PatBase - Search results 14 November 2019
Search query (20): [SP]: [0028] fig. 1 is an exploded, partial sectional view of an arm over assembly of pipe elements of a sprinkler system[0029] fig. 2 is a partial sectional view of an example embodiment of an adapter according to the invention[0030] fig. 3 is an isometric view of the adapter shown in fig. 2[0031] fig. 4 is a longitudinal sectional view of an example embodiment of a combination pipe element and adapter according to the invention[0032] fig. 5 is a partial sectional view of an example adapter having a compliant seal[0033] fig. 6 is an isometric view of a compliant seal used in an example embodiment of the invention.[0034] fig. 7 is a partial sectional view of an example embodiment of an adapter according to the invention having a compliant gel seal[0035] fig. 8 is a longitudinal sectional view of the example combination pipe element and adapter[0036] fig. 9 is a cross sectional view of an example embodiment of a combination pipe element and adapter taken at line 9-9 of fig. 8[0037] fig. 10 is an isometric view of an example plug according to the invention[0038] fig. 11 is a partial sectional side view of the plug shown in fig. 10 and[0039] fig. 12 is a sectional view of an example combination pipe element and plug according to the invention.
Results: 59

Search history

Search 1: CAM AND GROOVE AND PIPE AND DISCONTINUI* (Results 667)

Search 2: CPC=(B21D15/04) (Results 433)

Search 3: CPC=(B21D15/06) (Results 591)

Search 4: CPC=(B21D17/02) (Results 554)

Search 5: CPC=(B21D17/04) (Results 1022)

Search 6: CPC=(B21H1/20) (Results 54)

Search 7: CPC=(B21H1/22) (Results 320)

Search 8: 1 AND 2 (Results 1)

Search 9: 1 AND 3 (Results 2)

Search 10: 1 AND 4 (Results 1)

Search 11: 1 AND 5 (Results 4)

Search 12: 1 AND 6 (Results 1)

Search 13: 1 AND 7 (Results 1)

Search 14: 2 AND 3 (Results 17)

Search 15: 3 AND 4 (Results 8)

Search 16: 4 AND 5 (Results 16)

Search 17: 5 AND 6 (Results 12)

Search 18: 6 AND 7 (Results 4)

Search 19: PN=(WO2017095693) (Results 1)

Search 20: [SP]: [0028] fig. 1 is an exploded, partial sectional view of an arm over assembly of pipe elements of a sprinkler system[0029] fig. 2 is a partial sectional view of an example embodiment of an adapter according to the invention[0030] fig. 3 is an isometric view of the adapter shown in fig. 2[0031] fig. 4 is a longitudinal sectional view of an example embodiment of a combination pipe element and adapter according to the invention[0032] fig. 5 is a partial sectional view of an example adapter having a compliant seal[0033] fig. 6 is an isometric view of a compliant seal used in an example embodiment of the invention.[0034] fig. 7 is a partial sectional view of an example embodiment of an adapter according to the invention having a compliant gel seal[0035] fig. 8 is a longitudinal sectional view of the example combination pipe element and adapter[0036] fig. 9 is a cross sectional view of an example embodiment of a combination pipe element and adapter taken at line 9-9 of fig. 8[0037] fig. 10 is an isometric view of an example plug according to the invention[0038] fig. 11 is a partial sectional side view of the plug shown in fig. 10 and[0039] fig. 12 is a sectional view of an example combination pipe element and plug according to the invention. (Results 59)

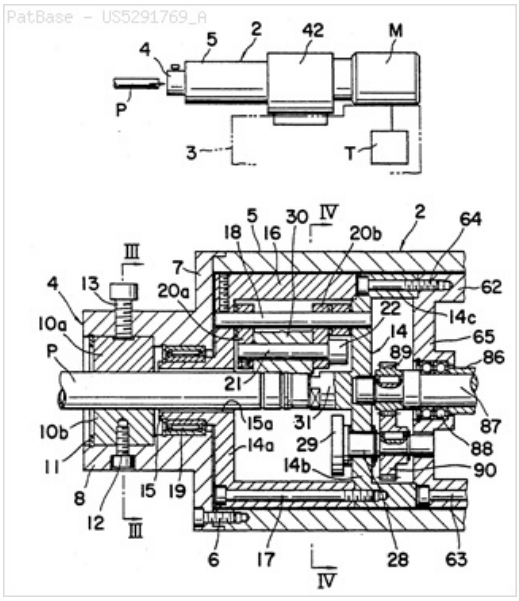
1) Family number: 6368031 (US5291769A)

Title: Apparatus for forming end portion of pipe

Abstract: A plurality of profile rolls which are revolving are radially inwardly pressed against the peripheral surface of an end portion of a pipe to be formed so that a suitable profile is plastically formed on the end portion of the pipe. Each of the profile rolls is rotatably carried by a shaft at the distal end of a swing assembly whose proximal end is pivotably mounted to a pivot shaft on a rotary assembly which is rotatable. A cam follower on the distal end shaft of each swing assembly is forced by a cam laterally so that the rotary assemblies are rotated, resulting in radially inward displacement of the profile roll. Thus, the apparatus is compact in size, easily operable at a working site and reliable in operation.

Classifications:
International (IPC 8-9): B21D17/04 B21D41/04 (Advanced/Invention);
B21D17/00 B21D41/00 (Core/Invention);
B21D (Subclass/Invention)
International (IPC 1-7): B21D B21D17/04 B21D19/12 B21D39/04 B21D41/00 B21D41/04
CPC: B21D17/04

European: B21D17/04
US: 72/121



Family:

Publication number	Publication date	Application number	Application date
DE4215548 A1	19921119	DE19924215548	19920512
FR2676379 A1	19921120	FR19920005881	19920514
FR2676379 B1	19940204	FR19920005881	19920514
IT1255088 B	19951018	IT1992MI01143	19920514
ITMI921143 A0	19920514	IT1992MI01143	19920514
ITMI921143 A1	19921117	IT1992MI01143	19920514
JP4339527 A2	19921126	JP19910141080	19910516
US5291769 A	19940308	US19920882320	19920513

Priority:
JP19910141080 19910516

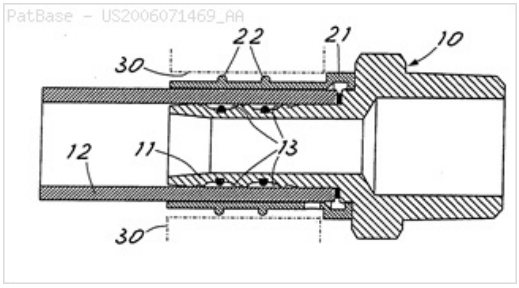
Probable Assignee: MIRANO KK
Assignee(s): (std): MILANO KK ; MILANO MITAKA KK ; MIRANO KK
Assignee(s): KABUSHIKI KAISHA MILANO ; KABUSHIKI KAISHA MILANO MITAKA TOKIO TOKYO JP
Inventor(s): (std): MIYANO TOSHIHARU ; TOSHIHARU MIYANO ; MIYANO TOSHIJI
Inventor(s): MIYANO TOSHIHARU BARRINGTON HILLS ILL US ; MIYANO TOSHIHARU BARRINGTON HILLS ILL

2) Family number: **30741037** (US2006071469A)

Title: COMPRESSION FITTING FOR PIPES

Abstract: A compression fitting for rigid or semi-rigid pipes comprising an internal element (11) onto which the pipe (12) is fitted and into which at least one circumferential groove (13) is machined and an external sleeve (20) usually cylindrical is positioned around the pipe and intended to be deformed by radial compression to push the wall of the pipe inside said groove. The external wall of the sleeve (20) bears a circumferential protruding bead (22) in line with its area which is founded in line with the groove of the internal element with interposition of the wall of the pipe, so that the compression of the sleeve by action of a cylindrical pressing wall (30) acts on the bead to deform the sleeve with the purpose of pushing the wall of the pipe inside said groove of the internal element.

Classifications:
International (IPC 8-9): F16L33/00 F16L33/207 (Advanced/Invention); F16L33/00 F16L33/20 (Core/Invention); F16L (Subclass/Invention)
International (IPC 1-7): F16L33/207
CPC: F16L33/2076
European: F16L33/207B2D
US: 285/256



Family:

Publication number	Publication date	Application number	Application date
AT394625 E	20080515	AT20030785848T	20031217
AU2003294875 AA	20040810	AU20030294875	20031217
DE60320852 D1	20080619	DE20036020852	20031217
DK1581764 T3	20080901	DK20030785848T	20031217
EP1581764 A1	20051005	EP20030785848	20031217
EP1581764 B1	20080507	EP20030785848	20031217
ES2306910 T3	20081116	ES20030785848T	20031217
ITMI20030010 A1	20040709	IT2003MI00010	20030108
PT1581764 T	20080819	PT20030785848T	20031217
US2006071469 AA	20060406	US20030540964	20031217
US7364206 BB	20080429	US20030540964	20031217

WO04063615 A1	20040729	WO2003EP14367	20031217

Priority:

IT2003MI00010 20030108 WO2003EP14367 20031217

Probable Assignee: ROMANELLI CARMINE

Assignee(s): (std): ROMANELLI ANTONIO ; ROMANELLI CARMINE ; ROMANELLI MARIO

Assignee(s): CARMINE ROMANELLI ; MARIO ROMANELLI

Inventor(s): (std): ROMANELLI ANTONIO ; ROMANELLI CARMINE ; ROMANELLI MARIO

Inventor(s): ANTONIO ROMANELLI ; CARMINE ROMANELLI ; MARIO ROMANELLI

Agent(s): FARAGGIANA VITTORIO; MCGLEW AND TUTTLE 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 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 SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

3) Family number: 55580040 (JP2013244760A)

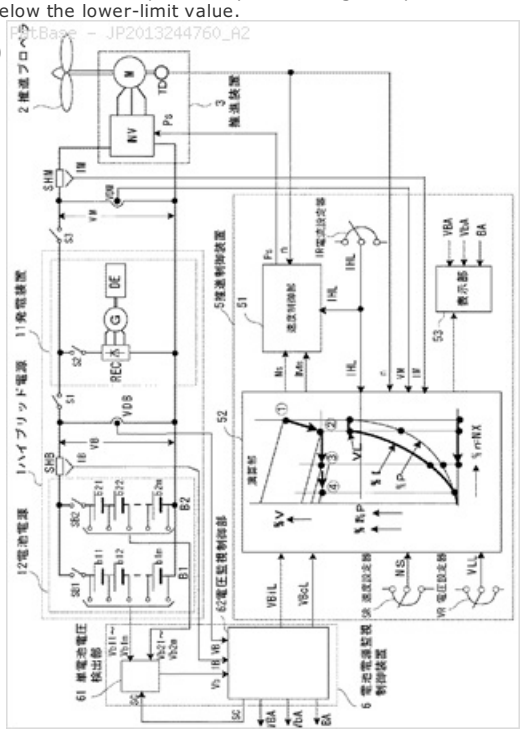
Title: METHOD AND DEVICE FOR CONTROLLING ELECTRIC PROPULSION SYSTEM

Abstract: PROBLEM TO BE SOLVED: To protect battery elements by preventing not only a battery pack of a battery power source in an electric propulsion system including a hybrid power source including the battery power source composed by forming the battery pack by connecting a plurality of battery elements in series to and in parallel to one another, and connecting a plurality of the battery packs in parallel to one another, and a power generation device for charging the battery power source, but also battery element single bodies constituting the battery packs, from coming into an overcharged state by abnormal voltage drop, and to prevent life of the battery power sources from lowering.SOLUTION: In a mode in which an electric propulsion device is operated by supplying power to the electric propulsion device 3 only from a battery power source 12 of a hybrid power source 1, voltages of battery element single bodies constituting the battery power source (cell voltages) are individually monitored, and, when any cell voltage of the battery element single bodies drops to equal to or below a preset lower-limit value of the cell voltage, the electric propulsion device is operated by decreasing the speed of the electric propulsion device to prevent the cell voltage from dropping below the lower-limit value.

Classifications:

International (IPC 8-9): B63H21/17 B63J99/00 H01M10/48 H01M2/10 H02J7/00 (Advanced/Invention)

CPC: Y02E60/12



Family:

Publication number	Publication date	Application number	Application date
JP2013244760 A2	20131209	JP20120117675	20120523
JP6003225 B2	20161005	JP20120117675	20120523

Priority:

JP20120117675 20120523

Probable Assignee: FUJI ELECTRIC HOLDINGS CO LTD

Assignee(s): (std): FUJI ELECTRIC CO LTD ; FUJI ELECTRIC HOLDINGS CO LTD

Assignee(s): N A

Inventor(s): (std): BABA KENJI ; TAKABAYASHI YASUHIRO

Agent(s): YAMAGUCHI IWAO

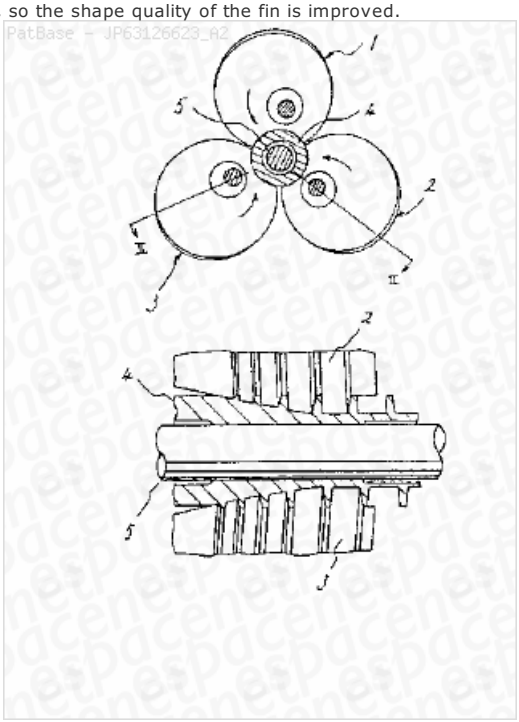
4) Family number: 9215048 (JP63126623A)

Title: MANUFACTURE OF METAL PIPE WITH SPIRAL FIN

Abstract: PURPOSE: To improve the shape quality of a fin by performing a cross type hot slanting rolling with the rolling roll

providing the groove for forming a fin at the intervals becoming wider gradually and the inner face constrainer capable of changing a feeding speed. CONSTITUTION: The groove forming a fin on the conical rolling rolls 1W3 of a cross type inclined rolling mill is arranged by gradually widening its intervals toward the outlet side from the inlet side of a metal pipe 4 and a mandrel bar 5 as the inner face constraining jig capable of changing the feeding speed is arranged as well. The metal pipe 4 progresses with rotating by being rolled after being bitten in order by the rolls 1W3 and the fin is formed. In this case, the feeding speed of the mandrel bar 5 is adjusted and the fin being inclined in the front and back directions is prevented. With this method, the fin having a correct shape dimension can be formed, so the shape quality of the fin is improved.

Classifications:
International (IPC 8-9): B21D15/06 B21D17/04 (Advanced/Invention); B21D15/00 B21D17/00 (Core/Invention)
International (IPC 1-7): B21D15/06 B21D17/04



Family:

Publication number	Publication date	Application number	Application date
JP63126623 A2	19880530	JP19860272579	19861114

Priority:
JP19860272579 19861114

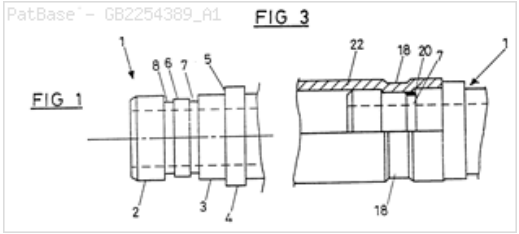
Probable Assignee: SUMITOMO METAL IND
Assignee(s): (std): SUMITOMO METAL IND
Assignee(s): SUMITOMO METAL IND LTD
Inventor(s): (std): NAKASUJI KAZUYUKI ; KURODA KOICHI

5) Family number: 3571078 (GB2254389A)

Title: SEALED JOINTS IN PIPE FITTINGS

Abstract: A method and apparatus for forming a joint in an end of a pipe or fitting (22). A connector (1) has a groove (7) or grooves (7, 8) with O-rings (20) in the grooves (7, 8). The portion of the connector including the grooves (7, 8) and O-rings (20) is placed in the end of the pipe (22) and the pipe is crimped about the connector with a crimping tool to establish a mechanical and sealing joint between the connector (1) and the pipe (22). The pipe may be sufficiently plastic to adhere to the connector 1, upon being crimped, to form a sealing connection thereby removing the need of O-rings. A hollow cylindrical sleeve of a malleable material (e.g. copper or aluminium) may be crimped about the area of the pipe containing connector 1. A hand-operated crimping tool comprising pivotable levers is also provided.

Classifications:
International (IPC 8-9): B21D39/04 F16L13/14 (Advanced/Invention); B21D39/04 F16L13/14 (Core/Invention)
International (IPC 1-7): B21D15/06 B21D39/04 B25B27/00 B25B7/00 B25B7/20 F16L13/14 F16L13/16 F16L35/00
CPC: B21D39/04 F16L13/143
European: B21D39/04 F16L13/14 F16L13/14B6



Family:

Publication number	Publication date	Application number	Application date
AU199213075 A1	19920924	AU19920013075	19920320
GB2254389 A1	19921007	GB19920006187	19920320
GB9206187 A0	19920506	GB19920006187	19920320

Priority:
NZ19910237542 19910322 NZ19910237731 19910408

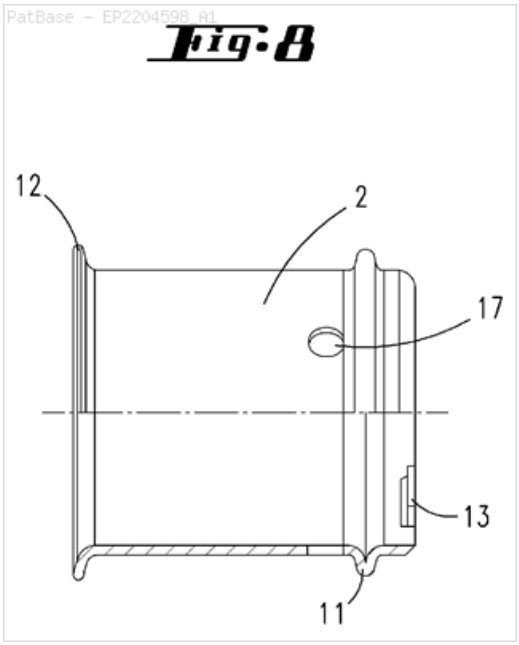
Probable Assignee: DAVIES EVAN R
Assignee(s): (std): DAVIES EVAN R ; DAVIES EVAN ROBERT ; REID KEITH J ; REID KEITH JAMES ; KEITH JAMES REID
Assignee(s): EVAN ROBERT DAVIES
Inventor(s): (std): REID KEITH JAMES ; DAVIES EVAN ROBERT

Inventor(s): KEITH JAMES REID ; EVAN ROBERT DAVIES
Agent(s): FB RICE; FB RICE PTY LTD

6) Family number: 19223106 (EP2204598A1)

Title: CRIMPING SLEEVE AND METHOD FOR APPLYING THE SAME

Abstract: The press sleeve (2) has front and/or rear ends including a radial inwardly aligned bending (13) in an insertion direction of a composite pipe. The bending is formed for holding the press sleeve on a press fitting by engagement in a recess of the press fitting. The bending has a set of regions that is removed by cutting at a circumferential direction in circular segments. A radial outwardly projecting, corrugated molding (11) is formed in the insertion direction. Another molding (12) is formed at a distance from the former molding. An independent claim is also included for a method for attaching a press sleeve to a press fitting.
Classifications:
International (IPC 8-9): B41F13/24 B41F13/34 F16L13/00 F16L13/14 F16L33/20 F16L33/207 F16L47/04 (Advanced/Invention); B41F13/24 F16L13/14 F16L33/20 F16L47/00 (Core/Invention)
International (IPC 1-7): B21D39/04 B23P19/02 B30B7/04 B41F13/24 B41F13/34 B41F31/30 F16L13/00 F16L13/14 F16L33/207
CPC: B41F13/34 F16L13/143 F16L33/2075 F16L33/2076 F16L2201/10
European: B41F13/34 F16L13/14 F16L13/14B6 F16L33/207B2B F16L33/207B2D R16L201/10



Family:

Publication number	Publication date	Application number	Application date
DE10327503 A1	20050105	DE20031027503	20030617
DE202004020993 U1	20060614	DE200420020993U	20040604
DE9104151 U1	19910905	DE19910004151U	19910420
EP1489344 A2	20041222	EP20040013236	20040604
EP1489344 A3	20041229	EP20040013236	20040604
EP2204598 A1	20100707	EP20100156302	20040604
ES2239938 T1	20051016	ES20040013236T	20040604
GB2244676 A1	19911211	GB19910008911	19910425
GB9108911 A0	19910612	GB19910008911	19910425
JP2935584 B2	19990816	JP19910095081	19910425
JP4229263 A2	19920818	JP19910095081	19910425

Priority:

DE19904013236 19900426 DE199100041 51U 19910420 DE20031027503 20030617
EP20040013236 20040604 DE200420020993U 20040604

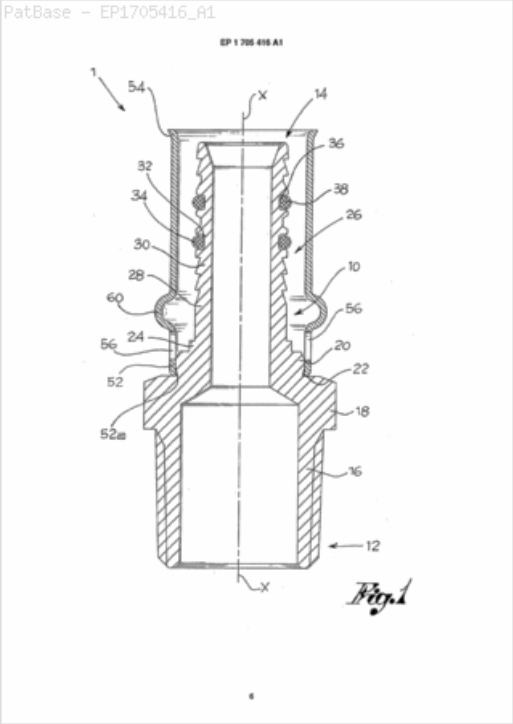
Probable Assignee: POSTLER STEFAN
Assignee(s): (std): POSTLER STEFAN ; VETEC GMBH VERBINDUNGSTECHNOLO ; ROLAND MAN DRUCKMASCH
Assignee(s): MAN ROLAND DRUCKMASCHINEN AKTIENGESELLSCHAFT ; VETEC GMBH VERBINDUNGSTECHNOLOGIE F VERSORGUNGSSYS ; VETEC GMBH VERBINDUNGSTECHNOLOGIE FUER VERSORGUNGS ; VETEC GMBH VERBINDUNGSTECHNOLOGIE FUER VERSORGUNGSSYSTEME ; VETEC GMBH VERBINDUNGSTECHNOLOGIE F VERSORGUNGSSYSTEME ; VETEC GMBH VERBINDUNGSTECHNOLOGIE FUR VERSORGUNGSSYSTEME ; EMU AA ENU ROORANTO DORUTSUKUMASHIINEN AG ; MAN ROLAND DRUCKMAS AG ; MAN ROLAND DRUCKMASCHINEN 6050 OFFENBACH DE AG ; MAN ROLAND DRUCKMASCHINEN AG ; MAN ROLAND DRUCKMASCHINEN AG 6050 OFFENBACH DE
Inventor(s): (std): DIFFLIPP KURT ; OCHS HEINRICH ; KURUTO DEIFURITSUPU ; HAINRITSUHI OKUSU
Inventor(s): HEINRICH OCHS ; KURT DIFFLIPP
Agent(s): MUELLER ENNO
Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

7) Family number: 33378120 (EP1705416A1)

Title: Joint for systems, for example a thermo-sanitary system

Abstract: The present invention relates to a joint (1) for a system, for example a water-sanitary system, or in water, wine, oil, fuel and like processing systems, comprising an insert (10) and a deformable bush (50). The insert (10) comprises an annular shoulder (24) with which the end edge (2b) of the pipe (2) is only partly in contact, in order to prevent contact between the metal core (6) of the pipe (2) and the insert (10), to prevent galvanic corrosion phenomena.
Classifications:

International (IPC 8-9): F16L13/00 F16L13/14 F16L33/20 F16L33/207 (Advanced/Invention)
CPC: F16L13/143 F16L33/2076 F16L58/181 F16L2201/10
European: F16L13/14 F16L13/14B6 F16L33/207B2D F16L58/18A R16L201/10



Family:

Publication number	Publication date	Application number	Application date
EP1705416 A1	20060927	EP20050425170	20050324

Priority:

EP20050425170 20050324

Probable Assignee: TIEMME RACCORDERIE S P A
Assignee(s): (std)**:** TIEMME RACCORDERIE S P A
Assignee(s): TIEMME RACCORDERIE SPA
Inventor(s): (std)**:** VERONESI FRANCO
Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

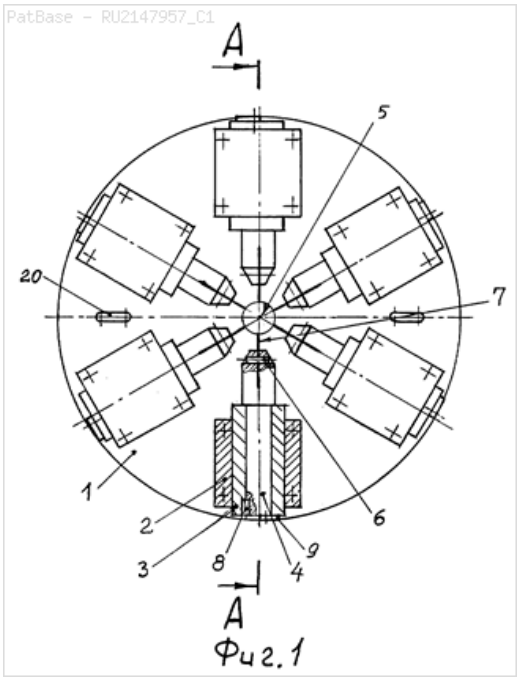
8) Family number: 15400135 (RU2147957C)

Title: APPARATUS FOR MAKING TUBES WITH MULTISTART HELICAL CORRUGATIONS

Abstract:

FIELD: manufacture of corrugated tubes. SUBSTANCE: apparatus includes shaping members in the form of discs whose number is equal to that of corrugation starts. Discs are arranged around axis of apparatus on axles mounted in mechanisms for radial motion, rotation and angle fixation. Said mechanism are arranged on housing of apparatus. Working peripheral surface of discs is in the form of recess of corrugations. Mechanism for radial controlled motion, rotation and angular fixation relative to axis of apparatus for each disc includes cam secured to disc chuck and pusher engaged with cam and arranged in guide mounted on housing, cylindrical rod mounted in pusher with possibility of rotation around its own axis and fixed against axial movement. Axle of disc is placed on end of rod that is arranged nearer to axis of apparatus. On opposite end of rod and on end of pusher there are opening portions whose number corresponds to number of angular positions of discs relative to axis of apparatus. Portions of openings of rod and pusher are arranged with different angular shift for providing possibility of alternative arrangement of stopper in openings restricted by their portions. Contact of pusher and cam is provided due to their geometrical closing. Working surfaces of cam are in the form of Archimedean helix and they are joined with pusher through rolling bearing. Guides with pushers and cams are mounted with possibility of rearranging on housing and on disc chuck respectively. Difference values of angular shifts of opening portions in rod and pusher are equal to values of rotation angles of disc relative to axis of apparatus. Openings and stopper are cylindrical ones, their axes are parallel relative to rod axis. Adjustment of radial motions is provided due to use of three abutments. One abutment is arranged on disc chuck, two other - on housing. EFFECT: enhanced quality of tubes. 10 cl, 6 dwg

Classifications:
International (IPC 8-9): B21D11/06 B21D15/04 (Advanced/Invention); B21D11/00 B21D15/00 (Core/Invention)
International (IPC 1-7): B21D11/06 B21D15/04



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Family:

Publication number	Publication date	Application number	Application date
RU2147957 C1	20000427	RU19980122880	19981223

Priority:

RU19980122880 19981223

Probable Assignee: SHLJAKHIN ALEKSANDR NIKOLAEVIC

Assignee(s): (std): KOSHELEVA ELENA JUR EVNA ; LYTKIN IGOR NIKITICH ; MISHULIN ARISTONIK ALEKSANDROV ; SHLJAKHIN ALEKSANDR NIKOLAEVIC ; SHLJAKHIN ALEKSANDR NIKOLAEVICH ; MISHULIN ARISTONIK ALEKSANDROVICH

Assignee(s): LYTKIN IGOR' NIKITICH ; KOSHELEVA ELENA JUR'EVNA

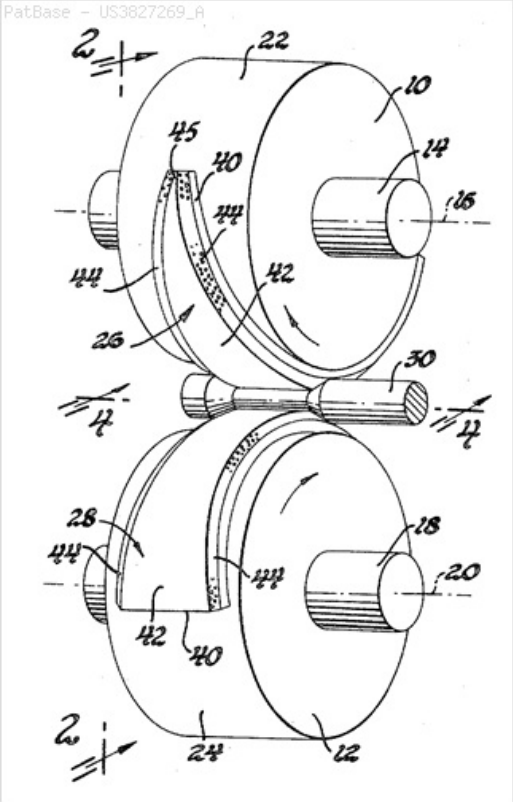
Inventor(s): (std): LYTKIN I N ; KOSHELEVA E JU ; MISHULIN A A ; SHLJAKHIN A N ; MISHULIN AA ; SHLJAKHIN AN ; KOSHELEVA EJU ; LYTKIN IN

9) Family number: 1087158 (US3827269A)

Title: ROLL FORMING APPARATUS

Abstract: An improved die for a "wedge roll" type roll forming machine including a pair of vertically spaced rolls adapted for rotation in the same direction and defining a pair of mounting surfaces adapted for rigidly supporting the dies, the improved dies including a generally triangular forming surface bounded along the leading converging edges by a pair of driving surfaces disposed at an angle with respect to the forming surface, each of the driving surfaces having formed thereon a plurality of randomly spaced and irregularly shaped raised projections having flat top surfaces, tapered sides and substantial column rigidity under compression forces.

Classifications:
International (IPC 8-9): B21D37/06 B21H1/18 (Advanced/Invention);
B21D37/04 B21H1/00 (Core/Invention)
International (IPC 1-7): B21D37/06 B21H1/18 B21H1/22
CPC: B21H1/18
European: B21H1/18
US: 205/666 492/1 72/102 72/108 72/191 72/197



Family:

Publication number	Publication date	Application number	Application date
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GB1433186 A	19760422	GB19730048600	19731018
US3827269 A	19740806	US19720303832	19721106

Priority:

US19720303832 19721106

Probable Assignee: GEN MOTORS CORP

Assignee(s): (std)**:** GEN MOTORS CORP

Assignee(s): GENERAL MOTORS CORP ; GENERAL MOTORS CORP US ; HOAGLAND MILTON B ; WROBLEWSKI LAWRENCE P

Inventor(s): (std)**:** HOAGLAND M ; HOAGLAND MILTON B ; WROBLEWSKI L ; WROBLEWSKI LAWRENCE P

Inventor(s): WROBLEWSKI L US ; HOAGLAND M US

10) Family number: 30979162 (US2002007514A)

Title: Pipe preparation device

Abstract: A device for preparing pipe segments for joining with mechanical pipe fittings in a piping network is disclosed. The device has a fixed support with support surfaces engageable with the pipe segment, and a movable support, facing the fixed support, on which tools, such as grooving rolls, chamfering rolls, marking rolls and cutting blades are rotatably mounted. The tools engage the outer surface of the pipe to form a circumferential groove, a marking pattern, a chamfer or a cut through the pipe when the movable support is moved toward the fixed support. A collar or cup having a circumferential side wall sized to receive the pipe is mounted on the fixed support adjacent to the support surfaces and radially reinforces the pipe to prevent it from collapsing or going out of round during groove formation.

Classifications:

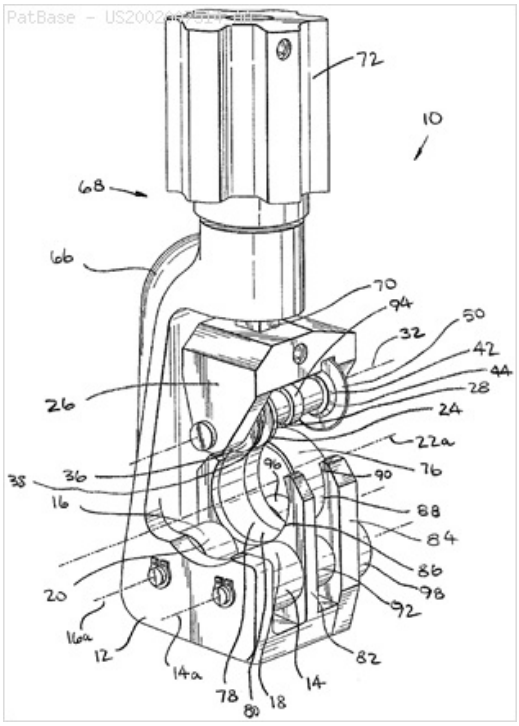
International (IPC 8-9)**:** B21D17/04 B21D21/00 B21D35/00 B23B3/04 B23B5/16 B23C3/12 B23D21/00 B23D21/08 B23P17/00 (Advanced/Invention); B21D17/00 (Core/Invention)

International (IPC 1-7)**:** B21D21/00 B21D3/02 B21D35/00 B23B3/04 B23C3/12 B23P17/00 B25F1/00

CPC: B21D17/04 B23B5/16 B23B5/168 B23D21/006 B23D21/08 C10M2201/02 C10M2201/063 C10M2207/125 C10M2207/129 C10N2210/01

European: B21D17/04 B23B5/16 B23B5/16F1 B23D21/00C B23D21/08 M10M201/02 M10M201/063 M10M207/125 M10M207/129 M10N210/01

US: 7/157 7/157P 72/102 72/118 72/121 72/123 72/125



Family:

Publication number	Publication date	Application number	Application date
AU2001273524 AA	20020130	AU20010273524	20010717
AU200173524 A1	20020130	AU20010073524	20010717
AU200173524 A5	20020130	AU20010073524	20010717
CA2415758 AA	20030116	CA20012415758	20010717
EP1322446 A1	20030702	EP20010952806	20010717
JP2004508205 T2	20040318	JP20020511925T	20010717
TW537936 B	20030621	TW20010117453	20010717
US2002007514 AA	20020124	US20010907018	20010717
US6666062 BB	20031223	US20010907018	20010717
WO0206001 A1	20020124	WO2001US22436	20010717

Priority:

US20000218770P 20000717 US20010262819P 20010119 US20010907018 20010717
WO2001US22436 20010717

Probable Assignee: VICTAULIC CO

Assignee(s): (std)**:** DOLE DOUGLAS R ; HENRY VANCE W ; VICTAULIC CO OF AMERICA

Assignee(s): VICTAULIC COMPANY OF AMERICA ; VICTAULIC CO

Inventor(s): (std)**:** DOLE DOUGLAS R ; HENRY VANCE W

Inventor(s): VANCE W HENRY ; DOUGLAS R DOLE

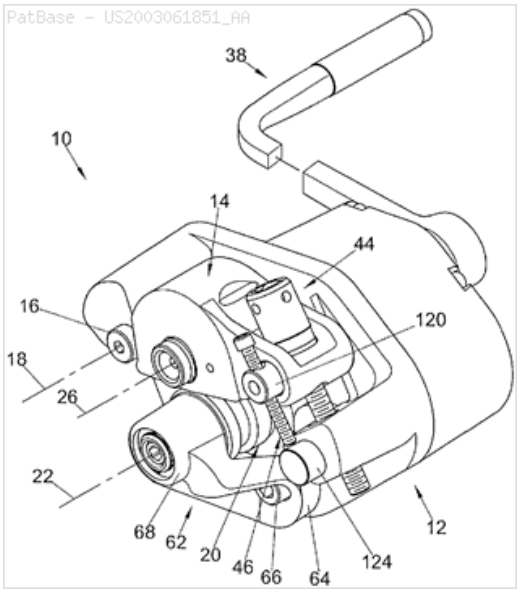
Agent(s): BERESKIN AND PARR

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

11) Family number: 26725173 (US2003061851A)

Title: Roll grooving apparatus

Abstract: Apparatus for roll grooving thin wall pipe comprises a housing supporting a drive roll and an arm pivotally mounted on the housing and supporting a grooving roll. A feed screw between the housing and arm provides for pivoting the arm to displace the grooving roll radially toward and away from the drive roll, and a release arrangement between the feed screw and arm is operable to release the arm from the screw to protect the screw from damage. The feed screw is mounted on the housing and arm by a double pivot arrangement. Self-tracking during a roll grooving operation is provided by dimensionally different knurling on axially opposite sides of the rolling groove of the drive roll and/or by inclining the axis of the grooving roll relative to the axis of the drive roll and/or by tapering the rolling surface on the rolling projection of the grooving roll and/or by supporting the axially outer end of the drive roll against deflection.
Classifications:
International (IPC 8-9): B21D17/04 (Advanced/Invention)
International (IPC 1-7): B21D15/04 B21D17/04
CPC: B21D17/04
European: B21D17/04
US: 72/101 72/105 72/105P 72/121



Family:

Publication number	Publication date	Application number	Application date
AT357983 E	20070415	AT20020077827T	20020715
CA2393114 AA	20030113	CA20022393114	20020712
CA2393114 C	20060110	CA20022393114	20020712
CN100377803 C	20080402	CN200510081394	20020713
CN101264494 A	20080917	CN200810083188	20020713
CN1214876 C	20050817	CN20021041530	20020713
CN1398684 A	20030226	CN20021041530	20020713
CN1727090 A	20060201	CN200510081394	20020713
DE60219108 D1	20070510	DE20026019108	20020715
DE60219108 D1	20070510	DE20026019108T	20020715
DE60219108 T2	20080124	DE20026019108T	20020715
EP1275447 A2	20030115	EP20020077827	20020715
EP1275447 A3	20040506	EP20020077827	20020715
EP1275447 B1	20070328	EP20020077827	20020715
EP1795276 A2	20070613	EP20070006235	20020715
EP1795276 A3	20080521	EP20070006235	20020715
ES2284780 T3	20071116	ES20020077827T	20020715
JP2003053435 A2	20030226	JP20020206304	20020715
JP2008229726 A2	20081002	JP20080136440	20080526
US2003061851 AA	20030403	US20020298865	20021119
US2003192357 AA	20031016	US20030438521	20030516
US6591652 BA	20030715	US20010905388	20010713
US6606893 BB	20030819	US20020298865	20021119
US6776018 BB	20040817	US20030438521	20030516

Priority:

US20010905388 20010713 CA20022393114 20020712 EP20020077827 20020715
JP20020206304 20020715 US20020298865 20021119 US20030438521 20030516

Probable Assignee: EMERSON ELECTRIC CO

Assignee(s): (std)**:** EMERSON ELECTRIC CO ; EMERSON ELECTRIC CO A MISSOURI

Assignee(s): EMERSON ELECTRIC CO A MISSOURI CORP ; HAMM JAMES E ; WISE RANDY SCOTT

Inventor(s): (std)**:** WISE LANDAY S ; SCOTT WISE RANDY ; JAMES E HAMM ; LANDAY S WISE ; SCOTT HAMM JAMES E WISE RANDY ; WISE RANDY SCOTT ; HAMM JAMES E

Agent(s): MACRAE AND CO; HALE PETER ET AL

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

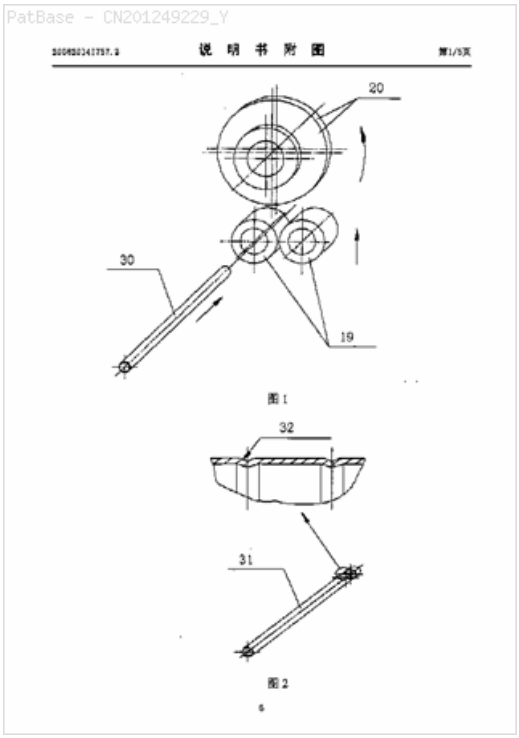
12) Family number: 43412216 (CN201249229Y)

Title: Groove machine for processing groove of thin-wall metal pipe

Abstract: A groove machine for processing groove of thin-wall metal pipe is formed by a power portion, a drive portion, a groove working head portion and a machine bracing frame, wherein the power portion, the drive portion and the groove working head portion are respectively installed on the machine bracing frame, the output end of the power portion is connected with the drive portion, the output end of the drive portion is connected with the groove working head portion, and the groove working head portion comprises a pair of proton wheels, a pair of carrying rollers, a hob cutter, a knife pad, an adjusting pad and a hob shaft, wherein a gap for placing a processed work-piece is arranged between the hob cutter and the pair of carrying rollers. The groove machine for processing groove of thin-wall metal pipe has the advantages that the groove machine can process out one or a plurality of grooves in one time on any position of a work-piece, and increases the work efficiency by two times, the two carrying rollers are used to replace a core shaft in the traditional processing mode, thereby eliminating the weaknesses of the frequent replacement caused by the easy breakage of the core shaft in the traditional processing process, and the weakness of only processing on the tail end of the work-piece in the traditional processing is improved, and the processing quality is increased.

Classifications:

International (IPC 8-9): B21D17/04 (Advanced/Invention);
B21D17/00 (Core/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN201249229 Y	20090603	CN200820141757U	20080827

Priority:

CN200820141757U 20080827

Probable Assignee:	WANZHI QIANG
Assignee(s): (std)**:**	WANZHI QIANG
Assignee(s):	QIANG WANZHI
Inventor(s): (std)**:**	WANZHI QIANG
Inventor(s):	QIANG WANZHI

13) Family number: 74786232 (US2019184441A)

Title: PIPE GROOVING DEVICE

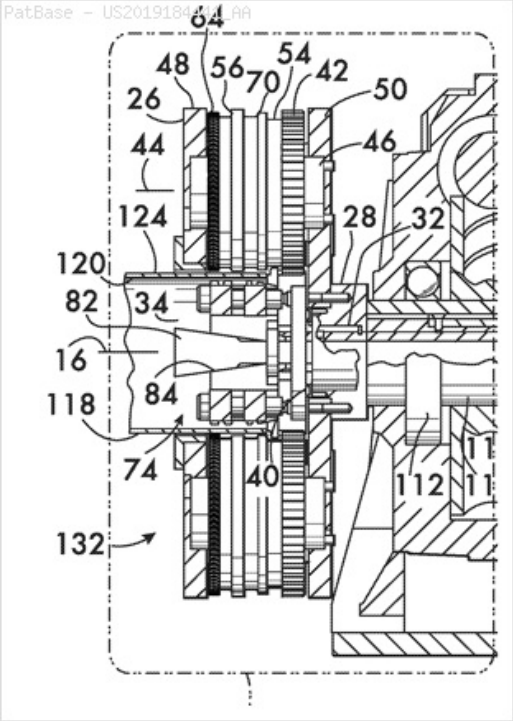
Abstract: A device for forming circumferential grooves in pipe elements uses multiple geared cam bodies mounted on a carriage which rotates about a fixed pinion. The gears engage with the pinion which causes the geared cam bodies to rotate relative to the carriage. Traction surfaces and cam surfaces on the cam bodies traverse the outer surface of the pipe element and impress a circumferential groove therein. To substantially prevent rotation of the pipe element the pitch circle diameter of the pinion equals the outer diameter of the pipe element and the pitch circle diameters of the traction surfaces equal the pitch circle diameters of the gears.

Classifications:

International (IPC 8-9): A62C35/68 B05B15/06 B21B27/02 B21D15/04 B21D15/06 B21D17/02 B21D17/04 B21D31/00 B21D37/20 F16H1/28 F16H53/02 (Advanced/Invention)

CPC: B21D17/04 B21H1/18 F16H1/28 F16H53/025

US: 1/1



Family:

Publication number	Publication date	Application number	Application date
TW201929973 A	20190801	TW20180145922	20181219
US2019184441 AA	20190620	US20180214494	20181210
WO19125855 A1	20190627	WO2018US65136	20181212

Priority:

US20170607340P 20171219 US20180717086P 20180810 US20180214494 20181210

Probable Assignee: VICTAULIC CO OF AMERICA

Assignee(s): (std): VICTAULIC CO OF AMERICA

Assignee(s): VICTAULIC CO

Inventor(s): (std): DOLE DOUGLAS R ; DOLE DOUGLAS

Agent(s): CHIONCHIO JOHN A ET AL

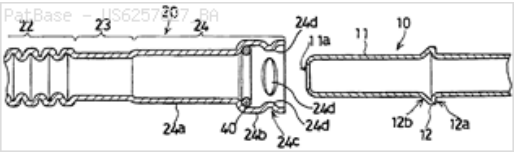
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN 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

14) Family number: 13761232 (US6257627B)

Title: TUBE CONNECTABLE TO PIPE

Abstract: A tube to be connected to a pipe is formed of a base portion, a wide portion and a narrow portion integrally molded together. The wide portion has an inner end extending to the base portion, and an opening formed at a side opposite to the inner end. An inner diameter of the wide portion is greater than that of the base portion. When the pipe is inserted, the base portion receives an insertion portion of the pipe, while the wide portion receives a projecting portion of the pipe therein. The narrow portion deformably projects inwardly from an inner circumference of the wide portion at a position away from the inner end. The narrower portion allows the projecting portion to pass therethrough in a pipe inserting direction by deformation thereof, and prevents the projecting portion from passing therethrough in a pipe removing direction opposite to the pipe inserting direction.

Classifications:
International (IPC 8-9): B29C49/38 F16L37/02 F16L47/06 (Advanced/Invention); B29C49/28 F16L37/00 F16L47/00 (Core/Invention)
International (IPC 1-7): B29C49/38 F16L37/084 F16L47/06
CPC: Y10S285/921 F16L37/02 F02M55/002
European: F16L37/02
US: 285/305 285/921



Family:

Publication number	Publication date	Application number	Application date
JP2000274579 A2	20001003	JP19990079188	19990324
US6257627 BA	20010710	US20000525118	20000314

Priority:

JP19990079188 19990324

Probable Assignee: NIFCO INC

Assignee(s): (std): NIFCO INC

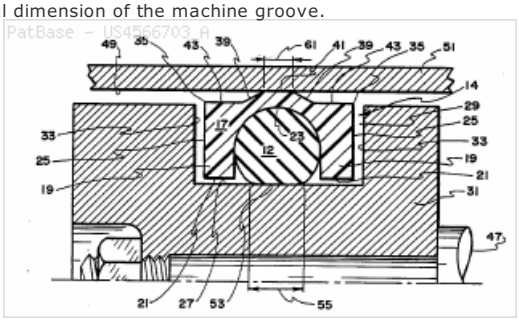
Inventor(s): (std): FUJIWARA TATSUYA ; KURIHARA KAZUMASA

15) Family number: 4986234 (US4566703A)

Title: Seal assembly

Abstract: A two element, high and low pressure seal assembly to be used in a hydraulic or pneumatic sealing environment between two relatively movable machine parts, the seal assembly comprising a spring element, circular or rectangular in cross-section and made of a relatively soft elastomeric material, and spring element being substantially contiguously surrounded along all but a small exposed area and contained within an annular slot of a house-shaped elastomeric annular sealing member whereby an integral assembly is formed for easy installation and unitary response. The house-shaped sealing element comprises a central body from which two anti-extrusion legs radially extend. The legs are located fore and aft of the spring element within an annular peripheral groove in one machine part and are disposed perpendicular or radial to the axis of said machine part. Projecting radially beyond said machine part is a convergingly tapered gabled surface defining a central apex or tip portion, said tip portion creating a narrow band contact dynamic seal area between the apex per se and the second machine part when the seal assembly is in said machine part groove and compressed between the two machine parts. The sealing element may project either radially inwardly or radially outwardly from the spring element. The axial dimension of the entire seal assembly is slightly smaller than the axial dimension of the machine groove.

Classifications:
International (IPC 8-9): F16J15/32 (Advanced/Invention); F16J15/32 (Core/Invention)
International (IPC 1-7): F16J15/24 F16J9/06
CPC: Y10S277/909 F16J15/3208
European: F16J15/32B2
US: 277/165 277/188R 277/436 277/468 277/472 277/474 277/582 277/584 277/589 277/909



Family:

Publication number	Publication date	Application number	Application date
US4566703 A	19860128	US19830503941	19830613
US4577874 A	19860325	US19850755639	19850716

Priority:

US19780883448 19780306 US19790058341 19790717 US19810257045 19810424
US19830503941 19830613 US19850755639 19850716

Probable Assignee: MACROTECH POLYSEAL INC

Assignee(s): (std): MICRODOT INC

Assignee(s): MACROTECH POLYSEAL INC ; MICRODOT INC 2 FIRST NATIONAL PLAZA 18TH FLOOR 20 ; MACROTECH FLUID SEALING INC ; MACROTECH FLUID SEALING INC A DE CORP

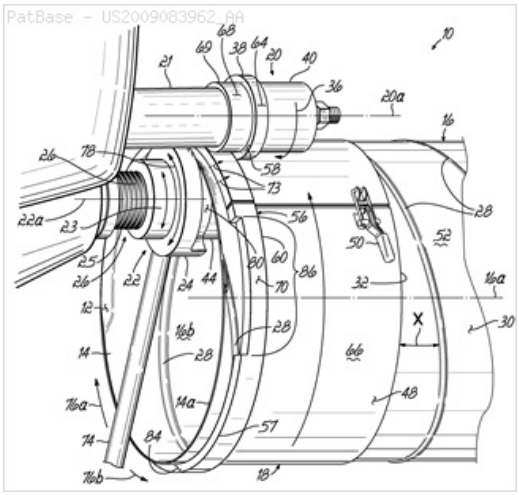
Inventor(s): (std): ZITTING GORDON T

16) Family number: 43088235 (US2009083962A)

Title: FLANGE-FORMING SYSTEM FOR TUBE AND RELATED METHODS

Abstract: In one embodiment, a system is provided for forming a flange at an end of a tube. The system includes a collar that is configured to surround the tube, and a first roller engaging the collar. A second roller is configured to cooperate with the first roller to rotate the collar and the tube and includes a depression configured to receive a radially inwardly protruding portion of the tube therein. A rotatable cam cooperates with the second roller and includes a cam surface configured to bend the end of the tube to thereby form the flange. The depression may be configured to restrict axial movement of the tube relative to the collar. The depression may include an annular recess that is circumferentially disposed about the second roller.

Classifications:
International (IPC 8-9): B21B1/00 B21C3/02 B21D15/04 B21D19/00 B21D22/00 B23P11/00 B23P17/00 F16L13/14 F16L21/02 F16L23/00 F16L35/00 F24F13/06 (Advanced/Invention); B21C3/00 B23P11/00 B23P17/00 F16L13/14 F16L21/02 F16L23/00 F16L35/00 F24F13/06 (Core/Invention)
CPC: Y10T29/49826 Y10T29/49915 Y10T29/4943 B21D19/046 F16L23/04 F16L23/06 F24F13/0209 F24F13/0245
European: B21D19/04B F16L23/04 F16L23/06 F24F13/02A F24F13/02E
US: 285/27 285/27P 285/331 285/337 285/337P 285/365 285/382.5 285/382.500S 285/394 285/394S 285/405 285/405S 285/420 285/424 29/428 29/428S 29/509 29/509P 29/592 29/592S 29/890.141 454/306 454/306S 72/105 72/106 72/120 72/125 72/274 72/274S 72/352 72/352P 72/362 72/362S 72/370.11 72/370.110S 72/460 72/50 72/67 72/67P



Family:

Publication number	Publication date	Application number	Application date
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US2009085347 AA	20090402	US20070862472	20070927
US2009085349 AA	20090402	US20080167310	20080703
US2010038902 AA	20100218	US20090604503	20091023
US2011296888 AA	20111208	US20110209936	20110815

US2011296894 AA	20111208	US20110209973	20110815
US7997112 BB	20110816	US20070862472	20070927
US8322758 BB	20121204	US20090604503	20091023
US8584497 BB	20131119	US20110209936	20110815

Priority:

US20070862472 20070927 US20080167310 20080703 US20080270172 20081113
US20090604503 20091023 US20110209936 20110815 US20110209973 20110815

Probable Assignee: LANGDON INC

Assignee(s): (std): LANGDON INC ; SANDMAN JOSEPH P ; SANDMAN MICHAEL N

Inventor(s): (std): SANDMAN JOSEPH P ; SANDMAN MICHAEL N

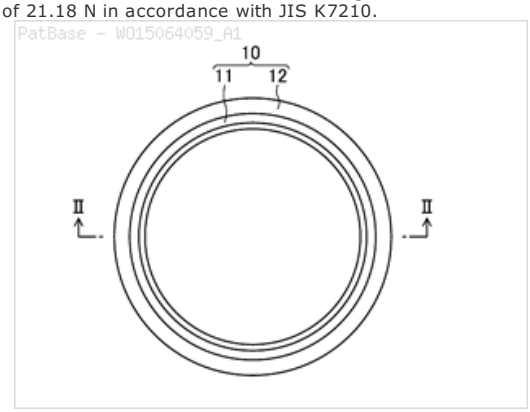
Agent(s): WOOD HERRON AND EVANS LLP

17) Family number: 59142243 (WO15064059A1)

Title: SEALING MATERIAL AND SEALING STRUCTURE USING SAME

Abstract: This sealing material (10) comprises a resin ring (11) and an elastic ring (12). The resin ring (11) is formed of a resin composition which contains a polyamide resin and a polyolefin resin and has a melt flow rate of 1-50 g/10min as measured at a temperature of 230 degrees centigrade under a load of 21.18 N in accordance with JIS K7210.

Classifications:
International (IPC 8-9): C09K3/10 F16J15/20 F16J15/24 (Advanced/Invention)
CPC: C09K3/1006 C09K2200/0617 C09K2200/0667 Y10S277/944 F16J15/3208 F16J15/20 F16J15/24



Family:

Publication number	Publication date	Application number	Application date
CN105705844 A	20160622	CN201480059206	20141021
CN105705844 B	20171114	CN201480059206	20141021
JP2015064059 A1	20170309	JP20150544787T	20141021
KR20160078374 A	20160704	KR20167012608	20141021
WO15064059 A1	20150507	WO2014JP05342	20141021

Priority:

JP20130225252 20131030 WO2014JP05342 20141021

Probable Assignee: MITSUBISHI CABLE IND LTD

Assignee(s): (std): MITSUBIHI CABLE IND LTD ; MITSUBISHI CABLE IND LTD

Inventor(s): (std): KANOU YASUJI ; MATSUURA KIMITERU ; MINAMISHIMA MISA

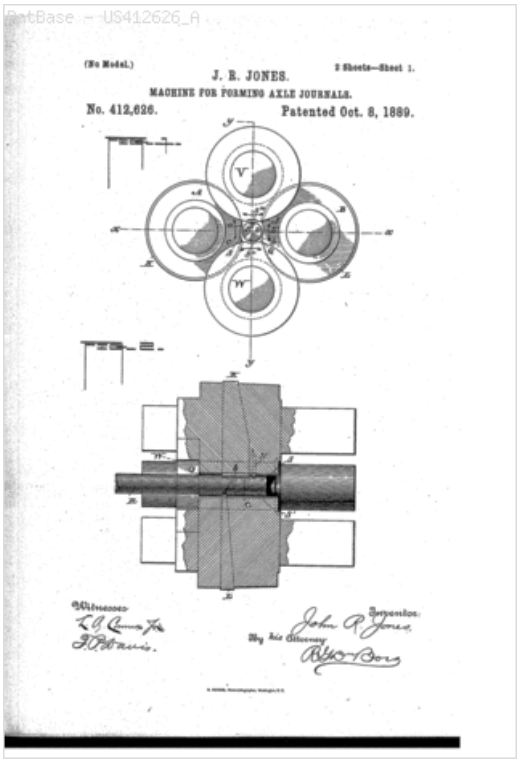
Agent(s): MAEDA AND PARTNERS

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

18) Family number: 27448276 (US412626A)

Title: MACHINE FOR FORMING AXLE-JOURNALS

Classifications:
CPC: B21H1/18
US: 72/107



Family:

Publication number	Publication date	Application number	Application date
US412626 A	18891008		00000000

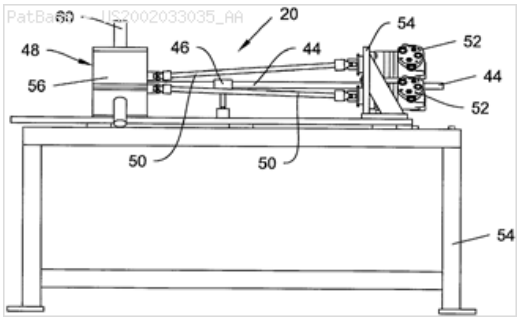
Inventor(s): JOHN R JONES

19) Family number: 20153296 (US2002033035A)

Title: APPARATUS AND METHODS FOR FORMING INTERNALLY AND EXTERNALLY TEXTURED TUBING

Abstract: A machine may produce a tube having textured internal and external surfaces in a single operation. Inner and outer knurling tools may form the textured surfaces. The texturing of the internal and external surfaces may be helical patterns of ribs and grooves. The height of the ribs formed in the internal and external surfaces may be less than about 35 mils. The angles of the patterns relative to a longitudinal axis of the tube may be less than about 45 degrees. The angle of the helical pattern allows textured tubes to be used as heat exchanger elements wherein flow is directed substantially coaxial to the longitudinal axes of the tubes. The helical pattern formed in the external surface may be oriented in a right hand or left hand helical orientation. Similarly, the helical pattern formed in the internal surface may be oriented in a right hand or left hand orientation.

Classifications:
International (IPC 8-9): B21C37/20 (Advanced/Invention); B21C37/15 (Core/Invention)
International (IPC 1-7): B21B19/08 B21C37/00 B21C37/20 B21C37/26 B23P15/26
CPC: Y10S72/703 B21C37/207 Y10T29/49382 Y10T29/49384 Y10T29/49385 Y10T29/49391 Y10T29/5166
European: B21C37/20D
US: 29/49 29/890.048 29/890.049 29/890.05 29/890.053 29/890.48 72/100 72/105 72/121 72/703 72/78 72/96 72/960 72/98



Family:

Publication number	Publication date	Application number	Application date
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AU200192977 A5	20020402	AU20010092977	20010921
EP1318880 A2	20030618	EP20010973391	20010921
US2002033035 AA	20020321	US20010902870	20010710
US2004250587 AA	20041216	US20040889622	20040712
US6760972 BB	20040713	US20010902870	20010710
US6968719 BB	20051129	US20040889622	20040712
WO0224365 A2	20020328	WO2001US29710	20010921
WO0224365 A3	20020613	WO2001US29710	20010921

Priority:

US20000234458P 20000921 US20010902870 20010710 WO2001US29710 20010921 US20040889622 20040712

Probable Assignee: PACKLESS METAL HOSE INC

Assignee(s): (std): PACKLESS METAL HOSE INC ; ZIFFERER L ROBERT

Inventor(s): (std): ZIFFERER L ROBERT

Inventor(s): ZIFFERER L ; L ROBERT ZIFFERER

Agent(s): ERIC B; MEYERTONS HOOD KIVLIN KOWERT AND GOETZEL PC

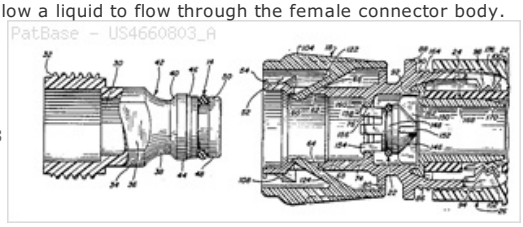
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PH PL PT RO RU SD SE SG SI SK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

20) Family number: 3796306 (US4660803A)

Title: QUICK COUPLING CONNECTOR FOR CONNECTING FLEXIBLE LIQUID CONDUITS

Abstract: The present invention is a quick coupling connector for use in connecting and disconnecting hoses adapted for conducting liquids. The connector includes a unitary molded plastic male connector body having a flow through passage extending therethrough. The body includes a guide cylinder, a lock recess adjacent to the guide cylinder, and a seating cylinder adjacent to the lock recess. The seating cylinder has an annular seal groove. An inner body O-ring is positioned in the seal groove. A unitary molded plastic female connector body having a flow through passage selectively mateably receives the male connector body. The female connector body includes a guide tube receiving the guide cylinder, a lock tube having a lock finger aperture, and a seating cylinder connected to the guide cylinder and sealingly engageable with the inner body O-ring. A mounting tube is connected to the seating tube. A tubular hose nose is mounted in the mounting tube. A locking sleeve is mounted on the mounting tube for holding a hose mounted on the hose nose. A unitary molded plastic lock ring is movably mounted on the female body having a portion engageable with the male connector body. A valve is mounted in the female connector body to control the flow of liquid through the female connector body. The valve is engageable with the male connector body to be displaced from its closed attitude to allow a liquid to flow through the female connector body.

Classifications:
International (IPC 8-9): F16L37/22 F16L37/28
F16L37/40 (Advanced/Invention);
F16L37/00 F16L37/28 (Core/Invention)
International (IPC 1-7): F16L37/28
CPC: Y10S285/921 F16L37/0985 F16L37/22 F16L37/40 Y10T137/7913
European: F16L37/098D F16L37/22 F16L37/40
US: 137/533.17 251/149.1 285/24 285/315 285/323 285/921



Family:

Publication number	Publication date	Application number	Application date
CA1287851 A1	19910820	CA19860512652	19860627
US4660803 A	19870428	US19860833143	19860226

Priority:

US19860833143 19860226 CA19860512652 19860627

Probable Assignee: SUNCAST CORP

Assignee(s): (std): SUNCAST CORP

Assignee(s): GARCIA GEORGE L ; JOHNSTON DAMON A

Inventor(s): (std): JOHNSTON DAMON A ; GARCIA GEORGE L

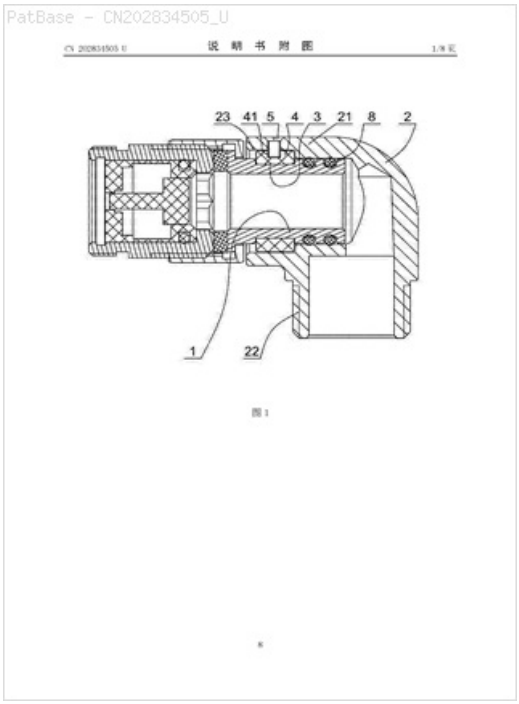
Agent(s): MACRAE AND CO

21) Family number: 53018312 (CN202834505U)

Title: CONNECTION STRUCTURE OF SHOWER HEAD AND SHOWER FAUCET

Abstract: The invention discloses a connection structure between a shower head and a shower faucet. The connection structure comprises a tubular water outlet connector transversely arranged on the shower head. The connection structure further comprises a 90-degrees corner joint, wherein one end of the 90 degrees corner joint is sleeved on the water outlet connector, the other end is an outer tooth joint; a sealing structure is arranged between the 90 degrees corner joint and the water outlet connector; an annular neck is arranged on an outside lateral wall of the water outlet connector, a frictional ring is arranged in the annular neck; a fastening structure is arranged between the 90-degrees corner joint and the frictional ring; the fastening structure comprises a positioning blind hole arranged in an outside lateral face of the frictional ring, and a fastening screw arranged on the outside lateral wall of the 90-degrees corner joint and corresponding to the positioning blind hole on the frictional ring; one inward end of the fastening screw is plugged into the positioning blind hole. By adopting the connection structure, bending of a hose of the shower head can be avoided; and service life of the connection structure is beneficially prolonged. Furthermore, the connection structure is simple in structure, good in sealing effect and high in connection strength.

Classifications:
International (IPC 8-9): F16L27/093 F16L33/00 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN102913703 A	20130206	CN201210350263	20120920
CN102913703 B	20140910	CN201210350263	20120920
CN202834505 U	20130327	CN201220481147U	20120920

Priority:

CN201210350263 20120920 CN201220481147U 20120920

Probable Assignee: MAIN PLAN NINGBO BATHROOM COLLECTIONS CO LTD

Assignee(s): (std)**:** MAIN PLAN NINGBO BATHROOM COLLECTIONS CO LTD ; NINGBO MAIN PLAN BATHROOM ACCESSORIES AND HARDWARE ; NINGBO MAIN PLAN BATHROOM ACCESSORIES AND HARDWARE CO LTD

Assignee(s): MAIN PLAN NINGBO BATHROOM COLLECTIONS CO

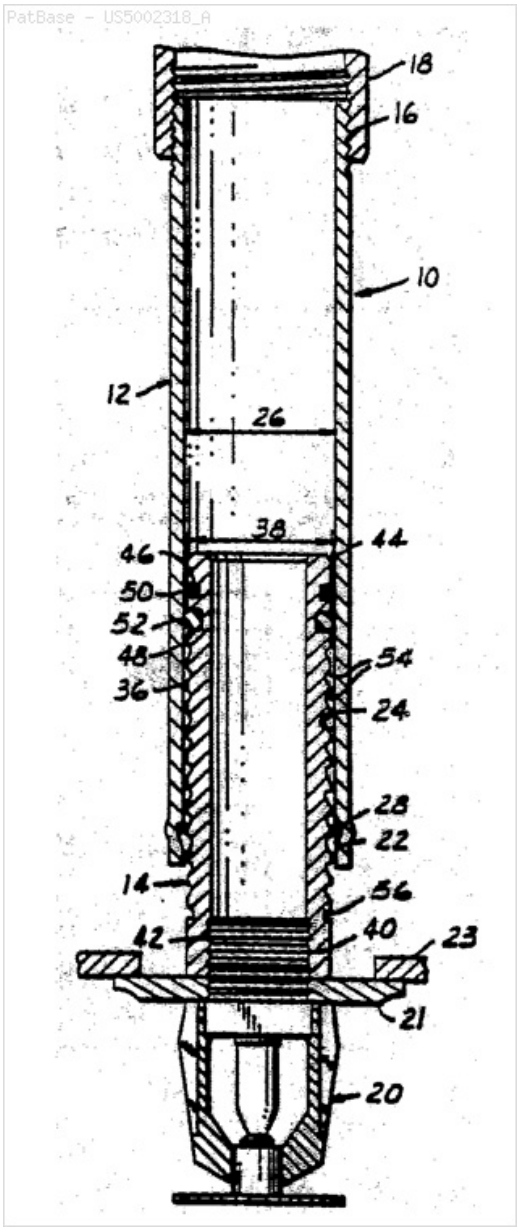
Inventor(s): (std)**:** SHI QINGHAI

22) Family number: 3377316 (US5002318A)

Title: VARIABLE LENGTH PIPE CONNECTOR AND METHOD OF MANUFACTURE AND USE

Abstract: The pipe connector which may be varied in length and a method for installing the connector is disclosed. Also disclosed is a tool for aiding in the fabrication of a portion of the connector. The connector consists of two telescoping pipes which are joined by the action of a wire spring positioned in recesses in the two pipes. The recesses are designed to allow only one-way movement between the telescoping pipes until such time as a release groove is reached. The release groove is positioned on one of the pipes beyond the normal operating length of the connector. When the wire is positioned in the groove, the pipes may be separated. The tool described allows for on site fabrication of the notch for one of the pipes.

Classifications:
International (IPC 8-9): A62C35/68 F16L15/02 F16L27/12 (Advanced/Invention);
A62C35/58 F16L15/00 F16L27/12 (Core/Invention)
International (IPC 1-7): A62C35/68 F16L15/02 F16L27/12
CPC: F16L27/1273
European: F16L27/12
US: 169/37 239/209 285/302 285/303 285/321



Family:

Publication number	Publication date	Application number	Application date
AU199065396 A1	19910428	AU19900065396	19900927
AU645040 B2	19940106	AU19900065396	19900927
CA2066758 AA	19920324	CA19902066758	19900927
DE69021578 D1	19950914	DE19906021578	19900927
DE69021578 T2	19960111	DE19906021578T	19900927
EP0494249 A1	19920715	EP19900915353	19900927
EP0494249 A4	19921007	EP19900915353	19900927
EP0494249 B1	19950809	EP19900915353	19900927
JP5503020 T2	19930527	JP19900514359T	19900927
US5002318 A	19910326	US19890414109	19890928
WO9105198 A1	19910418	WO1990US05517	19900927

Priority:

US19890414109 19890928 WO1990US05517 19900927

Probable Assignee: XYZYX INT CORP

Assignee(s): (std): XYZYX INT CORP

Assignee(s): XYZYX INT CORP DALLAS TEX US ; ALDRIDGE BOYD S ; BOYD S ALDRIDGE ; WITTER MELVIN L ; XYZYX INT

Inventor(s): (std): WITTER MELVIN L ; WITTER MELVIN

Inventor(s): MELVIN L WITTER ; WITTER MELVIN L DALLAS TX 75243 US

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; MACRAE AND CO

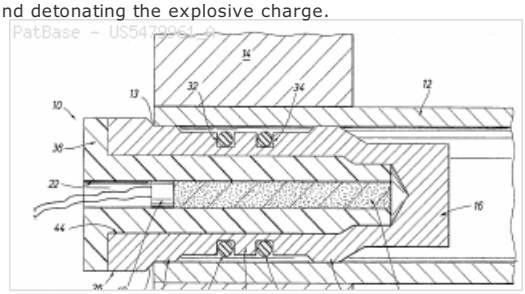
Designated states: AT AU BE CA CH DE DK ES FR GB IT JP LU NL SE SU US

23) Family number: 12316316 (US5479961A)

Title: METHOD OF PLUGGING A HEAT EXCHANGER TUBE AND PLUG THEREFOR

Abstract: A plug for sealing the open end of a tube located in an opening in a tube sheet of a heat exchanger is described along with a method of installing the plug. The plug is comprised of a generally cylindrical metallic body of ductile material that is inserted into the open end of the tube at the tube sheet. The body carries one or more resilient seal rings and has a longitudinally extending blind central opening in the body. A body of pressure transmitting material, such as polyethylene is located in the body and an explosive charge is located in a longitudinally extending central opening in the body of pressure transmitting material. The explosive charge, when detonated, expands the metallic body of the plug and the resilient seal ring into sealing engagement with the tube. A method of plugging a leaky metal tube in a heat exchanger tube bundle and tube sheet structure where the tubes extend through the tube sheet by inserting a metallic plug having an explosive charge inside the plug and a resilient seal on the outside of the plug into the tube and detonating the explosive charge.

Classifications:
International (IPC 8-9): F16L13/14 F16L55/11 F28F11/02 (Advanced/Invention); F16L13/14 F16L55/10 F28F11/00 (Core/Invention)
International (IPC 1-7): F16L55/10
CPC: F16L13/143 F16L13/147 F16L55/11 F28F11/02 Y10T29/4994
European: F16L13/14 F16L13/14B6 F16L13/14F F16L55/11 F28F11/02
US: 138/89 138/97 165/71 165/76 29/523



Family:

Publication number	Publication date	Application number	Application date
US5479961 A	19960102	US19940352895	19941209

Priority:

US19940352895 19941209

Probable Assignee: THERMAL ENGINEERING INT USA INC

Assignee(s): (std): SENIOR ENG COMP

Assignee(s): SENIOR ENGINEERING CO ; SENIOR ENGINEERING COMPANY ; THERMAL ENGINEERING INT ; THERMAL ENGINEERING INT (USA) INC ; THERMAL ENGINEERING INT USA INC ; CONGRESS FINANCIAL CORP ; PNC BANK NATIONAL ASSOCIATION

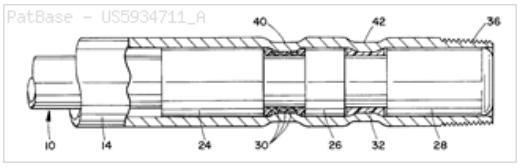
Inventor(s): (std): DEMARSH PETER L ; CRAWFORD WILLIAM W

24) Family number: 11294400 (US5934711A)

Title: Mold shot riser element with O-ring sealing

Abstract: A gas riser apparatus having an O-ring sealing arrangement according to the present invention provides improved sealing between an inner pipe and an outer pipe of the riser apparatus. The riser apparatus includes an inner plastic pipe having one or more grooves for receiving resilient sealing members. A plurality of O-rings are disposed within one annular groove and an outer metal pipe is telescoped over the plastic pipe. An annular crimp extends around the outer metal pipe at a location of the plurality of O-rings and forms a seal between an inner surface of the metal pipe and an exterior of the plastic pipe by compressing the O-rings. This O-ring seal configuration provides substantially improved low temperature sealing.

Classifications:
International (IPC 8-9): F16L21/035 F16L47/24 (Advanced/Invention); F16L47/00 (Core/Invention)
International (IPC 1-7): F16L1/06 F16L11/12 F16L21/035 F16L57/00 F16L7/02 F17D1/04 F17D5/00
CPC: F16L47/005 F16L47/24
European: F16L47/00B F16L47/24
US: 285/351 285/382 285/45 285/55



Family:

Publication number	Publication date	Application number	Application date
AU199878817 A1	19990218	AU19980078817	19980805
AU727773 B2	20001221	AU19980078817	19980805
CA2240354 AA	19990206	CA19982240354	19980611
US5934711 A	19990810	US19970906922	19970806

Priority:

US19970906922 19970806 CA19982240354 19980611

Probable Assignee: ELSTER PERFECTION CORP

Assignee(s): (std): PERFECTION CORP

Assignee(s): DEUTSCHE BANK AG ; DEUTSCHE BANK LONDON SECURITY AGENT AG AS ; ELSTER PERFECTION CORP ; GADY RICHARD

Inventor(s): (std): GADY RICHARD

Inventor(s): RICHARD GADY

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; BKP GP

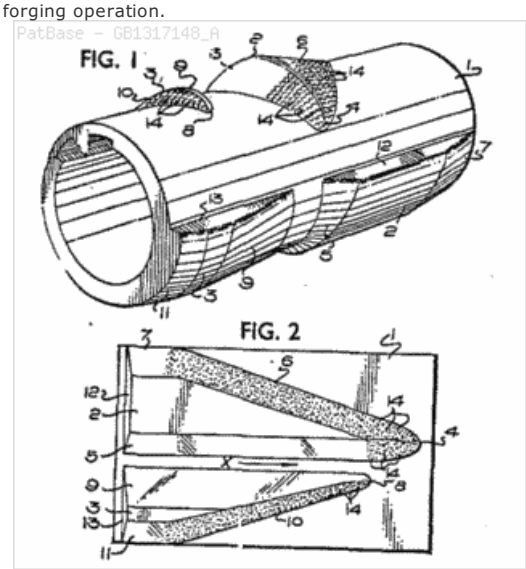
25) Family number: 3746436 (GB1317148A)

Title: SHAPING BODIES BY TRANSVERSE ROLLING

Abstract: 1317148 Transverse rolling DROP FORGING RESEARCH ASSOCIATION 3 Dec 1971 56369/71 Heading B3M A roll, which is used in co-operation with another roll in transverse rolling a workpiece, is provided on at least one of its workpiece engaging surfaces with dimples which increase the frictional grip between the roll and workpiece. The dimples, which may be formed at random with a centre punch, have a depth of between 0A005 and 0A025 inch (preferably 0A010 inch) and a radius of between 0A050 and 0A125 inch (preferably 0A100 inch).. In the developed view (Fig. 2) of the roll shown in Fig. 1, the dimples are indicated on the helical reduction surfaces 6 and 10, and on the tip 4 of the surface 5. The projections formed on

a workpiece during rolling are readily removed during a subsequent forging operation.

Classifications:
International (IPC 8-9): B21H1/18 (Advanced/Invention); B21H1/00 (Core/Invention)
International (IPC 1-7): B21B27/02 B21H1/18
CPC: B21H1/18
European: B21H1/18



Family:

Publication number	Publication date	Application number	Application date
GB1317148 A	19730516	GB19710056369	19711203

Priority:
GB19710056369 19711203

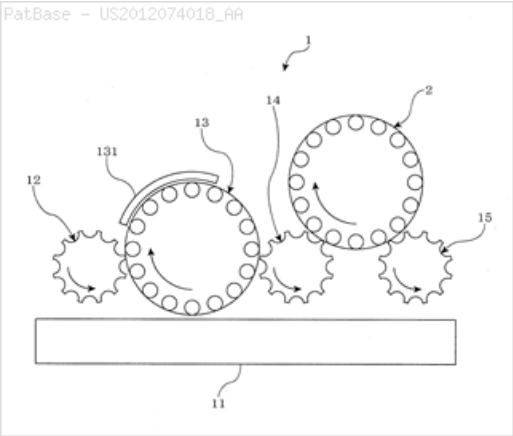
Probable Assignee: DROP FORGING RESEARCH ASS
Assignee(s): (std): DROP FORGING RESEARCH ASS
Assignee(s): DROP FORGING RESEARCH ASSOCIATION

26) Family number: 47810454 (US2012074018A)

Title: EMBOSSING DEVICE, EMBOSSING METHOD, AND EMBOSSED CAN

Abstract: To provide an embossing device, an embossing method and an embossed can which are capable of conducting embossing having a non-shaped section and an arbitral number of embossed areas, and are capable of improving quality or productivity. An embossed can 10 is a double-embossed surface can in which on a can barrel 101 a first pattern 104 is printed; a first concave part 105 is formed in the state that it is so positioned as to almost conform to the first pattern 104; a second pattern 106 is printed at a position which is distant in the circumferential direction with the non-shaped section therebetween; and a second concave portion 107 is formed in the state that it is so positioned as to almost conform to the second pattern 106.

Classifications:
International (IPC 8-9): B21D22/02 B21D22/04 B21D22/08 B21D22/18 B21D51/26 B31F1/07 B44B5/02 B65D25/20 B65D85/00 (Advanced/Invention); B21D22/08 (Core/Invention)
International (IPC 1-7): B21D22/08
CPC: B21D51/2692 B21D51/2607 B44B5/0009 B44B5/024
European: B21D17/04 B21D51/26A B21D51/26T
US: 101/23 101/23S 101/32 101/32S 206/459.5 206/459.500P 72/105 72/15.3 72/17.3 72/405.03



Family:

Publication number	Publication date	Application number	Application date
CN102458706 A	20120516	CN201080024388	20100528
CN102458706 B	20141015	CN201080024388	20100528
EP2439006 A1	20120411	EP20100783115	20100528
EP2439006 A4	20170315	EP20100783115	20100528
EP2439006 B1	20180228	EP20100783115	20100528
JP2010279977 A2	20101216	JP20090136094	20090605
JP5428549 B2	20140226	JP20090136094	20090605
TH116610 A	20121001	TH20111003466	20100528
TH52400 B	20161117	TH20111003466	20100528
US2012074018 AA	20120329	US20100375916	20100528
US9003851 BB	20150414	US20100375916	20100528
WO10140327 A1	20101209	WO2010JP03588	20100528

Priority:
JP20090136094 20090605 WO2010JP03588 20100528

Probable Assignee: TOYO SEIKAN KAISHA LTD

Assignee(s): (std): NAKAMURA MASAYUKI ; OBATA KAZUMOTO ; OOKUBO WATARU ; SASAKI KEIJI ; TOYO SEIKAN GROUP HOLDINGS LTD ; TOYO SEIKAN KAISHA LTD

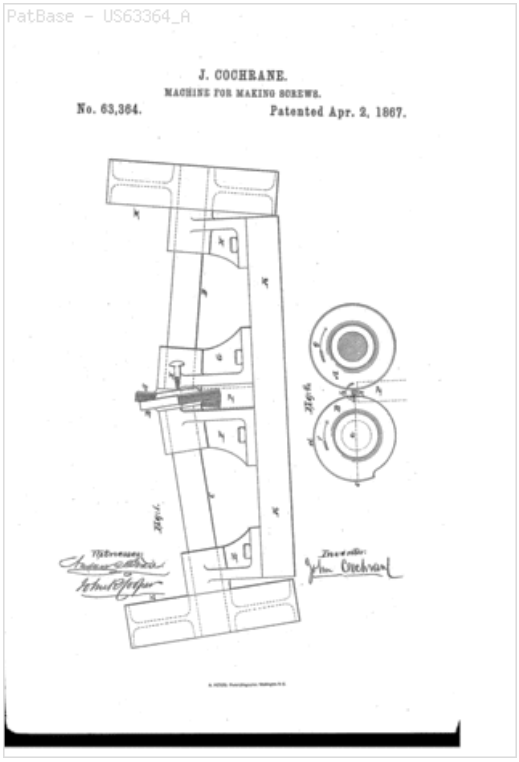
Inventor(s): (std): KAZUMOTO OBATA ; KEIJI SASAKI ; OBATA KAZUMOTO ; NAKAMURA MASAYUKI ; OKUBO WATARU ; MASAYUKI NAKAMURA ; OOKUBO WATARU ; SASAKI KEIJI ; WATARU OOKUBO

Agent(s): LIEBETANZ MICHAEL; WATANABE KIHEI; MANABU

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 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

27) Family number: 28759463 (US63364 A)

Classifications:
CPC: B21D17/04
US: 72/105



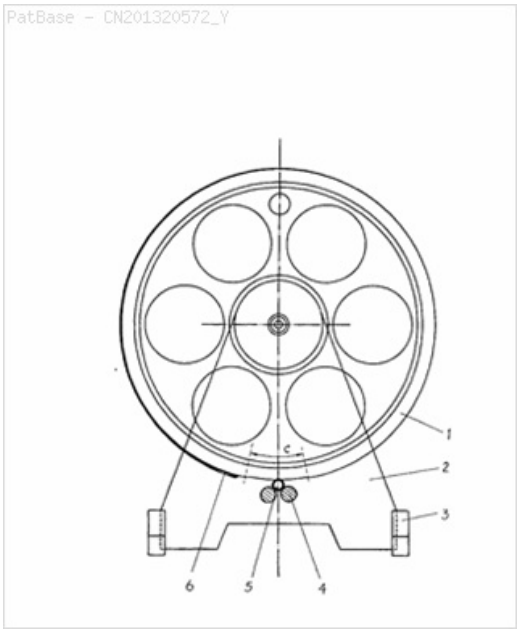
Family:

Publication number	Publication date	Application number	Application date
US63364 A	18670402		00000000

28) Family number: 43846497 (CN201320572Y)

Title: Channeling machine

Abstract: The utility model relates to a channeling machine used for producing annular grooves on the metal tubular or hollow product using rolling method, which is characterized in that roller are supported and connected at the upper part of two supporting plates, and the lower part of the two supporting plates is fixedly connected with a base plate; material penetrating holes which are tangent to the bottom outer edge of the roller are arranged on the supporting plates; two parallel supporting rollers which are arranged at the lower part of the material penetrating holes are connected between the two supporting plates; and the roller face of the roller is manufactured with an outward protruding cutter line which is a gradient protruding ridge with the height and width being zero at the beginning end and maximum at the terminal. The roller rotates for one round, the rolling running with the height and width from zero to maximum of the protruding ridge of the outward protruding cutter line can be completed, and corresponding annular grooves are rolled on the hollow circular tube.
Classifications:
International (IPC 8-9): B21D15/06 B21D17/04 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN201320572 Y	20091007	CN200820228026U	20081225

Priority:

CN200820228026U 20081225

Probable Assignee: HEBEI NGREEN LIVING ENVIRONMEN

Assignee(s): (std)**:** HEBEI NGREEN LIVING ENVIRONMEN

Assignee(s): HEBEI NGREEN LIVING ENVIRONMENT DEVELOPMENT CO

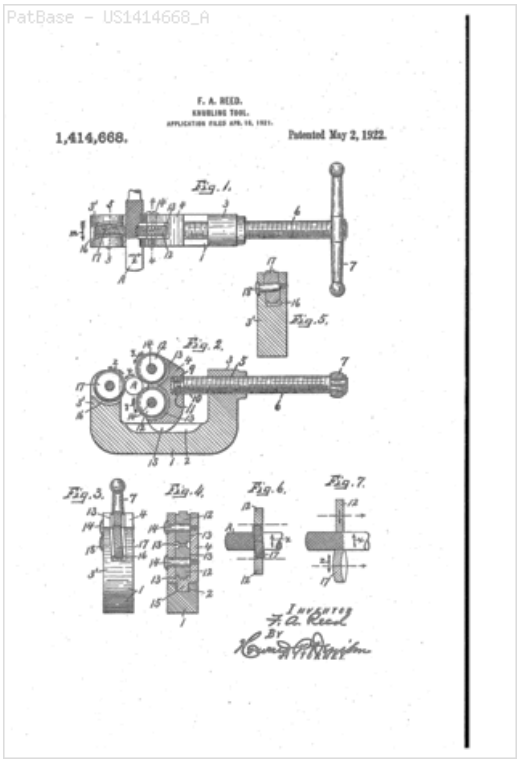
Inventor(s): (std)**:** XIAOXIA LIAN ; YUFA SHI

Inventor(s): LIAN XIAOXIA ; SHI YUFA

29) Family number: 18480507 (US1414668A)

Title: KNURLING TOOL

Classifications:
International (IPC 8-9)**:** B23B27/24 (Advanced/Invention); B23B27/00 (Core/Invention)
International (IPC 1-7)**:** B44B3/00
CPC: Y10S72/703 B21H7/14 B23B27/24
European: B21H7/14 B23B27/24
US: 72/100 72/107 72/703



Family:

Publication number	Publication date	Application number	Application date
US1414668 A	19220502	US19210462008	19210416

Priority:

US19210462008 19210416

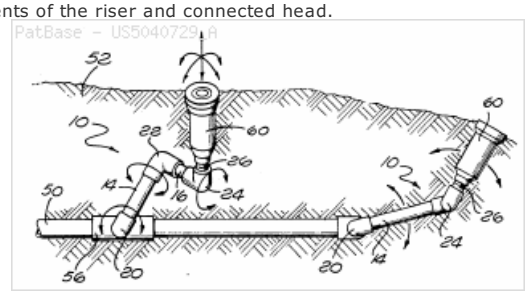
Probable Assignee: REED FRED A
Assignee(s): (std): REED FRED A
Inventor(s): (std): REED FRED A

30) Family number: 4726517 (US5040729A)

Title: SPRINKLER SYSTEM

Abstract: A sprinkler system employs an articulated riser for adjustable sprinkler head positioning. The system allows for positioning each sprinkler head to compensate for ground irregularities by adjusting the position of the riser. The riser may be supplied for field use in assembled condition for direct fixed connection to T joints on the water main without excess ground digging. This substantially reduces part count for field use and system installation time. The joints of the riser provide leakproof movable connections which allow for the position adjustments of the riser and connected head.

Classifications:
International (IPC 8-9): B05B15/06 (Advanced/Invention); B05B15/00 (Core/Invention)
International (IPC 1-7): B05B15/08
CPC: Y10S285/921 B05B15/656 B05B15/652
European: B05B15/06B1 B05B15/06B2
US: 239/201 239/207 239/269 285/147.1 285/168 285/181 285/276 285/921



Family:

Publication number	Publication date	Application number	Application date
US5040729 A	19910820	US19900480713	19900215

Priority:
US19900480713 19900215

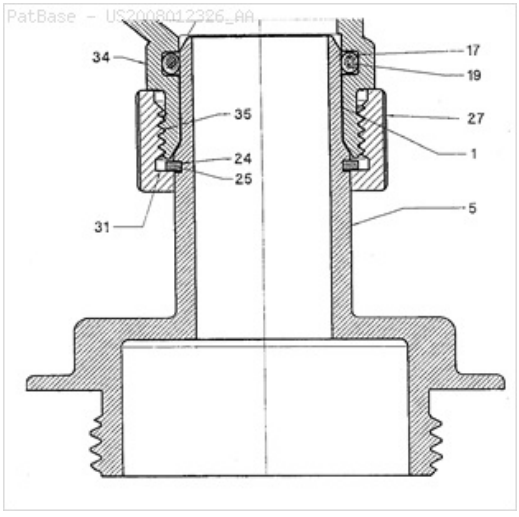
Probable Assignee: CARROZZA MARK J
Assignee(s): (std): CARROZZA MARK J
Inventor(s): (std): CARROZZA MARK J

31) Family number: 34274519 (US2008012326A)

Title: CONNECTION VALVE

Abstract: Connection for connecting a fitting to a water heater or other types of pressure tank. The connection comprises an adapter for permanent fitting to the tank, where the adapter and the fitting comprise complimentary formed parts, namely a holder and a pipe stub. The holder and the pipe stub each have a through boring to provide a fluid connection between the tank and the fitting. A nut is screwed onto the holder. The pipe stub comprises a locking groove for engagement of a locking ring. The nut is arranged to prevent the locking ring from moving axially in relation to the holder, so that the pipe stub is prevented from moving axially in relation to the holder.

Classifications:
International (IPC 8-9): F16L19/00 F16L19/02 F16L19/025 F16L21/08 F16L25/00 F16L37/088 F24H9/12 (Advanced/Invention); F16L19/00 F16L19/02 F16L21/08 F16L25/00 F16L37/00 F24H9/12 (Core/Invention); F24H (Subclass/Invention)
International (IPC 1-7): F24H
CPC: F16L19/0231 F16L37/088
European: F16L19/02F F16L37/088
US: 285/354



Family:

Publication number	Publication date	Application number	Application date
CA2558852 AA	20070228	CA20062558852	20060824
CN1932364 A	20070321	CN200610115194	20060830
EP1760382 A2	20070307	EP20060119518	20060825
EP1760382 A3	20090722	EP20060119518	20060825
NO20054055 A0	20050831	NO20050004055	20050831
NO20054446 A0	20050926	NO20050004446	20050926
NO20060792 A	20070301	NO20060000792	20060217
NO20060792 L	20070301	NO20060000792	20060217
US2008012326 AA	20080117	US20060469127	20060831

Priority:

NO20050004055 20050831 NO20050004446 20050926 NO20060000792 20060217
CA20062558852 20060824

Probable Assignee: BRAATHEN CHRIS REIDAR FROLICH

Assignee(s): (std): BRAATHEN CHRIS REIDAR FROELICH ; BRAATHEN CHRIS REIDAR FROLICH ; BRAATHEN THOR F ; SOLE AS ; OSO HOTWATER AS

Assignee(s): BRAATHEN THOR FROELICH ; BRAATHEN THOR FROLICH

Inventor(s): (std): BRAATHEN CHRIS REIDAR FROELICH ; BRAATHEN THOR FROELICH ; BRAATHEN THOR F ; BRAATHEN CHRIS R F ; FROLICH BRAATHEN THOR FROLICH ; BRAATHEN CHRIS REIDAR FROLICH ; BRAATHEN THOR FROLICH

Inventor(s): BRAATHEN THOR FROLICH BRAATHEN CHRIS REIDAR FROLIC ; BRAATHEN THOR FROLICH BRAATHEN CHRIS REIDAR ; BRAATHEN THOR ; BRAATHEN CHRIS ; BRAATHEN CHRIS RF

Agent(s): BORDEN LADNER GERVAIS LLP; TOFTING ARILD; SIERRA PATENT GROUP LTD

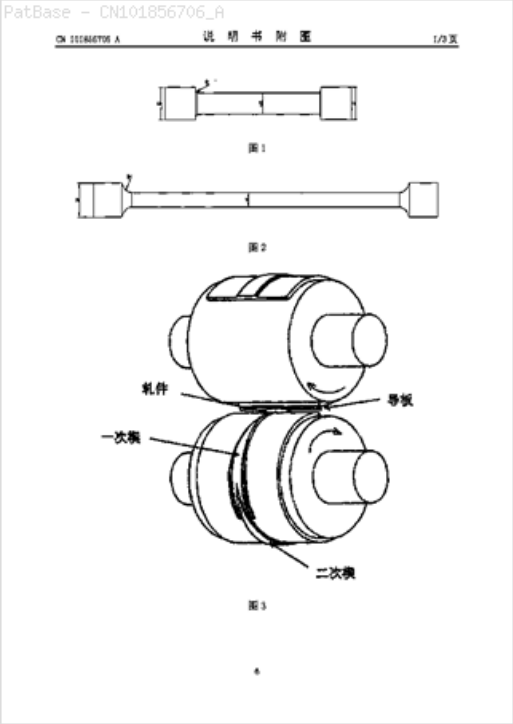
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO RS SE SI SK TR

32) Family number: 47418545 (CN101856706A)

Title: METHOD FOR FORMING AUTOMOTIVE ENGINE VALVE BLANKS ACCURATELY BY SECONDARY WEDGING CROSS WEDGE ROLLING

Abstract: The invention relates to a method for forming automotive engine valve blanks accurately by secondary wedging cross wedge rolling, which comprises the following steps that: circular bars are arranged on a hole pattern between a top die and a lower die through an axial feeding device; a roller with a wedge-shaped die rotates in the same direction; rolled pieces enter the die to perform primary wedge rolling in the process of rotation; the die continues to rotate, and the rolled pieces enter the die to perform secondary wedge rolling; and after the rolled pieces are subjected to radial compression and axial extension and deformation continuously for two times, the formed rolled pieces are cut in the middle to obtain a pair of automotive engine valve blanks, and thus the die rotates a circle to produce a pair of automotive engine valve blanks, wherein the forming angle alpha of the wedge-shaped die is between 26 and 36 degrees, the widening angle beta is between 5 and 10 degrees, and the wedge sharp filleted corner R is between 3 and 10 millimeters. Compared with the conventional electric heat upsetting process, the method has the advantages of reducing the cost, improving the productivity and bringing obvious economic benefits.

Classifications:
International (IPC 8-9): B21H1/14 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN101856706 A	20101013	CN201010194544	20100528
CN101856706 B	20120711	CN201010194544	20100528

Priority:

CN201010194544 20100528

Probable Assignee: UNIV BEIJING SCIENCE AND TECH

Assignee(s): (std): OF SCIENCE AND TECHNOLOGY BEIJING UNIV ; UNIV BEIJING SCIENCE AND TECH

Assignee(s): UNIVERSITY OF SCIENCE AND TECHNOLOGY BEIJING

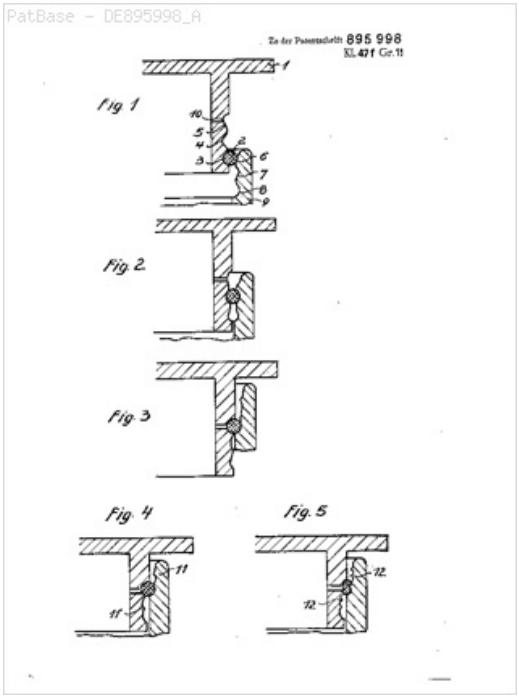
Inventor(s): (std): JIANGHUA HUANG ; JINPING LIU ; ZHENGHUAN HU ; KANGSHENG ZHANG ; CUIPING YANG ; ZHENHUA ZHENG ; XIAOFEI WANG

Inventor(s): HU ZHENGHUAN ; LIU JINPING ; ZHANG KANGSHENG ; WANG XIAOFEI ; HUANG JIANGHUA ; YANG CUIPING ; ZHENG ZHENHUA

33) Family number: 21308552 (DE895998A)

Title: VERFAHREN UND VORRICHTUNG ZUM VERSCHLIESSEN BZW. VERBINDEN VON VORZUGSWEISE DICHTUNGSFLAECHEN AN ROHREN, GEFAESSEN, FLASCHEN OD. DGL. HOHLKOERPERN UNTER VERWENDUNG VON RINGEN METHOD AND DEVICE FOR CLOSING OR CONNECTING TO PREFERABLY DICHTUNGSFLAECHEN PIPES, vessels, BOTTLE OD. DGL. HOHLKOERPERN USING RINGS (Machine translation)

Classifications:
International (IPC 8-9): B65D39/00 B65D39/04 B65D51/16 F16L21/025 (Advanced/Invention);
B65D39/00 B65D51/16 F16L21/02 (Core/Invention)
International (IPC 1-7): A01J7/00 F16J13/14 F16J15/06 F16L21/02 F16L37/08
CPC: F16L21/025 B65D39/0023 B65D39/04 B65D51/1688 B65D2539/006 F16L55/11
European: B65D39/00F3 B65D39/04 B65D51/16E3 F16L21/025 F16L55/11 L65D339/06 L65D539/00Y6



Family:

Publication number	Publication date	Application number	Application date
DE895998 A	19531109	DE1950K005615	19500721

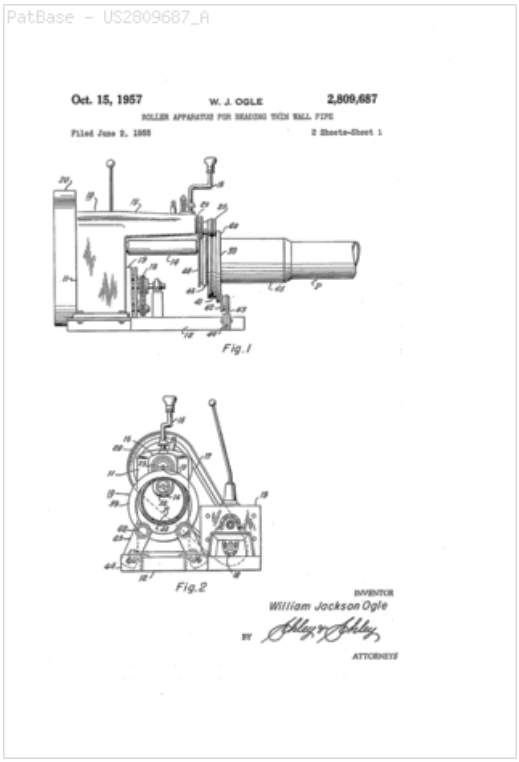
Priority:
DE1950K005615 19500721

Probable Assignee:	KNIEPKAMP HEINRICH ERNST DIPL
Assignee(s): (std):	KNIEPKAMP HEINRICH ERNST DIPL
Assignee(s):	KNIEPKAMP HEINRICH ERNST DIPL ING
Inventor(s): (std):	KNIEPKAMP HEINRICH ERNST DIPL
Inventor(s):	KNIEPKAMP HEINRICH ERNST DIPL ING

34) Family number: 22086562 (US2809687A)

Title: ROLLER APPARATUS FOR BEADING THIN WALL PIPE

Abstract: (Claim 1) vw_at I claim and desire to secure by Letters Patent is: I.' A pipe beading apparatus including inner and - outer forming rollers in closely spaced parallel relation and adapted to receive the wall of a pipe 'Lherebetween, means for rotati-ng the rollers, the inner roller having a radial convex port__on and the outer roller having a radial complementary portion coactiiig with the convex portion to form an annular bead on the pipe, and a ring encircling the pi-De and havin,_ a portion confiningly engaged bet,,4,een said ou'_er roller and pipe to provide an amplified sur-ficial cor_tact tnerebetween for preventing distortion of the pipe. 2.
Classifications:
International (IPC 8-9): B21D17/04 (Advanced/Invention);
B21D17/00 (Core/Invention)
International (IPC 1-7): B21D17/04
CPC: B21D17/04
European: B21D17/04
US: 72/101 72/105



Family:

Publication number	Publication date	Application number	Application date
US2809687 A	19571015	US19550512752	19550602

Priority:

US19550512752 19550602

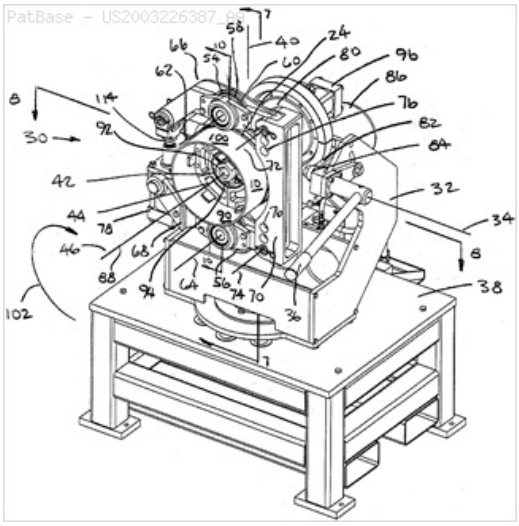
Probable Assignee:	GIFFORD HILL WESTERN
Assignee(s): (std)**:**	GIFFORD HILL WESTERN
Assignee(s):	GIFFORD HILL WESTERN INC
Inventor(s): (std)**:**	JACKSON OGLE WILLIAM
Inventor(s):	OGLE WILLIAM JACKSON

35) Family number: 29770585 (US2003226387A)

Title: ORBITING ROLLER GROOVER FOR PIPE

Abstract: An apparatus and method for forming grooves in a pipe for receiving mechanical pipe clamps are disclosed. The apparatus includes a holding fixture for securing the pipe and a carriage rotatably mounted on the holding fixture. Two arms are pivotably mounted on the carriage and extend on opposite sides of the pipe. Each arm has a grooving roller rotatably mounted thereon. An actuator connects the arms and forces the grooving rollers into engagement with the pipe. The carriage, arms, actuator and grooving rollers are rotated about the pipe in an orbit to form the circumferential groove. The method steps include forcing the grooving roller into the surface of the pipe at a fixed rate per revolution of the grooving rollers about the pipe in the orbit.

Classifications:
International (IPC 8-9): B21B B21B1/10 B21D B21D15/04 B21D15/06 B21D17/04 B21D3/02 B21D41/00 B21H1/00 (Advanced/Invention);
B21D (Subclass/Invention)
International (IPC 1-7): B21B1/10 B21D15/04 B21D17/04 B21D3/02 B21D41/00 B21H1/00
CPC: B21D17/04
European: B21D17/04
US: 72/105 72/107 72/121 72/121P 72/123 72/125 72/393



Family:

Publication number	Publication date	Application number	Application date
AU2003225005 AA	20031103	AU20030225005	20030416
CA2482642 AA	20041014	CA20032482642	20030416

CN1287925 C	20061206	CN20038008344	20030416
CN1646240 A	20050727	CN20038008344	20030416
DE10392402 T5	20050224	DE20031092402T	20030416
GB200420362 A0	20041013	GB20040020362	20030416
GB2401078 A1	20041103	GB20040020362	20030416
GB2401078 B2	20051207	GB20040020362	20030416
HK1080781 A1	20070720	HK20060100694	20060116
HK1080781 A1	20060504	HK20060100694	20060116
HK1080781 A3	20060504	HK20060100694	20060116
HK1080781 B	20070720	HK20060100694	20060116
JP2005523160 T2	20050804	JP20030585900T	20030416
US2003226387 AA	20031211	US20030414546	20030415
US6935152 BB	20050830	US20030414546	20030415
WO03089159 A1	20031030	WO2003US11779	20030416

Priority:

US20020372829P 20020416 US20030414546 20030415 WO2003US11779 20030416

Probable Assignee: VICTAULIC CO

Assignee(s): (std): DOLE DOUGLAS ; SNYDER RONALD SR ; VICTAULIC CO OF AMERICA ; VICTAULIC COMPANY OF AMERICA E

Assignee(s): VICTAULIC COMPANY ; VICTAULIC COMPANY OF AMERICA ; VICTAULIC COMPANY OF AMERICA EASTON ; VICTAULIC CO ; DOLE DOUGLAS R ; SNYDER RONALD R ; SNYDER RONALD R SR

Inventor(s): (std): DOUGLAS DOLE ; RONALD DOLE DOUGLAS SNYDER SR ; RONALD SNYDER SR ; RONALD SR SNYDER ; SNYDER RONALD R ; SNYDER RONALD R SR ; SNYDER RONALD SR ; DOLE DOUGLAS ; DOLE DOUGLAS R ; SNYDER SR RONALD R ; SNYDER SR RONALD

Inventor(s): DOLE DOUGLAS SNYDER RONALD SR ; SR RONALD R ; SNYDER

Agent(s): BERESKIN AND PARR LLP; CHINA PATENT AGENT HK LTD; SYNNESTVEDT AND LECHNER 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 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

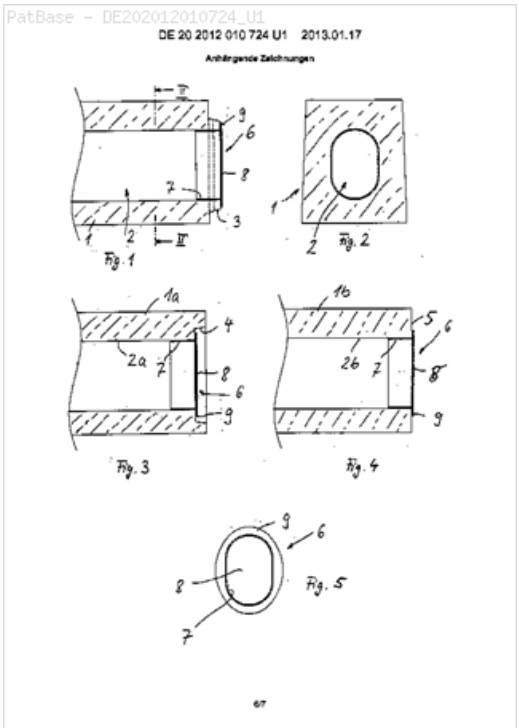
36) Family number: 52806592 (DE202012010724U1)

Title: Tiefbaurohrsystem mit wenigstens einem Betonhohlkoerper sowie Abschlusselement hierfuer Baur deep ear system with at least one Betonhohlkoerper and final element here for (Machine translation)

Abstract: Source: DE202012010724U1 [DE] Tiefbaurohrsystem mit wenigstens einem Betonhohlkoerper, der wenigstens ein offenes Ende aufweist, das durch ein Abschlusselement dicht verschliessbar ist, dadurch gekennzeichnet, dass das Abschlusselement (6, 6a) einteilig gestaltet ist und eine geschlossene Stirnflaeche (8, 8a) sowie einen an die Stirnflaeche (8, 8a) anschliessenden Rohrstutzen (7, 7a) aufweist, dessen Aussenquerschnitt derart an einen Innenquerschnitt des offenen Endes (2, 2a, 2b) angepasst ist, dass der Rohrstutzen (7, 7a) in das offene Ende buendig einsteckbar ist und die Stirnflaeche (8, 8a) das offene Ende (2, 2a, 2b) in eingestecktem Zustand verschliesst.

Machine translation: Deep Baur ear system having at least one Betonhohlkoerper having at least one open end to which is formed by a closure element tightly closable, characterized in that the closing element (6, 6a) is formed in one piece, and a closed Stirnflaeche (8, 8a) and a the Stirnflaeche (8, 8a) adjoining pipe connections (7, 7a), whose outer cross-section in such a way to an inner cross section of the open end (2, 2a, 2b) is adjusted so that the pipe connections (7, 7a) is inserted into the open end is flush inserted and Stirnflaeche (8, 8a), the open end (2, 2a, 2b) in the inserted state closes.

Classifications:
International (IPC 8-9): F16L1/028 F16L17/06 F16L25/10 F16L55/11 (Advanced/Invention)
CPC: F16L55/11



Family:

Publication number	Publication date	Application number	Application date

DE202012010724 U1	20130117	DE201220010724U	20121031

Priority:

DE201220010724U 20121031

Probable Assignee: BETONWERK NEU ULM GMBH AND CO KG

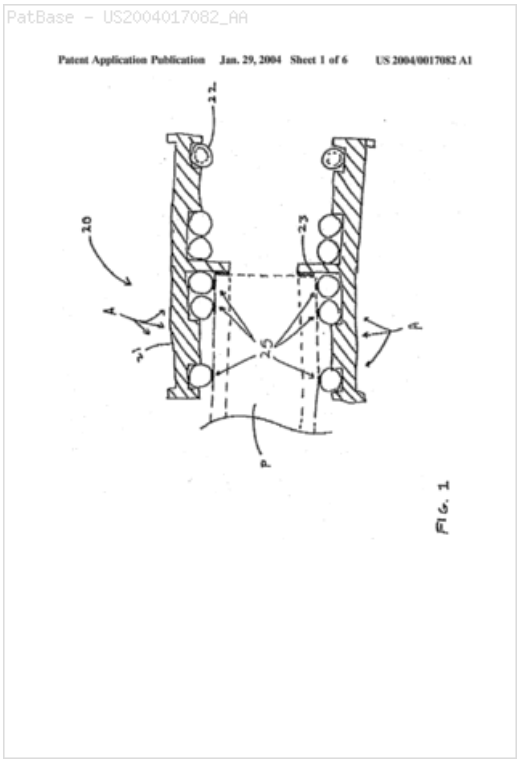
Assignee(s): (std)**:** BETONWERK NEU ULM GMBH AND CO KG

37) Family number: 30225616 (US2004017082A)

Title: CORROSION-RESISTANT COUPLING MEANS AND METHODS FOR USING SAME

Abstract: A coupling couples pipes of pipe fixes, especially polytetrafluoroethylene pipes. Methods for using the coupling are also provided.

Classifications:
International (IPC 8-9): F16L21/06 (Advanced/Invention); F16L21/06 (Core/Invention)
International (IPC 1-7): F16L17/00 F16L55/00
CPC: F16L21/06
European: F16L21/06
US: 285/351 285/369



Family:

Publication number	Publication date	Application number	Application date
US2004017082 AA	20040129	US20030417930	20030417
US6976712 BB	20051220	US20030417930	20030417

Priority:

US20020373692P 20020417 US20030417930 20030417

Probable Assignee: MICROMOLD PRODUCTS INC

Assignee(s): (std)**:** LUKACH ARTHUR S ; MICROMOLD PRODUCTS INC

Inventor(s): (std)**:** LUKACH ARTHUR S ; LUKACH JR ARTHUR S

Inventor(s): LUKACH ; JR ARTHUR S

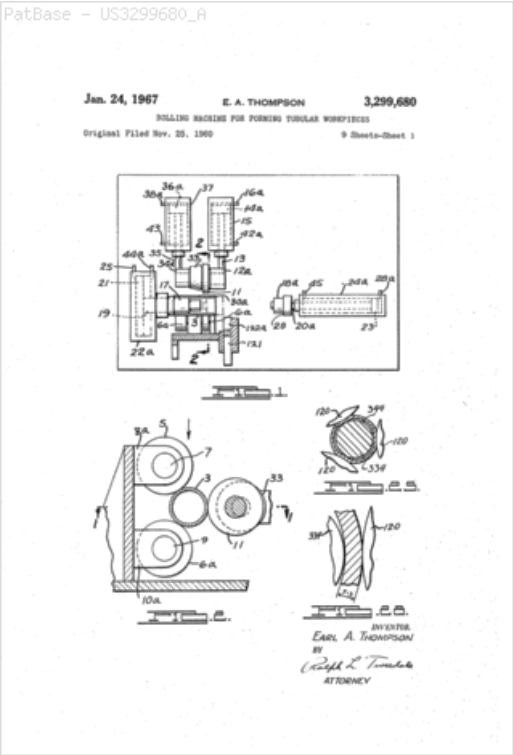
Agent(s): FULBRIGHT AND JAWORSKI LLP

38) Family number: 22198629 (US3299680A)

Title: ROLLING MACHINE FOR FORMING TUBULAR WORKPIECES

Abstract: (Claim 1) A machine for forming a predetermined configuration on the inner surface of a generally tubular walled work piece which initially has an unfinished internal surface dimensionally greater than said predetermined configuration comprising a rotatable finishing arbor of a configuration corresponding to said predetermined configuration, spindle means for rotatably supporting the work piece in concentric telescoped relation about the arbor, means forming a plurality of transversely shift-able roller supports, a form roller journalled on each support for conjoint rotation with the work piece, a plurality of individual hydraulic motors, one for each of the supports, connected to shift the supports to and fro, a plurality of rotary cam powered and controlled liquid column type motion transfer devices, one for each of the hydraulic motors, connected to operate the hydraulic motors, and common camshaft means for driving the transfer devices in unison to synchronously shift the roller supports transversely to roll the work piece wall progressively inwardly between the plurality of form rollers and to terminate the transverse shifting just after the internal surface of the work piece wall makes complete peripheral contact with the arbor but before any noticeable thinning of the work piece wall takes place.

Classifications:
International (IPC 8-9): B21D17/04 (Advanced/Invention); B21D17/00 (Core/Invention)
International (IPC 1-7): B21H1/00
CPC: B21D17/04
European: B21D17/04
US: 72/102 72/109 72/121 72/208 72/6.2 72/82



Family:

Publication number	Publication date	Application number	Application date
US3299680 A	19670124	US19650467811	19650610

Priority:

US19650467811 19650610

Probable Assignee: THOMPSON EARL A

Assignee(s): (std)**:** THOMPSON EARL A

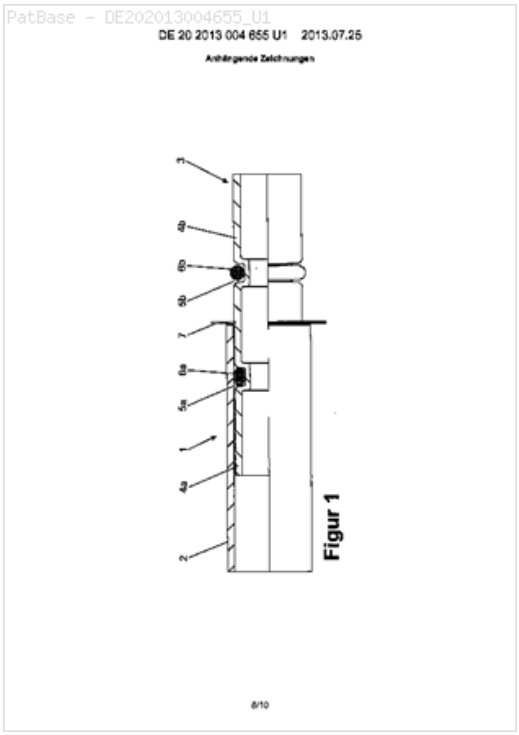
Inventor(s): (std)**:** THOMPSON EARL A

39) Family number: 54314638 (DE202013004655U1)

Title: ROHRSYSTEM MIT METALLROHR UND INNEN-ROHRVERBINDER AUS METALL PIPE SYSTEM WITH METAL INNER TUBE AND PIPE FITTINGS METAL (Machine translation)

Abstract: Source: DE202013004655U1 [DE] Rohrsystem (1) mit einem Metallrohr (2, 8) und einem Innen-Rohrverbinder (3) aus Metall, wobei der Innen-Rohrverbinder (3) einen Verbindungsabschnitt (4a, 4b) in Form einer Huelse mit einer axialen Erstreckung aufweist, das Metallrohr (2, 8) auf den Verbindungsabschnitt (4a, 4b) aufgeschoben ist und das Metallrohr (2, 8) und der Innen-Rohrverbinder (3) derart miteinander verpresst sind, dass eine durch das Verpressen gebildete erste plastische Verformung (13) des Metallrohrs (2, 8) in Form einer Umfangsverkleinerung eine erste formschluessige Verbindung mit dem Innen-Rohrverbinder (3) erzeugt. **Machine translation:** Pipe system (1) comprising a metal tube (2, 8) and an inner pipe connectors (3) of metal, wherein the inner-tube connector (3) (4a, 4b) comprises a connection portion in the form of a sleeve with an axial extension, the metal tube (2, 8) on the connecting portion (4a, 4b) is slid and the metallic pipe (2, 8) and the inner-tube connector (3) being pressed together such that a plane formed by the pressing of the first plastic deformation (13) of the metal tube (2, 8) generates a first formschluessige communication with the inner connector tube (3) in the form of circumferential reduction.

Classifications:
International (IPC 8-9): F16L13/14 (Advanced/Invention)
CPC: F16L13/143



Family:

Publication number	Publication date	Application number	Application date
DE202013004655 U1	20130725	DE201320004655U	20130517

Priority:

DE201320004655U 20130517

Probable Assignee: IPA PRODUKTIONS U VERTRIEBSGES M B H

Assignee(s): (std): IPA PRODUKTIONS U VERTRIEBSGES M B H

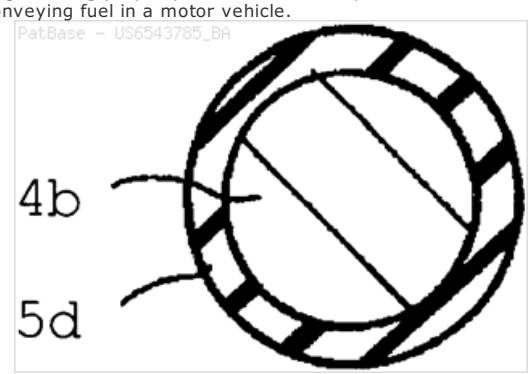
Assignee(s): IPA PRODUKTIONS U VERTRIEBSGESMBH

40) Family number: 15533653 (US6543785B)

Title: PACKING STRUCTURE

Abstract: A packing structure has a core element of a material having a high fluid impermeability, and a thin coated rubber layer formed thereon to cover at least its sealing surface and having a glass transition temperature which is lower than the lowest temperature allowable for the packing structure. It shows a high sealing property even at a low temperature and a high fluid impermeability when used for sealing e.g. a pipeline for conveying fuel in a motor vehicle.

Classifications:
International (IPC 8-9): B32B25/04 B32B25/16 B32B25/18 F16J15/06 F16J15/10 (Advanced/Invention); B32B25/00 F16J15/10 (Core/Invention)
International (IPC 1-7): B32B25/04 F16J15/06 F16J15/10
CPC: Y10S277/935 F16J15/104 F16J15/102 Y10T428/3154 Y10T428/31544 Y10T428/31667 Y10T428/31917
European: F16J15/10B F16J15/10C
US: 277/534 277/627 277/650 277/652 277/654 277/935 428/421 428/422 428/451 428/517



Family:

Publication number	Publication date	Application number	Application date
CA2327195 AA	20010530	CA20002327195	20001129
JP2001150595 A2	20010605	JP19990338891	19991130
US6543785 BA	20030408	US20000722692	20001128

Priority:

JP19990338891 19991130 CA20002327195 20001129

Probable Assignee: TOKAI RUBBER IND LTD

Assignee(s): (std): TOKAI RUBBER IND LTD ; TOKAI RUBBER INDUSTRIES LTD

Assignee(s): IKEDA HIDEHITO ; KATAYAMA KAZUTAKA ; NARASAKI TETSUJI ; SENDA KOJI ; TOKAI RUBBER IND

Inventor(s): (std): IKEDA HIDEHITO ; KATAYAMA KAZUTAKA ; NARASAKI TETSUJI ; SENDA KOJI ; IKEDA HIDETO

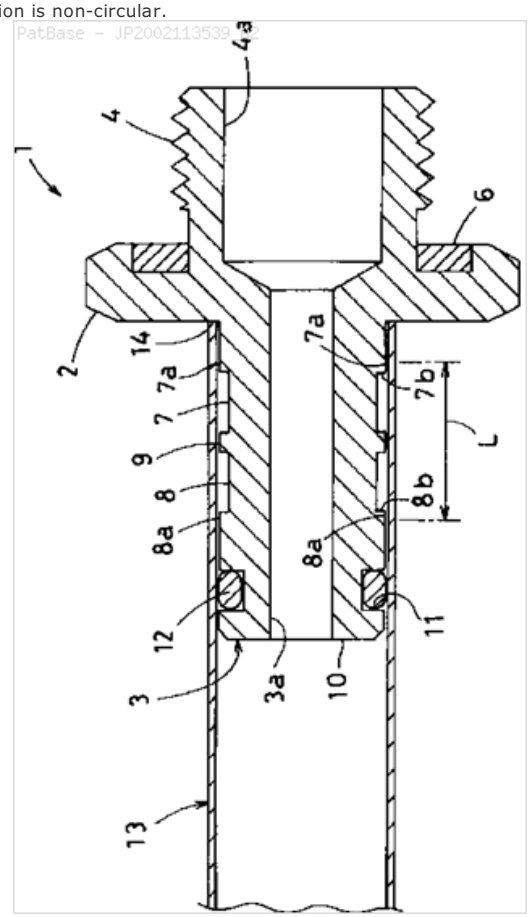
Agent(s): SMART AND BIGGAR

41) Family number: 23331656 (JP2002113539A)

Title: JOINING STRUCTURE OF METAL TUBE WITH JOINT MEMBER

Abstract: PROBLEM TO BE SOLVED: To provide a joining structure of a metal tube with a joint member capable of obtaining sufficient joining strength and improving the workability of a joining process. SOLUTION: In this joining structure of the metal tube with the joint member in which a joining end of the metal tube 13 is externally fitted to a cylindrical part 3 of the joint member 1, and the joining end is caulked to the cylindrical part 3, a plurality of annular grooves 7 and 8 are formed in an outer circumference of the cylindrical part 3 separately in the axial direction so as to form a projecting bar 9 therebetween, and the joined end is fixed to the cylindrical part 3 by caulking a portion of the joining end of the metal tube 13 externally fitted to the cylindrical part 3 corresponding to a base end side groove shoulder part 7a of the annular groove 7 close to the base end of the cylindrical part to a tip side groove shoulder part 8a of the annular groove 8 close to the tip of the cylindrical part so that the section in the direction orthogonal to the axial direction is non-circular.

Classifications:
International (IPC 8-9): B21D39/04 F16B4/00 F16B7/20 F16L13/14 (Advanced/Invention);
B21D39/04 F16B4/00 F16B7/00 F16L13/14 (Core/Invention)
International (IPC 1-7): B21D39/04 F16B4/00 F16B7/20 F16L13/14
CPC: F16L33/26 F16L13/143



Family:

Publication number	Publication date	Application number	Application date
JP2002113539 A2	20020416	JP20000310212	20001011

Priority:
JP20000310212 20001011

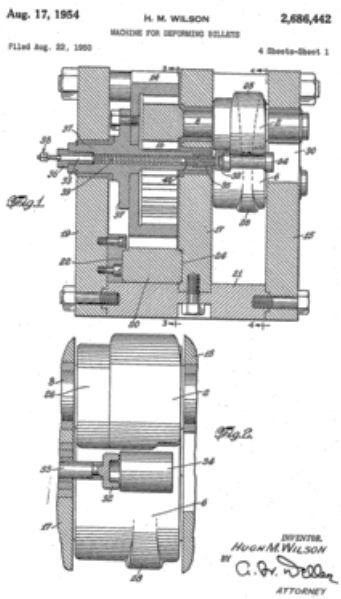
Probable Assignee: YAMAHO KOGYO KK
Assignee(s): (std): YAMAHO KOGYO KK
Inventor(s): (std): YAMAMOTO KENZO ; AZUMA KEIICHI

42) Family number: 21753666 (US2686442A)

Title: MACHINE FOR DEFORMING BILLETS

Abstract: (Claim 1) 1. A machine adapted for forming an "dumb- bell" shape from a cylindrical billet comprising at least three roll-dies suitably journalled, means operating to rotate the roll-dies in svnchronism comprising pinions on the roll-dies, a ring gear meshing internally with the pinions and a rack meshing externally with the ring gear, the rolldies each being formed with portions of reduced diameter adapted jointly to provide a cage space for the reception of a billet introduced axially of the roll-dies, a yieldabie stop positioned to he engaged by a billet and comprising a, stop element supported by a plunger shaft slidably supported to extend through the ring gear and having a rearward threaded extension, adjusting nuts on the extension to determine the stop forward position and a spring surrounding the plunger shaft and operative normally to retain the stop in forward position and to be yieldable to accommodate for deformation of the billet, and deforming shoulders on the roll-dies extending partially around the circumference and merging with substantially concentric portions eifective to roll-iinish the deformed billet.

Classifications:
International (IPC 8-9): B21H1/18 (Advanced/Invention);
B21H1/00 (Core/Invention)
International (IPC 1-7): B21H1/18
CPC: B21H1/18
European: 49L7 B21H1/18
US: 72/107



Family:

Publication number	Publication date	Application number	Application date
US2686442 A	19540817	US19500180750	19500822

Priority:

19490825 US19500180750 19500822

Probable Assignee: INT NICKEL CO

Assignee(s): (std)**:** INT NICKEL CO

Assignee(s): INT NICKEL CO INC ; THE INTERNATIONAL NICKEL COMPANY INC

Inventor(s): (std)**:** MORTON WILSON HUGH

Inventor(s): WILSON HUGH MORTON

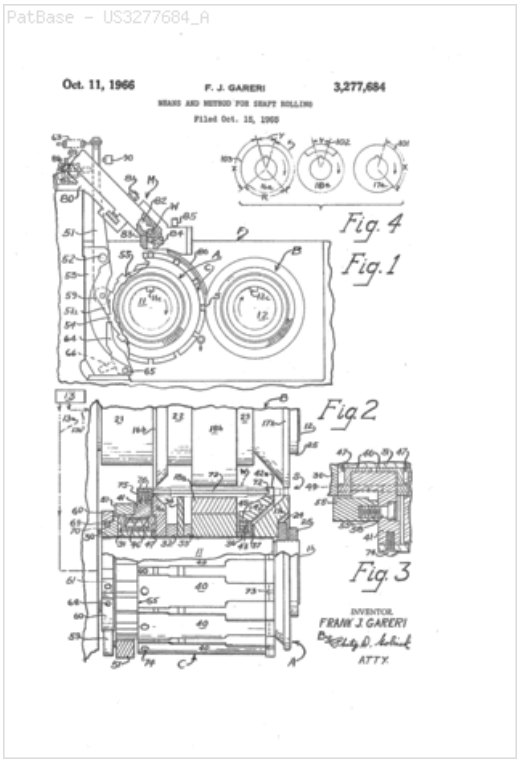
43) Family number: 22018673 (US3277684A)

Title: MEANS AND METHOD FOR SHAFT ROLLING

Abstract: (Claim 1) 1. A method for production of objects having a plifrality of external circumferential formations rolled into coaxial cylindrical portions of different diameters compris_'_n,-: providing at a work-station a work-piece having coaxialcylindrical surfaces of different diameters appropriate for rollin.- of the formations desired thereon and maintaining the work-piece in said station; enga.-ing each of said surfaces successively for roll workin.- the blank at any given time only on one of said surfaces each at diametrically opposite locations by a corresponding pair of cooperating die formations of two continuously driven rotary die assemblies, each said pair adapted to roll the particular formation desired at the respective work piece surface, each die assembly including one of the die formations of each said pair.

Classifications:

International (IPC 8-9): B21H3/06 (Advanced/Invention);
B21H3/00 (Core/Invention)
International (IPC 1-7): B21H1/18
CPC: B21H3/065 Y10T408/545
European: B21H3/06P
US: 408/71 470/58 72/105 72/106 72/108



Family:

Publication number	Publication date	Application number	Application date
US3277684 A	19661011	US19650505109	19651015

Priority:

US19650505109 19651015

Probable Assignee: AMETEK INC

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

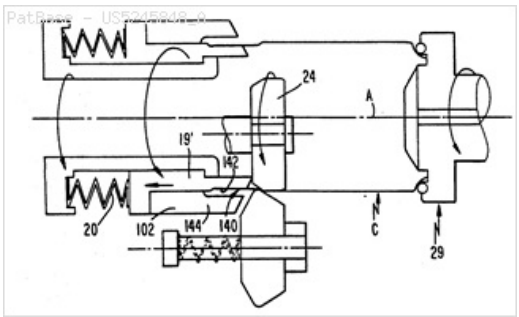
Inventor(s): (std)**:** GARERI FRANK J

44) Family number: 8489675 (US5245848A)

Title: Spin flow necking cam ring

Abstract: A method and apparatus for spin flow necking-in a D and I can is disclosed wherein an externally located free spinning form roll is moved radially inward and axially against the outside wall of the open end of a trimmed can. A spring-loaded interior support slide roll moves under the forming force of the form roll as the latter slides along a conical forming surface of a second free roll mounted axially inwardly adjacent the slide roll. To prevent damage to the metal caused by excessive pressure contact between the form and slide rolls, the slide roll is axially retracted via a cam ring which initially contacts the form roll during radially inward necking movement.

Classifications:
International (IPC 8-9): B21D19/00 B21D22/14 B21D41/04 B21D51/26 B29C51/44 B67B3/00 B81B3/00 B81B7/02 G06F1/26 G06F1/30 G11C5/14 H03H9/24 H03H9/46 H03H9/52 H03J5/00 H04L1/24 (Advanced/Invention);
B21D19/00 B21D22/00 B21D41/00 B21D51/26 B81B3/00 B81B7/00 G06F1/26 G06F1/30 G11C5/14 H03H9/00 H03J5/00 H04L1/24 (Core/Invention);
B21D19/00 (Core/Non-invention)
International (IPC 1-7): B21D15/02 B21D17/04 B21D19/00 B21D19/12 B21D22/14 B21D41/04 B21D51/00 B21D51/26 B21D51/38 B21D7/00 B29C51/44 B65D1/16 B67B3/00
CPC: B21D51/2615 B21D51/2638
European: B21D51/26B B21D51/26B4
US: 72/105 72/110 72/4 72/84 72/840 72/94



Family:

Publication number	Publication date	Application number	Application date
AT143298 E	19961015	AT19930112667T	19930806
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AU199341931 A1	19940217	AU19930041931	19930713
AU199341932 A1	19940217	AU19930041932	19930713
AU4193193 A1	19940217	AU19930041931D	19930713
AU4193293 A1	19940217	AU19930041932D	19930713
AU656506 B2	19950202	AU19930038585	19930514
AU664007 B2	19951026	AU19930041932	19930713
BRPI9301091 A	19931123	BR1993PI01091	19930514
BRPI9303051 A	19940301	BR1993PI03051	19930810
BRPI9303078 A	19940308	BR1993PI03078	19930812
CA2096303 AA	19931116	CA19932096303	19930514
CA2104061 AA	19940215	CA19932104061	19930813

CA2104062 AA	19940215	CA19932104062	19930813
CA2104062 C	19960326	CA19932104062	19930813
DE69305029 D1	19961031	DE19936005029	19930806
DE69305029 T2	19970220	DE19936005029T	19930806
EP0570005 A2	19931118	EP19930107888	19930514
EP0570005 A3	19940713	EP19930107888	19930514
EP0582984 A1	19940216	EP19930112667	19930806
EP0582984 B1	19960925	EP19930112667	19930806
EP0588048 A1	19940323	EP19930112665	19930806
JP6106276 A2	19940419	JP19930113427	19930514
JP6210379 A2	19940802	JP19930188159	19930729
JP6210380 A2	19940802	JP19930188160	19930729
KR19930023083 A	19931218	KR19930008329	19930515
KR19940003630 A	19940312	KR19930015550	19930811
KR19940003634 A	19940312	KR19930015549	19930811
KR940003630 A	19940312	KR19930015550	19930811
KR940003634 A	19940312	KR19930015549	19930811
MX9302855 A1	19931101	MX19930002855	19930517
MX9304844 A1	19940228	MX19930004844	19930810
MX9304845 A1	19940228	MX19930004845	19930810
TW256794 B	19950911	TW19930105510	19930712
TW291451 B	19961121	TW19930106183	19930803
US5245848 A	19930921	US19920929933	19920814
US5282375 A	19940201	US19920929932	19920814
US5349836 A	19940927	US19920953421	19920929

Priority:

US19920884180 19920515 US19920884810 19920515 US19920929932 19920814
US19920929933 19920814 US19920953421 19920929 CA19932096303 19930514
CA19932104061 19930813 CA19932104062 19930813

Probable Assignee: STOLLE MACHINERY CO LLC

Assignee(s): (std): REYNOLDS METALS CO

Assignee(s): STOLLE MACHINERY CO ; REYNOLDS METALS COMPANY ; REYNOLDS METALS CO RICHMOND VA US ; STOLLE MACHINERY CO LLC ; REYNOLDS METALS CO A DE CORP ; ROBERTSON FIELD I ; THAI ROBERT K ; PAYNE CHARLES T JR ; MYRICK H ALAN ; REYNOLDS METALS COUS ; BRONTOSAURUS METAL CO ; DELETE ME ; GMAC COMMERCIAL FINANCE LLC ; GOLDMAN SACHS CREDIT PARTNERS LP ; LEE HARRY W JR

Inventor(s): (std): MYRICK H ALAN ; DOWNIE ROBERT ; PETERSON RAY D ; RICHARDS NOLAN E ; WHITE ROGER D ; PAYNE JR CHARLES T ; LEE JR HARRY W ; ETSUCHI ARAN MIRITSUKU ; HARII DABURIYUU RII JIYUNIA ; FUIIRUDO AI ROBAATOSON ; ROBAATO KEE TAI ; CHIYAARUZU TEII PEIN JIYUNIA ; LEE HARRY W ; MYRICK ALAN H ; THAI ROBERT K ; ROBERTSON FIELD I ; PAYNE CHARLES T JR ; LEE HARRY W JR ; MYRICH H ALAN ; THAL ROBERT K

Inventor(s): H ALAN MYRICH ; PAYNE CHARLES T ; FIELD I ROBERTSON ; CHARLES T PAYNE JR ; ROBERT K THAI ; HARRY W LEE JR ; LEE HARRY W JR RICHMOND VIRGINIA 23235 US ; MYRICK ALAN H RICHMOND VIRGINIA 23225 US ; H ALAN MYRICK ; ROBERT K THAL

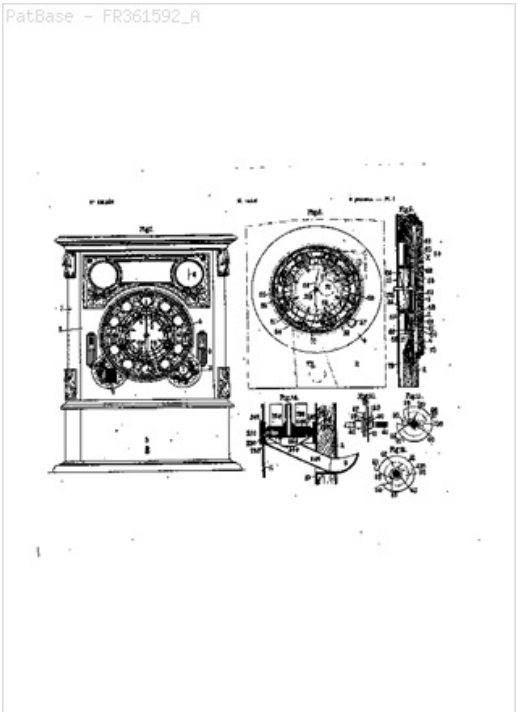
Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; HOFBAUER PATRICK J; NAKAYAMA KANJI; ANDO TAKESHI; KINOSHITA JITSUZO

Designated states: AT CH DE ES FR GB GR IT LI

45) Family number: 26066692 (FR361592A)

Title: Distributeur automatique constituant un jeu a combinaisons ATM constituting a game combinations (Machine translation)

Classifications:
International (IPC 1-7): G07F17/34
CPC: G07F17/34
European: G07F17/34



Family:

Publication number	Publication date	Application number	Application date
FR361592 A	19060913		00000000

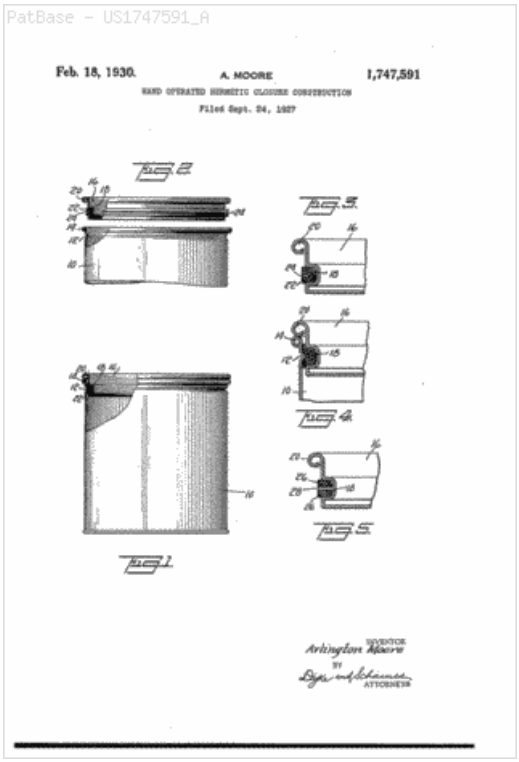
Probable Assignee: EDOUARD IMHOF
Assignee(s): (std): EDOUARD IMHOF
Inventor(s): (std): IMHOF EDOUARD

46) Family number: 29779709 (US1747591A)

Title: HAND-OPERATED HERMETIC-CLOSURE CONSTRUCTION

Abstract: 1. A device ofthe character described comprising a container having a lateral wall portion, a closure therefor having a lateral wall portion in opposing relation to the container Wall portion; one of said lateral wall portions having e Groove, a rib on the other of said lateral wallgportions facing said groove, and a deformable, compressible gasket disposed within and pro]ecting beyond said groove and having an intermediate parting therein; the portions of said gasket at opposite sides of said parting being deflected outwardly by said rib and compressed between the closure and container. 2, A container having an interior rib near its margin, an insertable closure having a stop flange and having a recess coming opposite the rib when the closure is in place with the stop flange thereof in contact with the coutainer margin, and a gasket having an intermediate parting and disposed in said recess and extending beyond the same; said gastzct being adapted to be compressed between the closure and the container wall and to embrace the rib at the parting. In testimony whereof, I have signed my name hereto

Classifications:
International (IPC 8-9): B65D43/02 (Advanced/Invention); B65D43/02 (Core/Invention)
International (IPC 1-7): B65D17/10 B65D83/14
CPC: B65D43/022 B65D2543/00092 B65D2543/00277 B65D2543/00509 B65D2543/00546 B65D2543/00564 B65D2543/00972
European: B65D43/02S5D L65D543/00Y1F2C L65D543/00Y1M4 L65D543/00Y20B1 L65D543/00Y8D1C L65D543/00Y8D3N L65D543/00Y8G
US: 220/804



Family:

Publication number	Publication date	Application number	Application date
US1747591 A	19300218	US19270221644	19270924

Priority:
US19270221644 19270924

Probable Assignee: MOORE INVENTIONS CORP
Assignee(s): (std): MOORE INV S CORP ; MOORE INVENTIONS CORP
Inventor(s): (std): ARLINGTON MOORE
Inventor(s): MOORE ARLINGTON

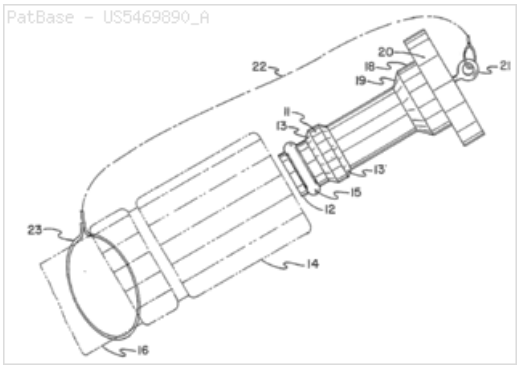
47) Family number: 12260712 (US5469890A)

Title: Hose mobile plug

Abstract: A solid plug for insertion in the quick disconnect fitting of a hose mobile unit (a hose coiled on a hose reel) which will prevent unwanted drainage while the unit is in storage. The plug is cylindrical with a plurality of spaced annular projections designed to mate with internal surfaces within the quick disconnect fitting and with an annular elastomeric gasket at its inner end to engage with and form a seal in the end of ring or gasket the hose projecting into such quick disconnect fitting. Such plug also carries means for attaching the plug to the hose when it is not in place in such fitting.

Classifications:
International (IPC 8-9): F16L55/11 (Advanced/Invention); F16L55/10 (Core/Invention)
International (IPC 1-7): F16L55/11
CPC: F16L55/11
European: F16L55/11

US: 138/89 138/94



Family:

Publication number	Publication date	Application number	Application date
US5469890 A	19951128	US19940329986	19941027

Priority:

US19940329986 19941027

Probable Assignee: CARPENTIER JAMES R

Assignee(s): (std)**:** CARPENTIER JAMES R

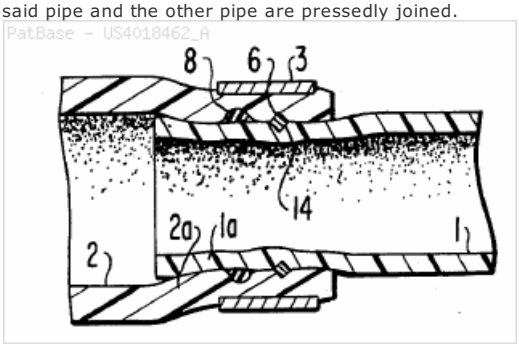
Inventor(s): (std)**:** CARPENTIER JAMES R

48) Family number: 1386714 (US4018462A)

Title: PIPE FITTING

Abstract: A pipe fitting characterized in that a press ring is fitted around the external surface of a pipe made of an elastic material, another pipe to be joined is inserted into said pipe, reducing the diameter of said press ring from outside, and at the same time causing to bulge out a part of said press ring whereby said pipe and the other pipe are pressedly joined.

Classifications:
International (IPC 8-9): F16L33/207 (Advanced/Invention); F16L33/20 (Core/Invention)
International (IPC 1-7): F16L13/14
CPC: F16L33/2071 Y10T29/49913 Y10T29/49927
European: F16L33/207B
US: 285/111 285/382.2 285/382.7 285/423 29/508 29/516



Family:

Publication number	Publication date	Application number	Application date
US4018462 A	19770419	US19750627817	19751031

Priority:

US19750627817 19751031

Probable Assignee: HITACHI METALS LTD

Assignee(s): (std)**:** HITACHI METALS LTD

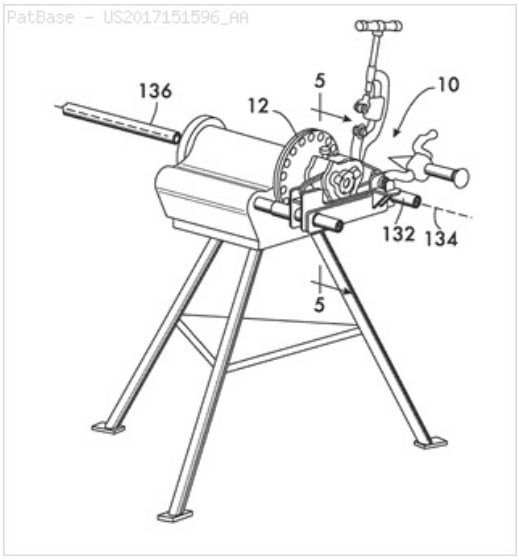
Inventor(s): (std)**:** SAKA YOSHIMI

49) Family number: 65822744 (US2017151596A)

Title: CAM GROOVING MACHINE

Abstract: A device for cold working pipe elements has two or more cams, each having a gear which meshes with a pinion to turn all of the cams. Each cam has a cam surface with a region of increasing radius and may have a region of constant radius extending around a cam body. Each cam also has a traction surface extending around a cam body. A discontinuity in each cam surface is aligned with a gap in the traction surface of each cam. The discontinuities and gaps provide clearance for insertion and removal of the pipe element between the cams to form a circumferential groove when the cams are rotated.

Classifications:
International (IPC 8-9): A62C35/68 B05B15/06 B21B27/02 B21D B21D15/04 B21D15/06 B21D17/02 B21D17/04 B21D37/08 B21D39/04 B21H B21H1/18 B21H1/20 B21H1/22 B21H7/18 F16J F16J15/06 F16J15/10 F16J15/14 F16L F16L13/14 F16L15/04 F16L17/02 F16L21/035 F16L25/10 F16L25/14 F16L37/084 F16L55/11 (Advanced/Invention); F16L13/14 F16L25/14 (Advanced/Non-invention)
International (IPC 1-7): B21D15/04 B21D15/06 B21D17/02 B21D17/04 B21D39/04 B21H1/20 B21H1/22 F16J15/10 F16J15/14 F16L13/14 F16L21/035 F16L25/10
CPC: A62C35/68 F16L13/143 F16L25/14 F16L55/11 F16L17/02 F16L13/14 B21D17/04 B21H7/182 B21D15/04 B21D15/06 B21D17/02 B21H1/20 B21H1/22
US: 1/1 138/89 72/105



Family:

Publication number	Publication date	Application number	Application date
AU2016362959 AA	20180322	AU20160362959	20161122
AU2016362959 BB	20190523	AU20160362959	20161122
AU2016364974 AA	20180405	AU20160364974	20161122
AU2016364974 BB	20190214	AU20160364974	20161122
AU2019200148 AA	20190131	AU20190200148	20190110
BR112018010905 A2	20181121	BR20181110905	20161122
BR112018011101 A2	20181121	BR20181111101	20161122
CA3006314 AA	20180524	CA20163006314	20161122
CA3006374 AA	20180524	CA20163006374	20161122
CL2018001403 A1	20181214	CL20180001403	20180524
CN108290196 A	20180717	CN201680069642	20161122
CN108291671 A	20180717	CN201680069751	20161122
CO20180004083 A2	20180710	CO20180004083	20180417
EP3338015 A1	20180627	EP20160871288	20161122
EP3338015 A4	20190313	EP20160871288	20161122
EP3383563 A1	20181010	EP20160871289	20161122
EP3383563 A4	20190814	EP20160871289	20161122
EP3457013 A1	20190320	EP20180182464	20161122
HK1251514 A1	20190201	HK20180111088	20180829
HK1251641 A1	20190201	HK20180111090	20180829
ID201808763 A	20180810	ID2018PID02226	20161122
IN201847019210 A	20180601	IN201847019210	20180523
JP2018533482 T2	20181115	JP20180524259T	20161122
JP2019501341 T2	20190117	JP20180525407T	20161122
KR20180043831 A	20180430	KR20187008738	20161122
KR20180069900 A	20180625	KR20187014355	20161122
MA42169 A1	20190329	MA20160042169	20161122
MX2018006585 A1	20180801	MX20180006585	20161122
MX2018006586 A1	20180801	MX20180006586	20161122
NZ740454 A	20190628	NZ20160740454	20161122
PE09342018 A1	20180608	PE20180001041	20161122
PH2018500809 A	20181029	PH20180500809	20180413
RU2694307 C1	20190711	RU20180113691	20161122
RU2703885 C1	20191022	RU20180114259	20161122
TW201726273 A	20170801	TW20160139442	20161130
TW201727121 A	20170801	TW20160139444	20161130
TWI647022 B	20190111	TW20160139442	20161130
US2017151596 AA	20170601	US20160358475	20161122
US2017152984 AA	20170601	US20160358504	20161122
US2019078717 AA	20190314	US20180184422	20181108
US10156312 BB	20181218	US20160358504	20161122
WO17095692 A1	20170608	WO2016US63284	20161122
WO17095693 A1	20170608	WO2016US63291	20161122

Priority:

US20150260922P 20151130
US20160359395P 20160707
US20160363892P 20160719
US20160395747P 20160916
AU20160364974 20161122
US20160358475 20161122
US20160358504 20161122
EP20160871288 20161122
WO2016US63291 20161122
WO2016US63284 20161122
US20180184422 20181108
AU20190200148 20190110

Probable Assignee: VICTAULIC CO

Assignee(s): (std): VCTAULC CO ; VICTAULIC CO ; VICTAULIC CO OF AMERICA

Assignee(s): WANG WEI ; DOLE DOUGLAS R ; VAN WERT JAMES

Inventor(s): (std): DOUGLAS R DOLE ; WEI WANG ; JAMES VAN WERT ; DOLE DOUGLAS ; DOLE R DOUGLAS ; WANG WEI ; VAN WERT JAMES ; DOLE DOUGLAS R

Inventor(s): R DOLE, DOUGLAS R. ; DOUGLAS DOLE R ; DOLE R

Agent(s): SPRUSON AND FERGUSON; BERESKIN AND PARR LLP SENCRL SRL; SARGENT AND KRAHN; JOSE

ANDRES RINCON USCATEGUI; DE ANNA PIER LUIGI; CHINA PATENT AGENT HK LTD; MAROLITA SETIATI; YURIDICHESKAYA GORODISSKIJ I PARTNERY OOO FA; BALLARD SPAHR LLP; CHIONCHIO JOHN A ET AL

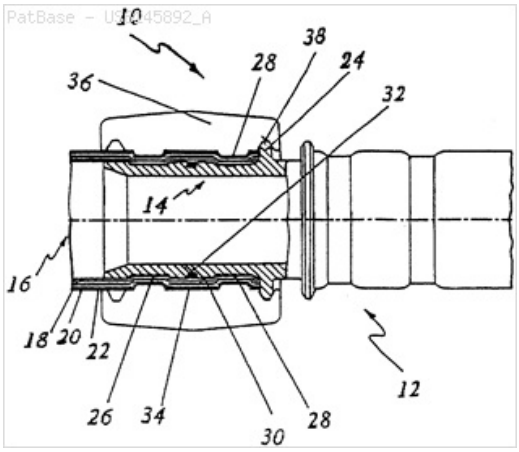
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR 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

50) Family number: 30305795 (US6145892A)

Title: Press connector

Abstract: PCT No. PCT/IB98/00226 Sec. 371 Date Sep. 24, 1998 Sec. 102(e) Date Sep. 24, 1998 PCT Filed Feb. 4, 1998 PCT Pub. No. WO98/38449 PCT Pub. Date Sep. 3, 1998The invention concerns a connector for producing a press connection with at least one pipe, which is pressed tightly against the connector radially by irreversible deformation or by a collar. The invention also concerns a press connection consisting of a connector and connecting pipe. The connector is composed of a basic pipe-shaped body 12, on whose outer periphery there is at least one area 14 against which the pipe 16 is tightly pressed radially. The basic body 12 is made of polyvinylidene fluoride which has a long life and high pressure and temperature resistance.

Classifications:
International (IPC 8-9): F16L33/00 F16L33/01 F16L33/18 F16L33/30 (Advanced/Invention);
F16L33/00 F16L33/01 F16L33/18 F16L33/30 (Core/Invention)
International (IPC 1-7): F16L13/14 F16L33/00 F16L33/01 F16L33/18 F16L47/04
CPC: F16L13/143 F16L33/01 F16L33/18 F16L33/30
European: F16L13/14B6 F16L33/01 F16L33/18 F16L33/30
US: 285/256 285/259 285/382



Family:

Publication number	Publication date	Application number	Application date
AT207589 E	20011115	AT19980903215T	19980204
AU199860028 A1	19980918	AU19980060028	19980204
AU729585 B2	20010208	AU19980060028	19980204
DE19707827 A1	19980827	DE19971007827	19970225
DE19707827 C2	19990401	DE19971007827	19970225
DE29812773 U1	19981224	DE19982012773U	19980204
DE59801840 D1	20011129	DE19985001840	19980204
DK0896654 T3	20021202	DK19980903215T	19980204
EP0896654 A1	19990217	EP19980903215	19980204
EP0896654 B1	20011024	EP19980903215	19980204
ES2163851 T3	20020201	ES19980903215T	19980204
PL328782 A1	19990215	PL19980328782	19980204
PT896654 T	20020429	PT19980903215T	19980204
SI0896654 T1	20020228	SI19980030067T	19980204
US6145892 A	20001114	US19980155277	19980924
WO9838449 A1	19980903	WO1998IB00226	19980204

Priority:

DE19971007827 19970225 DE19982012773U 19980204 DE19985001840 19980204
EP19980903215 19980204 WO1998IB00226 19980204

Probable Assignee: GEBERIT TECHNIK AG

Assignee(s): (std): GEBERIT TECHNIK AG ; WEBER PETER

Assignee(s): GEBERIT TECHNIK AG JONA ; GEBERIT TECHNIK AG JONA CH ; GEBERIT TECHNIK JONA CH AG

Inventor(s): (std): PETER WEBER ; WEBER PETER

Inventor(s): WEBER PETER JONA CH

Agent(s): MALLESONS STEPHEN JAQUES; KING AND WOOD MALLESONS

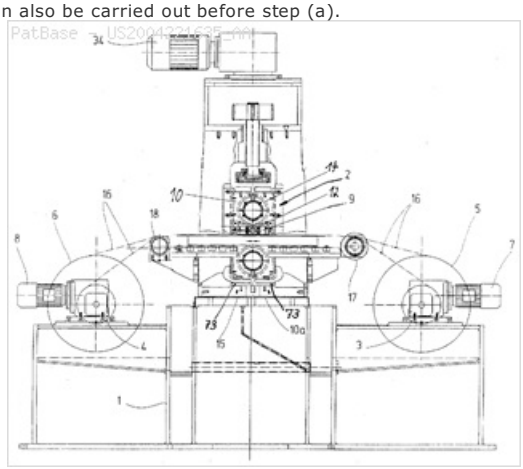
Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG US UZ VN YU ZW

51) Family number: 30142835 (US2004221635A)

Title: METHOD FOR PRODUCING STRIP-SHAPED INPUT STOCK, ESPECIALLY FROM METAL, WHICH IS PROFILED IN SUBSEQUENT SECTIONS, AND CORRESPONDING DEVICE

Abstract: A method is described for producing strip-shaped input stock, especially from metal, which is profiled in subsequent sections either on one side or on both sides, by rolling a metal strip in one or more rolling steps. The method is characterized by carrying out the following steps: (a) tensioning the metal strip (16), (b) positioning the metal strip (16) in a rolling gap (13) that is defined by a roller (12) and a movable plate (67) relative the roller (12), and (c) positioning the plate

(67) relative the roller (12). Steps (b) and (c) are successively or simultaneously carried out or are carried out in a timewise overlapping manner or in a successive inverse order, and step (c) can also be carried out before step (a).



Classifications:
International (IPC 8-9): B21B1/32 B21B1/42 B21B13/00 B21B21/00 B21B31/02 B21B31/24 B21B37/24 B21B37/54 B21C37/02 B21H8/00 B29C59/04 (Advanced/Invention);
B21B1/32 B21B1/42 B21B13/00 B21B31/02 B21B31/24 B21B37/54 (Advanced/Non-invention);
B21B21/00 B21B37/16 B21C37/00 B21H8/00 B29C59/04 (Core/Invention);
B21B1/30 B21B1/42 B21B13/00 B21B31/00 B21B31/16 B21B37/48 (Core/Non-invention)
International (IPC 1-7): B21B1/22 B21B1/32 B21B1/42 B21B13/02 B21B13/18 B21B21/00 B21B31/02 B21B37/00 B21B37/24 B21B39/02 B21C37/02 B21H8/00 B29C59/04
CPC: B21B1/32 B21B1/42 B21B13/00 B21B31/02 B21B31/24 B21B37/24 B21B37/54 B21C37/02 B21H8/00
European: B21B1/32 B21B37/24 B21C37/02 B21H8/00 L21B1/32 L21B1/42 L21B13/00 L21B31/02 L21B31/24 L21B37/54
US: 72/187 72/188 72/189 72/192 72/197 72/198 72/229 72/252.5

Family:

Publication number	Publication date	Application number	Application date
AT226491 E	20021115	AT20000936734T	20000511
AU200052125 A1	20001205	AU20000052125	20000511
AU200052125 A5	20001205	AU20000052125D	20000511
AU2002214044 AA	20020521	AU20020214044	20011108
DE10019175 A1	20001214	DE20001019175	20000407
DE10056803 A1	20011018	DE20001056803	20001111
DE10056803 B4	20040506	DE20001056803	20001111
DE10056804 A1	20020523	DE20001056804	20001111
DE10134285 A1	20030130	DE20011034285	20010714
DE10134285 B8	20050630	DE20011034285	20010714
DE10134285 C2	20031204	DE20011034285	20010714
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DE19938966 C1	20001019	DE19991038966	19990817
DE50000686 D1	20021128	DE20005000686	20000511
DE50106548 D1	20050721	DE20015006548	20011108
EP1183117 A1	20020306	EP20000936734	20000511
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EP1332011 A1	20030806	EP20010982471	20011108
EP1332011 B1	20050615	EP20010982471	20011108
US2004221635 AA	20041111	US20030435310	20030509
US7334446 BA	20080226	US20000030328	20000511
WO0069582 A1	20001123	WO2000EP04269	20000511
WO0238305 A1	20020516	WO2001EP12927	20011108

Priority:

DE19991021720 19990512
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DE20001019175 20000407
DE20005000686 20000511
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DE19991038966 19990817
EP20000936734 20000511
DE20001056804 20001111
WO2001EP12927 20011108

Probable Assignee: FIRMA CARL WEZEL

Assignee(s): (std): BAUDER HANS JOERG ; BAUDER HANS JORG ; CARL WEZEL FA ; HJB ROLLING MILL TECHNOLOGY GM

Assignee(s): HJB ROLLING MILL TECHNOLOGY GMBH ; FA CARL WEZEL ; FIRMA CARL WEZEL

Inventor(s): (std): BAUDER HANS JORG ; BAUER HANS JOERG ; BAUDER HANS JOERG ; BANDER HANS JOERG

Inventor(s): HANS JORG BAUDER

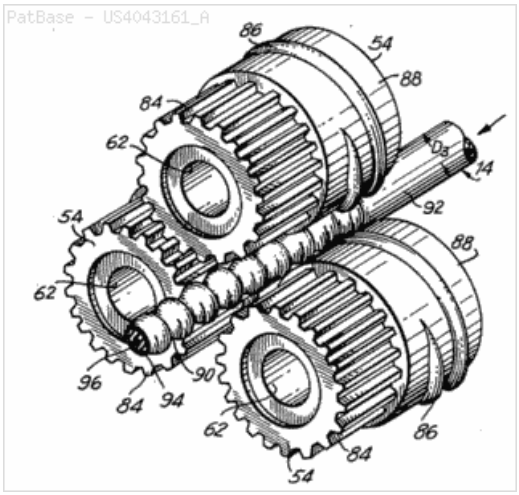
Designated states: AT AU BE BG BR CA CH CN CY CZ DE DK ES FI FR GB GR HR HU ID IE IL IN IT JP KR LI LU MC NL PL PT RO RU SE SK TR UA US YU ZA

52) Family number: 1431859 (US4043161A)

Title: Apparatus for forming corrugations of {37 zero{38 {0 pitch in coaxial cable

Abstract: An apparatus for forming corrugations of "zero" pitch in coaxial cable includes a takeup drum which pulls the coaxial cable through a three jaw chuck or head at a speed related to the rotation of the head. The head includes three forming dies and three synchronizing gears which cooperate with the forming dies to synchronize movement of the forming dies for movement about the cable. By causing the takeup drum to pull the cable through the head at a predetermined rate, the forming dies cut parallel corrugations or "zero" pitch grooves in the cable jacket.

Classifications:
International (IPC 8-9): B21D15/06 B29C59/04 H01B13/00 (Advanced/Invention);
B21D15/00 B29C59/04 H01B13/00 (Core/Invention)
International (IPC 1-7): B21D15/06 B21J15/12
CPC: B21D15/06 B29C59/043 H01B13/0009
European: B21D15/06 B29C59/04B H01B13/00F
US: 72/100 72/114 72/78



Family:

Publication number	Publication date	Application number	Application date
US4043161 A	19770823	US19750630035	19751107

Priority:

US19750630035 19751107

Probable Assignee: ASTROLAB

Assignee(s): (std)**:** ASTROLAB

Assignee(s): ASTROLAB INC

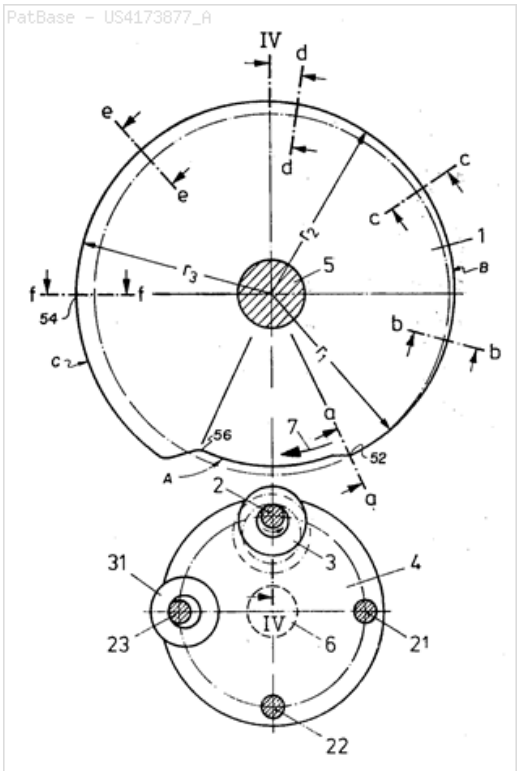
Inventor(s): (std)**:** TOMA JOSEPH R ; JOHNSON OLIVER C

53) Family number: 1644865 (US4173877A)

Title: Ring rolling machine

Abstract: A ring rolling machine for rolling a ring blank engaged over a mandrel roll which has an outside diameter smaller than the inside diameter of the mandrel roll comprises a rotatable main roll having an annular curved surface. The main roll is rotated about a fixed axis which is spaced at a fixed distance from the mandrel. Its curved surface is divided into a loading zone having a radius less than the spacing from said main roll access to the ring blank, a rolling zone having a variable radius curved with a continuously increasing value and a rounding zone extending between the rolling zone and the loading zone which is of substantially constant radius.

Classifications:
International (IPC 8-9)**:** B21H1/06 B21H1/12 B21H1/18 G11B15/60 G11B15/62 G11B23/087 (Advanced/Invention);
B21H1/00 G11B15/60 G11B15/62 G11B23/087 (Core/Invention);
G11B (Subclass/Invention)
International (IPC 1-7)**:** B21B27/02 B21C37/02 B21H1/06 B65H23/10 B65H23/16 G11B15/60 G11B15/62 G11B23/00 G11B23/08 G11B5/74
CPC: G11B15/62 G11B23/08771 B21H1/12 B21H1/18
European: B21H1/12 B21H1/18 G11B15/62 G11B23/087A6C
US: 242/198 242/346 360/130.31 72/105 72/107 72/109 G9B/15.082 G9B/23.072



Family:

Publication number	Publication date	Application number	Application date
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DE2715611 A1	19781012	DE19772715611	19770407
DE2913600 A1	19791018	DE19792913600	19790404
DE2913600 C2	19900503	DE19792913600	19790404
GB2018492 A1	19791017	GB19790011258	19790328

GB2018492 B2	19820616	GB19790011258	19790328
HK37083 A	19830930	HK19830000370	19830921
IT1095101 A	19850810	IT19780022008	19780405
IT1095105 A	19850810	IT19780022030	19780406
IT7822008 A0	19780405	IT19780022008	19780405
IT7822008 U0	19780601	IT19780022008U	19780601
IT7822030 A0	19780406	IT19780022030	19780406
JP1092669 C3	19820416	JP19780040443	19780407
JP53125961 A2	19781102	JP19780040443	19780407
JP55001690 A2	19800108	JP19790041163	19790406
JP56037006 B4	19810828	JP19780040443	19780407
JP58176286 U1	19831125	JP19830049746U	19830405
SE429508 B	19830912	SE19780003942	19780407
SE429508 C	19831222	SE19780003942	19780407
SE7803942 A	19781008	SE19780003942D	19780407
SG8590403 A	19860117	SG19850090403	19850530
SU963480 D	19820930	SU19792750602	19790405
US4173877 A	19791113	US19780887559	19780317
US4573095 A	19860225	US19790024290	19790327

Priority:

DE19772715611 19770407 IT19780022008 19780405 IT19780022030 19780406 IT19780022008U 19780601

Probable Assignee: THYSSEN INDUSTRIE

Assignee(s): (std): A T B S P A ; A T B S P A FA ; ATB SPA ; THYSSEN INDUSTRIE ; THYSSEN AG

Assignee(s): THYSSEN INDUSTRIE AG ; A T B S P A SENAGO MAILAND MILANO IT

Inventor(s): (std): HAINTSU KURAISUKORUTE ; ABURAMO BORUDEINON ; ABRAMO BORDIGNON ; BORDIGNON A ; ABRAMO BORDINON IT ; BORDINON ABRAMO ; BORDIGNON ABRAMO ; BORDIGNON ABRAMO SENAGO ; KREISKORTE HEINZ DR ING ; KREISKORTE H ; KREISKORTE HEINZ

Inventor(s): H KREISKORTE ; BORDIGNON ABRAMO SENAGO MAILAND MILANO IT

54) Family number: 49295885 (US2012161436A)

Title: ADAPTOR AND PIPE CONNECTOR USING THE SAME

Abstract: A pipe adaptor, including an adaptor body; an axial passage; a socket connecting segment for connecting with a socket; a pipe connecting segment for connecting with a pipe; a first O-shaped sealing ring; and a second O-shaped sealing ring. The axial passage is disposed in the adaptor body. The first O-shaped sealing ring is disposed on the socket connecting segment for forming a sealed connection with the internal wall of the socket. The second O-shaped sealing ring is disposed on the pipe connecting segment for forming a sealed connection with the internal wall of the pipe. A pipe connector including the pipe adaptor.

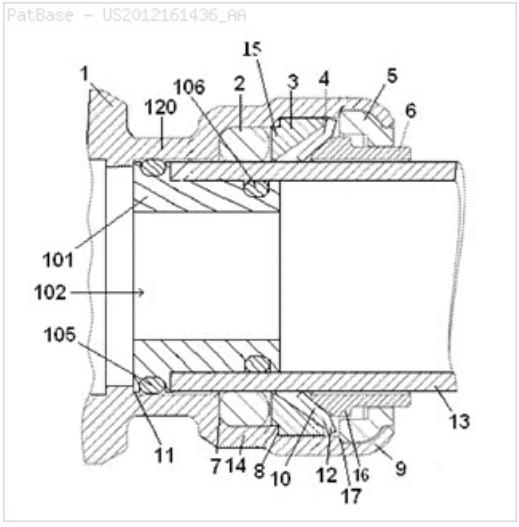
Classifications:

International (IPC 8-9): B60J10/00 F16L17/00 F16L17/02 F16L19/00 F16L21/00 F16L21/02 F16L21/05 F16L21/06 F16L21/08 F16L33/22 F16L37/02 F16L37/08 F16L37/091 F16L37/12 F16L47/00 F16L57/00 H01R (Advanced/Invention)

CPC: F16L37/0915 F16L21/02 F16J15/02 F16L21/06

European: F16L21/035 F16L37/091

US: 285/308 285/308P 285/344 285/344S



Family:

Publication number	Publication date	Application number	Application date
AU2011211419 AA	20120712	AU20110211419	20110812
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BRMU9101492 U2	20130416	BR2011MU01492U	20110706
CA2753054 AA	20120623	CA20112753054	20110923
CN102121547 A	20110713	CN201010601861	20101223
CN102121547 B	20130116	CN201010601861	20101223
DE602011006453 D1	20140612	DE201160006453T	20110727
EP2469145 A2	20120627	EP20110006181	20110727
EP2469145 A3	20121226	EP20110006181	20110727
EP2469145 B1	20140430	EP20110006181	20110727
IN02397CH2011 A	20160831	IN2011CH02397	20110713
JP3170763 U	20110929	JP20110004154U	20110715
KR20120004807 U	20120703	KR20110006130U	20110705
RU114746 U1	20120410	RU20110129090U	20110713
SG182036 A1	20120730	SG20110051760	20110718
TWM431257 Y	20120611	TW20110213570U	20110722

US2012161436 AA	20120628	US20110179552	20110710

Priority:

CN201010601861 20101223 KR20110006130U 20110705 EP20110006181 20110727
CA20112753054 20110923

Probable Assignee: LA CASA ANGELA HOLDING LTD

Assignee(s): (std): CASA ANGELA HOLDING LTD ; KASA ANGELA INC ; SALEHI BAKHTIARI MANOUCHEHR ; LAKASA ANGELA INC

Assignee(s): LA CASA ANGELA HOLDING LIMITED ; LA CASA ANGELA HOLDING LTD ; LA CASA ANGELA HOLDING LTD HONGKONG ; LA KASA ANGELA INC

Inventor(s): (std): SALEHI BAKHTIARI MANOUCHEHR ; MANOUCHEHR SALEHI BAKHTIARI ; BUCKTHIERRY M ; M BUCKTHIERRY

Inventor(s): MBUCKTHIERRY

Agent(s): SHELSTON IP; SHELSTON IP PTY LTD; BLAKE CASSELS AND GRAYDON LLP; WUESTHOFF AND WUESTHOFF PATENTANWAELTE PARTG MBB; THUM BERNHARD; VIERING JENTSCHURA AND PARTNER LLP

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

55) Family number: 10537890 (RU2071852C)

Title: METHOD OF MAKING TUBULAR CORRUGATED PARTS AND APPARATUS FOR PERFORMING THE SAME

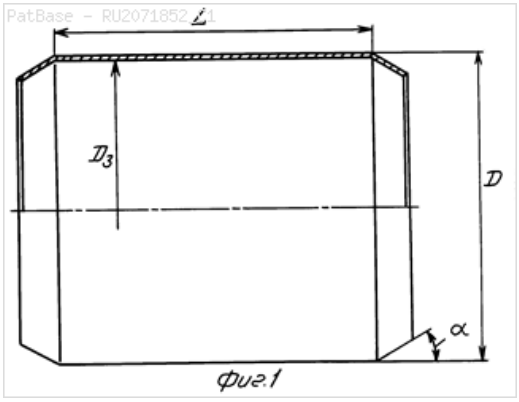
Abstract:

FIELD: plastic metal working, namely, production of tubular corrugated parts, mainly, pulley rims. SUBSTANCE: invention allows to enhance accuracy of parts made form thin-wall tubular blank and to simplify process of forming V-shaped grooves due to step-by-step shaping at simultaneously applying radial and axial efforts and sizing in closed contour. Apparatus for performing the method includes driven disc chuck, changeable intermediate and sizing rollers, mechanism for axially compressing blank. Rollers are placed inside and outside blank. Disc blank includes radially moving cams rigidly connected with adapter carrying posts for inner rollers. Inner rollers and adapter are built-up ones, they are centered with use of mandrel mounted with possibility of rotation synchronously with rollers and with possibility of axial motion. EFFECT: increased accuracy of parts. 7 cl, 13 dwg

Classifications:

International (IPC 8-9): B21D15/00 B21D15/04 B21D51/12 B21D53/26 (Advanced/Invention);
B21D15/00 B21D51/00 B21D53/26 (Core/Invention)

International (IPC 1-7): B21D15/00 B21D15/04 B21D51/12 B21D53/26



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Family:

Publication number	Publication date	Application number	Application date
RU2071852 C1	19970120	SU19925068008	19920904

Priority:

SU19925068008 19920904

Probable Assignee: GOMELSKIJ POLITEKHN I

Assignee(s): (std): GOMEL POLYTECHNIC INST ; GOMELSKIJ POLITEKHN I

Assignee(s): GOMELSKIJ POLITEKHNICHESKIJ INSTITUT ; GOMEL'SKIJ POLITEKHNICHESKIJ INSTITUT

Inventor(s): (std): EVSEEV ALEKSANDR MIKHAJLOVICH ; KENKO VIKTOR MIKHAJLOVICH ; TEREKHOV ANATOLIJ VASILEVICH ; MOVCHAN VYACHESLAV IVANOVICH ; ROSSOL ALEKSANDR IVANOVICH

Inventor(s): KEN'KO VIKTOR MIKHAJLOVICH[BY] ; ROSSOL ALEKSANDR IVANOVICH[BY] ; TEREKHOV ANATOLIJ VASIL'EVICH[BY] ; EVSEEV ALEKSANDR MIKHAJLOVICH[BY] ; MOVCHAN VJACHESLAV IVANOVICH[BY]

56) Family number: 15655955 (US6338263B)

Title: Method for manufacturing embossed can body, inspecting apparatus used for manufacturing embossed can body, and inspecting method used therefor

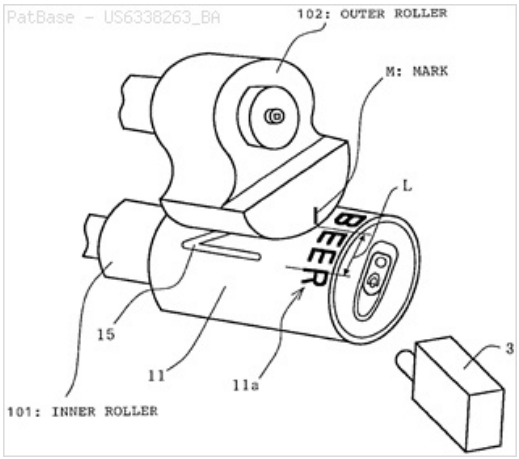
Abstract: A method for manufacturing an embossed can body with a pattern printed on an outer surface of a cylindrical can barrel includes a plastic working step for forming a flange portion and a neck portion at an opening peripheral edge of the can barrel, and an embossing step for forming an embossed portion on at least a part of the pattern while aligning with the pattern. Thus, the pattern and the embossed portion can be aligned easily and accurately. Also, a stopping mark and a confirmation mark are formed on the can barrel, and a first sensor corresponding to the stopping mark and a second sensor corresponding to the confirmation mark are used. When the respective first and second sensors detect the stopping mark and the confirmation mark, it can be confirmed that the pattern on the can barrel is oriented in a predetermined direction.

Classifications:

International (IPC 8-9): B21D51/26 B44B5/00 B65D25/20 G01B11/24 (Advanced/Invention);
B21D51/26 B44B5/00 B65D25/20 G01B11/24 (Core/Invention)

International (IPC 1-7): B21D15/04 B21D51/26 G01B11/24

CPC: B21D51/26 B44B5/0014
European: B21D51/26 B44B5/00A2A
US: 72/105 72/15.2 72/15.3 72/152 72/153 72/17.3 72/173 72/379.4 72/94



Family:

Publication number	Publication date	Application number	Application date
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JP2001191137 A2	20010717	JP19990373467	19991228
JP2004058155 A2	20040226	JP20030192240	20030704
JP3436227 B2	20030811	JP19990373467	19991228
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JP3478185 B2	20031215	JP19990204320	19990719
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US6338263 BA	20020115	US20000599266	20000622

Priority:

JP19990186049 19990630 JP19990204320 19990719 JP19990373467 19991228 JP20030192240 20030704

Probable Assignee: TOYO SEIKAN KAISHA LTD

Assignee(s): (std): TOYO SEIKAN KAISHA LTD

Inventor(s): (std): MORISHITA SUNAO ; OBATA KAZUMOTO ; OKUBO WATARU ; OOKUBO WATARU

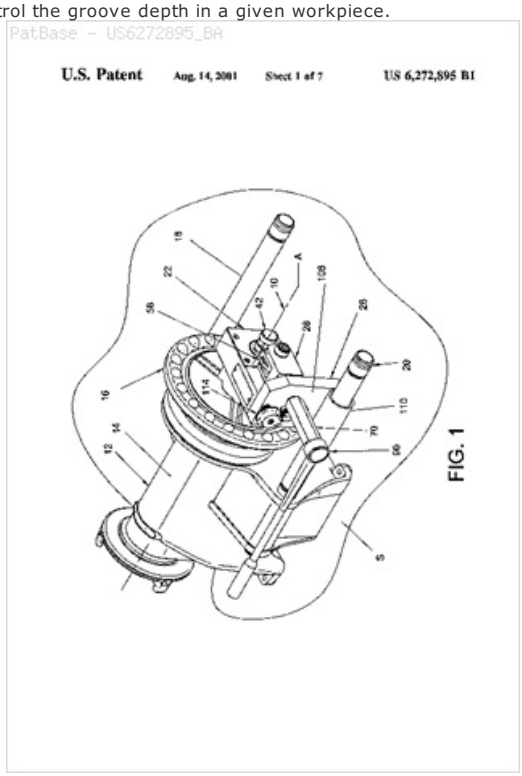
Agent(s): WATANABE KIHEI

57) Family number: 15599983 (US6272895B)

Title: Roll grooving apparatus

Abstract: Roll grooving apparatus for rolling a circumferential groove in a pipe is adapted to be mounted on a power drive unit for the axes of the driven and idler grooving rolls to lie in a plane which is one of horizontal or at an acute angle to horizontal such that the weight of a pipe between the grooving rolls during a roll grooving operation promotes tracking of the groove. A rotatable groove depth gauge is mounted on a support member of the apparatus adjacent a stop element which engages the support member to determine groove depth, and the gauge is displaceable relative to the stop element into and out of a gauging position in which the stop element can be set to control the groove depth in a given workpiece.

Classifications:
International (IPC 8-9): B21D17/04 (Advanced/Invention); B21D17/00 (Core/Invention)
International (IPC 1-7): B21D17/04 B21D37/04 B21D41/00 B21H1/00 B21H8/00
CPC: B21D17/04
European: B21D17/04
US: 72/105



Family:

Publication number	Publication date	Application number	Application date
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CN1323666 A	20011128	CN20001034249	20001128
DE60019901 D1	20050609	DE20006019901	20001213
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DE60019901 T2	20060202	DE20006019901T	20001213
EP1155758 A2	20011121	EP20000204490	20001213
EP1155758 A3	20030102	EP20000204490	20001213
EP1155758 B1	20050504	EP20000204490	20001213
ES2240010 T3	20051016	ES20000204490T	20001213
JP2001321836 A2	20011120	JP20000335853	20001102
TW470675 B	20020101	TW20000121002	20001007
US6272895 BA	20010814	US20000571145	20000516

Priority:

US20000571145 20000516 CA20002325199 20001107

Probable Assignee: EMERSON ELECTRIC CO

Assignee(s): (std): EMERSON ELACTRIC CO ; EMERSON ELECTRIC CO ; EMERSON ELECTRIC CO LTD

Assignee(s): EMERSON ELECTRIC CO ST LOUIS ; HAMM JAMES E

Inventor(s): (std): HAMM JAMES E ; JAMES E HARM ; HARM JAMES E

Agent(s): BORDEN LADNER GERVAIS LLP

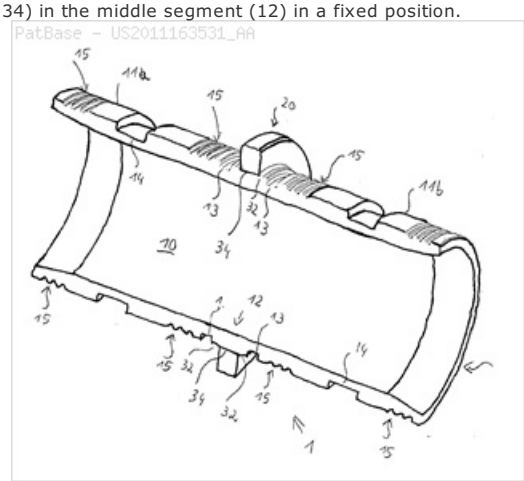
Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

58) Family number: 48888983 (US2011163531A)

Title: FITTING FOR A PIPE

Abstract: A fitting, particularly for connecting two pipes, comprising: a support sleeve (1), having a first connection segment (11a) at a first end, and having a second connection segment at an opposite second end, wherein at least the first connection segment (11a) is formed so that a pipe segment (70) can be pushed onto it and having a middle segment (12) disposed between the first and the second connection segment (11a, 11b), wherein the middle segment (12) comprises a fixing element (32, 34) extending at least partially around the support sleeve and having a separable ring element (20) having an inner diameter substantially corresponding to an outer diameter of the middle segment (12) and designed for being placed on the support sleeve (1) and being retained by the fixing element (32, 34) in the middle segment (12) in a fixed position.

Classifications:
International (IPC 8-9): F16L13/14 F16L21/00 F16L21/02 F16L21/08 F16L33/00 F16L47/00 (Advanced/Invention);
F16L13/00 (Core/Invention)
CPC: F16L13/143
European: F16L13/14B6
US: 285/242 285/256 285/31 285/31P 285/398



Family:

Publication number	Publication date	Application number	Application date
CA2725060 AA	20110616	CA20102725060	20101213
CA2725060 C	20170718	CA20102725060	20101213
DE202009016975 U1	20110428	DE200920016975U	20091216
DE502010007069 D1	20140710	DE201050007069T	20101215
DK2336623 T3	20140825	DK20100195202T	20101215
EP2336623 A1	20110622	EP20100195202	20101215
EP2336623 B1	20140528	EP20100195202	20101215
ES2491096 T3	20140905	ES20100195202T	20101215
PT2336623 T	20140829	PT20100195202T	20101215
SI2336623 T1	20141030	SI20100030700T	20101215
US2011163531 AA	20110707	US20100969120	20101215
US9027966 BB	20150512	US20100969120	20101215

Priority:

DE200920016975U 20091216 CA20102725060 20101213 EP20100195202 20101215

Probable Assignee: UPONOR INNOVATION AB

Assignee(s): (std): ALTMANN MAIK ; DITTMAR RAINER ; SAVOLAINEN MIKA ; UPONOR INNOVATION AB

Inventor(s): (std): SAVOLAINEN MIKA ; ALTMANN MAIK ; DITTMAR RAINER

Inventor(s): MAIK ALTMANN ; MIKA SAVOLAINEN ; RAINER DITTMAR

Agent(s): OYEN WIGGS GREEN AND MUTALA LLP; EPPING HERMANN FISCHER PATENTANWALTSGESELLSCHAFT MBH; EPPING HERMANN FISCHER; DE ELZABURU ALBERTO; OCCHIUTI AND ROHLICEK LLP

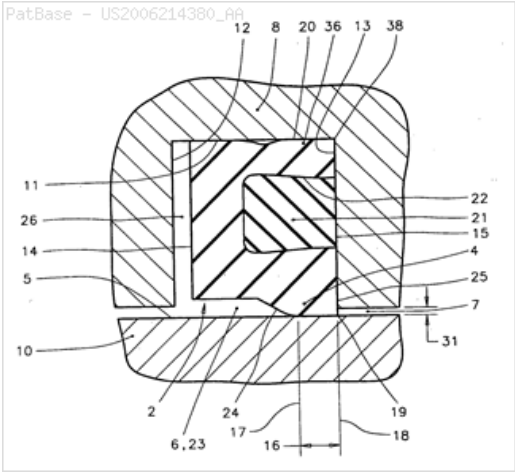
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

59) Family number: 33394996 (US2006214380A)

Title: LOW TORQUE HYDRODYNAMIC LIP GEOMETRY FOR BI-DIRECTIONAL ROTATION SEALS

Abstract: A hydrodynamically lubricating geometry for the generally circular dynamic sealing lip of rotary seals that are employed to partition a lubricant from an environment. The dynamic sealing lip is provided for establishing compressed sealing engagement with a relatively rotatable surface, and for wedging a film of lubricating fluid into the interface between the dynamic sealing lip and the relatively rotatable surface in response to relative rotation that may occur in the clockwise or the counter-clockwise direction. A wave form incorporating an elongated dimple provides the gradual convergence, efficient impingement angle, and gradual interfacial contact pressure rise that are conducive to efficient hydrodynamic wedging. Skewed elevated contact pressure zones produced by compression edge effects provide for controlled lubricant movement within the dynamic sealing interface between the seal and the relatively rotatable surface, producing enhanced lubrication and low running torque.

Classifications:
International (IPC 8-9)**:** F16J15/16 F16J15/18 F16J15/32 F16J15/3204 F16J15/3208 F16J15/3216 F16J15/3236 F16J15/324 F16J15/3244 F16J15/3284 (Advanced/Invention); F16J15/16 F16J15/32 (Core/Invention)
CPC: F16J15/3268 F16J15/3216 F16J15/3284 F16J15/324 F16J15/3208 F16J15/3236 F16J15/3244 F16J15/164
European: F16J15/16C F16J15/32B2 F16J15/32B3 F16J15/32B7B F16J15/32C F16J15/32D F16J15/32E3 F16J15/32G
US: 1/1 277/400 277/551 277/559 277/559P 277/574



Family:

Publication number	Publication date	Application number	Application date
CA2601617 AA	20070917	CA20062601617	20060322
CA2601617 C	20160920	CA20062601617	20060322
CA2635046 AA	20080620	CA20072635046	20070104
CA2635046 C	20120529	CA20072635046	20070104
CA2697678 AA	20090312	CA20082697678	20080902
CA2697678 C	20150623	CA20082697678	20080902
CA2887776 AA	20090312	CA20082887776	20080902
CA2887776 C	20160510	CA20082887776	20080902
CN101208549 A	20080625	CN200680009107	20060322
CN101208549 B	20120314	CN200680009107	20060322
DE602006035054 D1	20130508	DE200660035054T	20060322
EP1861642 A2	20071205	EP20060748527	20060322
EP1861642 A4	20100407	EP20060748527	20060322
EP1861642 B1	20130313	EP20060748527	20060322
RU2007138920 A	20090427	RU20070138920	20060322
RU2400662 C2	20100927	RU20070138920	20060322
US2006214380 AA	20060928	US20060386209	20060322
US2007205563 AA	20070906	US20070649693	20070104
US2009001671 AA	20090101	US20080231348	20080902
US2009250881 AA	20091008	US20090480530	20090608
US2012013078 AA	20120119	US20110242107	20110923
US2014008875 AA	20140109	US20130028066	20130916
US7562878 BB	20090721	US20060386209	20060322
US7770898 BB	20100810	US20070649693	20070104
US8056904 BB	20111115	US20090480530	20090608
US8550467 BB	20131008	US20080231348	20080902
US9086151 BB	20150721	US20110242107	20110923
US9121504 BB	20150901	US20130028066	20130916
WO06102349 A2	20060928	WO2006US10285	20060322
WO06102349 A3	20071004	WO2006US10285	20060322
WO07079497 A2	20070712	WO2007US60111	20070104
WO07079497 A3	20081106	WO2007US60111	20070104
WO09032248 A1	20090312	WO2008US10320	20080902

Priority:

US20050664662P 20050322
EP20060748527 20060322
US20060851937P 20061026
US20070967174P 20070831
CA20082697678 20080902
US20090480530 20090608
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US20060755975P 20060104
WO2006US10285 20060322
US20070649693 20070104
US20070999957P 20071023
US20080231348 20080902
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US20060386209 20060322
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WO2007US60111 20070104
US20080067411P 20080228
WO2008US10320 20080902
US20130028066 20130916

Probable Assignee: KALSI ENGINEERING INC

Assignee(s): (std)**:** KALSI ENG INC ; DIETLE LANNIE L ; DIETLE LANNIE LAROY ; KOLSI EHNDZHINIRING INK ;

	SCHROEDER JOHN E ; SCHROEDER JOHN ERICK
Assignee(s):	ENERGY UNITED STATES DEPARTMENT OF ; KALSI ENGINEERING INC ; KALSI ENGINEERING INC SUGAR LAND ; UNITED STATES DEPARTMENT OF ENERGY
Inventor(s): (std)**:**	DIETLE LANNIE L ; SCHROEDER JOHN E ; DITL LEHNNI L ; SHREDER DZHON EH ; DIETLE LANNIE LAROY ; SCHROEDER JOHN ERICK
Inventor(s):	DIETLE LANNIE ; SCHROEDER JOHN ; DIETLE LANNIE L HOUSTON ; SCHROEDER JOHN E RICHMOND
Agent(s):	FINLAYSON AND SINGLEHURST; BETTEN AND RESCH PATENT U RECHTSANWAELTE PARTGMBB; HANNA PETER WILLIAM DEREK; ANDREWS AND KURTH LLP; ANDREWS KURTH LLP; DOUGLAS W; ROMMELMANN DOUGLAS W 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 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 ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW