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Search 1: FT=(HOSE~ COUPLING~ AND HIGH~ PRESURE~ AND UNIVERSAL~ AND ACCESSORY~) (Results 0)

Search 2: FT=(HOSE~ COUPLING~ AND UNIVERSAL~ AND ACCESSORY~ AND NUT) (Results 20)

Search 3: FT=(HOSE~ COUPLING~ AND UNIVERSAL~ AND ACCESSORY~ AND NUT~ AND THREAD) (Results 15)

Search 4: FT=(HOSE~ COUPLING~ AND UNIVERSAL~ AND NUT~ AND THREAD~ AND FEMALE AND MALE) (Results 50)

Title: COUPLING

Abstract: 1. A coupling component suited for medium or high pressure conduits comprising a. tulmlar insert member having an external annular groove therein and a coacting screw nut member having an internal groove arranged to register with and forming with the groove in said insert member a. ring shaped passage generally circular in cross section, said nut and insert members being of an inner and outer diameter respectively as to render the said members relatively displaceable diametrically a distance slightly more than an amount normally necessary for a swivel fitting, said nut member being engageable with a screw element of the part to which the coupling component is to be joined, and said nut member also having a hole extending through the wall thereof of less diameter than the diameter of the ring shaped passage in the plane of said annular passage and in a direction tangent to the bottom of the groove in the insert member when the two members are displaced diametrically, a normally straight rod member of circular cross-section and of permanently deformable material introduced into said hole in the wall of the nut member into said passage and deformed around the passage whereby the insert member acts as a fulcrum movable with respect to the nut member and coacting with the nut member to curve successive portions of the rod beginning inwardly from the leading end thereof so that the medial and major portion of the rod is permanently deformed to the curvature of the passage leaving the rod with straight end portions, said rod so deformed, being adapted effectively to transmit the end thrust due to screwing up the nut without substantially interfering with the freedom of relative rotation of the nut and the insert.

Classifications:

International (IPC 8-9): F16L19/02 (Advanced/Invention);
F16L19/02 (Core/Invention)

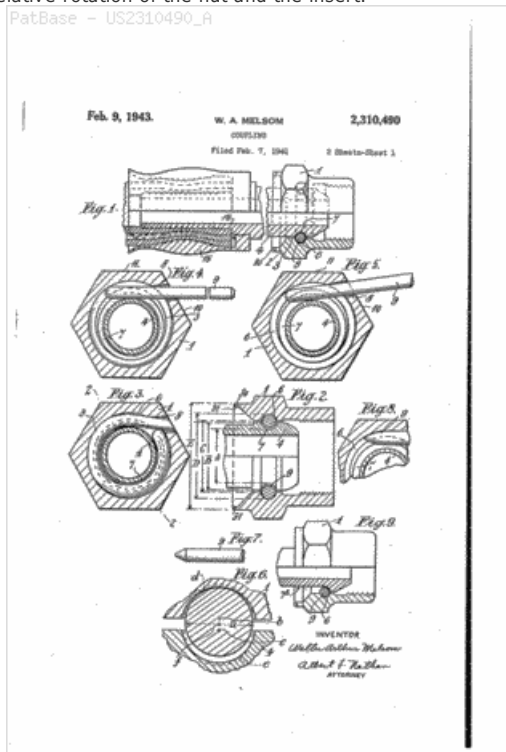
International (IPC 1-7): F16L19/02

CPC: Y10S285/906 F16L19/0231

European: F16L19/02F

US: 285/131.1 285/179 285/276 285/305 285/356 285/906

PatBase - US2310490_A



Family:

Publication number	Publication date	Application number	Application date
US2310490 A	19430209	US19410377813	19410207

Priority:

19400410 US19410377813 19410207

Probable Assignee: BOWDEN ENG LTD

Assignee(s): (std): BOWDEN ENG LTD

Assignee(s): BOWDEN ENGINEERS LIMITED ; BOWDEN ENGINEERS LTD

Inventor(s): (std): ARTHUR MELSOM WALTER

Inventor(s): MELSOM WALTER ARTHUR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2310490 A	19430209	LSGT	+	granted / extensions (spc, cpc, pte)	

Abstract: The invention provides a one-piece flex pipe connection that has a bend, and any angle to a termination of a thread, groove or a 360 Degrees swivel flange. Additionally the invention provides a flex pipe coupling with a bend and with one end having a groove clamp connection and the other having a thread, groove or the 360 Degrees flange swivel. The last piece is a 360 Degrees bend swivel to a thread, groove or a 360 Degrees flange swivel. A preferred flex pipe coupling apparatus has a connector body with angularly related ends and with a central portion between the ends. At least one of the ends has a cylindrical recess. A shoulder at an axial end of the recess near the central portion cooperates with an end of a flex pipe inserted in the recess. An annular seal receiver in the cylindrical recess near the shoulder holds a resilient seal for sealing the end of the flex pipe. An annular groove in the recess cooperates with an annular groove in the flex pipe to receive and hold connecting elements for connecting the flex pipe to the connector.

International (IPC 8-9): A62C33/00 F16L21/06 F16L23/024 F16L23/026 F16L23/028 F16L23/032 F16L23/18 F16L27/08

F16L43/02 (Advanced/Invention);
A62C33/00 F16L21/06 (Advanced/Non-invention);

International (IPC 1-7): A62C33/00 F16L21/06 F16L23/024 F16L23/026

F16L23/028 F16L27/00 F16L27/08 F16L43/00 F16L43/02
CPC: F16L23/032 F16L23/18 F16L27/0828

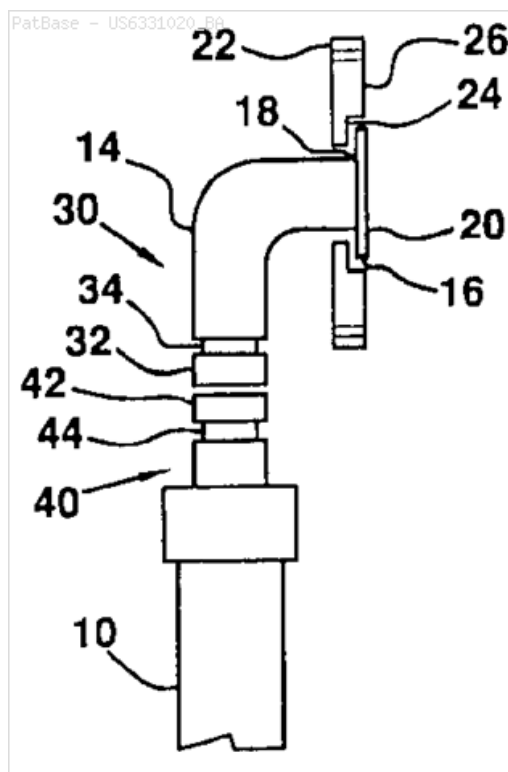
European: F16L23/032 F16L23/18 F16L27/08B2C2

US: 285/179 285/305 285/321 285/414 285/415

JP F-Term: 2E189 2E189/LA02 3H015 3H015/CA01 3H015/CA11
3H015/DA11 3H016 3H016/AB02 3H016/AB03 3H019 3H104 3H104/JA04
3H104/JB04

JP F-Index: A62C33/00/C F16L21/06 F16L23/02/B F16L23/028

F16L23/032 F16L27/08/Z F16L43/02



Publication number	Publication date	Application number	Application date
AU200066478 A1	20010319	AU20000066478	20000821
AU200066478 A5	20010319	AU20000066478D	20000821
EP1409913 A1	20040421	EP20000954143	20000821
JP2003526052 T2	20030902	JP20010518621T	20000821
US6331020 BA	20011218	US20000640756	20000818
WO0114781 A1	20010301	WO2000US22837	20000821

US19990149908P 19990823 US20000640756 20000818 WO2000US22837 20000821

Assignee(s): (std): BRUNELLA ALFRED J ; CHEN RAY ; PACIFIC FLO RITE INC

Assignee(s): PACIFIC FLO RITE INC 1040 WALLACE AVENUECITY OF IN

Inventor(s): (std): BRUNELLA ALFRED J

Inventor(s): ALFRED J BRUNELLA

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 CR CU CY CZ DE DK DM DZ
EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT
LU LV 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 UD US VZ VN YU ZA ZW

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Patent	Date recorded	Event group	Code	Event	Details
AU200066478 A1	20010319	LSPB	+	published / reissued	
AU200066478 A5	20020502	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT	

ENTERING NATIONAL PHASE					
EP1409913 A1	20040421	LSPB	+	published / reissued	
EP1409913 A1	20040421	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020814
EP1409913 A1	20050914	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20050301
JP2003526052 T2	20030902	LSPB	+	published / reissued	
JP2003526052 T2	20070417	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20070416
JP2003526052 T2	20070530	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070529
JP2003526052 T2	20071024	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20071023
US6331020 BA	20011218	LSGT	+	granted / extensions (spc, cpc, pte)	
US6331020 BA	20000818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PACIFIC FLO-RITE, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BRUNELLA, ALFRED J.; REEL/FRAME:011031/0397 EFFECTIVE DATE : 20000817
US6331020 BA	20051219	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6331020 BA	20060118	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6331020 BA	20060118	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6331020 BA	20060214	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20051218
US6331020 BA	20200818	PEXP		Calculated Patent Term Expiry	
WO0114781 A1	20010301	LSPB	+	published / reissued	
WO0114781 A1	20020320	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2000954143 COUNTRY OF REF DOCUMENT : EP
WO0114781 A1	20020801	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0114781 A1	20040421	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000954143 COUNTRY OF REF DOCUMENT : EP
WO0114781 A1	20050301	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000954143 COUNTRY OF REF DOCUMENT : EP

Title: Clamp assembly for motor flushing device

Abstract: A **universal** clamp assembly for remotely placing a motor flushing device over the water inlet ports of an outdrive of a marine motor from either above (twelve o'clock position), below (six o'clock position), to the right (three o'clock position), or to the left (nine o'clock position) of the motor to direct clean, fresh, water through the inlet ports to flush the interior of the motor. In a second embodiment of the **universal** clamp assembly as depicted in Fig. 3, the **universal** clamp assembly comprises a first, generally T-shaped, clamp member including a foundation for securing a motor flushing device thereto in a first orientation; and a second, generally Y-shaped, clamp member including a foundation for alternatively securing a motor flushing device thereto in a second orientation. When assembled, the foundation of the first clamp member is in a plane generally perpendicular with the foundation of the second clamp member.

Classifications:

International (IPC 8-9): F01P3/20 F16M13/02 (Advanced/Invention);

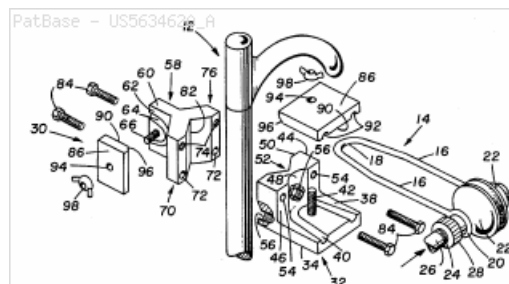
F01P3/20 F16M13/02 (Core/Invention)

International (IPC 1-7): A44B96/06

CPC: F01P3/205 F16M13/02

European: F01P3/20B2 F16M13/02

US: 248/229.14 248/230.5 248/316.6 248/558



Family:

Publication number	Publication date	Application number	Application date
US5634620 A	19970603	US19940337039	19941110

Priority:

US19940337039 19941110

Probable Assignee:

VEROT THIERRY R E

Assignee(s): (std):

VEROT THIERRY R E

Inventor(s): (std):

VEROT THIERRY R E

Legal status (INPADOC)

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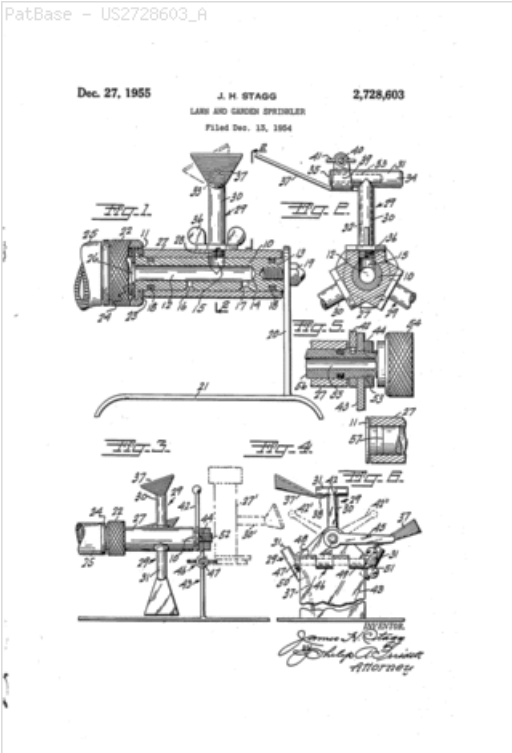
Patent	Date recorded	Event group	Code	Event	Details
US5634620 A	19970603	LSGT	+	granted / extensions (spc, cpc, pte)	
US5634620 A	19970523	LSGT	PAT1	Patented Case	
US5634620 A	20010603	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5634620 A	20010807	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20010603
US5634620 A	20180125	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5634620 A	20180125	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5634620 A	20141110	PEXP		Calculated Patent Term Expiry	

Title: LAWN AND GARDEN SPRINKLER

Abstract: (Claim 1) 1. A sprinkler ably Inouutcd on will and having a pressure, at rotor plurality of equi-angularly spaced nozzles, said stator having an axial passage formed in one end for said connection and terminating in spaced relation to the other end, a single passage formed through the wall of said stator in continuous communication with said axial passage and in sequential communication with said nozzles during rotation of said rotor, a delleetor for each nozzle and each nozzle having a terminal portion, and each deilecctor including a clamp portion to clamp about said terminal portion and including releasing means for rotativc adjustment on said terminal portion, and a deiieetor plate inclined relative to the axis of said clamp member and extending across the path of the jet from the nozzle for controlling, in conjunction with the rotative adjustment of said stator, the direction and extent of projecf tion oi the spray from the nozzle relative to the sprinkler, said nozzles each including a leg portion having one end comprising a support, a stator adjutsaid support for rotative adjustment at connection for a source of water under rotatable on said stator and having a 2,12a,eos ' ' A Z5 III) T5 **threaded** into the wall of the rotor and including securing means for securing the leg portion in any relative adjusted position, said leg portion terminating at the other end in a nozzle portion formed in angular relation to the leg portion with the said deiieetor mounted and rotatably adjustable thereon for the purpose speeiieed, said support comprising a base member, and a support member for the stator, said base member and said support member being pivotally connected and including securing nwcars for securing the support member to the base member in any angularly adjusted position through an angle of not less than 90 degrees for adjusting thc axis of the stator to any position ranging from horizontal to vertical, and in conjunction with the rotative adjustment of the stator and of the deflectors providing control of the form, direction, and extent of the path or area to be sprinkled as related to the location of the sprinkler, thereby providing a **universal** sprinkler.

Classifications:

International (IPC 8-9): B05B3/06 (Advanced/Invention);
B05B3/02 (Core/Invention)
International (IPC 1-7): B05B3/08
CPC: Y10S239/01 B05B3/06
European: B05B3/06
US: 239/231 239/97 239/DIG.1



Family:

Publication number	Publication date	Application number	Application date
US2728603 A	19551227	US19540474774	19541213

Priority:

US19540474774 19541213

Probable Assignee: STAGG JAMES H
Assignee(s): (std): STAGG JAMES H
Inventor(s): (std): STAGG JAMES H

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2728603 A	19551227	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: Quick-connect **hose coupling**

Abstract: An apparatus for establishing a quick-connect fluid-tight coupling together of hose sections or the like. A pair of identical couplings are provided each interconnected to and terminating a respective hose section and adapted to be aligned along a common co-axis in mutual sealing engagement. Each coupling includes a body member having a circular seal face disposed in a plane perpendicular to the axis. Means are provided on each body member for releasably sealing the seal faces together in fluid-tight engagement by rotation of the body members in opposing directions about the axis. Each body member includes a locking assembly mechanism for automatically locking the respective body members together upon make-up to prevent further relative rotation in either direction or separating movement in the axial direction. Each locking mechanism is releasable whereby, upon disengaging rotation of the body members in the opposite direction from make-up, the locking assemblies of each body are re-armed in preparation for a next make-up. The locking mechanisms are aligned about the common axis whereby in an un-armed position, the respective body members are thereby prevented from being joined together.

Classifications:

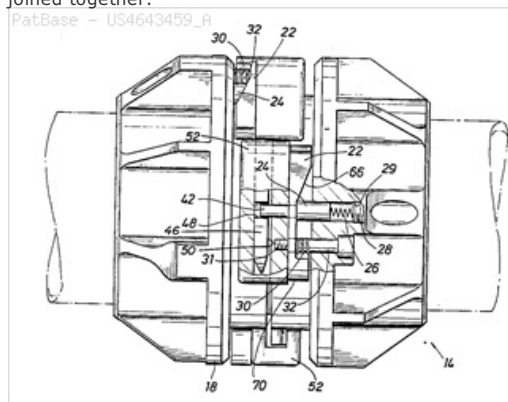
International (IPC 8-9): F16J15/00 F16L37/252 (Advanced/Invention);
F16L37/00 (Core/Invention)

International (IPC 1-7): F16J15/00

CPC: F16L37/252

European: F16L37/252

US: 285/360 285/376 285/84 285/85



Family:

Publication number	Publication date	Application number	Application date
CA1279343 A1	19910122	CA19860511249	19860610
US4643459 A	19870217	US19850743551	19850611

Priority:

US19850743551 19850611 CA19860511249 19860610

Probable Assignee: ROBBINS AND MYERS ENERGY SYSTEMS LP

Assignee(s): (std): HUBER CORP J M

Assignee(s): HUBER J M CORP ; HUBER JM CORP ; J M HUBER CORP ; JM HUBER BROWN S DOCK AND NAVESINK RIVER ROADS LOC ; JM HUBER CORP ; ROBBINS AND MYERS ENERGY SYSTEMS LP ; JP MORGAN TRUST CO ; JP MORGAN TRUST CO NA AGENT AS ; JM HUGER CORP ; CARSON FOREST LEON ; FLOW CONTROL EQUIPMENT INC

Inventor(s): (std): CARSON FORREST L ; CARSON FOREST L

Inventor(s): CARSON FOREST LEON

Agent(s): FINLAYSON AND SINGLEHURST

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA1279343 A1	19910122	LSGT	+	granted / extensions (spc, cpc, pte)	
CA1279343 A1	20080122	LSLE	-MKEX	EXPIRY	
CA1279343 A1	20080122	PEXP		Calculated Patent Term Expiry	
US4643459 A	19870217	LSGT	+	granted / extensions (spc, cpc, pte)	
US4643459 A	19850820	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : J.M HUBER CORPORATION, BROWN'S DOCK AND NAVESINK R OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:CARSON, FORREST L.; REEL/FRAME:004442/0195 EFFECTIVE DATE : 19850731
US4643459 A	19861213	LSGT	PAT1	Patented Case	

US4643459 A	19861213	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US4643459 A	19900614	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4643459 A	19901204	LSRE	CC	CERTIFICATE OF CORRECTION	
US4643459 A	19940803	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4643459 A	19971224	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FLOW CONTROL EQUIPMENT, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:J.M. HUBER CORPORATION; REEL/FRAME:008869/0206 EFFECTIVE DATE : 19971212
US4643459 A	19980826	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US4643459 A	20060124	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROBBINS & MYERS ENERGY SYSTEMS, L.P., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FLOW CONTROL EQUIPMENT, INC.; REEL/FRAME:017207/0452 EFFECTIVE DATE : 20060123
US4643459 A	20060328	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : J.P. MORGAN TRUST COMPANY, N.A., AS AGENT, ILLINOI OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ROBBINS & MYERS ENERGY SYSTEMS, L.P.; REEL/FRAME:017379/0841 EFFECTIVE DATE : 20051223
US4643459 A	20070207	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROBBINS & MYERS ENERGY SYSTEMS, L.P., TEXAS OLDPARTY : PATENT RELEASE OF SECURITY INTEREST; ASSIGNOR:BANK OF NEW YORK TRUST COMPANY, N.A., THE, AS SUCCESSOR TO J.P. MORGAN TRUST COMPANY, AS AGENT; REEL/FRAME:018866/0268 EFFECTIVE DATE : 20061219

Title: BREAKAWAY SWIVEL COUPLING

Abstract: A tensile force actuated fuel line quick disconnecting coupling device has a pair of body members including interlocking elements which cooperatively couple and provide a fuel passageway through the body members, and uncouple when a tensile force above a predetermined limit is interposed on the fuel line. The interlocking elements may be in the form of a mortise and tenon connection having a detent type infrangible locking member for interconnecting the elements together. The interlocking elements may pivot one relative to the other so that a combination swivel joint and quick disconnecting coupling device is provided. Various types of interlocking members are disclosed as are both infrangible and frangible locking means. Valving is disposed within each body member so that when the body members uncouple respective valves close the flow passageways therein. The valving may include cylindrical stems which abut and open the passageways when the body members are coupled and additionally permit pivoting of one body member relatively to the other.

Classifications:

International (IPC 8-9): B67D5/32 B67D5/36 B67D7/32 F16K17/14 F16L29/00 F16L55/10 (Advanced/Invention);

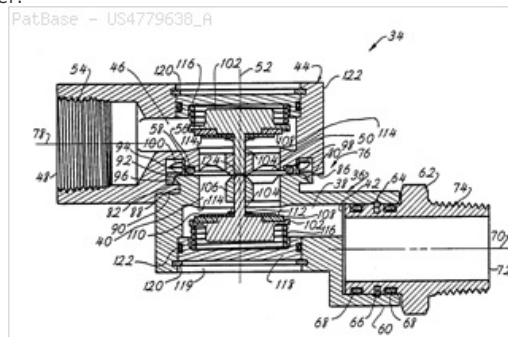
B67D7/32 F16L55/10 (Core/Invention)

International (IPC 1-7): B67D5/32 B67D5/36 F16K17/14 F16L29/00 F16L35/00 F16L37/28

CPC: Y10T137/1654 Y10T137/1662 Y10T137/87957 Y10T137/2104 Y10T137/2109 Y10T137/2224 B67D7/3218 F16L55/1015

European: B67D7/32C F16L55/10G

US: 137/614.04 137/68.1 137/68.14 137/68.15 137/811 137/812 137/833 141/302 141/59 251/126 285/1 285/2 285/272 285/69

**Family:**

Publication number	Publication date	Application number	Application date
CA1284972 A1	19910618	CA19880578255	19880923
DE3833344 A1	19890427	DE19883833344	19880930
DE3833344 C2	19920723	DE19883833344	19880930
GB2210945 A1	19890621	GB19880022438	19880923
GB2210945 B2	19910807	GB19880022438	19880923
GB8822438 A0	19881026	GB19880022438	19880923
US4779638 A	19881025	US19870107947	19871013
US4791961 A	19881220	US19880173362	19880325
US4800913 A	19890131	US19880209065	19880620
US4827960 A	19890509	US19880226227	19880729
US4827961 A	19890509	US19880259017	19881018

Priority:

US19870107947 19871013 US19880173362 19880325 US19880209065 19880620
 US19880226227 19880729 CA19880578255 19880923 US19880259017 19881018

Probable Assignee: HELIX ENTERPRISES INC A CORP OF TENNESSEE

Assignee(s): (std): HELIX ENTERPRISES INC

Assignee(s): HELIX ENTERPRISES INC 1111 NORTHSHORE DR KNOXVILLE TN A CORP OF TN ; HELIX ENTERPRISES INC A CORP OF TENNESSEE ; HELIX ENTERPRISES INC A CORP OF TN ; HELIX ENTERPRISES INC KNOXVILLE TENN US ; NITZBERG LEONARD R ; CARMACK PAUL D

Inventor(s): (std): CARMACK PAUL D ; NITZBERG LEONARD R

Inventor(s): LEONARD R NITZBERG ; PAUL D CARMACK

Agent(s): GOWLING LAFLEUR HENDERSON LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA1284972 A1	19910618	LSGT	+	granted / extensions (spc, cpc, pte)	
CA1284972 A1	19931220	LSLE	-MKLA	LAPSED	
CA1284972 A1	20080923	PEXP		Calculated Patent Term Expiry	
DE3833344 A1	19890427	LSPB	+	published / reissued	
DE3833344 A1	19900308	LSSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE3833344 C2	19920723	LSGT	+	granted / extensions (spc, cpc, pte)	
DE3833344 C2	19920723	LSGT	+D2	GRANT AFTER	

DE3833344 C2	19930128	LSGT	+8364	EXAMINATION NO OPPOSITION DURING TERM OF OPPOSITION	
DE3833344 C2	19930909	LSLE	-8339	CEASED/NON- PAYMENT OF THE ANNUAL FEE	
GB2210945 A1	19890621	LSPB	+	published / reissued	
GB2210945 B2	19910807	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2210945 B2	19940518	LSLE	-PCNP	PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 19930923
GB2210945 B2	20080923	PEXP		Calculated Patent Term Expiry	
US4779638 A	19881025	LSGT	+	granted / extensions (spc, cpc, pte)	
US4779638 A	19880516	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HELIX ENTERPRISES, INC., 1111 NORTHSHORE DRIVE, KN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:NITZBERG, LEONARD R.; CARMACK, PAUL D.; REEL/FRAME:004873/0530; SIGNING DATES FROM 19870928 TO 19870929
US4779638 A	19880516	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HELIX ENTERPRISES, INC., A CORP. OF TN,TENNESSEE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NITZBERG, LEONARD R.; CARMACK, PAUL D.; SIGNING DATES FROM 19870928 TO 19870929; REEL/FRAME:004873/0530
US4779638 A	19880822	LSGT	PAT1	Patented Case	
US4779638 A	19890502	LSRE	CC	CERTIFICATE OF CORRECTION	
US4779638 A	19920413	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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US4779638 A	19970107	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19961030
US4779638 A	20180130	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4779638 A	20180130	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US4791961 A	19881220	LSGT	+	granted / extensions (spc, cpc, pte)	
US4791961 A	19880822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HELIX ENTERPRISES, INC., 1111 NORTHSHORE DRIVE, KN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:NITZBERG, LEONARD R.; CARMACK, PAUL D.; REEL/FRAME:004929/0079 EFFECTIVE DATE : 19880307
US4791961 A	19880822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HELIX ENTERPRISES, INC., A CORP. OF TENNESSEE, TEN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NITZBERG, LEONARD R.; CARMACK, PAUL D.; REEL/FRAME:004929/0079 EFFECTIVE DATE : 19880307
US4791961 A	19881012	LSGT	PAT1	Patented Case	

US4791961 A	19920929	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4791961 A	19961222	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4791961 A	19970304	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19961225
US4791961 A	20180130	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4791961 A	20180130	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US4800913 A	19890131	LSGT	+	granted / extensions (spc, cpc, pte)	
US4800913 A	19880831	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HELIX ENTERPRISES, INC., 1111 NORTHSORE DR., KNOX OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:NITZBERG, LEONARD R.; CARMACK, PAUL D.; REEL/FRAME:004946/0113 EFFECTIVE DATE : 19880616
US4800913 A	19881130	LSGT	PAT1	Patented Case	
US4800913 A	19921127	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4800913 A	19970202	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4800913 A	19970415	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19970205
US4800913 A	20180130	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4800913 A	20180130	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US4827960 A	19890509	LSGT	+	granted / extensions (spc, cpc, pte)	
US4827960 A	19890306	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HELIX ENTERPRISES, INC., TENNESSEE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:NITZBERG, LEONARD R.; CARMACK, PAUL D.; REEL/FRAME:005029/0600 EFFECTIVE DATE : 19880726
US4827960 A	19890314	LSGT	PAT1	Patented Case	
US4827960 A	19920929	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4827960 A	19970511	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4827960 A	19970722	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19970514
US4827960 A	20180129	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4827960 A	20180129	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US4827961 A	19890509	LSGT	+	granted / extensions (spc, cpc, pte)	

US4827961 A	19890306	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HELIX ENTERPRISES, INC., TENNESSEE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:NITZBERG, LEONARD R.; CARMACK, PAUL D.; REEL/FRAME:005027/0702 EFFECTIVE DATE : 19890224
US4827961 A	19890314	LSGT	PAT1	Patented Case	
US4827961 A	19920929	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4827961 A	19970511	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4827961 A	19970722	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19970514
US4827961 A	20180129	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4827961 A	20180129	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

Title: ROBOT SKELETAL COMPONENTS

Abstract: A robot skeletal component may be configured to support and power a robot. The skeletal component may include an elongated inner core and a battery coupled to and substantially circumscribing the inner core. The robot skeletal component may be configured to connect to a joint via a quick release flange. A casing may enclose the battery. The casing may be configured to seal punctures. The robot skeletal component may include a heating element to heat the battery. The robot skeletal component may be configured to transport fluid, data, and/or electrical power. The inner core may include a plurality of surface elements to transfer data and/or electrical power. The inner core may include a hollow interior, and the hollow interior may include a plurality of non-interconnected chambers configured to transfer fluid. The inner core may include insulators to insulate the inner core from the surface elements and/or the fluid.

Classifications:

International (IPC 8-9): B25J13/08 B25J15/00 B25J15/10 B25J18/00

B25J19/00 B25J19/02 B25J19/16 B62D57/02 F04B9/10 G01B21/20

G01B7/00 G01L1/16 G05B15/00 G05B19/00 G05B21/00 G05D1/02

G06F19/00 (Advanced/Invention);

G06F19/00 (Advanced/Non-invention)

CPC: G05D1/021 G01L1/16 Y10S901/46 Y10S901/47 Y10S901/01 Y10S901/31 B25J13/08 B25J15/0028 B25J15/10 G01B21/20 Y02P90/265

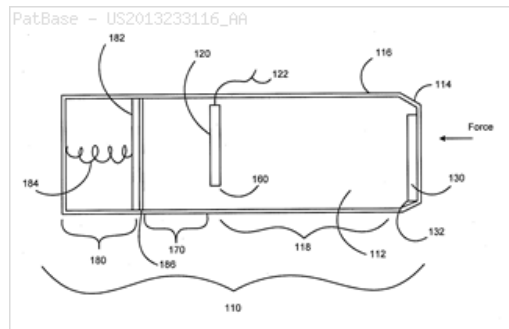
B25J15/0033 B25J15/0052 B25J15/0071 B25J19/028 B25J19/1612

B25J13/081 B25J15/00 B25J19/02 Y10S901/27 Y10S901/28

Y10T74/20311 B25J18/00 B25J19/0029 B25J19/005 F04B9/10 G01B7/00

US: 1/1 324/691 700/258 701/23 701/34.4 702/150 702/167 702/41

74/490.02 901/1 901/27 901/28 901/31 901/46 901/47 92/169.1 92/31

**Family:**

Publication number	Publication date	Application number	Application date
CA2863197 AA	20140729	CA20132863197	20130308
CN104271322 A	20150107	CN201380013238	20130308
CN104271322 B	20160921	CN201380013238	20130308
CN107009374 A	20170804	CN201610862505	20130308
EP2822737 A1	20150114	EP20130758426	20130308
EP2822737 A4	20160921	EP20130758426	20130308
US2013233116 AA	20130912	US20130854710	20130401
US2013233166 AA	20130912	US20130854693	20130401
US2013238129 AA	20130912	US20130790801	20130308
US2015019013 AA	20150115	US20140485180	20140912
US2017182657 AA	20170629	US20170430042	20170210
US2019001492 AA	20190103	US20180052423	20180801
US9156172 BB	20151013	US20130854710	20130401
US9205567 BB	20151208	US20130790801	20130308
US9375852 BB	20160628	US20130854693	20130401
US9605952 BB	20170328	US20140485180	20140912
US10065309 BB	20180904	US20170430042	20170210
WO13134610 A1	20130912	WO2013US29798	20130308

Priority:

US20120608407P 20120308	US20120655949P 20120605	US20120673114P 20120718
US20120683324P 20120815	US20120709822P 20121004	US20130767130P 20130220
CN201380013238 20130308	US20130790801 20130308	WO2013US29798 20130308
US20130854710 20130401	US20130854693 20130401	US20130895174P 20131024
US20140485180 20140912	US20170430042 20170210	US20180052423 20180801

Probable Assignee: QUALITY MFG INC

Assignee(s): (std): COOPER RAYMOND ; QUALITY MFG INC ; ROSE JAMES ADAM ; ROSE STEPHEN D ; ROSE JEFFREY A

Assignee(s): QUALITY MFG INC5855 ROCKWELL ROADWINCHESTERKY40392US

Inventor(s): (std): ROSE STEPHEN D ; ROSE JEFFREY A ; ROSE JAMES ADAM ; COOPER RAYMOND ; SWEDA JEFFREY JOHN ; ROSE JAMES

Inventor(s): ROSE JAMES ADAMUS ; ROSE JEFFREY AUS ; ROSE STEPHEN DUS ; COOPER RAYMONDUS

Agent(s): SMART AND BIGGAR; ALTON ANDREW; JOHN R; STOEL RIVES LLP; THOMPSON JOHN R

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2863197 AA	20140729	LSPB	+	published / reissued	
CA2863197 AA	20170921	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20170914

CN104271322 A	20150107	LSPB	+	published / reissued	
CN104271322 A	20150107	LSPB	+C06	PUBLICATION	
CN104271322 B	20160921	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104271322 B	20160921	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN104271322 B	20330308	PEXP		Calculated Patent Term Expiry	
CN107009374 A	20170804	LSPB	+	published / reissued	
CN107009374 A	20170804	LSPB	PB01	PUBLICATION	
CN107009374 A	20191025	LSDW	-WD01	INVENTION PATENT APPLICATION DEEMED WITHDRAWN AFTER PUBLICATION	
EP2822737 A1	20150114	LSPB	+	published / reissued	
EP2822737 A1	20150114	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140731
EP2822737 A4	20160921	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20160824
EP2822737 A4	20180822	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20180718
US10065309 BB	20180904	LSGT	+	granted / extensions (spc, cpc, pte)	
US10065309 BB	20170210	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : QUALITY MANUFACTURING INC., KENTUCKY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROSE, JEFFREY A.; ROSE, JAMES ADAM; ROSE, STEPHEN D.; AND OTHERS; SIGNING DATES FROM 20141009 TO 20141013; REEL/FRAME:041228/0887
US10065309 BB	20180821	LSGT	PAT1	Patented Case	
US10065309 BB	20370303	PEXP		Calculated Patent Term Expiry (PTA 21 days)	
US2013233116 AA	20130912	LSPB	+	published / reissued	
US2013233116 AA	20150923	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013233166 AA	20130912	LSPB	+	published / reissued	
US2013233166 AA	20160608	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013238129 AA	20130912	LSPB	+	published / reissued	
US2013238129 AA	20151118	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015019013 AA	20150115	LSPB	+	published / reissued	
US2015019013 AA	20170308	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017182657 AA	20170629	LSPB	+	published / reissued	

US2017182657 AA	20180427	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017182657 AA	20180604	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017182657 AA	20180614	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017182657 AA	20180731	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2017182657 AA	20180801	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017182657 AA	20180821	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2019001492 AA	20190103	LSPB	+	published / reissued	
US2019001492 AA	20191018	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9156172 BB	20151013	LSGT	+	granted / extensions (spc, cpc, pte)	
US9156172 BB	20130701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : QUALITY MANUFACTURING INC., KENTUCKY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROSE, JEFFREY A.; ROSE, JAMES ADAM; ROSE, STEPHEN D.; AND OTHERS; SIGNING DATES FROM 20130521 TO 20130628; REEL/FRAME:030721/0193
US9156172 BB	20150923	LSGT	PAT1	Patented Case	
US9156172 BB	20190320	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9156172 BB	20340319	PEXP		Calculated Patent Term Expiry (PTA 352 days)	
US9205567 BB	20151208	LSGT	+	granted / extensions (spc, cpc, pte)	
US9205567 BB	20130320	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : QUALITY MANUFACTURING INC., KENTUCKY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROSE, JEFFREY A.; ROSE, JAMES ADAM; ROSE, STEPHEN D.; AND OTHERS; SIGNING DATES FROM 20130308 TO 20130311; REEL/FRAME:030052/0555
US9205567 BB	20151027	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9205567 BB	20151118	LSGT	PAT1	Patented Case	
US9205567 BB	20190320	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4

US9205567 BB	20330523	PEXP		Calculated Patent Term Expiry (PTA 76 days)	
US9375852 BB	20160628	LSGT	+	granted / extensions (spc, cpc, pte)	
US9375852 BB	20130701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : QUALITY MANUFACTURING INC., KENTUCKY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROSE, JEFFREY A.; ROSE, JAMES ADAM; ROSE, STEPHEN D.; AND OTHERS; SIGNING DATES FROM 20130521 TO 20130628; REEL/FRA:030721/0168
US9375852 BB	20151002	LSES	NFA1	Non Final Action Mailed	
US9375852 BB	20160425	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US9375852 BB	20160608	LSGT	PAT1	Patented Case	
US9375852 BB	20191230	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9375852 BB	20340722	PEXP		Calculated Patent Term Expiry (PTA 477 days)	
US9605952 BB	20170328	LSGT	+	granted / extensions (spc, cpc, pte)	
US9605952 BB	20141017	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : QUALITY MANUFACTURING INC., KENTUCKY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROSE, JEFFREY A.; ROSE, JAMES ADAM; ROSE, STEPHEN D.; AND OTHERS; SIGNING DATES FROM 20141009 TO 20141013; REEL/FRA:034013/0957
US9605952 BB	20151019	LSES	NFA1	Non Final Action Mailed	
US9605952 BB	20170308	LSGT	PAT1	Patented Case	
US9605952 BB	20340912	PEXP		Calculated Patent Term Expiry	
WO13134610 A1	20130912	LSPB	+	published / reissued	
WO13134610 A1	20140729	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2863197 COUNTRY OF REF DOCUMENT : CA
WO13134610 A1	20140731	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2013758426 COUNTRY OF REF DOCUMENT : EP
WO13134610 A1	20140908	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

Title: SICHERHEITS-DREHGELENK-UNTERBRECHUNGSANSCHLUSS

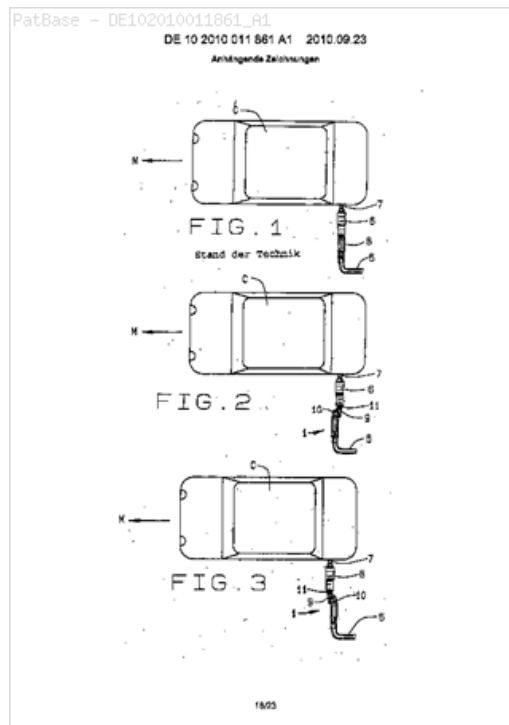
Abstract: Source: DE102010011861A1 [DE] Ein Sicherheits-Unterbrechungsanschluss ist mit einem patrizienfoermigen Formkoerper und einem matrizenfoermigen Formkoerper versehen, die ineinander gesteckt sind. Der matrizenfoermige Formkoerper weist ein Drehgelenk auf, das sich um einen Winkel zu einem Unterbrechungsteil der Erfindung dreht. Das Drehgelenk hat einen matrizenfoermigen Teil, der mit dem Unterbrechungsteil verbunden ist, und einen patrizienfoermigen Teil, der mit einem Fuellstutzen drehbar verbunden ist. Der patrizienfoermige Teil weist eine Achse auf, die mit Abstand neben der Achse des Unterbrechungsteils liegt. Der patrizienfoermige Teil dreht oder verschwenkt sich um den matrizenfoermigen Teil unter der Wirkung eines unter Spannung stehenden Nockens. Der unter Spannung stehende Nocken weist ein Kugellager auf, das auf einer Bahn laeuft, die in dem patrizienfoermigen Drehgelenk ausgebildet ist. Der unter Spannung stehende Nocken ist von dem Anschluss so abgesetzt, dass eine Kraftstoffleitung, die mit ihm in Verbindung steht, eine Ausrichtung lotrecht zur Richtung der Fahrbewegung eines Fahrzeugs vermeidet. Der Unterbrechungsteil entfernt dann die Kraftstoffleitung sauber von dem Drehgelenk, das mit dem Kraftstofffuellstutzen uebrig bleibt.

Classifications:

International (IPC 8-9): B67D7/38 B67D7/42 F16L27/08 F16L29/04 F16L37/26 F16L37/28 F16L37/32 (Advanced/Invention); B67D7/38 B67D7/42 F16L27/00 F16L29/00 F16L37/00 F16L37/28 (Core/Invention)

CPC: B67D7/3218 F16L27/0841 F16L37/26 F16L37/32 F16L55/1007 Y10T137/1632 Y10T137/3802 Y10T137/87957

European: F16L27/08B3B F16L37/26 F16L37/32

**Family:**

Publication number	Publication date	Application number	Application date
CA2695855 AA	20100918	CA20102695855	20100308
CA2695855 C	20170829	CA20102695855	20100308
DE102010011861 A1	20100923	DE201010011861	20100318

Priority:

US20090381922 20090318

Probable Assignee:

HUSKY CORP

Assignee(s): (std):

HUSKY CORP

Assignee(s):

BROWN ROBIN J

Inventor(s): (std):

BROWN ROBIN J

Agent(s):

SMART AND BIGGAR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2695855 AA	20100918	LSPB	+	published / reissued	
CA2695855 AA	20150316	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20150226
CA2695855 C	20170829	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2695855 C	20300308	PEXP		Calculated Patent Term Expiry	
DE102010011861 A1	20100923	LSPB	+	published / reissued	
DE102010011861 A1	20170309	LSES	+R012	REQUEST FOR EXAMINATION	

Title: **Hose coupling** connect and disconnect mechanism

Abstract: ABSTRACT OF THE DISCLOSURE

A **hose coupling** support and disconnect mechanism for housing couplings having **male** and **female** coupling halves retained coupled by displaceable balls engaged with the **male** half by a spring-biased sleeve for reciprocation of the **female** half, has a clamp for engaging the sleeve so that overload pull on the hose connected with the **male** half will separate the couplings. The coupling is supported on a vertical pivot to permit the coupling 20 to swing as required and a lever is mounted on a horizontal pivot extending transversely of the coupling to engage the **female** half and displace it relative to the sleeve to facilitate uncoupling the **male** half. The lever is provided with a bifurcated coupling-engaging portion and an operating portion extending above the coupling sleeve at an acute angle to the axis of the coupling **female**

Classifications:

International (IPC 8-9): F16L37/00 F16L37/23

F16L55/10 (Advanced/Invention);

F16L37/00 F16L55/10 (Core/Invention)

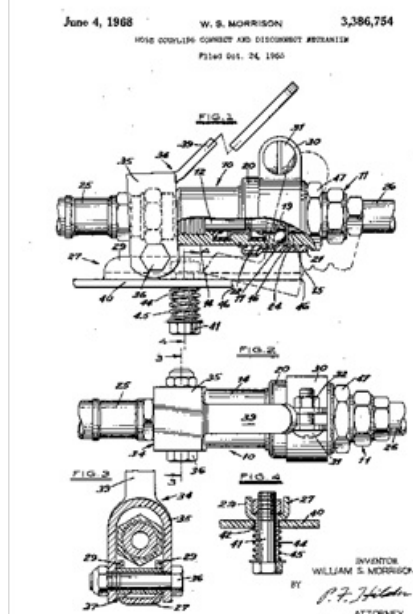
International (IPC 1-7): F16L29/00 F16L37/22 F16L37/28

CPC: F16L37/00 F16L37/23 F16L55/1007

European: F16L37/00 F16L37/23 F16L55/10D

US: 285/1 285/316 285/61

PatBase - US3386754_A



Family:

Publication number	Publication date	Application number	Application date
DE1951367 U	19661208	DE1966F030966U	19661022
GB1122737 A	19680807	GB19660034077	19660729
US3386754 A	19680604	US19650504928	19651024

Priority:

US19650504928 19651024

Probable Assignee: FORD MOTOR CO

Assignee(s): (std): FORD MOTOR CO ; FORD WERKE AG

Assignee(s): FORD WERKE AKTIENGESSELLSCHAFT ; FORD MOTOR COMPANY ; FORD MOTOR COMPANY LIMITED

Inventor(s): (std): MORRISON WILLIAM S

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE1951367 U	19661208	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1122737 A	19680807	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1122737 A	19860729	PEXP		Calculated Patent Term Expiry	
US3386754 A	19680604	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: FLUESSIGKEITSDURCHLEITVORRICHTUNG SOWIE DURCHLEITSYSTEM ZUR KOPPLUNG VON LEITUNGEN DURCH EINEN SPALT HINDURCH

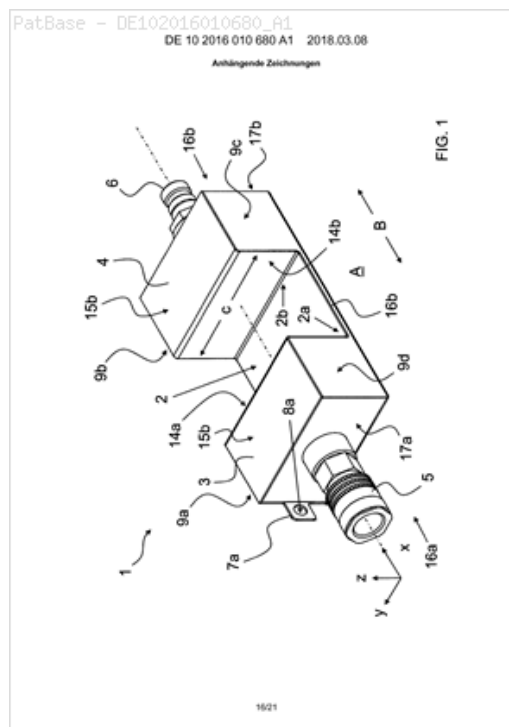
Abstract: Source: DE102016010680B4 [DE] Die Erfindung betrifft eine Flüssigkeitsdurchleitvorrichtung (1) zur Kopplung von Flüssigkeitsleitungen durch einen Spalt hindurch, insbesondere zwischen einer Tuer und einer Bodenflaeche (A). Die Flüssigkeitsdurchleitvorrichtung (1) umfasst einen zur Anordnung innerhalb des Spalts vorgesehenen Verbindungssteg (2), an dessen beiden sich gegenueberliegenden Enden (2a, 2b) jeweils ein zur Kopplung mit einer Flüssigkeitsleitung vorgesehenes Anschlussgehaeuse (3, 4) angeordnet ist. Jedes der beiden Anschlussgehaeuse (3, 4) beinhaltet eine Flüssigkeitskammer, welche ueber einen innerhalb des Verbindungsstegs (2) ausgebildeten oder angeordneten Flüssigkeitskanal miteinander verbunden sind. Weiterhin betrifft die Erfindung ein Durchleitsystem mit wenigstens zwei, insbesondere baugleichen, Flüssigkeitsdurchleitvorrichtungen (1) oder mindestens eine solche Flüssigkeitsdurchleitvorrichtung (1) sowie wenigstens eine andere Durchleitvorrichtung fuer Strom oder Luft.

Classifications:

International (IPC 8-9): F16L31/00 F16L55/033

F16L9/00 (Advanced/Invention)

CPC: F16L5/00 F16L9/00 F16L9/003 F16L31/00 F16L55/027 F16L55/033



Family:

Publication number	Publication date	Application number	Application date
DE102016010680 A1	20180308	DE201610010680	20160906
DE102016010680 B4	20180412	DE201610010680	20160906

Priority:

DE201610010680 20160906

Probable Assignee:

VON DER LIECK DETLEF

Assignee(s): (std):

VON DER LIECK DETLEF

Inventor(s): (std):

LIECK DETLEF VON DER

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE102016010680 A1	20180308	LSPB	+	published / reissued	
DE102016010680 A1	20160906	LSES	+R012	REQUEST FOR EXAMINATION VALIDLY FILED	
DE102016010680 A1	20171206	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE102016010680 A1	20171219	LSGT	+R018	GRANT DECISION BY EXAMINATION SECTION/EXAMINING DIVISION	
DE102016010680 B4	20180412	LSGT	+	granted / extensions (spc, cpc, pte)	
DE102016010680 B4	20190115	LSGT	+R020	PATENT GRANT NOW FINAL	
DE102016010680 B4	20360906	PEXP		Calculated Patent Term Expiry	

Title: QUICK-CONNECT-DISCONNECT NON-MAR COUPLING

Abstract: This fluid coupling (10) includes a metallic tubular body (12) having an inlet end (14) and an outlet end (16), the outlet end being adapted to receive a quick-connect-disconnect plug (20). A metallic actuating sleeve (32, 38) is mounted to the body (12) for selectively permitting fluid flow through the body (12) and latching the plug (20) in place. An outer cover (60) of non-mar plastic material is provided for the coupling (10), which is moveable with the actuating sleeve (32) and prevents the metallic parts of the coupling from marking finished surfaces.

Classifications:

International (IPC 8-9): F16L27/093 F16L37/28

F16L41/00 (Advanced/Invention);

F16L27/00 F16L37/28 F16L41/00 (Core/Invention)

International (IPC 1-7): F16K35/00 F16L11/12

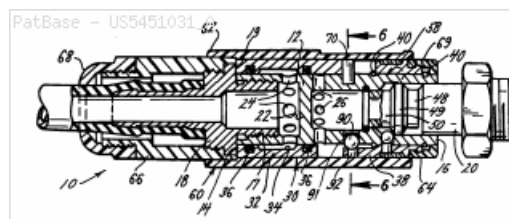
CPC: F16L37/23 F16L37/46 F16L27/093 F16L37/28 F16L41/005

Y10S285/901 Y10S285/921

European: F16L27/093 F16L37/28 F16L37/46 F16L41/00G

US: 251/100 251/149.9 251/89.5 285/168 285/190 285/315 285/38

285/45 285/901 285/921 285/93



Family:

Publication number	Publication date	Application number	Application date
US5451031 A	19950919	US19940218074	19940325
US5636877 A	19970610	US19950428049	19950425

Priority:

US19940218074 19940325 US19950428049 19950425

Probable Assignee: FOSTER MFG CO INC

Assignee(s): (std): DYNAQUIP CONTROLS CORP ; DYNA CONTROLS CORP

Assignee(s): FIRSTMERIT BANK NA ; FOSTER MFG ; FOSTER MFG CO INC

Inventor(s): (std): ROGERS GERALD L ; HARTMANN LEONARD J ; PURVIS MICHAEL J

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US5451031 A	19950919	LSGT	+	granted / extensions (spc, cpc, pte)	
US5451031 A	19940325	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DYNAQUIP CONTROLS CORPORATION, MISSOURI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: PURVIS, MICHAEL J.; HARTMANN, LEONARD J.; ROGERS, GERALD L.; REEL/FRAME: 006939/0546 EFFECTIVE DATE : 19940325
US5451031 A	19950907	LSGT	PAT1	Patented Case	
US5451031 A	19950907	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5451031 A	19960528	LSRE	CC	CERTIFICATE OF CORRECTION	
US5451031 A	19981130	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5451031 A	20020930	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5451031 A	20061219	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FOSTER MANUFACTURING CO., INC., MISSOURI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR: DYNAQUIP CONTROLS CORPORATION; REEL/FRAME: 018679/0455 EFFECTIVE DATE : 20061211
US5451031 A	20070319	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5451031 A	20140602	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FIRSTMERIT BANK, N.A., ILLINOIS OLDPARTY : SECURITY INTEREST; ASSIGNOR: FOSTER MANUFACTURING CO., INC.; REEL/FRAME: 033075/0738

EFFECTIVE DATE : 20140522					
US5451031 A	20190626	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FOSTER MANUFACTURING CO., INC., MICHIGAN OLDPARTY : RELEASE OF SECURITY INTEREST IN PATENTS AND TRADEMARKS; ASSIGNOR:THE HUNTINGTON NATIONAL BANK, AS SUCCESSOR TO FIRSTMERIT BANK, N.A.; REEL/FRAME:049602/0498 EFFECTIVE DATE : 20190625
US5451031 A	20140325	PEXP		Calculated Patent Term Expiry	
US5636877 A	19970610	LSGT	+	granted / extensions (spc, cpc, pte)	
US5636877 A	19950425	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DYNAQUIP CONTROLS CORPORATION, MISSOURI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PURVIS, MICHAEL J.; HARTMANN, LEONARD J.; ROGERS, GERALD J.; REEL/FRAME:007540/0872 EFFECTIVE DATE : 19950425
US5636877 A	19970529	LSGT	PAT1	Patented Case	
US5636877 A	19970529	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5636877 A	20000823	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5636877 A	20050411	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5636877 A	20061219	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FOSTER MANUFACTURING CO., INC., MISSOURI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DYNAQUIP CONTROLS CORPORATION; REEL/FRAME:018679/0455 EFFECTIVE DATE : 20061211
US5636877 A	20080929	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5636877 A	20140602	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FIRSTMERIT BANK, N.A., ILLINOIS OLDPARTY : SECURITY INTEREST; ASSIGNOR:FOSTER MANUFACTURING CO., INC.; REEL/FRAME:033075/0738 EFFECTIVE DATE : 20140522
US5636877 A	20190626	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FOSTER MANUFACTURING CO., INC., MICHIGAN OLDPARTY : RELEASE OF SECURITY INTEREST IN PATENTS AND TRADEMARKS; ASSIGNOR:THE HUNTINGTON NATIONAL BANK, AS SUCCESSOR TO FIRSTMERIT BANK, N.A.; REEL/FRAME:049602/0498 EFFECTIVE DATE : 20190625
US5636877 A	20150425	PEXP		Calculated Patent Term Expiry	

Title: BREAK-AWAY CONCENTRIC **HOSE COUPLING**

Abstract: A break away **hose coupling** for use in conjunction with a vapor recovery nozzle and for application within a fuel line, that prevents untimely decoupling, that only decouples upon the exertion of a pre-determined amount of tension, while preventing unnecessary leakage of fuel and vapors, while being fully reconnectable. The coupling includes a pair of fittings, for connecting to the fuel line, a sleeve for housing the fittings, and each fitting incorporating a check valve to provide for closure of the fluid flow passage and closure of the vapor flow passage when decoupling occurs, a fluid chamber providing for flow of fluid and a vapor return passage, internal of the fluid flow passage, allowing vapor recovery in a concentric line. The device is pressure compensated to eliminate the effects of line shock.

Classifications:

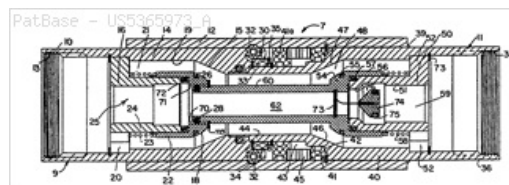
International (IPC 8-9): B67D5/37 F16L55/10 (Advanced/Invention); F16L55/10 (Core/Invention)

International (IPC 1-7): B67D5/37 F16L37/28 F16L37/56 F16L55/10

CPC: Y10T137/1632 Y10T137/87957 Y10T137/87965 F16L55/1015 B67D7/3218

European: F16L55/10G

US: 137/614.04 137/614.05 137/68.1 137/68.11 137/681

**Family:**

Publication number	Publication date	Application number	Application date
CA2130601 AA	19950426	CA19942130601	19940822
DE69412418 D1	19980917	DE19946012418	19941020
DE69412418 T2	19990429	DE19946012418T	19941020
EP0650005 A1	19950426	EP19940630060	19941020
EP0650005 B1	19980812	EP19940630060	19941020
US5365973 A	19941122	US19930140525	19931025

Priority:

US19930140525 19931025 CA19942130601 19940822

Probable Assignee: HUSKY CORP

Assignee(s): (std): HUSKY CORP

Assignee(s): HUSKY CORP PACIFIC MO US ; MITCHELL THOMAS O ; FINK ARTHUR C JR

Inventor(s): (std): FINK ARTHUR C JR ; MITCHELL THOMAS O ; FINK ARTHUR C ; FINK JR ARTHUR C

Inventor(s): FINK ARTHUR C JR LONEDELL MISSOURI 63060 US ; MITCHELL THOMAS O MARYLAND HEIGHTS MISSOURI 63043

Agent(s): SMART AND BIGGAR

Designated states: DE FR GB IT

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2130601 AA	19950426	LSPB	+	published / reissued	
CA2130601 AA	20020822	LSLE	-FZDE	DEAD	
DE69412418 D1	19990909	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69412418 T2	19990429	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69412418 T2	20141020	PEXP		Calculated Patent Term Expiry	
EP0650005 A1	19950426	LSPB	+	published / reissued	
EP0650005 A1	19951115	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19950921
EP0650005 A1	19960828	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19960712
EP0650005 B1	19980812	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0650005 B1	19980812	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 19980812
EP0650005 B1	19980812	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 19980812
EP0650005 B1	19990804	LSGT	+26N	NO OPPOSITION FILED	
EP0650005 B1	20041011	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20041011 YEAR OF FEE PAYMENT : 11
EP0650005 B1	20051020	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20051020
EP0650005 B1	20060628	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20051020
EP0650005 B1	20110228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20101022 YEAR OF FEE PAYMENT : 17
EP0650005 B1	20120731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120501
EP0650005 B1	20120816	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 69412418 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20120501
EP0650005 B1	20141020	PEXP		Calculated Patent Term Expiry	
US5365973 A	19941122	LSGT	+	granted / extensions (spc, cpc, pte)	
US5365973 A	19940912	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HUSKY CORPORATION, MISSOURI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FINK, ARTHUR C., JR.; MITCHELL, THOMAS O.; REEL/FRAME:007124/0346 EFFECTIVE DATE : 19940622
US5365973 A	19941110	LSGT	PAT1	Patented Case	
US5365973 A	19941110	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5365973 A	19980521	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5365973 A	20020514	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5365973 A	20060505	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5365973 A	20131025	PEXP		Calculated Patent Term Expiry	

Title: HOSE COUPLING

Abstract: A connector (1) for flexible fluid lines, such as garden water hoses, comprising a **universal** body member (3) which is common to all interconnecting components of the system, wherein there is a twist-together, twist-apart bayonet connection between component parts (1 and 7), wherein the locking lug (14) of the first component (1) engages a groove in the inner coupling member (8) of the second component (7), and the locking lug (14) of the second component (7) engages a groove in the inner coupling member (5) of the first component (1).

Classifications:

International (IPC 8-9): F16L19/065 F16L37/113 F16L37/24 F16L37/244 F16L37/248 (Advanced/Invention);

F16L19/00 F16L37/00 (Core/Invention)

International (IPC 1-7): F16L19/065 F16L37/10 F16L37/24 F16L37/244 F16L37/248

CPC: F16L19/065 F16L37/113

European: F16L19/065 F16L37/113

US: 285/352 285/361 285/402 285/65

JP F-Term: 3J106 3J106/AA01 3J106/AA05 3J106/AB01 3J106/BA01

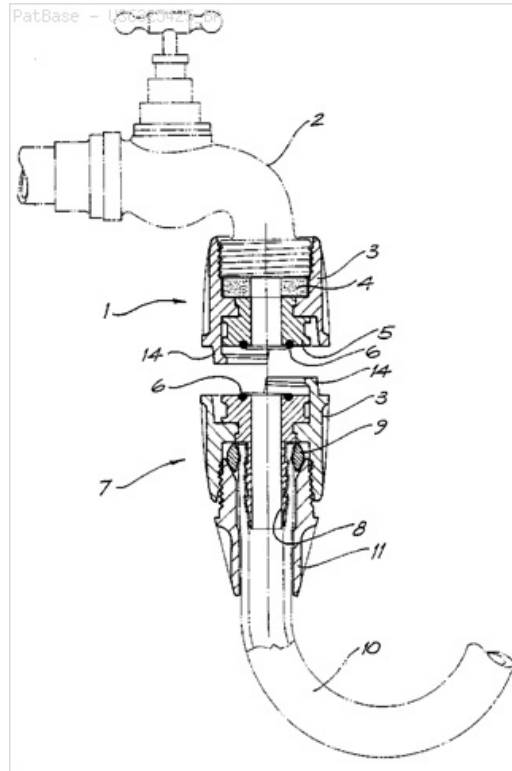
3J106/BA02 3J106/BB01 3J106/BC04 3J106/BD01 3J106/BE19

3J106/BE32 3J106/BE33 3J106/BE40 3J106/CA02 3J106/CA16

3J106/EA01 3J106/EB02 3J106/EC02 3J106/EC06 3J106/ED04

3J106/ED41 3J106/EE01 3J106/EE18

JP F-Index: F16L37/24 F16L37/244

**Family:**

Publication number	Publication date	Application number	Application date
AU199866040 A1	19981012	AU19980066040	19980316
AU562797 A0	19970410	AU1997P005627	19970314
AU700468 B2	19990107	AU19980066040	19980316
CA2279380 AA	19990730	CA19982279380	19980316
CN1101912 C	20030219	CN19988003305	19980316
CN1250513 A	20000412	CN19988003305	19980316
DE69811648 D1	20030403	DE19986011648	19980316
DE69811648 D1	20030403	DE19986011648T	19980316
DE69811648 T2	20031218	DE19986011648T	19980316
EP0972155 A1	20000119	EP19980907772	19980316
EP0972155 A4	20000906	EP19980907772	19980316
EP0972155 B1	20030226	EP19980907772	19980316
JP2001515570 T2	20010918	JP19980539954T	19980316
US6325425 BA	20011204	US19990367643	19990817
WO9841791 A1	19980924	WO1998AU00180	19980316

Priority:

AU1997P005627 19970314 AU19980066040 19980316 WO1998AU00180 19980316

Probable Assignee: HOSELINK PTY LTD

Assignee(s): (std): ERNST LEON ; HOSELINK PTY LIMITED ; HOSELINK PTY LTD ; KIERATH TIMOTHY REGINALD

Assignee(s): HOSELINK PTY LTD NORTH CURL CURL

Inventor(s): (std): KIERATH TIMOTHY REGINALD ; ERNST LEON ; KIERATH TIMOTHY R ; LEON ERNST ; TIMOTHY REGINALD KIERATH ; KIERATH REGINALD

Agent(s): HODGKINSON MCINNES PATENTS; IP SOLVED ANZ PTY LTD; RICHES MCKENZIE AND HERBERT LLP

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

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Patent	Date recorded	Event group	Code	Event	Details
AU199866040 A1	19981012	LSPB	+	published / reissued	
AU700468 B2	19990107	LSGT	+	granted / extensions (spc, cpc, pte)	
AU700468 B2	20000615	LSRE	DA3	AMENDMENTS MADE SECTION 104	TEXT : THE NATURE OF THE AMENDMENT IS AS WAS NOTIFIED IN THE OFFICIAL JOURNAL DATED 19991118
AU700468 B2	20180316	PEXP		Calculated Patent Term Expiry	
CA2279380 AA	19990730	LSPB	+	published / reissued	
CA2279380 AA	20020829	LSES	+EEER	EXAMINATION REQUEST	
CA2279380 AA	20050316	LSLE	-FZDE	DEAD	
CN1101912 C	20030219	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1101912 C	20030219	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1101912 C	20180410	LSLE	-CX01	EXPIRY OF PATENT TERM	
CN1101912 C	20180316	PEXP		Calculated Patent Term Expiry	
CN1250513 A	20000412	LSPB	+	published / reissued	
CN1250513 A	20000412	LSPB	+C06	PUBLICATION	
DE69811648 D1	20070315	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69811648 D1	20070315	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69811648 T2	20031218	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69811648 T2	20070315	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69811648 T2	20180316	PEXP		Calculated Patent Term Expiry	
EP0972155 A1	20000119	LSPB	+	published / reissued	
EP0972155 A1	20000119	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19991013
EP0972155 A1	20000906	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20000724
EP0972155 A1	20020206	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20011220
EP0972155 A1	20030226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030226
EP0972155 A1	20030226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030226
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EP0972155 A1	20030226	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP0972155 A1	20030228	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP0972155 A1	20030317	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20030317
EP0972155 A1	20030402	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP0972155 A1	20030526	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030526
EP0972155 A1	20030801	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	REF COUNTRY CODE : EP
EP0972155 A1	20030828	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030828
EP0972155 A1	20040114	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP0972155 A1	20040218	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20031127
EP0972155 A1	20040330	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20040330 YEAR OF FEE PAYMENT : 7
EP0972155 A1	20050316	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050316
EP0972155 A1	20051130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20051130
EP0972155 A1	20051230	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20051130
EP0972155 A1	20140430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20140303 YEAR OF FEE PAYMENT : 17
EP0972155 A1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20150401 YEAR OF FEE PAYMENT : 18

EP0972155 A1	20151001	LSDW	REG	EPO] REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 69811648 COUNTRY OF REF DOCUMENT : DE
EP0972155 A1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20151001
EP0972155 A1	20161123	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20160316
EP0972155 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160316
EP0972155 B1	20030226	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0972155 B1	20180316	PEXP		Calculated Patent Term Expiry	
JP2001515570 T2	20010918	LSPB	+	published / reissued	
US6325425 BA	20011204	LSGT	+	granted / extensions (spc, cpc, pte)	
US6325425 BA	19991115	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HOSELINK PTY LIMITED, AUSTRALIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ERNST, LEON; KIERATH, TIMOTHY; REEL/FRAME:010653/0673 EFFECTIVE DATE : 19980314
US6325425 BA	20011116	LSGT	PAT1	Patented Case	
US6325425 BA	20011116	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6325425 BA	20050328	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6325425 BA	20090526	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6325425 BA	20130603	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6325425 BA	20190817	PEXP		Calculated Patent Term Expiry	
WO9841791 A1	19980924	LSPB	+	published / reissued	
WO9841791 A1	19980316	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 98803305.4 COUNTRY OF REF DOCUMENT : CN
WO9841791 A1	19980727	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 66040/98 COUNTRY OF REF DOCUMENT : AU
WO9841791 A1	19990422	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 66040/98 COUNTRY OF REF DOCUMENT : AU
WO9841791 A1	19990730	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2279380 COUNTRY OF REF DOCUMENT : CA
WO9841791 A1	19990730	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2279380 COUNTRY OF REF DOCUMENT : CA KIND CODE OF REF DOCUMENT : A

DESIGNATED STATE(S) :					
WO9841791 A1	19990817	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 09367643 COUNTRY OF REF DOCUMENT : US
WO9841791 A1	19990907	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1998907772 COUNTRY OF REF DOCUMENT : EP
WO9841791 A1	19990914	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 1998 539954 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO9841791 A1	20000113	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9841791 A1	20000119	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1998907772 COUNTRY OF REF DOCUMENT : EP
WO9841791 A1	20030226	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1998907772 COUNTRY OF REF DOCUMENT : EP

Title: ROTARY PRESSURE/PURGE VALVE

Abstract: A rotary pressure/purge valve for supplying pulsation free oxygen without the use of an interim oxygen storage tank in the nature of a surge tank or accumulator. This valve is comprised of an air chamber section and a center section, with the air chamber section having an inlet port for compressed air, and the center section having a plurality of passages therein, disposed at equal intervals from each other and with respect to a centerline common to both sections. First valves are operatively associated with first passage ends, and serve to control the entry of charging air into two adjacent passages at the same time. Second valves are operatively associated with second ends of the passages and serve to control the exit of purging air from the passages. A shaft on the centerline of the center section serves to operate the first and second valves, with the valves being set out of phases such that when a first end of a given passage is closed to the entry of charging air, the other end of that passage is open to a flow of purging air, and vice versa. At a given moment compressed air can flow in one direction through at least one of the first valves and an associated passage, contemporaneously with purging air flowing in a different direction through a different one of the passages. This valve is able to deliver oxygen of a particularly high quality direct to a patient/user on demand.

Classifications:

International (IPC 8-9): B01D53/04 B01D53/047 (Advanced/Invention); B01D53/04 B01D53/047 (Core/Invention)

International (IPC 1-7): F16K11/14

CPC: B01D53/0454 B01D53/0446 B01D53/047 B01D2253/106

B01D2256/10 B01D2257/104 B01D2257/502 B01D2257/504

B01D2257/80 B01D2259/40005 B01D2259/403 Y02C10/08

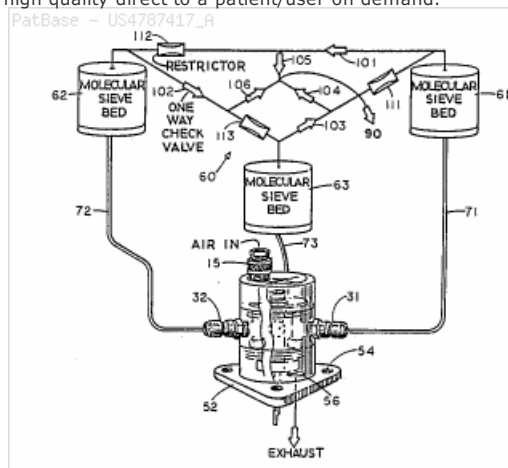
Y10T137/86405 Y10T137/87217

European: B01D53/04C10 B01D53/04R L01D253/106 L01D256/10

L01D257/104 L01D257/502 L01D257/504 L01D257/80 L01D259/403

L01D259/40H4 L01D53/047 Y02C10/08

US: 137/596.17 137/624.13 55/179 55/389 96/124



Family:

Publication number	Publication date	Application number	Application date
US4787417 A	19881129	US19870124568	19871124

Priority:

US19870124568 19871124

Probable Assignee:

WINDSOR JR JOHN F

Assignee(s): (std):

WINDSOR JR JOHN F

Inventor(s): (std):

WINDSOR JR JOHN F

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US4787417 A	19881129	LSGT	+	granted / extensions (spc, cpc, pte)	
US4787417 A	19880923	LSGT	PAT1	Patented Case	
US4787417 A	19890404	LSRE	CC	CERTIFICATE OF CORRECTION	
US4787417 A	19911213	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4787417 A	19961201	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4787417 A	19970211	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19961204
US4787417 A	20180130	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4787417 A	20180130	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

Title: SCHLAUCHVERSCHRAUBUNG MIT KUPPLUNG UND WASSERSTOPP

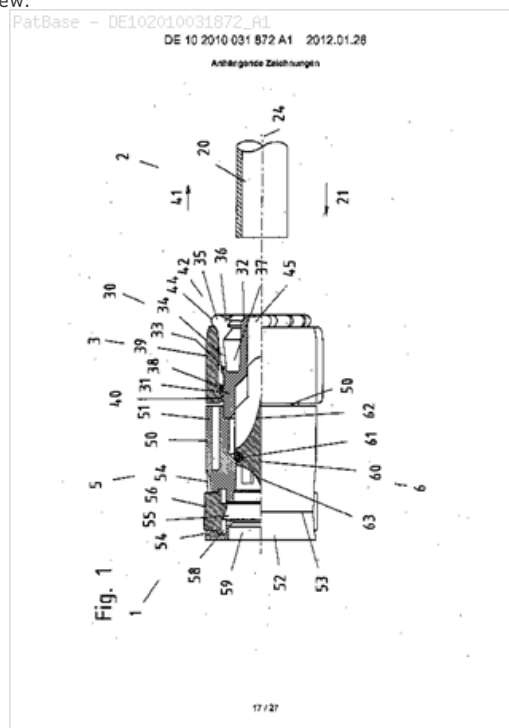
Abstract: The connector (1) has a finger-like clamping device (42) comprising bars (34), cam (35) and gripping teeth (36) on a hose (20) in a side opposite to a radial direction. An annular bead (44) draws up to a hollow-cylinder-shaped pressure screw (39) over a pipe passage (32) by an annular space (37). A water stop part (60) represents an axial traveling direction of the screw adjacent to a hose-side boundary of a coupling rear part (51) of a base body (50). The hose is fixed in an axial direction by the clamping device. The stop part is layer-fairly and made captive to the screw.

Classifications:

International (IPC 8-9): F16L33/16 (Advanced/Invention)

CPC: F16L33/224 F16L33/222 F16L37/40 E03C1/021 E03C1/025

European: E03C1/02B E03C1/02C F16L33/22C F16L33/22G2 F16L37/40



Family:

Publication number	Publication date	Application number	Application date
DE102010031872 A1	20120126	DE201010031872	20100721
DE102010031872 A8	20140515	DE201010031872	20100721

Priority:

DE201010031872 20100721

Probable Assignee: SILAG HANDEL AG

Assignee(s): (std): SILAG HANDEL AG

Inventor(s): (std): KLOSE ODO PROF ; HIDDE AXEL R ; KLOSE ODO

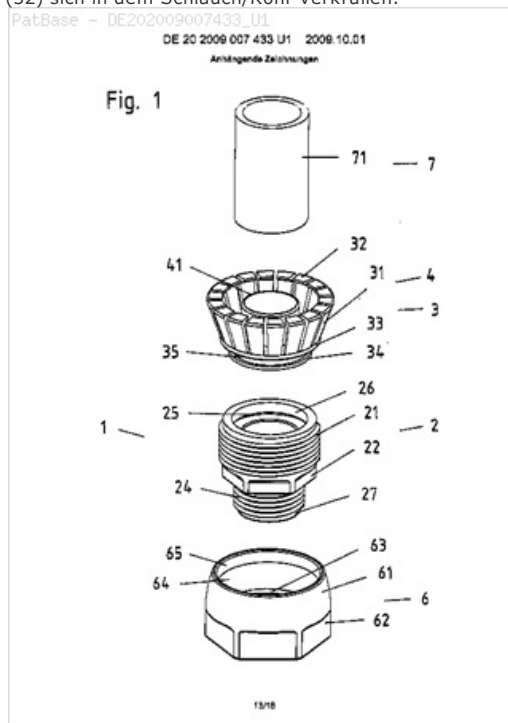
Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE102010031872 A1	20120126	LSPB	+	published / reissued	
DE102010031872 A8	20170717	LSSES	+R012	REQUEST FOR EXAMINATION VALIDLY FILED	
DE102010031872 A8	20191209	LSSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	

Abstract: Source: DE202009007433U1 [DE] (Claim 1) 1. **Universal**-Verschraubung - insbesondere eine Kabel-/Schlauch-/Rohr-Schnellverschraubung fuer die Gebaeude- und Anlagen-Systemtechnik - insbesondere fuer Kabel, Steckverbinder, Wellschlaeuche/-rohre, Spiralschlaeuche/-rohre, Glattschlaeuche/-rohre, Geflecht-/Gewebeschlaeuche/-rohre, aus Kunststoff und/oder Metall, mit oder ohne Verstaerkung, mit oder ohne Zugentlastung, mit oder ohne Abschirmung, dadurch gekennzeichnet, dass die einstueckige Schnellverschraubung aus einem hoelzylinderfoermigen Grundkoerper (2) mit mindestens einem Aussengewinde (21) und einem in axialer Richtung dem Aussengewinde folgend angebrachten Klammerkorb (3) mit einer zentral befestigten Kabel-, Schlauch- oder Rohraufnahme (4) und einer mit einem zum Grundkoerper-Aussengewinde (21) passenden Innengewinde (63) versehenen Klemmutter (6) besteht, wobei die Klemmutter durch Verdrehen gegen den Grundkoerper auf den Klammerkorb zu in axialer Richtung verfaehrt, wobei die Fase (65) und der Innenkegel (64) der Klemmutter die Klammern (31) des kegelfoermig geoeffneten Klammerkorbs radial in Richtung auf die Kabel-/Schlauch-/Rohraufnahme zu bewegen, um ein in dem Klammerkorb zwischen den Klammern und dem Aufnahmedorn (41) gelagertes/n Kabel/Schlauch/Rohr (7) dadurch zu befestigen, dass die Klammerkoepe (32) sich in dem Schlauch/Rohr verkrallen.

European: F16L25/00K F16L33/22C H02G3/06C1 H02G3/06C1F



Publication number	Publication date	Application number	Application date
DE102009021700 A1	20101118	DE200910021700	20090517
DE202009007433 U1	20090827	DE200920007433U	20090517

DE200910021700 20090517 DE200920007433U 20090517

Inventor(s): (std): KLOSE ODO ; HIDDE AXEL

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Patent	Date recorded	Event group	Code	Event	Details
DE102009021700 A1	20101118	LSPB	+	published / reissued	
DE102009021700 A1	20160502	LSSES	+R012	REQUEST FOR EXAMINATION VALIDLY FILED	
DE202009007433 U1	20090827	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202009007433 U1	20091001	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 20091001
DE202009007433 U1	20120705	LSGT	+R150	TERM OF PROTECTION EXTENDED TO 6 YEARS	EFFECTIVE DATE : 20120515
DE202009007433 U1	20150415	LSGT	+R151	TERM OF PROTECTION EXTENDED	

				TO 8 YEARS	
DE202009007433 U1	20150521	LSGT	+R151	TERM OF PROTECTION EXTENDED TO 8 YEARS	EFFECTIVE DATE : 20150415
DE202009007433 U1	20170418	LSGT	+R152	TERM OF PROTECTION EXTENDED TO 10 YEARS	
DE202009007433 U1	20190531	LSLE	-R071	EXPIRY OF RIGHT	
DE202009007433 U1	20190517	PEXP		Calculated Patent Term Expiry	

Title: BREAKAWAY **HOSE COUPLING**

Abstract: A breakaway **hose coupling** for application within a fuel line, that prevents untimely decoupling, and avoids unnecessary leakage. The coupling includes a pair of fittings, for connecting to the fuel line, a sleeve provided for limited sliding movement upon one of the fittings, with each fitting incorporating a poppet valve, to provide for closure when decoupling occurs, or other unseating, from within the respect fittings, during normal coupling assembly and usage. Detents are provided within one of the fittings for interconnecting within a seating groove provided interiorly of the sleeve, to normally retain the coupling assembled, but various fastening rings, arranged within the sleeve and one of the fittings, provides for limited shiftable movement, occurring when tensioning force is exerted, to provide clearance for disconnection, while at the same time, said fastening rings capable of shifting, to provide for recoupling of the device together upon assembly. A fluid chamber is provided intermediate select of the fastening rings, to provide an equalization and counterbalancing of fluid pressures, when internal pressures spikes generated within the coupling and hose line occur, so as to prevent untimely disconnection, or leakage from the coupling, during routine usage.

Classifications:

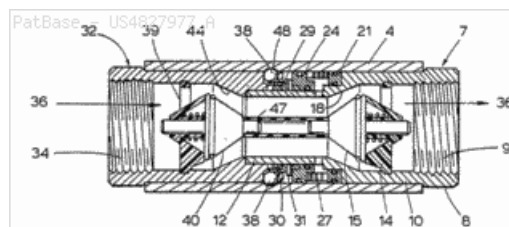
International (IPC 8-9): F16L55/10 (Advanced/Invention);
F16L55/10 (Core/Invention)

International (IPC 1-7): F16L37/28

CPC: B67D7/3218 F16K17/36 F16L55/1007 F16L55/1015 Y10S285/90
Y10T137/87957

European: F16L55/10G

US: 137/614.04 285/1 285/304 285/900



Family:

Publication number	Publication date	Application number	Application date
US4827977 A	19890509	US19880256053	19881011

Priority:

US19880256053 19881011

Probable Assignee:

HUSKY CORP

Assignee(s): (std):

HUSKY CORP

Inventor(s): (std):

FINK JR ARTHUR C

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US4827977 A	19890509	LSGT	+	granted / extensions (spc, cpc, pte)	
US4827977 A	19890228	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HUSKY CORPORATION, MISSOURI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:FINK, ARTHUR C. JR.; REEL/FRAME:005027/0151 EFFECTIVE DATE : 19890104
US4827977 A	19890314	LSGT	PAT1	Patented Case	
US4827977 A	19890314	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US4827977 A	19921102	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4827977 A	19961106	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4827977 A	20001102	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US4827977 A	20081011	PEXP		Calculated Patent Term Expiry	

Title: APPARATUS FOR MOUNTING HOSE COUPLINGS

Abstract: (Claim 1) 1. In a machine for mounting a hose coupling half on the end of an appropriate diameter piece of hose, the combination which includes a frame, a cylindrical housing, means anchoring said housing to said frame, means inside bayonet expanding member but also will actuate said link means to convert endwise movement of said lengthwise sliding means to operable crosswise movement of said means for crimping the outer portion of said coupling 2o half against the outer face of said hose end.

Classifications:

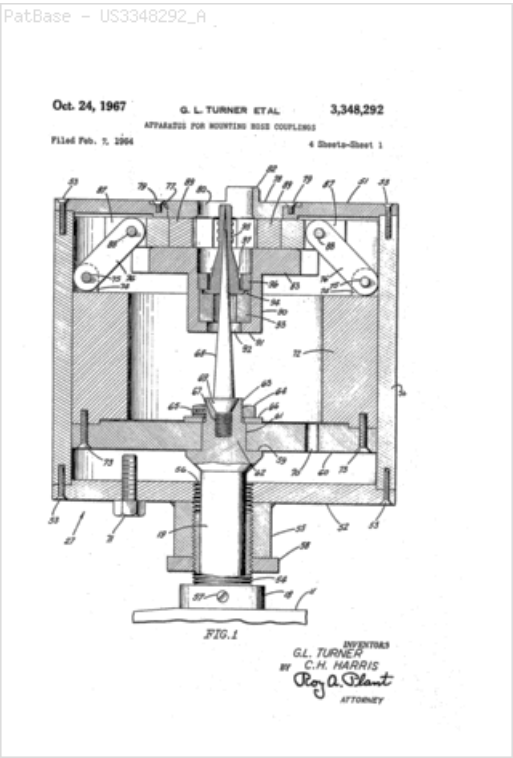
International (IPC 8-9): B25B27/10 F16L33/20 (Advanced/Invention); B25B27/02 F16L33/20 (Core/Invention)

International (IPC 1-7): F16L33/20

CPC: F16L33/20 B25B27/10 Y10T29/49909 Y10T29/5367

European: B25B27/10 F16L33/20

US: 29/237 29/506 72/399



Family:

Publication number	Publication date	Application number	Application date
US3348292 A	19671024	US19640343317	19640207

Priority:

US19640343317 19640207

Probable Assignee: H B SHERMAN MFG CO

Assignee(s): (std): H B SHERMAN MFG CO ; H B SHERMAN MFG COMPANY

Assignee(s): H B SHERMAN MANUFACTURING COMPANY

Inventor(s): (std): HARRIS CARL H ; TURNER GEORGE L

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US3348292 A	19671024	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: DISPENSER FOR PROVIDING HYGIENIC PROTECTION OF HANDS WHEN USING A FUEL PUMP

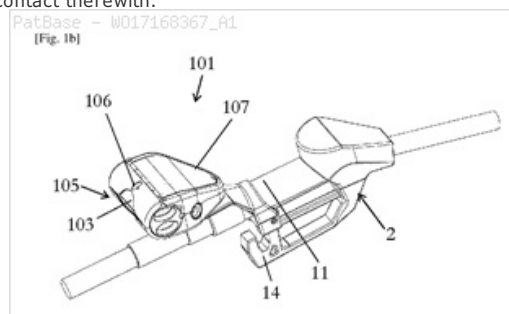
Abstract: When filling a vehicle with fuel, a person must touch and hold the dispenser nozzle by the handle 11, squeezing the trigger lever 13. This handle 11 is contaminated by fuel vapour, residue, bacteria, dirt and contaminants by previous usage of multiple persons touching and holding the handle 11 with contaminated hands. The present invention relates to a protective material dispenser 101 with protective material 103 therein, which is releasably coupleable to such a fuel gun 2. In this way, a user may easily retrieve some of the protective material 103 from the dispenser 101 prior to touching the fuel pump hand grip 11, and then cover the hand grip 11 to protect his/her hands from making direct contact therewith.

Classifications:

International (IPC 8-9): A47K10/32 A47K10/38 A47K10/42 A47K5/12 B60S5/02 B65D83/08 B67D1/06 B67D7/42 (Advanced/Invention)

International (IPC 1-7): A47K10/32 B60S5/02

CPC: A47K10/3827 A47K10/424 A47K2010/3246 B67D7/42 B67D7/421 B67D7/426 B65D83/08 B67D7/06



Family:

Publication number	Publication date	Application number	Application date
AU2017243969 AA	20181025	AU20170243969	20170330
BR112018069580 A2	20190122	BR20181169580	20170330
CA3017570 AA	20180912	CA20173017570	20170330
CN109071206 A	20181221	CN201780022191	20170330
EA201892154 A1	20190228	EA20180092154	20170330
EP3436399 A1	20190206	EP20170754477	20170330
EP3436399 B1	20191218	EP20170754477	20170330
GB2544828 A1	20170531	GB20160005559	20160401
GB2544828 B2	20180228	GB20160005559	20160401
JP2019512435 T2	20190516	JP20180549829T	20170330
KR20190012147 A	20190208	KR20187030769	20170330
MX2018011869 A1	20190213	MX20180011869	20170330
SG11201808101V A1	20181030	SG20181108101	20170330
WO17168367 A1	20171005	WO20171851830	20170330

Priority:

GB20160005559 20160401 WO20171851830 20170330

Probable Assignee: YEO OLIVER

Assignee(s): (std): OLIVER YEO ; YEO OLIVER

Inventor(s): (std): OLIVER YEO ; YEO OLIVER

Agent(s): IP SENTINELS PATENT AND TRADEMARK ATTORNEYS; ADE AND CO INC; HANDSOME IP LTD

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 KH 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2017243969 AA	20181025	LSPB	+	published / reissued	
CA3017570 AA	20180912	LSPB	+	published / reissued	
CN109071206 A	20181221	LSPB	+	published / reissued	
CN109071206 A	20181221	LSPB	PB01	PUBLICATION	
EA201892154 A1	20190228	LSPB	+	published / reissued	
EP3436399 A1	20190206	LSPB	+	published / reissued	
EP3436399 A1	20190206	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20181026
EP3436399 A1	20190911	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190816
EP3436399 B1	20191218	LSGT	+	granted / extensions (spc, cpc, pte)	

EP3436399 B1	20191230	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP3436399 B1	20200108	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP3436399 B1	20200115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1214402 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20200115
EP3436399 B1	20200116	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602017009938 COUNTRY OF REF DOCUMENT : DE
EP3436399 B1	20370330	PEXP		Calculated Patent Term Expiry	
GB2544828 A1	20170531	LSPB	+	published / reissued	
GB2544828 B2	20180228	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2544828 B2	20360401	PEXP		Calculated Patent Term Expiry	
JP2019512435 T2	20190516	LSPB	+	published / reissued	
KR20190012147 A	20190208	LSPB	+	published / reissued	
MX2018011869 A1	20190213	LSPB	+	published / reissued	
SG11201808101V A1	20181030	LSPB	+	published / reissued	
WO17168367 A1	20171005	LSPB	+	published / reissued	
WO17168367 A1	20180912	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 3017570 COUNTRY OF REF DOCUMENT : CA
WO17168367 A1	20180918	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2018549829 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17168367 A1	20180918	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 11201808101V COUNTRY OF REF DOCUMENT : SG
WO17168367 A1	20180927	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2018/011869 COUNTRY OF REF DOCUMENT : MX
WO17168367 A1	20181002	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17168367 A1	20181023	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201892154 COUNTRY OF REF DOCUMENT : EA
WO17168367 A1	20181024	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20187030769 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17168367 A1	20181025	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017243969

					COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20170330 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17168367 A1	20181102	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2017754477 COUNTRY OF REF DOCUMENT : EP
WO17168367 A1	20181109	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017754477 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20181102
WO17168367 A1	20190122	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112018069580 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20180925

Title: INTEGRATED SYSTEM FOR THE BALLISTIC AND NONBALLISTIC INFIXION AND RETRIEVAL OF IMPLANTS

Abstract: Provided are methods and apparatus for the use of magnetic traction to maintain the patency of a tubular anatomical structure, whether a vessel, duct, the trachea, bronchus, bile duct, ureter, vas deferens, fallopian tube, or portions of the digestive tract, as to constitute means for extraluminal stenting. An extraluminal stent consists of a perimedial or medial intravascular and an extravascular component. The intravascular component consists of ferromagnetic spherules implanted aeroballistically or stays implanted by means of a special hand tool, while the extravascular component consists of a pliant jacket or mantle that has magnets mounted about its outer surface. A catheter adapted for use as the barrel of a gas-operated implant insertion gun is so devised that it can be used independently to perform an angioplasty and thereafter have its free or extracorporeal end inserted into the airgun to initiate implantation of the intravascular component without the need for withdrawal and reinsertion through the introducer sheath. When the implants must be spaced too closely together to be controlled by hand, a positional control system is used to effect discharge automatically. Spherules that consist entirely of medication or that have a radiation emitting seed as the core can be implanted with the same apparatus. A glossary of terms follows the specification.

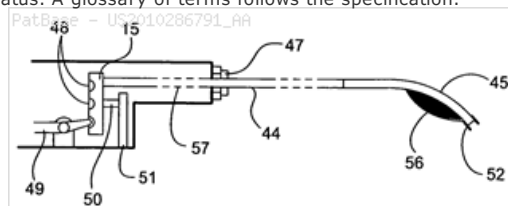
Classifications:

International (IPC 8-9): A61B17/28 A61B17/50 A61B18/04 A61F13/00 A61F2/04 A61F2/82 A61F2/95 A61M25/00 A61M31/00 A61M36/12 A61M37/00 (Advanced/Invention)

CPC: A61F2/95 A61M37/00 A61B17/12022 A61B17/00491 A61B17/0057 A61B17/12118 A61B17/12181 A61B17/3468 A61B18/04 A61B18/18 A61B2017/00411 A61B2017/00544 A61B2017/0065 A61B2017/00876 A61B2017/1205 A61B2017/22001 A61B2017/00809 A61F2210/009 A61F2/82 A61F2/013 A61F2002/9528 A61B18/02 A61B18/1492 A61B2018/00023 A61B2018/00345 A61B2018/00517 A61B2018/00541 A61B2018/00595 A61B2018/00982 A61B2218/002 A61N2005/1011 A61B18/245 A61B2018/00005 A61B2018/00577 A61B2018/1861 A61N7/00

European: A61B17/12P A61B17/12P5B1S A61B17/12P7Z K61B17/00N4 K61B17/00S14 K61B17/12P2 K61B17/22A K61B17/34J K61B18/04 K61B18/18

US: 600/8 600/8S 602/43 602/43S 604/500 604/523 604/523S 604/524 604/524S 604/93.01 604/93.010S 606/205 606/205S 606/211 606/211S 606/27 606/27S 623/1.11 623/23.7 623/23.700P



Family:

Publication number	Publication date	Application number	Application date
US2010286791 AA	20101111	US20070986021	20071119
US2014163664 AA	20140612	US20130694835	20130109

Priority:

US20060860392P 20061121 US20070986021 20071119 US20130694835 20130109

Probable Assignee:

GOLDSMITH DAVID S

Assignee(s): (std):

GOLDSMITH DAVID S

Inventor(s): (std):

GOLDSMITH DAVID S

Agent(s):

DAVID S GOLDSMITH

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2010286791 AA	20101111	LSPB	+	published / reissued	
US2010286791 AA	20130309	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014163664 AA	20140612	LSPB	+	published / reissued	
US2014163664 AA	20151201	LSES	NFA1	Non Final Action Mailed	
US2014163664 AA	20170221	LSES	NFA1	Non Final Action Mailed	
US2014163664 AA	20180430	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	

Title: DISCONNECTIBLE COUPLING

Abstract: (Claim 1) Wbp_t is claim_ed' 1. _A _quick disconnect faticet comprising: a tubul ar member, a c,,iii slidabl moiinted in said tubulat meii_b,-r, a'sliding gasket mear,,s b-.tween -aid cui) and said tubular member a stop wi'_hin sa_id membet, a spring conipres__ed b6t_veen said 6i_p ai,d said.ston, and a second stop 6n the inside of said tubular nmember spaced from said first st6p - -ineans and, limiti_-ig the exteiii to which may slide _aid 6rp with relat,6n o said tubti- rj5 said sprin t -o h -,-ig in its cen' k la_ member , said, cu.

Classifications:

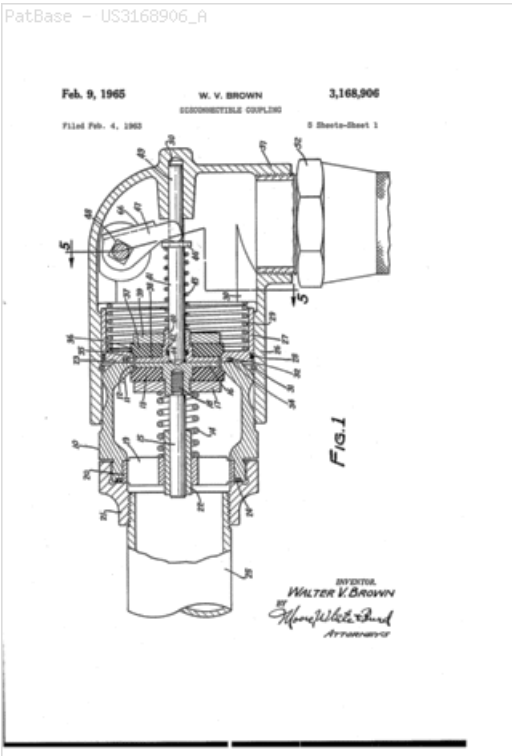
International (IPC 8-9): F16L37/18 F16L37/36 (Advanced/Invention); F16L37/00 F16L37/28 (Core/Invention)

International (IPC 1-7): F16L29/00

CPC: F16L37/18 F16L37/36 Y10T137/86919 Y10T137/87925 Y10T137/88054

European: F16L37/18 F16L37/36

US: 137/614 137/614.2 137/627.5



Family:

Publication number	Publication date	Application number	Application date
US3168906 A	19650209	US19630256505	19630204

Priority:

US19630256505 19630204

Probable Assignee: BROWN STEEL TANK CO

Assignee(s): (std): BROWN STEEL TANK CO ; BROWN STEEL TANK COMPANY

Inventor(s): (std): BROWN WALTER V

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
US3168906 A	19650209	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: VEHICLE OIL SUMP DRAIN OR FILLER PLUGS WITH INTEGRAL VALVES - INVOLVING HEAT AND OIL RESISTANT RUBBER SEALS OR PLASTIC BODIES

Abstract: Plugs for draining or filling lubricant reservoirs comprise a hollow **threaded** coupling incorporating a coaxial mushroom head valve located on a bevelled seat by a spring loaded rod. Thrust on the rod from a cross member on a suitable **hose coupling** overcomes the valve spring to allow draining or filling. A variation comprises a banjo coupling allowing full bore flow through a hollow stud coupling and lateral draining/filling via a lateral spring loaded valve in the neck of the banjo coupling. The valve incorporates a heat-and oil-resistant 'O' seal of e.g. fluorinated rubber. The valve and plug body are pref. sized to fit conventional sump plug outlets in car engine sumps, gearboxes, rear axles, etc., may be moulded of material oil-resistant up to 200 degrees centigrade e.g. polyimide or glass-filled polyamide. Facilitates draining and filling without use of elevating ramps or pits.

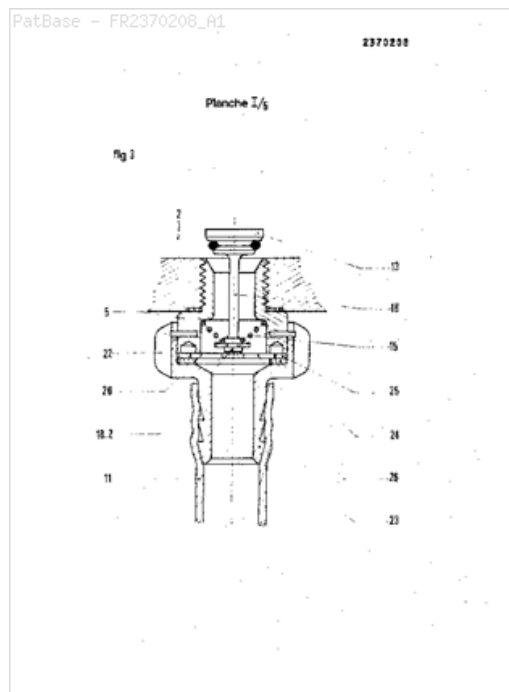
Classifications:

International (IPC 8-9): B60R17/00 F01M11/04 F16L19/00 F16L37/23 F16L37/248 F16L37/32 F16L37/38 F16L37/407 (Advanced/Invention); F16N37/00 (Advanced/Non-invention); B60R17/00 F01M11/04 F16L19/00 F16L37/00 F16L37/28 (Core/Invention); F16N37/00 (Core/Non-invention)

International (IPC 1-7): F16K1/00

CPC: B60R17/00 F01M11/0408 F01M2011/0425 F16L19/00 F16L37/23 F16L37/248 F16L37/32 F16L37/38 F16L37/407 F16N2037/006

European: B60R17/00 F01M11/04B F16L19/00 F16L37/23 F16L37/248 F16L37/32 F16L37/38 F16L37/407 R01M11/04B2B R16N37/00F



Family:

Publication number	Publication date	Application number	Application date
FR2370208 A1	19780602	FR19760033823	19761108
FR2370208 B3	19790727	FR19760033823	19761108

Priority:

FR19760033823 19761108

Probable Assignee:

TECALEMIT EQUIP

Assignee(s): (std):

TECALEMIT EQUIP

Assignee(s):

TECALEMIT EQUIPEMENTS

Inventor(s): (std):

JEANGUENIN CLAUDE

Inventor(s):

CLAUDE JEANGUENIN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
FR2370208 A1	19780602	LSPB	+	published / reissued	
FR2370208 B3	19790727	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2370208 B3	19821108	PEXP		Calculated Patent Term Expiry	

Title: HYDRAULIC **HOSE COUPLING**

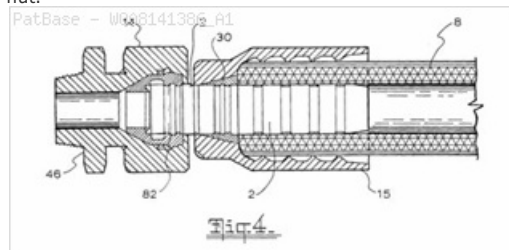
Abstract: An hydraulic **hose coupling** system which includes a hosetail with one end adapted conventionally for fitting to a hydraulic hose of a specified diameter; a ferrule and collet for fitting over the hose and a **universal** seating adaptor and a nut for mating with the hydraulic inlet of the machine. A tubular precursor is provided for the hosetail which includes a metal tube with a leading end and a trailing end and an intermediate zone between said ends which includes at least one circumferential collet retaining groove and an adjacent circumferential arrestor groove for retaining a circlip and optionally one or more circumferential hose retaining grooves between the trailing end and the collet retaining groove. The leading end is adapted to be fitted to a an hydraulic machine using a nut and an adaptor wherein the adaptor is attachable to the free end of the hose tail tube and has an outer inclined face that abuts a corresponding internal inclined face of the nut.

Classifications:

International (IPC 8-9): F16L33/207 F16L33/22 (Advanced/Invention); F16L33/20 F16L33/22 (Core/Invention)

CPC: F16L19/062 F16L19/065 F16L33/207

European: F16L19/065 F16L19/06G F16L33/207



Family:

Publication number	Publication date	Application number	Application date
WO08141386 A1	20081127	WO2008AU00719	20080522

Priority:

AU20070902739 20070523 AU20080901295 20080318

Probable Assignee: E R T H HYD PTY LTD

Assignee(s): (std): E R T H HYD PTY LTD ; HAYMAN LAWRENCE F

Inventor(s): (std): HAYMAN LAWRENCE F

Agent(s): MISCHLEWSKI DARRYL

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

Legal status (INPADOC)

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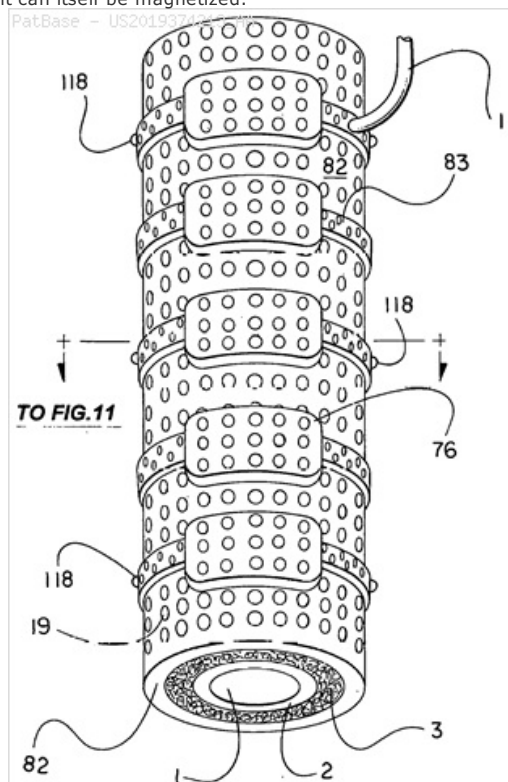
Patent	Date recorded	Event group	Code	Event	Details
WO08141386 A1	20081127	LSPB	+	published / reissued	
WO08141386 A1	20091124	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO08141386 A1	20100623	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08747987 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: DUCTUS SEDE-ENTRY AND PROSTHETIC DISORDER RESPONSE SYSTEMS

Abstract: Described are means for the direct and continuous connection of a catheter to the lumen of any tubular anatomical structure, or ductus, without medically significant leakage. A port implanted at the body surface with piping to a periductal collar allows drug or radionuclide delivery that bypasses the upstream lumen. The port allows injection, infusion, aspiration, or attachment of an automatic ambulatory pump. A superparamagnetic nanoparticle carrier-bound drug, for example, can be introduced into the lumen to pass downstream until the particles, with or without the drug still bound, are drawn into the lumen wall by a magnetized jacket surrounding the ductus. Such constitutes a method of drug targeting whereby a segment of a vessel or the territory supplied by a branch of that segment can be circumscribed for exposure to the drug. A jacket with side-entry connector positioned in surrounding relation to a lesion requiring treatment can itself be magnetized.

Classifications:

International (IPC 8-9): A61B1/32 A61B10/02 A61B17/02 A61B17/3207 A61F2/04 A61M1/36 A61M27/00 A61M3/02 A61M39/24 A61M5/14 A61M5/142 A61M5/168 A61M5/172 A61N5/10 (Advanced/Invention) **CPC:** A61B17/0218 A61B2017/00876 A61M5/14 A61N5/1002 A61M5/14276 A61M5/1723 A61M3/0279 A61M39/24 A61M27/008 A61B1/32 A61B17/3207 A61M1/3618 A61M1/3666 A61F2/04 A61M5/16813 A61M5/14228 A61B10/02 A61B17/3205 A61B2017/00566 A61B2017/0212 A61F2002/044 A61F2220/0083 A61M2005/14208 A61M2205/0288 A61M2210/1025 A61M2210/1078 A61M2210/1085 A61M2240/00 A61N2005/1094

**Family:**

Publication number	Publication date	Application number	Application date
US2019374213 AA	20191212	US20180998002	20180608

Priority:

US20180998002 20180608

Probable Assignee:

GOLDSMITH DAVID S

Assignee(s): (std):

GOLDSMITH DAVID S

Inventor(s): (std):

GOLDSMITH DAVID S

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2019374213 AA	20191212	LSPB	+	published / reissued	

Title: TUBE CONNECTION WITH COUPLING AND WATER STOP RACCORD A VIS POUR TUYAUX DOTE D'UN ACCOUPLEMENT ET

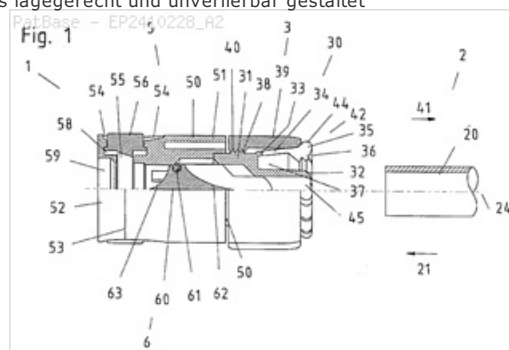
Abstract: Source: EP2410228A3 [DE] Schlauchverschraubung mit Kupplung und Wasserstopp, bestehend aus einer Schlauchaufnahme (3) und einer Kupplung (5), wobei die Schlauchaufnahme aus einem hohlzylinderförmigen Grundkörper (31) besteht mit einem inneren Rohransatz (32) zum Aufstecken des Schlauchs (2,20) in Aufsteckrichtung (21) und einem äusseren Rohrstutzen (33), der in einer Klemmeinrichtung (42) ausläuft, bestehend aus mehreren ueber den Stutzenumfang verteilten Stegen (34) mit Nocken (35) und Greifverzahnung (36), dadurch gekennzeichnet, dass die fingerartig ausgebildete Klemmeinrichtung (42) aus Stegen (34), Nocken (35) und Greifverzahnung (36) auf ihrer dem Schlauch (20) in radialer Richtung abgewandten Seite eine ringförmige Wulst (44) aufweist, die fuer die hohlzylinderförmige Druckschraube/-mutter (39) bei ueber den Rohransatz (32) durch den Ringraum (37) aufgezogenen und durch die in axialer Richtung schlauchseitig selbsthaltend verfahrenene Druckschraube/-mutter mittels Klemmeinrichtung festgesetzten Schlauch neben der schlauchseitigen Berandung des Kupplungsrueckteils (51) des Grundkörpers (50) einen weiteren Anschlag fuer die axiale Bewegungsrichtung der Druckschraube/-mutter darstellt, welcher die Druckschraube/-mutter stets lagegerecht und unverlierbar gestaltet

Classifications:

International (IPC 8-9): F16L33/16 F16L33/22 F16L37/098 F16L37/133 F16L37/138 F16L37/413 (Advanced/Invention)

CPC: F16L33/222 F16L33/223 F16L37/0987 F16L37/133 F16L37/138 F16L37/413

European: F16L33/22C F16L33/22G F16L37/098D2 F16L37/133 F16L37/138 F16L37/413



Family:

Publication number	Publication date	Application number	Application date
DE202010010500 U1	20101028	DE201020010500U	20100726
EP2410228 A2	20120125	EP20100007733	20100726
EP2410228 A3	20140416	EP20100007733	20100726

Priority:

DE201020010500U 20100721 DE201020010500U 20100726

Probable Assignee: SILAG HANDEL AG

Assignee(s): (std): SILAG HANDEL AG

Inventor(s): (std): KLOSE ODO PROF

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE202010010500 U1	20101028	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202010010500 U1	20101202	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 20101202
DE202010010500 U1	20131015	LSGT	+R150	TERM OF PROTECTION EXTENDED TO 6 YEARS	
DE202010010500 U1	20131205	LSGT	+R150	TERM OF PROTECTION EXTENDED TO 6 YEARS	EFFECTIVE DATE : 20131015
DE202010010500 U1	20160721	LSGT	+R151	TERM OF PROTECTION EXTENDED TO 8 YEARS	
DE202010010500 U1	20180706	LSGT	+R152	TERM OF PROTECTION EXTENDED TO 10 YEARS	
DE202010010500 U1	20200726	PEXP		Calculated Patent Term Expiry	
EP2410228 A2	20120125	LSPB	+	published / reissued	
EP2410228 A3	20141112	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20141002
EP2410228 A3	20150722	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20150617

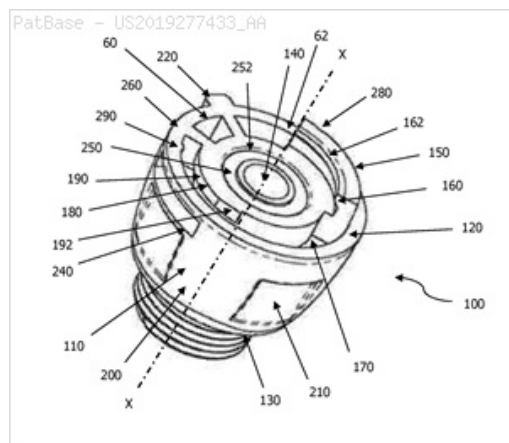
Title: HOSE COUPLING

Abstract: A **hose coupling (100)** having a body member (110) having a proximal end (120) and a distal end (130), a fluid low passage (140) extending along a longitudinal axis (XX) through the body member (110) between the proximal and distal ends (120, 130). The proximal end (120) includes a lug (150) having a first engagement formation (160) and the proximal end (120) includes a keyway (170) having a corresponding second engagement formation (180) in the form of a keyway shoulder (190) projecting generally perpendicular to the longitudinal axis (XX), further wherein the keyway shoulder (190) is integrally formed with the body member (110).

Classifications:

International (IPC 8-9): B29C45/33 F16L37/252 (Advanced/Invention)

CPC: B29L2031/24 B29C45/33 F16L37/252

**Family:**

Publication number	Publication date	Application number	Application date
AU2017329243 AA	20180927	AU20170329243	20170920
AU2017329243 AA	20180329	AU20170329243	20170920
AU2017329243 BB	20190919	AU20170329243	20170920
US2019277433 AA	20190912	US20170335159	20170920
WO18053583 A1	20180329	WO2017AU51022	20170920

Priority:

AU20160903787 20160920 WO2017AU51022 20170920

Probable Assignee: HOSELINK PTY LTD

Assignee(s): (std): HOSELINK PTY LTD

Inventor(s): (std): KIERATH TIMOTHY

Agent(s): COTTERS PATENT AND TRADE MARK ATTORNEYS

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2017329243 AA	20180329	LSPB	+	published / reissued	
AU2017329243 AA	20180927	LSPB	+	published / reissued	
AU2017329243 BB	20190919	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2017329243 BB	20200116	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2017329243 BB	20370920	PEXP		Calculated Patent Term Expiry	
US2019277433 AA	20190912	LSPB	+	published / reissued	
US2019277433 AA	20190412	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HOSELINK PTY LTD., AUSTRALIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST;

WO18053583 A1	20180329	LSPB	+	published / reissued	
WO18053583 A1	20180927	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017329243 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20170920 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO18053583 A1	20190321	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18053583 A1	20190925	LSNE	-122	EP: PCT APPLICATION NON- ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 17851985 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: Liquid fifth wheel assembly including dual concentric piping structure

Abstract: The present invention pertains to a liquid fifth wheel assembly for use with tractor and trailer combinations wherein the trailer includes a tank body for the storage and transportation of fluids, and the tractor includes a pumping station adapted to deliver the fluid stored in the tank. The fifth wheel assembly which is secured to the under side of the trailer has a central opening therein through which passes an enclosed dual concentric suction and discharge pipe structure interconnecting the tank and the pump station; the pipe structure including a swivel joint for permitting angular displacement of a portion of the enclosed pipe.

Classifications:

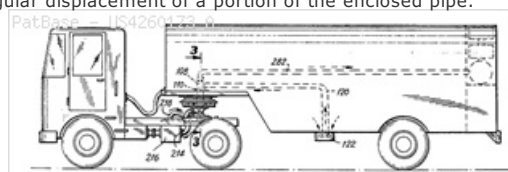
International (IPC 8-9): B62D53/08 B62D53/12 (Advanced/Invention); B62D53/00 (Core/Invention)

International (IPC 1-7): B60D1/08 B60P3/22 B62D53/08

CPC: B62D53/125

European: B62D53/12B

US: 280/421 280/441.1



Family:

Publication number	Publication date	Application number	Application date
AU198055928 A1	19800911	AU19800055928	19800227
AU524718 B2	19820930	AU19800055928	19800227
CA1119638 A1	19820309	CA19800344546	19800128
GB2044199 A1	19801015	GB19800007803	19800307
GB2044199 B2	19830309	GB19800007803	19800307
US4260173 A	19810407	US19790019265	19790309

Priority:

US19790019265 19790309 CA19800344546 19800128

Probable Assignee: GARSITE PRODUCTS INC

Assignee(s): (std): GARSITE PRODUCTS INC

Assignee(s): GARSITE TSR INC ; KORNAHRENS HERMAN

Inventor(s): (std): KORNAHRENS HERMAN

Inventor(s): HERMAN KORNAHRENS

Agent(s): SPRUSON AND FERGUSON; BERESKIN AND PARR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU198055928 A1	19800911	LSPB	+	published / reissued	
AU524718 B2	19820930	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2044199 A1	19801015	LSPB	+	published / reissued	
GB2044199 B2	19830309	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2044199 B2	19901107	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	
GB2044199 B2	20000307	PEXP		Calculated Patent Term Expiry	
US4260173 A	19810407	LSGT	+	granted / extensions (spc, cpc, pte)	
US4260173 A	19810128	LSGT	PAT1	Patented Case	
US4260173 A	19810128	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US4260173 A	19900921	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GARSITE/TSR, INC., KANSAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:GARSITE PRODUCTS, INC.,; REEL/FRAME:005458/0100 EFFECTIVE DATE : 19900904

Title: COUPLING AND SEAL APPARATUS FOR HOSES AND OTHER TUBULAR CONDUITS FOR FLUIDS

Abstract: ABSTRACT OF THE DISCLOSURE

A coupling and sealing apparatus includes a cylindrical-ly shaped body and a reinforced seal secured to its forward end for sealing engagement with a substantially identical coupling body having a corresponding forward end. The body has recessed portions on its inner cylindrical surface. The seal comprises a reinforcing means having external teth engaged within the recessed portions of the body and includes at its forward end a flared portion. An annular rubber-like seal completely surrounds the flared portion such that the flared portion is imbedded in and bonded to the annular seal in such a manner that the seal covers substantially completely the forward end of the body. This invention relates generally to means for removably coupling together lengths of flexible conduit and more particularly to such a coupling and its fluid-tight seal which is versatile to function either as an external **male**, or internal **female**, coupling half. B

Classifications:

International (IPC 8-9): F16L19/02 F16L19/03

F16L19/065 (Advanced/Invention);

F16L19/00 F16L19/02 (Core/Invention)

International (IPC 1-7): F16J15/12 F16J15/32 F16L15/00 F16L21/04

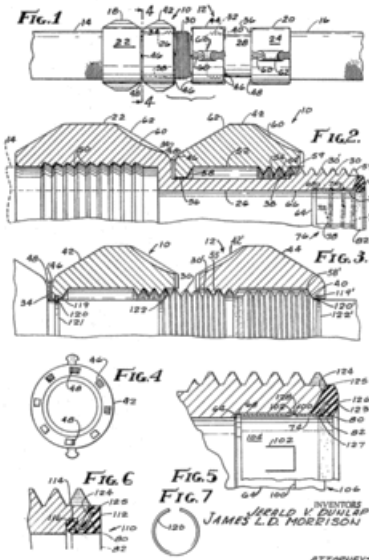
CPC: F16L19/0218 F16L19/0231 F16L19/0653

European: F16L19/02D2 F16L19/02F F16L19/065B

US: 277/609 277/616 277/627 285/12 285/354 285/379 285/70 285/81

PatBase - US3427053_A

July 7, 1970
J. V. DUNLAP ET AL.
3,519,290
COUPLING AND SEAL APPARATUS FOR HOSES AND OTHER
TUBULAR CONDUITS FOR FLUIDS
Original Filed Dec. 22, 1966



Family:

Publication number	Publication date	Application number	Application date
US3427053 A	19690211		19661222
US3519290 A	19700707	US19680755490	19680729

Priority:

US19660603862 19661222 US19680755490 19680729

Probable Assignee:

JERALD V DUNLAP

Assignee(s): (std):

JERALD V DUNLAP ; MORRISON JAMES L D

Assignee(s):

JAMES L D MORRISON

Inventor(s): (std):

DUNLAP JERALD V ; MORRISON JAMES L D

Inventor(s):

JAMES L D MORRISON ; JERALD V DUNLAP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US3427053 A	19690211	LSGT	+	granted / extensions (spc, cpc, pte)	
US3519290 A	19700707	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: DISPOSABLE BREAKAWAY NOZZLE CONNECTOR

Abstract: A disposable breakaway hose connector for a fuel line prevents untimely decoupling, and avoids unnecessary leakage. The breakaway connector includes a pair of fittings, for connecting to the fuel line, an inner sleeve provided for limited sliding movement upon one of the fittings, with each fitting incorporating a poppet valve, to provide for closure when decoupling occurs, or other unseating, from within the respect fittings, during normal aggregate and usage. Detents are provided within one of the fittings for interconnecting to normally retain the connector as assembled, but various O-rings arranged within an inner sleeve and upon one of the fittings, provide for limited movement when tensioning force is exerted and clearance for disconnection. A fluid chamber is provided intermediate of the O-rings, to equalize and counterbalance fluid pressures that occasionally spike within the connector and hose line.

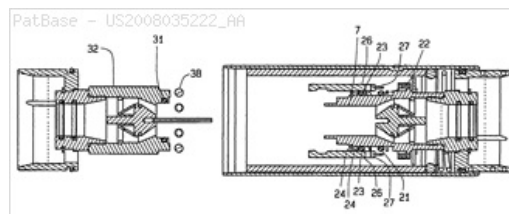
Classifications:

International (IPC 8-9): F16L37/32 (Advanced/Invention); F16L37/28 (Core/Invention)

CPC: Y10S285/90 Y10T137/1662 F16L55/1015 F16K17/40 B67D7/3218 F16L27/0841 F16L37/26 F16L37/32 F16L55/1007 Y10T137/1632 Y10T137/3802 Y10T137/87957

European: F16K17/40 F16L27/08B3B F16L37/26 F16L37/32 F16L55/10D F16L55/10G

US: 137/234.6 137/234.600P 137/614.04 137/614.040S 137/68.11 137/68.15 285/1 285/279 285/282 285/304 285/900



Family:

Publication number	Publication date	Application number	Application date
US2008035222 AA	20080214	US20060503562	20060811
US2011094602 AA	20110428	US20090381922	20090318
US7575023 BB	20090818	US20060503562	20060811
US8251084 BB	20120828	US20090381922	20090318

Priority:

US20060503562 20060811 US20090381922 20090318

Probable Assignee: HUSKY CORP

Assignee(s): (std): BROWN ROBIN J ; FRASER CRAIG J ; HUSKY CORP

Inventor(s): (std): FRASER CRAIG J ; BROWN ROBIN J

Agent(s): PAUL M DENK; PAUL M

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2008035222 AA	20080214	LSPB	+	published / reissued	
US2008035222 AA	20090720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HUSKY CORPORATION, MISSOURI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FRASER, CRAIG J.; REEL/FRAME:022986/0831 EFFECTIVE DATE : 20050906
US2008035222 AA	20090729	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011094602 AA	20110428	LSPB	+	published / reissued	
US2011094602 AA	20120716	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HUSKY CORPORATION, MISSOURI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BROWN, ROBIN J.; REEL/FRAME:028603/0970 EFFECTIVE DATE : 20100312
US2011094602 AA	20120808	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7575023 BB	20090818	LSGT	+	granted / extensions (spc, cpc, pte)	
US7575023 BB	20090729	LSGT	PAT1	Patented Case	
US7575023 BB	20130212	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7575023 BB	20170124	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8

US7575023 BB	20260926	PEXP		Calculated Patent Term Expiry (PTA 46 days)	
US8251084 BB	20120828	LSGT	+	granted / extensions (spc, cpc, pte)	
US8251084 BB	20120808	LSGT	PAT1	Patented Case	
US8251084 BB	20160203	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8251084 BB	20300209	PEXP		Calculated Patent Term Expiry (PTA 328 days)	

Title: QUICK-DISCONNECT, REDUCER NOZZLE/VALVE ASSEMBLY FOR FILLING FIREFIGHTING BACKPACK TANKS

Abstract: A **universal**, fluid transfer, Q-D coupling assembly for connecting water supply hoses to fire-fighter's wild-fire backpack tanks comprising a two or three-part combination: #1) a 5/8" **female** member having an axially-slideable detent collar and an internal, spring-biased fluid shut off flap, and #2) a **male** nozzle/reducer/collar member having a detent engaging groove. A ball valve is connected to element # 2, either integral as # 2 A, or as a separate assembly element # 3. Both elements # 2 and # 3 have a **female threaded** collar that receives the nominal 1 " **male** fitting of a garden hose. The parts can be supplied as a kit. Element # 2 is a unitary fitting combining a hydraulic-sized, **male** Q-D nozzle, a reducer section and a standard garden hose-sized, **female** internally-**threaded** fixed collar. This element is preferably supplied with an integral ball valve intermediate the reducer portion and the **female** collar.

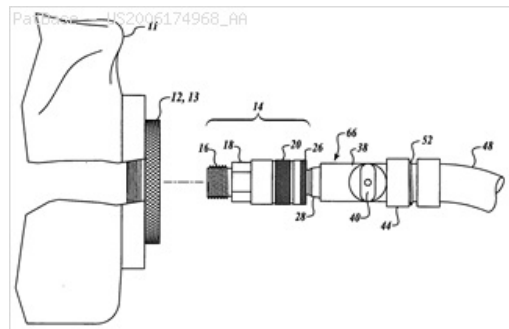
Classifications:

International (IPC 8-9): B65B3/16 (Advanced/Invention)

CPC: A62C99/00

European: A62C99/00

US: 141/114



Family:

Publication number	Publication date	Application number	Application date
US2006174968 AA	20060810	US20060345775	20060201

Priority:

US20050650356P 20050204 US20060345775 20060201

Probable Assignee: DE LUNA JOHN M

Assignee(s): (std): DE LUNA JOHN M

Inventor(s): (std): DE LUNA JOHN M

Inventor(s): DE LUNA JOHN

Agent(s): JACQUES M DULIN ESQ DBA INNOVATION LAW GROUP LTD

Legal status (INPADOC)

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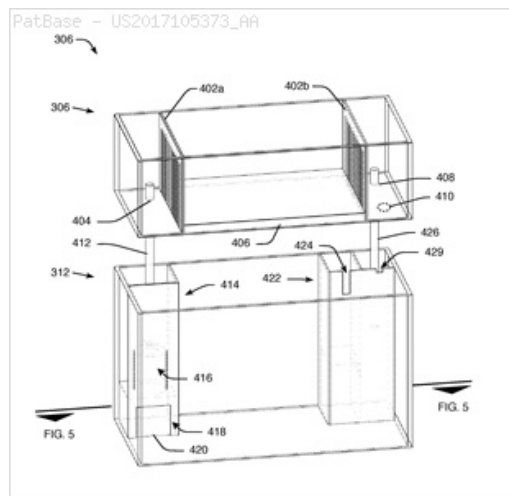
Patent	Date recorded	Event group	Code	Event	Details
US2006174968 AA	20060810	LSPB	+	published / reissued	
US2006174968 AA	20090221	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	

Abstract: In some examples, a system for filtering and distributing fluid in a planting device comprises a first receptacle and a second receptacle. The first receptacle includes a first filter and a second filter. The second receptacle includes a first aperture and a second aperture. Fluid can enter the second receptacle through the first aperture and drain from the second receptacle through the second aperture to the second filter in the first receptacle. The system may include a pump configured to pump fluid from the first receptacle through the first filter to the first aperture of the second receptacle. Moreover, the system may include barriers that at least partially obstruct fluid flow between the first aperture and the second aperture. Each of the barriers includes a plurality of perforations located along a width of the barrier; each of the plurality of perforations allows fluid to flow through the barrier.

International (IPC 8-9): A01G1/00 A01G31/06 B01D24/00
B01D35/02 (Advanced/Invention)

CPC: B01D35/02 B01D24/007 Y02P60/216 C02F1/001 A01G31/02
A01K63/04 A01G22/00

US: 1/1 47/62R



Publication number	Publication date	Application number	Application date
US2017105373 AA	20170420	US20160294357	20161014

US20150241675P 20151014 US20160294357 20161014

Probable Assignee: GROVE LABS INC

Assignee(s): (std): AMBROGI NICHOLAS SIGIFRIDO ; BYRON III JAMES EDGAR ; WHITAKER LAYNE SHRIVER ; WILLIAMS NATHANIEL ROBERT : ZARTARIAN MICHAEL GREGG

Assignee(s): GROVE LABS INC

Inventor(s): (std): BYRON III JAMES EDGAR ; WILLIAMS NATHANIEL ROBERT ; AMBROGI NICHOLAS SIGIFRIDO ; ZARTARIAN MICHAEL GREGG ; WHITAKER LAYNE SHRIVER

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Patent	Date recorded	Event group	Code	Event	Details
US2017105373 AA	20170420	LSPB	+	published / reissued	
US2017105373 AA	20161104	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GROVE LABS INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BYRON, JAMES EDGAR, III; AMBROGI, NICHOLAS SIGIFRIDO; WILLIAMS, NATHANIEL ROBERT; AND OTHERS; SIGNING DATES FROM 20161026 TO 20161028; REEL/FRAME:040222/0400
US2017105373 AA	20190308	LSES	NFA1	Non Final Action Mailed	
US2017105373 AA	20190918	LSWD	-ABD3	Abandoned - - Failure to Respond to an Office Action	

Title: WEARABLE BEVERAGE CONTAINER HOLDER

Abstract: A wearable cup holder arrangement permits a wearer to secure a drink cup or bottle to the leg, either above or below the knee, to hold the container while seated or standing. A holder body or shell has a receptacle for the drink container, with a pair of L-shaped slots extending on the back and bottom. A strap passes through these slots and then secures around the wearer's leg. The L-shaped slots allow the strap to be positioned at the back side or the bottom of the shell. In one alternative, pivot hardware holds the shell to the strap, and allows rotation of 90 degrees.

Classifications:

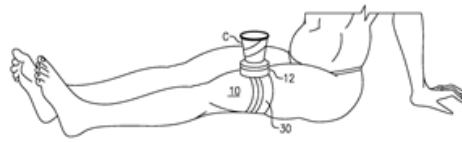
International (IPC 8-9): A45F5/00 A45F5/02 B63B22/02 B63B27/24 B65G67/60 B65H75/38 (Advanced/Invention)

CPC: A45F5/00 A45F2005/006 A45F2005/008 A45F2200/0583

B63B22/021 B63B27/24 B63B27/34 Y10T137/0447 Y10T137/6899

US: 1/1 137/15.09 137/355.12 224/148.4 224/148.6

PatBase - US2015069096_AA

**Family:**

Publication number	Publication date	Application number	Application date
AU2014366258 AA	20160303	AU20140366258	20141212
CA2934071 AA	20160615	CA20142934071	20141212
CA2934071 C	20170627	CA20142934071	20141212
CN105899428 A	20160824	CN201480068642	20141212
CN105899428 B	20180209	CN201480068642	20141212
EP3083388 A1	20161026	EP20140872059	20141212
EP3083388 A4	20170201	EP20140872059	20141212
US2015069096 AA	20150312	US20140462911	20140819
US2015166148 AA	20150618	US20140532332	20141104
US9027807 BB	20150512	US20140462911	20140819
US9187156 BB	20151117	US20140532332	20141104
WO15094989 A1	20150625	WO2014US70183	20141212

Priority:

US20130876273P 20130911 US20130917873P 20131218 US20130917983P 20131219
 US20140462911 20140819 US20140532332 20141104 WO2014US70183 20141212

Probable Assignee: LIU XUEJIE**Assignee(s):** (std): KAMPAS ELLIOT ZACHARY ; LIU XUEJIE**Inventor(s):** (std): KAMPAS ELLIOT ZACHARY ; LIU XUEJIE**Agent(s):** MCINTOSH IP PATENTS PTY LTD; CASKA IP; CASKA IP PTY LTD; IPAND PTY LTD; MILTONS IP PI; KAECK STEFAN; BERNHARD P

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2014366258 AA	20160303	LSPB	+	published / reissued	
AU2014366258 AA	20180809	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
CA2934071 AA	20160615	LSPB	+	published / reissued	
CA2934071 AA	20160630	LSSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20160615
CA2934071 C	20170627	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2934071 C	20341212	PEXP		Calculated Patent Term Expiry	
CN105899428 A	20160824	LSPB	+	published / reissued	
CN105899428 A	20160824	LSPB	+C06	PUBLICATION	
CN105899428 B	20180209	LSGT	+	granted / extensions (spc, cpc, pte)	
CN105899428 B	20180209	LSGT	+GR01	PATENT GRANT	
CN105899428 B	20341212	PEXP		Calculated Patent Term Expiry	
EP3083388 A1	20161026	LSPB	+	published / reissued	
EP3083388 A1	20161026	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE

					DATE : 20160802
EP3083388 A4	20170201	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20170105
EP3083388 A4	20171115	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20171017
EP3083388 A4	20180124	LSWD	-18W	APPLICATION WITHDRAWN	EFFECTIVE DATE : 20171220
US2015069096 AA	20150312	LSPB	+	published / reissued	
US2015069096 AA	20150422	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015166148 AA	20150618	LSPB	+	published / reissued	
US2015166148 AA	20151028	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9027807 BB	20150512	LSGT	+	granted / extensions (spc, cpc, pte)	
US9027807 BB	20150422	LSGT	PAT1	Patented Case	
US9027807 BB	20181019	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9027807 BB	20340819	PEXP		Calculated Patent Term Expiry	
US9187156 BB	20151117	LSGT	+	granted / extensions (spc, cpc, pte)	
US9187156 BB	20151028	LSGT	PAT1	Patented Case	
US9187156 BB	20190429	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9187156 BB	20341104	PEXP		Calculated Patent Term Expiry	
WO15094989 A1	20150625	LSPB	+	published / reissued	
WO15094989 A1	20160303	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014366258 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20141212 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO15094989 A1	20160615	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2934071 COUNTRY OF REF DOCUMENT : CA
WO15094989 A1	20160620	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15094989 A1	20160802	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2014872059 COUNTRY OF REF DOCUMENT : EP

Title: MODULAR HABITAT SYSTEM AND METHOD

Abstract: Modular habitat structure (MHS) which can accommodate one or more live inhabitants is comprised of a rigid pillar which extends linearly away from a base end toward an upper end. A plurality of major system components are disposed at different locations along a length of the rigid pillar. Each of the major system components is comprised of modular segments which individually extend circumferentially around at least a portion of the rigid pillar. The modular configuration of the segments allows user configuration of the MHS by selectively adding or removing one or more segments of each of the major system components.

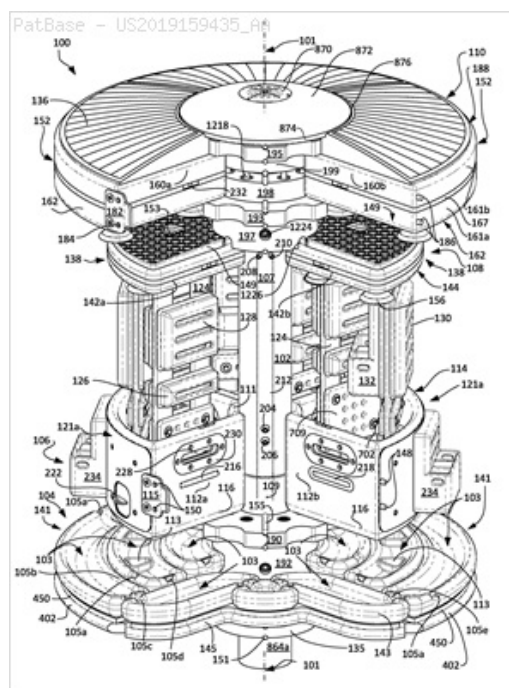
Classifications:

International (IPC 8-9): A01G27/00 A01G31/06 A01K1/03 A01K63/00 A01K63/04 A01K63/06 B65D85/50 (Advanced/Invention)

CPC: A01K63/065 A01K63/047 A01K63/003

US: 1/1

Locarno class: 30/02



Family:

Publication number	Publication date	Application number	Application date
JP1622610 S	20190121	JP20180011446F	20180525
US2019159435 AA	20190530	US20180103484	20180814
WO19108391 A1	20190606	WO2018US60924	20181114

Priority:

US20170627589F 20171128 US20180644052F 20180413 US20180644053F 20180413
US20180644056F 20180413 US20180103484 20180814

Probable Assignee: GARY SCHLEMMER

Assignee(s): (std): SCHLEMMER GARY ; SCHLEMMER GARY N

Assignee(s): GARY SCHLEMMER

Inventor(s): (std): SCHLEMMER GARY N ; SCHLEMMER GARY

Agent(s): SACCO ROBERT J

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
JP1622610 S	20190121	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1622610 S	20390121	PEXP		Calculated Patent Term Expiry	
US2019159435 AA	20190530	LSPB	+	published / reissued	
WO19108391 A1	20190606	LSPB	+	published / reissued	

Title: DISPOSICAO CONSTRUTIVA EM DISTRIBUIDOR COM REGULADOR DE FLUXO DE AGUA POTAVEL PARA APLICACAO EM QUALQUER PRESSAO DOTADO POR VALVULA DINAMICA PARA AJUSTE E CONTROLE DE VAZAO Constructive ARRANGEMENT IN DISPENSER WITH FLOW REGULATOR OF POTABLE WATER FOR APPLICATION IN ANY PRESSURE PROVIDED BY DYNAMIC FLOW CONTROL VALVE FOR ADJUSTING AND (Machine translation)

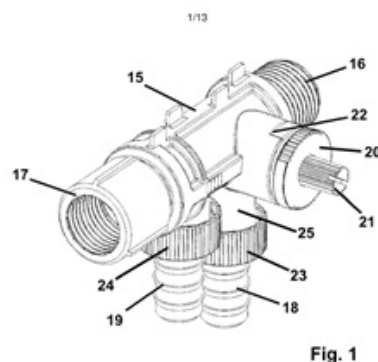
Abstract: Source: BR202019009837U [PT] RESUMO DISPOSICAO CONSTRUTIVA EM DISTRIBUIDOR COM REGULADOR DE FLUXO DE AGUA POTAVEL PARA APLICACAO EM QUALQUER PRESSAO DOTADO POR VALVULA DINAMICA PARA AJUSTE E CONTROLE DE VAZAO E descrita uma disposicao construtiva em regulador de fluxo dotado por valvula dinamica para controle de vazao, objeto do presente modelo de utilidade, tem como objetivo resolver os inconvenientes descritos no estado da tecnica atraves de uma estrutura (15) reguladora que suporta esforcos mecanicos longitudinais, aplicavel na admissao de agua em alta pressao no ponto da rede hidraulica para a distribuicao da agua a conectores com o objetivo de constituir circuito fechado pela adicao de acessorios para eficiencia energetica com dispositivo de ajuste e controle de vazao, sendo que esta nova construtividade possibilita sua adaptacao em qualquer ponto hidraulico sem necessidade de obras (reformas ou adaptacoes), independente da construcao civil, pela condicao de fixacao do engaste regulavel com disposicao de ajuste manual pelo acesso lateral no mesmo alinhamento do ponto de admissao de agua, constituindo ponto seguro para instalacao e ajuste que nao coincide com a altura da disponibilidade da caixa de fiacao de alimentacao e ligacoes eletricas na ducha ou chuveiro. A vazao adequada para cada pressao (metros de coluna de agua) proporciona efetividade ao usuario no uso racional de agua potavel. Peticao 870190045345, de 14/05/2019, pag. 27/43 **Machine translation:** Constructive ARRANGEMENT IN DISPENSER WITH FLOW REGULATOR SUMMARY OF POTABLE WATER FOR APPLICATION IN ANY PRESSURE PROVIDED BY DYNAMIC VALVE ADJUSTING AND CONTROLLING FLOW RATE IS described a constructive arrangement in flow regulator having flow control for dynamic valve, object of the present utility model aims to solve the drawbacks described in the prior art through a structure (15) regulatory authority which supports, applicable in water intake longitudinal mechanical stresses at high pressure at the point in hydraulic network for distributing water to connectors in order to constitute a closed circuit by the addition of attachments for efficiency with flow control adjustment device and construtividade, wherein this new enables Hydraulic anywhere without adaptation thereof works (pensions or adaptations) independent of the civil construction, by securing the Regulatable mount condition with manual adjustment arrangement side access the water intake point alignment therein, constituting safe position for installation and adjustment that does not coincide with the height of the availability of feed wiring box and electrical bonds in shower or shower. The flow rate suitable for each pressure (meters of water column) provides effectiveness to the user in the rational use of potable water. The 870190045345 repeat 5/14/2019, pp. Estimation

Classifications:

International (IPC 8-9): F16K11/00 (Advanced/Invention)

International (IPC 1-7): F16K11/00

PatBase - BR202019009837_U2



Family:

Publication number	Publication date	Application number	Application date
BR202019009837 U2	20191022	BR20192009837U	20190514

Priority:

BR20192009837U 20190514

Probable Assignee: QBANHO IND LTDA

Assignee(s): (std): QBANHO IND LTDA

Assignee(s): QBANHO INDUSTRIAL LTDA

Inventor(s): (std): PAULO VALDOCI PEREIRA ; VALERIO JOSE GERALDO MONTEIRO

Legal status (INPADOC)

[View legal status timeline](#)

Patent

Date recorded Event group Code Event

Details

Title: Refrigerant recovery system with flush mode

Abstract: A refrigerant recovery apparatus will connect to an air conditioning system for recovering refrigerant when the air conditioning system requires maintenance. The recovery apparatus has a filter dryer for removing moisture and impurities, a compressor for compressing refrigerant recovered, and a condenser for condensing the compressed refrigerant into a liquid. A storage container stores the liquid refrigerant. A liquid pump will connect to the storage container for pumping liquid refrigerant from the storage container. The liquid pump in a flush mode, will pump the liquid refrigerant back through the air conditioning system to flush the air conditioning system of impurities. A return line returns the refrigerant back to the storage container, and filters the refrigerant from impurities. In a cleaning mode, the liquid pump will recirculate the liquid refrigerant from the storage container through the filter dryer and back to the storage container.

Classifications:

International (IPC 8-9): F24F13/00 F25B45/00 (Advanced/Invention)

International (IPC 1-7): F25B43/04 F25B45/00 F25B47/00

CPC: B60H1/00585 F24F13/00 F25B45/00 F25B2345/002 F25B2345/006

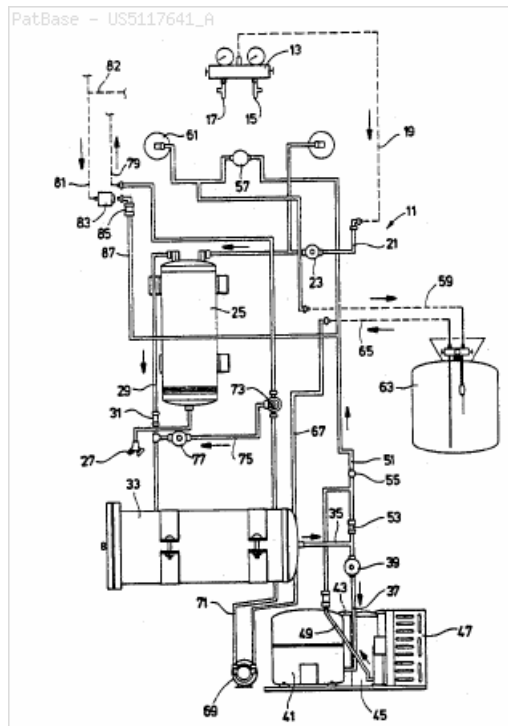
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US: 285/12 285/311 285/420 417/234 55/341.7 62/292 62/303 62/475

62/77 62/85



Family:

Publication number	Publication date	Application number	Application date
US5117641 A	19920602	US19900588561	19900926
US5168720 A	19921208	US19910715429	19910614
US5218831 A	19930615	US19920968191	19921029
US5220810 A	19930622	US19920956650	19921002
US5231843 A	19930803	US19920968199	19921029
US5247812 A	19930928	US19920968373	19921029
US5295367 A	19940322	US19920860088	19920330

Priority:

US19900588561 19900926	US19910715429 19910614	US19920860088 19920330
US19920956650 19921002	US19920968199 19921029	US19920968191 19921029
US19920968373 19921029		

Probable Assignee: TECHNICAL CHEMICAL COMPANY

Assignee(s): (std): TECHNICAL CHEMICAL COMPANY

Assignee(s): TECHNICAL CHEMICAL CO ; TECHNICAL CHEMICAL CO A OF TX CORP

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US5117641 A	19920602	LSGT	+	granted / extensions (spc, cpc, pte)	
US5117641 A	19900926	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TECHNICAL CHEMICAL COMPANY, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:KELTNER, ROBERT L.; REEL/FRAME:005466/0478 EFFECTIVE DATE : 19900821

US5117641 A	19920606	LSGT	PAT1	Patented Case	
US5117641 A	19940412	LSRE	CC	CERTIFICATE OF CORRECTION	
US5117641 A	19951201	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5117641 A	20000604	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5117641 A	20000808	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20000602
US5117641 A	20180127	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5117641 A	20180127	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5117641 A	20100926	PEXP		Calculated Patent Term Expiry	
US5168720 A	19921208	LSGT	+	granted / extensions (spc, cpc, pte)	
US5168720 A	19910729	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TECHNICAL CHEMICAL COMPANY, A CORPORATION OF TX, T OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:KELTNER, ROBERT L.; REEL/FRAME:005782/0359 EFFECTIVE DATE : 19910605
US5168720 A	19921005	LSGT	PAT1	Patented Case	
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US5168720 A	19960610	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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US5168720 A	20110614	PEXP		Calculated Patent Term Expiry	
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US5218831 A	20121029	PEXP		Calculated Patent Term Expiry	

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US5220810 A	20001221	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
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US5220810 A	20121002	PEXP		Calculated Patent Term Expiry	
US5231843 A	19930803	LSGT	+	granted / extensions (spc, cpc, pte)	
US5231843 A	19930721	LSGT	PAT1	Patented Case	
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US5231843 A	20010805	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
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US5231843 A	20121029	PEXP		Calculated Patent Term Expiry	
US5247812 A	19930928	LSGT	+	granted / extensions (spc, cpc, pte)	
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US5247812 A	20121029	PEXP		Calculated Patent Term Expiry	
US5295367 A	19940322	LSGT	+	granted / extensions (spc, cpc, pte)	
US5295367 A	19920330	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TECHNICAL CHEMICAL COMPANY, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:KELTNER, ROBERT L.; REEL/FRAME:006091/0187 EFFECTIVE DATE : 19920305
US5295367 A	19940309	LSGT	PAT1	Patented Case	
US5295367 A	19980322	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5295367 A	19980602	LSLE	-FP	EXPIRED DUE TO	EFFECTIVE DATE : 19980325

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US5295367 A	20180127	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5295367 A	20120330	PEXP		Calculated Patent Term Expiry	

Title: Improvements in apparatus for towing and refuelling aircraft in flight

Abstract: 676,430. Aircraft flight refuelling and/or towing apparatus. FLIGHT REFUELLING, Ltd., COBHAM, A. J., Sir, NEEDHAM, C. H., LATIMER-, SMITH, C. H., and MACGREGOR, P. S. April 27, 1950 [April 1, 1949; Sept. 16, 1949], Nos. 8887/49 and 23956/49. Class 4. [Also in Group XXVIII] Airborne apparatus for flight refuelling or / and for picking up and casting off a tow in flight comprises in combination on a first (leading) aircraft a trailed element, such as a flexible hose or hawser, or jointed or telescopic pipe or rod, of which the terminal portion at least is caused to trail substantially in the line of flight and yieldingly to resist forward pressure applied to it externally from behind, and on a second (following) aircraft a rigid element, extending forwardly substantially in the line of flight, which element may have an internal fuelconveying passage, the two elements terminating in the cooperating parts of a self-engaging plug and socket coupling, of which the plug part has a tapered portion and a circumferential groove, and the socket part has a tapered throat and flared mouth and carries spring-loaded latches resiliently engageable with the groove of the plug part. In the refuelling arrangement shown in Fig. 1 a hose 32 is trailed from beneath the fuselage of the leading aircraft 30 and terminates in the socket 33 which is engaged by the end of the plug or probe 34 at the nose of the fuselage of the following aircraft 31. The socket 33 is provided with a flared portion serving as a drogue to stabilise the end of the trailed element and also to develop sufficient resistance to the thrust of the probe to enable the spring latches to be engaged. Fig. 11 shows a modification in which the plug portion 60 of the coupling is carried at the end of the trailed hose 32 and the socket portion 121 is fitted at the front of the probe 34. Instead of being in the form of a flexible hose, the trailed element may be composed of a number of articulated rigid elements, Fig. 3 (not shown), liquid-tight joints, Figs. 5-7 (not shown), being provided at the joints. The hose or similar element may be trailed from the fuselage or wing tip of the leading aircraft, while the probe may project from the fuselage nose or wing tip of the following aircraft. Details of the **hose coupling** are shown in Fig. 8, the socket member 59 being connected to the end of the hose 32 by a ball joint 61, and the drogue portion 33 forming a flared mouth for the guidance of the end of the probe 98. The throat of the socket portion is normally closed by a valve 85 loaded by a spring 85b, and the end of the probe is closed by a hydraulicallyactuated mushroom valve 88. In operation the pilot of the following aircraft inserts the end of the probe into the mouth of the trailed socket. The resistance of the drogue portion 33 enabling the rollers 69 of the spring-loaded latches 68 to be engaged with the circumferential groove 60b at the end of the probe. Pressure fluid is then supplied through a pipe 95 to move the mushroom valve 88 from its seating and thus unseat the socket valve 85, to establish fuel-transmitting communication between the hose 32 and the interior of the probe 98, past webs 86, the pressure of the fuel being transmitted by pipes 84 to cylinders 79, pistons in which move pins 82 into position to effect positive locking of the latches 68 to prevent separation of the coupling elements. At the end of refuelling, pressure fluid is supplied to a pipe 96 to close the probe valve 88, the valve 85 being closed by the spring 85b, and upon closing the fuel supply valve the pins 82 are withdrawn from the latches 68, which can then be disengaged from the probe by applying a predetermined tension to the coupling elements, for example, by reducing the speed of the following aircraft. The axial force required to disengage the latches is greater than that required for their engagement, and this is obtained by appropriate shaping of the tapered portion and groove at the end of the probe. Instead of being fixed rigidly the probe may be mounted on the following aircraft by a ball joint, centring being effected by spring-loaded pistons, Fig. 10 (not shown). Alternatively the probe may be telescopic and capable of being projected forwardly from a normal retracted position within the following aircraft to effect engagement with the coupling socket, Figs. 2023 (not shown). An arrangement intended for towing purposes without refuelling is shown in Fig. 13, and comprises a socket member 59 trailed from the end of a cable 32x. The latch levers 68x are loaded by spring plungers 75, and the end of the probe 98 is formed with a hydraulic or pneumatic cylinder 133 housing a piston 135 carrying a forwardly-extending locking bar 137. In operation the probe is engaged with the socket and the latch rollers 69 engaged in the normal manner, after which pressure fluid is supplied to the cylinder 133 to advance the bar 137 which engages further rollers 130 on the latch levers to positively lock the latter. Upon exhausting the cylinder 135 the bar is withdrawn by a return spring 136, to allow disengagement of the rollers 69 by the application of axial tension. The hose or cable is wound on a windlass, the drum of which is subjected continuously to a torque less than that imposed by the drag of the drogue and tending to wind in the trailed element, so that any slack in the latter is taken up when the probe is pushed into engagement with the coupling socket. A warning light visible to occupants of the following craft and controlled by means responsive to extension of the trailed element may be fitted, such light being illuminated when the trailed element is fully extended.

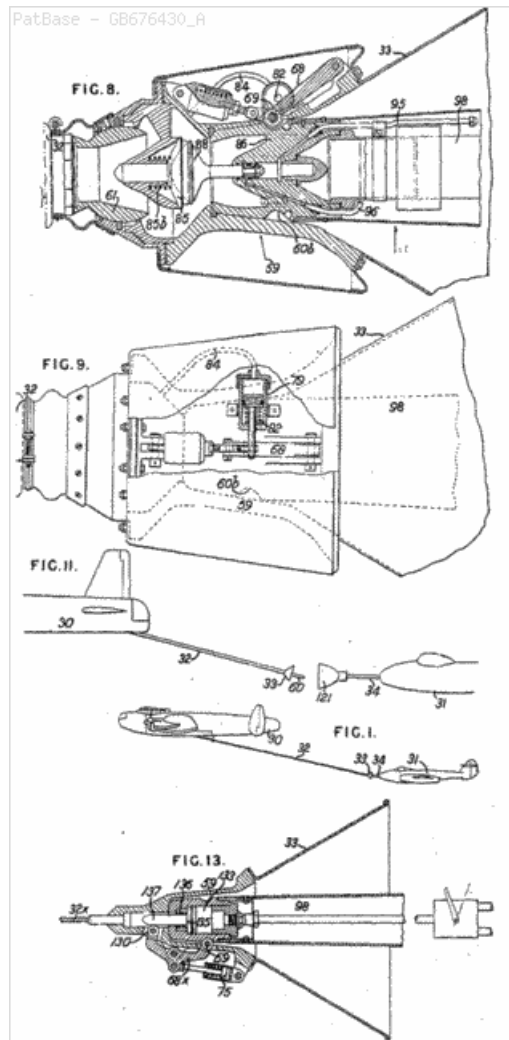
Classifications:

International (IPC 8-9): B64D39/00 B64D39/04 (Advanced/Invention);
B64D39/00 (Core/Invention)

International (IPC 1-7): B64D39/00

CPC: B64D39/00 B64D39/04

European: B64D39/00

**Family:**

Publication number	Publication date	Application number	Application date
GB676430 A	19520730	GB19490008887	19490401

Priority:

GB19490008887 19490401

Probable Assignee: CECIL HUGH LATIMER NEEDHAM**Assignee(s):** (std): ALAN JOHN COBHAM ; CECIL HUGH LATIMER NEEDHAM ; CHARLES HARRY SMITH ; FLIGHT REFUELING LTD ; PETER STEVENS MACGREGOR**Assignee(s):** FLIGHT REFUELLING LIMITED ; FLIGHT REFUELLING LTD**Legal status (INPADOC)**[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
GB676430 A	19520730	LSGT	+	granted / extensions (spc, cpc, pte)	
GB676430 A	19690401	PEXP		Calculated Patent Term Expiry	

Title: INTEGRATED SYSTEM FOR THE INFIXION AND RETRIEVAL OF IMPLANTS

Abstract: Described are coordinated apparatus and methods for drug targeting, clearing the lumen, placing implants within the wall of, and stenting, as necessary, any tubular anatomical structure with single luminal entry. Miniature balls, or miniballs, are introduced into the wall aeroballistically from within the lumen, or small arcuate bands called stays inserted through the outer tunic by means of a hand tool. When miniballs must be placed too closely together to be controlled by hand, a positional control system assists in discharge. Implantation within or proximal to diseased tissue targeting, and thus concentrating the medication in that tissue, miniballs and stays can be used to deliver and controllably release multiple drugs, a radionuclide, or an open or closed loop smart-pill, for example. A glossary of terms follows the specification. Balance of abstract appended to the section entitled Summary of the Invention.

Classifications:

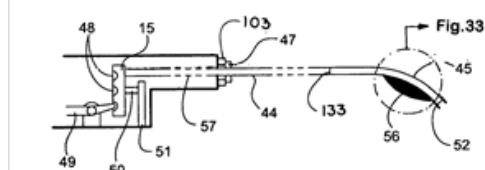
International (IPC 8-9): A61B17/00 A61B17/12 A61B17/34 A61B18/18 A61F2/82 (Advanced/Invention)

CPC: A61B17/3468 A61B18/18 A61B2017/00411 A61B2017/00876

A61B17/00491 A61B17/0057 A61B17/12118 A61B17/12181

A61B2017/0065 A61B2017/1205 A61F2/82 A61M27/00

PatBase - US2019247050_AA



Family:

Publication number	Publication date	Application number	Application date
US2019247050 AA	20190815	US20180932172	20180214

Priority:

US20180932172 20180214

Probable Assignee:

GOLDSMITH DAVID S

Assignee(s): (std):

GOLDSMITH DAVID S

Inventor(s): (std):

GOLDSMITH DAVID S

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2019247050 AA	20190815	LSPB	+	published / reissued	
US2019247050 AA	20200103	LSSES	NFA1	Non Final Action Mailed	

Title: METHODS FOR INDUCING ANTIGEN-SPECIFIC T CELL TOLERANCE

Abstract: Methods for inducing antigen-specific T cell tolerance are disclosed. The methods involve contacting a T cell with: 1) a cell which presents antigen to the T cell, wherein a ligand on the cell interacts with a receptor on the surface of the T cell which mediates contact-dependent helper effector function; and 2) an antagonist of the receptor on the surface of the T cell which inhibits interaction of the ligand on the antigen presenting cell with the receptor on the T cell. In a preferred embodiment, the cell which presents antigen to the T cell is a B cell and the receptor on the surface of the T cell which mediates contact-dependent helper effector function is gp39. Preferably, the antagonist is an anti-gp39 antibody or a soluble gp39 ligand (e.g., soluble CD40). The methods of the invention can be used to induce T cell tolerance to a soluble antigen or to an allogeneic cell. The methods of the invention can also be used to induce tolerance in cases of bone marrow transplantation and other organ transplants and to inhibit graft-versus-host disease.

Classifications:

International (IPC 8-9): A47G29/00 A61K31/00 A61K35/14 A61K35/18 A61K35/26 A61K35/28 A61K38/00 A61K38/11 A61K38/17 A61K39/00 A61K39/395 A61K45/00 A61K49/00 A61P37/00 A61P37/02 A61P37/06 A62C17/76 A62C33/04 C07K14/705 C07K16/28 C07K19/00 C12N15/02 C12N5/10 C12P21/08 G01N33/68 (Advanced/Invention); A61K31/00 A61K35/28 A61K38/00 A61K38/095 A61K38/11 A61K38/17 A61K39/00 A61K39/395 A61K45/00 A61K49/00 A61P37/00 C12N15/02 C12N5/10 C12P21/08 C12R1/91 (Advanced/Non-invention); A47G29/00 A61K31/00 A61K35/14 A61K35/18 A61K35/28 A61K38/17 A61K39/395 A61P37/00 A62C33/00 C07K14/435 C07K16/18 C07K19/00 C12N15/02 C12N5/10 C12P21/08 G01N33/68 (Core/Invention); A61K38/00 (Core/Non-invention)

International (IPC 1-7): A01N25/00 A01N63/00 A61K31/00 A61K35/12 A61K35/14 A61K35/18 A61K35/26 A61K35/28 A61K38/00 A61K38/16 A61K38/17 A61K39/00 A61K39/38 A61K39/395 A61K39/40 A61K39/42 A61K45/00 A61K49/00 A61P37/00 A61P37/04 A61P37/06 A62C33/04 C07K1/00 C07K14/00 C07K14/705 C07K16/00 C07K16/28 C07K17/00 C12N15/02 C12N5/10 C12N5/12 C12N5/20 C12P21/08 G01N33/68

CPC: A62C33/04 A61K35/28 Y10S514/885 C07K14/70575 A61K38/00 A61K2039/505 A61K2039/57 C07K14/70578 C07K16/2875 C07K19/00 C07K2317/24 C07K2317/73 C07K2319/00 G01N33/6854

European: A61K35/14 A61K35/28 A61K38/17C A62C33/04 C07K14/705Q C07K14/705R C07K16/28Q C07K19/00 G01N33/68B K61K38/00 K61K38/11 K61K39/505 K61K39/57 M07K209/00 M07K317/240 M07K317/730 M07K319/00

US: 248/79 248/80 248/84 285/87 285/91 424/130.1 424/133.1 424/133.100S 424/134.1 424/134.100S 424/141.1 424/141.100S 424/143.1 424/143.100S 424/144.1 424/146.1 424/146.100P 424/152.1 424/153.1 424/153.100S 424/154.1 424/154.100P 424/154.100S 424/173.1 424/173.100S 424/184.1 424/184.100S 424/185.1 424/192.1 424/192.100S 424/193.1 424/195.11 424/233.1 424/520 424/577 424/577S 424/578 424/578S 424/93.7 424/93.71 424/93.710P 435/172.2 435/316 435/326 435/332 435/334 435/343 435/343.1 435/343.2 435/346 435/70.11 435/70.21 514/12 514/2 514/20.9 514/20.900S 514/21.2 514/3.9 514/7.9 514/7.900S 514/8 514/885 514/885S 530/35 530/350 530/350S 530/38.7 530/387.1 530/387.3 530/387.300S 530/388.1 530/388.100S 530/388.2 530/388.200S 530/388.22 530/388.220S 530/388.7 530/388.700S 530/388.73 530/388.730S 530/388.75 530/388.750S

JP F-Term: 4C085/AA11 4C085/AA14 4C085/AA16 4C085/AA17 4C085/AA33 4C085/BB03 4C085/BB11 4C085/BB36 4C085/CC02 4C085/CC03 4C085/CC05 4C085/CC29 4C085/DD33 4C085/DD34 4C085/EE01 4C087 4C087/AA01 4C087/AA02 4C087/BB37 4C087/BB44 4C087/NA14 4C087/ZB02 4C087/ZB08 4C201 4C206 4B024 4B024/AA01 4B024/BA44 4B024/DA02 4B024/GA03 4B064 4B064/AG27 4B064/CA10 4B064/CA20 4B064/DA01 4B065 4B065/AA91 4B065/AA92 4B065/AA94 4B065/AB01 4B065/AB05 4B065/AC14 4B065/BA02 4B065/BA06 4B065/BA08 4B065/BB19 4B065/BB34 4B065/BB40 4B065/BC12 4B065/CA24 4B065/CA25 4B065/CA44 4C085/AA08 4C085/AA12 4C085/AA13 4C085/BB31 4C085/BB41 4C085/BB43 4C085/CC01 4C085/CC12 4C085/CC13 4C085/CC21 4C085/CC23 4C085/CC40 4C085/DD58 4C085/DD62 4C085/DD63 4C085/DD81 4C085/DD84 4C085/DD86 4C085/DD88 4C085/FF03 4C085/FF20 4C085/GG01 4C085/GG02 4C085/GG04 4C085/GG06 4C085/GG08 4C085/GG10 4H045 4H045/AA11 4H045/AA30 4H045/CA40 4H045/DA76 4H045/EA22 4B064/AG31 4C084 4C084/AA19 4C084/AA12 4C084/ZB05 4C084/ZB08 4C084/ZB13 4C085/AA19 4C085/BB18 4C085/BB23 4C085/BB35 4C085/BB37 4C085/BB50 4C085/CC07 4C085/CC22 4C085/CC26 4C087/BB43 4C087/CA04 4C087/CA16 4C087/CA47 4C087/MA01

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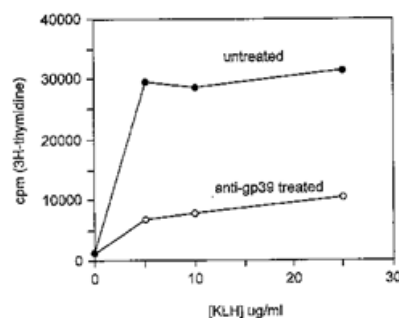
Family:

Publication number	Publication date	Application number	Application date
AT167062 E	19980615	AT19940926677T	19940902
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PatBase - US2002187135_AA

Patent Application Publication Dec. 12, 2002 Sheet 1 of 15 US2002/0187135 A1

FIG. 1



AU2004240158 BB	20080207	AU20040240158	20041216
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Priority:

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Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM EE ES FI

FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC 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
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Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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AT167062 E	20100615	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
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AT167062 E	20140902	PEXP		Calculated Patent Term Expiry	
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EP0721346 B1	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20081021 YEAR OF FEE PAYMENT : 15
EP0721346 B1	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20080908 YEAR OF FEE PAYMENT : 15
EP0721346 B1	20090630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20080818 YEAR OF FEE PAYMENT : 15
EP0721346 B1	20100311	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : PT REF LEGAL EVENT CODE : MM4A TEXT : LAPSE DUE TO NON-PAYMENT OF FEES EFFECTIVE DATE : 20100302
EP0721346 B1	20100331	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : *TRUSTEES OF DARTMOUTH COLLEGE EFFECTIVE DATE : 20090930
EP0721346 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721346 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100302
EP0721346 B1	20100430	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0721346 B1	20100505	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	REF COUNTRY CODE : EP
EP0721346 B1	20100510	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP
EP0721346 B1	20100526	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20090902
EP0721346 B1	20100623	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP0721346 B1	20100623	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : V1 EFFECTIVE DATE : 20100401
EP0721346 B1	20100625	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20100531
EP0721346 B1	20100630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090902
EP0721346 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

				INFORMATION FROM NATIONAL OFFICE TO EPO]	LAPSED DATE : 20100401
EP0721346 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721346 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090902
EP0721346 B1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721346 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721346 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100406
EP0721346 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721346 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100401
EP0721346 B1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090902
EP0721346 B1	20110131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721346 B1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090902
EP0721346 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090902
EP0721346 B1	20110511	LSRV	-27W	PATENT REVOKED	EFFECTIVE DATE : 20110106
EP0721346 B1	20110531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090903

EP0721346 B1	20110804	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R107 REF DOCUMENT NUMBER : 69411025 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20110804
EP0721346 B1	20140902	PEXP		Calculated Patent Term Expiry	
EP0721469 A1	19960717	LSPB	+	published / reissued	
EP0721469 A1	19960717	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19960402
EP0721469 A1	19970326	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19970205
EP0721469 B1	20000105	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0721469 B1	20000114	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP0721469 B1	20000308	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP0721469 B1	20000516	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2143553 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP0721469 B1	20001220	LSGT	+26N	NO OPPOSITION FILED	
EP0721469 B1	20081031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU PAYMENT DATE : 20080902 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20081031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20080822 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20081031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20080912 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20081128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20080912 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20081128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20080915 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20081128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20080917 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20081128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20080926 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20081128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC PAYMENT DATE : 20080829 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20081128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20080903 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20081231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20080903 YEAR OF FEE PAYMENT : 15

EP0721469 B1	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20081002 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20080919 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20080901 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20081021 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20080908 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20090630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20080818 YEAR OF FEE PAYMENT : 15
EP0721469 B1	20100311	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : PT REF LEGAL EVENT CODE : MM4A TEXT : LAPSE DUE TO NON-PAYMENT OF FEES EFFECTIVE DATE : 20100302
EP0721469 B1	20100331	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : *TRUSTEES OF DARTMOUTH COLLEGE EFFECTIVE DATE : 20090930
EP0721469 B1	20100331	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : *BRISTOL-MYERS SQUIBB PHARMACEUTICAL RESEARCH INST EFFECTIVE DATE : 20090930
EP0721469 B1	20100421	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : V1 EFFECTIVE DATE : 20100401
EP0721469 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721469 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100302
EP0721469 B1	20100430	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0721469 B1	20100505	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	REF COUNTRY CODE : EP
EP0721469 B1	20100510	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP
EP0721469 B1	20100526	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20090902
EP0721469 B1	20100623	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP0721469 B1	20100625	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST

EP0721469 B1	20100630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090902
EP0721469 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100401
EP0721469 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721469 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090902
EP0721469 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100401
EP0721469 B1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721469 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721469 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100406
EP0721469 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721469 B1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090902
EP0721469 B1	20110131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP0721469 B1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090902
EP0721469 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	FEES LAPSED DATE : 20090902
EP0721469 B1	20110531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090903
EP0721469 B1	20110718	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20110718
EP0721469 B1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110706
EP0721469 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090903
EP0721469 B1	20140902	PEXP		Calculated Patent Term Expiry	
EP0742721 A1	19961120	LSPB	+	published / reissued	
EP0742721 A1	19961120	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19960402
EP0742721 A1	19970205	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19961220
EP0742721 B1	19990506	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0742721 B1	19990514	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP0742721 B1	19990616	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP0742721 B1	19991016	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2134954 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP0742721 B1	20000426	LSGT	+26N	NO OPPOSITION FILED	
EP0742721 B1	20000503	LSOP	-26	OPPOSITION FILED	PARTYTYPE : OPPONENT OPPONENT : BIOGEN INC. EFFECTIVE DATE : 20000204
EP0742721 B1	20000503	LSGT	D26N	NO OPPOSITION FILED (DELETED)	
EP0742721 B1	20000703	LSOP	-NLR1	NL: OPPOSITION HAS BEEN FILED WITH THE EPO	PARTYTYPE : OPPONENT REF COUNTRY CODE : EP OPPONENT : BIOGEN INC.
EP0742721 B1	20031105	LSOP	-R26	OPPOSITION FILED (CORRECTED)	PARTYTYPE : OPPONENT OPPONENT : BIOGEN INC. EFFECTIVE DATE : 20000204
EP0742721 B1	20031201	LSOP	-NLR1	NL: OPPOSITION HAS BEEN FILED WITH THE EPO	PARTYTYPE : OPPONENT REF COUNTRY CODE : EP OPPONENT : BIOGEN INC.
EP0742721 B1	20040728	LSOP	-R26	OPPOSITION FILED (CORRECTED)	PARTYTYPE : OPPONENT OPPONENT : BIOGEN IDEC MA INC. EFFECTIVE DATE : 20000204
EP0742721 B1	20041001	LSOP	-NLR1	NL: OPPOSITION HAS BEEN FILED WITH THE EPO	PARTYTYPE : OPPONENT REF COUNTRY CODE : EP OPPONENT : BIOGEN IDEC MA INC.

EP0742721 B1	20070628	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20070628 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20070705	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU PAYMENT DATE : 20070705 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20070713	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20070713 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20070808	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20070808 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20070813	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC PAYMENT DATE : 20070813 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20070913	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20070913 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20071124	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20070806 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20071124	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20070709 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20080102	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20070809 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20080131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20070927 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20080131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20070928 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20080131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20070913 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20080131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20070806 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20080131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20070905 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20080416	LSRV	-27W	PATENT REVOKED	EFFECTIVE DATE : 20071127
EP0742721 B1	20080416	LSRV	-GBPR	GB: PATENT REVOKED UNDER ART. 102 OF THE EP CONVENTION DESIGNATING THE UK AS CONTRACTING STATE	REF COUNTRY CODE : EP TEXT : 20071127
EP0742721 B1	20080424	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : PT REF LEGAL EVENT CODE : MP4A EFFECTIVE DATE : 20080416
EP0742721 B1	20080430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20070904

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 14
EP0742721 B1	20080430	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0742721 B1	20080530	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20070702 YEAR OF FEE PAYMENT : 14
EP0742721 B1	20080602	LSOP	NLR2	NL: DECISION OF OPPOSITION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20071127
EP0742721 B1	20080812	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SE REF LEGAL EVENT CODE : ECNC
EP0742721 B1	20140902	PEXP		Calculated Patent Term Expiry	
EP1196218 A2	20020417	LSPB	+	published / reissued	
EP1196218 A2	20020417	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020206
EP1196218 A2	20070214	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20051020
EP1196218 A2	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20150629 YEAR OF FEE PAYMENT : 16
EP1196218 A2	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160610 YEAR OF FEE PAYMENT : 17
EP1196218 A2	20160930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160718 YEAR OF FEE PAYMENT : 17
EP1196218 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160721 YEAR OF FEE PAYMENT : 17
EP1196218 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160731 YEAR OF FEE PAYMENT : 17
EP1196218 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160723 YEAR OF FEE PAYMENT : 17
EP1196218 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20160701 YEAR OF FEE PAYMENT : 17
EP1196218 A2	20161230	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20160729 YEAR OF FEE PAYMENT : 17
EP1196218 B1	20100217	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1196218 B1	20100217	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1196218 B1	20100226	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1196218 B1	20100316	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1196218 B1	20100526	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : T3
EP1196218 B1	20100616	LSGT	REG	REFERENCE TO A	REF COUNTRY CODE : ES

				NATIONAL CODE	REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2341168 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP1196218 B1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100217
EP1196218 B1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100217
EP1196218 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100217
EP1196218 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100217
EP1196218 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100518
EP1196218 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100217
EP1196218 B1	20110126	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20101118
EP1196218 B1	20110131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100217
EP1196218 B1	20110228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100731
EP1196218 B1	20110228	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1196218 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100731
EP1196218 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100731
EP1196218 B1	20120928	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT : LU

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100706
EP1196218 B1	20160616	LSLI	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R084 REF DOCUMENT NUMBER : 60043846 COUNTRY OF REF DOCUMENT : DE
EP1196218 B1	20160706	LSLI	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : 746 EFFECTIVE DATE : 20160609
EP1196218 B1	20160723	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 17
EP1196218 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20160721 YEAR OF FEE PAYMENT : 17
EP1196218 B1	20170727	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 18
EP1196218 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170620 YEAR OF FEE PAYMENT : 18
EP1196218 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20170621 YEAR OF FEE PAYMENT : 18
EP1196218 B1	20170929	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20170726 YEAR OF FEE PAYMENT : 18
EP1196218 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170705 YEAR OF FEE PAYMENT : 18
EP1196218 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170707 YEAR OF FEE PAYMENT : 18
EP1196218 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170727 YEAR OF FEE PAYMENT : 18
EP1196218 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20170808 YEAR OF FEE PAYMENT : 18
EP1196218 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20170727 YEAR OF FEE PAYMENT : 18
EP1196218 B1	20180724	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 19
EP1196218 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180711 YEAR OF FEE PAYMENT : 19
EP1196218 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20180716 YEAR OF FEE PAYMENT : 19
EP1196218 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180810

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 19
EP1196218 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20180720 YEAR OF FEE PAYMENT : 19
EP1196218 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20180725 YEAR OF FEE PAYMENT : 19
EP1196218 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180724 YEAR OF FEE PAYMENT : 19
EP1196218 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180706 YEAR OF FEE PAYMENT : 19
EP1196218 B1	20181231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20180705 YEAR OF FEE PAYMENT : 19
EP1196218 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20190627 YEAR OF FEE PAYMENT : 20
EP1196218 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20190709 YEAR OF FEE PAYMENT : 20
EP1196218 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190726 YEAR OF FEE PAYMENT : 20
EP1196218 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190715 YEAR OF FEE PAYMENT : 20
EP1196218 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20190814 YEAR OF FEE PAYMENT : 20
EP1196218 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20190710 YEAR OF FEE PAYMENT : 20
EP1196218 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190627 YEAR OF FEE PAYMENT : 20
EP1196218 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20190719 YEAR OF FEE PAYMENT : 20
EP1196218 B1	20200706	PEXP		Calculated Patent Term Expiry	
ES2120067 T3	19981016	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2120067 T3	19981016	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 721346 COUNTRY OF REF DOCUMENT : ES
ES2120067 T3	20140902	PEXP		Calculated Patent Term Expiry	
ES2134954 T3	19991016	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2134954 T3	19991016	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 742721 COUNTRY OF REF DOCUMENT : ES

ES2134954 T3	20140902	PEXP		Calculated Patent Term Expiry	
ES2143553 T3	20000516	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2143553 T3	20000516	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 721469 COUNTRY OF REF DOCUMENT : ES
ES2143553 T3	20140902	PEXP		Calculated Patent Term Expiry	
ES2341168 T3	20100616	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2341168 T3	20200706	PEXP		Calculated Patent Term Expiry	
FI105528 B	20000915	LSPB	+	published / reissued	
FI105528 B	20160301	PEXP		Calculated Patent Term Expiry	
FI106306 B	20010115	LSPB	+	published / reissued	
FI106306 B	20160301	PEXP		Calculated Patent Term Expiry	
FI106927 B	20010515	LSPB	+	published / reissued	
FI106927 B	20160301	PEXP		Calculated Patent Term Expiry	
FI960978 A	19960429	LSPB	+	published / reissued	
FI960979 A	19960430	LSPB	+	published / reissued	
FI960980 A	19960430	LSPB	+	published / reissued	
GB9915653 A0	20001004	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GR3027658 T3	19981130	LSGT	+	granted / extensions (spc, cpc, pte)	
GR3027658 T3	20180814	PEXP		Calculated Patent Term Expiry	
GR3030762 T3	19991130	LSGT	+	granted / extensions (spc, cpc, pte)	
GR3030762 T3	20190714	PEXP		Calculated Patent Term Expiry	
GR3033095 T3	20000831	LSGT	+	granted / extensions (spc, cpc, pte)	
GR3033095 T3	20100406	LSLE	-ML	LAPSE DUE TO NON-PAYMENT OF FEES	
GR3033095 T3	20200329	PEXP		Calculated Patent Term Expiry	
HU218610 B	20001028	LSGT	+	granted / extensions (spc, cpc, pte)	
HU218610 B	20100628	LSLE	-MM4A	LAPSE OF DEFINITIVE PATENT PROTECTION DUE TO NON-PAYMENT OF FEES	
HU218610 B	20140902	PEXP		Calculated Patent Term Expiry	
HU220192 B	20011128	LSGT	+	granted / extensions (spc, cpc, pte)	
HU220192 B	20100628	LSLE	-MM4A	LAPSE OF DEFINITIVE PATENT PROTECTION DUE TO NON-PAYMENT OF FEES	
HU220192 B	20140902	PEXP		Calculated Patent Term Expiry	
HU220296 B	20011128	LSGT	+	granted / extensions (spc, cpc, pte)	
HU220296 B	20100628	LSLE	-MM4A	LAPSE OF DEFINITIVE PATENT PROTECTION DUE TO NON-PAYMENT OF FEES	
HU220296 B	20140902	PEXP		Calculated Patent Term Expiry	
HU74246 A2	19961128	LSPB	+	published / reissued	
HU74250 A2	19961128	LSPB	+	published / reissued	

HU74251 A2	19961128	LSPB	+	published / reissued	
IL110852 A1	19990509	LSPB	+	published / reissued	
IL110852 A1	19990922	LSGT	+FF	PATENT GRANTED	
IL110852 A1	20000726	LSFE	+KB	PATENT RENEWED	
IL110852 A1	20000831	LSFE	+KB	PATENT RENEWED	
IL110852 A1	20010111	LSFE	+KB	PATENT RENEWED	
IL110852 A1	20041110	LSFE	+KB	PATENT RENEWED	
IL110852 A1	20081229	LSFE	+KB	PATENT RENEWED	
IL110852 A1	20120830	LSFE	+KB	PATENT RENEWED	
IL110852 A1	20150331	LSLE	-EXP	PATENT EXPIRED	
IL110855 A1	19990411	LSPB	+	published / reissued	
IL110855 A1	19990817	LSGT	+FF	PATENT GRANTED	
IL110855 A1	20000629	LSFE	+KB	PATENT RENEWED	
IL110855 A1	20010111	LSFE	+KB	PATENT RENEWED	
IL110855 A1	20041110	LSFE	+KB	PATENT RENEWED	
IL110855 A1	20081229	LSFE	+KB	PATENT RENEWED	
IL110855 A1	20130430	LSLE	-MM9K	PATENT NOT IN FORCE DUE TO NON-PAYMENT OF RENEWAL FEES	
JP11189543 A2	19990713	LSPB	+	published / reissued	
JP2840131 B2	19981224	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2840131 B2	20041005	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP2840131 B2	20051004	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP2840131 B2	20061010	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP2840131 B2	20071016	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 10
JP2840131 B2	20081016	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP2840131 B2	20140902	PEXP		Calculated Patent Term Expiry	
JP2991499 B2	19991220	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2991499 B2	20041005	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP2991499 B2	20051004	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP2991499 B2	20061010	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP2991499 B2	20071016	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 9
JP2991499 B2	20081015	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP2991499 B2	20140902	PEXP		Calculated Patent Term Expiry	
JP3007977 B2	20000214	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3007977 B2	20041207	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250

JP3007977 B2	20051206	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3007977 B2	20061205	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3007977 B2	20071129	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 8
JP3007977 B2	20071204	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 9
JP3007977 B2	20081203	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3007977 B2	20140902	PEXP		Calculated Patent Term Expiry	
JP3098739 B2	20001016	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3098739 B2	20040803	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3098739 B2	20050809	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3098739 B2	20060808	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3098739 B2	20070726	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 7
JP3098739 B2	20070807	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 8
JP3098739 B2	20080731	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 8
JP3098739 B2	20080805	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 9
JP3098739 B2	20090811	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3098739 B2	20181012	PEXP		Calculated Patent Term Expiry	
JP9502096 T2	19970304	LSPB	+	published / reissued	
JP9502184 T2	19970304	LSPB	+	published / reissued	
JP9502186 T2	19970304	LSPB	+	published / reissued	
KR100337078 B1	20021123	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100337078 B1	20171123	PEXP		Calculated Patent Term Expiry	
KR100353639 B1	20030303	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100353639 B1	19990831	LSES	A201	REQUEST FOR EXAMINATION	
KR100353639 B1	20010927	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR100353639 B1	20020620	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR100353639 B1	20020910	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR100353639 B1	20080825	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20080825 YEAR OF FEE PAYMENT : 7

KR100353639 B1	20090911	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR100353639 B1	20180303	PEXP		Calculated Patent Term Expiry	
KR100398819 B1	20040205	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100398819 B1	19990901	LSES	A201	REQUEST FOR EXAMINATION	
KR100398819 B1	20011120	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR100398819 B1	20020807	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
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KR19960704575 A	19961009	LSPB	+	published / reissued	
KR19967004575 A	19961009	LSPB	+	published / reissued	
KR19967004937 A	19961009	LSPB	+	published / reissued	
KR960704575 A	19961009	LSPB	+	published / reissued	
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NO321098 B1	20160301	PEXP		Calculated Patent Term Expiry	
NO960861 A	19960430	LSPB	+	published / reissued	
NO960862 A	19960430	LSPB	+	published / reissued	
NO960863 A	19960430	LSPB	+	published / reissued	
NZ273207 A	19970922	LSPB	+	published / reissued	
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NZ273207 A	20040924	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
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NZ273221 A	20010928	LSPB	+	published / reissued	
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PT1196218 T	20200706	PEXP		Calculated Patent Term Expiry	
PT721469 T	20000428	LSGT	+	granted / extensions (spc, cpc, pte)	
PT721469 T	20150428	PEXP		Calculated Patent Term Expiry	
US2002187135 AA	20021212	LSPB	+	published / reissued	
US2005163780 AA	20050728	LSPB	+	published / reissued	
US2006222649 AA	20061005	LSPB	+	published / reissued	
US2006222649 AA	20090105	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US5747037 A	19980505	LSGT	+	granted / extensions (spc, cpc, pte)	
US5747037 A	19951122	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRUSTEES OF DARTMOUTH COLLEGE, NEW HAMPSHIRE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NOELLE, RANDOLPH J.; FOY, TERESA M.; REEL/FRAME:007721/0070; SIGNING DATES FROM 19951020 TO 19951024
US5747037 A	19980422	LSGT	PAT1	Patented Case	
US5747037 A	19980422	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5747037 A	20010719	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5747037 A	20050927	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5747037 A	20061024	LSRE	CC	CERTIFICATE OF CORRECTION	
US5747037 A	20091007	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5747037 A	20150607	PEXP		Calculated Patent Term Expiry	
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US5869049 A	19940826	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRUSTEES OF DARTMOUTH

					COLLEGE, NEW HAMPSHIRE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:NOELLE, RANDOLPH J.; REEL/FRAME:007117/0046 EFFECTIVE DATE : 19940818
US5869049 A	19940909	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRUSTEES OF DARTMOUTH COLLEGE, NEW HAMPSHIRE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DURIE, FIONA H.; REEL/FRAME:007112/0383 EFFECTIVE DATE : 19940825
US5869049 A	19940930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRUSTEES OF DARTMOUTH COLLEGE, NEW HAMPSHIRE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FOY, TERESA M.; REEL/FRAME:007150/0874 EFFECTIVE DATE : 19940906
US5869049 A	19980804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MASSACHUSETTS MEDICAL CENTER, UNIVERSITY OF, MASSA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PARKER, DAVID C.; REEL/FRAME:009352/0306 EFFECTIVE DATE : 19980629
US5869049 A	19990216	LSGT	PAT1	Patented Case	
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US5869049 A	20020419	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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US5869049 A	20060622	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
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US5869049 A	20160209	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US5876718 A	19990302	LSGT	+	granted / extensions (spc, cpc, pte)	
US5876718 A	19990125	LSGT	PAT1	Patented Case	
US5876718 A	19990125	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5876718 A	20000905	LSRE	CC	CERTIFICATE OF CORRECTION	
US5876718 A	20020520	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5876718 A	20060822	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5876718 A	20100811	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5876718 A	20180327	PEXP		Calculated Patent Term Expiry	
US5942229 A	19990824	LSGT	+	granted / extensions (spc, cpc, pte)	
US5942229 A	19951106	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRUSTEES OF DARTMOUTH COLLEGE, NEW HAMPSHIRE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FOY, TERESA M.; REEL/FRAME:007712/0797 EFFECTIVE DATE : 19951002
US5942229 A	19951106	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRUSTEES OF DARTMOUTH COLLEGE, NEW HAMPSHIRE

US5942229 A	19951122	LSAS	AS	ASSIGNMENT	OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:NOELLE, RANDOLPH J.; REEL/FRAME:007712/0804 EFFECTIVE DATE : 19951020	
					PARTYTYPE : OWNER OWNER : BRISTOL-MYERS SQUIBB COMPANY, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ARUFFO, ALEJANDRO A.; LEDBETTER, JEFFREY A.; REEL/FRAME:007721/0042; SIGNING DATES FROM 19950911 TO 19950914	
US5942229 A	19990812	LSGT	PAT1	Patented Case		
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US5942229 A	20021010	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
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US5942229 A	20160824	PEXP		Calculated Patent Term Expiry		
US6312692 BA	20011106	LSGT	+	granted / extensions (spc, cpc, pte)		
US6312692 BA	20011018	LSGT	PAT1	Patented Case		
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US6312692 BA	20180430	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)		
US7159826 BA	20070109	LSGT	+	granted / extensions (spc, cpc, pte)		
US7159826 BA	20061220	LSGT	PAT1	Patented Case		
US7159826 BA	20061220	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE	
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US7159826 BA	20200714	PEXP		Calculated Patent Term Expiry (PTA 8 days)		
US7476385 BB	20090113	LSGT	+	granted / extensions (spc, cpc, pte)		
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US7476385 BB	20120613	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
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US7476385 BB	20170213	LSLE	-PEX1	Patent Expired Due to NonPayment of		

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US7476385 BB	20170213	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
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US7476385 BB	20260206	PEXP		Calculated Patent Term Expiry (PTA 398 days and a terminal disclaimer has been filed)	
US7722874 BB	20100525	LSGT	+	granted / extensions (spc, cpc, pte)	
US7722874 BB	20100505	LSGT	PAT1	Patented Case	
US7722874 BB	20131030	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7722874 BB	20180108	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
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US7722874 BB	20200216	PEXP		Calculated Patent Term Expiry (PTA 503 days)	
WO0102057 A2	20010111	LSPB	+	published / reissued	
WO0102057 A3	20011221	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 58337/00 COUNTRY OF REF DOCUMENT : AU
WO0102057 A3	20011226	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 10019624 COUNTRY OF REF DOCUMENT : US
WO0102057 A3	20011227	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2000944101 COUNTRY OF REF DOCUMENT : EP
WO0102057 A3	20020417	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000944101 COUNTRY OF REF DOCUMENT : EP
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WO0102057 A3	20021211	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2380318 COUNTRY OF REF DOCUMENT : CA
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WO9506480 A1	19950309	LSPB	+	published / reissued	
WO9506480 A1	19940902	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 94194005.5 COUNTRY OF REF DOCUMENT : CN
WO9506480 A1	19960301	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 960979 COUNTRY OF REF DOCUMENT : FI

WO9506480 A1	19960326	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 273208 COUNTRY OF REF DOCUMENT : NZ
WO9506480 A1	19960402	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1994926660 COUNTRY OF REF DOCUMENT : EP
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WO9506481 A1	19960402	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1994926677 COUNTRY OF REF DOCUMENT : EP
WO9506481 A1	19960627	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9506481 A1	19960717	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1994926677 COUNTRY OF REF DOCUMENT : EP
WO9506481 A1	19980327	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 199849043 COUNTRY OF REF DOCUMENT : US DATE OF REF DOCUMENT : 19980327 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
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WO9506666 A1	19950309	LSPB	+	published / reissued	
WO9506666 A1	19940902	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 94193918.9 COUNTRY OF REF DOCUMENT : CN
WO9506666 A1	19960301	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 960978 COUNTRY OF REF DOCUMENT : FI
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WO9506666 A1	19960402	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1994926659 COUNTRY OF REF DOCUMENT : EP
WO9506666 A1	19960627	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9506666 A1	19960717	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1994926659 COUNTRY OF REF DOCUMENT : EP
WO9506666 A1	19970502	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA
WO9506666 A1	19980327	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 1998 49043 COUNTRY OF REF DOCUMENT : US DATE OF REF DOCUMENT : 19980327 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO9506666 A1	20000105	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1994926659 COUNTRY OF REF DOCUMENT : EP
WO9506666 A1	20010115	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 960978 COUNTRY OF REF DOCUMENT : FI
ZA9406765 A	19960215	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA9406765 A	20140901	PEXP		Calculated Patent Term Expiry	
ZA9406766 A	19950419	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA9406766 A	20140901	PEXP		Calculated Patent Term Expiry	

Title: APPARATUS AND METHOD FOR SUPPORTING A FLEXIBLE HOSE SPRINKLER HEAD ON AN ELEVATED IRRIGATION SUPPLY LINE

Abstract: An adaptive support is provided for a flexible hose sprinkler head on an elevated irrigation supply line that includes a sprinkler support body and a hanger body. The sprinkler support body has a first inter-fitting contact surface. The body is disposed to support a downwardly extending flexible sprinkler hose. The hanger body has a second inter-fitting contact surface configured to mate with the first inter-fitting contact surface. The hanger body is disposed to support the sprinkler body at an elevated position. A method is also provided for changing elevation of a sprinkler head.

Classifications:

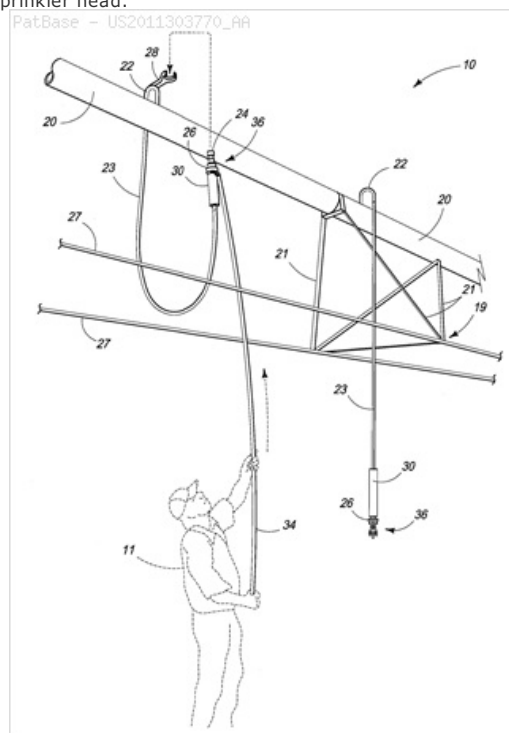
International (IPC 8-9): A01G25/02 A01G25/09 A01G9/24 A62C13/76 B05B3/00 B25J1/04 E03B1/00 F16L3/02 F16L3/08

F16L3/10 (Advanced/Invention)

CPC: F16L3/1091 F16L3/02 B25J1/04 Y10T137/0402 Y02A40/237 A01G25/09

European: A01G25/09

US: 1/1 137/15.01 137/15.010S 239/162 239/726 239/726P 248/62 248/62P 248/65 248/65S 248/70 248/70S 248/74.1 248/74.100P 248/74.100S 248/75 294/209 47/48.5



Family:

Publication number	Publication date	Application number	Application date
BR112012031356 A2	20161101	BR20121131356	20110609
US2011303770 AA	20111215	US20100814317	20100611
US2011303801 AA	20111215	US20100950936	20101119
US2012205499 AA	20120816	US20120371332	20120210
US2014001316 AA	20140102	US20130015818	20130830
US2014097305 AA	20140410	US20130042149	20130930
US8523121 BB	20130903	US20100950936	20101119
US8573544 BB	20131105	US20100814317	20100611
US9061416 BB	20150623	US20130042149	20130930
WO11156651 A1	20111215	WO2011US39868	20110609

Priority:

US20100814317 20100611 US20100950936 20101119 US20110441711P 20110211
 WO2011US39868 20110609 US20120371332 20120210 US20130015818 20130830
 US20130042149 20130930

Probable Assignee: SHELTON DALE

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Inventor(s): (std): SHELTON DALE

Inventor(s): DALE SHELTON

Agent(s): WELLS ST JOHN PS; GRZELAK KEITH D

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

Legal status (INPADOC)

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Patent Date recorded Event group Code Event Details

BR112012031356 A2 20170207 LSFE -B08F APPLICATION FEES:
DISMISSAL - ARTICLE

BR112012031356 A2	20170530	LSLE	-B08K	86 OF INDUSTRIAL PROPERTY LAW LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	
US2011303770 AA	20111215	LSPB	+	published / reissued	
US2011303770 AA	20131016	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011303801 AA	20111215	LSPB	+	published / reissued	
US2011303801 AA	20130814	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012205499 AA	20120816	LSPB	+	published / reissued	
US2012205499 AA	20150120	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014001316 AA	20140102	LSPB	+	published / reissued	
US2014001316 AA	20140417	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014097305 AA	20140410	LSPB	+	published / reissued	
US2014097305 AA	20150603	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8523121 BB	20130903	LSGT	+	granted / extensions (spc, cpc, pte)	
US8523121 BB	20130814	LSGT	PAT1	Patented Case	
US8523121 BB	20170831	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554)
US8523121 BB	20170831	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8523121 BB	20310813	PEXP		Calculated Patent Term Expiry (PTA 267 days)	
US8573544 BB	20131105	LSGT	+	granted / extensions (spc, cpc, pte)	
US8573544 BB	20131016	LSGT	PAT1	Patented Case	
US8573544 BB	20170505	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8573544 BB	20311028	PEXP		Calculated Patent Term Expiry (PTA 504 days)	
US9061416 BB	20150623	LSGT	+	granted / extensions (spc, cpc, pte)	
US9061416 BB	20150603	LSGT	PAT1	Patented Case	
US9061416 BB	20190211	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9061416 BB	20190621	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9061416 BB	20190621	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9061416 BB	20330930	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO11156651 A1	20111215	LSPB	+	published / reissued	
WO11156651 A1	20121211	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11156651 A1	20130710	LSNE	-122	EP: PCT APPLICATION	REF DOCUMENT NUMBER :

					NON-ENTRY IN EUROPEAN PHASE	11793198 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO11156651 A1	20161101	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:		REF DOCUMENT NUMBER : 112012031356 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20121210

Title: Adjustable snow making tower

Abstract: Method and apparatus for making snow by generating water spray from a triple array of multiple nozzle sub-boom branch-pipes transversely protruding from the upper end of a main boom of a pivotably adjustable snow making pipe tower. Three air jet streams, one for each branch pipe, are simultaneously discharged under high pressure into and sequentially through the throats of each associated multiple stack of water sprays issuing from each set of branch pipe nozzles to thereby form multiple spray plumes of atomized and seeded water all directed forwardly from the upper end of the tower pipe. The water pipe may be an elliptical aluminum extrusion with two interior air tubes respectively controllably feeding large and small diameter air jet arrays to thereby provide a range of air jet water spray interaction. The pipe tower may be pivotally raised and lowered by a block-and-tackle or chain fall type drive mechanism that may be recoupled to the tops of a lifting pole and tower pipe for bodily raising the entire tower pipe and its support pipe telescopically on a ground support pole. Spreader-supported guy wires may be used to brace the tower pipe and also provide an electrical deicing circuit. Air jet control, blow-out valving and water drain conduit arrangements are disclosed, and also **universally** adjustable ground support systems for the pipe tower, including an underground-fed combined telescopic hydraulic ram forming air and water conduits.

Classifications:

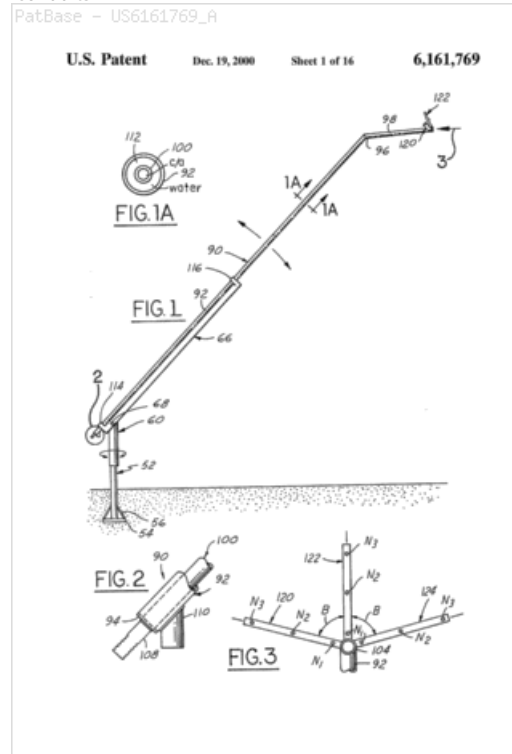
International (IPC 8-9): F25C3/04 (Advanced/Invention);
F25C3/00 (Core/Invention)

International (IPC 1-7): F25C3/04

CPC: F25C3/04 F25C2303/0481

European: F25C3/04 R25C303/0481

US: 239/135 239/14.2 239/2.2 239/276 239/280.5 239/407 239/418
239/433 239/565 248/122.1 248/161



Family:

Publication number	Publication date	Application number	Application date
US6161769 A	20001219	US19980211323	19981215

Priority:

US19970069746P 19971216 US19980211323 19981215

Probable Assignee: CARDINAL HEALTH 301 INC

Assignee(s): (std): BOYNE USA INC

Assignee(s): CARDINAL HEALTH 301 INC

Inventor(s): (std): KIRCHER EVERETT FRANK ; MCGREGOR JOHN DEAN ; MILBRANDT JAMES SIMON ; WAUGAMAN WILLIAM JAMES ; WOODS JOEL MAURICE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US6161769 A	20001219	LSGT	+	granted / extensions (spc, cpc, pte)	
US6161769 A	19981215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOYNE USA, INC., MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGREGOR, JOHN DEAN; MILBRANDT, JAMES SIMON; WAUGAMAN, WILLIAM JAMES; AND OTHERS; REEL/FRAME:009663/0871; SIGNING DATES FROM 19981208 TO 19981211

US6161769 A	19981215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOYNE USA, INC., MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KIRCHER, EVERETT FRANK; REEL/FRAME:009663/0863 EFFECTIVE DATE : 19981212	
US6161769 A	20040712	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CARDINAL HEALTH 301, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LAB-INTERLINK, INC., A NEBRASKA CORPORATION; REEL/FRAME:014836/0600 EFFECTIVE DATE : 20040511	
US6161769 A	20041220	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES		
US6161769 A	20050119	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362		
US6161769 A	20050119	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362	
US6161769 A	20050215	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20041219	
US6161769 A	20181215	PEXP		Calculated Patent Term Expiry		

Title: NUMBER OF NEW AND UNIQUE MANUFACTURING AND ASSEMBLY METHODS AND PROCESSES TO COST EFFECTIVELY REFIT AND MARKET LEGACY IMPLEMENTS LIKE "THE GILHOLIE" PRESENTLY NAMES "THE WILI GRIP" TM

Abstract: The invention: involves a unique set of mass production process and evaluation tools to reappraise intricate otherwise costly products to produce or reproduce and manufacture them best in a high cost of living society and low cost of living society. The techniques described here are to specifically bring back a legacy kitchen aids tools, products and other such devices like (The Gilhoolie renamed the WiliGrip(TM)). "The Wili Grip" is a perfect example of intricate craftsmanship that was possible to make when labor was inexpensive in the United States and other industrial countries but has become more difficult to reproduce or compete without inexpensive labor. The invention teaches a variety of metal fabrication production techniques designed to provide technically advanced nations like the US a competitive set of modalities to maintain jobs domestically and compete with low cost labor operations world wide. The production technologies are not limited to aiding industrialized countries, but also presented to teach world leaders, commercial interests and societies how to plan the best use of their assets and technology to proficiently develop competitive commercial product progressively and reduce negative environmental and socio economic impacts, due to gaps in production technology.

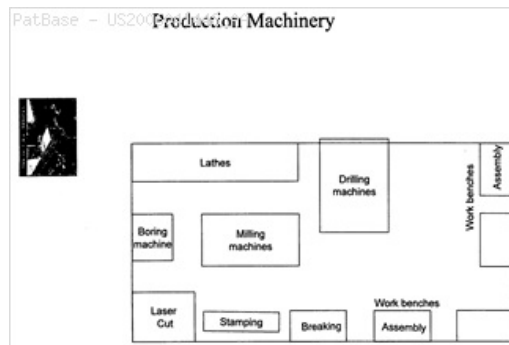
Classifications:

International (IPC 8-9): G06Q99/00 (Advanced/Invention);
G06Q99/00 (Core/Invention)

CPC: G06Q90/00 G06Q10/101 G06Q10/103

European: G06Q10/101 G06Q10/103 G06Q90/00

US: 705/1 705/300 705/300S 705/301 705/301P 705/7



Family:

Publication number	Publication date	Application number	Application date
US2006041448 AA	20060223	US20050204160	20050816

Priority:

US20040602861P 20040820 US20050204160 20050816

Probable Assignee: PATTERSON ROBBIE L

Assignee(s): (std): PATTERSON ROBBIE L ; STEPHENS RICHARD L JR ; WALKER RICHARD C

Inventor(s): (std): PATTERSON ROBBIE L ; STEPHENS RICHARD L JR ; WALKER RICHARD C

Inventor(s): STEPHENS RICHARD ; PATTERSON ROBBIE ; WALKER RICHARD ; PATTERSON ROBBIE LYNNE ; STEPHENS RICHARD LEWIS ; STEPHENS RICHARD LJR

Agent(s): RICHARD WALKER

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2006041448 AA	20060223	LSPB	+	published / reissued	
US2006041448 AA	20100615	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	

Title: LAWN MOWER CLEANING METHOD AND ATTACHMENT

Abstract: A pulsating cleaning attachment is added to an existing rotary lawn mower, and is adapted to receive a hose for cleaning the mower blade and underside surface of the lawn mower carriage. An attachment body member of the attachment includes a first upward-directed water passage selected at an angle of about thirty degrees, which passage terminates in an elliptically-shaped opening on the inner surface of said body member. This passage both forms and directs a jet stream of water exiting therefrom into and from beneath a rotating blade tip of the mower, whereby the rotating blade cuts the jet stream and creates a pulsating cleaning action for the undercarriage, blade and skirt of the mower.

Classifications:

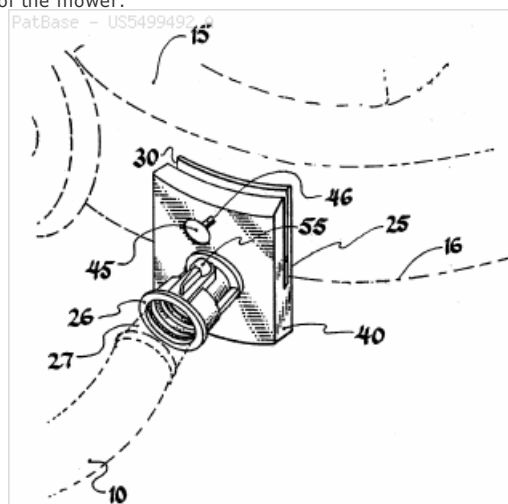
International (IPC 8-9): A01D34/00 (Advanced/Invention);
A01D34/00 (Core/Invention)

International (IPC 1-7): A01D75/10

CPC: A01D34/003 A01D2101/00 Y10S239/06

European: A01D34/00A3 K01D101/00

US: 239/282 239/DIG.6 56/12.1 56/17.5



Family:

Publication number	Publication date	Application number	Application date
US5499492 A	19960319	US19940260755	19940616

Priority:

US19920845437 19920305 US19940260755 19940616

Probable Assignee: JAMESON EDDIE A

Assignee(s): JAMESON EDDIE A

Inventor(s): (std): JAMESON EDDIE A

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US5499492 A	19960319	LSGT	+	granted / extensions (spc, cpc, pte)	
US5499492 A	19960307	LSGT	PAT1	Patented Case	
US5499492 A	20000319	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5499492 A	20000530	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20000319
US5499492 A	20180125	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5499492 A	20180125	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5499492 A	20140616	PEXP		Calculated Patent Term Expiry	

Title: REJECT WATER DRAIN LINE INSTALLATION SYSTEM AND APPARATUS FOR UNDER SINK REVERSE OSMOSIS FILTER SYSTEM

Abstract: Reject waste water adapter coupling fitting, for use with a household undercounter reverse osmosis (R/O) water filtration installation associated with an in-counter sink with its outlet connected by standard slip fit S/J plumbing fittings to a sink drain trap plumbed to the household sewer system. The R/O reject waste water drain line is coupled into the sink drain trap by various improved adapter coupling embodiments: e.g., a ball-and-cage type back check valve in the adapter; a modified S/J branch tail piece having a special adapter fitting that is permanently joined to the inlet of the branch stem tube of the tail piece; and a standard disposal EII with a waste water drain inlet protuberance integrally molded at the outside corner of the junction of a quarter-turn curved elbow portion with a straight sleeve portion of the EII.

Classifications:

International (IPC 8-9): B01D61/08 B01D61/10 E03B7/07 E03C1/12 E03C1/184 (Advanced/Invention);

B01D61/02 E03B7/00 E03C1/12 E03C1/18 (Core/Invention)

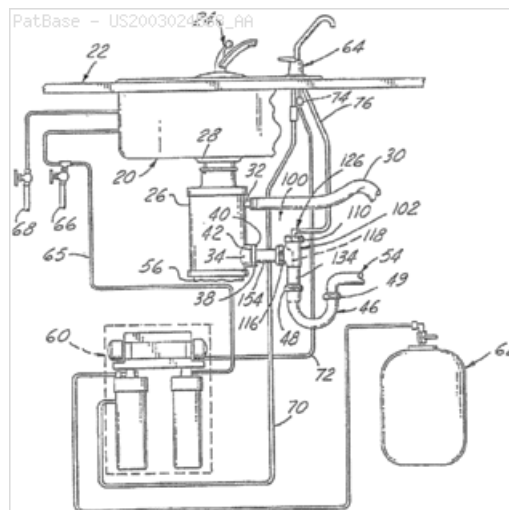
International (IPC 1-7): B01D27/08 B01D27/10 B01D35/00 B01D35/027 E03C1/12 F16K24/00

CPC: Y10T137/3185 Y10T137/3294 B01D61/08 B01D61/10 E03B7/074 E03C1/12 E03C1/184

European: B01D61/08 B01D61/10 E03B7/07D E03C1/12 E03C1/184

US: 137/216 137/217 138/120 138/177 21/17.2 210/153 210/172.1 210/173 210/232 210/320 210/418 210/460 285/125.1 285/132.1 285/133.21 285/134.1 285/148.23 285/155 285/156 285/179 285/180 285/323 285/342 285/343 285/423 4/629 4/640 4/653 4/679

Locarno class: 46/79



Family:

Publication number	Publication date	Application number	Application date
US2003024568 AA	20030206	US20020184312	20020627
US5449456 A	19950912	US19940206850	19940307
US5635058 A	19970603	US19950406182	19950316
US5681459 A	19971028	US19950514871	19950814
US5944985 A	19990831	US19970957517	19971024
US6193879 BA	20010227	US19990330797	19990614
US6651272 BB	20031125	US20020184312	20020627

Priority:

US19940206850 19940307	US19950406182 19950316	US19950514871 19950814
US19970957517 19971024	US19990330797 19990614	US20000703205 20001031
US20020184312 20020627		

Probable Assignee:

ECO TECH INC

Assignee(s): (std):

BOWMAN DENNIS E ; ECO TECH INC

Inventor(s): (std):

BOWMAN DENNIS E

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2003024568 AA	20030206	LSPB	+	published / reissued	
US2003024568 AA	20031106	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5449456 A	19950912	LSGT	+	granted / extensions (spc, cpc, pte)	
US5449456 A	19950901	LSGT	PAT1	Patented Case	
US5449456 A	19950901	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5449456 A	19990303	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5449456 A	20030227	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8

US5449456 A	20070213	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5449456 A	20111021	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECO-TECH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BOWMAN, DENNIS E.; REEL/FRAME:027097/0644 EFFECTIVE DATE : 20110923
US5449456 A	20140307	PEXP		Calculated Patent Term Expiry	
US5635058 A	19970603	LSGT	+	granted / extensions (spc, cpc, pte)	
US5635058 A	19970523	LSGT	PAT1	Patented Case	
US5635058 A	19970523	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5635058 A	20001130	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5635058 A	20041104	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5635058 A	20081129	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5635058 A	20111021	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECO-TECH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BOWMAN, DENNIS E.; REEL/FRAME:027097/0644 EFFECTIVE DATE : 20110923
US5635058 A	20150316	PEXP		Calculated Patent Term Expiry	
US5681459 A	19971028	LSGT	+	granted / extensions (spc, cpc, pte)	
US5681459 A	19971015	LSGT	PAT1	Patented Case	
US5681459 A	19971015	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5681459 A	19980203	LSRE	CC	CERTIFICATE OF CORRECTION	
US5681459 A	20010411	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5681459 A	20050407	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5681459 A	20090410	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5681459 A	20111021	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECO-TECH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BOWMAN, DENNIS E.; REEL/FRAME:027097/0644 EFFECTIVE DATE : 20110923
US5681459 A	20150814	PEXP		Calculated Patent Term Expiry	
US5944985 A	19990831	LSGT	+	granted / extensions (spc, cpc, pte)	
US5944985 A	19990820	LSGT	PAT1	Patented Case	
US5944985 A	19990820	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5944985 A	20030218	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5944985 A	20070213	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5944985 A	20110224	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12

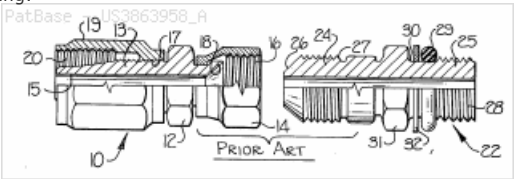
US5944985 A	20111021	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECO-TECH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BOWMAN, DENNIS E.; REEL/FRAME:027097/0644 EFFECTIVE DATE : 20110923	
US5944985 A	20171024	PEXP		Calculated Patent Term Expiry		
US6193879 BA	20010227	LSGT	+	granted / extensions (spc, cpc, pte)		
US6193879 BA	20010209	LSGT	PAT1	Patented Case		
US6193879 BA	20010209	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE	
US6193879 BA	20040803	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US6193879 BA	20080522	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8	
US6193879 BA	20111021	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECO-TECH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BOWMAN, DENNIS E.; REEL/FRAME:027097/0644 EFFECTIVE DATE : 20110923	
US6193879 BA	20120822	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12	
US6193879 BA	20190614	PEXP		Calculated Patent Term Expiry		
US6651272 BB	20031125	LSGT	+	granted / extensions (spc, cpc, pte)		
US6651272 BB	20031106	LSGT	PAT1	Patented Case		
US6651272 BB	20070301	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US6651272 BB	20110524	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8	
US6651272 BB	20111021	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECO-TECH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BOWMAN, DENNIS E.; REEL/FRAME:027097/0644 EFFECTIVE DATE : 20110923	
US6651272 BB	20150521	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12	
US6651272 BB	20220627	PEXP		Calculated Patent Term Expiry		

Title: **UNIVERSAL HOSE COUPLING**

Abstract: A **universal hose coupling** which is adapted to be sealably connected to dissimilar externally **threaded male** fittings. The **hose coupling** includes a nipple having a tubular bore which includes a conical portion intermediate the ends thereof, and an entry end portion at the outer end thereof. The conical portion is adapted to sealably mate with a **male** "flare" fitting having a conically tapered forward end conforming to the taper of the conical portion, and the entry end portion is adapted to sealably engage the O-ring of a **male** "straight **thread** O-ring boss" fitting.

Classifications:

International (IPC 1-7): F16L25/00
CPC: F16L15/006 F16L15/04 F16L15/008 F16L33/2076
European: F16L15/00F F16L15/00F4 F16L15/04 F16L33/207B2D
US: 285/12 285/148.13 285/256 285/281 285/354



Family:

Publication number	Publication date	Application number	Application date
US3863958 A	19750204	US19730356409	19730502
US3999781 A	19761228	US19740528204	19741129

Priority:

US19730356409 19730502 US19740528204 19741129

Probable Assignee: TODD WILLIAM H
Assignee(s): (std): TODD WILLIAM H
Inventor(s): (std): TODD WILLIAM H

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US3863958 A	19750204	LSGT	+	granted / extensions (spc, cpc, pte)	
US3999781 A	19761228	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: LOCKING CAP SYSTEM

Abstract: A locking cap is selectively locked into place within a tubular opening, such as the open end of a standpipe used to charge a building sprinkler system. The locking cap has an expandable sleeve and a spreader member. As a key is turned, the spreader member is drawn into the expandable sleeve which is urged outward. The outward movement of the expandable sleeve increases a frictional component such that the expandable sleeve becomes frictionally locked within the tubular opening. The key has an end design that is complemented by an end of an actuator shaft such that the likelihood of unauthorized removal of the locking cap is reduced.

Classifications:

International (IPC 8-9): A62C35/68 B26D1/00 B29B17/02

B65D55/14 (Advanced/Invention);

B26D1/00 B29B17/02 (Core/Invention)

International (IPC 1-7): B23P19/00 B65D55/14

CPC: B29B17/0206 B29B17/0412 B29K2021/00 Y10T29/49755

Y10T29/49821 Y10T29/49822 Y10T29/53539 Y10T403/7056

Y10T403/7058 B26D3/005 A62C35/68 Y10T70/5589 Y10T137/5468

Y02W30/622 Y02W30/625 Y02W30/68

European: A62C35/68 B26D3/00C2 B29B17/02D L29B17/02D

L29B17/04D L29K21/00

US: 137/296 29/403.3 29/426.4 29/426.5 29/822 403/370 403/371

411/410 70/169 70/169P 81/471 D8/21 D8/347 D8/387 D8/397 D8/399

PatBase - US2001013235_AA

U.S. Patent

Oct. 9, 2001

Sheet 1 of 2

US D448,982 S

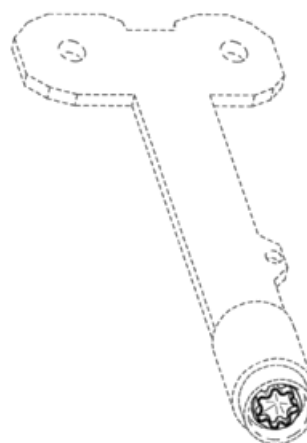


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
US2001013235 AA	20010816	US19990247665	19990209
US2003033840 AA	20030220	US20020273894	20021017
US2004168488 AA	20040902	US20040789630	20040227
US6249949 BA	20010626	US19990247077	19990209
US6487882 BB	20021203	US19990247665	19990209
US6698261 BB	20040302	US20020273894	20021017
US7437901 BB	20081021	US20040789630	20040227
USD440838 S1	20010424	US19990110116F	19990831
USD448982 S1	20011009	US20000129929F	20000925
USD456702 S1	20020507	US20010143234F	20010608
USD472434 S1	20030401	US20020160270F	20020507

Priority:

US19980047156F 19980209	US19980074156P 19980209
US19990247665 19990209	US19990247077 19990209
US19990110116 19990831	US19990110116F 19990831
US20000129929F 20000925	US20000129929 20000925
US20020273894 20021017	US20010143234F 20010608
	US20020160270F 20020507
	US20040789630 20040227

Probable Assignee: KNOX CO

Assignee(s): (std): KNOX CO ; KNOX COMPANY ; TREMPALA DOHN J

Assignee(s): CROSS JR WILEY E ; HENDRICKS F LINWOOD

Inventor(s): (std): CROSS JR WILEY E ; HENDRICKS F LINWOOD ; TREMPALA DOHN J

Inventor(s): DOHN J TREMPALA

Agent(s): KNOBBE MARTENS OLSON AND BEAR LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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US2001013235 AA	20010816	LSPB	+	published / reissued	
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US2001013235 AA	20021114	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2003033840 AA	20030220	LSPB	+	published / reissued	
US2003033840 AA	20040212	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2004168488 AA	20040902	LSPB	+	published / reissued	
US2004168488 AA	20081001	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6249949 BA	20010626	LSGT	+	granted / extensions (spc, cpc, pte)	
US6249949 BA	20041124	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6249949 BA	20090626	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6249949 BA	20090727	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6249949 BA	20090727	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6249949 BA	20090818	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20090626
US6249949 BA	20190209	PEXP		Calculated Patent Term Expiry	
US6487882 BB	20021203	LSGT	+	granted / extensions (spc, cpc, pte)	
US6487882 BB	19990621	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KNOX COMPANY, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TREMPALA, DOHN J.; REEL/FRAME:010031/0873 EFFECTIVE DATE : 19990604
US6487882 BB	20021114	LSGT	PAT1	Patented Case	
US6487882 BB	20060210	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6487882 BB	20100405	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6487882 BB	20140123	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6487882 BB	20190209	PEXP		Calculated Patent Term Expiry	
US6698261 BB	20040302	LSGT	+	granted / extensions (spc, cpc, pte)	
US6698261 BB	20040212	LSGT	PAT1	Patented Case	
US6698261 BB	20070828	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6698261 BB	20110429	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6698261 BB	20150528	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6698261 BB	20221017	PEXP		Calculated Patent Term Expiry	
US7437901 BB	20081021	LSGT	+	granted / extensions (spc, cpc, pte)	
US7437901 BB	20081001	LSGT	PAT1	Patented Case	
US7437901 BB	20120112	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7437901 BB	20160302	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7437901 BB	20240227	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been	

				filed)
USD440838 S1	20010424	LSGT	+	granted / extensions (spc, cpc, pte)
USD440838 S1	20010405	LSGT	PAT1	Patented Case
USD440838 S1	20150424	PEXP		Calculated Patent Term Expiry
USD448982 S1	20011009	LSGT	+	granted / extensions (spc, cpc, pte)
USD448982 S1	20010921	LSGT	PAT1	Patented Case
USD448982 S1	20151009	PEXP		Calculated Patent Term Expiry
USD456702 S1	20020507	LSGT	+	granted / extensions (spc, cpc, pte)
USD456702 S1	20020419	LSGT	PAT1	Patented Case
USD456702 S1	20160507	PEXP		Calculated Patent Term Expiry
USD472434 S1	20030401	LSGT	+	granted / extensions (spc, cpc, pte)
USD472434 S1	20030312	LSGT	PAT1	Patented Case
USD472434 S1	20170401	PEXP		Calculated Patent Term Expiry

Title: COUPLING ARRANGEMENT

Abstract: A coupling arrangement (10) including a first coupling (12') and a second coupling (16), the first and second couplings being connectable to form a joint (12). Each of the first and second couplings defines a passage through which fluid can flow and the respective passages are in alignment when the first and second couplings (12', 16') are connected. Each of the first and second couplings (12', 16') includes first and second interconnecting coupling parts (20, 60) in which the first coupling part defines the passage. The second coupling part (60) is connectable to the first coupling part (20) and to a first coupling part of another coupling to form the joint. The first and second couplings (12', 16') are coupled together by a releasable connection between the second coupling part (60) of each coupling with the first coupling part (20) of the mating coupling.

Classifications:

International (IPC 8-9): F16L19/065 F16L33/22 F16L37/12 F16L37/24 F16L37/244 F16L37/252 F16L37/48 (Advanced/Invention);

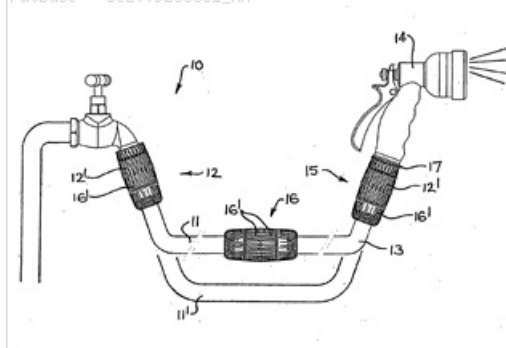
F16L37/00 (Core/Invention)

CPC: F16L19/065 F16L37/48 F16L33/224 F16L37/244 F16L37/252

European: F16L33/22G2 F16L37/244 F16L37/252 F16L37/48

US: 285/403

PatBase - US2009236851_AA

**Family:**

Publication number	Publication date	Application number	Application date
AU2007283999 AA	20080221	AU20070283999	20070817
AU2007283999 BB	20120927	AU20070283999	20070817
CN101506568 A	20090812	CN200780030662	20070817
CN101506568 B	20110420	CN200780030662	20070817
EP2059708 A1	20090520	EP20070784805	20070817
US2009236851 AA	20090924	US20070310256	20070817
WO08019447 A1	20080221	WO2007AU01166	20070817

Priority:

AU20060904512 20060818 AU20060904512P 20060818 WO2007AU01166 20070817
 AU20070283999 20070817

Probable Assignee: HOZEBITZ PTY LTD

Assignee(s): (std): HAMPEL IAN ; HOZEBITZ PTY LTD ; VELEV KONSTANTIN ; VELEV KOSTANTIN

Assignee(s): COMPUTER DESIGN AND AUTOMATION PTY LTD ; HOZEBITZ PTY LTD ; HOSEGRIP PTY LTD

Inventor(s): (std): HAMPEL IAN ; IAN HAMPEL ; VELEV KONSTANTIN ; VELEV KOSTANTIN ; KONSTANTIN VELEV

Agent(s): PHILLIPS ORMONDE FITZPATRICK; TILMANN MAX WILHELM ET AL; THOMAS E SISSON, JACKSON WALKER; THOMAS E SISSON JACKSON WALKER

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2007283999 AA	20080221	LSPB	+	published / reissued	
AU2007283999 BB	20120927	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2007283999 BB	20130124	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2007283999 BB	20160714	LSAS	PC	ASSIGNMENT REGISTERED	PARTYTYPE : OWNER OWNER : HOSEGRIP PTY LTD OLDPARTY : FORMER OWNER WAS: HOZEBITZ PTY LTD
AU2007283999 BB	20190418	LSAS	PC	ASSIGNMENT REGISTERED	PARTYTYPE : OWNER OWNER : COMPUTER DESIGN AND AUTOMATION PTY LTD OLDPARTY : FORMER OWNER(S): HOSEGRIP PTY LTD

AU2007283999 BB	20270817	PEXP		Calculated Patent Term Expiry	
CN101506568 A	20090812	LSPB	+	published / reissued	
CN101506568 A	20090812	LSPB	+C06	PUBLICATION	
CN101506568 B	20110420	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101506568 B	20110420	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101506568 B	20160810	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN101506568 B	20171010	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN101506568 B	20270817	PEXP		Calculated Patent Term Expiry	
EP2059708 A1	20090520	LSPB	+	published / reissued	
EP2059708 A1	20090520	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20090317
EP2059708 A1	20160914	LSWD	-18W	APPLICATION WITHDRAWN	EFFECTIVE DATE : 20160808
US2009236851 AA	20090924	LSPB	+	published / reissued	
US2009236851 AA	20090218	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HOZEBITZ PTY LTD, AUSTRALIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HAMPEL, IAN; VELEV, KONSTANTIN; REEL/FRAME:022305/0008 EFFECTIVE DATE : 20090209
US2009236851 AA	20130219	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
WO08019447 A1	20080221	LSPB	+	published / reissued	
WO08019447 A1	20070817	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200780030662.1 COUNTRY OF REF DOCUMENT : CN
WO08019447 A1	20090213	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007283999 COUNTRY OF REF DOCUMENT : AU
WO08019447 A1	20090218	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12310256 COUNTRY OF REF DOCUMENT : US
WO08019447 A1	20090219	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO08019447 A1	20090305	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2007283999 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20070817 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO08019447 A1	20090317	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007784805 COUNTRY OF REF DOCUMENT : EP
WO08019447 A1	20090318	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : RU

Title: FLUID RESERVOIR CAP

Abstract: A **universal** cap device (1) provides a temporary capping for an inlet opening of a reservoir vessel (26). The device (1) has a clamp device (2) with opposed, first (4) and second (6), jaws, for clamping engagement with a reservoir neck (24). The jaws are mounted on at least one beam (8, 10), at least one of the jaws (4,6) is movable relative to the other. The at least one beam (8, 10) mounts a carriage (14) which has a cap element support (16), supporting a downwardly projecting cap element (20), via a drive device (17,18) for controlled downward displacement of the cap element (20) into sealing engagement the inlet opening. The cap element (20) has a sealing surface (22) that can sealingly engage the inlet openings of various different reservoirs (26).

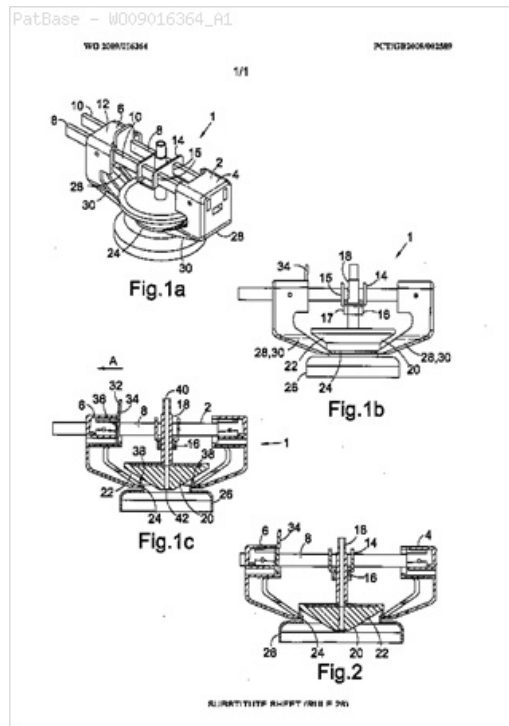
Classifications:

International (IPC 8-9): B60T17/22 (Advanced/Invention);

B60T17/18 (Core/Invention)

CPC: B60T17/222

European: B60T17/22B1



Family:

Publication number	Publication date	Application number	Application date
AT533679 E	20111215	AT20080776087T	20080730
DE602008011443 D1	20120202	DE200860011443T	20080730
EP2176107 A1	20100421	EP20080776087	20080730
EP2176107 B1	20111116	EP20080776087	20080730
GB200715435 A0	20070919	GB20070015435	20070801
WO09016364 A1	20090205	WO2008GB02589	20080730

Priority:

GB20070015345 20070801 GB20070015435 20070801 EP20080776087 20080730
WO2008GB02589 20080730

Probable Assignee: ALBA DIAGNOSTICS LTD

Assignee(s): (std): ALBA DIAGNOSTICS LTD ; RENILSON IAN ; WHITTON STEWART

Assignee(s): ALBA DIAGNOSTICS LIMITED

Inventor(s): (std): RENILSON IAN ; WHITTON STEWART

Agent(s): MARKS AND CLERK LUXEMBOURG LLP; NEWELL CAMPBELL; NAISMITH ROBERT 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 KZ LA LC LI LK LR LS LT LU LV MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT533679 E	20111215	LSGT	+	granted / extensions (spc, cpc, pte)	
AT533679 E	20280730	PEXP		Calculated Patent Term Expiry	
EP2176107 A1	20100421	LSPB	+	published / reissued	

EP2176107 A1	20100421	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100209
EP2176107 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160613 YEAR OF FEE PAYMENT : 9
EP2176107 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160727 YEAR OF FEE PAYMENT : 9
EP2176107 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160726 YEAR OF FEE PAYMENT : 9
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EP2176107 B1	20111116	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2176107 B1	20111130	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2176107 B1	20111207	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2176107 B1	20120202	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602008011443 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20120202
EP2176107 B1	20120229	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20111116
EP2176107 B1	20120425	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20111116
EP2176107 B1	20120430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120316
EP2176107 B1	20120430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120216
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EP2176107 B1	20120531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120316
EP2176107 B1	20120531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120217

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EP2176107 B1	20120531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20111116
EP2176107 B1	20120531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20111116
EP2176107 B1	20120531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20111116
EP2176107 B1	20120531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20111116
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EP2176107 B1	20120629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20111116
EP2176107 B1	20120731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20111116
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EP2176107 B1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20120227
EP2176107 B1	20130508	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
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EP2176107 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120730
EP2176107 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20111116
EP2176107 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20111116
EP2176107 B1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120730
EP2176107 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20080730
EP2176107 B1	20160613	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 9
EP2176107 B1	20170613	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 10
EP2176107 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170613 YEAR OF FEE PAYMENT : 10
EP2176107 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170725 YEAR OF FEE PAYMENT : 10
EP2176107 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170726

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EP2176107 B1	20180612	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 11
EP2176107 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180612 YEAR OF FEE PAYMENT : 11
EP2176107 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180717 YEAR OF FEE PAYMENT : 11
EP2176107 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180725 YEAR OF FEE PAYMENT : 11
EP2176107 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190724 YEAR OF FEE PAYMENT : 12
EP2176107 B1	20280730	PEXP		Calculated Patent Term Expiry	
GB200715435 A0	20090204	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
WO09016364 A1	20090205	LSPB	+	published / reissued	
WO09016364 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09016364 A1	20100209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008776087 COUNTRY OF REF DOCUMENT : EP

Title: HEAVY DUTY TUBE COUPLING

Abstract: A tube coupling with only a body and a **threaded** member is disclosed, the **threaded** member usually being a nut to overlie an outer sleeve and an inner sleeve unitary with the body. These two sleeves define therebetween an annular groove to receive the end of the tube. The method of tightening the nut onto the body provides that a generally conical cam surface on the nut interacts with a shallower taper conical cam follower surface on the outer sleeve to force this cam follower surface radially inwardly and longitudinally inwardly forming annular radially inward bulges on the outer and inner sleeves and on the tube trapped therebetween. This interlocks the tube with the coupling, and provides a fluid seal at three different places, the inner wall of the tube, the outer wall of the tube, and the end of the tube at the bottom of the groove. The foregoing abstract is merely a resume of one general application, is not a complete discussion of all principles of operation or applications, and is not to be construed as a limitation on the scope of the claimed subject matter.

Classifications:

International (IPC 8-9): F16L19/06 F16L19/08

F16L19/14 (Advanced/Invention);

F16L19/00 (Core/Invention)

International (IPC 1-7): F16B12/40 F16L19/00 F16L19/06 F16L19/07

F16L19/08 F16L21/00 F16L33/22 F16L35/00

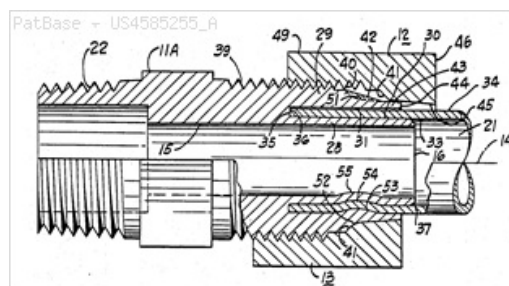
CPC: F16L19/0656 F16L19/07 Y10T29/49913 Y10T29/49936 F16L19/14

European: F16L19/065D F16L19/07 F16L19/14

US: 285/322 285/331 285/351 285/382.2 285/93 29/508 29/521

JP F-Term: 3H014 3H014/GA16

JP F-Index: F16L19/08 F16L19/14



Family:

Publication number	Publication date	Application number	Application date
AU198431154 A1	19850207	AU19840031154	19840725
AU575841 B2	19880811	AU19840031154	19840725
CA1251238 A1	19890314	CA19840458170	19840705
DE3428260 A1	19850214	DE19843428260	19840731
DE3428260 C2	19881020	DE19843428260	19840731
FR2550312 A1	19850208	FR19840012149	19840731
FR2550312 B1	19870814	FR19840012149	19840731
GB2144192 A1	19850227	GB19840018501	19840720
GB2144192 B2	19870107	GB19840018501	19840720
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SE458949 B	19890522	SE19840003910	19840730
SE458949 C	19890914	SE19840003910	19840730
SE8403910 A	19850202	SE19840003910D	19840730
SE8403910 A0	19840730	SE19840003910	19840730
SE8403910 L	19850202	SE19840003910	19840730
US4585255 A	19860429	US19830519366	19830801

Priority:

US19830519366 19830801 CA19840458170 19840705

Probable Assignee: UNIVERSAL TUBULAR SYSTEMS INC

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Assignee(s): UNIVERSAL TUBULAR SYSTEMS INC ; JPMORGAN CHASE BANK A NEW YORK BANKING ADMINISTRATIVE AND COLLATERAL AGENT AS CORP ; JPMORGAN CHASE BANK A NEW YORK BANKING CORP ; RALPH G RIDENOUR ; RALPH GAYLORD RIDENOUR ; RIDENOUR R G ; RIDENOUR RALPH GAYLORD MANSFIELD OHIO US ; RIDENOUR RALPH G ; RARUFU GEIROODO RAIDENOORU ; RIDENOUR RG

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Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; MACRAE AND CO

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU198431154 A1	19850207	LSPB	+	published / reissued	
AU575841 B2	19880811	LSGT	+	granted / extensions (spc, cpc, pte)	
AU575841 B2	20040725	PEXP		Calculated Patent Term Expiry	
DE3428260 A1	19850214	LSPB	+	published / reissued	
DE3428260 A1	19850214	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	

DE3428260 C2	19881020	LSGT	+	granted / extensions (spc, cpc, pte)	
DE3428260 C2	19881020	LSGT	+D2	GRANT AFTER EXAMINATION	
DE3428260 C2	19890420	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3428260 C2	19990415	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : UNIVERSAL TUBULAR SYSTEMS,INC., MANSFIELD, OHIO, U
FR2550312 A1	19850208	LSPB	+	published / reissued	
FR2550312 B1	19870814	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2550312 B1	19990312	LSAS	TP	TRANSMISSION OF PROPERTY	
FR2550312 B1	20040731	PEXP		Calculated Patent Term Expiry	
GB2144192 A1	19850227	LSPB	+	published / reissued	
GB2144192 B2	19870107	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2144192 B2	20040811	LSLE	-PE20	PATENT EXPIRED AFTER TERMINATION OF 20 YEARS	EFFECTIVE DATE : 20040719
GB2144192 B2	20040720	PEXP		Calculated Patent Term Expiry	
JP60057089 A2	19850402	LSPB	+	published / reissued	
SE458949 B	19890522	LSPB	+	published / reissued	
SE458949 B	19950131	LSFE	+NAL	PATENT IN FORCE	TEXT : 8403910-6
SE458949 B	20040831	LSLE	-NUG	PATENT HAS LAPSED	
SE458949 C	19890914	LSGT	+	granted / extensions (spc, cpc, pte)	
SE458949 C	20040730	PEXP		Calculated Patent Term Expiry	
SE8403910 A	19850202	LSPB	+	published / reissued	
US4585255 A	19860429	LSGT	+	granted / extensions (spc, cpc, pte)	
US4585255 A	19860226	LSGT	PAT1	Patented Case	
US4585255 A	19860226	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US4585255 A	19890907	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4585255 A	19931004	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4585255 A	19970414	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : UNIVERSAL ENTERPRISES, INC., OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:RIDENOUR, RALPH G.; REEL/FRAME:008447/0721 EFFECTIVE DATE : 19970224
US4585255 A	19970414	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : UNIVERSAL TUBULAR SYSTEMS, INC., OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:UNIVERSAL ENTERPRISES, INC.; REEL/FRAME:008447/0725 EFFECTIVE DATE : 19970404
US4585255 A	19970922	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US4585255 A	20020709	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, A NEW YORK BANKING CORPORATIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST;

ASSIGNOR:UNIVERSAL TUBULAR
SYSTEMS, INC.;
REEL/FRAME:013305/0417
EFFECTIVE DATE : 20020628

Title: FLOOR FINISH APPLICATION SYSTEM USING APPLICATOR PAD AND MATCHED FLOOR FINISH COMPOSITION

Abstract: A system for the formation of a thick robust transparent floor finish layer from a high solids formulation with an applicator device utilizing micro fiber technology. A micro fiber applicator device can be configured to apply a sufficient amount of an aqueous high solids floor finish to obtain a thick robust finish layer in a single application. One system for applying the floor finish can comprise a source of aqueous floor finish and an applicator wand comprising an application nozzle and application surface. Application surface can comprise micro fiber technology in a pad structure comprising a reservoir foam and a micro fiber applicator surface.

Classifications:

International (IPC 8-9): A46B11/00 A46B11/04 A46B17/02 A47L1/08 A47L13/22 A47L13/26 A47L13/30 B05C1/06 B05C11/10 B05D1/28 B05D7/00 E04F15/12 E04F21/08 F16D3/20 F16D3/223 F16D3/224 (Advanced/Invention); A46B11/00 A46B17/00 A47L1/00 A47L13/10 A47L13/20 B05C1/04 B05C11/10 B05D1/28 B05D7/00 E04F15/12 E04F21/02 F16D3/16 (Core/Invention)

International (IPC 1-7): A46B11/00 A46B11/04 A46B17/02 A47L1/08 A47L13/22 A47L13/26 A47L13/30 B05C1/06 B05C11/10 B05C17/00 B05D1/28 B05D3/02 B05D7/00 B43M11/02 E04F15/12 E04F21/08 F16D3/16 F16D3/20 F16D3/223 F16D3/224

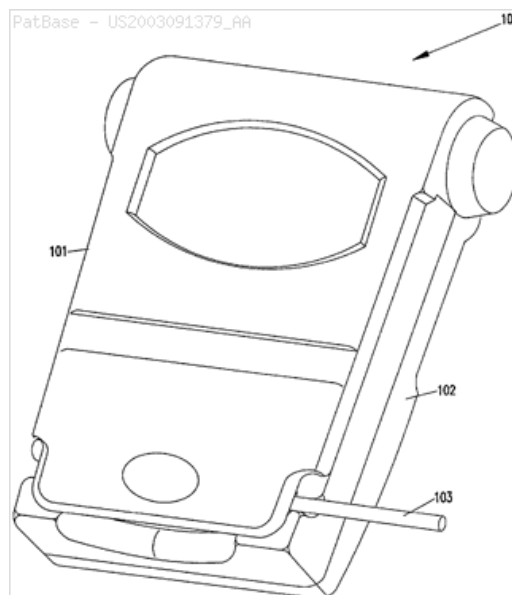
CPC: A47L13/22 A47L13/30 A46B11/063 A46B17/02 A46B2200/302 A46B2200/3033 Y10S464/906 F16D3/224 F16D2003/22306 F16D2003/22316 F16D2003/22326

European: A46B11/06B A46B17/02 A47L11/38 A47L13/22 A47L13/23 A47L13/30 F16D3/224 K46B200/30C K46B200/30E R16D3/223B R16D3/223E R16D3/223H

US: 401/130 401/130P 401/137 401/137S 401/138 401/138S 401/139 401/139P 401/139S 401/261 401/27 401/270 401/270S 401/276 401/276S 401/284 401/284S 401/292 401/292S 401/48 401/48P 401/646/141 464/145 464/906

JP F-Term: 3J055 2E024 2E220 2E220/AA51 2E220/AC05 2E220/BB04 2E220/CA07 2E220/FA05 2E220/FA11 2E220/FA13 2E220/GB33/X 2E220/GB34/X 2E220/GB37/X 4D075 4D075/AC49 4D075/CA47 4D075/DA06 4D075/DB38 4D075/DC02 4D075/EA06 4D075/EA13 4D075/EA37 4D075/EB07 4D075/EB12 4D075/EB14 4D075/EB15 4D075/EB19 4D075/EB22 4D075/EB38 4F040 4F040/AA19 4F040/AB11 4F040/AC01 4F040/BA02 4F040/CA01 4F040/CA11 4F042 4F042/AA16 4F042/AB00 4F042/CA01 4F042/CB07 4F042/CB11 4F042/CB19

JP F-Index: F16D3/20/H F16D3/223/Z F16D3/2233 B05C1/06 B05C11/10 B05D1/28 B05D7/00/L E04F15/12/B E04F21/08/Z



Family:

Publication number	Publication date	Application number	Application date
AT250383 E	20031015	AT20000912541T	20000303
AT364345 E	20070715	AT20020782299T	20021113
AT369067 E	20070815	AT20000014976T	20000303
AU2002348275 AA	20030526	AU20020348275	20021113
AU2002348275 BB	20080403	AU20020348275	20021113
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EP1161173 A1	20011212	EP20000912541	20000303
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EP1360924 B1	20070808	EP20030014976	20000303
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US2003091380 AA	20030515	US20020177901	20020619
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US6267683 BA	20010731	US20000522660	20000310
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US6951430 BB	20051004	US20040911810	20040804
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Priority:

DE19911011131	19990312	DE19991011113	19990312	DE19991011131	19990312
EP20000912541	20000303	DE20005003832	20000303	DE20005014552	20000303
US20000936141	20000303	WO2000EP01832	20000303	US20010936141	20010907
US20010922195	20011114	US20010992195	20011114	US20020177901	20020619
WO2002US36514	20021113	US20030407412	20030404	US20030732028	20031209
US20040794429	20040305	US20040911810	20040804	US20040986474	20041111
US20050204805	20050815	US20070810076	20070604	US20070927996	20071030
US20090487901	20090619				

Probable Assignee: ECOLAB INC

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Inventor(s): LANCETTE CHRISTOPHER ; GARDNER JAMES ; GARDNER JAMES PJR ; SCOTT DEFIELDS ; JR JAMES P ; GARDNER ; CHASE JANE

Agent(s): SPRUSON AND FERGUSON; CASSAN MACLEAN; CASSAN MACLEAN IP AGENCY INC; CABINET BEAU DE LOMENIE; AOKI ATSUSHI; ISHIDA TAKASHI; KOGA TETSUJI; NISHIYAMA MASAYA; MERCHANT AND GOULD PC; INTELLECTUAL PROPERTY GROUP FREDRIKSON AND BYRON PA; FREDRIKSON AND BYRON PA; ANDREW D; LAURA C

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 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 US UZ VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT250383 E	20031015	LSGT	+	granted / extensions (spc, cpc, pte)	
AT250383 E	20050615	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT250383 E	20200303	PEXP		Calculated Patent Term Expiry	
AT364345 E	20070715	LSGT	+	granted / extensions (spc, cpc, pte)	
AT364345 E	20071215	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3	

LAW INTRODUCING PATENT TREATIES				
AT364345 E	20221113	PEXP		Calculated Patent Term Expiry
AT369067 E	20070815	LSGT	+	granted / extensions (spc, cpc, pte)
AT369067 E	20090615	LSLE	-REN	CEASED DUE TO NON- PAYMENT OF THE ANNUAL FEE
AT369067 E	20200303	PEXP		Calculated Patent Term Expiry
AU2002348275 AA	20030526	LSPB	+	published / reissued
AU2002348275 BB	20080403	LSGT	+	granted / extensions (spc, cpc, pte)
AU2002348275 BB	20080731	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)
AU2002348275 BB	20221113	PEXP		Calculated Patent Term Expiry
BRPI0001289 A	20001017	LSPB	+	published / reissued
BRPI0001289 A	20061114	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW
BRPI0001289 A	20111206	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)
BRPI0214047 A	20041013	LSPB	+	published / reissued
BRPI0214047 A	20101130	LSSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)
BRPI0214047 A	20111129	LSRV	B09B	DECISION: REFUSAL
BRPI0214047 A	20130213	LSRV	B09B	DECISION: REFUSAL
CA2462277 AA	20040330	LSPB	+	published / reissued
CA2462277 AA	20050915	LSSES	+EEER	EXAMINATION REQUEST
CA2462277 C	20091222	LSGT	+	granted / extensions (spc, cpc, pte)
CA2462277 C	20221113	PEXP		Calculated Patent Term Expiry
DE19911113 C1	20010111	LSGT	+	granted / extensions (spc, cpc, pte)
DE19911113 C1	20010111	LSPB	+8100	PUBLICATION OF THE EXAMINED APPLICATION WITHOUT PUBLICATION OF UNEXAMINED APPLICATION
DE19911113 C1	20010111	LSGT	+D1	GRANT (NO UNEXAMINED APPLICATION PUBLISHED) PATENT LAW 81
DE19911113 C1	20010705	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION
DE19911113 C1	20040519	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER
DE19911113 C1	20140109	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO

				NON-PAYMENT OF RENEWAL FEE	
DE19911113 C1	20190312	PEXP		Calculated Patent Term Expiry	
DE19911131 C1	20010118	LSGT	+	granted / extensions (spc, cpc, pte)	
DE19911131 C1	20010118	LSPB	+8100	PUBLICATION OF THE EXAMINED APPLICATION WITHOUT PUBLICATION OF UNEXAMINED APPLICATION	
DE19911131 C1	20010118	LSGT	+D1	GRANT (NO UNEXAMINED APPLICATION PUBLISHED) PATENT LAW 81	
DE19911131 C1	20010712	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE19911131 C1	20020711	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : ECOLAB GMBH & CO. OHG, 40589 DUESSELDORF, DE
DE19911131 C1	20040226	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : ECOLAB INC., ST. PAUL, MINN., US
DE19911131 C1	20080117	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE19911131 C1	20190312	PEXP		Calculated Patent Term Expiry	
DE50003832 D1	20070405	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE50014552 D1	20080828	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60220698 D1	20080703	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60220698 T2	20071004	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60220698 T2	20080703	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60220698 T2	20221113	PEXP		Calculated Patent Term Expiry	
DK1161173 T3	20031215	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1161173 T3	20200303	PEXP		Calculated Patent Term Expiry	
EP1161173 A1	20011212	LSPB	+	published / reissued	
EP1161173 A1	20011212	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20010903
EP1161173 A1	20020605	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : ECOLAB GMBH & CO. OHG
EP1161173 A1	20030702	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : ECOLAB INC.
EP1161173 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160302 YEAR OF FEE PAYMENT : 17
EP1161173 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160208 YEAR OF FEE PAYMENT : 17
EP1161173 B1	20030924	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1161173 B1	20030924	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : CY

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030924
EP1161173 B1	20030924	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030924
EP1161173 B1	20030924	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030924
EP1161173 B1	20030924	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030924
EP1161173 B1	20030924	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP1161173 B1	20030930	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1161173 B1	20031029	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : GERMAN
EP1161173 B1	20031224	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20031224
EP1161173 B1	20031224	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20031224
EP1161173 B1	20040104	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040104
EP1161173 B1	20040301	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	REF COUNTRY CODE : EP
EP1161173 B1	20040303	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20040303

EP1161173 B1	20040303	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20040303
EP1161173 B1	20040331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20040331
EP1161173 B1	20040331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20040331
EP1161173 B1	20040421	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FD4D
EP1161173 B1	20040915	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20040625
EP1161173 B1	20040930	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : *ECOLAB INC. EFFECTIVE DATE : 20040331
EP1161173 B1	20050207	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20050207 YEAR OF FEE PAYMENT : 6
EP1161173 B1	20060308	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20060308 YEAR OF FEE PAYMENT : 7
EP1161173 B1	20071112	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP
EP1161173 B1	20071115	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1161173 B1	20080102	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20040224
EP1161173 B1	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20070331
EP1161173 B1	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20070331
EP1161173 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20070402
EP1161173 B1	20080530	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20080325 YEAR OF FEE PAYMENT : 9
EP1161173 B1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090303

EPO]					
EP1161173 B1	20160208	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 17
EP1161173 B1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160223 YEAR OF FEE PAYMENT : 17
EP1161173 B1	20170213	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 18
EP1161173 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170213 YEAR OF FEE PAYMENT : 18
EP1161173 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170301 YEAR OF FEE PAYMENT : 18
EP1161173 B1	20171003	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 50003832 COUNTRY OF REF DOCUMENT : DE
EP1161173 B1	20180111	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 19
EP1161173 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20171003
EP1161173 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180228 YEAR OF FEE PAYMENT : 19
EP1161173 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180111 YEAR OF FEE PAYMENT : 19
EP1161173 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190227 YEAR OF FEE PAYMENT : 20
EP1161173 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190111 YEAR OF FEE PAYMENT : 20
EP1161173 B1	20200303	PEXP		Calculated Patent Term Expiry	
EP1360924 A2	20031112	LSPB	+	published / reissued	
EP1360924 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160208 YEAR OF FEE PAYMENT : 17
EP1360924 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160302 YEAR OF FEE PAYMENT : 17
EP1360924 A2	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160324 YEAR OF FEE PAYMENT : 17

EP1360924 A3	20050202	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20041203
EP1360924 A3	20050302	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : CH COUNTRY OF REF DOCUMENT : CY COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : ES COUNTRY OF REF DOCUMENT : FI COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB COUNTRY OF REF DOCUMENT : GR COUNTRY OF REF DOCUMENT : IE COUNTRY OF REF DOCUMENT : IT COUNTRY OF REF DOCUMENT : LI COUNTRY OF REF DOCUMENT : LU COUNTRY OF REF DOCUMENT : MC COUNTRY OF REF DOCUMENT : NL COUNTRY OF REF DOCUMENT : PT COUNTRY OF REF DOCUMENT : SE
EP1360924 B1	20070808	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1360924 B1	20070808	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP1360924 B1	20070831	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1360924 B1	20070905	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : LANGUAGE OF EP DOCUMENT: GERMAN
EP1360924 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20071119
EP1360924 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070808
EP1360924 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070808
EP1360924 B1	20080201	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	REF COUNTRY CODE : EP
EP1360924 B1	20080402	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FD4D
EP1360924 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : DK

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070808
EP1360924 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20071109
EP1360924 B1	20080530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070808
EP1360924 B1	20080530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20080108
EP1360924 B1	20080630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20071108
EP1360924 B1	20080716	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20080509
EP1360924 B1	20080930	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : ECOLAB INC. EFFECTIVE DATE : 20080331
EP1360924 B1	20081031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080331
EP1360924 B1	20081031	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1360924 B1	20090130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080331
EP1360924 B1	20090130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080331
EP1360924 B1	20090227	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080331
EP1360924 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070808
EP1360924 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080303
EP1360924 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080303
EP1360924 B1	20160208	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 17
EP1360924 B1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160223 YEAR OF FEE PAYMENT : 17
EP1360924 B1	20170213	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 18
EP1360924 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170213 YEAR OF FEE PAYMENT : 18
EP1360924 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170301 YEAR OF FEE PAYMENT : 18
EP1360924 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170320 YEAR OF FEE PAYMENT : 18
EP1360924 B1	20171003	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 50014552 COUNTRY OF REF DOCUMENT : DE
EP1360924 B1	20180111	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 19
EP1360924 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20171003
EP1360924 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180228 YEAR OF FEE PAYMENT : 19
EP1360924 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20180321 YEAR OF FEE PAYMENT : 19
EP1360924 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180111 YEAR OF FEE PAYMENT : 19
EP1360924 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190111

EP1360924 B1	20190430	LSFE	+PGFP	NATIONAL OFFICE TO EPO] ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 20 COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20190326 YEAR OF FEE PAYMENT : 20
EP1360924 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190227 YEAR OF FEE PAYMENT : 20
EP1360924 B1	20200303	PEXP		Calculated Patent Term Expiry	
EP1443845 A1	20040811	LSPB	+	published / reissued	
EP1443845 A1	20040811	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20040327
EP1443845 A1	20050316	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20050201
EP1443845 B1	20070613	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1443845 B1	20070613	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20070613	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20070613	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1443845 B1	20070629	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1443845 B1	20070711	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1443845 B1	20070913	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070913
EP1443845 B1	20071124	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20071203	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	REF COUNTRY CODE : EP
EP1443845 B1	20071231	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1443845 B1	20080102	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE

				EPO]	FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070913
EP1443845 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070924
EP1443845 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20071113
EP1443845 B1	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070914
EP1443845 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613

EP1443845 B1	20080521	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20080314
EP1443845 B1	20080630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20071130
EP1443845 B1	20081031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20071113
EP1443845 B1	20090130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20090227	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20071113
EP1443845 B1	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070613
EP1443845 B1	20151008	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 14
EP1443845 B1	20161014	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 15
EP1443845 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161109 YEAR OF FEE PAYMENT : 15
EP1443845 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161108 YEAR OF FEE PAYMENT : 15
EP1443845 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161014 YEAR OF FEE PAYMENT : 15

EP1443845 B1	20171012	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 16
EP1443845 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171012 YEAR OF FEE PAYMENT : 16
EP1443845 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171108 YEAR OF FEE PAYMENT : 16
EP1443845 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171108 YEAR OF FEE PAYMENT : 16
EP1443845 B1	20181011	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 17
EP1443845 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181030 YEAR OF FEE PAYMENT : 17
EP1443845 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181107 YEAR OF FEE PAYMENT : 17
EP1443845 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181011 YEAR OF FEE PAYMENT : 17
EP1443845 B1	20221113	PEXP		Calculated Patent Term Expiry	
ES2171341 AA	20020901	LSPB	+	published / reissued	
ES2171341 AA	20020901	LSSES	+EC2A	SEARCH REPORT PUBLISHED	DATE OF REF DOCUMENT : 20020901 KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) : EFFECTIVE DATE : 20020901
ES2171341 BA	20030916	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2171341 BA	20030916	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 2171341B1 COUNTRY OF REF DOCUMENT : ES
ES2171341 BA	20180807	LSLE	-FD2A	ANNOUNCEMENT OF LAPSE IN SPAIN	EFFECTIVE DATE : 20180807
ES2171341 BA	20191122	PEXP		Calculated Patent Term Expiry	
FR2790804 A1	20000915	LSPB	+	published / reissued	
FR2790804 B1	20020118	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2790804 B1	20131227	LSLE	-ST	NOTIFICATION OF LAPSE	EFFECTIVE DATE : 20131129
FR2790804 B1	20200309	PEXP		Calculated Patent Term Expiry	
GB2347730 A1	20000913	LSPB	+	published / reissued	
GB2347730 B2	20010314	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2347730 B2	20040623	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 20031104
GB2347730 B2	20191105	PEXP		Calculated Patent Term Expiry	
IT1316415 B1	20030410	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1316415 B1	20191130	PEXP		Calculated Patent Term	

				Expiry		
ITMI992497 A1	20010530	LSPB	+	published / reissued		
JP2000291675 A2	20001020	LSPB	+	published / reissued		
JP2005509100 T2	20050407	LSPB	+	published / reissued		
JP2005509100 T2	20051105	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20051104	
JP2005509100 T2	20051105	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20051104	
JP2005509100 T2	20081203	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20081202	
JP2005509100 T2	20090311	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20090310	
JP2005509100 T2	20090702	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN		
JP2005509100 T2	20090708	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20090707	
JP2005509100 T2	20090709	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01	
JP2005509100 T2	20090813	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20090806	
JP2005509100 T2	20090814	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3	
JP2005509100 T2	20090814	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150	
JP4358629 B2	20091104	LSGT	+	granted / extensions (spc, cpc, pte)		
JP4358629 B2	20090811	LSFE	R100	特許料納付書 (Patent fee payment form)		
JP4358629 B2	20120802	LSFE	R20	特許料納付書 (Patent fee payment form)		
JP4358629 B2	20120807	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4	
JP4358629 B2	20130801	LSFE	R20	特許料納付書 (Patent fee payment form)		
JP4358629 B2	20130806	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	
JP4358629 B2	20140731	LSFE	R20	特許料納付書 (Patent fee payment form)		
JP4358629 B2	20140805	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	
JP4358629 B2	20150730	LSFE	R20	特許料納付書 (Patent fee payment form)		
JP4358629 B2	20150804	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	
JP4358629 B2	20160728	LSFE	R20	特許料納付書 (Patent fee payment form)		
JP4358629 B2	20160802	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	

JP4358629 B2	20170803	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4358629 B2	20170808	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4358629 B2	20180802	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4358629 B2	20180807	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4358629 B2	20190801	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4358629 B2	20190806	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4358629 B2	20221113	PEXP		Calculated Patent Term Expiry	
MXPA04003908 A1	20040723	LSPB	+	published / reissued	
MXPA04003908 A1	20071030	LSGT	+FG	GRANT OR REGISTRATION	
PL201323 B1	20090331	LSGT	+	granted / extensions (spc, cpc, pte)	
PL368549 A1	20050404	LSPB	+	published / reissued	
US2003091379 AA	20030515	LSPB	+	published / reissued	
US2003091379 AA	20040205	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2003091380 AA	20030515	LSPB	+	published / reissued	
US2003091380 AA	20050928	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2004033101 AA	20040219	LSPB	+	published / reissued	
US2004033101 AA	20040916	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2004120752 AA	20040624	LSPB	+	published / reissued	
US2004120752 AA	20060531	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2004234324 AA	20041125	LSPB	+	published / reissued	
US2004234324 AA	20070530	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2005019085 AA	20050127	LSPB	+	published / reissued	
US2005019085 AA	20050914	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2005063765 AA	20050324	LSPB	+	published / reissued	
US2005063765 AA	20080220	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006024119 AA	20060202	LSPB	+	published / reissued	
US2006024119 AA	20091104	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2007237568 AA	20071011	LSPB	+	published / reissued	
US2007237568 AA	20101220	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008063460 AA	20080313	LSPB	+	published / reissued	
US2008063460 AA	20100825	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009257812 AA	20091015	LSPB	+	published / reissued	
US2009257812 AA	20100210	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6267683 BA	20010731	LSGT	+	granted / extensions (spc, cpc, pte)	

US6267683 BA	20000612	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GKN LOBRO GMBH, GERMANY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:JACOB, WERNER; REEL/FRAME:010855/0824 EFFECTIVE DATE : 20000403
US6267683 BA	20050125	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6267683 BA	20090122	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6267683 BA	20130731	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6267683 BA	20130826	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6267683 BA	20130826	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6267683 BA	20130917	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20130731
US6267683 BA	20200310	PEXP		Calculated Patent Term Expiry	
US6550998 BA	20030422	LSGT	+	granted / extensions (spc, cpc, pte)	
US6550998 BA	20010907	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HENKEL ECOLAB GMBH & CO. OHG, GERMANY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FERNSCHILD, HANS- LEO; FAUBEL, HEIKO; ROGMANN, KARL-HEINZ; AND OTHERS; REEL/FRAME:012289/0668 EFFECTIVE DATE : 20010822
US6550998 BA	20030214	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOLAB GMBH & CO. OHG, GERMANY OLDPARTY : CHANGE OF NAME; ASSIGNOR:HENKEL ECOLAB GMBH & CO. OHG; REEL/FRAME:013430/0345 EFFECTIVE DATE : 20020225
US6550998 BA	20060926	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6550998 BA	20100922	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6550998 BA	20150422	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6550998 BA	20150518	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6550998 BA	20150518	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6550998 BA	20150609	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20150422
US6550998 BA	20210907	PEXP		Calculated Patent Term Expiry	
US6695516 BB	20040224	LSGT	+	granted / extensions (spc, cpc, pte)	
US6695516 BB	20011114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOLAB INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEFIELDS, SCOTT; OLSON, SCOTT; REEL/FRAME:012326/0385 EFFECTIVE DATE : 20011114

US6695516 BB	20040205	LSGT	PAT1	Patented Case	
US6695516 BB	20070621	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6695516 BB	20110721	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6695516 BB	20150812	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6695516 BB	20211114	PEXP		Calculated Patent Term Expiry	
US6799916 BB	20041005	LSGT	+	granted / extensions (spc, cpc, pte)	
US6799916 BB	20040916	LSGT	PAT1	Patented Case	
US6799916 BB	20080320	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6799916 BB	20120323	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6799916 BB	20160323	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6799916 BB	20230404	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6951430 BB	20051004	LSGT	+	granted / extensions (spc, cpc, pte)	
US6951430 BB	20050914	LSGT	PAT1	Patented Case	
US6951430 BB	20090320	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6951430 BB	20130306	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6951430 BB	20170323	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6951430 BB	20240804	PEXP		Calculated Patent Term Expiry	
US6955490 BB	20051018	LSGT	+	granted / extensions (spc, cpc, pte)	
US6955490 BB	20020828	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOLAB INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CHASE, JANE ANN; LANCETTE, CHRISTOPHER JOHN; OLSON, SCOTT RANDALL; REEL/FRAME:013230/0131; SIGNING DATES FROM 20020808 TO 20020813
US6955490 BB	20021021	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOLAB INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROGMANN, KARL-HEINZ; DEFIELDS, SCOTT; REEL/FRAME:013418/0057; SIGNING DATES FROM 20021018 TO 20021021
US6955490 BB	20050928	LSGT	PAT1	Patented Case	
US6955490 BB	20090320	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6955490 BB	20130306	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6955490 BB	20170406	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6955490 BB	20220619	PEXP		Calculated Patent Term Expiry	
US7063474 BB	20060620	LSGT	+	granted / extensions (spc, cpc, pte)	
US7063474 BB	20060531	LSGT	PAT1	Patented Case	
US7063474 BB	20091120	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7063474 BB	20131120	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8

US7063474 BB	20171207	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7063474 BB	20231209	PEXP		Calculated Patent Term Expiry	
US7232272 BB	20070619	LSGT	+	granted / extensions (spc, cpc, pte)	
US7232272 BB	20040716	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOLAB INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: BALZ, ERIC; NELSON, WESLEY; CARLSON, BRIAN; AND OTHERS; REEL/FRAME: 014862/0708; SIGNING DATES FROM 20040618 TO 20040625
US7232272 BB	20070530	LSGT	PAT1	Patented Case	
US7232272 BB	20101122	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7232272 BB	20141119	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7232272 BB	20181207	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7232272 BB	20240625	PEXP		Calculated Patent Term Expiry (PTA 112 days and a terminal disclaimer has been filed)	
US7341389 BB	20080311	LSGT	+	granted / extensions (spc, cpc, pte)	
US7341389 BB	20080220	LSGT	PAT1	Patented Case	
US7341389 BB	20110824	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7341389 BB	20150826	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7341389 BB	20190830	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7341389 BB	20241111	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US7621686 BB	20091124	LSGT	+	granted / extensions (spc, cpc, pte)	
US7621686 BB	20091104	LSGT	PAT1	Patented Case	
US7621686 BB	20130308	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7621686 BB	20170511	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7621686 BB	20250815	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US7670073 BB	20100302	LSGT	+	granted / extensions (spc, cpc, pte)	
US7670073 BB	20100210	LSGT	PAT1	Patented Case	
US7670073 BB	20130314	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7670073 BB	20170817	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7670073 BB	20290619	PEXP		Calculated Patent Term Expiry	
US7794165 BB	20100914	LSGT	+	granted / extensions (spc, cpc, pte)	
US7794165 BB	20100825	LSGT	PAT1	Patented Case	
US7794165 BB	20140212	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7794165 BB	20180301	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7794165 BB	20280930	PEXP		Calculated Patent Term	

					Expiry (PTA 336 days)
WO0054647 A1	20000921	LSPB	+	published / reissued	
WO0054647 A1	20010903	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2000912541 COUNTRY OF REF DOCUMENT : EP
WO0054647 A1	20010907	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 09936141 COUNTRY OF REF DOCUMENT : US
WO0054647 A1	20011212	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000912541 COUNTRY OF REF DOCUMENT : EP
WO0054647 A1	20030924	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000912541 COUNTRY OF REF DOCUMENT : EP
WO03041555 A1	20030522	LSPB	+	published / reissued	
WO03041555 A1	20040327	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002782299 COUNTRY OF REF DOCUMENT : EP
WO03041555 A1	20040330	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2462277 COUNTRY OF REF DOCUMENT : CA
WO03041555 A1	20040405	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002348275 COUNTRY OF REF DOCUMENT : AU
WO03041555 A1	20040426	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2004/003908 COUNTRY OF REF DOCUMENT : MX
WO03041555 A1	20040514	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003543449 COUNTRY OF REF DOCUMENT : JP
WO03041555 A1	20040811	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002782299 COUNTRY OF REF DOCUMENT : EP
WO03041555 A1	20070613	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002782299 COUNTRY OF REF DOCUMENT : EP