform C and ultimately pass through aperture 146 in the rear wall 14 of the pit to pin elevator D (see below). Ball elevator E (Fig. 2a). This consists of a forwardly–facing, vertical U–shaped channel 160, 162 provided with a pair of side chains 170 driven by a motor M3 and spanned by bars 184 disposed across the open side of the channel. These bars engage under balls in



trough 190 and roll them up the rear wall of the channel until they meet an inclined part 166 which forces them off the bars into return run−way 202. The rear wall of the channel has an aperture 164 which is not in contact with the balls but if a pin should have found its way into trough 190 and up the conveyer it can move part way into the aperture and fall clear of bars 184 down the channel. A pivoted flap 214 just below aperture 164 intercepts the falling pin and diverts it out of the channel, whereupon it is guided by an oblique plate 216 to fall again on to turn−table C in the pit. Flap 214 is pivoted upwards by rising balls and pins and falls back to intercepting position after they have passed. Pin elevator (Figs. 1a 2a, 2b). This consists of a channel which runs transversely behind the lower part of rear wall 14 of the pit, then vertically upwards, and then obliquely forward across the top of the pit to a discharge point above the pin receiver. The three sections are denoted by 26, 28 and 30 respectively. Along each side of the channel run chains 32, 34 spanned by yokes 36 shaped as shown to pull the pins along by their heads. Pins passing through aperture 146 in pit rear wall 14 fall on to the yokes moving in channel part 26 and carried to the discharge point 92 at the extremity of channel part 30 where they are automatically released from the yokes to drop into the pin receiver. Any pins entering the conveyer wrong way round are corrected at the junction of channel parts 26, 28. Chains 32, 34 are driven only when pins are required by the receiver by motor M2. Sweep (Figs. 2b, 2c). Along each side of the alley above the bed thereof extend beams 260 having upwardly−extending front portions 264 and provided with rails 261 along which trolleys 312 are pulled by chains 296 driven by motor M4. The trolleys are coupled to the chains by pivoted pin and slot arrangements 306, 318 so that as the chains make a complete circuit, the trolleys move from front to back and then from back to front along rails 261. Suspended from each trolley is a link 320 the lower ends of which are joined by sweep board 330. This is connected by pin and slot means to links 320 so that if it should hit a pin as it descends it will not jam. Fig. 2c shows the sweep in stowed and sweeping positions (full and broken lines). As it moves it operates switches to prevent operation of the pin setter while the sweep is in the way and to stop itself in stowed position. Pin receiver (Figs. 2b and 10). Above the alley bed is mounted a rotatable array of ten cylindrical holders G1..., in which the pins are held by detents 368 carried by a common ring 366. The array is rotated to bring the holders in turn under discharge point 92 of the pin conveyer and is driven step by step from the pin conveyer drive through a special clutch. When a pin drops into a holder it actuates a switch SW8 to advance the array one step by engaging the clutch but if the receiver be full this action is interrupted and the pin conveyer is stopped. When all ten holders have their pins, and pins are required by the setter, a solenoid 51 is energized to withdraw all the detents from the holders so that the set of pins can drop into the pin store. Pin store (Fig. 14). Disposed beneath the

receiver is a stationary array of pin−holders 492 arranged directly above the pin positions on the alley bed. Pins dumped from the receiver are guided into holders 492 by shoots 498 appropriately disposed and are prevented from dropping out of the holders by retainers 504 mounted on strips 500 forming a network which is retracted at the appropriate time in the cycle to allow the pins to drop on to the positioning board 530. Positioning board (Figs. 2b and 14). The board 530 is mounted on the bottom ends of three rack bars 532, 533 which are vertically slidable in the fixed frame of the machine and which are driven by cog wheels rotated through suitable gearing from a bull gear 560. This gear is rotated to and from by a chain 574 and crank 576 driven by a motor at the appropriate time. Beneath each holder 492 of the pin store, the board 530 has an aperture 600 in which are slidably mounted two half−cups 608, 610 so formed as to fit the base of a pin but which are cut away to present two edges 616 spaced apart, when the halves are closed, a distance greater than the pin neck diameter but less than the pin head diameter. All the half−cups 608, 610 are coupled together in two sets, the sets being moved in opposite directions by common cam means to open and close the cups at appropriate times. In operation, after the first ball, crank 576 is rotated to lower the board but, when it reaches the level of the heads of any standing pins the halfcups 608, 610 have been opened and an arm is introduced into the path of a projection 568 on bull gear 560 and stops further descent of the board. The half−cups are closed on to the heads of standing pins and chain 574 goes slack. As the crank 576 continues to rotate the slack in the chain is taken up and the board is lifted to its top position. Sweep 320 then moves along the alley bed to sweep dead wood into the pit and returns to raised position. The board 530 descends again to intermediate position, the half−cups open to deposit the pins in the bed, and then the board rises to top position the cups closing. After the second ball, the sweep moves to clear the bed, retainers 504 are retracted to allow ten pins to drop from the store to the cups 608, 610 and the board descends. This time rotation of bull gear 560 is not interrupted and the board descends to the bed, the cups open to deposit the pins and the board rises to top position. An electric control circuit is described.