

Search history

Search 1: FT=(NUT~ LOCKING~ INSTRUMENT~ AND HAVE~ PIPE~ OF WEAVING~ AND PLUMBING~) (Results 0)
Search 2: F16L 35/00 (Results 0)
Search 3: F16L (Results 709)
Search 4: FT=(NUT~ LOCKING~ INSTRUMENT~ PIPE~ WEAVING~) (Results 0)
Search 5: FT=(NUT~ LOCKING~ INSTRUMENT~ PIPE~ DOUBLE-USE~) (Results 0)
Search 6: FT=(NUT~ LOCKING~ tool~ PIPE~ DOUBLE-USE~) (Results 0)
Search 7: FT=(NUT~ tool~ PIPE~ DOUBLE-USE~) (Results 0)
Search 8: FT=(NUT~ tool~ PIPE~ DOUBLE and USE~) (Results 0)
Search 9: F16L and nut and pipe (Results 104)

Title: HOSE CLAMP

Abstract: A clamp for a hose includes a loop, for disposing around the hose, which has two axially spaced apart looped ends. The clamp has a force generator, for drawing together the two looped ends, and which is connected to the two looped ends. The force generator has at least one disc spring mounted thereon. A spacer member is mounted on the force generator between the disc spring and one of the looped ends for axially transferring a clamping force from the force generator to the looped ends. The clamping force is sufficient to axially draw together the looped ends so as to clamp the hose.

Classifications:

International (IPC 8-9): B65D63/00 F16L F16L25/00 F16L33/02

F16L33/04 (Advanced/Invention);

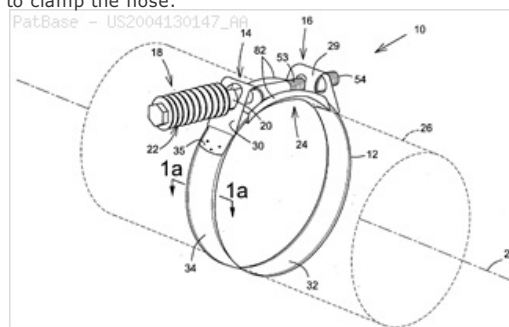
F16L (Subclass/Invention)

International (IPC 1-7): F16L33/00 F16L33/02 F16L33/04

CPC: F16L33/04 Y10T24/1412 F01N13/1805 F01N13/1855

European: F16L33/04

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Family:

Publication number	Publication date	Application number	Application date
AT443831 E	20091015	AT20030776699T	20031120
AU2003286025 AA	20040623	AU20030286025	20031120
BRPI0316142 A	20050927	BR2003PI16142	20031120
CA2581562 AA	20070914	CA20072581562	20070314
CN100396984 C	20080625	CN200380104474	20031120
CN1717561 A	20060104	CN200380104474	20031120
DE60329417 D1	20091105	DE20036029417	20031120
EA007320 B1	20060825	EA20050000888	20031120
EA200500888 A1	20051027	EA20050000888	20031120
EP1570201 A1	20050907	EP20030776699	20031120
EP1570201 B1	20090923	EP20030776699	20031120
HK1085530 A1	20090430	HK20060105514	20060512
HK1085530 A1	20060825	HK20060105514	20060512
HK1085530 A3	20060825	HK20060105514	20060512
HK1085530 B	20090430	HK20060105514	20060512
IN02154DN2005 A	20091030	IN2005DN02154	20050520
MXPA05005519 A1	20051117	MX2005PA05519	20031120
NZ540903 A	20061222	NZ20030540903	20031120
TW200415325 A	20040816	TW20030133153	20031126
TWI293356 B	20080211	TW20030133153	20031126
US2004130147 AA	20040708	US20030716566	20031120
US2006170215 AA	20060803	US20060374146	20060314
US2011035907 AA	20110217	US20100913843	20101028
WO04051132 A1	20040617	WO2003CA01801	20031120

Priority:

US20020429534P 20021129 US20030716566 20031120 WO2003CA01801 20031120
US20060374146 20060314 CA20072581562 20070314 US20100913843 20101028

Probable Assignee: COUSINEAU

Assignee(s): (std): COUSINEAU ; COUSINEAU MARTIN ; MARTIN COUSINEAU

Assignee(s): BDC CAPITAL INC

Inventor(s): (std): COUSINEAU MARTIN ; MARTIN COUSINEAU

Agent(s): SPRUSON AND FERGUSON; EQUINOX; PATENTANWALTSKANZLEI MATSCHNIG AND FORSTHUBER OG;
CHINA SINDA INTELLECTUAL PROPERTY LTD; FRANZ BONSANG C O PROTECTIONS EQUINOX INTL INC;
ANGLEHART ET AL

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT443831 E	20091015	LSGT	+	granted / extensions (spc, cpc, pte)	
AT443831 E	20100315	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW	

INTRODUCING PATENT TREATIES				
AT443831 E	20231120	PEXP		Calculated Patent Term Expiry
AU2003286025 AA	20040623	LSPB	+	published / reissued
AU2003286025 AA	20090611	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED
BRPI0316142 A	20050927	LSPB	+	published / reissued
BRPI0316142 A	20120529	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW
BRPI0316142 A	20130213	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)
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				EFFECTIVE DATE : 20130314
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CN1717561 A	20060104	LSPB	+C06	PUBLICATION
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				EFFECTIVE DATE : 20060904
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US2011035907 AA	20110217	LSPB	+	published / reissued	

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Title: METHOD, PIPELINE AND DEVICE FOR FITTING AN INNER TUBE IN AN EXISTING PIPELINE USING AIR VENTING MEANS

Abstract: Method and device for fitting an inner tube in an existing pipeline, using air venting means, and also pipeline with inner tube of thermoplastics fitted in a stretched state therein. Lining of a pipeline (1) by placing therein an inner tube (2) of thermoplastic plastic and inflating it by medium pressure, thus forming an inner tube lining (2'), and subsequently cooling it under medium pressure. In order to prevent the inclusion of air between inside of pipeline (1) and outside of inner tube (2) to be inflated, longitudinal ribs of low height are provided on the outside (2a) of the inner tube (2). During the inflation the inner tube (2) also forms a sealing flange (20) extending over the end face (26) of the pipeline (1). A device for inflating the inner tube (2) comprises a coupling piece (17) which can be connected in a tension-resistant manner to the pipeline (1) and is provided with a connection (16) for introducing a pressure medium into inner tube (2).

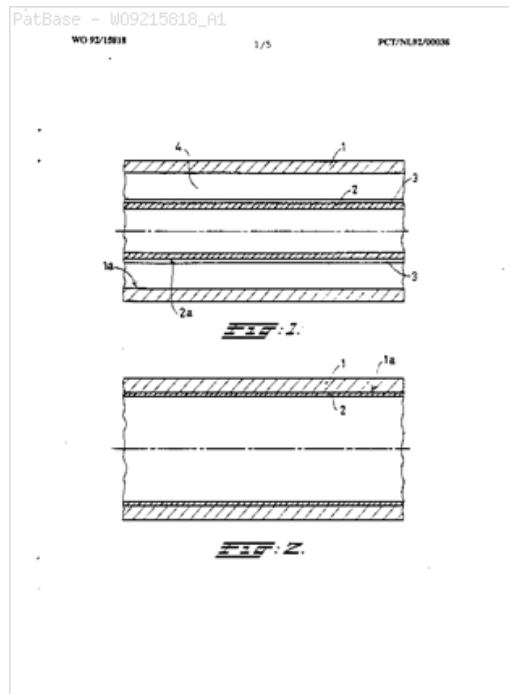
Classifications:

International (IPC 8-9): B29C63/00 B29C63/34 F16L55/16 F16L55/165 F16L55/18 F16L58/10 (Advanced/Invention); F16L55/16 (Advanced/Non-invention); B29C63/00 B29C63/34 F16L55/16 F16L55/162 F16L55/18 F16L58/02 (Core/Invention)

International (IPC 1-7): B29C63/34 B29L23/00 B29L23/22 F16L55/16 F16L55/165 F16L55/18 F16L58/10

CPC: B29C63/0047 B29C63/34 F16L55/1654 F16L55/18 F16L58/1036

European: B29C63/00E B29C63/34 F16L55/165D4 F16L55/18 F16L58/10B6



Family:

Publication number	Publication date	Application number	Application date
AT138174 E	19960615	AT19920906532T	19920225
AU199213724 A1	19921006	AU19920013724	19920225
AU648653 B2	19940428	AU19920013724	19920225
DE69210809 D1	19960620	DE19926010809	19920225
DE69210809 T2	19961031	DE19926010809T	19920225
EP0574488 A1	19931222	EP19920906532	19920225
EP0574488 B1	19960515	EP19920906532	19920225
IE74252 B	19970716	IE19920000602	19920226
IE920602 A1	19920909	IE19920000602	19920226
JP3113677 B2	20001204	JP19920506093	19920225
JP6505212 T2	19940616	JP19920506093T	19920225
NL9100403 A	19921001	NL19910000403	19910306
WO9215818 A1	19920917	WO1992NL00038	19920225

Priority:

NL19910000403 19910306 NL19919100403 19910306 WO1992NL00038 19920225

Probable Assignee: WAVIN BV

Assignee(s): (std): WAVIN BV

Assignee(s): WAVIN B V ; WAVIN B V TE ZWOLLE ; WAVIN B V ZWOLLE NL

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Inventor(s): BEREND JAN VAN DIJK ; BERNHARD LODDER ; LODDER BERNHARD NL 7772 EW HARDENBERG NL ; VAN DIJK BEREND JAN NL 7776 XA SLAGHAREN NL

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD

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

Legal status (INPADOC)

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Patent **Date recorded** **Event group** **Code** **Event** **Details**

AT138174 E	19960615	LSGT	+	granted / extensions (spc, cpc, pte)	
AT138174 E	20120225	PEXP		Calculated Patent Term Expiry	
AU199213724 A1	19921006	LSPB	+	published / reissued	
AU648653 B2	19940428	LSGT	+	granted / extensions (spc, cpc, pte)	
AU648653 B2	20120225	PEXP		Calculated Patent Term Expiry	
DE69210809 D1	19970612	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69210809 D1	20081224	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69210809 T2	19961031	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69210809 T2	20120225	PEXP		Calculated Patent Term Expiry	
EP0574488 A1	19931222	LSPB	+	published / reissued	
EP0574488 A1	19931222	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19930813
EP0574488 A1	19950208	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : WAVIN B.V.
EP0574488 A1	19950607	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19950421
EP0574488 B1	19960515	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0574488 B1	19960515	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT LAPSED DATE : 19960515
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EP0574488 B1	19960515	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK LAPSED DATE : 19960515
EP0574488 B1	19960515	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI LAPSED DATE : 19960515
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EP0574488 B1	19970228	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 : 19970228
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EP0574488 B1	20070222	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20070222 YEAR OF FEE PAYMENT : 16
EP0574488 B1	20070227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20070227 YEAR OF FEE PAYMENT : 16
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EP0574488 B1	20081103	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20080901
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EP0574488 B1	20090630	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 : 20080225
EP0574488 B1	20090831	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : *WAVIN B.V. EFFECTIVE DATE : 20090228
EP0574488 B1	20100226	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 : 20090228
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EP0574488 B1	20120225	PEXP		Calculated Patent Term	

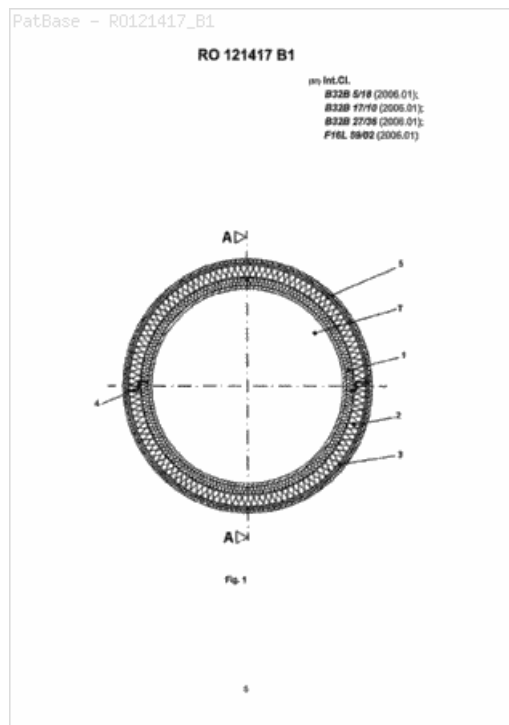
				Expiry		
IE74252 B	19970716	LSGT	+	granted / extensions (spc, cpc, pte)		
IE74252 B	20081126	LSLE	-MM4A	PATENT LAPSED		
IE74252 B	20120226	PEXP		Calculated Patent Term Expiry		
IE920602 A1	19920909	LSPB	+	published / reissued		
JP3113677 B2	20001204	LSGT	+	granted / extensions (spc, cpc, pte)		
JP3113677 B2	20040803	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	
JP3113677 B2	20050830	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	
JP3113677 B2	20060922	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES		
JP3113677 B2	20120225	PEXP		Calculated Patent Term Expiry		
JP6505212 T2	19940616	LSPB	+	published / reissued		
NL9100403 A	19921001	LSPB	+	published / reissued		
NL9100403 A	19921001	LSES	+A1B	A SEARCH REPORT HAS BEEN DRAWN UP		
NL9100403 A	19931101	LSLE	-BV	THE PATENT APPLICATION HAS LAPSED		
WO9215818 A1	19920917	LSPB	+	published / reissued		
WO9215818 A1	19930813	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1992906532 COUNTRY OF REF DOCUMENT : EP	
WO9215818 A1	19930907	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 1993 108678 COUNTRY OF REF DOCUMENT : US DATE OF REF DOCUMENT : 19930907 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :	
WO9215818 A1	19931222	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1992906532 COUNTRY OF REF DOCUMENT : EP	
WO9215818 A1	19941106	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA	
WO9215818 A1	19960515	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1992906532 COUNTRY OF REF DOCUMENT : EP	

Title: MIXED THERMO- AND HYDROINSULATION AND PROCESS FOR PREPARING THE SAME

Abstract: The invention relates to a mixed thermo- and hydroinsulation for **pipes** in technological installations and central heating networks and to a process for manufacturing the same. The thermo- and hydroinsulation comprises a shell-shaped thermoinsulating layer, consisting of mineral wool, ecological rigid polyurethane foam, and aluminium foil (3) with insertion, connected by tongue and groove system (4), and a hydroinsulating layer (5) comprising two fireproof polyester resin layers, reinforced with fiberglass cloth. According to the invention, the process consists in the fact that the thermoinsulating layer is mounted on the central heating **pipe**, which was previously protected against corrosion, by tightening with polypropylene tapes by tongue and groove system, on which the hydroinsulating layer is applied in two steps, namely the polyester resin is applied as a continuous film, with no air inclusions, on which the fiberglass cloth is fixed by pressing and rolling, the second fireproof polyester resin being applied afterwards.

Classifications:

International (IPC 8-9): B32B17/10 B32B27/36 B32B5/18
F16L59/02 (Advanced/Invention);
B32B17/06 B32B27/36 B32B5/18 F16L59/02 (Core/Invention)



Family:

Publication number	Publication date	Application number	Application date
RO121417 B1	20070530	RO20050001039	20051215

Priority:

RO20050001039 20051215

Probable Assignee: STIZO S A

Assignee(s): (std): STIZO S A

Assignee(s): STIZO SA

Inventor(s): (std): DINC E RODICA ; ENE DAN NICOLAE ; VENAT ATHANASIE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
RO121417 B1	20070530	LSGT	+	granted / extensions (spc, cpc, pte)	
RO121417 B1	20251215	PEXP		Calculated Patent Term Expiry	

Title: TORQUE RETENTION ARRANGEMENT

Abstract: A torque retention arrangement for a flange bolt connector for use with **pipe**. The torque retention arrangement a carrier body and a plurality of springs. The carrier body can include a plurality of spring holes equi-spaced around a circumference. A plurality of springs in a vertical stack can be mounted in each of the plurality of spring holes in the carrier. Each spring is in a convex orientation in a pre-torque condition and is in a planar orientation in a post-torque condition.

Classifications:

International (pc 8-9): B25B29/02 F16B31/02 F16B31/04 F16B39/24 F16B43/00 F16J15/10 F16L23/024 F16L23/036

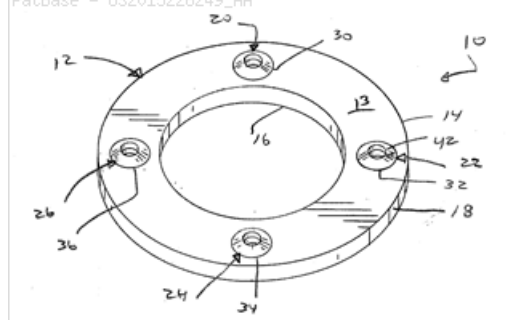
F16L23/24 (Advanced/Invention);

F16B31/00 (Core/Invention)

CPC: F16L23/024 F16B43/00 F16B31/028 F16L23/036 F16B39/24 B25B29/02 F16B31/04 F16B43/001 F16L23/24 Y10T29/49948

US: 137/15.09 29/525.02 411/8

PatBase - US2015226249_AA

**Family:**

Publication number	Publication date	Application number	Application date
BR102015002591 A2	20170620	BR20151002591	20150206
CN104948858 A	20150930	CN201510277698	20150206
CN104948858 B	20180518	CN201510277698	20150206
DE602015000121 D1	20160901	DE201560000121T	20150206
EP2905484 A1	20150812	EP20150000344	20150206
EP2905484 B1	20160720	EP20150000344	20150206
ES2599408 T3	20170201	ES20150000344T	20150206
JP2015155751 A2	20150827	JP20150021735	20150206
KR20150093624 A	20150818	KR20150019290	20150209
MX2015001632 A1	20150806	MX20150001632	20150205
MX359571 B	20181002	MX20150001632	20150205
US2015226249 AA	20150813	US20150613429	20150204
US2017146167 AA	20170525	US20160374107	20161209
US2019170279 AA	20190606	US20190273424	20190212
US2019170280 AA	20190606	US20190273467	20190212
US10274114 BB	20190430	US20160374107	20161209

Priority:

US20140937041P	20140207	US20150613429	20150204	EP20150000344	20150206
JP20150021735	20150206	KR20150019290	20150209	US20160374107	20161209
US20190273424	20190212	US20190273467	20190212		

Probable Assignee: BARNES GROUP INC

Assignee(s): (std): BARNES GROUP INC

Assignee(s): BARNES GROUP INC BRISTOL ; INC ; BARNES GROUP

Inventor(s): (std): OTTO JOHN R ; JOHN R OTTO

Inventor(s): OTTO JOHN R BRISTOL

Agent(s): GROSSE SCHUMACHER KNAUER VON HIRSCHHAUSEN; FERNANDEZ VEGA FERNANDEZ VEGA MARIA COVADONGA; FAY SHARPE LLP

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BR102015002591 A2	20170620	LSPB	B03A	PUBLICATION OF AN APPLICATION: PUBLICATION OF A PATENT APPLICATION OR OF A CERTIFICATE OF ADDITION OF INVENTION	
CN104948858 A	20150930	LSPB	+	published / reissued	
CN104948858 A	20150930	LSPB	+C06	PUBLICATION	
CN104948858 B	20180518	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104948858 B	20180518	LSGT	+GR01	PATENT GRANT	

CN104948858 B	20350206	PEXP		Calculated Patent Term Expiry	
EP2905484 A1	20150812	LSPB	+	published / reissued	
EP2905484 A1	20151021	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150911
EP2905484 A1	20160309	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160211
EP2905484 B1	20160720	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2905484 B1	20160720	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2905484 B1	20160729	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2905484 B1	20160810	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2905484 B1	20160815	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 814354 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20160815
EP2905484 B1	20160901	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602015000121 COUNTRY OF REF DOCUMENT : DE
EP2905484 B1	20161110	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2905484 B1	20161215	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 814354 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20160720
EP2905484 B1	20170118	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 : 3
EP2905484 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS 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 : 20161120
EP2905484 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NO 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 : 20161020
EP2905484 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HR 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 : 20160720

EP2905484 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT 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 : 20160720
EP2905484 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT 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 : 20160720
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EP2905484 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL 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 : 20160720
EP2905484 B1	20170201	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2599408 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20170201
EP2905484 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL 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 : 20160720
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EP2905484 B1	20170421	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602015000121 COUNTRY OF REF DOCUMENT : DE
EP2905484 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160720
EP2905484 B1	20170428	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 : 20160720
EP2905484 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170227 YEAR OF FEE PAYMENT : 3
EP2905484 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170118 YEAR OF FEE PAYMENT : 3
EP2905484 B1	20170531	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 : 20160720
EP2905484 B1	20170531	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

				EPO]	FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161020
EP2905484 B1	20170531	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 : 20160720
EP2905484 B1	20170531	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 : 20160720
EP2905484 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SM NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160720
EP2905484 B1	20170628	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20170421
EP2905484 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20170216 YEAR OF FEE PAYMENT : 3
EP2905484 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160720
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EP2905484 B1	20171129	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2905484 B1	20171229	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 : 20170206
EP2905484 B1	20180118	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 4
EP2905484 B1	20180228	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 : 20170206
EP2905484 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180207 YEAR OF FEE PAYMENT : 4
EP2905484 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES

EP2905484 B1	20180531	LSFE	+PGFP	[ANNOUNCED FROM NATIONAL OFFICE TO EPO] ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	PAYMENT DATE : 20180302 YEAR OF FEE PAYMENT : 4 COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180118 YEAR OF FEE PAYMENT : 4
EP2905484 B1	20180914	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2905484 B1	20180928	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20170206
EP2905484 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160720
EP2905484 B1	20181130	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 : 20180228
EP2905484 B1	20181130	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 : 20180228
EP2905484 B1	20190628	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; INVALID AB INITIO LAPSED DATE : 20150206
EP2905484 B1	20350206	PEXP		Calculated Patent Term Expiry	
ES2599408 T3	20170201	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2599408 T3	20350206	PEXP		Calculated Patent Term Expiry	
JP2015155751 A2	20150827	LSPB	+	published / reissued	
JP2015155751 A2	20180206	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180206
JP2015155751 A2	20180206	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20180206
JP2015155751 A2	20190129	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20190129
JP2015155751 A2	20190628	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20190628
KR20150093624 A	20150818	LSPB	+	published / reissued	
MX2015001632 A1	20150806	LSPB	+	published / reissued	
MX2015001632 A1	20181002	LSGT	+FG	GRANT OR REGISTRATION	
MX359571 B	20181002	LSGT	+	granted / extensions (spc, cpc, pte)	

MX359571 B	20350205	PEXP		Calculated Patent Term Expiry	
US10274114 BB	20190430	LSGT	+	granted / extensions (spc, cpc, pte)	
US10274114 BB	20161209	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARNES GROUP INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:OTTO, JOHN R.; REEL/FRAME:040699/0507 EFFECTIVE DATE : 20140310
US10274114 BB	20190410	LSGT	PAT1	Patented Case	
US10274114 BB	20361209	PEXP		Calculated Patent Term Expiry	
US2015226249 AA	20150813	LSPB	+	published / reissued	
US2015226249 AA	20150204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARNES GROUP INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:OTTO, JOHN R.; REEL/FRAME:034882/0804 EFFECTIVE DATE : 20140310
US2015226249 AA	20170306	LSES	NFA1	Non Final Action Mailed	
US2015226249 AA	20180108	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2015226249 AA	20180122	LSES	NFA1	Non Final Action Mailed	
US2015226249 AA	20180801	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2017146167 AA	20170525	LSPB	+	published / reissued	
US2017146167 AA	20171025	LSES	NFA1	Non Final Action Mailed	
US2017146167 AA	20190108	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017146167 AA	20190314	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2017146167 AA	20190318	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017146167 AA	20190410	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2019170279 AA	20190606	LSPB	+	published / reissued	
US2019170279 AA	20190212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARNES GROUP INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:OTTO, JOHN R.; REEL/FRAME:048308/0215 EFFECTIVE DATE : 20140310
US2019170280 AA	20190606	LSPB	+	published / reissued	
US2019170280 AA	20190212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARNES GROUP INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:OTTO, JOHN R.; REEL/FRAME:048308/0530 EFFECTIVE DATE : 20140310

Title: LUBRICATING COATING COMPOSITION SUITABLE FOR LUBRICATION OF A THREADED JOINT

Abstract: A lubricating coating composition in which at least one basic lubricant selected from a basic sulfonate, a basic salicylate, and a basic phenate is dissolved in a volatile solvent is applied to the frictional surface of a box and a pin constituting a threaded joint for oil well **pipes**. The composition may further contain one or more of a thermoplastic resin powder, another lubricant, and an extreme pressure agent. The surface roughness of the frictional surfaces preferably has an Rmax in the range of 5-40 micrometers.

Classifications:

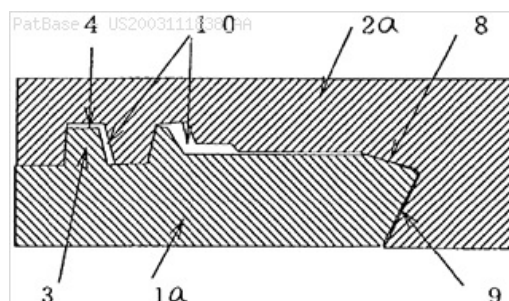
International (IPC 8-9): C09K3/10 C10M103/06 C10M105/72 C10M107/00 C10M109/02 C10M111/04 C10M121/02 C10M129/16 C10M135/06 C10M135/20 C10M137/02 C10M137/04 C10M137/10 C10M143/02 C10M143/04 C10M143/16 C10M145/14 C10M149/18 C10M159/20 C10M159/22 C10M159/24 C10M165/00 C10M167/00 C10M169/04 C10N40/00 C10N40/34 C10N50/02 E21B17/02 E21B17/042 F16L15/00 F16L15/04 F16L55/00 F16L58/04 F16N15/00 (Advanced/Invention); C10N10/04 C10N10/12 C10N20/00 C10N20/06 C10N30/06 C10N30/12 C10N40/00 C10N40/34 C10N50/02 (Advanced/Non-invention); C09K3/10 C10M103/00 C10M105/00 C10M107/00 C10M109/00 C10M111/00 C10M121/00 C10M129/00 C10M135/00 C10M137/00 C10M143/00 C10M145/00 C10M149/00 C10M159/00 C10M165/00 C10M167/00 C10M169/00 E21B17/02 F16L15/00 F16L35/00 F16L55/00 F16N15/00 (Core/Invention)

International (IPC 1-7): C10M105/08 C10M109/02 C10M111/04 C10M121/02 C10M129/16 C10M135/06 C10M135/20 C10M137/02 C10M137/04 C10M137/10 C10M143/02 C10M143/04 C10M143/16 C10M145/14 C10M149/18 C10M159/20 C10M159/22 C10M159/24 C10M165/00 C10M167/00 C10M169/04 C10N10/04 C10N10/12 C10N20/00 C10N20/06 C10N30/06 C10N30/12 C10N40/00 C10N40/34 C10N50/02 E21B17/042 F16L 35/00 F16L15/04 F16L21/00 F16L35/00

CPC: F16L15/004 F16L58/182 C10M111/04 C10M159/20 C10M165/00 C10M167/00 C10M169/042 C10M169/048 C10M2203/065 C10M2203/1006 C10M2205/022 C10M2205/0225 C10M2205/024 C10M2205/04 C10M2205/043 C10M2207/028 C10M2207/0285 C10M2207/126 C10M2207/262 C10M2207/2623 C10M2207/289 C10M2207/40 C10M2209/084 C10M2209/0845 C10M2217/044 C10M2219/044 C10M2219/046 C10M2219/0463 C10M2219/089 C10M2223/04 C10M2223/045 C10N2210/02 C10N2220/082 C10N2230/06 C10N2230/12 C10N2230/52 C10N2250/121 C10N2280/00

European: C10M111/04 C10M159/20 C10M165/00 C10M167/00 C10M169/04D C10M169/04J C10M169/04L M10M203/06B M10M203/10B M10M205/022 M10M205/022B M10M205/024 M10M205/04 M10M205/04B M10M207/028 M10M207/028B M10M207/126 M10M207/262 M10M207/262B M10M207/289 M10M207/40 M10M209/084 M10M209/084B M10M217/044 M10M219/044 M10M219/046 M10M219/046B M10M219/089 M10M223/04 M10M223/045 M10N210/02 M10N220/082 M10N230/06 M10N230/12 M10N230/52 M10N250/121 M10N280/00

US: 285/333 285/39 285/390 285/94



Family:

Publication number	Publication date	Application number	Application date
AR031897 AA	20031008	AR2001P105637	20011204
AU2002222575 AA	20020618	AU20020222575	20011204
AU200222575 A1	20020618	AU20020022575	20011204
AU200222575 A5	20020618	AU20020022575	20011204
BRPI0115926 A	20031223	BR2001PI15926	20011204
BRPI0115926 B1	20110517	BR2001PI15926	20011204
CA2430533 AA	20030530	CA20012430533	20011204
CA2430533 C	20090512	CA20012430533	20011204
CN100529030 C	20090819	CN200510106369	20011204
CN1280386 C	20061018	CN20018020039	20011204
CN1526006 A	20040901	CN20018020039	20011204
CN1746277 A	20060315	CN200510106369	20011204
DE60149313 D1	20150521	DE20016049313	20011204
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EP1350834 A1	20031008	EP20010999621	20011204
EP1350834 A4	20050420	EP20010999621	20011204
EP1350834 B1	20150408	EP20010999621	20011204
ES2541767 T3	20150724	ES20010999621T	20011204
GC3221 A	20141202	GC2001P001757	20011203
JP2002173692 A2	20020621	JP20000368895	20001204
JP4092871 B2	20080528	JP20000368895	20001204
MXPA03004952 A1	20050214	MX2003PA04952	20011204
MY141943 A	20100730	MY20010005522	20011204
PL198006 B1	20080530	PL20010362794	20011204
PL362794 A1	20041102	PL20010362794	20011204
RO121035 B1	20061130	RO20030000489	20011204
RO123531 B1	20130430	RO20060000372	20011204
RU2003119974 A	20041227	RU20030119974	20011204
RU2246532 C1	20050220	RU20030119974	20011204
TH23060 B	20080110	TH20011004929	20011204
TH54955 A	20030204	TH20011004929	20011204
US2003111838 AA	20030619	US20020201932	20020725
US6869111 BB	20050322	US20020201932	20020725
WO0246338 A1	20020613	WO2001JP10573	20011204

Priority:

JP20000368895 20001204

EP20010999621 20011204

WO2001JP10573 20011204

Probable Assignee: VALLOUREC OIL AND GAS FRANCE

Assignee(s): (std): GOTO KUNIO ; NAGASAKU SHIGEO ; NIPPON STEEL AND SUMITOMO METAL ; NIPPON STEEL AND SUMITOMO METAL CORP ; SUMITOMO METAL IND ; YAMAMOTO HIDEO ; VALLOUREC MANNESMANN OIL AND GAS ; SUMITOMO METAL IND LTD ; SUMITOMO METAL INDUSTRIES LTD ; VALLOUREC MANNESMANN OIL AND GAS FRANCE ; SUMITOMO METAL IND VALLOUREC M ; VALLOUREC OIL AND GAS FRANCE

Assignee(s): SUMITOMO METAL IND VALLOUREC MANNESMANN OIL AND GAS ; SUMITOMO METAL INDUSTRIES ; NIPPON STEEL CORP

Inventor(s): (std): GOTO KUNIO ; NAGASAKU SHIGEO ; YAMAMOTO HIDEO ; HIDEO GOTO KUNIO NAGASAKU SHIG ; HIDEO YAMAMOTO ; SHIGEO NAGASAKU ; GOTO KUNIO NAGASAKU SHIGEO YAMAMOTO HIDEO ; JAMAMOTO KHIDEO ; NAGASAKU SIGEO ; KUNIO GOTO

Inventor(s): NAGASAKU SHIGEO SUMITOMO METAL IND LTD ; GOTO KUNIO C O SUMITOMO METAL IND LTD OSAKA SHI ; YAMAMOTO HIDEO SUMITOMO METAL IND LTD OSAKA SHI ; NAGASAKU SHIGEO SUMITOMO METAL IND LTD OSAKA SHI ; SIGEO NAGASAKU ; YAMAMOTO HIDEO SUMITOMO METAL IND LTD ; GOTO KUNIO C O SUMITOMO METAL IND LTD

Agent(s): GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; PATENTANWALTSKANZLEI MEYER; DUCKWORTH TIMOTHY JOHN; PONS ANGEL; SAUD M A SHAWWAF LAW OFFICE

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AR031897 AA	20031008	LSPB	+	published / reissued	
AR031897 AA	20090924	LSGT	+FG	GRANT, REGISTRATION	
AU2002222575 AA	20020618	LSPB	+	published / reissued	
AU200222575 A1	20020618	LSPB	+	published / reissued	
BRPI0115926 A	20031223	LSPB	+	published / reissued	
BRPI0115926 A	20100406	LSSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	
BRPI0115926 A	20100921	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0115926 B1	20110517	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	TEXT : PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 04/12/2001, OBSERVADAS AS CONDICOES LEGAIS.
BRPI0115926 B1	20131105	LSAS	B25A	REQUESTED TRANSFER OF RIGHTS APPROVED	PARTYTYPE : OWNER OWNER : VALLOUREC MANNESMANN OIL AND GAS FRANCE (FR) , NIP
BRPI0115926 B1	20131119	LSAS	B25D	REQUESTED CHANGE OF NAME OF APPLICANT APPROVED	PARTYTYPE : OWNER OWNER : VALLOUREC MANNESMANN OIL AND GAS FRANCE (FR) , NIP
BRPI0115926 B1	20151229	LSAS	B25D	REQUESTED CHANGE OF NAME OF APPLICANT APPROVED	PARTYTYPE : OWNER OWNER : NIPPON STEEL AND SUMITOMO METAL CORPORATION (JP) ,
BRPI0115926 B1	20211204	PEXP		Calculated Patent Term Expiry	
CA2430533 AA	20030530	LSPB	+	published / reissued	
CA2430533 AA	20030530	LSSES	+EEER	EXAMINATION REQUEST	
CA2430533 C	20090512	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2430533 C	20211204	PEXP		Calculated Patent Term Expiry	
CN100529030 C	20090819	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100529030 C	20090819	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	

CN100529030 C	20090819	LSGT	+GR01	授权 (The grant of patent right)	TEXT : 授权 (AUTHORIZATION)
CN100529030 C	20130424	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	PARTYTYPE : OWNER OWNER : NIPPON STEEL + SUMITOMO METAL CORPORATION OLDPARTY : FORMER OWNER : CHUGAI SEIYAKU KABUSHIKI KAISHA EFFECTIVE DATE : 20130403
CN100529030 C	20130424	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN100529030 C	20130424	LSAS	TR01	专利权的转移 (Transfer of patent right)	TEXT : 专利申请权、专利权的转移 (TRANSFER OF PATENT APPLICATION OR PATENT RIGHT) PATENTEE AFTER CHANGE : 新日铁住金株式会社; 法国瓦卢莱克曼内斯曼石油天然气公司 (NIPPON STEEL AND SUMITOMO METAL CORP; FRANCE W LU SOLEXIS MANNESMANN PETROLEUM GAS COMPANY) PATENTEE BEFORE CHANGE : 住友金属工业株式会社; 法国瓦卢莱克曼内斯曼石油天然气公司 (SUMITOMO METAL IND LTD; FRANCE W LU SOLEXIS MANNESMANN PETROLEUM GAS COMPANY) EFFECTIVE DATE : 20130403
CN100529030 C	20150513	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN100529030 C	20150513	LSAS	CP01	专利权人姓名或者名称的变更 (Change of name of patentee)	TEXT : 专利权人的姓名或者名称、地址的变更 (THE NAME OR ADDRESS OF A PATENTEE) PATENTEE AFTER CHANGE : 新日铁住金株式会社; 瓦卢瑞克石油天然气法国有限公司 (NIPPON STEEL AND SUMITOMO METAL CORP; W LU RICK FRENCH PETROLEUM CO., LTD.) PATENTEE BEFORE CHANGE : 新日铁住金株式会社; 法国瓦卢莱克曼内斯曼石油天然气公司 (NIPPON STEEL AND SUMITOMO METAL CORP; FRANCE W LU SOLEXIS MANNESMANN PETROLEUM GAS COMPANY)
CN100529030 C	20190604	LSAS	CP01	专利权人姓名或者名称的变更 (Change of name of patentee)	TEXT : 专利权人的姓名或者名称、地址的变更 (THE NAME OR ADDRESS OF A PATENTEE) PATENTEE AFTER CHANGE : 新日本制铁株式会社 (NIPPON STEEL CORP) PATENTEE BEFORE CHANGE : 新日铁住金株式会社 (NIPPON STEEL AND SUMITOMO METAL CORP)
CN100529030 C	20190604	LSAS	CP01	CHANGE IN THE NAME OR TITLE OF A PATENT HOLDER	
CN100529030 C	20190726	LSAS	CP01	专利权人姓名或者名称的变更 (Change of name of patentee)	TEXT : 专利权人的姓名或者名称、地址的变更 (THE NAME OR ADDRESS OF A PATENTEE) PATENTEE AFTER CHANGE : 日本制铁株式会社 (NIPPON STEEL CORP) PATENTEE BEFORE CHANGE : 新日本制铁株式会社 (NIPPON STEEL CORP)
CN100529030 C	20211204	PEXP		Calculated Patent Term Expiry	
CN1280386 C	20061018	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1280386 C	20061018	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1280386 C	20061018	LSGT	+GR01	授权 (The grant of patent right)	TEXT : 授权 (AUTHORIZATION)
CN1280386 C	20130417	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	PARTYTYPE : OWNER OWNER : NIPPON STEEL + SUMITOMO METAL CORPORATION OLDPARTY : FORMER OWNER : CHUGAI SEIYAKU KABUSHIKI KAISHA EFFECTIVE DATE : 20130328

CN1280386 C	20130417	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN1280386 C	20130417	LSAS	TR01	专利权的转移 (Transfer of patent right)	TEXT : 专利申请权、专利权的转移 (TRANSFER OF PATENT APPLICATION OR PATENT RIGHT) PATENTEE AFTER CHANGE : 新日铁住金株式会社; 法国瓦卢莱克曼内斯曼石油天然气公司 (NIPPON STEEL AND SUMITOMO METAL CORP; FRANCE W LU SOLEXIS MANNESMANN PETROLEUM GAS COMPANY) PATENTEE BEFORE CHANGE : 住友金属工业株式会社; 法国瓦卢莱克曼内斯曼石油天然气公司 (SUMITOMO METAL IND LTD; FRANCE W LU SOLEXIS MANNESMANN PETROLEUM GAS COMPANY) EFFECTIVE DATE : 20130328
CN1280386 C	20150506	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN1280386 C	20150506	LSAS	CP01	专利权人姓名或者名称的变更 (Change of name of patentee)	TEXT : 专利权人的姓名或者名称、地址的变更 (THE NAME OR ADDRESS OF A PATENTEE) PATENTEE AFTER CHANGE : 新日铁住金株式会社; 瓦卢瑞克石油天然气法国有限公司 (NIPPON STEEL AND SUMITOMO METAL CORP; W LU RICK FRENCH PETROLEUM CO., LTD.) PATENTEE BEFORE CHANGE : 新日铁住金株式会社; 法国瓦卢莱克曼内斯曼石油天然气公司 (NIPPON STEEL AND SUMITOMO METAL CORP; FRANCE W LU SOLEXIS MANNESMANN PETROLEUM GAS COMPANY)
CN1280386 C	20190531	LSAS	CP01	专利权人姓名或者名称的变更 (Change of name of patentee)	TEXT : 专利权人的姓名或者名称、地址的变更 (THE NAME OR ADDRESS OF A PATENTEE) PATENTEE AFTER CHANGE : 新日本制铁株式会社 (NIPPON STEEL CORP) PATENTEE BEFORE CHANGE : 新日铁住金株式会社 (NIPPON STEEL AND SUMITOMO METAL CORP)
CN1280386 C	20190531	LSAS	CP01	CHANGE IN THE NAME OR TITLE OF A PATENT HOLDER	
CN1280386 C	20190723	LSAS	CP01	专利权人姓名或者名称的变更 (Change of name of patentee)	TEXT : 专利权人的姓名或者名称、地址的变更 (THE NAME OR ADDRESS OF A PATENTEE) PATENTEE AFTER CHANGE : 日本制铁株式会社 (NIPPON STEEL CORP) PATENTEE BEFORE CHANGE : 新日本制铁株式会社 (NIPPON STEEL CORP)
CN1280386 C	20211204	PEXP		Calculated Patent Term Expiry	
CN1526006 A	20040901	LSPB	+	published / reissued	
CN1526006 A	20040901	LSPB	+C06	PUBLICATION	
CN1526006 A	20040901	LSPB	PB01	公开 (The publication of application)	TEXT : 公开 (DISCLOSURE)
CN1746277 A	20060315	LSPB	+	published / reissued	
CN1746277 A	20060315	LSPB	+C06	PUBLICATION	
CN1746277 A	20060315	LSPB	PB01	公开 (The publication of application)	TEXT : 公开 (DISCLOSURE)
DE60149313 D1	20150414	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PARTYTYPE : OWNER OLDPARTY : SUMITOMO METAL INDUSTRIES, LTD., OSAKA, JP OLDPARTY : VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR
DE60149313 D1	20190708	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PARTYTYPE : OWNER OWNER : NIPPON STEEL CORPORATION, TOKYO, JP OWNER : VALLOUREC OIL AND GAS FRANCE, AULNOYE-AYMERIES, FR OLDPARTY : NIPPON STEEL & SUMITOMO METAL CORPORATION, TOKYO, JP

					OLDPARTY : VALLOUREC OIL AND GAS FRANCE, AULNOYE-AYMERIES, FR	
EG23042 A	20040131	LSGT	+	granted / extensions (spc, cpc, pte)		
EG23042 A	20211202	PEXP		Calculated Patent Term Expiry		
EP1350834 A1	20031008	LSPB	+	published / reissued		
EP1350834 A1	20031008	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030703	
EP1350834 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20151111 YEAR OF FEE PAYMENT : 15	
EP1350834 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20151125 YEAR OF FEE PAYMENT : 15	
EP1350834 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20151221 YEAR OF FEE PAYMENT : 15	
EP1350834 A4	20050420	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20050307	
EP1350834 A4	20070627	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20070529	
EP1350834 A4	20130123	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION	
EP1350834 A4	20130123	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE	
EP1350834 A4	20140108	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : VALLOUREC OIL AND GAS FRANCE	
EP1350834 A4	20140108	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION	
EP1350834 A4	20141126	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20141030	
EP1350834 B1	20150408	LSGT	+	granted / extensions (spc, cpc, pte)		
EP1350834 B1	20150408	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D	
EP1350834 B1	20150415	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP	
EP1350834 B1	20150506	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D	
EP1350834 B1	20150513	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : T3	
EP1350834 B1	20150515	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 720573 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150515	
EP1350834 B1	20150521	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 60149313 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20150521	

EP1350834 B1	20150724	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2541767 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20150724
EP1350834 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150408
EP1350834 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150810
EP1350834 B1	20151110	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
EP1350834 B1	20151130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150709
EP1350834 B1	20160111	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 60149313 COUNTRY OF REF DOCUMENT : DE
EP1350834 B1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150408
EP1350834 B1	20160316	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20160111
EP1350834 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20151231
EP1350834 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150408
EP1350834 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151204
EP1350834 B1	20160729	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL

EP1350834 B1	20160831	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 : 20150408
EP1350834 B1	20160921	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1350834 B1	20161015	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : UEP REF DOCUMENT NUMBER : 720573 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150408
EP1350834 B1	20161031	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 : 20151231
EP1350834 B1	20161031	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 : 20151231
EP1350834 B1	20161031	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 : 20151204
EP1350834 B1	20161111	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 : 16
EP1350834 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 16
EP1350834 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 16
EP1350834 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 16
EP1350834 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20161110 YEAR OF FEE PAYMENT : 16
EP1350834 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20161125 YEAR OF FEE PAYMENT : 16
EP1350834 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20161221 YEAR OF FEE PAYMENT : 16
EP1350834 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 16
EP1350834 B1	20170630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				INFORMATION FROM NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150408
EP1350834 B1	20170630	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 : 20150408
EP1350834 B1	20170831	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 : 20150408
EP1350834 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 17
EP1350834 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 17
EP1350834 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20171115 YEAR OF FEE PAYMENT : 17
EP1350834 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 17
EP1350834 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20171128 YEAR OF FEE PAYMENT : 17
EP1350834 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 17
EP1350834 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180104 YEAR OF FEE PAYMENT : 17
EP1350834 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 17
EP1350834 B1	20181231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20181114 YEAR OF FEE PAYMENT : 18
EP1350834 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20181126 YEAR OF FEE PAYMENT : 18
EP1350834 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181120 YEAR OF FEE PAYMENT : 18
EP1350834 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181121 YEAR OF FEE PAYMENT : 18
EP1350834 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181128

EP1350834 B1	20190430	LSFE	+PGFP	NATIONAL OFFICE TO EPO] ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 18 COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181220 YEAR OF FEE PAYMENT : 18
EP1350834 B1	20211204	PEXP		Calculated Patent Term Expiry	
ES2541767 T3	20150724	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2541767 T3	20211204	PEXP		Calculated Patent Term Expiry	
GC3221 A	20141202	LSGT	+	granted / extensions (spc, cpc, pte)	
GC3221 A	20211203	PEXP		Calculated Patent Term Expiry	
JP2002173692 A2	20020621	LSPB	+	published / reissued	
JP2002173692 A2	20070515	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070515
JP2002173692 A2	20070718	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20070717
JP2002173692 A2	20070814	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20070814
JP2002173692 A2	20071012	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20071011
JP2002173692 A2	20080118	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20080117
JP2002173692 A2	20080131	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2002173692 A2	20080212	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20080212
JP2002173692 A2	20080313	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20080225
JP2002173692 A2	20080314	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2002173692 A2	20080314	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP4092871 B2	20080528	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4092871 B2	20080214	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP4092871 B2	20080214	LSFE	R1001	特許料納付書 (包括納付) (Patent fee payment form (inclusive payment))	
JP4092871 B2	20101022	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4092871 B2	20101022	LSAS	R313114	本権移転登録申請書 (共有) (Application for registration of right to transfer (share))	
JP4092871 B2	20101022	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	TEXT : JAPANESE INTERMEDIATE CODE: R313114

JP4092871 B2	20101101	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4092871 B2	20101101	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	TEXT : JAPANESE INTERMEDIATE CODE: R350
JP4092871 B2	20110224	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4092871 B2	20110301	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP4092871 B2	20120223	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4092871 B2	20120228	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP4092871 B2	20121024	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	TEXT : JAPANESE INTERMEDIATE CODE: R313115
JP4092871 B2	20121030	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP4092871 B2	20121121	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	TEXT : JAPANESE INTERMEDIATE CODE: R313115
JP4092871 B2	20121130	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP4092871 B2	20121130	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	TEXT : JAPANESE INTERMEDIATE CODE: R350
JP4092871 B2	20130214	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP4092871 B2	20130219	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP4092871 B2	20140213	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP4092871 B2	20140806	LSAS	S533	WRITTEN REQUEST FOR REGISTRATION OF CHANGE OF NAME	TEXT : JAPANESE INTERMEDIATE CODE: R313533
JP4092871 B2	20140814	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	TEXT : JAPANESE INTERMEDIATE CODE: R350
JP4092871 B2	20150205	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4092871 B2	20150225	LSLE	R280	納付書補充指令書 (Payment refilling order form)	
JP4092871 B2	20150226	LSFE	R21	特許料納付書 (補充) (Patent fee payment form (replenishment))	
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JP4092871 B2	20160204	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4092871 B2	20160209	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250

JP4092871 B2	20170202	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP4092871 B2	20180208	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP4092871 B2	20201204	PEXP		Calculated Patent Term Expiry	
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MXPA03004952 A1	20060330	LSGT	+FG	GRANT OR REGISTRATION	
MY141943 A	20100730	LSGT	+	granted / extensions (spc, cpc, pte)	
MY141943 A	20211204	PEXP		Calculated Patent Term Expiry	
PL198006 B1	20080530	LSGT	+	granted / extensions (spc, cpc, pte)	
PL362794 A1	20041102	LSPB	+	published / reissued	
RO121035 B1	20061130	LSGT	+	granted / extensions (spc, cpc, pte)	
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RU2246532 C1	20050220	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2246532 C1	20140720	LSLI	PC43	OFFICIAL REGISTRATION OF THE TRANSFER OF THE EXCLUSIVE RIGHT WITHOUT CONTRACT FOR INVENTIONS	EFFECTIVE DATE : 20140623
RU2246532 C1	20190716	LSAS	PD4A	CORRECTION OF NAME OF PATENT OWNER	
RU2246532 C1	20211204	PEXP		Calculated Patent Term Expiry	
TH23060 B	20080110	LSGT	+	granted / extensions (spc, cpc, pte)	
TH23060 B	20211204	PEXP		Calculated Patent Term Expiry	
TH54955 A	20030204	LSPB	+	published / reissued	
US2003111838 AA	20030619	LSPB	+	published / reissued	
US2003111838 AA	20050302	LSGT	PAT1	Patented Case	
US2003111838 AA	20050302	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6869111 BB	20050322	LSGT	+	granted / extensions (spc, cpc, pte)	
US6869111 BB	20021010	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE, FRANCE OLDPARTY : ASSIGNMENT OF

					ASSIGNORS INTEREST; ASSIGNORS:GOTO, KUNIO; NAGASAKU, SHIGEO; YAMAMOTO, HIDEO; REEL/FRAME:013377/0388; SIGNING DATES FROM 20020913 TO 20020921
US6869111 BB	20021010	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SUMITOMO METAL INDUSTRIES, LTD., JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GOTO, KUNIO; NAGASAKU, SHIGEO; YAMAMOTO, HIDEO; REEL/FRAME:013377/0388; SIGNING DATES FROM 20020913 TO 20020921
US6869111 BB	20080917	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6869111 BB	20120822	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6869111 BB	20140425	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VALLOUREC OIL AND GAS FRANCE, FRANCE OLDPARTY : CHANGE OF NAME; ASSIGNOR:VALLOUREC MANNESMANN OIL & GAS FRANCE; REEL/FRAME:032753/0743 EFFECTIVE DATE : 20131001
US6869111 BB	20160908	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6869111 BB	20190514	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NIPPON STEEL CORPORATION, JAPAN OLDPARTY : CHANGE OF NAME; ASSIGNOR:NIPPON STEEL & SUMITOMO METAL CORPORATION; REEL/FRAME:049257/0828 EFFECTIVE DATE : 20190401
US6869111 BB	20190514	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION, JAPAN OLDPARTY : MERGER; ASSIGNOR:SUMITOMO METAL INDUSTRIES, LTD.; REEL/FRAME:049165/0517 EFFECTIVE DATE : 20121003
US6869111 BB	20220725	PEXP		Calculated Patent Term Expiry	
WO0246338 A1	20020613	LSPB	+	published / reissued	
WO0246338 A1	20020725	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 10201932 COUNTRY OF REF DOCUMENT : US
WO0246338 A1	20030530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2430533 COUNTRY OF REF DOCUMENT : CA
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WO0246338 A1	20030603	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2003/004952 COUNTRY OF REF DOCUMENT : MX
WO0246338 A1	20030604	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 018200397 COUNTRY OF REF DOCUMENT : CN
WO0246338 A1	20030703	LSNP	+WWE	WIPO	REF DOCUMENT NUMBER :

				INFORMATION: ENTRY INTO NATIONAL PHASE	2001999621 COUNTRY OF REF DOCUMENT : EP
WO0246338 A1	20030704	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : RU TEXT : RU A
WO0246338 A1	20031008	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001999621 COUNTRY OF REF DOCUMENT : EP
WO0246338 A1	20031016	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642

Title: A tee connector for tapping into live **pipes**

Abstract: A tee connector for tapping into live **pipes** comprises a crossbar A formed as a half **pipe** section, and two C-shaped clips B that with the aid of screws, in use, fixes the tee connector to **pipe** work. Preferably the connector also includes an extra internally threaded **pipe** which straddles the T junction of the connector. This **pipe** may contain a serrated end cutter C which can be rotated on the internal thread so that it moves downwardly cutting a section out of the live **pipe**. Continued downward movement of the cutter C clamps the cut out portion of the live **pipe** in a sump area (F, fig 2) away from the flow of water so that the water contained within the live **pipe** can flow freely through a bore hole G that runs through the cutter C. An O-ring D may be fitted in the half **pipe** section so that leaking of water is prevented.

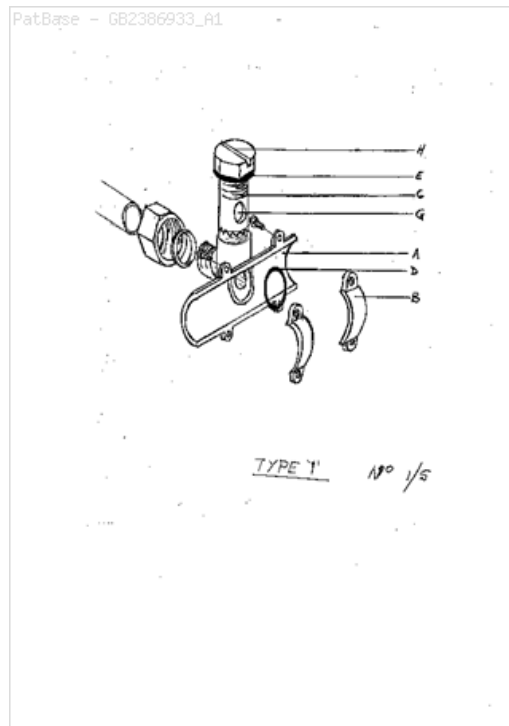
Classifications:

International (IPC 8-9): F16L41/06 (Advanced/Invention);
F16L41/00 (Core/Invention)

International (IPC 1-7): F16L41/04

CPC: F16L41/06

European: F16L41/06



Family:

Publication number	Publication date	Application number	Application date
GB200202087 A0	20020313	GB20020002087	20020130
GB200204533 A0	20020410	GB20020004533	20020227
GB2386933 A1	20031001	GB20020004533	20020227

Priority:

GB20020002087 20020130

Probable Assignee:

REES ALAN F

Assignee(s): (std):

REES ALAN F ; REES ALAN FREDRICK

Assignee(s):

ALAN FREDRICK REES

Inventor(s): (std):

REES ALAN FREDRICK

Inventor(s):

ALAN FREDRICK REES

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
GB200202087 A0	20030416	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GB2386933 A1	20031001	LSPB	+	published / reissued	
GB2386933 A1	20061122	LSWD	-WAP	APPLICATION WITHDRAWN, TAKEN TO BE WITHDRAWN OR REFUSED ** AFTER PUBLICATION UNDER SECTION 16(1)	

Title: HYDRAULIC CONNECTORS

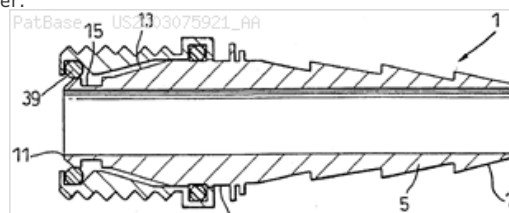
Abstract: A connector for forming a connection between the tubular end of a first fluid conveying member and a threaded end of a second fluid conveying member as a threaded portion (19, 117) for engagement with a threaded end (112) of a second fluid conveying member. The connector is provided with means (39, 141) for engaging an external circumferentially extending groove (31, 137) located on the tubular end of said first fluid conveying member. Means (23, 133) are provided for effecting sealing engagement with said threaded end of said second fluid conveying member.

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

F16L19/075 (Advanced/Invention);

F16L19/02 F16L19/075 (Advanced/Non-invention);

F16L (Subclass/Invention)

International (IPC 1-7): F16L19/02 F16L19/075 F16L27/00 F16L33/16**CPC:** F16L19/0231 F16L37/088 F16L19/0206 F16L19/075**European:** F16L19/02C F16L19/075**US:** 285/272 285/272P 285/272S 285/276 285/276P 285/276S**Family:**

Publication number	Publication date	Application number	Application date
AT262138 E	20040415	AT20000985576T	20001215
AU200121986 A1	20010625	AU20010021986	20001215
AU200121986 A5	20010625	AU20010021986D	20001215
BRPI0016175 A	20020820	BR2000PI16175	20001215
CA2391093 AA	20020510	CA20002391093	20001215
CN1408058 A	20030402	CN20008016697	20001215
CZ20022034 A3	20030115	CZ20020002034	20001215
DE60009139 D1	20040422	DE20006009139	20001215
DE60009139 D1	20040422	DE20006009139T	20001215
DE60009139 T2	20041111	DE20006009139T	20001215
EA003502 B1	20030626	EA20020000672	20001215
EA200200672 A1	20021226	EA20020000672	20001215
EP1238223 A1	20020911	EP20000985576	20001215
EP1238223 B1	20040317	EP20000985576	20001215
GB200022062 A0	20001025	GB20000022062	20000908
GB9929575 A0	20000209	GB19990029575	19991215
HU0204103 AB	20030328	HU20020004103	20001215
IL150188 A0	20021201	IL20000150188	20001215
JP2003517552 T2	20030527	JP20010545764T	20001215
KR20020084071 A	20021104	KR20027007540	20001215
MXPA02004929 A1	20031014	MX2002PA04929	20001215
NO20022824 A	20020613	NO20020002824	20020613
NO20022824 A0	20020613	NO20020002824	20020613
NO20022824 L	20020613	NO20020002824	20020613
SK200200842 A5	20021203	SK20020000842	20001215
US2003075921 AA	20030424	US20020149456	20020927
US2005067835 AA	20050331	US20040992415	20041118
WO0144707 A1	20010621	WO2000GB04820	20001215
YU43502 A	20030707	YU20020000435	20001215
ZA200204095 A	20021022	ZA20020004095	20020523

Priority:

GB19990029575 19991215

GB20000022062 20000908

WO2000GB04820 20001215

US20020149456 20020927

US20040992415 20041118

Probable Assignee: OYSTERTEC PLC**Assignee(s):** (std): AUESTECH CO ; DAVIDSON PAUL ; LINKINDEX LTD ; OYSTERTEC PLC ; MOVERS AND SHAPERS PLC ; OYSTERTEC PLC YORK**Assignee(s):** PAUL DAVIDSON ; DAVIDSON PAUL ANTHONY ; LINKINDEX LIMITED**Inventor(s):** (std): DAVIDSON P ; DAVIDSON PAUL ; P DAVIDSON ; PAUL DAVIDSON**Agent(s):** DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; LONG AND CAMERON; HOWARD AND HOWARD ATTORNEYS PC

Designated states: AE AG 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 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 UG US UZ VN YU ZA ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT262138 E	20040415	LSGT	+	granted / extensions (spc, cpc, pte)	

AT262138 E	20040915	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT262138 E	20201215	PEXP		Calculated Patent Term Expiry	
AU200121986 A1	20010625	LSPB	+	published / reissued	
BRPI0016175 A	20020820	LSPB	+	published / reissued	
BRPI0016175 A	20071226	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 4A, 5A, 6A E 7A ANUIDADES.
BRPI0016175 A	20111213	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : REFERENTE AO DESPACHO 8.6 PUBLICADO NA RPI 1929 DE 26/12/2007.
CA2391093 AA	20020510	LSPB	+	published / reissued	
CA2391093 AA	20041215	LSLE	-FZDE	DEAD	
CN1408058 A	20030402	LSPB	+	published / reissued	
CN1408058 A	20030402	LSPB	+C06	PUBLICATION	
CN1408058 A	20050810	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
CZ20022034 A3	20030115	LSPB	+	published / reissued	
DE60009139 D1	20050414	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60009139 D1	20050414	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60009139 D1	20071018	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
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DE60009139 T2	20041111	LSGT	+	granted / extensions (spc, cpc, pte)	
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DE60009139 T2	20201215	PEXP		Calculated Patent Term Expiry	
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EA003502 B1	20201215	PEXP		Calculated Patent Term Expiry	
EA200200672 A1	20021226	LSPB	+	published / reissued	
EP1238223 A1	20020911	LSPB	+	published / reissued	
EP1238223 A1	20020911	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020621
EP1238223 A1	20021002	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : OYSTERTEC PLC
EP1238223 A1	20040128	LSAS	RAP1	RIGHTS OF AN	PARTYTYPE : OWNER

				APPLICATION TRANSFERRED	OWNER : OYSTERTEC PLC
EP1238223 A1	20040317	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE 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 : 20040317
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EP1238223 A1	20040421	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D

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EP1238223 A1	20040825	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20040317
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EP1238223 A1	20070829	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20061215
EP1238223 A1	20071005	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20070831
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EP1238223 A1	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 : 20040817
EP1238223 A1	20080430	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 : 20070102
EP1238223 A1	20080725	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1045360 COUNTRY OF REF DOCUMENT : HK
EP1238223 A1	20090831	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 : 20071215
EP1238223 B1	20040317	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1238223 B1	20201215	PEXP		Calculated Patent Term Expiry	
GB200022062 A0	20011212	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
HU0204103 AB	20030328	LSPB	+	published / reissued	
JP2003517552 T2	20030527	LSPB	+	published / reissued	
KR20020084071 A	20021104	LSPB	+	published / reissued	
KR20020084071 A	20020816	LSAS	N231	NOTIFICATION OF CHANGE OF APPLICANT	
KR20020084071 A	20051216	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
MXPA02004929 A1	20031014	LSPB	+	published / reissued	
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NO20022824 A	20041129	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID	

OPEN PATENT APPLICATION					
SK200200842 A5	20021203	LSPB	+	published / reissued	
US2003075921 AA	20030424	LSPB	+	published / reissued	
US2003075921 AA	20020927	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : OYSTERTEC PLC, GREAT BRITAIN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DAVIDSON, PAUL; REEL/FRAME:013344/0042 EFFECTIVE DATE : 20020911
US2003075921 AA	20041120	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005067835 AA	20050331	LSPB	+	published / reissued	
US2005067835 AA	20041118	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : OYSTERTEC PLC, GREAT BRITAIN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DAVIDSON, PAUL; REEL/FRAME:016011/0738 EFFECTIVE DATE : 20020911
US2005067835 AA	20060814	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
WO0144707 A1	20010621	LSPB	+	published / reissued	
WO0144707 A1	20001215	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : P- 435/02 COUNTRY OF REF DOCUMENT : YU
WO0144707 A1	20020508	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : IN/PCT/2002/627/KOL COUNTRY OF REF DOCUMENT : IN
WO0144707 A1	20020510	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2391093 COUNTRY OF REF DOCUMENT : CA
WO0144707 A1	20020513	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 518918 COUNTRY OF REF DOCUMENT : NZ
WO0144707 A1	20020516	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2002/004929 COUNTRY OF REF DOCUMENT : MX
WO0144707 A1	20020530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 21986/01 COUNTRY OF REF DOCUMENT : AU
WO0144707 A1	20020604	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 008166978 COUNTRY OF REF DOCUMENT : CN
WO0144707 A1	20020611	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PV2002-2034 COUNTRY OF REF DOCUMENT : CZ
WO0144707 A1	20020612	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 150188 COUNTRY OF REF DOCUMENT : IL
WO0144707 A1	20020612	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 8422002 COUNTRY OF REF DOCUMENT : SK
WO0144707 A1	20020612	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020027007540 COUNTRY OF REF DOCUMENT :

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WO0144707 A1	20020614	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2002 200200854 COUNTRY OF REF DOCUMENT : RO KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0144707 A1	20020617	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2001 545764 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0144707 A1	20020621	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2000985576 COUNTRY OF REF DOCUMENT : EP
WO0144707 A1	20020712	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200200672 COUNTRY OF REF DOCUMENT : EA
WO0144707 A1	20020911	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000985576 COUNTRY OF REF DOCUMENT : EP
WO0144707 A1	20020927	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 10149456 COUNTRY OF REF DOCUMENT : US
WO0144707 A1	20021104	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020027007540 COUNTRY OF REF DOCUMENT : KR
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WO0144707 A1	20040207	LSRV	-WWR	WIPO INFORMATION: REFUSED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : PV2002-2034 COUNTRY OF REF DOCUMENT : CZ
WO0144707 A1	20040317	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000985576 COUNTRY OF REF DOCUMENT : EP
YU43502 A	20030707	LSPB	+	published / reissued	
ZA200204095 A	20021022	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200204095 A	20220522	PEXP		Calculated Patent Term Expiry	

Title: Hose coupling

Abstract: A base member has an elongate bore, a base end, a distal end, an elongate inner sleeve extending from the base end to the distal end, a generally frusto-conical outer surface having a larger diameter adjacent to the base end and a reduced diameter at the distal end, and a radially extending flange attached to the base end of the inner sleeve. The outer surface of the inner sleeve has axially spaced protrusions positioned along its length. An outer sleeve extends around the inner sleeve, has an annular base portion positioned axially adjacent to the flange, and a plurality of finger portions attached to the base portion and distributed in mutually opposing relationship circumferentially about the inner sleeve and extending from adjacent to the base end of the inner sleeve to the distal end of the inner sleeve. The finger portions are movable radially relative to the inner sleeve and have frusto-conical inner surfaces generally conforming to the outer surface of the inner sleeve. The outer sleeve has a distal end adjacent to the distal end of the inner sleeve that is sufficiently radially flexible to allow a hose end to be inserted on the inner sleeve. The inner surface of the finger portions also has axially spaced protrusions that are axially offset relative to the protrusions of the inner sleeve. The protrusions of the outer sleeve are urged between the protrusions of the inner sleeve when the distal end of the outer sleeve is urged toward the distal end of the inner sleeve. The outer sleeve further has an outer surface that is threaded axially. The base of the inner sleeve has a groove that receives a lip on the base end of the outer sleeve for anchoring the outer sleeve axially relative to the inner sleeve. A clamping nut is mounted on the outer sleeve and has an inner bore that is matingly threaded with the outer surface of the outer sleeve, for urging the finger portions toward the inner sleeve when a hose end is positioned on the inner sleeve, thereby clamping the hose end to the inner sleeve.

Classifications:

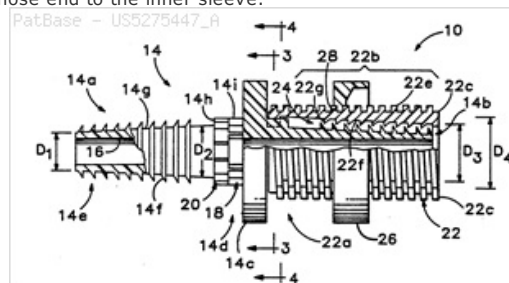
International (IPC 8-9): F16L33/22 (Advanced/Invention);
F16L33/22 (Core/Invention)

International (IPC 1-7): F16L25/06 F16L33/20 F16L33/23

CPC: F16L33/22 F16L33/223

European: F16L33/22 F16L33/22G

US: 285/148.23 285/177 285/243 285/249 285/322 285/423



Family:

Publication number	Publication date	Application number	Application date
AU199350063 A1	19940315	AU19930050063	19930812
AU670326 B2	19960711	AU19930050063	19930812
US5275447 A	19940104	US19920930234	19920814
WO9404862 A1	19940303	WO1993US07571	19930812

Priority:

US19920930234 19920814 WO1993US07571 19930812

Probable Assignee: ORBIT IRRIGATION PRODUCTS INC

Assignee(s): (std): MISTI MAID INC

Assignee(s): ORBIT IRRIGATION PRODUCTS INC ; PLASTIC SPECIALTIES AND TECHNOLOGIES INC

Inventor(s): (std): MC NAB JOHN ; MCNAB JOHN ; NAB JOHN MC

Inventor(s): JOHN MC NAB

Agent(s): PHILLIPS ORMONDE FITZPATRICK

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199350063 A1	19940315	LSPB	+	published / reissued	
AU670326 B2	19960711	LSGT	+	granted / extensions (spc, cpc, pte)	
AU670326 B2	20000316	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU670326 B2	20130812	PEXP		Calculated Patent Term Expiry	
US5275447 A	19940104	LSGT	+	granted / extensions (spc, cpc, pte)	
US5275447 A	19930104	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MISTI MAID INC., A CA CORP., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST ; ASSIGNOR:MCNAB, JOHN; REEL/FRAME:006410/0034 EFFECTIVE DATE : 19920916

US5275447 A	19970703	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5275447 A	19990312	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PLASTIC SPECIALTIES AND TECHNOLOGIES, INC., NEW JE OLDPARTY : ASSET PURCHASE AGREEMENT; ASSIGNOR:MISTI MAID, INC.; REEL/FRAME:009827/0833 EFFECTIVE DATE : 19931013
US5275447 A	19990316	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ORBIT IRRIGATION PRODUCTS, INC., UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PLASTIC SPECIALTIES AND TECHNOLOGIES, INC.; REEL/FRAME:009827/0831 EFFECTIVE DATE : 19990309
US5275447 A	19990621	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ORBIT IRRIGATION PRODUCTS, INC., UTAH OLDPARTY : REASSIGNMENT; ASSIGNOR:MISTI MAID INC.; REEL/FRAME:010033/0216 EFFECTIVE DATE : 19990607
US5275447 A	20010705	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5275447 A	20060104	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5275447 A	20060201	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5275447 A	20060201	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5275447 A	20060228	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20060104
US5275447 A	20120814	PEXP		Calculated Patent Term Expiry	
WO9404862 A1	19940303	LSPB	+	published / reissued	
WO9404862 A1	19951206	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO

Title: THREADED **PIPE** CONNECTION AND METHOD

Abstract: An integral high strength threaded **pipe** connection formed on joints of plain-end **pipe**, and a method for manufacturing, wherein the ends of the joints are rough machined, swaged, and then finish machined, preferably but not necessarily, with only one chucking.

Classifications:

International (IPC 8-9): E21B17/042 E21B17/08 F16L F16L15/00

F16L15/04 F16L15/06 F16L25/00 F16L7/02 (Advanced/Invention);

F16L15/06 F16L25/00 F16L7/02 (Advanced/Non-invention);

F16L15/00 F16L25/00 (Core/Invention);

F16L (Subclass/Invention)

International (IPC 1-7): B23P17/00 E21B17/042 E21B17/08 F16L0/00

F16L15/00 F16L15/06 F16L21/00 F16L25/00 F16L25/14 F16L7/00 F16L7/02

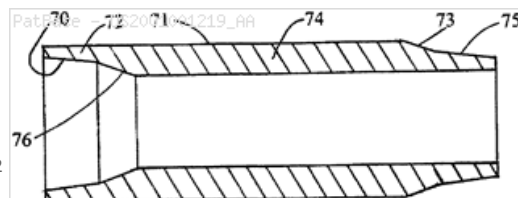
CPC: E21B17/042 F16L15/004 F16L15/001 Y10T29/13 Y10T29/49428

Y10T29/49995 Y10T29/49996 Y10T29/5185

European: E21B17/042 F16L15/00B F16L15/00B6

US: 2/93.3D 2/955.8 285/333 285/333P 285/334 285/334P 285/334S 285/355 285/355S 285/390 285/390S 285/397 285/94

29/33D 29/4 29/557 29/558 29/890.14 298/901.4 72/340



Family:

Publication number	Publication date	Application number	Application date
AP200403115 A0	20040930	AP20040003115	20030303
AT513156 E	20110715	AT20000972265T	20001014
AU2003219985 AA	20030922	AU20030219985	20030303
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BRPI0308131 A	20050322	BR2003PI08131	20030303
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CA2425047 C	20090407	CA20002425047	20001014
CA2477335 AA	20040825	CA20032477335	20030303
CN100339634 C	20070926	CN20038005348	20030303
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EP1332308 B8	20120229	EP20000972265	20001014
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EP1488153 A4	20060621	EP20030716273	20030303
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HK1079838 A1	20071207	HK20050112198	20051230
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NO20044103 A	20041126	NO20040004103	20040927
NO20044103 L	20041126	NO20040004103	20040927
US2001001219 AA	20010517	US20000747000	20001221
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US6817099 BB	20041116	US20000747000	20001221
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WO0129475 C2	20030619	WO2000US28829	20001014
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WO03076837 A3	20040513	WO2003US06443	20030303

Priority:

US19990421483	19991020	US20000573480	20000516	EP20000972265	20001014
WO2000US28829	20001014	US20000747000	20001221	US20010994597	20011119
US20020092173	20020306	US20020254817	20020925	WO2003US06443	20030303

Probable Assignee: RAMOS BEVERLY WATTS

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Assignee(s): WATTS JOHN DAWON AUSTIN ; RAMOS BEVERLY WATTS AUSTIN ; DAWSON JOHN ; JOHN D WATTS

Inventor(s): (std): RAMOS BEVERLY WATTS ; WATTS JOHN DAWSON ; DAWSON JOHN ; WATTS JOHN D ; BEVERLY WATTS RAMOS ; JOHN D WATTS ; WATTS JOHN DAWON

Inventor(s): JOHN DAWSON WATTS ; RAMOS BEVERLY WATTS AUSTIN ; WATTS JOHN DAWON AUSTIN

Agent(s): MIDDLETONS; K AND L GATES; MACRAE AND CO; HILL AND SCHUMACHER; DORSCHNER DAVID; LIU SHEN AND ASSOCIATES

Designated states: AE AM AT AU AZ BE BF BG BJ BR BY CA CF CG CH CI CM CN CO CY CZ DE DK DZ EE ES FI FR GA GB GH GM GN GQ GR GW HU ID IE IT JP KE KG KR KZ LI LS LU MC MD ML MR MW MX MZ NE NL NO PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TZ UA UG ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT513156 E	20110715	LSGT	+	granted / extensions (spc, cpc, pte)	
AT513156 E	20111215	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT513156 E	20201014	PEXP		Calculated Patent Term Expiry	
AU2003219985 AA	20030922	LSPB	+	published / reissued	
AU2003219985 AA	20090108	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
BRPI0017355 A	20040210	LSPB	+	published / reissued	
BRPI0017355 A	20071204	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0017355 A	20080520	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	TEXT : PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 14/10/2000, OBSERVADAS AS CONDICOOES LEGAIS.
BRPI0017355 A	20150811	LSLE	-B21F	LAPSE ACC. ART. 78, ITEM IV - ON NON-PAYMENT OF THE ANNUAL FEES IN TIME	TEXT : REFERENTE A 15A ANUIDADE.
BRPI0017355 A	20160419	LSLE	-B24J	LAPSE BECAUSE OF NON-PAYMENT OF ANNUAL FEES (DEFINITIVELY: ART 78 IV LPI, RESOLUTION 113/2013 ART. 12)	TEXT : EM VIRTUDE DA EXTINCAO PUBLICADA NA RPI 2327 DE 11-08-2015 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDA A EXTINCAO DA PATENTE E SEUS CERTIFICADOS, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
BRPI0308131 A	20050322	LSPB	+	published / reissued	
BRPI0308131 A	20100427	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A E 7A ANUIDADE(S).
BRPI0308131 A	20110510	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : REFERENTE AO DESPACHO 8.6 PUBLICADO NA RPI 2051 DE 27/04/2010.
CA2425047 AA	20030404	LSPB	+	published / reissued	
CA2425047 AA	20031219	LSSES	+EEER	EXAMINATION REQUEST	
CA2425047 AA	20161126	LSLE	-MKLA	LAPSED	EFFECTIVE DATE : 20161014
CA2425047 C	20090407	LSGT	+	granted / extensions (spc, cpc, pte)	

CA2425047 C	20201014	PEXP		Calculated Patent Term Expiry	
CA2477335 AA	20040825	LSPB	+	published / reissued	
CA2477335 AA	20090303	LSLE	-FZDE	DEAD	
CN100339634 C	20070926	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100339634 C	20070926	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
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CN100339634 C	20230303	PEXP		Calculated Patent Term Expiry	
CN1639494 A	20050713	LSPB	+	published / reissued	
CN1639494 A	20050713	LSPB	+C06	PUBLICATION	
EA006187 B1	20051027	LSGT	+	granted / extensions (spc, cpc, pte)	
EA006187 B1	20111230	LSLE	-MM4A	LAPSE OF A EURASIAN PATENT DUE TO NON-PAYMENT OF RENEWAL FEES WITHIN THE TIME LIMIT IN THE FOLLOWING DESIGNATED STATE(S)	COUNTRY OF REF DOCUMENT : AM COUNTRY OF REF DOCUMENT : AZ COUNTRY OF REF DOCUMENT : BY COUNTRY OF REF DOCUMENT : KG COUNTRY OF REF DOCUMENT : KZ COUNTRY OF REF DOCUMENT : MD COUNTRY OF REF DOCUMENT : RU COUNTRY OF REF DOCUMENT : TJ COUNTRY OF REF DOCUMENT : TM
EA006187 B1	20230303	PEXP		Calculated Patent Term Expiry	
EA200401063 A1	20050428	LSPB	+	published / reissued	
EP1332308 A1	20030806	LSPB	+	published / reissued	
EP1332308 A1	20030806	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030424
EP1332308 A4	20040714	LSSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20040528
EP1332308 A4	20050504	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20050318
EP1332308 A4	20061213	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20050318
EP1332308 A4	20100528	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1059639 COUNTRY OF REF DOCUMENT : HK
EP1332308 A4	20101103	LSRE	D18D	APPLICATION DEEMED TO BE WITHDRAWN (DELETED)	
EP1332308 A4	20101124	LSRE	D18D	APPLICATION DEEMED TO BE WITHDRAWN (DELETED)	
EP1332308 B1	20110615	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1332308 B1	20110615	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1332308 B1	20110615	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP

EP1332308 B1	20110720	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1332308 B1	20110721	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 60046083 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20110721
EP1332308 B1	20111005	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20110615
EP1332308 B1	20111012	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	PARTYTYPE : OWNER OWNER : WATTS, JOHN DAWSON
EP1332308 B1	20111012	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	PARTYTYPE : OWNER OWNER : RAMOS, BEVERLY WATTS
EP1332308 B1	20111031	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 : 20110615
EP1332308 B1	20111111	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2368032 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20111111
EP1332308 B1	20111130	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 : 20110615
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EP1332308 B1	20111230	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 : 20110615
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EP1332308 B1	20201014	PEXP		Calculated Patent Term Expiry	
EP1332308 B8	20120523	LSGT	+26N	NO OPPOSITION	EFFECTIVE DATE : 20120316

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EP1332308 B8	20120531	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1332308 B8	20120629	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 : 20110615
EP1332308 B8	20120712	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 60046083 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20120316
EP1332308 B8	20120731	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 : 20111031
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EP1332308 B8	20140131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20131022 YEAR OF FEE PAYMENT : 14
EP1332308 B8	20140228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20131029 YEAR OF FEE PAYMENT : 14
EP1332308 B8	20140730	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1332308 B8	20141031	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 : 20131014
EP1332308 B8	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20141021 YEAR OF FEE PAYMENT : 15

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EP1332308 B8	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20141022 YEAR OF FEE PAYMENT : 15
EP1332308 B8	20150630	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 : 20141031
EP1332308 B8	20151127	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20151127
EP1332308 B8	20160229	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 : 20141015
EP1332308 B8	20160503	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 60046083 COUNTRY OF REF DOCUMENT : DE
EP1332308 B8	20160629	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20151014
EP1332308 B8	20160729	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 : 20160503
EP1332308 B8	20160729	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 : 20151014
EP1332308 B8	20160729	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20160630
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EP1488153 A2	20041222	LSPB	+	published / reissued	
EP1488153 A2	20041222	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20040830
EP1488153 A4	20060621	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20060518
EP1488153 A4	20070425	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20070322
EP1488153 A4	20080702	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20080107
ES2368032 T3	20111111	LSGT	+	granted / extensions (spc, cpc, pte)	

ES2368032 T3	20201014	PEXP		Calculated Patent Term Expiry	
HK1079838 A1	20060413	LSPB	+	published / reissued	
HK1079838 A1	20071207	LSPB	+	published / reissued	
HK1079838 A1	20111021	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	EFFECTIVE DATE : 20110303
HK1079838 A1	20111021	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	EFFECTIVE DATE : 20110303
HK1079838 A1	20251230	PEXP		Calculated Patent Term Expiry	
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HK1079838 A3	20060413	LSPB	+	published / reissued	
HK1079838 B	20071207	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1079838 B	20251230	PEXP		Calculated Patent Term Expiry	
KR20040093105 A	20041104	LSPB	+	published / reissued	
KR20040093105 A	20091007	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
MXPA04008619 A1	20050608	LSPB	+	published / reissued	
MXPA04008619 A1	20130831	LSWD	-FA	ABANDONMENT OR WITHDRAWAL	
NO20031721 A	20030612	LSPB	+	published / reissued	
NO20031721 A	20150526	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
NO20044103 A	20041126	LSPB	+	published / reissued	
NO20044103 A	20051114	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
NO20044103 A	20061002	LSRE	+RE	REESTABLISHMENT OF RIGHTS (PAR. 72 PATENTS ACT)	
NO20044103 A	20121022	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
US2001001219 AA	20010517	LSPB	+	published / reissued	
US2001001219 AA	20030708	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : RAMOS, BEVERLY WATTS, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WATTS, JOHN D.; REEL/FRAME:014302/0869 EFFECTIVE DATE : 20030630
US2002074799 AA	20020620	LSPB	+	published / reissued	
US2002074799 AA	20030529	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2002117856 AA	20020829	LSPB	+	published / reissued	

US2002117856 AA	20030204	LSWD	-EAB1	Expressly Abandoned -- During Examination		
US2003168859 AA	20030911	LSPB	+	published / reissued		
US6578880 BB	20030617	LSGT	+	granted / extensions (spc, cpc, pte)		
US6578880 BB	20030529	LSGT	PAT1	Patented Case		
US6578880 BB	20070124	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US6578880 BB	20100922	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : RAMOS, BEVERLY WATTS, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WATTS, JOHN D.; REEL/FRAME:025033/0168 EFFECTIVE DATE : 20100922	
US6578880 BB	20110227	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8	
US6578880 BB	20150617	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12	
US6578880 BB	20211119	PEXP		Calculated Patent Term Expiry		
US6682101 BB	20040127	LSGT	+	granted / extensions (spc, cpc, pte)		
US6682101 BB	20080127	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED		
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US6682101 BB	20091012	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20091015	
US6682101 BB	20091015	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US6682101 BB	20091015	LSGT	PAT1	Patented Case		
US6682101 BB	20100922	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : RAMOS, BEVERLY WATTS, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WATTS, JOHN D.; REEL/FRAME:025033/0168 EFFECTIVE DATE : 20100922	
US6682101 BB	20120126	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8	
US6682101 BB	20160127	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES		
US6682101 BB	20160222	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362		
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US6817099 BB	20041116	LSGT	+	granted / extensions (spc,		

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US6817099 BB	20090106	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20081116
US6817099 BB	20091012	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20091015
US6817099 BB	20091015	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6817099 BB	20091015	LSGT	PAT1	Patented Case	
US6817099 BB	20120810	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6817099 BB	20161116	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6817099 BB	20161212	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6817099 BB	20161212	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6817099 BB	20170103	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20161116
US6817099 BB	20210829	PEXP		Calculated Patent Term Expiry (PTA 251 days)	
WO0129475 A1	20010426	LSPB	+	published / reissued	
WO0129475 A1	20021204	LSNE	-122	EP: PCT APPLICATION NON- ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO0129475 A1	20030404	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2425047 COUNTRY OF REF DOCUMENT : CA
WO0129475 A1	20030424	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2000972265 COUNTRY OF REF DOCUMENT : EP
WO0129475 C2	20030806	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000972265 COUNTRY OF REF DOCUMENT : EP
WO0129475 C2	20040723	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
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WO03076837 A3	20040825	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2477335 COUNTRY OF REF DOCUMENT : CA
WO03076837 A3	20040827	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : AP/P/2004/003115 COUNTRY OF REF DOCUMENT : AP
WO03076837 A3	20040830	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003716273 COUNTRY OF REF DOCUMENT : EP
WO03076837 A3	20040903	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2004/008619 COUNTRY OF REF DOCUMENT : MX
WO03076837 A3	20040906	LSNP	+WWE	WIPO INFORMATION:	REF DOCUMENT NUMBER : 1020047013966

WO03076837 A3	20040906	LSNP	+WWE	ENTRY INTO NATIONAL PHASE WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	COUNTRY OF REF DOCUMENT : KR REF DOCUMENT NUMBER : 20038053489 COUNTRY OF REF DOCUMENT : CN
WO03076837 A3	20040910	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200401063 COUNTRY OF REF DOCUMENT : EA
WO03076837 A3	20040930	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003219985 COUNTRY OF REF DOCUMENT : AU
WO03076837 A3	20041005	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : DZP2003000271 COUNTRY OF REF DOCUMENT : DZ
WO03076837 A3	20041104	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020047013966 COUNTRY OF REF DOCUMENT : KR
WO03076837 A3	20041222	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2003716273 COUNTRY OF REF DOCUMENT : EP

Title: SEALING ARRANGEMENT AND METHOD FOR PRODUCING THE SAME

Abstract: The invention relates to a sealing arrangement in a **pipe** bell (1) formed from a **pipe** (2) consisting of concrete, reinforced concrete or another hardenable material, and an outer steel collar (6), said steel collar being anchored in the **pipe** and projecting in relation to the front surface (4) of the same. At least one sealing ring (11) is fitted between the **pipe** (2) and the steel collar (6). The inventive sealing arrangement is characterised in that the sealing ring (11) consists of an elastomer material and can be activated. Said sealing ring is preferably provided with at least one cavity (12) which is connected to at least one supply line (14, 14', 14''), the sealing ring being activated by the supply of a gaseous or liquid medium. The invention further relates to an advantageous method for producing one such sealing arrangement.

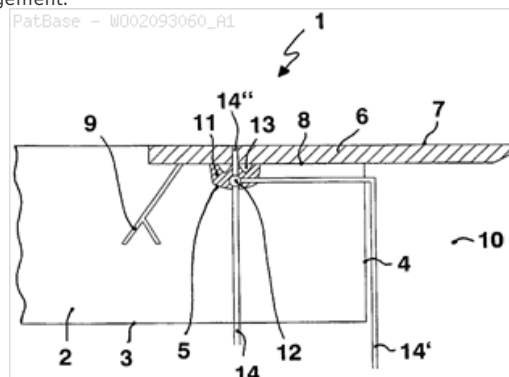
Classifications:

International (IPC 8-9): F16L17/10 F16L25/00 (Advanced/Invention);
F16L17/00 F16L25/00 (Core/Invention)

International (IPC 1-7): E21D11/38 E21D9/00 F16L17/10 F16L21/02
F16L25/00

CPC: F16L1/036 F16L25/0027 F16L17/10

European: F16L17/10 F16L25/00H

**Family:**

Publication number	Publication date	Application number	Application date
AT303547 E	20050915	AT20020712746T	20020206
AU2002244612 AA	20021125	AU20020244612	20020206
DE10204748 A1	20021114	DE20021004748	20020206
DE50204065 D1	20051006	DE20025004065	20020206
EP1295063 A1	20030326	EP20020712746	20020206
EP1295063 B1	20050831	EP20020712746	20020206
WO02093060 A1	20021121	WO2002DE00423	20020206

Priority:

DE20011022996 20010511 DE20021004748 20020206 DE20025004065 20020206
WO2002DE00423 20020206

Probable Assignee: PHOENIX AG

Assignee(s): (std): FAERBER PETER ; HOEFT HEIKO ; PHOENIX AG ; SCHLAUTMANN FRANK

Inventor(s): (std): FAERBER PETER ; HOEFT HEIKO ; SCHLAUTMANN FRANK

Inventor(s): HOFT HEIKO

Designated states: AT AU BE CA CH CN CY CZ DE DK ES FI FR GB GR HU IE IT JP LI LU MC NL PL PT RU SE SK TR US

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT303547 E	20050915	LSGT	+	granted / extensions (spc, cpc, pte)	
AT303547 E	20070515	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT303547 E	20220206	PEXP		Calculated Patent Term Expiry	
AU2002244612 AA	20021125	LSPB	+	published / reissued	
DE10204748 A1	20021114	LSPB	+	published / reissued	
DE10204748 A1	20061214	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	
DE50204065 D1	20060921	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE50204065 D1	20070215	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : PHOENIX DICHUNGSTECHNIK GMBH, 99880 WALTERSHAUSEN
DE50204065 D1	20070215	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS	PARTYTYPE : OWNER OWNER : STUDIEN-GESELLSCHAFT

DE50204065 D1	20070628	LSAS	8327	OF THE PATENT OWNER CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	FÜR UNTERIRDISCHE VERKEHRSANL PARTYTYPE : OWNER OWNER : PHOENIX DICHUNGSTECHNIK GMBH, 99880 WALTERSHA, DE
EP1295063 A1	20030326	LSPB	+	published / reissued	
EP1295063 A1	20030326	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20021127
EP1295063 A1	20040421	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20040304
EP1295063 A1	20050831	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 : 20050831
EP1295063 A1	20050831	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050831
EP1295063 A1	20050831	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 : 20050831
EP1295063 A1	20050831	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 : 20050831
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EP1295063 A1	20050831	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
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EP1295063 A1	20051130	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 : 20051130
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EP1295063 A1	20060206	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 : 20060206
EP1295063 A1	20060223	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 : 20060223
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EP1295063 A1	20060809	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20060601
EP1295063 A1	20061013	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
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EP1295063 A1	20090831	LSFE	+PGFP	ANNUAL FEE PAID TO	COUNTRY OF REF DOCUMENT :

EP1295063 A1	20090831	LSFE	+PGFP	NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	FR PAYMENT DATE : 20090423 YEAR OF FEE PAYMENT : 8
EP1295063 A1	20090930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20090423 YEAR OF FEE PAYMENT : 8
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EP1295063 A1	20100915	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : V1 EFFECTIVE DATE : 20100901
EP1295063 A1	20101005	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	REF COUNTRY CODE : EP
EP1295063 A1	20101119	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20101029
EP1295063 A1	20110131	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 : 20100301
EP1295063 A1	20110131	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 : 20100901
EP1295063 A1	20110228	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 : 20100228
EP1295063 A1	20120928	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 : 20100207
EP1295063 A1	20150430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20150228 YEAR OF FEE PAYMENT : 14
EP1295063 A1	20160901	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 50204065 COUNTRY OF REF DOCUMENT : DE
EP1295063 A1	20170131	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 : 20160901
EP1295063 B1	20050831	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1295063 B1	20220206	PEXP		Calculated Patent Term Expiry	
WO02093060 A1	20021121	LSPB	+	published / reissued	
WO02093060 A1	20021116	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002712746 COUNTRY OF REF DOCUMENT : EP

WO02093060 A1	20030326	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002712746 COUNTRY OF REF DOCUMENT : EP
WO02093060 A1	20050831	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002712746 COUNTRY OF REF DOCUMENT : EP
WO02093060 A1	20060419	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO02093060 A1	20060419	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	TEXT : JP

Title: Tubular threaded joint capable of being subjected to diametral expansion

Abstract: The invention concerns a threaded joint to be expanded, comprising a lip (5) at the end of the male element (1) and a housing for said lip on the female element (2) to make the threaded joint capable of being sealed and of having a maximum internal passage cross-section after being subjected to diametral expansion by more than 10 percent, the free male end surface (9) is socketed before expansion into a partially transverse shoulder surface (10) of the female housing through the matching rebating shapes of said surfaces and the male lip (5) outer peripheral surface (7) is arranged with little play of the internal peripheral surface (8) of the female housing (6). Such a threaded joint is particularly useful for casings and tubings used in oil wells.

Classifications:

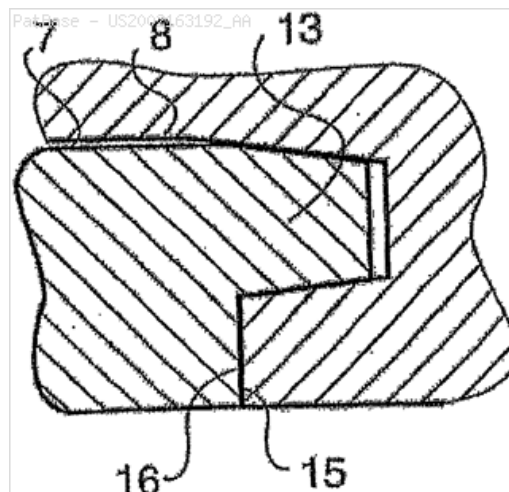
International (IPC 8-9): E21B17/042 E21B43/10 F16J15/16 F16L1/00 F16L15/04 F16L15/06 F16L19/00 F16L25/00 (Advanced/Invention); E21B17/02 E21B43/02 F16L15/00 F16L19/00 (Core/Invention)

International (IPC 1-7): E21B17/042 E21B17/08 F16J15/04 F16L0/00 F16L1/00 F16L13/14 F16L15/00 F16L15/04 F16L15/06 F16L19/00 F16L25/00 F16L35/00

CPC: E21B17/042 E21B43/103 E21B43/106 F16L15/004

European: E21B17/042 E21B43/10F E21B43/10F2 F16L15/00B6 P21B17/042

US: 285/331 285/333 285/334 285/382 285/390



Family:

Publication number	Publication date	Application number	Application date
AR028758 AA	20030521	AR2001P103035	20010626
AT287510 E	20050215	AT20010949517T	20010625
AU2001270654 AA	20020108	AU20010270654	20010625
BRPI0112096 A	20030506	BR2001PI12096	20010625
BRPI0112096 B1	20110405	BR2001PI12096	20010625
CA2410425 AA	20021128	CA20012410425	20010625
CA2410425 C	20071218	CA20012410425	20010625
CN1289847 C	20061213	CN20018012158	20010625
CN1440497 A	20030903	CN20018012158	20010625
CZ20030305 A3	20030618	CZ20030000305	20010625
CZ303493 B6	20121017	CZ20030000305	20010625
DE60108500 D1	20050224	DE20016008500T	20010625
DE60108500 D1	20050224	DE20016008500	20010625
DE60108500 T2	20060323	DE20016008500T	20010625
DZ3363 A1	20020103	DZ20010003363	20010625
EA004560 B1	20040624	EA20030000093	20010625
EA200300093 A1	20030424	EA20030000093	20010625
EP1295060 A1	20030326	EP20010949517	20010625
EP1295060 B1	20050119	EP20010949517	20010625
EP1295060 B9	20050608	EP20010949517	20010625
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FR2811056 B1	20030516	FR20000008510	20000630
JP2004502104 T2	20040122	JP20020505994T	20010625
JP3913170 B2	20070509	JP20020505994T	20010625
MXPA02012582 A1	20030410	MX2002PA12582	20010625
PL198903 B1	20080731	PL20010359707	20010625
PL359707 A1	20040906	PL20010359707	20010625
UA73779 C2	20030415	UA20030100792	20010625
US2002163192 AA	20021107	US20020069501	20020522
US6712401 BB	20040330	US20020069501	20020522
VN5250 A1	20051226	VN20030000059	20010625
WO0201102 A1	20020103	WO2001FR02005	20010625

Priority:

FR20000008510 20000630 WO2001FR02005 20010625

Probable Assignee: VALLOUREC OIL AND GAS FRANCE

Assignee(s): (std): COULON JEAN LUC ; GAS FRANCE ; NOEL THIERRY ; ROUSSIE GABRIEL ; VALLOUREC MANNESMANN OIL AND GAS ; VALLOUREC MANNESMANN OIL AND G ; VALLOUREC MANNESMANN OIL AND AMP ; VARENNE EMMANUEL

Assignee(s): VALLOUREC MANNESMANN OIL AND GAS FRANCE ; VALLOUREC MANNESMANN OIL AND GAS FRANCE AULNOYE AYMERIES ; VALLOUREC OIL AND GAS FRANCE ; VALLOUREC MANNESMANN OIL AND

Inventor(s): (std): ROUSSIE J L COULON T NOEL G ; ROUSSIE GABRIEL ; ROUSSIE G ; NOEL THIERRY ; NOEL T ; VARENNE

EMMANUEL ; COULON JEAN LUC ; COULON J L

Inventor(s): THIERRY NOEL ; T NOEL ; JEAN LUC COULON ; J L COULON T NOEL G ROUSSIE ; J L COULON ; GABRIEL ROUSSIE ; G ROUSSIE ; EMMANUEL VARENNE

Agent(s): ROBIC; VALLOUREC AND MANNESMANN TUBES SAS; VALLOUREC TUBES; YAMASAKI YUKUZO; KANAYAMA MASATAKA; SUGIYAMA NAOTO

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AR028758 AA	20030521	LSPB	+	published / reissued	
AR028758 AA	20040917	LSGT	+FG	GRANT, REGISTRATION	
AT287510 E	20050215	LSGT	+	granted / extensions (spc, cpc, pte)	
AT287510 E	20050915	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	REF DOCUMENT NUMBER : 1295060 COUNTRY OF REF DOCUMENT : EP
AT287510 E	20210625	PEXP		Calculated Patent Term Expiry	
AU2001270654 AA	20020108	LSPB	+	published / reissued	
BRPI0112096 A	20030506	LSPB	+	published / reissued	
BRPI0112096 A	20100803	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0112096 B1	20110405	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	TEXT : PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 25/06/2001, OBSERVADAS AS CONDICOES LEGAIS.
BRPI0112096 B1	20151229	LSAS	B25D	REQUESTED CHANGE OF NAME OF APPLICANT APPROVED	PARTYTYPE : OWNER OWNER : VALLOUREC OIL AND GAS FRANCE (FR)
BRPI0112096 B1	20190424	LSLE	-B21F	LAPSE ACC. ART. 78, ITEM IV - ON NON-PAYMENT OF THE ANNUAL FEES IN TIME	TEXT : REFERENTE A 18A ANUIDADE.
BRPI0112096 B1	20210625	PEXP		Calculated Patent Term Expiry	
CA2410425 AA	20021128	LSPB	+	published / reissued	
CA2410425 AA	20040225	LSSES	+EEER	EXAMINATION REQUEST	
CA2410425 AA	20170808	LSLE	-MKLA	LAPSED	EFFECTIVE DATE : 20170627
CA2410425 C	20071218	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2410425 C	20210625	PEXP		Calculated Patent Term Expiry	
CN1289847 C	20061213	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1289847 C	20061213	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1289847 C	20061213	LSGT	+GR01	授权 (The grant of patent right)	TEXT : 授权 (AUTHORIZATION)
CN1289847 C	20090520	LSLI	EE01	专利实施许可合同备案的生效 (Enforcement of record for patent exploitation license contracts)	TEXT : 专利实施许可合同的备案 (ANY PATENT LICENSE CONTRACT FOR EXPLOITATION SUBMITTED FOR RECORD) CONTRACT RECORD NUMBER : 2009990000127 LICENSOR : 法国瓦罗里克·曼尼斯曼油汽公司; 住友金属工业株式会社 (瓦罗 RICK · MANNICH FRANCE RAMAN COMPANY OIL VAPOR; SUMITOMO METAL IND LTD) LICENSEE : 瓦姆(常州)石油天然气勘探开发特种设备有限责任公司 (W FARM (CHANGZHOU) OIL AND GAS EXPLORATION AND DEVELOPMENT

					OF SPECIAL EQUIPMENT LIMITED LIABILITY COMPANY) LICENSE TYPE : 普通许可 (ORDINARY LICENSE) RECORD DATE : 2009.2.23
CN1289847 C	20090520	LSLI	LIC	PATENT LICENCE CONTRACT FOR EXPLOITATION SUBMITTED FOR RECORD	PARTYTYPE : LICENSEE LICENSEE : VAM (CHANGZHOU)OIL AND GAS PREMIUM EQUIPMENTS CO. OLDPARTY : COMMON LICENSE; TIME LIMIT OF IMPLEMENTING CONTACT: 2008.5.26 TO 2018.5.26; CHANGE OF CONTRACT EFFECTIVE DATE : 20090223
CN1289847 C	20150506	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN1289847 C	20150506	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	PARTYTYPE : OWNER OWNER : VALLOUREC OIL AND GAS FRANCE S. A. S. OLDPARTY : FORMER NAME: VALLOUREC MANNESMANN OIL + GAS FRANCE S. A. S.
CN1289847 C	20150506	LSAS	CP01	专利权人姓名或者名称的变更 (Change of name of patentee)	TEXT : 专利权人的姓名或者名称、地址的变更 (THE NAME OR ADDRESS OF A PATENTEE) PATENTEE AFTER CHANGE : 法国瓦卢瑞克油汽公司 (FRANCE W LU RICK OIL VAPOR COMPANY) PATENTEE BEFORE CHANGE : 法国瓦罗里克·曼尼斯曼油汽公司 (瓦罗 RICK · MANNICH FRANCE RAMAN COMPANY OIL VAPOR)
CN1289847 C	20190607	LSLE	-CF01	未缴年费专利权终止 (Termination of patent right due to unpaid annual fee)	TEXT : 专利权的终止 (TERMINATION OF PATENT RIGHT) EFFECTIVE DATE : 20180625
CN1289847 C	20190607	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN1289847 C	20210625	PEXP		Calculated Patent Term Expiry	
CN1440497 A	20030903	LSPB	+	published / reissued	
CN1440497 A	20030903	LSPB	+C06	PUBLICATION	
CN1440497 A	20030903	LSPB	PB01	公开 (The publication of application)	TEXT : 公开 (DISCLOSURE)
CZ20030305 A3	20030618	LSPB	+	published / reissued	
CZ303493 B6	20121017	LSGT	+	granted / extensions (spc, cpc, pte)	
CZ303493 B6	20170111	LSLE	-MM4A	PATENT LAPSED DUE TO NON-PAYMENT OF FEE	EFFECTIVE DATE : 20160625
CZ303493 B6	20210625	PEXP		Calculated Patent Term Expiry	
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DE60108500 D1	20060427	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60108500 T2	20060323	LSGT	+	granted / extensions (spc, cpc, pte)	
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DZ3363 A1	20210625	PEXP		Calculated Patent Term Expiry	
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EA004560 B1	20050428	LSLE	-MM4A	LAPSE OF A EURASIAN	COUNTRY OF REF DOCUMENT : AM

				PATENT DUE TO NON-PAYMENT OF RENEWAL FEES WITHIN THE TIME LIMIT IN THE FOLLOWING DESIGNATED STATE(S)	COUNTRY OF REF DOCUMENT : BY COUNTRY OF REF DOCUMENT : KG COUNTRY OF REF DOCUMENT : MD COUNTRY OF REF DOCUMENT : TJ COUNTRY OF REF DOCUMENT : TM
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EA004560 B1	20210625	PEXP		Calculated Patent Term Expiry	
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EP1295060 A1	20030326	LSPB	+	published / reissued	
EP1295060 A1	20030326	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030113
EP1295060 A1	20031210	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20031022
EP1295060 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160621 YEAR OF FEE PAYMENT : 16
EP1295060 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20160621 YEAR OF FEE PAYMENT : 16
EP1295060 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160628 YEAR OF FEE PAYMENT : 16
EP1295060 A1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170526 YEAR OF FEE PAYMENT : 17
EP1295060 B1	20050119	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1295060 B1	20050119	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR 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 : 20050119
EP1295060 B1	20050119	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI 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 : 20050119
EP1295060 B1	20050119	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE 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 : 20050119
EP1295060 B1	20050119	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH

EP1295060 B1	20050131	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1295060 B1	20050223	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : FRENCH
EP1295060 B1	20050419	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 : 20050419
EP1295060 B1	20050419	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 : 20050419
EP1295060 B1	20050419	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 : 20050419
EP1295060 B1	20050430	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 : 20050430
EP1295060 B1	20210625	PEXP		Calculated Patent Term Expiry	
EP1295060 B9	20050625	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 : 20050625
EP1295060 B9	20050625	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 : 20050625
EP1295060 B9	20050625	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 : 20050625
EP1295060 B9	20050630	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 : 20050630
EP1295060 B9	20050630	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 : 20050630
EP1295060 B9	20050630	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 : 20050630

EP1295060 B9	20050630	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 : 20050630
EP1295060 B9	20050824	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FD4D
EP1295060 B9	20060111	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20051020
EP1295060 B9	20060215	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1295060 B9	20071231	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE EFFECTIVE DATE : 20050630
EP1295060 B9	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 : 20050619
EP1295060 B9	20100430	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT REINSTATED DATE : 20091201
EP1295060 B9	20150313	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : FR OWNER : VALLOUREC OIL AND GAS FRANCE, FR REF LEGAL EVENT CODE : CD EFFECTIVE DATE : 20150206
EP1295060 B9	20150619	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
EP1295060 B9	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20150619 YEAR OF FEE PAYMENT : 15
EP1295060 B9	20150831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20150618 YEAR OF FEE PAYMENT : 15
EP1295060 B9	20150831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20150619 YEAR OF FEE PAYMENT : 15
EP1295060 B9	20170103	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 60108500 COUNTRY OF REF DOCUMENT : DE
EP1295060 B9	20170331	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20170228
EP1295060 B9	20170428	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 : 20160630
EP1295060 B9	20170428	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 : 20170103
EP1295060 B9	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE

					[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160701
EP1295060 B9	20170831	LSFE	+PGFP		ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170522 YEAR OF FEE PAYMENT : 17
EP1295060 B9	20170831	LSFE	+PGFP		ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20170523 YEAR OF FEE PAYMENT : 17
EP1295060 B9	20181031	LSFE	+PGFP		ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180522 YEAR OF FEE PAYMENT : 18
EP1295060 B9	20190215	LSLE	REG		REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MM01 REF DOCUMENT NUMBER : 287510 COUNTRY OF REF DOCUMENT : T KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20180625
EP1295060 B9	20190430	LSLE	-PG25		LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180625
EP1295060 B9	20190430	LSLE	-PG25		LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180625
FR2811056 A1	20020104	LSPB	+		published / reissued	
FR2811056 A1	20150313	LSAS	CD		CHANGE OF NAME OR COMPANY NAME	PARTY TYPE : OWNER OWNER : VALLOUREC OIL AND GAS FRANCE, FR EFFECTIVE DATE : 20150206
FR2811056 A1	20150619	LSFE	+PLFP		FEE PAYMENT	YEAR OF FEE PAYMENT : 16
FR2811056 A1	20170331	LSLE	-ST		NOTIFICATION OF LAPSE	EFFECTIVE DATE : 20170228
FR2811056 B1	20030516	LSGT	+		granted / extensions (spc, cpc, pte)	
FR2811056 B1	20200630	PEXP			Calculated Patent Term Expiry	
JP2004502104 T2	20040122	LSPB	+		published / reissued	
JP2004502104 T2	20040305	LSSES	+A621		WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20040304
JP2004502104 T2	20040709	LSRE	A521		WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20040708
JP2004502104 T2	20051129	LSRE	A521		WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20051128
JP2004502104 T2	20070109	LSGT	+TRDD		DECISION OF GRANT OR REJECTION WRITTEN	
JP2004502104 T2	20070123	LSGT	+A01		WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20070123
JP2004502104 T2	20070208	LSFE	+A61		FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20070130

JP2004502104 T2	20070209	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP3913170 B2	20070509	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3913170 B2	20070125	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP3913170 B2	20070206	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP3913170 B2	20100204	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3913170 B2	20100209	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP3913170 B2	20110203	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP3913170 B2	20110215	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP3913170 B2	20120202	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP3913170 B2	20120207	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP3913170 B2	20130131	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP3913170 B2	20130205	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 7
JP3913170 B2	20140130	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3913170 B2	20140204	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3913170 B2	20140806	LSAS	S533	WRITTEN REQUEST FOR REGISTRATION OF CHANGE OF NAME	TEXT : JAPANESE INTERMEDIATE CODE: R313533
JP3913170 B2	20140814	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	TEXT : JAPANESE INTERMEDIATE CODE: R350
JP3913170 B2	20150205	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3913170 B2	20150223	LSLE	R280	納付書補充指令書 (Payment refilling order form)	
JP3913170 B2	20150226	LSFE	R21	特許料納付書 (補充) (Patent fee payment form (replenishment))	
JP3913170 B2	20150310	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3913170 B2	20160204	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3913170 B2	20160209	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3913170 B2	20170202	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3913170 B2	20170207	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3913170 B2	20180201	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3913170 B2	20180206	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250

				FEES	CODE: R250	
JP3913170 B2	20210625	PEXP		Calculated Patent Term Expiry		
MXPA02012582 A1	20030410	LSPB	+	published / reissued		
MXPA02012582 A1	20070524	LSGT	+FG	GRANT OR REGISTRATION		
PL198903 B1	20080731	LSGT	+	granted / extensions (spc, cpc, pte)		
PL359707 A1	20040906	LSPB	+	published / reissued		
UA73779 C2	20030415	LSGT	+	granted / extensions (spc, cpc, pte)		
UA73779 C2	20210625	PEXP		Calculated Patent Term Expiry		
US2002163192 AA	20021107	LSPB	+	published / reissued		
US2002163192 AA	20040311	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE	
US6712401 BB	20040330	LSGT	+	granted / extensions (spc, cpc, pte)		
US6712401 BB	20020522	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE, FRANCE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:COULON, JEAN-LUC; NOEL, THIERRY; ROUSSIE, GABRIEL; AND OTHERS; REEL/FRAME:012919/0529; SIGNING DATES FROM 20020401 TO 20020418	
US6712401 BB	20040311	LSGT	PAT1	Patented Case		
US6712401 BB	20040810	LSRE	CC	CERTIFICATE OF CORRECTION		
US6712401 BB	20070920	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US6712401 BB	20110919	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8	
US6712401 BB	20140416	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VALLOUREC OIL AND GAS FRANCE, FRANCE OLDPARTY : CHANGE OF NAME; ASSIGNOR:VALLOUREC MANNESMANN OIL & GAS FRANCE; REEL/FRAME:032696/0146 EFFECTIVE DATE : 20131001	
US6712401 BB	20150915	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12	
US6712401 BB	20220522	PEXP		Calculated Patent Term Expiry		
VN5250 A1	20051226	LSPB	+	published / reissued		
WO0201102 A1	20020103	LSPB	+	published / reissued		
WO0201102 A1	20010625	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1200300059 COUNTRY OF REF DOCUMENT : VN	
WO0201102 A1	20020522	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 10069501 COUNTRY OF REF DOCUMENT : US	
WO0201102 A1	20021128	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2410425 COUNTRY OF REF DOCUMENT : CA	
WO0201102 A1	20021212	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642	
WO0201102 A1	20021217	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2002/012582 COUNTRY OF REF DOCUMENT : MX	
WO0201102 A1	20021230	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 018121586 COUNTRY OF REF DOCUMENT : CN	

WO0201102 A1	20030113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2001949517 COUNTRY OF REF DOCUMENT : EP
WO0201102 A1	20030129	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200300093 COUNTRY OF REF DOCUMENT : EA
WO0201102 A1	20030130	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PV2003- 305 COUNTRY OF REF DOCUMENT : CZ
WO0201102 A1	20030326	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001949517 COUNTRY OF REF DOCUMENT : EP
WO0201102 A1	20030618	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : PV2003- 305 COUNTRY OF REF DOCUMENT : CZ
WO0201102 A1	20050119	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001949517 COUNTRY OF REF DOCUMENT : EP

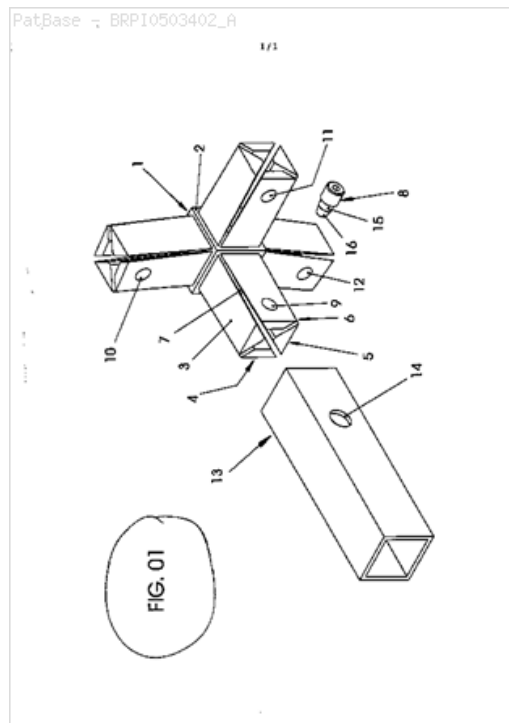
Title: sistema de fixacao de perfis por expansao Fixing system profiles by extension (Machine translation)

Abstract: Source: BRPI0503402A [PT] SISTEMA DE FIXACAO DE PERFIS POR EXPANSAO, particularmente referindo-se a um conector para ser utilizado em perfis de aluminio extrudado, em um formato adequado, por exemplo, quadrado, retangular, redondo, onde se pode encaixar ate quatro perfis em um unico conector, sendo que o sistema utiliza parafusos sem cabeca que sao aplicados em cada uma das pernas do referido conector, onde os parafusos, ao entrarem na conexao, promovem a expansao das sua paredes laterais, de tal modo a prender firmemente cada um dos perfis acoplados a peca. Devido a possibilidade de expansao das pernas desse elemento tetrapode, permite-se que se prendam os perfis de aluiminio de maneira justa, compensando a falta de padrao interno desses tubos.

Machine translation: FIXING SYSTEM PROFILES FOR EXPANSION, particularly referring to a connector to be used in extruded aluminum profiles in a suitable format, for example, square, rectangular, round, where you can fit up to four profiles a single connector, and the system uses set screws which are applied in each of the legs of that connector, where the bolts when they enter the connection, promote the expansion of its side walls, so hold tight to each profiles attached to sin. Because of the possibility of expansion of this element tetrapod legs, allows that if the arrest profiles aluiminio fairly compensating for the lack of internal standard these tubes.

Classifications:

International (IPC 8-9): F16L25/00 (Advanced/Invention);
F16L25/00 (Core/Invention)



Family:

Publication number	Publication date	Application number	Application date
BRPI0503402 A	20070417	BR2005PI03402	20050822

Priority:

BR2005PI03402 20050822

Probable Assignee: LAZZAROTTO FLAVIO

Assignee(s): (std): LAZZAROTTO FLAVIO

Assignee(s): FLAVIO LAZZAROTTO

Inventor(s): (std): FLAVIO LAZZAROTTO ; LAZZAROTTO FLAVIO

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
BRPI0503402 A	20070417	LSPB	+	published / reissued	
BRPI0503402 A	20090929	LSRV	-B11A	DISMISSAL ACC. ART.33 OF IPL - EXAMINATION NOT REQUESTED WITHIN 36 MONTHS OF FILING	
BRPI0503402 A	20100525	LSRV	-B11Y	DEFINITIVE DISMISSAL ACC. ARTICLE 33 OF IPL - EXTENSION OF TIME LIMIT FOR REQUEST OF EXAMINATION EXPIRED	

Title: COLD-INSULATED FIXED-POINT SUPPORT

Abstract: The invention relates to a cold-insulated fixed-point **pipe** support for a low-temperature pipeline which includes an insulating system arranged between an outer shell and a supportable low-temperature pipeline having solid thermal insulating material which thermally insulates the pipeline from the low-temperature environment. A rotation-preventing and displacement-preventing device prevents rotation and displacement of the thermal insulating material with respect to the pipeline and an outer shell. A fixed-point **pipe** support is adapted to be fitted and removed in a substantially radial direction over the pipeline, and has at least one division with respect to shape with a division plane thereof extending perpendicular to a cross-sectional plane, and having a connecting device for releasable connecting and fixing shaped parts formed by the division.

Classifications:

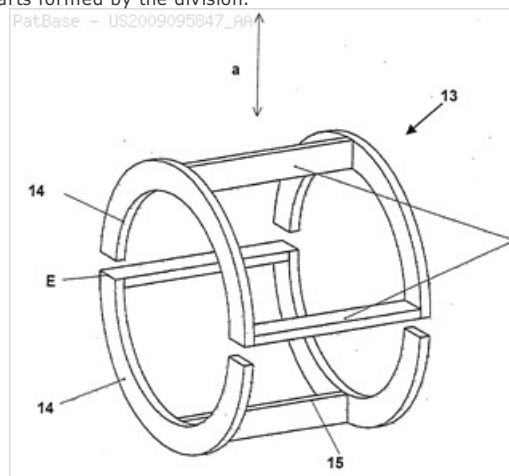
International (IPC 8-9): F16L3/08 F16L3/10 F16L3/18 F16L59/02 F16L59/12 F16L59/135 (Advanced/Invention);

F16L3/08 F16L3/10 F16L3/16 F16L59/02 F16L59/12 (Core/Invention)

CPC: F16L59/123 F16L59/135

European: F16L59/12H F16L59/135

US: 138/106 138/149 248/55 248/62 248/74.1 248/74.100P 248/74.4



Family:

Publication number	Publication date	Application number	Application date
AT445121 E	20091015	AT20060722664T	20060322
AU2006226714 AA	20060928	AU20060226714	20060322
AU2006226714 BB	20110428	AU20060226714	20060322
CN101147026 A	20080319	CN200680009306	20060322
CN101147026 B	20101013	CN200680009306	20060322
DE102005013728 A1	20061123	DE200510013728	20050322
DE102005013728 B4	20070719	DE200510013728	20050322
DE502006005032 D1	20091119	DE200650005032T	20060322
EP1861649 A1	20071205	EP20060722664	20060322
EP1861649 B1	20091007	EP20060722664	20060322
ES2333902 T3	20100302	ES20060722664T	20060322
JP2008534864 T2	20080828	JP20080502244T	20060322
JP4629769 B2	20110209	JP20080502244T	20060322
US2009095847 AA	20090416	US20060886994	20060322
US7861983 BB	20110104	US20060886994	20060322
WO06099855 A1	20060928	WO2006DE00511	20060322

Priority:

DE200510013728 20050322 WO2006DE000511 20060322 WO2006DE00511 20060322

Probable Assignee: LISEGA AKTIENGESSELLSCHAFT

Assignee(s): (std): CHALLENGER ASHLEY ; LANGE HEINZ WILHELM ; LISEGA AG

Assignee(s): LISEGA AKTIENGESSELLSCHAFT ; LISEGA AKTIENGESSELLSCHAFT

Inventor(s): (std): ASHLEY CHALLENGER ; CHALLENGER ASHLEY ; HEINZ WILHELM LANGE ; LANGE HEINZ WILHELM

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT445121 E	20091015	LSGT	+	granted / extensions (spc, cpc, pte)	
AT445121 E	20260322	PEXP		Calculated Patent Term Expiry	

AU2006226714 AA	20060928	LSPB	+	published / reissued	
AU2006226714 BB	20110428	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2006226714 BB	20110825	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2006226714 BB	20260322	PEXP		Calculated Patent Term Expiry	
CN101147026 A	20080319	LSPB	+	published / reissued	
CN101147026 A	20080319	LSPB	+C06	PUBLICATION	
CN101147026 B	20101013	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101147026 B	20101013	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101147026 B	20260322	PEXP		Calculated Patent Term Expiry	
DE102005013728 A1	20061123	LSPB	+	published / reissued	
DE102005013728 A1	20061123	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE102005013728 B4	20070719	LSGT	+	granted / extensions (spc, cpc, pte)	
DE102005013728 B4	20080117	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE102005013728 B4	20250322	PEXP		Calculated Patent Term Expiry	
DE502006005032 D1	20101028	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
EP1861649 A1	20071205	LSPB	+	published / reissued	
EP1861649 A1	20071205	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20070904
EP1861649 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160322 YEAR OF FEE PAYMENT : 11
EP1861649 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20160322 YEAR OF FEE PAYMENT : 11
EP1861649 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160322 YEAR OF FEE PAYMENT : 11
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EP1861649 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160524 YEAR OF FEE PAYMENT : 11

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EP1861649 B1	20091007	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1861649 B1	20091007	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP1861649 B1	20091015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1861649 B1	20091028	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1861649 B1	20100226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI 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 : 20091007
EP1861649 B1	20100302	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2333902 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP1861649 B1	20100325	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20091007
EP1861649 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE 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 : 20091007
EP1861649 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT 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 : 20100208
EP1861649 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI 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 : 20091007
EP1861649 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS 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 : 20100207
EP1861649 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT 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 : 20091007
EP1861649 B1	20100512	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FD4D

EP1861649 B1	20100531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV 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 : 20091007
EP1861649 B1	20100531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL 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 : 20091007
EP1861649 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE 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 : 20091007
EP1861649 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO 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 : 20091007
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EP1861649 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG 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 : 20100107
EP1861649 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE 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 : 20091007
EP1861649 B1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ 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 : 20091007
EP1861649 B1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK 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 : 20091007
EP1861649 B1	20100915	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20100708
EP1861649 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100331

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EP1861649 B1	20101029	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1861649 B1	20110228	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 : 20100331
EP1861649 B1	20110228	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 : 20100331
EP1861649 B1	20120131	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 : 20111001
EP1861649 B1	20120831	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 : 20091007
EP1861649 B1	20120928	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 : 20100408
EP1861649 B1	20120928	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 : 20100322
EP1861649 B1	20121031	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 : 20091007
EP1861649 B1	20121215	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MM01 REF DOCUMENT NUMBER : 445121 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20110322
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EP1861649 B1	20150319	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 : 10
EP1861649 B1	20160322	LSFE	REG	REFERENCE TO A	COUNTRY OF REF DOCUMENT : FR

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EP1861649 B1	20170323	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 : 12
EP1861649 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170323 YEAR OF FEE PAYMENT : 12
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EP1861649 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170327 YEAR OF FEE PAYMENT : 12
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EP1861649 B1	20180326	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 13
EP1861649 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180326 YEAR OF FEE PAYMENT : 13
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EP1861649 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180528

				OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 13
EP1861649 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180423 YEAR OF FEE PAYMENT : 13
EP1861649 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190325 YEAR OF FEE PAYMENT : 14
EP1861649 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190326 YEAR OF FEE PAYMENT : 14
EP1861649 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20190321 YEAR OF FEE PAYMENT : 14
EP1861649 B1	20260322	PEXP		Calculated Patent Term Expiry	
ES2333902 T3	20100302	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2333902 T3	20260322	PEXP		Calculated Patent Term Expiry	
JP2008534864 T2	20080828	LSPB	+	published / reissued	
JP2008534864 T2	20101015	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2008534864 T2	20101021	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20101020
JP2008534864 T2	20101028	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2008534864 T2	20101118	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20101111
JP2008534864 T2	20101119	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2008534864 T2	20101119	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP4629769 B2	20110209	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4629769 B2	20101116	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4629769 B2	20131114	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4629769 B2	20131119	LSFE	+R250	年金領収書, 年金領収書 (分納) (Pension receipt, annuity receipt (scheduled))	
JP4629769 B2	20141120	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4629769 B2	20141125	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250

JP4629769 B2	20151112	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4629769 B2	20151117	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4629769 B2	20161117	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4629769 B2	20161122	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4629769 B2	20171116	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4629769 B2	20171121	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4629769 B2	20181115	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4629769 B2	20181120	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4629769 B2	20260322	PEXP		Calculated Patent Term Expiry	
US2009095847 AA	20090416	LSPB	+	published / reissued	
US2009095847 AA	20101215	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7861983 BB	20110104	LSGT	+	granted / extensions (spc, cpc, pte)	
US7861983 BB	20070924	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LISEGA AKTIENGESSELLSCHAFT, GERMANY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LANGE, HEINZ-WILHELM; CHALLENGOR, ASHLEY; SIGNING DATES FROM 20070913 TO 20070918; REEL/FRAME:019940/0237
US7861983 BB	20070924	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LISEGA AKTIENGESSELLSCHAFT, GERMANY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LANGE, HEINZ-WILHELM; CHALLENGOR, ASHLEY; REEL/FRAME:019940/0237; SIGNING DATES FROM 20070913 TO 20070918
US7861983 BB	20101215	LSGT	PAT1	Patented Case	
US7861983 BB	20140630	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7861983 BB	20180628	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7861983 BB	20270603	PEXP		Calculated Patent Term Expiry (PTA 438 days)	
WO06099855 A1	20060928	LSPB	+	published / reissued	
WO06099855 A1	20070904	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006722664 COUNTRY OF REF DOCUMENT : EP
WO06099855 A1	20070921	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006226714 COUNTRY OF REF DOCUMENT : AU
WO06099855 A1	20070921	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200680009306.7 COUNTRY OF REF DOCUMENT : CN
WO06099855 A1	20070921	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008502244 COUNTRY OF REF DOCUMENT : JP

WO06099855 A1	20070924	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 11886994 COUNTRY OF REF DOCUMENT : US
WO06099855 A1	20071018	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2006226714 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20060322 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO06099855 A1	20071018	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2006226714 COUNTRY OF REF DOCUMENT : AU
WO06099855 A1	20071022	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : RU
WO06099855 A1	20071022	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	TEXT : RU
WO06099855 A1	20071205	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2006722664 COUNTRY OF REF DOCUMENT : EP

Title: ENHANCING **PIPES**

Abstract: A method is provided for replacing an existing service **pipe** carrying fluid to an outlet within a property with a replacement service **pipe**. In the method the outlet is disconnected within the property from the existing service **pipe** in such a way that both during and after disconnection fluid is prevented from escaping into the property. A desired length of replacement service **pipe** is then fed into the existing service **pipe** in such a way that during and after the feeding step fluid is prevented from escaping into the property. The outlet is then connected to the outlet end of the replacement **pipe** in such a way that during the connection fluid is prevented from escaping into the property and after the connection step fluid is allowed to pass to the outlet solely by way of the replacement **pipe** 18.

Classifications:

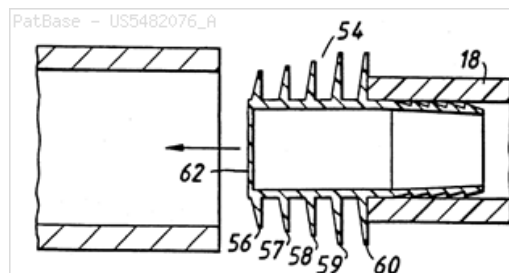
International (IPC 8-9): F16L55/134 F16L55/16 F16L55/165 F16L55/18 F16L7/02 (Advanced/Invention); F16L55/16 (Core/Invention)

International (IPC 1-7): F16J15/10 F16K43/00 F16L55/11 F16L55/16 F16L55/165 F16L55/18 F16L7/00

CPC: Y10S277/917 Y10T29/49732 Y10T29/53657 F16L55/134 F16L7/02 F16L55/1657 Y10T137/0441 Y10T137/612 Y10T137/6123

European: F16L55/134 F16L55/165 F16L7/02

US: 137/15 137/15.08 137/317 137/318 138/97 264/36 277/207A 277/208 277/314 277/607 277/615 277/9 277/917 285/15 285/238 29/235 29/402.09

**Family:**

Publication number	Publication date	Application number	Application date
AT114033 E	19941115	AT19890900967T	19891222
AT139314 E	19960615	AT19890105889T	19891222
AT154424 E	19970615	AT19890112206T	19891222
AU199048190 A1	19900801	AU19900048190	19891222
AU199219361 A1	19920827	AU19920019361	19920630
AU627821 B2	19920903	AU19900048190	19891222
AU640572 B2	19930826	AU19920019361	19920630
CA2006504 AA	19900623	CA19892006504	19891222
CA2006504 C	19971125	CA19892006504	19891222
DE68919356 D1	19941215	DE19896019356	19891222
DE68919356 T2	19950316	DE19896019356T	19891222
DE68926683 D1	19960718	DE19896026683	19891222
DE68926683 T2	19970731	DE19896026683T	19891222
DE68928129 D1	19970717	DE19896028129	19891222
DE68928129 T2	19971218	DE19896028129T	19891222
EP0406377 A1	19910109	EP19900900967	19891222
EP0406377 B1	19941109	EP19900900967	19891222
EP0506142 A1	19920930	EP19920105889	19891222
EP0506142 B1	19960612	EP19920105889	19891222
EP0578270 A1	19940112	EP19930112206	19891222
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ES2063337 T3	19950101	ES19900900967T	19891222
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GB2227071 B2	19930804	GB19890028993	19891222
GB2257766 A1	19930120	GB19920017793	19920821
GB2257766 B2	19930804	GB19920017793	19920821
GB2260797 A1	19930428	GB19920026093	19921211
GB2260797 B2	19930804	GB19920026093	19921211
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GB9226093 A0	19930210	GB19920026093	19921211
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JP2567522 B2	19961225	JP19890501504T	19891222
JP3502961 T2	19910704	JP19890501504T	19891222
SG43853 A1	19971114	SG19960002574	19891222
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US5738357 A	19980414	US19960594232	19960131
US5845668 A	19981208	US19900566411	19901023
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Priority:

GB19880030111 19881223	AU19900048190 19891222	CA19892006504 19891222
EP19900900967 19891222	GB19890028993 19891222	WO1989GB01535 19891222
US19900566411 19901023	GB19920017793 19920821	US19940336049 19941104
US19940346184 19941122	US19960594232 19960131	

Probable Assignee: ADVANTICA INTELLECTUAL PROPERTY LTD

Assignee(s): (std): BRITISH GAS PLC ; BG PLC

Assignee(s): BG PUBLIC CO LTD ; BG PUBLIC LIMITED COMPANY ; ADVANTICA INTELLECTUAL PROPERTY LTD ; ASHCROFT IAN ; BENNET ROBERT N ; BRITISH GAS PLC RIVERMILL HOUSE ; TRANSCO PLC ; BRITISH GAS PLC LONDON GB ; NATIONAL GRID GAS PLC ; NIXON KEITH ; HICKS MICHAEL ; SMITH J PHILIP ; TAYLOR JOHN ; LAMB RICHARD ; PARKES ADRIAN SYDNEY

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Inventor(s): PARKES ADIAN SYDNEY BURGESS HILL WEST SUSSEX... ; SUMISU JON FUJITSUPU ; PARKES ADRIAN SYDNEY BURGESS HILL WEST SUSSEX... ; PARKES ADRIAN SYDNEY BURGESS HILL WEST SUSSEX RH15 9ED GB ; PARKES ADIAN SYDNEY BURGESS HILL WEST SUSSEX RH15 9ED GB ; TAYLOR JOHN SOUTH GODSTONE SURREY RH9 8HR GB ; TAYLOR JOHN SOUTH GODSTONE SURREY RH9 8HZ GB ; TEIRAA JON ; LAMB RICHARD WORCESTER PARK SURREY KT4 8TH GB ; LAMB RICHARD SURREY KT4 8TH GB ; HICKS MICHAEL WOKING SURREY GU 0NS GB ; HICKS MICHAEL WOKING SURREY GU 0NS GB ; HICKS MICHAEL MAYFORD WOKING SURREY GU 0NS GB ; BENNETT ROBERT NEAL KENT BR8 7SB GB ; BENNETT ROBERT NEAL HEXTABLE KENT BR8 7SB GB ; ASHCROFT IAN SURREY CR2 1JN GB ; ASHCROFT IAN PURLEY SURREY CR2 1JN GB ; SMITH JOHN PHILIP KENT TN13 3AH GB ; SMITH JOHN PHILIP SEVENOAKS KENT TN13 3AH GB ; R BENNETT ; RANPU RICHADO ; PARKES ADIAN SYDNEY BURGESS HILL WEST SUSSEX RH15 ; PARKES ADRIAN SYDNEY BURGESS HILL WEST SUSSEX RH15 ; PARKES ADRIAN SYDNEY WEST SUSSEX GB ; NIXON KEITH BIGGIN HILL KENT TN16 3TA GB ; NIXON KEITH KENT TN16 3TA GB ; PAAKUSU EIDORIAN SHIDONII ; NIKUSON KIISU ; J PHILIP SMITH ; M HICKS ; ATSUSHUKUROFUTO IAN ; BENETSUTO ROBAATO NIIRU ; HITSUKUSU MAIKERU

Agent(s): GRIFFITH HACK; GOWLING LAFLEUR HENDERSON LLP

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT114033 E	19941115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT114033 E	19950515	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	
AT114033 E	19991115	LSAS	EEIH	CHANGE IN THE PERSON OF PATENT OWNER	
AT114033 E	20040915	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT114033 E	20091222	PEXP		Calculated Patent Term Expiry	
AT139314 E	19960615	LSGT	+	granted / extensions (spc, cpc, pte)	
AT139314 E	19961215	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT139314 E	20091222	PEXP		Calculated Patent Term Expiry	
AT154424 E	19970615	LSGT	+	granted / extensions (spc, cpc, pte)	
AT154424 E	19971115	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	
AT154424 E	19991115	LSAS	EEIH	CHANGE IN THE PERSON OF PATENT OWNER	
AT154424 E	20040915	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT154424 E	20091222	PEXP		Calculated Patent Term Expiry	
AU199048190 A1	19900801	LSPB	+	published / reissued	
AU199219361 A1	19920827	LSPB	+	published / reissued	
AU627821 B2	19920903	LSGT	+	granted / extensions (spc, cpc, pte)	
AU627821 B2	20040722	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	

AU627821 B2	20091222	PEXP		Calculated Patent Term Expiry	
AU640572 B2	19930826	LSGT	+	granted / extensions (spc, cpc, pte)	
AU640572 B2	20040722	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU640572 B2	20120630	PEXP		Calculated Patent Term Expiry	
CA2006504 AA	19900623	LSPB	+	published / reissued	
CA2006504 AA	19911022	LSES	+EEER	EXAMINATION REQUEST	
CA2006504 C	19971125	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2006504 C	20091222	LSLE	-MKLA	LAPSED	
CA2006504 C	20121202	LSRE	+MKEC	EXPIRY (CORRECTION)	
CA2006504 C	20091222	PEXP		Calculated Patent Term Expiry	
DE68919356 D1	19951207	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
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DE68919356 T2	19950316	LSGT	+	granted / extensions (spc, cpc, pte)	
DE68926683 D1	19961205	LSWD	-8332	NO LEGAL EFFECT FOR DE	
DE68926683 D1	19970626	LSRE	+8370	INDICATION OF LAPSE OF PATENT IS TO BE DELETED	
DE68926683 D1	19970710	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE68926683 D1	20001005	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : BG PLC, READING, BERKSHIRE, GB
DE68926683 D1	20051013	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE68926683 T2	19970731	LSGT	+	granted / extensions (spc, cpc, pte)	
DE68928129 D1	19980709	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE68928129 D1	20000518	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : BG PLC, LONDON, GB
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DE68928129 T2	19971218	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0406377 A1	19910109	LSPB	+	published / reissued	
EP0406377 A1	19910109	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19900730
EP0406377 A1	19920122	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19911210
EP0406377 A1	19950101	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2063337 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP0406377 A1	19950131	LSGT	+EAL	SE: EUROPEAN PATENT IN FORCE IN SWEDEN	REF COUNTRY CODE : EP TEXT : 90900967.2

EP0406377 A1	19951102	LSGT	+26N	NO OPPOSITION FILED	
EP0406377 A1	19990315	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PFA TEXT : BRITISH GAS PLC TRANSFER- BG PLC
EP0406377 A1	20021107	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20021107 YEAR OF FEE PAYMENT : 14
EP0406377 A1	20021118	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20021118 YEAR OF FEE PAYMENT : 14
EP0406377 A1	20021121	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20021121 YEAR OF FEE PAYMENT : 14
EP0406377 A1	20021121	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20021121 YEAR OF FEE PAYMENT : 14
EP0406377 A1	20021128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU PAYMENT DATE : 20021128 YEAR OF FEE PAYMENT : 14
EP0406377 A1	20021210	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20021210 YEAR OF FEE PAYMENT : 14
EP0406377 A1	20021231	LSAS	BECH	BE: CHANGE OF HOLDER	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : *LATTICE INTELLECTUAL PROPERTY LTD EFFECTIVE DATE : 20021209
EP0406377 A1	20030106	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20030106 YEAR OF FEE PAYMENT : 14
EP0406377 A1	20031110	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20031110 YEAR OF FEE PAYMENT : 15
EP0406377 A1	20031125	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20031125 YEAR OF FEE PAYMENT : 15
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EP0406377 A1	20031231	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 : 20031231
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EP0406377 A1	20040630	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : *LATTICE INTELLECTUAL PROPERTY LTD EFFECTIVE DATE : 20031231
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				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20081222
EP0406377 B1	19941109	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0406377 B1	20091222	PEXP		Calculated Patent Term Expiry	
EP0506142 A1	19920930	LSPB	+	published / reissued	
EP0506142 A1	19920930	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19920414
EP0506142 A1	19940330	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19940210
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EP0506142 A1	19960612	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT LAPSED DATE : 19960612
EP0506142 A1	19960912	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE LAPSED DATE : 19960912
EP0506142 A1	19961031	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : AEN TEXT : LA POURSUITE DE LA PROCEDURE REQUISE LE 11.10.1996 A ETE ACCORDEE. LE BREVET EST REACTIVE.
EP0506142 A1	19961101	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
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EP0506142 A1	19990315	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PFA TEXT : BRITISH GAS PLC

					TRANSFER- BG PLC
EP0506142 A1	20021118	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20021118 YEAR OF FEE PAYMENT : 14
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EP0506142 A1	20031125	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20031125 YEAR OF FEE PAYMENT : 15
EP0506142 A1	20031222	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 : 20031222
EP0506142 A1	20031231	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 : 20031231
EP0506142 A1	20031231	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 : 20031231
EP0506142 A1	20040813	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0506142 A1	20050701	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 : 20050701
EP0506142 A1	20080430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20071127 YEAR OF FEE PAYMENT : 19
EP0506142 A1	20090826	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20081222
EP0506142 A1	20091130	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 : 20081222
EP0506142 B1	19960612	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0506142 B1	20091222	PEXP		Calculated Patent Term Expiry	
EP0578270 A1	19940112	LSPB	+	published / reissued	
EP0578270 A1	19940112	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19930805
EP0578270 A1	19960117	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19951130
EP0578270 A1	19970613	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP0578270 A1	19970801	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2102560 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :

EP0578270 A1	19970813	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	PARTYTYPE : OWNER OWNER : BG PUBLIC LIMITED COMPANY
EP0578270 A1	19970911	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE LAPSED DATE : 19970911
EP0578270 A1	19971217	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	PARTYTYPE : OWNER OWNER : BG PLC
EP0578270 A1	19971231	LSAS	BECN	BE: CHANGE OF HOLDER'S NAME	REF COUNTRY CODE : EP EFFECTIVE DATE : 19970611
EP0578270 A1	19980603	LSGT	+26N	NO OPPOSITION FILED	
EP0578270 A1	19990226	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PFA TEXT : BG PUBLIC LIMITED COMPANY,RIVERMILL HOUSE, 152 GROSVENOR ROAD,LONDON SW1V 3JL (GB) TRANSFER- BG PLC,100 THAMES VALLEY PARK DRIVE,READING, BERKSHIRE RG6 1PT (GB)
EP0578270 A1	20021107	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20021107 YEAR OF FEE PAYMENT : 14
EP0578270 A1	20021118	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20021118 YEAR OF FEE PAYMENT : 14
EP0578270 A1	20021128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU PAYMENT DATE : 20021128 YEAR OF FEE PAYMENT : 14
EP0578270 A1	20021231	LSAS	BECH	BE: CHANGE OF HOLDER	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : *LATTICE INTELLECTUAL PROPERTY LTD EFFECTIVE DATE : 20021209
EP0578270 A1	20031110	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20031110 YEAR OF FEE PAYMENT : 15
EP0578270 A1	20031117	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20031117 YEAR OF FEE PAYMENT : 15
EP0578270 A1	20031125	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20031125 YEAR OF FEE PAYMENT : 15
EP0578270 A1	20031205	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20031205 YEAR OF FEE PAYMENT : 15
EP0578270 A1	20031217	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20031217 YEAR OF FEE PAYMENT : 15
EP0578270 A1	20031222	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 : 20031222
EP0578270 A1	20031222	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	FEES LAPSED DATE : 20031222
EP0578270 A1	20031231	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 : 20031231
EP0578270 A1	20031231	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 : 20031231
EP0578270 A1	20040202	LSAS	NLS	NL: ASSIGNMENTS OF EP-PATENTS	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : LATTICE INTELLECTUAL PROPERTY LIMITED
EP0578270 A1	20040813	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0578270 A1	20041223	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 : 20041223
EP0578270 A1	20041231	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 : 20041231
EP0578270 A1	20050630	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : *LATTICE INTELLECTUAL PROPERTY LTD EFFECTIVE DATE : 20041231
EP0578270 A1	20050701	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 : 20050701
EP0578270 A1	20050701	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 : 20050701
EP0578270 A1	20050831	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 : 20050831
EP0578270 A1	20050901	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON- PAYMENT OF THE ANNUAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20050701
EP0578270 A1	20051007	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
EP0578270 A1	20051222	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 : 20051222
EP0578270 A1	20060316	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20041223
EP0578270 A1	20071231	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP

					OWNER : *LATTICE INTELLECTUAL PROPERTY LTD EFFECTIVE DATE : 20041231
EP0578270 A1	20080430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20071127 YEAR OF FEE PAYMENT : 19
EP0578270 A1	20090826	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20081222
EP0578270 A1	20091130	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 : 20081222
EP0578270 B1	19970611	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0578270 B1	20091222	PEXP		Calculated Patent Term Expiry	
ES2063337 T3	19950101	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2063337 T3	19950101	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 406377 COUNTRY OF REF DOCUMENT : ES
ES2063337 T3	20091222	PEXP		Calculated Patent Term Expiry	
ES2102560 T3	19970801	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2102560 T3	19970801	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 578270 COUNTRY OF REF DOCUMENT : ES
ES2102560 T3	20091222	PEXP		Calculated Patent Term Expiry	
GB2227071 A1	19900718	LSPB	+	published / reissued	
GB2227071 B2	19930804	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2227071 B2	19980930	LSRE	773B	CASE DECIDED BY THE COMPTROLLER ** SPECIFICATION AMENDED (SECT. 73(2)/1977)	
GB2227071 B2	19981007	LSRE	SP	AMENDMENT (SLIPS) PRINTED	
GB2227071 B2	20050810	LSLE	-PCNP	PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 20041222
GB2227071 B2	20091222	PEXP		Calculated Patent Term Expiry	
GB2257766 A1	19930120	LSPB	+	published / reissued	
GB2257766 B2	19930804	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2257766 B2	20040811	LSLE	-PCNP	PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 20031222
GB2257766 B2	20120821	PEXP		Calculated Patent Term Expiry	
GB2260797 A1	19930428	LSPB	+	published / reissued	
GB2260797 B2	19930804	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2260797 B2	19960807	LSRV	-773K	PATENT REVOKED UNDER SECT. 73(2)/1977	
GB2260797 B2	20121211	PEXP		Calculated Patent Term Expiry	
HK1006987 A1	19990326	LSPB	+	published / reissued	
HK1006987 A1	20040730	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED	EFFECTIVE DATE : 20031222

HK1006987 A1	20041215	LSLE	-PC	DUE TO THE FAILURE TO PAY THE RENEWAL FEE) PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	
HK1006987 A1	20180623	PEXP		Calculated Patent Term Expiry	
HK1006990 A1	19990326	LSPB	+	published / reissued	
HK1006990 A1	20040730	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	EFFECTIVE DATE : 20031222
HK1006990 A1	20041215	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	
HK1006990 A1	20180623	PEXP		Calculated Patent Term Expiry	
HK1006994 A1	19990326	LSPB	+	published / reissued	
HK1006994 A1	20041215	LSFE	+PF	PATENT IN FORCE	
HK1006994 A1	20050729	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	EFFECTIVE DATE : 20041222
HK1006994 A1	20180623	PEXP		Calculated Patent Term Expiry	
JP2567522 B2	19961225	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2567522 B2	20091222	PEXP		Calculated Patent Term Expiry	
JP3502961 T2	19910704	LSPB	+	published / reissued	
SG43853 A1	19971114	LSPB	+	published / reissued	
SG55019 A1	19981221	LSPB	+	published / reissued	
US5482076 A	19960109	LSGT	+	granted / extensions (spc, cpc, pte)	
US5482076 A	19951204	LSGT	PAT1	Patented Case	
US5482076 A	19951204	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5482076 A	19970128	LSRE	CC	CERTIFICATE OF CORRECTION	
US5482076 A	19990623	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5482076 A	20030409	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRANSCO PLC, GREAT BRITAIN OLDPARTY : CHANGE OF NAME; ASSIGNOR:BRITISH GAS PLC; REEL/FRAME:013943/0497 EFFECTIVE DATE : 20001023
US5482076 A	20030624	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5482076 A	20070619	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5482076 A	20081001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL GRID GAS PLC, UNITED KINGDOM OLDPARTY : CHANGE OF NAME; ASSIGNOR:TRANSCO PLC; REEL/FRAME:021640/0321 EFFECTIVE DATE : 20051010
US5482076 A	20081001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ADVANTICA INTELLECTUAL PROPERTY LIMITED, GREAT BRI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:NATIONAL GRID GAS PLC; REEL/FRAME:021617/0257

EFFECTIVE DATE : 20080926					
US5482076 A	20141122	PEXP		Calculated Patent Term Expiry	
US5551704 A	19960903	LSGT	+	granted / extensions (spc, cpc, pte)	
US5551704 A	19960826	LSGT	PAT1	Patented Case	
US5551704 A	19960826	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5551704 A	20000217	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5551704 A	20030409	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRANSCO PLC, GREAT BRITAIN OLDPARTY : CHANGE OF NAME; ASSIGNOR:BRITISH GAS PLC; REEL/FRAME:013943/0497 EFFECTIVE DATE : 20001023
US5551704 A	20040205	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5551704 A	20080221	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5551704 A	20081001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL GRID GAS PLC, UNITED KINGDOM OLDPARTY : CHANGE OF NAME; ASSIGNOR:BRITISH GAS PLC; REEL/FRAME:021603/0866 EFFECTIVE DATE : 20051010
US5551704 A	20081001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ADVANTICA INTELLECTUAL PROPERTY LIMITED, GREAT BRI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:NATIONAL GRID GAS PLC; REEL/FRAME:021617/0257 EFFECTIVE DATE : 20080926
US5551704 A	20141104	PEXP		Calculated Patent Term Expiry	
US5738357 A	19980414	LSGT	+	granted / extensions (spc, cpc, pte)	
US5738357 A	20010918	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5738357 A	20030409	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRANSCO PLC, GREAT BRITAIN OLDPARTY : CHANGE OF NAME; ASSIGNOR:BRITISH GAS PLC; REEL/FRAME:013943/0497 EFFECTIVE DATE : 20001023
US5738357 A	20050915	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5738357 A	20081001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL GRID GAS PLC, UNITED KINGDOM OLDPARTY : CHANGE OF NAME; ASSIGNOR:TRANSCO PLC; REEL/FRAME:021640/0321 EFFECTIVE DATE : 20051010
US5738357 A	20081001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ADVANTICA INTELLECTUAL PROPERTY LIMITED, GREAT BRI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:NATIONAL GRID GAS PLC; REEL/FRAME:021617/0257 EFFECTIVE DATE : 20080926
US5738357 A	20100414	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5738357 A	20100510	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	

US5738357 A	20100510	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5738357 A	20100601	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20100414
US5738357 A	20160131	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US5845668 A	19981208	LSGT	+	granted / extensions (spc, cpc, pte)	
US5845668 A	19910705	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRITISH GAS PLC, GREAT BRITAIN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:TAYLOR, JOHN; LAMB, RICHARD; BENNETT, ROBERT N.; AND OTHERS; REEL/FRAME:006328/0606; SIGNING DATES FROM 19901009 TO 19901012
US5845668 A	19990824	LSRE	CC	CERTIFICATE OF CORRECTION	
US5845668 A	20020522	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5845668 A	20030409	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRANSCO PLC, GREAT BRITAIN OLDPARTY : CHANGE OF NAME; ASSIGNOR:BRITISH GAS PLC; REEL/FRAME:013943/0497 EFFECTIVE DATE : 20001023
US5845668 A	20060517	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5845668 A	20081001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL GRID GAS PLC, UNITED KINGDOM OLDPARTY : CHANGE OF NAME; ASSIGNOR:TRANSCO PLC; REEL/FRAME:021640/0321 EFFECTIVE DATE : 20051010
US5845668 A	20081001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ADVANTICA INTELLECTUAL PROPERTY LIMITED, GREAT BRI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:NATIONAL GRID GAS PLC; REEL/FRAME:021617/0257 EFFECTIVE DATE : 20080926
US5845668 A	20101208	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5845668 A	20110103	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5845668 A	20110103	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5845668 A	20110125	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20101208
US5845668 A	20151208	PEXP		Calculated Patent Term Expiry	
WO9007672 A1	19900712	LSPB	+	published / reissued	
WO9007672 A1	19900730	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1990900967 COUNTRY OF REF DOCUMENT : EP
WO9007672 A1	19910109	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1990900967 COUNTRY OF REF DOCUMENT : EP
WO9007672 A1	19941109	LSGT	+WWG	WIPO INFORMATION:	REF DOCUMENT NUMBER :

Title: DEVICE FOR THE SECURED CONNECTION OF TWO END FITTINGS, PARTICULARLY OF A **PIPE**

Abstract: The device connects a first end fitting to a second end fitting, particularly of a **pipe**. A **nut** is provided with a threaded bore into which the first end fitting is screwed along a longitudinal axis. In the tightened position, the first end fitting is axially stressed relative to the second end fitting housed in the **nut**. Rotation-proofing means are provided between the **nut** and at least one of the first and second end fittings hereafter referred to as the locking end fitting. The rotation-proofing means consist of at least one strip arranged around the locking end fitting. The strip comprises at least one protrusion radially penetrating into at least one concavity.

Classifications:

International (IPC 8-9): F16L F16L15/08 F16L19/00 F16L27/00

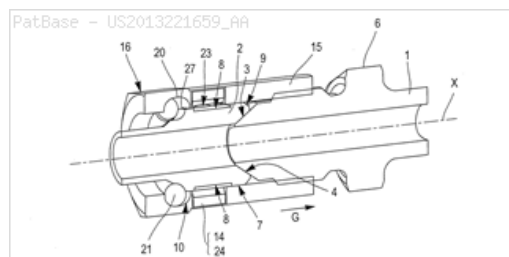
F16L39/00 (Advanced/Invention);

F16L (Subclass/Invention)

CPC: F16L19/005

European: F16L19/00B

US: 1/1 285/81



Family:

Publication number	Publication date	Application number	Application date
CA2816267 AA	20130426	CA20112816267	20111109
CA2816267 C	20181211	CA20112816267	20111109
DE602011014669 D1	20150423	DE201160014669T	20111109
EP2638317 A1	20130918	EP20110794540	20111109
EP2638317 B1	20150311	EP20110794540	20111109
FR2967229 A1	20120511	FR20100059238	20101109
FR2967229 B1	20121214	FR20100059238	20101109
HK1185399 A1	20151002	HK20130112742	20131114
HK1185399 A1	20140214	HK20130112742	20131114
HK1185399 B	20151002	HK20130112742	20131114
SG190055 A1	20130628	SG20130032842	20111109
US2013221659 AA	20130829	US20110884535	20111109
US9163758 BB	20151020	US20110884535	20111109
WO12063000 A1	20120518	WO2011FR52612	20111109

Priority:

FR20100059238 20101109 EP20110794540 20111109 WO2011FR52612 20111109

Probable Assignee: JPB SYSTEME

Assignee(s): (std): JPB SYSTEME ; MARC DAMIEN

Inventor(s): (std): MARC DAMIEN

Inventor(s): DAMIEN MARC

Agent(s): FETHERSTONHAUGH AND CO; GRAMM LINS AND PARTNER PATENT U RECHTSANWAELTE PARTGMBB; PONTET ALLANO AND ASSOCIES; CABINET PONTET ALLANO AND ASSOCIES SELARL; IPAZ; WOOD HERRON AND EVANS LLP

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2816267 AA	20130426	LSPB	+	published / reissued	
CA2816267 AA	20161114	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20161108
CA2816267 C	20181211	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2816267 C	20311109	PEXP		Calculated Patent Term Expiry	
EP2638317 A1	20130918	LSPB	+	published / reissued	
EP2638317 A1	20130918	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130516
EP2638317 A1	20141029	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20141001
EP2638317 A1	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151119

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 5
EP2638317 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20151124 YEAR OF FEE PAYMENT : 5
EP2638317 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20151028 YEAR OF FEE PAYMENT : 5
EP2638317 B1	20150311	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2638317 B1	20150311	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP2638317 B1	20150313	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2638317 B1	20150408	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : LANGUAGE OF EP DOCUMENT: FRENCH
EP2638317 B1	20150415	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 715550 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150415
EP2638317 B1	20150423	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602011014669 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20150423
EP2638317 B1	20150722	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20150311
EP2638317 B1	20150729	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20150311
EP2638317 B1	20150731	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 : 20150611
EP2638317 B1	20150731	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 : 20150311
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				NATIONAL OFFICE TO EPO]	PREScribed TIME-LIMIT LAPSED DATE : 20150311
EP2638317 B1	20150731	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 : 20150311
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EP2638317 B1	20150825	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2638317 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PREScribed TIME-LIMIT LAPSED DATE : 20150311
EP2638317 B1	20150831	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 : 20150311
EP2638317 B1	20150831	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 : 20150612
EP2638317 B1	20150930	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 : 20150311
EP2638317 B1	20151002	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : GR REF DOCUMENT NUMBER : 1185399 COUNTRY OF REF DOCUMENT : HK
EP2638317 B1	20151030	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 : 20150311
EP2638317 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PREScribed TIME-LIMIT LAPSED DATE : 20150311
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EP2638317 B1	20151030	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

				EPO]	LAPSED DATE : 20150311
EP2638317 B1	20151030	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 : 20150311
EP2638317 B1	20151124	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 : 5
EP2638317 B1	20151130	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 : 20150311
EP2638317 B1	20151130	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 : 20150711
EP2638317 B1	20151214	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602011014669 COUNTRY OF REF DOCUMENT : DE
EP2638317 B1	20151231	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 : 20150311
EP2638317 B1	20160129	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 : 20150311
EP2638317 B1	20160217	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20151214
EP2638317 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150311
EP2638317 B1	20160630	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151109
EP2638317 B1	20160630	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150311
EP2638317 B1	20160630	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2638317 B1	20160729	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 : 20151130

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EP2638317 B1	20160824	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2638317 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20151109
EP2638317 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160919 YEAR OF FEE PAYMENT : 6
EP2638317 B1	20161125	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 : 6
EP2638317 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161125 YEAR OF FEE PAYMENT : 6
EP2638317 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161121 YEAR OF FEE PAYMENT : 6
EP2638317 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20161026 YEAR OF FEE PAYMENT : 6
EP2638317 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150311
EP2638317 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SM NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150311
EP2638317 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO LAPSED DATE : 20111109
EP2638317 B1	20170630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150311
EP2638317 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20151130
EP2638317 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : MT NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE

				NATIONAL OFFICE TO EPO]	PREScribed TIME-LIMIT Lapsed DATE : 20150311
EP2638317 B1	20171127	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 7
EP2638317 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171121 YEAR OF FEE PAYMENT : 7
EP2638317 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171127 YEAR OF FEE PAYMENT : 7
EP2638317 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20171026 YEAR OF FEE PAYMENT : 7
EP2638317 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171123 YEAR OF FEE PAYMENT : 7
EP2638317 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR 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 : 20150311
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EP2638317 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AL 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 : 20150311
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EP2638317 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20181030 YEAR OF FEE PAYMENT : 8
EP2638317 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181121 YEAR OF FEE PAYMENT : 8
EP2638317 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181120 YEAR OF FEE PAYMENT : 8
EP2638317 B1	20311109	PEXP		Calculated Patent Term Expiry	
FR2967229 A1	20120511	LSPB	+	published / reissued	
FR2967229 B1	20121214	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2967229 B1	20151124	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 6
FR2967229 B1	20161125	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 7
FR2967229 B1	20171127	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 8

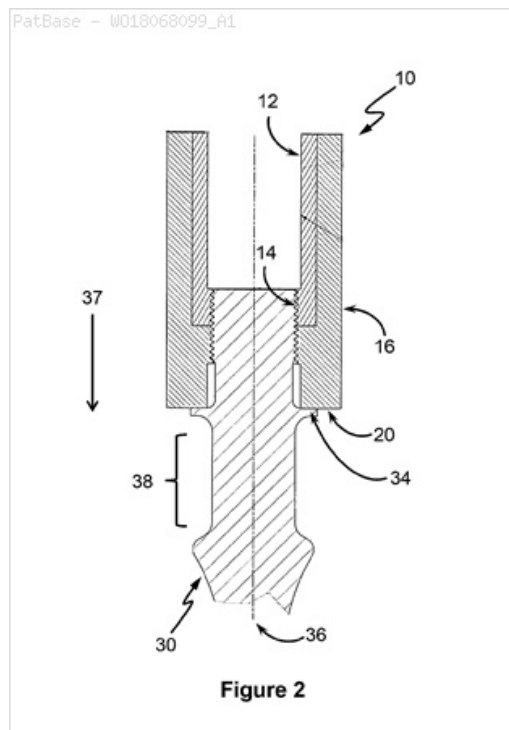
FR2967229 B1	20181121	LSFE	PLFP	Fee Payment (FEE PAYMENT)	PAYMENT DATE : 20181121 YEAR OF FEE PAYMENT : 9
FR2967229 B1	20301109	PEXP		Calculated Patent Term Expiry	
HK1185399 A1	20140214	LSPB	+	published / reissued	
HK1185399 A1	20151002	LSPB	+	published / reissued	
HK1185399 A1	20331114	PEXP		Calculated Patent Term Expiry	
HK1185399 A1	20331114	PEXP		Calculated Patent Term Expiry	
HK1185399 B	20151002	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1185399 B	20331114	PEXP		Calculated Patent Term Expiry	
SG190055 A1	20130628	LSPB	+	published / reissued	
US2013221659 AA	20130829	LSPB	+	published / reissued	
US2013221659 AA	20150930	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9163758 BB	20151020	LSGT	+	granted / extensions (spc, cpc, pte)	
US9163758 BB	20130607	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPB SYSTEME, FRANCE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MARC, DAMIEN; REEL/FRAME:030566/0310 EFFECTIVE DATE : 20130513
US9163758 BB	20150930	LSGT	PAT1	Patented Case	
US9163758 BB	20190408	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9163758 BB	20320315	PEXP		Calculated Patent Term Expiry (PTA 127 days)	
WO12063000 A1	20120518	LSPB	+	published / reissued	
WO12063000 A1	20130426	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2816267 COUNTRY OF REF DOCUMENT : CA
WO12063000 A1	20130509	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13884535 COUNTRY OF REF DOCUMENT : US
WO12063000 A1	20130510	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12063000 A1	20130516	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2011794540 COUNTRY OF REF DOCUMENT : EP

Title: ROD OR TUBE LIFTING APPARATUS

Abstract: Disclosed is an apparatus for connecting to a tube or a rod in a longitudinal axial direction of the tube or rod. The tube or rod is used in the assembly of a tube or rod string. The apparatus comprises an engagement member adapted to engage with an engagement 5 portion located at an end of the tube or rod. The apparatus also comprises an abutment member associated with the engagement member. The abutment member is adapted to abut an abutment portion of the tube or rod. The apparatus is adapted such that, when the engagement member is engaged with the engagement portion and the abutment member abuts the abutment portion, the abutment member can apply a locking force to the abutment 0 portion in the axial direction of the tube or rod, being a force that secures the engagement member to the engagement portion such that the tube or rod can be lifted and moved.

Classifications:**International (IPC 8-9):** E21B17/046 E21B19/06 E21B19/18

F16L23/02 (Advanced/Invention)

CPC: E21B19/06 E21B17/046**Family:**

Publication number	Publication date	Application number	Application date
AU2017344053 AA	20190530	AU20170344053	20171013
CA3040290 AA	20190412	CA20173040290	20171013
SG11201903308R A1	20190530	SG20191103308	20171013
WO18068099 A1	20180419	WO2017AU51112	20171013

Priority:

AU20160904168 20161014 WO2017AU51112 20171013

Probable Assignee: KAUS BOREALIS PTY LTD**Assignee(s):** (std): KAUS BOREALIS PTY LTD**Assignee(s):** HESELTINE HYLTON ANDREW**Inventor(s):** (std): HESELTINE HYLTON ANDREW**Agent(s):** GRIFFITH HACK; FASKEN MARTINEAU DUMOULIN LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT HW 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
AU2017344053 AA	20190530	LSPB	+	published / reissued	
CA3040290 AA	20190412	LSPB	+	published / reissued	
SG11201903308R A1	20190530	LSPB	+	published / reissued	
WO18068099 A1	20180419	LSPB	+	published / reissued	
WO18068099 A1	20190412	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 3040290

					COUNTRY OF REF DOCUMENT : CA
WO18068099 A1	20190416	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18068099 A1	20190524	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017860380 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190514
WO18068099 A1	20190530	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017344053 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20171013 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

Title: Connecting piece for pressure **pipes**

Abstract: Source: DE29803740U1 [DE] (Claim 1) 1. Verbindungsstueck fuer Druckleitungen, wobei ein rohrfoermiges Verbindungsstueck(1) in ein Gewindebohrloch (3) eines geschlossenen Druckbehaelters (2) eingeschraubt und mit einer Arretierungsmutter (8) fuer ein elastisches Dichtungselement (10) versehen ist, dadurch gekennzeichnet, • dass das aussere Ende des Gewindebohrloches (3) zu einem Dichtraum (4) erweitert ist, welcher eine geeignet tiefe radial glatte Innenmantelflaeche (5) und am Boden dieser dazu rechtwinkelig eine ebene Stufe (6) ausgebildet, • dass das Verbindungsstueck (1) innerhalb der Gewindelange partiell eine glatte Aussenmantelflaeche (7) aufweist, die im funktionsgemassen Einbau der Innenmantelflaeche (5) zugeordnet ist, • dass die Arretierungsmutter (8) an der axial nach innen gerichtete Stirnflaeche (9) eine glatte Ebene ausbildet, die in die Erweiterung des Dichtraumes (4) hineinragt, • und dass das Dichtungselement (10) im Dichtraum (4) radial mittels linienfoermiger Auflage dichtet und unter der axialen Verspannung durch die gegenueber dem Dichtraum (4) angezogene Arretierungsmutter (8) den Freiheitsgrad der Drehung durch die axiale Haftreibung mittels flaechenfoermig gebetteter Auflage festlegt jedoch bei Lockerung der Arretierungsmutter (8) die Haftreibung entsprechend vermindert um eine Verdrehung zu ermoeglichen.

Machine translation: (Claim 1) 1. Connecting piece for pressure **pipes**, whereby a tubular connecting piece (1) is provided screwed in into a thread borehole (3) of a closed receiver (2) and with a locking **nut**/mother (8) for a flexible Dichtungselement (10), by it characterized, • that the outside end of the thread borehole (3) is extended to a sealing area (4), which one the been suitable deep radially glatte Innenmantelflaeche (5) and at the soil of these trained as it right-angled an even stage (6), • that the connecting piece (1) exhibits A glatte outer casing surface (7) within the length of thread partially einlegt, which is assigned in the functional installation to the Innenmantelflaeche (5), • that the locking **nut**/mother (8) at axially inward the arranged front surface (9) trains one glatte level, which projects into the extension of the sealing area (4), • and that the seal element (10) in the sealing area (4) seals those static friction radially by means of linienfoermiger Auflage and under the axial spanning by in relation to the sealing area (4) the tightened locking **nut**/mother (8) Freiheitsgradder turn by the axial static friction by means of flaechenfoermig bedded edition specifies however on loosening the locking **nut**/mother (8) accordingly decreased by a twist to make possible.

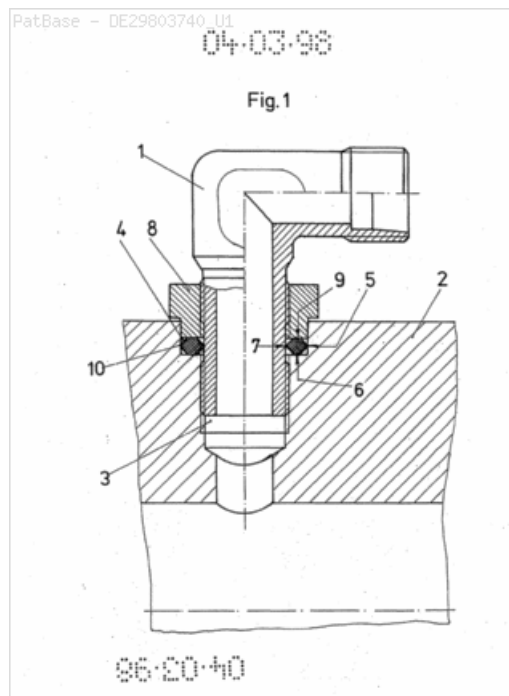
Classifications:

International (IPC 8-9): F16L41/08 (Advanced/Invention); F16L41/08 (Core/Invention)

International (IPC 1-7): F16L15/04

CPC: F16L41/007 F16L41/14 F16L41/10

European: F16L41/10 F16L41/14



Family:

Publication number	Publication date	Application number	Application date
DE29803740 U1	19980709	DE19982003740U	19980304

Priority:

DE19982003740U 19980304

Probable Assignee: BUEMACH ENGINEERING INTERNATIO

Assignee(s): (std): BUEMACH ENGINEERING INTERNATIO

Assignee(s): BUEMACH ENGINEERING INTERNATIONAL B V ; BUEMACH ENGINEERING INTERNATIONAL B V EMMEN NL ; BUEMACH ENGINEERING INT BV

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE29803740 U1	19980709	LSGT	+	granted / extensions (spc, cpc, pte)	
DE29803740 U1	19980709	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 19980709

DE29803740 U1	20010523	LSGT	+R150	TERM OF PROTECTION EXTENDED TO 6 YEARS	EFFECTIVE DATE : 20010316
DE29803740 U1	20040701	LSGT	+R151	TERM OF PROTECTION EXTENDED TO 8 YEARS	EFFECTIVE DATE : 20040428
DE29803740 U1	20060622	LSGT	+R152	TERM OF PROTECTION EXTENDED TO 10 YEARS	EFFECTIVE DATE : 20060413
DE29803740 U1	20080331	LSLE	-R071	EXPIRY OF RIGHT	
DE29803740 U1	20080304	PEXP		Calculated Patent Term Expiry	

Title: Double-wall composite **pipe** and coupling structure assembly

Abstract: A double-wall composite **pipe** comprises a permeable annulus structure separating impermeable inner and outer walls. The permeable annulus structure has micro-fractures formed therein that function to reduce the flow rate and pressure of fluids leaking through the inner wall to thus inhibit fluid leakage. The annulus structure resists the stresses produced by internal fluid pressures and other service loads. The inner and outer walls will remain permanently impermeable while the **pipe** annulus structure undergoes stress-induced dimensional changes. A coupler assembly mechanically connects each longitudinally adjacent pair of **pipes** together and comprises two semi-cylindrical half-couplers, a compressible seal ring, a cylindrical retaining sleeve, and a flexible boot that encloses and seals the assembled half-couplers. A leak detecting sensor may be located at the coupler assembly. A preferred method and apparatus for making the **pipe** and coupler assembly are also taught.

Classifications:

International (IPC 8-9): B29C70/20 B32B1/08 B32B27/12 F16L21/00 F16L21/06 F16L9/12 F16L9/18 (Advanced/Invention); B32B27/12 F16L9/18 (Advanced/Non-invention); B29C70/10 B32B1/00 B32B27/12 F16L21/00 F16L21/06 F16L9/00 F16L9/18 (Core/Invention)

International (IPC 1-7): B29C53/56 B29C53/64 B29C53/66 B29C67/14 B29C70/32 B29C71/00 B29K105/06 B29L23/22 B32B1/08 B32B1/10 B32B27/12 F16L11/08 F16L21/00 F16L39/00 F16L39/04 F16L9/12 F16L9/14 F16L9/18

CPC: B29C70/207 B29L2023/22 F16L9/12 F16L21/00 F16L21/06

European: B29C70/20B2 F16L21/00 F16L21/06 F16L9/12 L29L23/22

US: 138/128 138/141 138/153 285/373 285/379 285/423 285/45 285/93

PatBase - US5222769_A

U.S. Patent June 29, 1993 Sheet 3 of 15 5,222,769

FIG. 1

PIPE DIAMETER		TOTAL WALL THICKNESS			
		0.15 inch (3.8 mm)	0.20 inch (5.1 mm)	0.30 inch (7.6 mm)	0.40 inch (10.2 mm)
		MAXIMUM TEST PRESSURE			
		NOTE: 145 PSI = 1 MPa			
2 in.	51 mm	5,000 psi	3,200 psi	4,000 psi	5,000 psi
3 in.	76 mm	1,850 psi	2,400 psi	3,333 psi	4,548 psi
4 in.	102 mm	1,270 psi	1,630 psi	2,652 psi	3,504 psi
6 in.	152 mm	830 psi	1,050 psi	1,867 psi	2,460 psi
8 in.	203 mm	737 psi	1,170 psi	1,474 psi	1,960 psi
10 in.	254 mm	600 psi	974 psi	1,217 psi	1,630 psi
12 in.	305 mm	519 psi	830 psi	1,037 psi	1,380 psi
14 in.	355 mm	452 psi	720 psi	900 psi	1,204 psi
16 in.	406 mm	400 psi	640 psi	800 psi	1,067 psi
18 in.	457 mm	359 psi	574 psi	718 psi	957 psi
20 in.	508 mm	326 psi	521 psi	651 psi	868 psi
24 in.	609 mm	270 psi	430 psi	540 psi	730 psi
30 in.	762 mm	222 psi	350 psi	444 psi	580 psi
36 in.	914 mm	187 psi	290 psi	370 psi	480 psi
42 in.	1066 mm	160 psi	257 psi	320 psi	420 psi
48 in.	1218 mm	140 psi	226 psi	280 psi	370 psi
60 in.	1520 mm	120 psi	190 psi	240 psi	340 psi
66 in.	1675 mm	114 psi	180 psi	220 psi	304 psi
72 in.	1827 mm	95 psi	150 psi	190 psi	277 psi
84 in.	2133 mm	81 psi	130 psi	164 psi	238 psi
96 in.	2436 mm	72 psi	110 psi	144 psi	201 psi
108 in.	2741 mm	64 psi	100 psi	128 psi	170 psi
120 in.	3048 mm	58 psi	92 psi	116 psi	154 psi

Family:

Publication number	Publication date	Application number	Application date
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EP0585465 A4	19940810	EP19930904362	19930226
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US5222769 A	19930629	US19920838463	19920226
WO9317267 A1	19930902	WO1993P00247	19930226

Priority:

US19920838463 19920226 AU19930035753 19930226 WO1993P00247 19930226

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Assignee(s): CHARLES EDWARD KAEMPEN ; CHARLES ROBERT KAEMPEN ; DAIDO CO

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Inventor(s): C E KAEMPEN

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; RICHES MCKENZIE AND HERBERT LLP

Designated states: AT AU BE BR CA CH DE DK ES FI FR GB GR IE IT KR LI LU MC NL NO PT RO RU SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199335753 A1	19930913	LSPB	+	published / reissued	
AU199660629 A1	19961017	LSPB	+	published / reissued	
AU199660630 A1	19961017	LSPB	+	published / reissued	
AU671619 B2	19960905	LSGT	+	granted / extensions (spc, cpc, pte)	
AU671619 B2	20130226	PEXP		Calculated Patent Term Expiry	
BRPI9304374 A	19940802	LSPB	+	published / reissued	
BRPI9304374 A	20020129	LSFE	-FD5	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	
CA2109300 AA	19931026	LSPB	+	published / reissued	
CA2109300 AA	19980721	LSES	+EEER	EXAMINATION REQUEST	
CA2109300 AA	20040119	LSLE	-FZDE	DEAD	
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CN1071875 C	20010926	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1071875 C	20040428	LSLE	-C19	LAPSE OF PATENT RIGHT DUE TO NON-PAYMENT OF THE ANNUAL FEE	
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EP0585465 A1	19940309	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19931118
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US5222769 A	19940822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DAIDO CO. LTD., JAPAN OLDPARTY : MORTGAGE OF, ASSIGNMENT OF, AND GRANT OF SECURITY INTEREST IN PATENTS; ASSIGNOR:KAEMPEN, CHARLES E.; REEL/FRAME:007108/0684 EFFECTIVE DATE : 19940805
US5222769 A	19950914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KAEMPEN, CHARLES E., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DAIDO CO. LTD.; REEL/FRAME:007629/0608 EFFECTIVE DATE : 19950801
US5222769 A	19951124	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CHARLES ROBERT KAEMPEN, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KAEMPEN, CHARLES, DR.; REEL/FRAME:007732/0256 EFFECTIVE DATE : 19951117
US5222769 A	19961226	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5222769 A	20001114	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5222769 A	20050629	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5222769 A	20050727	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
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US5222769 A	20120226	PEXP		Calculated Patent Term Expiry	
WO9317267 A1	19930902	LSPB	+	published / reissued	
WO9317267 A1	19931025	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 934703 COUNTRY OF REF DOCUMENT : FI
WO9317267 A1	19931026	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2109300 COUNTRY OF REF DOCUMENT : CA
WO9317267 A1	19931118	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1993904362 COUNTRY OF REF DOCUMENT : EP
WO9317267 A1	19940309	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1993904362 COUNTRY OF REF DOCUMENT : EP
WO9317267 A1	19941222	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642

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Title: SECURING SHELL ASSEMBLIES TO PIPELINES

Abstract: A method is provided for securing a shell assembly to a pipeline. A two part shell assembly (2, 3) is secured to pipeline (6) and holds in position an annular sealing arrangement (16, 17) located about a predetermined area of the outer surface of the pipeline. The sealing arrangement includes a containment ring (16) surrounding an annular seal (17). The containment ring is provided with connected through passages (16e) so that sealant can be introduced via a hole in the assembly into the passages to provide seating between the ring and the pipeline, and between the ring and the assembly. Thus, should the annular seal (17) fail during service the introduced sealant provides a seal.

Classifications:

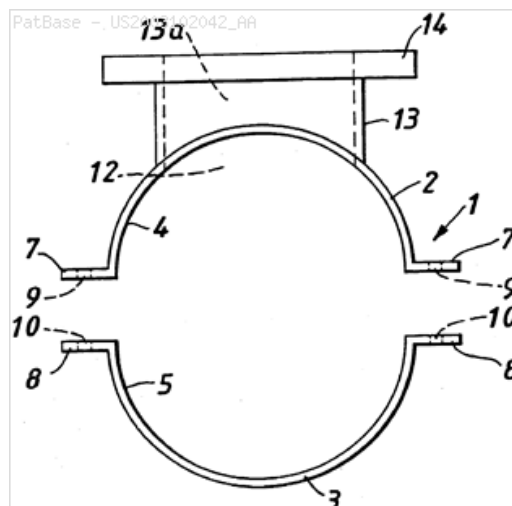
International (IPC 8-9): E03B7/00 F16L F16L41/02 F16L41/06 F16L41/12 F16L55/16 F16L55/172 F16L55/175 (Advanced/Invention); E03B7/00 F16L41/02 F16L41/08 F16L55/16 (Core/Invention); F16L (Subclass/Invention)

International (IPC 1-7): E03B7/00 F16B37/12 F16L F16L041/12 F16L055/175 F16L41/02 F16L41/06 F16L41/12 F16L55/16 F16L55/175

CPC: F16L55/175 F16L55/172

European: F16L55/172

US: 138/158 138/159 138/97 138/99 264/36.1 264/361

**Family:**

Publication number	Publication date	Application number	Application date
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AU2001250504 BB	20041223	AU20010250504	20010424
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IL152499 A0	20030529	IL20010152499	20010424
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US6612341 BB	20030902	US20020258529	20021025
WO0184038 A1	20011108	WO2001GB01810	20010424

Priority:

GB20000010329 20000428

WO2001GB01810 20010424

Probable Assignee: ADVANTICA INTELLECTUAL PROPERTY LTD

Assignee(s): (std): BG INTELLECTUAL PTY LTD ; LATTICE INTELLECTUAL PROPERTY ; VU DAN QUOC ; LEHTTIS INTELLEKCHUAL PROPERTI ; LEHTTIS INTELLEKCHUAL PROPERTI LTD ; LATTICE INTELLECTUAL PROPERTY LTD

Assignee(s): LATTICE INTELLECTUAL PROPERTY LIMITED ; ADVANTICA INTELLECTUAL PROPERTY LTD ; BG INTELLECTUAL PROPERTY LTD

Inventor(s): (std): VU DAN ; VU DAN KVOK ; VU DAN Q ; VU DAN QUOC ; DAN Q VU ; DAN QUOC VU

Inventor(s): QUOC VU DAN

Agent(s): GRIFFITH HACK; GOWLING LAFLEUR HENDERSON LLP; MARKS AND CLERK; EITAN PEARL LATZER AND COHEN ZEDEK; EITAN MEHULAL AND SADOT

Designated states: 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 TT TZ UA UG US UZ VN YU ZA ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AR028370 AA	20030507	LSPB	+	published / reissued	
AR028370 AA	20050713	LSGT	+FG	GRANT, REGISTRATION	
AT362074 E	20070615	LSGT	+	granted / extensions (spc, cpc, pte)	
AT362074 E	20071115	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT362074 E	20210424	PEXP		Calculated Patent Term Expiry	
AU2001250504 AA	20011112	LSPB	+	published / reissued	
AU2001250504 BB	20041223	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2001250504 BB	20210424	PEXP		Calculated Patent Term Expiry	
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BRPI0110372 A	20030218	LSPB	+	published / reissued	
BRPI0110372 A	20091222	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0110372 B1	20101019	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	TEXT : PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 24/04/2001, OBSERVADAS AS CONDICOES LEGAIS.
BRPI0110372 B1	20110830	LSAS	B25D	REQUESTED CHANGE OF NAME OF APPLICANT APPROVED	PARTYTYPE : OWNER OWNER : ADVANTICA INTELLECTUAL PROPERTY LIMITED (GB) OLDPARTY : NOME ALTERADO DE: LATTICE INTELLECTUAL PROPERTY LIMITED
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BRPI0110372 B1	20210424	PEXP		Calculated Patent Term Expiry	
CA2409709 AA	20021028	LSPB	+	published / reissued	
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CA2409709 C	20061205	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2409709 C	20210424	PEXP		Calculated Patent Term Expiry	
CN1208571 C	20050629	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1208571 C	20050629	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	

CN1208571 C	20090506	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	PARTYTYPE : OWNER OWNER : EDWINTE INTELLECTUAL PROPERTY CO., LTD. OLDPARTY : FORMER NAME: RATIS INTELLECTUAL PROPERTY CO., LTD.
CN1208571 C	20090506	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN1208571 C	20210424	PEXP		Calculated Patent Term Expiry	
CN1426518 A	20030625	LSPB	+	published / reissued	
CN1426518 A	20030625	LSPB	+C06	PUBLICATION	
DE60128347 D1	20080529	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60128347 D1	20080529	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60128347 T2	20080117	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60128347 T2	20080529	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60128347 T2	20210424	PEXP		Calculated Patent Term Expiry	
EG22486 A	20030226	LSGT	+	granted / extensions (spc, cpc, pte)	
EG22486 A	20210424	PEXP		Calculated Patent Term Expiry	
EP1278983 A1	20030129	LSPB	+	published / reissued	
EP1278983 A1	20030129	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20021128
EP1278983 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20160324 YEAR OF FEE PAYMENT : 16
EP1278983 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160421 YEAR OF FEE PAYMENT : 16
EP1278983 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160421 YEAR OF FEE PAYMENT : 16
EP1278983 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160421 YEAR OF FEE PAYMENT : 16
EP1278983 B1	20070509	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1278983 B1	20070509	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 : 20070509
EP1278983 B1	20070509	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 : 20070509
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					PREScribed TIME-LIMIT LAPSED DATE : 20070509
EP1278983 B1	20070509	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1278983 B1	20070531	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1278983 B1	20070613	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1278983 B1	20070809	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 : 20070809
EP1278983 B1	20070820	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 : 20070820
EP1278983 B1	20071101	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
EP1278983 B1	20071115	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1278983 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 : 20070509
EP1278983 B1	20071207	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : GR REF DOCUMENT NUMBER : 1053162 COUNTRY OF REF DOCUMENT : HK
EP1278983 B1	20080102	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 : 20070509
EP1278983 B1	20080131	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 : 20070509
EP1278983 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 : 20071009

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EP1278983 B1	20080416	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20080212
EP1278983 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT 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 : 20070509
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EP1278983 B1	20081128	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080430
EP1278983 B1	20090430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080424
EP1278983 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY 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 : 20070509
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EP1278983 B1	20120510	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTY TYPE : OWNER REF COUNTRY CODE : DE OWNER : ADVANTICA INTELLECTUAL PROPERTY LIMITED, LOUGH, GB REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 60128347 COUNTRY OF REF DOCUMENT : DE OLD PARTY : FORMER OWNER: LATTICE INTELLECTUAL PROPERTY LTD., LONDON, GB EFFECTIVE DATE : 20120315
EP1278983 B1	20120510	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTY TYPE : OWNER REF COUNTRY CODE : DE OWNER : ADVANTICA INTELLECTUAL PROPERTY LIMITED, GB REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 60128347 COUNTRY OF REF DOCUMENT : DE OLD PARTY : FORMER OWNER: LATTICE INTELLECTUAL PROPERTY LTD., LONDON, GB EFFECTIVE DATE : 20120315

EP1278983 B1	20120518	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : FR OWNER : ADVANTICA INTELLECTUAL PROPERTY LIMITED REF LEGAL EVENT CODE : CD EFFECTIVE DATE : 20120413
EP1278983 B1	20160421	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 16
EP1278983 B1	20170419	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 17
EP1278983 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170419 YEAR OF FEE PAYMENT : 17
EP1278983 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170419 YEAR OF FEE PAYMENT : 17
EP1278983 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170419 YEAR OF FEE PAYMENT : 17
EP1278983 B1	20170929	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20170413 YEAR OF FEE PAYMENT : 17
EP1278983 B1	20180420	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 18
EP1278983 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180420 YEAR OF FEE PAYMENT : 18
EP1278983 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180420 YEAR OF FEE PAYMENT : 18
EP1278983 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20180420 YEAR OF FEE PAYMENT : 18
EP1278983 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180418 YEAR OF FEE PAYMENT : 18
EP1278983 B1	20210424	PEXP		Calculated Patent Term Expiry	
GB200010329 A0	20010328	LSAS	COOA	CHANGE IN APPLICANT'S NAME OR OWNERSHIP OF THE APPLICATION	
GB200010329 A0	20010627	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GB2362446 A1	20011121	LSPB	+	published / reissued	
GB2362446 B2	20040915	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2362446 B2	20131225	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 20130424
GB2362446 B2	20210424	PEXP		Calculated Patent Term Expiry	
HK1053162 A1	20071207	LSPB	+	published / reissued	
HK1053162 A1	20230723	PEXP		Calculated Patent Term Expiry	

HK1053162 B	20071207	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1053162 B	20230723	PEXP		Calculated Patent Term Expiry	
IL152499 A1	20070724	LSPB	+	published / reissued	
IL152499 A1	20080106	LSGT	+FF	PATENT GRANTED	
IL152499 A1	20080122	LSFE	+KB	PATENT RENEWED	
IL152499 A1	20110428	LSFE	+KB	PATENT RENEWED	
IL152499 A1	20150430	LSFE	+KB	PATENT RENEWED	
JP2003532043 T2	20031028	LSPB	+	published / reissued	
JP2003532043 T2	20071212	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20071211
JP2003532043 T2	20071212	LSER	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20071211
JP2003532043 T2	20101126	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2003532043 T2	20101203	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20101202
JP2003532043 T2	20101209	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2003532043 T2	20110106	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20101221
JP2003532043 T2	20110107	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2003532043 T2	20110107	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP4656797 B2	20110323	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4656797 B2	20110104	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4656797 B2	20140109	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4656797 B2	20140114	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4656797 B2	20141225	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4656797 B2	20150106	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4656797 B2	20160107	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4656797 B2	20160112	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4656797 B2	20170105	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4656797 B2	20170117	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4656797 B2	20180104	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4656797 B2	20180109	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4656797 B2	20210424	PEXP		Calculated Patent Term Expiry	
MXPA02010451 A1	20030606	LSPB	+	published / reissued	
MXPA02010451 A1	20060703	LSGT	+FG	GRANT OR	

				REGISTRATION	
MXPA02010451 A1	20120607	LSAS	HC	CHANGE OF COMPANY NAME OR JURIDICAL STATUS	
NO20025057 A	20021021	LSPB	+	published / reissued	
NO325746 B1	20080714	LSGT	+	granted / extensions (spc, cpc, pte)	
NO325746 B1	20221021	PEXP		Calculated Patent Term Expiry	
PL357878 A1	20040726	LSPB	+	published / reissued	
PL357878 A1	20080530	LSWD	-DISC	DECISIONS ON DISCONTINUANCE OF THE PROCEEDINGS (TAKEN AFTER THE PUBLICATION OF THE PARTICULARS OF THE APPLICATIONS)	
RU2002131938 A	20040527	LSPB	+	published / reissued	
RU2232340 C1	20040710	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2232340 C1	20120820	LSAS	PD4A	CORRECTION OF NAME OF PATENT OWNER	
RU2232340 C1	20210424	PEXP		Calculated Patent Term Expiry	
US2003102042 AA	20030605	LSPB	+	published / reissued	
US2003102042 AA	20030814	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6612341 BB	20030902	LSGT	+	granted / extensions (spc, cpc, pte)	
US6612341 BB	20021118	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LATTICE INTELLECTUAL PROPERTY LIMITED, GREAT BRITA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VU, DAN QUOC; REEL/FRAME:013502/0630 EFFECTIVE DATE : 20021009
US6612341 BB	20030814	LSGT	PAT1	Patented Case	
US6612341 BB	20031223	LSRE	CC	CERTIFICATE OF CORRECTION	
US6612341 BB	20070214	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6612341 BB	20110223	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6612341 BB	20111108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ADVANTICA INTELLECTUAL PROPERTY LIMITED, UNITED KI OLDPARTY : CHANGE OF NAME; ASSIGNOR:LATTICE INTELLECTUAL PROPERTY LIMITED; REEL/FRAME:027196/0371 EFFECTIVE DATE : 20070802
US6612341 BB	20150226	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6612341 BB	20221025	PEXP		Calculated Patent Term Expiry	
WO0184038 A1	20011108	LSPB	+	published / reissued	
WO0184038 A1	20021010	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2001923817 COUNTRY OF REF DOCUMENT : EP
WO0184038 A1	20021023	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2002/010451 COUNTRY OF REF DOCUMENT : MX
WO0184038 A1	20021025	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PV2002-3576 COUNTRY OF REF DOCUMENT : CZ

WO0184038 A1	20021025	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 10258529 COUNTRY OF REF DOCUMENT : US
WO0184038 A1	20021025	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2001250504 COUNTRY OF REF DOCUMENT : AU
WO0184038 A1	20021027	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 152499 COUNTRY OF REF DOCUMENT : IL
WO0184038 A1	20021028	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2001 581020 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0184038 A1	20021028	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2409709 COUNTRY OF REF DOCUMENT : CA
WO0184038 A1	20021028	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 018087019 COUNTRY OF REF DOCUMENT : CN
WO0184038 A1	20021128	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2002 2002131938 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0184038 A1	20030129	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001923817 COUNTRY OF REF DOCUMENT : EP
WO0184038 A1	20030716	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : PV2002-3576 COUNTRY OF REF DOCUMENT : CZ
WO0184038 A1	20040723	LSRV	-WWR	WIPO INFORMATION: REFUSED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : PV2002-3576 COUNTRY OF REF DOCUMENT : CZ
WO0184038 A1	20050407	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001250504 COUNTRY OF REF DOCUMENT : AU
WO0184038 A1	20070509	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001923817 COUNTRY OF REF DOCUMENT : EP

Title: SUPPORT DEVICE FOR SERVICES.

Abstract: The invention relates to support devices, for example, as used to support service lines from the roof in an underground mine. A load-bearing member (23) and support bracket (22) are stacked together and temporarily fixed by means of a tab (24). The stacked arrangement (22, 23) is emplaced to the mine roof (26) by a rock bolt (25) which is secured by a point contact adhesive (27) and **nut** (28). The bracket (22) has keyholes (3) spaced along its length which serve as locking points for chains (21), from which services such as **pipes** (18) can be hung. The emplaced brackets (22) are spaced along the roof (26) so as to provide support for the **pipes** (18) along their route. The large number of keyholes (3) allows lateral positional adjustment at each bracket (22).

Classifications:

International (IPC 8-9): E21F17/02 F16L3/00

F16L3/24 (Advanced/Invention);

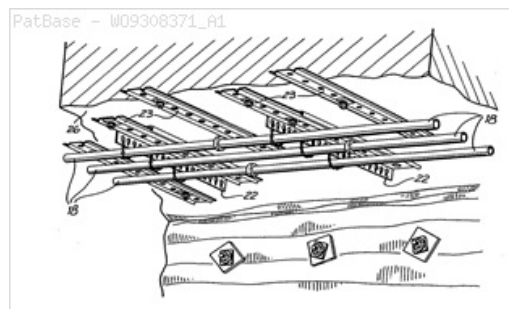
E21F17/00 F16L3/00 F16L3/24 (Core/Invention);

E21F F16L F17D H02J (Subclass/Invention)

International (IPC 1-7): E21F E21F17/02 F16L F16L3/00 F17D H02J

CPC: E21F17/02 F16L3/24

European: E21F17/02 F16L3/24



Family:

Publication number	Publication date	Application number	Application date
AU199228615 A1	19930521	AU19920028615	19921016
AU668524 B2	19960509	AU19920028615	19921016
BRPI9206645 A	19951121	BR1992PI06645	19921016
CA2121373 AA	19940414	CA19922121373	19921016
EP0607300 A1	19940727	EP19920921800	19921016
EP0607300 A4	19970903	EP19920921800	19921016
PL169115 B1	19960628	PL19920303192	19921016
WO9308371 A1	19930429	WO1992AU00555	19921016
ZA9208009 A	19930427	ZA19920008009	19921016

Priority:

AU1991PK08923	19911016	AU1991PL00218	19911231	AU1992PL02893	19920612
AU1992PL04985	19920928	AU1992PL05082	19921006	AU19920028615	19921016
WO1992AU00555	19921016				

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Assignee(s): BAAS CORNELIS ; BUFFIER BRIAN LESLEY JOSEPH ; O BRIEN BARBARA JOAN ; SMALLWOOD WALLACE FREDERICK

Inventor(s): (std): WALLACE FREDERICK SMALLWOOD ; SMALLWOOD WALLACE FREDERICK ; SMALLWOOD WALLACE F ; PINK JOHN EDWIN ; PINK JOHN E ; JOHN EDWIN PINK ; CORNELIS BAAS ; BAAS CORNELIS

Agent(s): CARTER SMITH AND BEADLE; SHAPIRO COHEN

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AU199228615 A1	19930521	LSPB	+	published / reissued	
AU668524 B2	19960509	LSGT	+	granted / extensions (spc, cpc, pte)	
AU668524 B2	20121016	PEXP		Calculated Patent Term Expiry	
BRPI9206645 A	19951121	LSPB	+	published / reissued	
BRPI9206645 A	19960319	LSES	+EE	REQUEST FOR EXAMINATION	
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BRPI9206645 A	20000502	LSRV	-FC	DECISION: REFUSAL	
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CA2121373 AA	19981016	LSLE	-FZDE	DEAD	
EP0607300 A1	19940727	LSPB	+	published / reissued	
EP0607300 A1	19940727	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19940510

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EP0607300 A4	19980422	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 19971010
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ZA9208009 A	20121015	PEXP		Calculated Patent Term Expiry	

Title: FASTGØRELSESBSLAG SAMT MONTERINGSARRANGEMENT FOR MONTERING AF CYLINDRISKE RØR Fixing Bracket AND MOUNTING ARRANGEMENT FOR THE INSTALLATION OF CYLINDRICAL TUBES (Machine translation)

Abstract: Source: DK200200089U [DA] 1. Fastgørelsesbeslag, for fastgørelse af cylindriske rør, specielt til undersiden af overflader, som er ny ved at beslaget består af en monteringskrans stort set korrespon- 5 derende i form til det indre lodret projicerede tværsnit af det cylindriske rør som skal fastgøres; at der er arrangeret et antal første fastgørelsesmidler i kransen; at der langs kransens yderperiferi er arrangeret en flange, hvilken i monteret tilstand vender bort fra overfladen og at flangen har ydre dimensioner stort svarende til det cylindriske rørs lodret projicerede indre dimension, at der er tilvejebragt to eller flere anden fastgørel- 10 sesmidler på kransen, hvilke fastgørelsesmidler vender bort fra overfladen, for fastgø- relse af det cylindriske rør til kransen. **Machine translation:** 1 Support bracket for attaching the cylindrical tube, in particular to the underside of surfaces which are new in that the locking device comprises a mounting rim largely corre-5 dents in the form of the internal vertically projected cross-section of the cylindrical tube to be fastened; that there are arranged a plurality of first attachment means of the rim, that along the ring's outer periphery is arranged a flange, which in the mounted state faces away from the surface and the flange has outer dimensions large corresponding to the cylindrical tube vertically projected internal dimension, that there is provided two or more different attachment protection products 10 of the rim, the fastening means facing away from the surface, for attachment of the cylindrical tube to the rim.

Classifications:

International (IPC 8-9): F16B9/02 F16L3/00 (Advanced/Invention);

F16L3/14 (Advanced/Non-invention);

F16B9/00 F16L3/00 (Core/Invention);

F16L3/14 (Core/Non-invention)

International (IPC 1-7): F16B9/02 F16L3/00 F16L3/14

Family:

Publication number	Publication date	Application number	Application date
 DK200200089 U3	20030711	DK20020000089U	20020327

Priority:

DK20020000089U 20020327

Probable Assignee: TREPOL AS
Assignee(s): (std): TREPOL AS
Assignee(s): TREPOL A S
Inventor(s): (std): RICHARD POULSEN
Inventor(s): POULSEN RICHARD

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DK200200089 U3	20030711	LSPB	+	published / reissued	
DK200200089 U3	20051111	LSLE	-UBP	UTILITY MODEL LAPSED	

Title: ADAPTER COUPLING

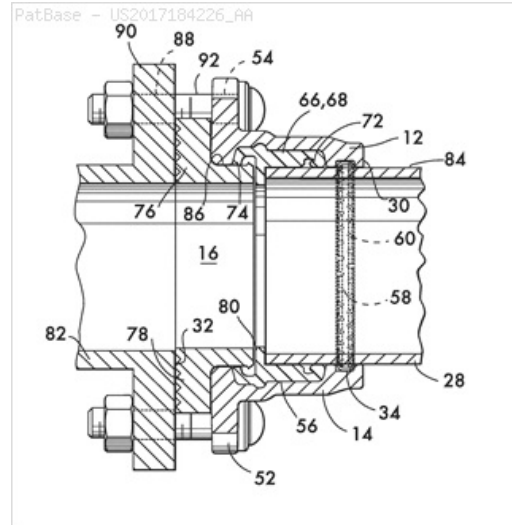
Abstract: A coupling for joining a flanged **pipe** element to a non-flanged **pipe** element has segments that are connected end to end and surround a central space. Flange portions extend from one side of the segments. Each segment defines two channels, one of which receives a split ring for gripping the non-flanged **pipe**; the other channel receives a seal. A flanged tube is also positioned between the segments. The flange of the tube is positioned adjacent to the flange portions of the segments. The seal engages the tube and the non-flanged **pipe** element. The flange portions of the segments are bolted to the flange of the flanged **pipe** element and the flange of the tube is captured between the flanged portions of the segments and the flange of the flanged **pipe** element.

Classifications:

International (IPC 8-9): F16L F16L17/04 F16L19/02 F16L19/025 F16L19/08 F16L21/03 F16L21/06 F16L21/08 F16L23/02 F16L23/024 F16L23/032 F16L23/22 F16L25/00 F16L47/00 F16L47/14 F16L47/24 (Advanced/Invention)

International (IPC 1-7): F16L17/04 F16L21/06 F16L23/02

CPC: F16L21/08 F16L23/024 F16L23/032 F16L23/22 F16L47/14 F16L47/24 F16L17/04



Family:

Publication number	Publication date	Application number	Application date
AU2016381244 AA	20180531	AU20160381244	20161222
AU2016381244 BB	20190613	AU20160381244	20161222
BR112018011017 A2	20181121	BR20181111017	20161222
CA3009356 AA	20180620	CA20163009356	20161222
CL2018001743 A1	20181109	CL20180001743	20180625
CN108431479 A	20180821	CN201680076612	20161222
CO20180006483 A2	20180710	CO20180006483	20180625
EP3397884 A1	20181107	EP20160882418	20161222
HK1253091 A1	20190606	HK20180112478	20180928
ID201809587 A	20180831	ID2018PID04572	20161222
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JP2019500559 T2	20190110	JP20180533633T	20161222
KR20180095696 A	20180827	KR20187021504	20161222
MA42579 A1	20190131	MA20160042579	20161222
MX2018008009 A1	20181109	MX20180008009	20161222
PE12832018 A1	20180807	PE20180001199	20161222
PH2018501098 A	20190121	PH20180501098	20180522
RU2685169 C1	20190416	RU20180123305	20161222
SG11201803931W A1	20180628	SG20181103931	20161222
TW201730470 A	20170901	TW20160143535	20161228
TWI638112 B	20181011	TW20160143535	20161228
US2017184226 AA	20170629	US20160387894	20161222
WO17116969 A1	20170706	WO2016US68258	20161222

Priority:

US20150271395P 20151228 US20160387894 20161222 WO2016US68258 20161222

Probable Assignee: VICTAULIC CO

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

Assignee(s): BOWMAN MATTHEW A ; CUVO ANTHONY J

Inventor(s): (std): CUVO ANTHONY J ; BOWMAN MATTHEW A ; BOWMAN MATTHEW ; CUVO ANTHONY ; MATTHEW A BOWMAN ; ANTHONY J CUVO

Inventor(s): J CUVO, ANTHONY J. ; A BOWMAN, MATTHEW A.

Agent(s): SPRUSON AND FERGUSON; BERESKIN AND PARR LLP SENCRL SRL; SARGENT AND KRAHN; JOSE ANDRES RINCON USCATEGUI; DE ANNA PIER LUIGI; CHINA PATENT AGENT HK LTD; MAROLITA SETIATI; YURIDICHESKAYA GORODISSKIJ I PARTNER Y OOO FA; CHIONCHIO JOHN A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG 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
AU2016381244 AA	20180531	LSPB	+	published / reissued	
AU2016381244 BB	20190613	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2016381244 BB	20361222	PEXP		Calculated Patent Term Expiry	
CA3009356 AA	20180620	LSPB	+	published / reissued	
CA3009356 AA	20180703	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20180620
CL2018001743 A1	20181109	LSPB	+	published / reissued	
CN108431479 A	20180821	LSPB	+	published / reissued	
CN108431479 A	20180821	LSPB	PB01	PUBLICATION	
CO20180006483 A2	20180710	LSPB	+	published / reissued	
EP3397884 A1	20181107	LSPB	+	published / reissued	
EP3397884 A1	20181107	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20180713
HK1253091 A1	20190606	LSPB	+	published / reissued	
ID201809587 A	20180831	LSPB	+	published / reissued	
IN201847027576 A	20180727	LSPB	+	published / reissued	
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MA42579 A1	20190131	LSPB	+	published / reissued	
MX2018008009 A1	20181109	LSPB	+	published / reissued	
PE12832018 A1	20180807	LSPB	+	published / reissued	
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RU2685169 C1	20190416	LSGT	+	granted / extensions (spc, cpc, pte)	
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TW201730470 A	20170901	LSPB	+	published / reissued	
TWI638112 B	20181011	LSGT	+	granted / extensions (spc, cpc, pte)	

TWI638112 B	20361228	PEXP		Calculated Patent Term Expiry	
US2017184226 AA	20170629	LSPB	+	published / reissued	
US2017184226 AA	20170106	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VICTAULIC COMPANY, PENNSYLVANIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CUVO, ANTHONY J.; BOWMAN, MATTHEW A.; REEL/FRAME:040868/0237 EFFECTIVE DATE : 20170103
US2017184226 AA	20181227	LSES	NFA1	Non Final Action Mailed	
WO17116969 A1	20170706	LSPB	+	published / reissued	
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WO17116969 A1	20181121	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112018011017 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20180530

Title: **PIPE** COUPLING

Abstract: A coupling assembly for plastic **pipes** including a **nut**, a body, a grip-ring, and a seal. The **nut** can engage the body through appropriate threads and includes a hooked projection having a sloping surface adapted to abut against and provide a force on a corresponding surface of the grip ring within the body. A **pipe** is inserted through the **nut**, grip-ring, and seal into the body. Tightening of the **nut** causes its sloped surface to engage and the grip ring to be forced both radially and longitudinally. Radial compression results in the grip-ring engaging the **pipe** whilst longitudinal forcing causes it to be forced into the body simultaneously abutting against and compressing the seal whilst dragging the **pipe** further into the body. The **nut** and the body may further have tapered surfaces that are brought together as the grip-ring is forced into the body. The physical connection between the body and the **nut** provides reinforcing for the **nut**, a feature especially useful when dealing with soft plastics. Further features include a lip on the grip-ring that provides an additional support for the grip-ring when compressed as well as an abutment shoulder on the **nut** preventing the grip-ring from being pulled out of the body.

Classifications:

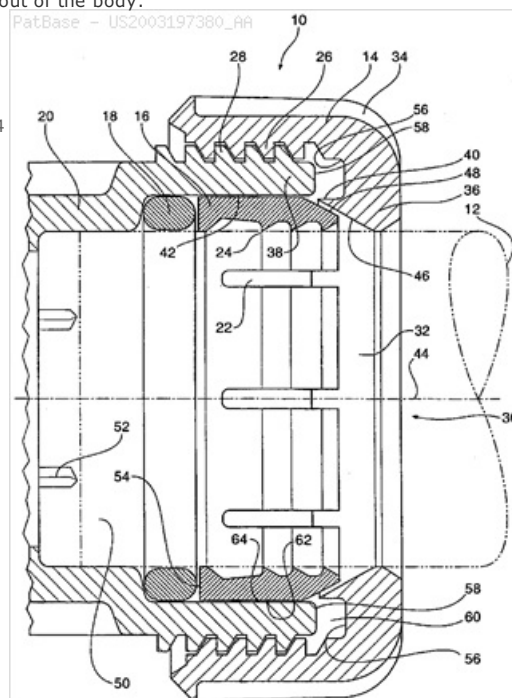
International (IPC 8-9): F16L19/04 F16L19/06 F16L19/065 F16L19/07 F16L19/075 F16L19/08 F16L21/04 F16L35/00 F16L47/04 F16L47/10 F16L47/12 (Advanced/Invention); F16L19/00 (Core/Invention)

International (IPC 1-7): F16L019/06 F16L019/065 F16L019/07 F16L021/04 F16L047/04 F16L047/10 F16L047/12 F16L17/00 F16L19/04 F16L19/06 F16L19/065 F16L19/07 F16L19/08 F16L21/04 F16L33/00 F16L35/00 F16L47/04 F16L47/10 F16L47/12

CPC: F16L19/065 F16L47/04

European: F16L19/065 F16L19/08 F16L47/04

US: 285/249 285/255 285/255P 285/322 285/331 285/342 285/354 285/354P 285/382.7



Family:

Publication number	Publication date	Application number	Application date
AU2001004470 A0	20010517	AU2001PR04470	20010419
AU2002248979 AA	20021105	AU20020248979	20020419
AU2002248979 BB	20040304	AU20020248979	20020419
AU447001 A0	20010517	AU2001PR04470	20010419
BRPI0206700 A	20040217	BR2002PI06700	20020419
CA2433398 AA	20030630	CA20022433398	20020419
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CA2574175 AA	20021031	CA20022574175	20020419
CA2574175 C	20090526	CA20022574175	20020419
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DE60246944 D1	20150312	DE20026046944	20020419
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JO2486 B	20090120	JO20030000113	20030914
JP2004519636 T2	20040702	JP20020583864T	20020419
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KR100789637 B1	20071227	KR20037008826	20020419
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NZ526633 A	20040326	NZ20020526633	20020419
PL202019 B1	20090529	PL20020362427	20020419
PL362427 A1	20041102	PL20020362427	20020419
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US2005285391 AA	20051229	US20050177764	20050707
US6974162 BB	20051213	US20030346921	20030117
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VN7737 A1	20090727	VN20030000566	20020419
WO02086371 A1	20021031	WO2002AU00487	20020419
ZA200305021 A	20050426	ZA20030005021	20030627

Priority:

AU2001PR04470 20010419 AU2021PR04470 20010419 AU20020248979 20020419
CA20022433398 20020419 WO2002AU00487 20020419 CA20022574175 20020419
EP20020717852 20020419 US20030346921 20030117 WO2002AU00487 20030627
US20050177764 20050707

Probable Assignee: PHILMAC PTY LTD

Assignee(s): (std): CHELCHOWSKI DAVID ; PHILMAC PTY LTD ; PUCKETT GEOFFREY B ; PUCKETT GEOFFREY BRYAN ;
RAYMOND LUKE

Assignee(s): PHILMAC PTY LTD NORTH PLYMPTON

Inventor(s): (std): CHELCHOWSKI DAVID ; PUCKETT GEOFFREY B ; RAYMOND LUKE ; PUCKETT GEOFFREY BRYAN ; PUCKETT
JEFFREY BRYAN ; DAVID CHELCHOWSKI ; BRYAN PUCKETT GEOFFREY ; LUKE RAYMOND ; PUCKETT ;
BRYAN GEOFFREY ; LUKE CHELCHOWSKI DAVID PUCKETT ; CHELCHOWSKI DAVID PUCKETT GEOFFREY
BRYAN RAYMOND L ; GEOFFREY BRYAN ; GEOFFREY BRYAN PUCKETT ; CHELCHOWKI DAVID GEOFFREY
BRYAN Y LUKE RAYMOND

Inventor(s): CHELCHOWSKI DAVID PUCKETT GEOFFREY BRYAN ; PUCKETT GEOFFREY ; CHELCHOWKI DAVID ;
CHELCHOWSKI DAVID LARGS BAY ; RAYMOND LUKE CLARENCE PARK ; PUCKETT GEOFFREY BRYAN
HALLETT COVE

Agent(s): LESICAR MAYNARD ANDREWS PTY LTD; LESICAR MURRAY TRENTON; RIDOUT AND MAYBEE LLP; VERAMARK
SA; TURNER RICHARD CHARLES; REINHOLD COHN AND PARTNERS; RALPH C FRANCIS FRANCIS LAW
GROUP; FRANCIS LAW GROUP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM
DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI
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SK SL SN SZ TD TG TJ TM TN 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
AU2002248979 AA	20021105	LSPB	+	published / reissued	
AU2002248979 BB	20040304	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2002248979 BB	20040701	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2002248979 BB	20220419	PEXP		Calculated Patent Term Expiry	
BRPI0206700 A	20040217	LSPB	+	published / reissued	
BRPI0206700 A	20101123	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0206700 A	20120207	LSRV	-B11D	DISMISSAL ACC. ART. 38, PAR 2 OF IPL - FAILURE TO PAY FEE AFTER GRANT IN TIME	
CA2433398 AA	20030630	LSPB	+	published / reissued	
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CN1242195 C	20040602	LSPB	+C06	PUBLICATION	
CN1242195 C	20060215	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1242195 C	20170609	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN1242195 C	20220419	PEXP		Calculated Patent Term Expiry	
CN1502025 A	20040602	LSPB	+	published / reissued	
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EA004842 B1	20220419	PEXP		Calculated Patent Term Expiry	
EA200300955 A1	20040429	LSPB	+	published / reissued	
EG23445 A	20050913	LSGT	+	granted / extensions (spc, cpc, pte)	
EG23445 A	20231018	PEXP		Calculated Patent Term Expiry	
EP1386107 A1	20040204	LSPB	+	published / reissued	
EP1386107 A1	20040204	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030630
EP1386107 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160330 YEAR OF FEE PAYMENT : 15
EP1386107 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20160408 YEAR OF FEE PAYMENT : 15
EP1386107 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160429 YEAR OF FEE PAYMENT : 15
EP1386107 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160426 YEAR OF FEE PAYMENT : 15
EP1386107 A1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170413 YEAR OF FEE PAYMENT : 16
EP1386107 A4	20090916	LSSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20090819
EP1386107 A4	20100310	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20100205
EP1386107 A4	20140910	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20140818
EP1386107 B1	20150128	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1386107 B1	20150128	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1386107 B1	20150130	LSNP	REG	REFERENCE TO A	REF COUNTRY CODE : CH

				NATIONAL CODE	REF LEGAL EVENT CODE : EP
EP1386107 B1	20150225	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1386107 B1	20150312	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 60246944 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20150312
EP1386107 B1	20150315	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 708380 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150315
EP1386107 B1	20150615	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 708380 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150128
EP1386107 B1	20150617	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20150128
EP1386107 B1	20150731	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 : 20150128
EP1386107 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES 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 : 20150128
EP1386107 B1	20150731	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 : 20150128
EP1386107 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL 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 : 20150128
EP1386107 B1	20150831	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 : 20150429
EP1386107 B1	20150831	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 : 20150128
EP1386107 B1	20151029	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 60246944

					COUNTRY OF REF DOCUMENT : DE
EP1386107 B1	20151030	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 : 20150128
EP1386107 B1	20151130	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20150419
EP1386107 B1	20151130	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20150128
EP1386107 B1	20151130	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1386107 B1	20151231	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 : 20150128
EP1386107 B1	20160106	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20151029
EP1386107 B1	20160129	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 : 20150430
EP1386107 B1	20160129	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 : 20150430
EP1386107 B1	20160426	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 15
EP1386107 B1	20160531	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 : 20150128
EP1386107 B1	20170502	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 16
EP1386107 B1	20170630	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 : 20150128
EP1386107 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE

				NATIONAL OFFICE TO EPO]	WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150528
EP1386107 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20170413 YEAR OF FEE PAYMENT : 16
EP1386107 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170510 YEAR OF FEE PAYMENT : 16
EP1386107 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170502 YEAR OF FEE PAYMENT : 16
EP1386107 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR 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 : 20150128
EP1386107 B1	20180424	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 17
EP1386107 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180302 YEAR OF FEE PAYMENT : 17
EP1386107 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20180302 YEAR OF FEE PAYMENT : 17
EP1386107 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180427 YEAR OF FEE PAYMENT : 17
EP1386107 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180424 YEAR OF FEE PAYMENT : 17
EP1386107 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190208 YEAR OF FEE PAYMENT : 18
EP1386107 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20190211 YEAR OF FEE PAYMENT : 18
EP1386107 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190227 YEAR OF FEE PAYMENT : 18
EP1386107 B1	20220419	PEXP		Calculated Patent Term Expiry	
HU0303824 AB	20040728	LSPB	+	published / reissued	
HU229012 B1	20130729	LSGT	+	granted / extensions (spc, cpc, pte)	
HU229012 B1	20160128	LSLE	-MM4A	LAPSE OF DEFINITIVE PATENT PROTECTION DUE TO NON-PAYMENT OF FEES	
HU229012 B1	20220419	PEXP		Calculated Patent Term Expiry	
IL156654 A0	20081127	LSGT	+FF	PATENT GRANTED	
IL156654 A0	20081127	LSFE	+KB	PATENT RENEWED	
IL156654 A1	20080413	LSPB	+	published / reissued	

IL156654 A1	20120430	LSFE	+KB	PATENT RENEWED	
IL156654 A1	20161130	LSLE	-MM9K	PATENT NOT IN FORCE DUE TO NON-PAYMENT OF RENEWAL FEES	
IN196708 B	00000000	LSGT	+	granted / extensions (spc, cpc, pte)	
IN196708 B	20230707	PEXP		Calculated Patent Term Expiry	
JO2486 B	20230914	PEXP		Calculated Patent Term Expiry	
JP2004519636 T2	20040702	LSPB	+	published / reissued	
JP2004519636 T2	20050224	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20050223
JP2004519636 T2	20071016	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20071016
JP2004519636 T2	20080401	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20080331
JP2004519636 T2	20080412	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080411
JP2004519636 T2	20080423	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080422
JP2004519636 T2	20080517	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080415
JP2004519636 T2	20080524	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20080423
JP2004519636 T2	20080609	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20080606
JP2004519636 T2	20080901	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20080829
JP2004519636 T2	20100403	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100402
JP2004519636 T2	20101028	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20101027
JP2004519636 T2	20101216	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2004519636 T2	20101224	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20101210
JP2004519636 T2	20101224	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2004519636 T2	20101227	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4650993 B2	20110316	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4650993 B2	20101221	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4650993 B2	20130919	LSFE	R20	特許料納付書 (Patent fee payment form)	

JP4650993 B2	20131001	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4650993 B2	20141106	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4650993 B2	20141111	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4650993 B2	20151224	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4650993 B2	20220419	PEXP		Calculated Patent Term Expiry	
KR100789637 B1	20071227	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100789637 B1	20060704	LSSES	A201	REQUEST FOR EXAMINATION	
KR100789637 B1	20070423	LSSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR100789637 B1	20070820	LSRE	AMND	AMENDMENT	
KR100789637 B1	20071019	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR100789637 B1	20071025	LSRE	AMND	AMENDMENT	
KR100789637 B1	20071211	LSGT	+B701	DECISION TO GRANT	
KR100789637 B1	20071220	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR100789637 B1	20121205	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20121205 YEAR OF FEE PAYMENT : 6
KR100789637 B1	20130805	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20130806 YEAR OF FEE PAYMENT : 7
KR100789637 B1	20140929	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20140929 YEAR OF FEE PAYMENT : 8
KR100789637 B1	20151221	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR100789637 B1	20220419	PEXP		Calculated Patent Term Expiry	
KR20030090617 A	20031128	LSPB	+	published / reissued	
MXPA03009551 A1	20040212	LSPB	+	published / reissued	
MXPA03009551 A1	20070917	LSGT	+FG	GRANT OR REGISTRATION	
MY125741 A	20060830	LSGT	+	granted / extensions (spc, cpc, pte)	
MY125741 A	20230804	PEXP		Calculated Patent Term Expiry	
NZ526633 A	20040326	LSPB	+	published / reissued	
NZ526633 A	20040730	LSGT	+PSEA	PATENT SEALED	
NZ526633 A	20060127	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ526633 A	20090227	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ526633 A	20120330	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ526633 A	20150424	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 19 APR 2016 BY LESICAR MAYNARD ANDREWS PTY LTD EFFECTIVE DATE : 20150410
NZ526633 A	20160429	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 19 APR 2017 BY LESICAR MAYNARD ANDREWS PTY LTD EFFECTIVE DATE : 20160406
NZ526633 A	20170331	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 19 APR 2018 BY LESICAR MAYNARD ANDREWS PTY LTD

					LTD EFFECTIVE DATE : 20170310
NZ526633 A	20180323	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 19 APR 2019 BY LESICAR MAYNARD ANDREWS PTY LTD EFFECTIVE DATE : 20180302
NZ526633 A	20190329	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 19 APR 2020 BY LESICAR MAYNARD ANDREWS PTY LTD EFFECTIVE DATE : 20190307
PL202019 B1	20090529	LSGT	+	granted / extensions (spc, cpc, pte)	
PL362427 A1	20041102	LSPB	+	published / reissued	
US2003197380 AA	20031023	LSPB	+	published / reissued	
US2003197380 AA	20051122	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2005285391 AA	20051229	LSPB	+	published / reissued	
US2005285391 AA	20070829	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6974162 BB	20051213	LSGT	+	granted / extensions (spc, cpc, pte)	
US6974162 BB	20051122	LSGT	PAT1	Patented Case	
US6974162 BB	20090401	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6974162 BB	20131118	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6974162 BB	20171016	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : 11.5 YR SURCHARGE- LATE PMT W/IN 6 MO, SMALL ENTITY (ORIGINAL EVENT CODE: M2556)
US6974162 BB	20171016	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6974162 BB	20230117	PEXP		Calculated Patent Term Expiry	
US7270351 BB	20070918	LSGT	+	granted / extensions (spc, cpc, pte)	
US7270351 BB	20070829	LSGT	PAT1	Patented Case	
US7270351 BB	20110318	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7270351 BB	20150915	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7270351 BB	20160119	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PHILMAC PTY LTD, AUSTRALIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CHELCHOWSKI, DAVID; PUCKETT, GEOFFREY; RAYMOND, LUKE; SIGNING DATES FROM 20151118 TO 20151222; REEL/FRAME:037522/0592
US7270351 BB	20190318	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7270351 BB	20250707	PEXP		Calculated Patent Term Expiry	
VN7737 A1	20090727	LSPB	+	published / reissued	
WO02086371 A1	20021031	LSPB	+	published / reissued	
WO02086371 A1	20021209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002248979 COUNTRY OF REF DOCUMENT : AU
WO02086371 A1	20030117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 10346921 COUNTRY OF REF DOCUMENT : US
WO02086371 A1	20030624	LSNP	+WWE	WIPO INFORMATION:	REF DOCUMENT NUMBER : 526633

WO02086371 A1	20030626	LSNP	+WWE	ENTRY INTO NATIONAL PHASE WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	COUNTRY OF REF DOCUMENT : NZ REF DOCUMENT NUMBER : 2002717852 COUNTRY OF REF DOCUMENT : EP
WO02086371 A1	20030626	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 156654 COUNTRY OF REF DOCUMENT : IL
WO02086371 A1	20030626	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1200300566 COUNTRY OF REF DOCUMENT : VN
WO02086371 A1	20030627	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020037008826 COUNTRY OF REF DOCUMENT : KR
WO02086371 A1	20030630	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2433398 COUNTRY OF REF DOCUMENT : CA
WO02086371 A1	20030630	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002583864 COUNTRY OF REF DOCUMENT : JP
WO02086371 A1	20030707	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1060/DELNP/2003 COUNTRY OF REF DOCUMENT : IN
WO02086371 A1	20030807	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1-2003- 500596 COUNTRY OF REF DOCUMENT : PH
WO02086371 A1	20030930	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200300955 COUNTRY OF REF DOCUMENT : EA
WO02086371 A1	20031013	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 028081560 COUNTRY OF REF DOCUMENT : CN
WO02086371 A1	20031017	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2003/009551 COUNTRY OF REF DOCUMENT : MX
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ZA200305021 A	20050426	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200305021 A	20230626	PEXP		Calculated Patent Term Expiry	

Abstract: A tube fitting for a tube end has a female threaded member that cooperates with a male threaded member. The female member includes a tube gripping device in the form of a gripping ring or ferrule that is attached to the female member by a fungible web. Upon a partial pull-up the female engages a camming surface on the male threaded member and breaks off or separates from the female threaded member to become a separate piece so that the fitting then functions as a single ferrule tube fitting. Additional features include a steep camming angle on the camming surface to cause the ferrule to grip the tube end with a bite-type action and to form a primary seal between the camming surface and a front end of the separated ferrule. The ferrule front end, and optionally the entire female threaded member including the initially integral tube gripping device, are hardened to be at least about 3.3 times harder than the material of the tube end.

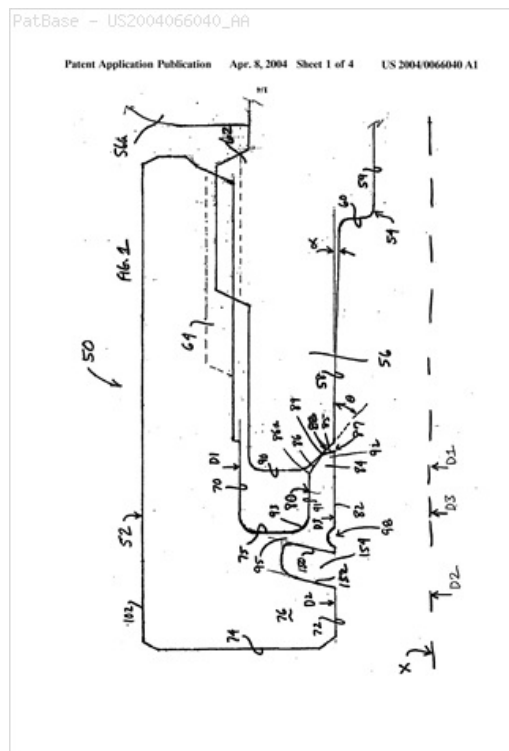
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F16L19/00 F16L19/04 F16L19/06 F16L19/065 F16L19/08 F16L19/10 F16L19/14 (Advanced/Non-invention);
A61F2/44 C23C8/08 C23C8/80 F16L19/00 F16L35/00 F16L47/00 (Core/Invention);
F16L (Subclass/Invention)

International (IPC 1-7): B32B15/04 C23C28/00 C23C8/28 F16L0/00 F16L1/00 F16L13/14 F16L17/00 F16L19/00 F16L19/04 F16L19/06 F16L19/065 F16L19/08 F16L19/10 F16L19/14 F16L19/56 F16L19/65 F16L21/08 F16L25/00 F16L33/18 F16L35/00 F16L55/00 H61L H61L19/14

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European: F16L19/10 F16L19/14 F16L9/10 F16L9/14

US: 285/249 285/249P 285/3 285/323 285/332.1 285/341 285/341P 285/342 285/342S 285/343 285/343S 285/354 285/354S 285/382 285/382.7 285/382.700P 285/382P 285/389 285/389P 285/3S 285/93 285/93P



Publication number	Publication date	Application number	Application date
AT294351 E	20050515	AT20020702153T	20020206
AT398256 E	20080715	AT20020703345T	20020206
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Priority:

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Inventor(s): BENNETT MARK ; P C WILLIAMS

Agent(s): CALLINANS; FISHER ADAMS KELLY CALLINANS; SPRUSON AND FERGUSON; RIDOUT AND MAYBEE LLP; MACRAE AND CO; NEILL ALASTAIR WILLIAM ET AL; NEILL ALASTAIR WILLIAM; REINHOLD COHN AND PARTNERS; CALFEE HALTER AND GRISWOLD LLP

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT294351 E	20050515	LSGT	+	granted / extensions (spc, cpc, pte)	
AT294351 E	20060115	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	REF DOCUMENT NUMBER : 1358418 COUNTRY OF REF DOCUMENT : EP
AT294351 E	20070515	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT294351 E	20220206	PEXP		Calculated Patent Term Expiry	
AT398256 E	20080715	LSGT	+	granted / extensions (spc, cpc, pte)	
AT398256 E	20081215	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
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AU2004267433 AA	20050303	LSPB	+	published / reissued	
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EP1358418 B1	20051101	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
EP1358418 B1	20060206	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 : 20060206
EP1358418 B1	20060206	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT : IE

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20060206
EP1358418 B1	20060207	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 : 20060207
EP1358418 B1	20060228	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 : 20060228
EP1358418 B1	20060228	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 : 20060228
EP1358418 B1	20060228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20060228 YEAR OF FEE PAYMENT : 5
EP1358418 B1	20060419	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20060130
EP1358418 B1	20061115	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1358418 B1	20070516	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20060207
EP1358418 B1	20080731	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 : 20050427
EP1358418 B1	20081128	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 : 20050427
EP1358418 B1	20090630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20090227 YEAR OF FEE PAYMENT : 8
EP1358418 B1	20090831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20090331 YEAR OF FEE PAYMENT : 8
EP1358418 B1	20090930	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 : 20070206
EP1358418 B1	20091030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20090217 YEAR OF FEE PAYMENT : 8
EP1358418 B1	20101027	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20100206

EP1358418 B1	20101119	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20101029
EP1358418 B1	20110131	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 : 20100301
EP1358418 B1	20110228	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 : 20100901
EP1358418 B1	20110331	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 : 20100206
EP1358418 B1	20220206	PEXP		Calculated Patent Term Expiry	
EP1358419 A2	20031105	LSPB	+	published / reissued	
EP1358419 A2	20031105	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030814
EP1358419 A2	20060906	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20050822
EP1358419 B1	20080611	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1358419 B1	20080611	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1358419 B1	20080625	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1358419 B1	20080820	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1358419 B1	20081031	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 : 20080611
EP1358419 B1	20081128	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 : 20080611
EP1358419 B1	20090130	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 : 20080922
EP1358419 B1	20090130	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 : 20081111
EP1358419 B1	20090227	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20080611
EP1358419 B1	20090430	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 : 20080611
EP1358419 B1	20090520	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20090312
EP1358419 B1	20090529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20090224 YEAR OF FEE PAYMENT : 8
EP1358419 B1	20090630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20090225 YEAR OF FEE PAYMENT : 8
EP1358419 B1	20090630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20090227 YEAR OF FEE PAYMENT : 8
EP1358419 B1	20090831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20090224 YEAR OF FEE PAYMENT : 8
EP1358419 B1	20090831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20090227 YEAR OF FEE PAYMENT : 8
EP1358419 B1	20090930	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 : 20090228
EP1358419 B1	20091030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20090217 YEAR OF FEE PAYMENT : 8
EP1358419 B1	20100129	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 : 20090206
EP1358419 B1	20100630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20100226 YEAR OF FEE PAYMENT : 9
EP1358419 B1	20100915	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : V1 EFFECTIVE DATE : 20100901
EP1358419 B1	20100930	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1358419 B1	20101005	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	REF COUNTRY CODE : EP
EP1358419 B1	20101027	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20100206
EP1358419 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT

				INFORMATION FROM NATIONAL OFFICE TO EPO]	A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20080912
EP1358419 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 : 20100228
EP1358419 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 : 20100228
EP1358419 B1	20101119	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20101029
EP1358419 B1	20110131	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 : 20100901
EP1358419 B1	20110131	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 : 20100301
EP1358419 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 : 20100206
EP1358419 B1	20110331	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 : 20100206
EP1358419 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 : 20090206
EP1358419 B1	20110831	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 : 20080611
EP1358419 B1	20110930	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 : 20080611
EP1358419 B1	20120126	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 60227050 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20110901
EP1358419 B1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100207
EP1358419 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110901
EP1358419 B1	20220206	PEXP		Calculated Patent Term Expiry	
EP1471297 A2	20041027	LSPB	+	published / reissued	
EP1471297 A2	20041027	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030915
EP1471297 A3	20110209	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 COUNTRY OF REF DOCUMENT : TR
EP1471297 A3	20110622	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20101203
EP1654487 A1	20060510	LSPB	+	published / reissued	
EP1654487 A1	20060510	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060127
EP1654487 A1	20061227	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20061128
EP1654487 A1	20081231	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20080625
EP1654488 A1	20060510	LSPB	+	published / reissued	
EP1654488 A1	20060510	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060201
EP1654488 A1	20090211	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20080822
ES2238557 T3	20050901	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2238557 T3	20220206	PEXP		Calculated Patent Term Expiry	
IL157248 A0	20081103	LSGT	+FF	PATENT GRANTED	
IL157248 A0	20081127	LSFE	+KB	PATENT RENEWED	
IL157248 A1	20080320	LSPB	+	published / reissued	
IL157248 A1	20121031	LSLE	-MM9K	PATENT NOT IN FORCE DUE TO NON-PAYMENT OF RENEWAL FEES	
IN00543CN2006 A	20070622	LSPB	+	published / reissued	
IN00551CN2006 A	20070622	LSPB	+	published / reissued	

IN01214CN2003 A	20051118	LSPB	+	published / reissued	
IN01215CN2003 A	20051118	LSPB	+	published / reissued	
IN01216CN2003 A	20051118	LSPB	+	published / reissued	
IN02291CN2007 A	20071005	LSPB	+	published / reissued	
IN204290 B	20071005	LSGT	+	granted / extensions (spc, cpc, pte)	
IN204290 B	20230806	PEXP		Calculated Patent Term Expiry	
IN213065 B	20080328	LSGT	+	granted / extensions (spc, cpc, pte)	
IN213065 B	20230806	PEXP		Calculated Patent Term Expiry	
IN228577 B	20090320	LSGT	+	granted / extensions (spc, cpc, pte)	
IN228577 B	20230806	PEXP		Calculated Patent Term Expiry	
JP2004521285 T2	20040715	LSPB	+	published / reissued	
JP2004521285 T2	20050208	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20050207
JP2004521285 T2	20060920	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20060919
JP2004521285 T2	20070904	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070904
JP2004521285 T2	20080301	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080229
JP2004521285 T2	20080418	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2004521285 T2	20080507	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20080507
JP2004521285 T2	20080508	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2004521285 T2	20080522	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20080513
JP2004521285 T2	20080523	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2004521285 T2	20080523	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2004526911 T2	20040902	LSPB	+	published / reissued	
JP2004526911 T2	20050208	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20050207
JP2004526911 T2	20050216	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20050207
JP2004526911 T2	20070807	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070807
JP2004526911 T2	20080401	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20080401

JP2005246967 A2	20050915	LSPB	+	published / reissued	
JP2005246967 A2	20070524	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20070523
JP2005246967 A2	20080205	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20080205
JP2005246967 A2	20080606	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080605
JP2005246967 A2	20080722	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2005246967 A2	20080729	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20080729
JP2005246967 A2	20080731	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2005246967 A2	20080814	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20080805
JP2005246967 A2	20080815	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2005246967 A2	20080815	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2007502940 T2	20070215	LSPB	+	published / reissued	
JP2007502940 T2	20070614	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20070613
JP2007502940 T2	20091208	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20091207
JP2007502940 T2	20100305	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100304
JP2007502940 T2	20100907	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100906
JP2007502940 T2	20110215	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20110214
JP2007502941 T2	20070215	LSPB	+	published / reissued	
JP2007502941 T2	20070609	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20070608
JP2007502941 T2	20091208	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20091207
JP2007502941 T2	20100702	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20100701
JP4128079 B2	20080730	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4128079 B2	20110523	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4128079 B2	20220206	PEXP		Calculated Patent Term Expiry	

JP4169745 B2	20081022	LSGT	+	granted / extensions (spc, cpc, pte)
JP4169745 B2	20110815	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES
JP4169745 B2	20250207	PEXP		Calculated Patent Term Expiry
KR100859767 B1	20080924	LSGT	+	granted / extensions (spc, cpc, pte)
KR100859767 B1	20110918	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE
KR100859767 B1	20220206	PEXP		Calculated Patent Term Expiry
KR100861970 B1	20081007	LSGT	+	granted / extensions (spc, cpc, pte)
KR100861970 B1	20111001	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE
KR100861970 B1	20220206	PEXP		Calculated Patent Term Expiry
KR100861971 B1	20081007	LSGT	+	granted / extensions (spc, cpc, pte)
KR100861971 B1	20111001	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE
KR100861971 B1	20230806	PEXP		Calculated Patent Term Expiry
KR20030071886 A	20030906	LSPB	+	published / reissued
KR20030071886 A	20070206	LSES	A201	REQUEST FOR EXAMINATION
KR20030071886 A	20080430	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL
KR20030071886 A	20080828	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT
KR20030071886 A	20080917	LSGT	+GRNT	WRITTEN DECISION TO GRANT
KR20030079986 A	20031010	LSPB	+	published / reissued
KR20030079986 A	20070206	LSES	A201	REQUEST FOR EXAMINATION
KR20030079986 A	20080430	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL
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KR20030079986 A	20080930	LSGT	+GRNT	WRITTEN DECISION TO GRANT
KR20030086995 A	20031112	LSPB	+	published / reissued
KR20030086995 A	20070206	LSES	A201	REQUEST FOR EXAMINATION
KR20030086995 A	20070206	LSRE	AMND	AMENDMENT
KR20030086995 A	20070711	LSRE	AMND	AMENDMENT
KR20030086995 A	20070725	LSRE	AMND	AMENDMENT
KR20030086995 A	20080123	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL
KR20030086995 A	20080324	LSRE	AMND	AMENDMENT
KR20030086995 A	20080702	LSRV	-E601	DECISION TO REFUSE APPLICATION
KR20030086995 A	20080813	LSRE	AMND	AMENDMENT
KR20030086995 A	20080903	LSGT	+B701	DECISION TO GRANT
KR20030086995 A	20080930	LSGT	+GRNT	WRITTEN DECISION TO GRANT
KR20060098359 A	20060918	LSPB	+	published / reissued
KR20060098359 A	20100105	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION
KR20060105736 A	20061011	LSPB	+	published / reissued

KR20060105736 A	20100105	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
KR20080091251 A	20081009	LSPB	+	published / reissued	
KR20080091251 A	20080822	LSES	A201	REQUEST FOR EXAMINATION	
KR20080091251 A	20081114	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20080091251 A	20090306	LSRV	-E601	DECISION TO REFUSE APPLICATION	
MXPA03007076 A1	20040129	LSPB	+	published / reissued	
MXPA03007077 A1	20040129	LSPB	+	published / reissued	
NO20033493 A	20030929	LSPB	+	published / reissued	
NO20033493 A	20061002	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
NO20033494 A	20030929	LSPB	+	published / reissued	
NO20033494 A	20061002	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
TW530142 B	20030501	LSGT	+	granted / extensions (spc, cpc, pte)	
TW530142 B	20030819	LSGT	+GD4A	ISSUE OF PATENT CERTIFICATE FOR GRANTED INVENTION PATENT	
TW530142 B	20170811	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TW530142 B	20220206	PEXP		Calculated Patent Term Expiry	
TW539824 B	20030701	LSGT	+	granted / extensions (spc, cpc, pte)	
TW539824 B	20031022	LSGT	+GD4A	ISSUE OF PATENT CERTIFICATE FOR GRANTED INVENTION PATENT	
TW539824 B	20110401	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TW539824 B	20220206	PEXP		Calculated Patent Term Expiry	
US2004066040 AA	20040408	LSPB	+	published / reissued	
US2004066040 AA	20060830	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2004140671 AA	20040722	LSPB	+	published / reissued	
US2004212192 AA	20041028	LSPB	+	published / reissued	
US2006049632 AA	20060309	LSPB	+	published / reissued	
US2007007766 AA	20070111	LSPB	+	published / reissued	
US2008048441 AA	20080228	LSPB	+	published / reissued	
US2008061549 AA	20080313	LSPB	+	published / reissued	
US2008246278 AA	20081009	LSPB	+	published / reissued	
US2009033093 AA	20090205	LSPB	+	published / reissued	
US2011006521 AA	20110113	LSPB	+	published / reissued	
US2011006521 AA	20110701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR: WILLIAMS, PETER C.; REEL/FRAME: 026598/0202 EFFECTIVE DATE : 20040324
US2011006521 AA	20111214	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office	

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US7066496 BB	20060627	LSGT	+	granted / extensions (spc, cpc, pte)	
US7066496 BB	20040330	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WILLIAMS, PETER C.; BENNETT, MARK A.; REEL/FRAME:014473/0929 EFFECTIVE DATE : 20040324
US7066496 BB	20060607	LSGT	PAT1	Patented Case	
US7066496 BB	20061003	LSRE	CC	CERTIFICATE OF CORRECTION	
US7066496 BB	20091228	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7066496 BB	20131219	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7066496 BB	20180205	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7066496 BB	20180723	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7066496 BB	20180723	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7066496 BB	20180723	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7066496 BB	20180814	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20180627
US7066496 BB	20230815	PEXP		Calculated Patent Term Expiry	
US7108288 BB	20060919	LSGT	+	granted / extensions (spc, cpc, pte)	
US7108288 BB	20040330	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BENNETT, MARK A.; WILLIAMS, PETER C.; REEL/FRAME:014473/0932 EFFECTIVE DATE : 20040324
US7108288 BB	20060830	LSGT	PAT1	Patented Case	
US7108288 BB	20070102	LSRE	CC	CERTIFICATE OF CORRECTION	
US7108288 BB	20100319	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7108288 BB	20140313	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7108288 BB	20180319	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7108288 BB	20220206	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US7393018 BB	20080701	LSGT	+	granted / extensions (spc, cpc, pte)	
US7393018 BB	20040330	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WILLIAMS, PETER C.; REEL/FRAME:014473/0975 EFFECTIVE DATE : 20040324

US7393018 BB	20080611	LSGT	PAT1	Patented Case	
US7393018 BB	20081111	LSRE	CC	CERTIFICATE OF CORRECTION	
US7393018 BB	20110923	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7393018 BB	20160701	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7393018 BB	20160801	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7393018 BB	20160801	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7393018 BB	20160823	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160701
US7393018 BB	20230501	PEXP		Calculated Patent Term Expiry (PTA 449 days)	
US7407196 BB	20080805	LSGT	+	granted / extensions (spc, cpc, pte)	
US7407196 BB	20061004	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BENNETT, MARK A.; WILLIAMS, PETER C.; REEL/FRAME:018344/0869 EFFECTIVE DATE : 20040324
US7407196 BB	20080716	LSGT	PAT1	Patented Case	
US7407196 BB	20081118	LSRE	CC	CERTIFICATE OF CORRECTION	
US7407196 BB	20110923	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7407196 BB	20160805	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7407196 BB	20160905	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7407196 BB	20160905	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7407196 BB	20160927	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160805
US7407196 BB	20260914	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US7416225 BB	20080826	LSGT	+	granted / extensions (spc, cpc, pte)	
US7416225 BB	20040325	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WILLIAMS, PETER C.; REEL/FRAME:014461/0666 EFFECTIVE DATE : 20040324
US7416225 BB	20080806	LSGT	PAT1	Patented Case	
US7416225 BB	20110923	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7416225 BB	20160826	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7416225 BB	20160926	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7416225 BB	20160926	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

US7416225 BB	20161018	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160826
US7416225 BB	20230815	PEXP		Calculated Patent Term Expiry	
US7677602 BB	20100316	LSGT	+	granted / extensions (spc, cpc, pte)	
US7677602 BB	20071105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BENNETT, MARK A.; WILLIAMS, PETER C.; REEL/FRAME:020066/0274 EFFECTIVE DATE : 20040324
US7677602 BB	20071105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY,OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BENNETT, MARK A.; WILLIAMS, PETER C.; REEL/FRAME:020066/0274 EFFECTIVE DATE : 20040324
US7677602 BB	20100224	LSGT	PAT1	Patented Case	
US7677602 BB	20101005	LSRE	CC	CERTIFICATE OF CORRECTION	
US7677602 BB	20130912	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7677602 BB	20171030	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7677602 BB	20180416	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7677602 BB	20180416	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7677602 BB	20180416	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7677602 BB	20180508	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20180316
US7677602 BB	20271030	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US7740283 BB	20100622	LSGT	+	granted / extensions (spc, cpc, pte)	
US7740283 BB	20071105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BENNETT, MARK A.; WILLIAMS, PETER C.; REEL/FRAME:020066/0277 EFFECTIVE DATE : 20040324
US7740283 BB	20071105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY,OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BENNETT, MARK A.; WILLIAMS, PETER C.; REEL/FRAME:020066/0277 EFFECTIVE DATE : 20040324
US7740283 BB	20100602	LSGT	PAT1	Patented Case	
US7740283 BB	20110614	LSRE	CC	CERTIFICATE OF CORRECTION	
US7740283 BB	20131212	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4

US7740283 BB	20180205	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7740283 BB	20180723	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7740283 BB	20180723	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7740283 BB	20180723	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7740283 BB	20180814	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20180622
US7740283 BB	20271115	PEXP		Calculated Patent Term Expiry (PTA 16 days and a terminal disclaimer has been filed)	
US7762592 BB	20100727	LSGT	+	granted / extensions (spc, cpc, pte)	
US7762592 BB	20080806	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR: WILLIAMS, PETER C.; REEL/FRA: 021343/0683 EFFECTIVE DATE : 20080728
US7762592 BB	20100707	LSGT	PAT1	Patented Case	
US7762592 BB	20100921	LSRE	CC	CERTIFICATE OF CORRECTION	
US7762592 BB	20140124	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7762592 BB	20180312	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7762592 BB	20180903	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7762592 BB	20180903	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7762592 BB	20180903	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7762592 BB	20180925	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20180727
US7762592 BB	20280613	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US7815226 BB	20101019	LSGT	+	granted / extensions (spc, cpc, pte)	
US7815226 BB	20080826	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR: WILLIAMS, PETER C.; REEL/FRA: 021441/0431 EFFECTIVE DATE : 20040324
US7815226 BB	20100929	LSGT	PAT1	Patented Case	
US7815226 BB	20110301	LSRE	CC	CERTIFICATE OF CORRECTION	

US7815226 BB	20140421	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7815226 BB	20180604	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7815226 BB	20181126	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7815226 BB	20181126	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7815226 BB	20181126	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7815226 BB	20181218	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20181019
US7815226 BB	20280825	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO02063194 A2	20020815	LSPB	+	published / reissued	
WO02063194 A3	20030805	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 157247 COUNTRY OF REF DOCUMENT : IL
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WO02063194 A3	20030806	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2003/007076 COUNTRY OF REF DOCUMENT : MX
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WO02063194 A3	20030812	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002236972 COUNTRY OF REF DOCUMENT : AU
WO02063194 A3	20030814	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002703345 COUNTRY OF REF DOCUMENT : EP
WO02063194 A3	20031008	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL	REF DOCUMENT NUMBER : 028079299

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WO02063194 A3	20031010	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020037010394 COUNTRY OF REF DOCUMENT : KR
WO02063194 A3	20031105	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002703345 COUNTRY OF REF DOCUMENT : EP
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WO02063194 A3	20060309	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 10467241 COUNTRY OF REF DOCUMENT : US
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WO02063195 A3	20030806	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1214/CHENP/2003 COUNTRY OF REF DOCUMENT : IN
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WO05019716 A1	20060110	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2004267433 COUNTRY OF REF DOCUMENT : AU
WO05019716 A1	20060111	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2532182 COUNTRY OF REF DOCUMENT : CA
WO05019716 A1	20060127	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2004780865 COUNTRY OF REF DOCUMENT : EP
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WO05019716 A1	20060208	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006523349 COUNTRY OF REF DOCUMENT : JP
WO05019716 A1	20060213	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020067003035 COUNTRY OF REF DOCUMENT : KR
WO05019716 A1	20060214	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 551/CHENP/2006 COUNTRY OF REF DOCUMENT : IN
WO05019716 A1	20060510	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2004780865 COUNTRY OF REF DOCUMENT : EP
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WO05019717 A1	20040812	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200480023163.6 COUNTRY OF REF DOCUMENT : CN
WO05019717 A1	20060110	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2004267434 COUNTRY OF REF DOCUMENT : AU
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CA					
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WO05019717 A1	20060202	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2004267434 COUNTRY OF REF DOCUMENT : AU
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WO05019717 A1	20060213	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020067003004 COUNTRY OF REF DOCUMENT : KR
WO05019717 A1	20060214	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 543/CHENP/2006 COUNTRY OF REF DOCUMENT : IN
WO05019717 A1	20060510	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2004780867 COUNTRY OF REF DOCUMENT : EP
WO05019717 A1	20060918	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020067003004 COUNTRY OF REF DOCUMENT : KR

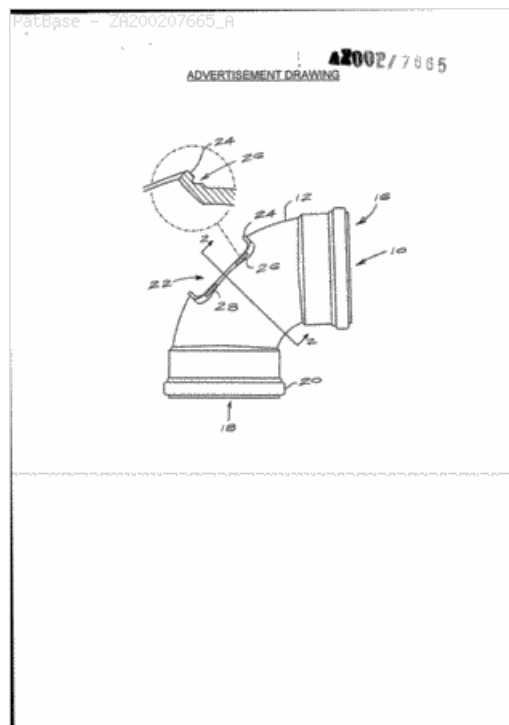
Title: **PIPE** FITTING.

Abstract: McCALLUM, RADEMEYER and FREIMOND Ref: P.19336 FORM P8 REPUBLIC OF SOUTH AFRICA PATENTS ACT, 1978 PUBLICATION PARTICULARS AND ABSTRACT (Section 32(3)(a) - Regulations 22(1)(g) and 31) Official Application No. Lodging Date Acceptance Date 21 iLianaf §; 6 6 5 22 25 September 2002 43 percent OOs) International Classification Not for Publication 51 **F16L** Classified By: McCALLUM RADEMEYER and FREIMOND Full Name(s) of Applicant(s) 71 DPI PLASTICS (PTY) LTD Full Name(s) of Inventor(s) 72 BEHRENDT, Allen Colin Earliest Priority Claimed Country Number Date 33 ZA 31 2001/8887 32 29 October 2001 Title of Invention Abstract (not more than 150 words) Number of Sheets **PIPE** FITTING ABSTRACT A **pipe** fitting which includes a tubular body, an access opening which is formed in the body, and a cover for the opening which is engageable with a snap fit with the body.

Classifications:

International (IPC 8-9): F16L (Subclass/Invention)

International (IPC 1-7): F16L



Family:

Publication number	Publication date	Application number	Application date
■ ZA200207665 A	20030508	ZA20020007665	20020925

Priority:

ZA20010008887 20011029 ZA20020007665 20020925

Probable Assignee: DPI PLASTICS PTY LTD

Assignee(s): (std): DPI PLASTICS PTY LTD

Inventor(s): (std): ALLEN COLIN BEHRENDT ; BEHRENDT ALLEN COLIN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
ZA200207665 A	20030508	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200207665 A	20220924	PEXP		Calculated Patent Term Expiry	

Title: FLEXIBLE CONNECTOR WITH A T CONNECTION OF ONE INLET AND TWO OUTLETS THAT CONDUCTS WATER FROM A WATER-LINE TO A TWO-TAB VALVE.

Abstract: THE PRESENT INVENTION REFERS TO A FLEXIBLE CONNECTOR, WITH THREE CONNECTIONS AT THE ENDS AND JOINED BETWEEN THEM BY A T CONNECTION, THE FLEXIBLE CONNECTOR CONSISTS IN THREE STRETCHES OF FLEXIBLE HOSE, WHICH MAY CARRY AN EXTERIOR REINFORCEMENT OR NOT, IT IS COMPOSED OF A T CONNECTION WITH THREE PINS TO JOIN EACH ONE OF THE HOSE STRETCHES, WITH A FERULE IN EACH END OF EACH HOSE; IT IS COMPOSED OF THREE CONNECTIONS WITH PIN IN THE OTHER ENDS OF THE HOSES. THE FABRICATION METHOD COMPRISES ASSEMBLING THE COMPONENTS AND PRESSURE IS DIAMETRICALLY APPLIED (CLAMPLNG/CRLMPLNG) IN THE FERULE LENGTH WHICH HOLDS THE HOSE AGAINST THE PIN. THE FLEXIBLE CONNECTOR IS EMPLOYED FOR THE FLUIDS CONDUCTION SUCH AS WATER, SUCH AS THE INSTALLATION OF A MIXING TAP OF WASH BASIN OR SINK.

Classifications:

International (IPC 8-9): F16B7/00 (Advanced/Invention);

F16B7/00 (Core/Invention)

International (IPC 1-7): F16B7/00

PatBase - MXNL01000050_A1

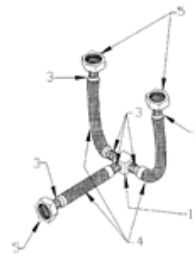


FIGURA 1

Family:

Publication number	Publication date	Application number	Application date
MXNL01000050 A1	20040716	MX2001NL000050	20011121

Priority:

MX2001NL000050 20011121

Probable Assignee: COFLEX DE CV SA

Assignee(s): (std): COFLEX DE CV SA ; COFLEX S A DE C V

Inventor(s): (std): EDUARDO CORONADO QUINTANILLA

Legal status (INPADOC)

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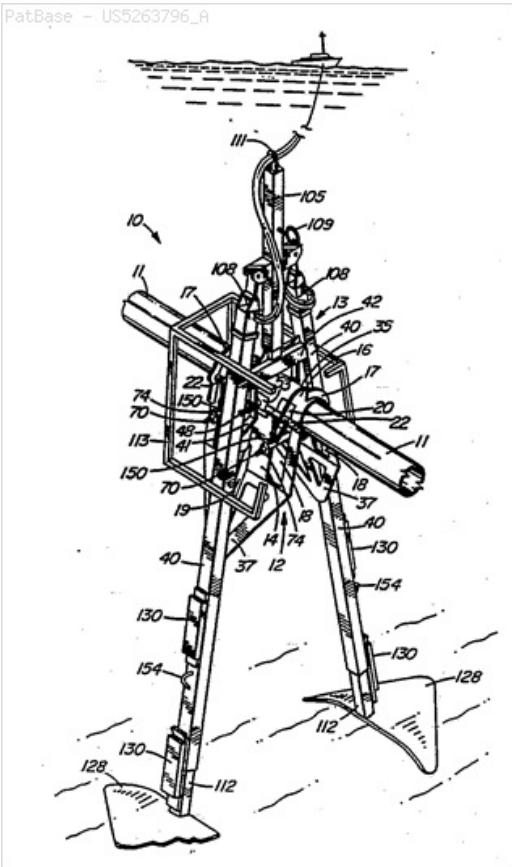
Patent	Date recorded	Event group	Code	Event	Details
MXNL01000050 A1	20040716	LSPB	+	published / reissued	
MXNL01000050 A1	20131129	LSWD	-FA	ABANDONMENT OR WITHDRAWAL	

Title: Self-closing clamping apparatus

Abstract: A clamping apparatus for lockingly engaging and supporting a length of conduit, such as a pipeline span extending above an irregular seabed. The clamping apparatus includes a saddle shaped to overlie the conduit span to be supported and a frame straddling the saddle and pivotably coupled thereto. The saddle includes clamps which automatically swing to a closed position when the saddle is seated on the conduit. The frame has extensible legs for supporting the conduit on an underlying support surface, such as a sandy seabed.

Classifications:

International (IPC 8-9): F16L1/20 (Advanced/Invention);
F16L1/12 (Core/Invention);
F16L (Subclass/Invention)
International (IPC 1-7): B66C1/62 F16L F16L1/04 F16L1/20 F16L3/00
CPC: F16L1/201
European: F16L1/20B
US: 248/49 405/158 405/172



Family:

Publication number	Publication date	Application number	Application date
AU199223006 A1	19930211	AU19920023006	19920710
AU665362 B2	19960104	AU19920023006	19920710
CA2053747 AA	19930111	CA19912053747	19911018
CA2053747 C	19950829	CA19912053747	19911018
EP0594642 A1	19940504	EP19920912586	19920710
NO940047 A	19940310	NO19940000047	19940106
NO940047 A0	19940106	NO19940000047	19940106
NO940047 L	19940310	NO19940000047	19940106
US5263796 A	19931123	US19910727893	19910710
WO9301438 A1	19930121	WO1992CA00292	19920710

Priority:

US19910727893 19910710 CA19912053747 19911018 WO1992CA00292 19920710

Probable Assignee: CANADIAN RUBBER AND STEEL LTD

Assignee(s): (std): CANADIAN RUBBER AND STEEL LIMI ; CANADIAN RUBBER AND STEEL LTD

Assignee(s): DE WAAL HENDRICUS GERARDUS ; CANADIAN RUBBER AND STEEL LIMITED

Inventor(s): (std): WAAL DE HENDRICUS GERARDUS ; WAAL HENDRICUS GERARDUS DE ; DE WAAL HENDRICUS GERARDUS ; DE WAAL HENDRICUS G

Inventor(s): HENDRICUS GERARDUS DE WAAL

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; OYEN WIGGS GREEN AND MUTALA

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199223006 A1	19930211	LSPB	+	published / reissued	
AU665362 B2	19960104	LSGT	+	granted / extensions (spc, cpc, pte)	
AU665362 B2	20000210	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU665362 B2	20120710	PEXP		Calculated Patent Term Expiry	
CA2053747 AA	19930111	LSPB	+	published / reissued	
CA2053747 AA	19940112	LSES	+EEER	EXAMINATION REQUEST	
CA2053747 C	19950829	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2053747 C	20111018	LSLE	-MKEX	EXPIRY	
CA2053747 C	20111018	PEXP		Calculated Patent Term Expiry	
EP0594642 A1	19940504	LSPB	+	published / reissued	
EP0594642 A1	19940504	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19940131
EP0594642 A1	19940921	LSWD	-18W	APPLICATION WITHDRAWN	DATE APPLICATION WITHDRAWN : 19940722
NO940047 A	19940310	LSPB	+	published / reissued	
NO940047 A	20030707	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
US5263796 A	19931123	LSGT	+	granted / extensions (spc, cpc, pte)	
US5263796 A	19910816	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CANADIAN RUBBER AND STEEL LIMITED A CORP. OF PRO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:DE WAAL, HENDRICUS G.; REEL/FRAME:005803/0916 EFFECTIVE DATE : 19910725
US5263796 A	19930222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CANADIAN RUBBER & STEEL LTD., CANADA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:DE WAAL, HENDRICUS GERARDUS; REEL/FRAME:006420/0374 EFFECTIVE DATE : 19930215
US5263796 A	19931112	LSGT	PAT1	Patented Case	
US5263796 A	19971123	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5263796 A	19980203	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19971126
US5263796 A	20180127	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5263796 A	20180127	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5263796 A	20110710	PEXP		Calculated Patent Term Expiry	
WO9301438 A1	19930121	LSPB	+	published / reissued	
WO9301438 A1	19940131	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1992912586 COUNTRY OF REF DOCUMENT : EP
WO9301438 A1	19940504	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN	REF DOCUMENT NUMBER : 1992912586

NATIONAL OFFICE				COUNTRY OF REF DOCUMENT : EP	
WO9301438 A1	19940505	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9301438 A1	19940722	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1992912586 COUNTRY OF REF DOCUMENT : EP

Title: PLATTE ZUR POSITIONIERUNG VON ROHREN BEIM ROHRZIEHEN IN EINEM BAU Panel FOR POSITIONING OF TUBES IN THE TUBE DRAWING IN A CONSTRUCTION (Machine translation)

Abstract: Source: DE29811742U1 [DE] (Claim 1) 1. Platte zur Positionierung von Rohrleitungen beim Rohrziehen in einem Bau, welche Rohrleitungen dazu vorgesehen sind, in ein Fundament des Gebäudes von Zulaufenden bei einer Zentraleinheit fuer Wasserverteilung und bis zu Ablaufenden bei dezentralen Anlagen fuer Anwendung des Wassers wie zum Beispiel Wasserarmaturen, Heizkoerper und Fussbodenheizung zu verlaufen, und welche Platte dazu vorgesehen ist, bei einer Platzierung der zentralen Verteilungseinheit die Vorlaufs- und Ruecklaufenden einander gegenueber zu positionieren, dadurch gekennzeichnet, dass die Platte mit Loechern versehen ist, und dass die Rohrleitungen dazu vorgesehen sind, von der zentralen Verteilungseinheit, weiter durch die Loecher der Platte und bis zu den dezentralen Anlagen zu verlaufen.

Machine translation: (Claim 1) 1. Plate for the positioning of pipings with the tubing in a building, which pipings are intended in addition, into a foundation of the building of inlet ends with a central processing unit for water distribution and to zu Ablaufenden with decentralized plants for application of the water like for example water armatures, heating elements and under-floor heating too run, and some plate in addition is intended, with a placing of the central distribution unit the program start routine and return ends opposite zu positionieren, thus identified-draws each other et that the plate is provided with holes, and that the pipings are intended in addition, of the central distribution unit, far by the holes of the plate and up to decentralized too verlaufen. SCHUTZANSPRUECHE

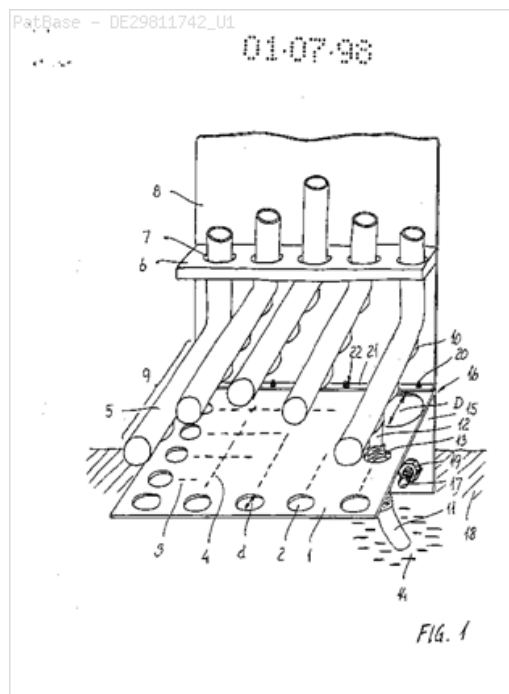
Classifications:

International (IPC 8-9): E03B7/07 F16L3/22 (Advanced/Invention); E03B7/00 F16L3/22 (Core/Invention)

International (IPC 1-7): E03B7/04 F16L3/01 F16L3/12 F16L3/22 F16L3/23 F24D3/12

CPC: E03B7/095 E03C2001/028 F16L3/22

European: E03B7/09A F16L3/22 P03C1/02N



Family:

Publication number	Publication date	Application number	Application date
DE29811742 U1	19981105	DE19982011742U	19980701
DK9700268 U3	19980522	DK19970000268U	19970707

Priority:

DK19970000268U 19970707

Probable Assignee: PR TEKNIK HORSENS APS

Assignee(s): (std): PR TEKNIK HORSENS APS

Assignee(s): PR TEKNIK HORSENS APS HORSENS DK

Inventor(s): (std): RASMUSSEN PER HANNIBAL ; PER HANNIBAL RASMUSSEN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE29811742 U1	19981105	LSGT	+	granted / extensions (spc, cpc, pte)	
DE29811742 U1	19981105	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 19981105
DE29811742 U1	20020926	LSLE	-R156	LAPSE OF IP RIGHT AFTER 3 YEARS	EFFECTIVE DATE : 20020501
DE29811742 U1	20080701	PEXP		Calculated Patent Term Expiry	

Title: Easy mount connector

Abstract: A connector component for fluidly and/or electrically connecting two or more devices to one another is constructed in such a manner that it can be repeatedly quickly and easily mounted to and subsequently separated from a connector mounting component. The connector component includes a mounting portion that is disposed within a connector opening in the connector mounting component when the connector component is mounted to the connector mounting component. The connector component includes at least one quick connect clip such as an E-clip or snap ring clip that can be engaged to the connector component to maintain its attachment to the connector mounting component.

Classifications:

International (IPC 8-9): F16B21/18 F16L37/12 F16L5/02 H01R13/639

H01R13/74 H01R24/76 H01R4/48 H02G3/22 (Advanced/Invention);
H01R4/56 (Advanced/Non-invention)

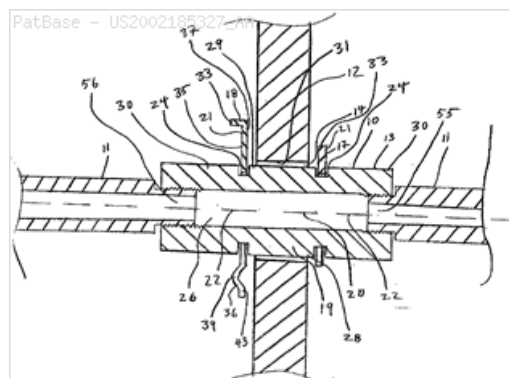
International (IPC 1-7): B60K26/00 B62D21/00 F16L37/12 H02G3/22

CPC: F16B7/182 F16B21/18 F16L5/027 F16L37/1225 H01R4/56

H01R13/745 H02G3/22

European: F16B21/18 F16L37/12K F16L5/02J H01R13/74B4 H02G3/22
R16B7/18B T01R4/56

US: 180/312 180/313 280/788 285/140.1 439/562



Family:

Publication number	Publication date	Application number	Application date
CA2448339 AA	20031124	CA20022448339	20020604
EP1399995 A1	20040324	EP20020741840	20020604
MXPA03010765 A1	20050307	MX2003PA10765	20020604
US2002185327 AA	20021212	US20010876493	20010608
US6637538 BB	20031028	US20010876493	20010608
WO02101899 A1	20021219	WO2002US17692	20020604

Priority:

US20010876493 20010608 WO2002US17692 20020604

Probable Assignee: INT TRUCK INTELLECTUAL PROPERTY CO LLC

Assignee(s): (std): INTERNAT TRUCK INTELLECTUAL PR ; INT TRUCK INTELLECTUAL PR ; INT TRUCK INTELLECTUAL PROP CO

Assignee(s): INT TRUCK INTELLECTUAL PROPERTY CO ; INT TRUCK INTELLECTUAL PROPERTY CO LLC ; INTERNATIONAL TRUCK INTELLECTUAL PROPERTY COMPANY ; INTERNATIONAL TRUCK INTELLECTUAL PROPERTY COMPANY L L C ; INTERNATIONAL TRUCK INTELLECTUAL PROPERTY COMPANY LLC ; INTIONAL TRUCK INTELLECTUAL PROPERTY CO ; INTIONAL TRUCK INTELLECTUAL PROPERTY CO LLC ; MORYKON PETER M ; MANN WILLIAM DENNIS ; MANN WILLIAM D

Inventor(s): (std): MANN WILLIAM DENNIS ; WILLIAM D MANN ; MORYKON PETER M ; MANN WILLIAM D

Agent(s): FINLAYSON AND SINGLEHURST

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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CA2448339 AA	20031124	LSSES	+EEER	EXAMINATION REQUEST	
CA2448339 AA	20090604	LSLE	-FZDE	DEAD	
EP1399995 A1	20040324	LSPB	+	published / reissued	
EP1399995 A1	20040324	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20031222
EP1399995 A1	20050608	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20050425
EP1399995 A1	20060315	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20050906

MXPA03010765 A1	20050307	LSPB	+	published / reissued	
US2002185327 AA	20021212	LSPB	+	published / reissued	
US6637538 BB	20031028	LSGT	+	granted / extensions (spc, cpc, pte)	
US6637538 BB	20010904	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTERNATIONAL TRUCK INTELLECTUAL PROPERTY COMPANY, OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MORYKON, PETER M.; MANN, WILLIAM DENNIS; REEL/FRAME:012155/0024; SIGNING DATES FROM 20010808 TO 20010824
US6637538 BB	20020128	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTERNATIONAL TRUCK INTELLECTUAL PROPERTY COMPANY, OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTERNATIONAL TRUCK AND ENGINE CORPORATION; REEL/FRAME:012568/0679 EFFECTIVE DATE : 20010810
US6637538 BB	20070320	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6637538 BB	20111028	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6637538 BB	20111128	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6637538 BB	20111128	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6637538 BB	20111220	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20111028
US6637538 BB	20210608	PEXP		Calculated Patent Term Expiry	
WO02101899 A1	20021219	LSPB	+	published / reissued	
WO02101899 A1	20031124	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2448339 COUNTRY OF REF DOCUMENT : CA
WO02101899 A1	20031125	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2003/010765 COUNTRY OF REF DOCUMENT : MX
WO02101899 A1	20031222	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002741840 COUNTRY OF REF DOCUMENT : EP
WO02101899 A1	20040324	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002741840 COUNTRY OF REF DOCUMENT : EP
WO02101899 A1	20040415	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO02101899 A1	20050906	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002741840 COUNTRY OF REF DOCUMENT : EP
WO02101899 A1	20060424	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO02101899 A1	20060424	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	TEXT : JP

Title: CENTRIFUGAL ELECTRIC PUMP

Abstract: The centrifugal electric pump comprises a tubular- shaped external casing configuring at least one suctioning opening and one discharge opening; a pumping unit axially inserted into the casing to suction a liquid through the suctioning opening and transfer the liquid flowing out through the discharge opening; a motor unit axially inserted into the casing and suited to be operatively connected to the pumping unit; closure means suited to insulate an accommodation compartment of the motor unit from the liquid supplied by the pumping unit and from the liquid present outside the casing.

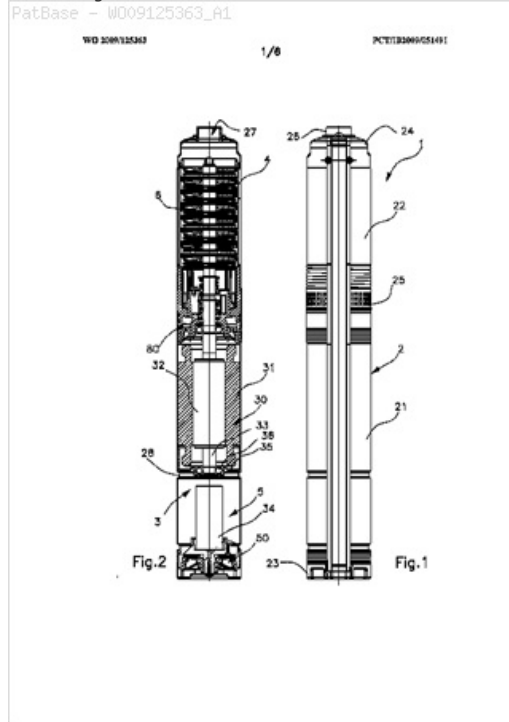
Classifications:

International (IPC 8-9): F04D13/06 F04D13/08 F04D13/10 F04D29/08 F04D29/42 F04D29/62 F16J13/12 F16L55/054 F16L55/132 H02K5/12 H02K5/132 (Advanced/Invention);
F04D13/06 F04D29/08 F04D29/42 F04D29/60 F16J13/00 F16L55/10 H02K5/12 (Core/Invention)

International (IPC 1-7): F04D13/08 F04D13/10 F04D29/08 F04D29/42 F04D29/62 F16J13/12 F16L55/132 H02K5/132

CPC: F04D13/10 F04D29/086 F04D29/426 F04D29/628 H02K5/132

European: F04D13/10 F04D29/08P F04D29/42P F04D29/62P H02K5/132

**Family:**

Publication number	Publication date	Application number	Application date
AP201005450 A0	20101231	AP20100005450	20090408
CN101990602 A	20110323	CN200980112373	20090408
CN101990602 B	20130605	CN200980112373	20090408
CO6270165 A2	20110420	CO20100139027	20101108
DE602009039013 D1	20160721	DE200960039013T	20090408
EP2300717 A1	20110330	EP20090730161	20090408
EP2300717 B1	20160601	EP20090730161	20090408
IN02146MN2010 A	20110128	IN2010MN02146	20101008
ITBO20080219 A1	20091010	IT2008BO00219	20080409
MA32358 B1	20110601	MA20100033321	20101103
MX2010011114 A1	20101026	MX20100011114	20090408
RU2010145263 A	20120520	RU20100145263	20090408
RU2501979 C2	20131220	RU20100145263	20090408
TN2010000424 A1	20111229	TN20100000424	20100915
UA99954 C2	20121025	UA20100013066	20090408
WO09125363 A1	20091015	WO2009IB51491	20090408
WO09125363 A4	20091210	WO2009IB51491	20090408

Priority:

IT2008BO00219 20080409 EP20090730161 20090408 WO2009IB51491 20090408

Probable Assignee: PEDROLLO SPA**Assignee(s):** (std): PEDROLLO SILVANO ; PEDROLLO SPA**Assignee(s):** PEDROLLO S P A ; PEDROLLO SAN BONIFACIO SPA**Inventor(s):** (std): SILVANO PEDROLLO ; PEDROLLO SIL VANO ; PEDROLLO SILVANO**Agent(s):** DI FRANCIA VINCENZO; MANZELLA AND ASSOCIATI; MANZELLA GIOVANNI

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN101990602 A	20110323	LSPB	+	published / reissued	
CN101990602 A	20110323	LSPB	+C06	PUBLICATION	
CN101990602 B	20130605	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101990602 B	20130605	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101990602 B	20130911	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	PARTYTYPE : OWNER OWNER : PEDROLLO S. P. A OLDPARTY : FORMER NAME: PEDROLLO SPA
CN101990602 B	20130911	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN101990602 B	20290408	PEXP		Calculated Patent Term Expiry	
CO6270165 A2	20110420	LSPB	+	published / reissued	
CO6270165 A2	20130918	LSGT	+FG	APPLICATION GRANTED	
EP2300717 A1	20110330	LSPB	+	published / reissued	
EP2300717 A1	20110330	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20101109
EP2300717 A1	20150422	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20150318
EP2300717 A1	20151230	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20151202
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EP2300717 B1	20180124	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
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ITBO20080219 A1	20091010	LSPB	+	published / reissued	
MA32358 B1	20110601	LSGT	+	granted / extensions (spc, cpc, pte)	
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WO09125363 A4	20101109	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010145263 COUNTRY OF REF DOCUMENT : RU
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Title: PIPE COUPLING

Abstract: An assembly having a first body including a housing for interconnecting with a second body, the housing being provided with an inlet for receiving the end of the second body and the second body having a portion with an external diameter different from the remainder of the second body, and means for securing said second body end within said inlet, said securing means having at least one first securing member to engage the second body at said different external diameter portion thereby to secure said second body end within said inlet.

Classifications:

International (IPC 8-9): F16L F16L21/08 F16L37/00 F16L37/08 F16L37/088 (Advanced/Invention);

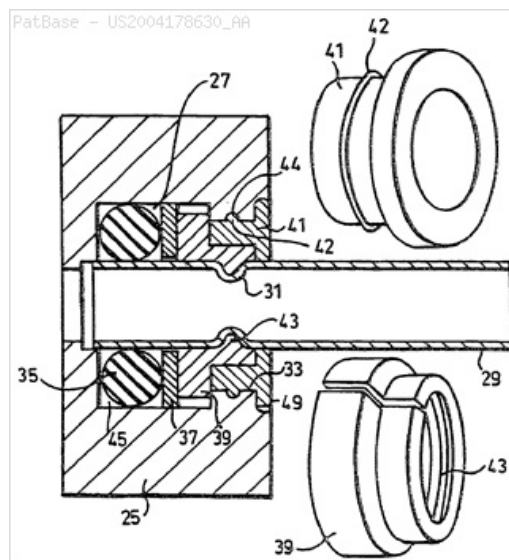
F16L37/088 (Advanced/Non-invention); F16L21/08 F16L37/00 (Core/Invention)

International (IPC 1-7): F16L F16L21/08 F16L37/088 F16L37/88 F16L39/00

CPC: F16L37/008 F16L37/088

European: F16L37/00K F16L37/088

US: 285/321



Family:

Publication number	Publication date	Application number	Application date
AT313037 E	20051215	AT20020704978T	20020314
AU2002238776 AA	20020924	AU20020238776	20020314
BG108242 A	20050531	BG20030108242	20031008
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CA2439251 AA	20030822	CA20022439251	20020314
CN1227471 C	20051116	CN20028006424	20020314
CN1496462 A	20040512	CN20028006424	20020314
CZ20032754 A3	20040317	CZ20030002754	20020314
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DE60207999 D1	20060119	DE20026007999	20020314
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DE60207999 T2	20060928	DE20026007999T	20020314
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HU0303452 AC	20041228	HU20030003452	20020314
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KR20030094273 A	20031211	KR20037011690	20020314
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YU71903 A	20041231	YU20030000719	20020314
ZA200306512 A	20040615	ZA20030006512	20030821

Priority:

GB20010006268 20010314 WO2002GB01160 20020314

Probable Assignee: ADVANCED FLUID CONNECTIONS PLC

Assignee(s): (std): ADVANCED FLUID CONNECTIONS PLC ; DAVIDSON PAUL ANTHONY ; EUROPOWER GROUP LTD ; OYSTERTEC PLC ; ADVANCED FLUID CONNECTIONS PCL ; OYSTERTEC PLC YORK

Assignee(s): OYSTERTEC PLC YORK YORKSHIRE ; ADVANCED FLUID CONNECTIONS PCL WEIGHTON ; OYSTERTEC PLC SOUTHGATE MARKET WEIGHTON YORK NORTH YORKSHIRE YO43

Inventor(s): (std): ANTHONY DAVIDSON PAUL ; DAVIDSON ANTHONY ; DAVIDSON PAUL ; DAVIDSON PAUL ANTHONY ; PA DAVIDSON ; PAUL ANTHONY DAVIDSON ; DAVIDSON P A

Inventor(s): P A DAVIDSON ; DAVIDSON PAUL ANTNONY

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; LONG AND CAMERON; WILLIAMS DAVIS HILL AND CO SUITE 701 7TH FLOOR 6 8 POTTINGER STREET CENTRAL

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT313037 E	20051215	LSGT	+	granted / extensions (spc, cpc, pte)	
AT313037 E	20060615	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT313037 E	20220314	PEXP		Calculated Patent Term Expiry	
AU2002238776 AA	20020924	LSPB	+	published / reissued	
BG108242 A	20050531	LSPB	+	published / reissued	
BRPI0208011 A	20040302	LSPB	+	published / reissued	
BRPI0208011 A	20100525	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A,7A E 8A ANUIDADES
BRPI0208011 A	20110719	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : REFERENTE AO DESPACHO 8.6 PUBLICADO NA RPI 2055 DE 25/05/2010.Q
CA2439251 AA	20030822	LSPB	+	published / reissued	
CA2439251 AA	20060210	LSRE	+FZDC	CORRECTION OF DEAD APPLICATION (REINSTATEMENT)	
CA2439251 AA	20080314	LSLE	-FZDE	DEAD	
CN1227471 C	20051116	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1227471 C	20051116	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1227471 C	20080806	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	PARTYTYPE : OWNER OWNER : OUYUAN GROUP CO., LTD. OLDPARTY : FORMER OWNER: ADVANCED FLUID CONNECTION OPEN CO., LTD. EFFECTIVE DATE : 20080627
CN1227471 C	20080806	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN1227471 C	20080806	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN1227471 C	20080806	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	PARTYTYPE : OWNER OWNER : ADVANCED FLUID CONNECTION OPEN CO., LTD. OLDPARTY : FORMER NAME OR ADDRESS: OYSTERTEC PLC
CN1227471 C	20110525	LSLE	-C17	CESSATION OF PATENT RIGHT	
CN1227471 C	20220314	PEXP		Calculated Patent Term Expiry	
CN1496462 A	20040512	LSPB	+	published / reissued	

CN1496462 A	20040512	LSPB	+C06	PUBLICATION	
CZ20032754 A3	20040317	LSPB	+	published / reissued	
CZ299513 B6	20080820	LSGT	+	granted / extensions (spc, cpc, pte)	
CZ299513 B6	20100929	LSLE	-MM4A	PATENT LAPSED DUE TO NON-PAYMENT OF FEE	EFFECTIVE DATE : 20100314
CZ299513 B6	20220314	PEXP		Calculated Patent Term Expiry	
DE60207999 D1	20070104	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60207999 D1	20070104	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60207999 D1	20080619	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : EUROPOWER GROUP LTD., LEEDS, GB
DE60207999 D1	20080619	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : EUROPOWER GROUP LTD., LEEDS, GB
DE60207999 D1	20110120	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60207999 D1	20110120	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60207999 T2	20060928	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60207999 T2	20070104	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60207999 T2	20080619	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : EUROPOWER GROUP LTD., LEEDS, GB
DE60207999 T2	20110120	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60207999 T2	20220314	PEXP		Calculated Patent Term Expiry	
EE200300441 A	20031215	LSPB	+	published / reissued	
EP1368590 A1	20031210	LSPB	+	published / reissued	
EP1368590 A1	20031210	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030906
EP1368590 A1	20040407	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20040220
EP1368590 A1	20050914	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : ADVANCED FLUID CONNECTIONS PLC
EP1368590 B1	20051214	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1368590 B1	20051214	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 : 20051214
EP1368590 B1	20051214	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 : 20051214
EP1368590 B1	20051214	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 : 20051214					
EP1368590 B1	20051214	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 : 20051214
EP1368590 B1	20051214	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1368590 B1	20051215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1368590 B1	20060111	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
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EP1368590 B1	20060314	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 : 20060314
EP1368590 B1	20060314	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 : 20060314
EP1368590 B1	20060314	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 : 20060314
EP1368590 B1	20060331	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 : 20060331
EP1368590 B1	20060331	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 : 20060331
EP1368590 B1	20060401	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2249556 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP1368590 B1	20060515	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 : 20060515					
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EP1368590 B1	20061122	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20060915
EP1368590 B1	20071231	LSAS	BECH	BE: CHANGE OF HOLDER	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : EUROPOWER GROUP LTD EFFECTIVE DATE : 20051214
EP1368590 B1	20080501	LSAS	NLS	NL: ASSIGNMENTS OF EP-PATENTS	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : EUROPOWER GROUP LIMITED EFFECTIVE DATE : 20080313
EP1368590 B1	20080731	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 : 20051214
EP1368590 B1	20080829	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : TP
EP1368590 B1	20080916	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : PC2A
EP1368590 B1	20081128	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 : 20051214
EP1368590 B1	20090220	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1061422 COUNTRY OF REF DOCUMENT : HK
EP1368590 B1	20090731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20090427 YEAR OF FEE PAYMENT : 8
EP1368590 B1	20090731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20090527 YEAR OF FEE PAYMENT : 8
EP1368590 B1	20090831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20090513 YEAR OF FEE PAYMENT : 8
EP1368590 B1	20090831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20090513 YEAR OF FEE PAYMENT : 8
EP1368590 B1	20090831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20090528 YEAR OF FEE PAYMENT : 8
EP1368590 B1	20090930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20090528 YEAR OF FEE PAYMENT : 8
EP1368590 B1	20091130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20090421

				NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 8
EP1368590 B1	20100930	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : EUROPOWER GROUP LTD EFFECTIVE DATE : 20100331
EP1368590 B1	20101013	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : V1 EFFECTIVE DATE : 20101001
EP1368590 B1	20101124	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20100314
EP1368590 B1	20101224	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20101130
EP1368590 B1	20110131	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 : 20101001
EP1368590 B1	20110131	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 : 20100331
EP1368590 B1	20110228	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 : 20100331
EP1368590 B1	20110228	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 : 20101001
EP1368590 B1	20110331	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 : 20100314
EP1368590 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 : 20100314
EP1368590 B1	20110415	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20110415
EP1368590 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 : 20110404
EP1368590 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 : 20100315
EP1368590 B1	20220314	PEXP		Calculated Patent Term Expiry	
ES2249556 T3	20060401	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2249556 T3	20220314	PEXP		Calculated Patent Term Expiry	

GB200106268 A0	20020612	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
HK1061422 A1	20040917	LSPB	+	published / reissued	
HK1061422 A3	20040917	LSPB	+	published / reissued	
HU0303452 AB	20040128	LSPB	+	published / reissued	
HU0303452 AC	20071228	LSLE	-FD9A	LAPSE OF PROVISIONAL PROTECTION DUE TO NON-PAYMENT OF FEES	
IN01064KN2003 A	20060113	LSPB	+	published / reissued	
JP2004527700 T2	20040909	LSPB	+	published / reissued	
JP2004527700 T2	20050302	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20050301
JP2004527700 T2	20050302	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20050301
JP2004527700 T2	20070912	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070911
JP2004527700 T2	20080303	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20080229
KR20030094273 A	20031211	LSPB	+	published / reissued	
KR20030094273 A	20081211	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
MXPA03007925 A1	20040402	LSPB	+	published / reissued	
NO20033942 A	20031020	LSPB	+	published / reissued	
NO20033942 A	20101101	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
NZ527681 A	20050527	LSPB	+	published / reissued	
NZ527681 A	20050930	LSGT	+PSEA	PATENT SEALED	
NZ527681 A	20060331	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ527681 A	20090626	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
PL201677 B1	20090430	LSGT	+	granted / extensions (spc, cpc, pte)	
PL201677 B1	20110531	LSLE	-LAPS	DECISIONS ON THE LAPSE OF THE PROTECTION RIGHTS	EFFECTIVE DATE : 20100314
PL362432 A1	20041102	LSPB	+	published / reissued	
RU2003130274 A	20050410	LSPB	+	published / reissued	
RU2003130274 A	20070310	LSWD	-FA94	ACKNOWLEDGEMENT OF APPLICATION WITHDRAWN (NON- PAYMENT OF FEES)	EFFECTIVE DATE : 20061221
SK200301260 A5	20040608	LSPB	+	published / reissued	
US2004178630 AA	20040916	LSPB	+	published / reissued	
US2004178630 AA	20070222	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
WO02073079 A1	20020919	LSPB	+	published / reissued	
WO02073079 A1	20020314	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : P- 719/03 COUNTRY OF REF DOCUMENT : YU
WO02073079 A1	20030819	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002238776 COUNTRY OF REF DOCUMENT : AU

WO02073079 A1	20030819	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 527681 COUNTRY OF REF DOCUMENT : NZ
WO02073079 A1	20030821	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003/06512 COUNTRY OF REF DOCUMENT : ZA
WO02073079 A1	20030821	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200306512 COUNTRY OF REF DOCUMENT : ZA
WO02073079 A1	20030822	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 01063/KOLNP/2003 COUNTRY OF REF DOCUMENT : IN
WO02073079 A1	20030822	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2439251 COUNTRY OF REF DOCUMENT : CA
WO02073079 A1	20030822	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1064/KOLNP/2003 COUNTRY OF REF DOCUMENT : IN
WO02073079 A1	20030903	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2003/007925 COUNTRY OF REF DOCUMENT : MX
WO02073079 A1	20030905	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020037011690 COUNTRY OF REF DOCUMENT : KR
WO02073079 A1	20030906	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002704978 COUNTRY OF REF DOCUMENT : EP
WO02073079 A1	20030912	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 028064240 COUNTRY OF REF DOCUMENT : CN
WO02073079 A1	20030916	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002572303 COUNTRY OF REF DOCUMENT : JP
WO02073079 A1	20031008	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 10824202 COUNTRY OF REF DOCUMENT : BG KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO02073079 A1	20031009	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12602003 COUNTRY OF REF DOCUMENT : SK
WO02073079 A1	20031010	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PV2003-2754 COUNTRY OF REF DOCUMENT : CZ
WO02073079 A1	20031210	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002704978 COUNTRY OF REF DOCUMENT : EP
WO02073079 A1	20031211	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020037011690 COUNTRY OF REF DOCUMENT : KR
WO02073079 A1	20040129	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642

WO02073079 A1	20040317	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : PV2003-2754 COUNTRY OF REF DOCUMENT : CZ
WO02073079 A1	20040512	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 10471363 COUNTRY OF REF DOCUMENT : US
WO02073079 A1	20050527	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 527681 COUNTRY OF REF DOCUMENT : NZ
WO02073079 A1	20050908	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 527681 COUNTRY OF REF DOCUMENT : NZ
WO02073079 A1	20051214	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002704978 COUNTRY OF REF DOCUMENT : EP
WO02073079 A1	20080820	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : PV2003-2754 COUNTRY OF REF DOCUMENT : CZ
YU71903 A	20041231	LSPB	+	published / reissued	
ZA200306512 A	20040615	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200306512 A	20230820	PEXP		Calculated Patent Term Expiry	

Title: Anschlussfitting

Abstract: Source: DE202011107346U1 [DE] Anschlussfitting (1) fuer Rohre (23) zur Durchleitung unterschiedlicher Fluidmedien, insbesondere von Gas- oder Wasserinstallationen, mit einem Fittingkoerper (2) und zumindest einem vom Fittingkoerper (2) vorstehenden, in ein Rohr (23) endseitig einsteckbaren Fittingstutzen (3), auf dem zumindest zwei Dichtringe (9, 10) axial zueinander versetzt angeordnet sind, wobei Dichtringe (9, 10) fuer Gasrohre gegenueber Dichtringen fuer Wasserrohre unterschiedlich gestaltet sind, dadurch gekennzeichnet, dass auf dem Fittingstutzen (3) unterschiedliche Dichtringe (9, 10), naemlich zumindest ein Dichtring (10) fuer Gasrohre wie auch zumindest ein Dichtring (9) fuer Wasserrohre angeordnet sind.

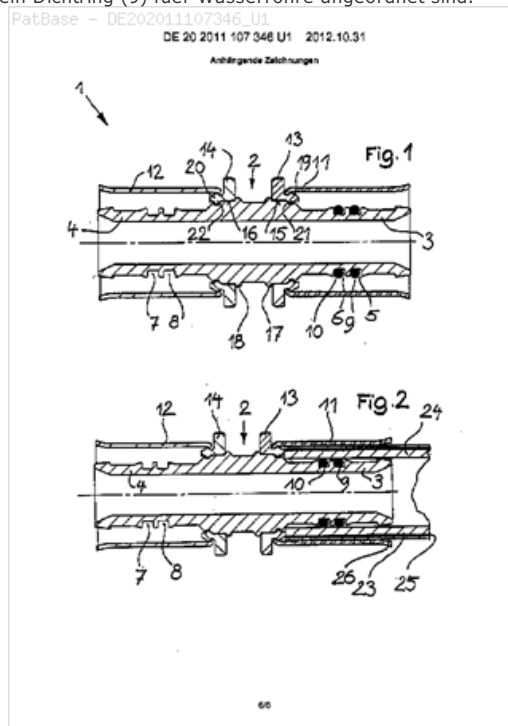
Classifications:

International (IPC 8-9): F16L13/14 F16L33/207

F16L47/08 (Advanced/Invention)

CPC: F16L33/2078 F16L13/143

European: F16L13/14B6 F16L33/207B4



Family:

Publication number	Publication date	Application number	Application date
DE102012010647 A1	20121206	DE201210010647	20120531
DE202011107346 U1	20121031	DE201120107346U	20110606
NL1039647 A	20121210	NL20121039647	20120604
NL1039647 B1	20160713	NL20121039647	20120604

Priority:

DE201120107346U 20110606 DE201210010647 20120531

Probable Assignee: WAVIN BV

Assignee(s): (std): WAVIN BV

Assignee(s): WAVIN B V

Inventor(s): (std): OTTE OLIVER ; WINK CATHRIN ; CATHRIN WINK ; DIPL ING OLIVER OTTE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE102012010647 A1	20121206	LSPB	+	published / reissued	
DE102012010647 A1	20190601	LSDW	-R005	APPLICATION DEEMED WITHDRAWN DUE TO FAILURE TO REQUEST EXAMINATION	
DE202011107346 U1	20121031	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202011107346 U1	20121031	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 20121031
DE202011107346 U1	20140508	LSGT	+R150	TERM OF PROTECTION EXTENDED TO 6 YEARS	EFFECTIVE DATE : 20140402
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DE202011107346 U1	20210606	PEXP		Calculated Patent Term Expiry	
NL1039647 A	20121210	LSPB	+	published / reissued	
NL1039647 B1	20160713	LSGT	+	granted / extensions (spc, cpc, pte)	
NL1039647 B1	20190206	LSLE	-MM	LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE	EFFECTIVE DATE : 20180701
NL1039647 B1	20320604	PEXP		Calculated Patent Term Expiry	

Title: THREE DIMENSIONAL STEERABLE SYSTEM

Abstract: The steering assembly includes upper and lower tubular housings connected by a universal joint. An angle cam is disposed on the end of the lower housing and projects into the upper housing. A plurality of wedge members extend axially from the upper housing and into engagement with the angle cam. Drive trains are connected to the wedge members to move the wedge members toward and away from the angle cam so as to pivot the lower housing at the universal joint and change the angle and azimuth of the lower housing with respect to the upper housing. The lower housing is connected to a bearing pack supporting a drill bit such that upon changing the angle and azimuth of the lower housing, the direction of the drilling of the drill bit is also changed. The steering assembly being connected to composite tubing having conductors in the wall thereof for conducting data and commands between the steering assembly and a processor at the surface and for providing power to the steering assembly. Data on the position of the bit is transmitted to a processor which determines the direction of drilling and selectively transmits commands to the steering assembly to change the bend angle and direction of the drilling of the bit.

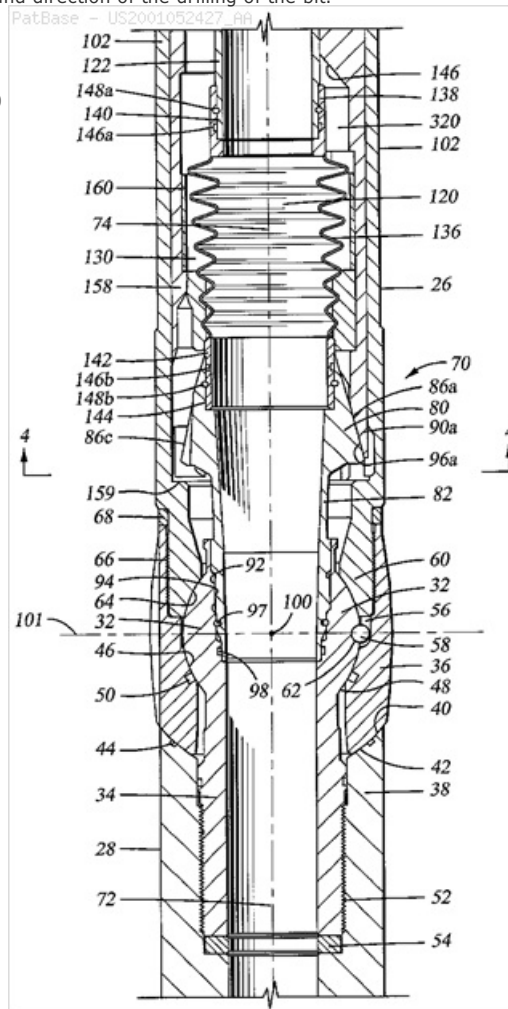
Classifications:

International (IPC 8-9): E21B17/00 E21B17/01 E21B17/02 E21B17/03 E21B17/04 E21B17/042 E21B17/046 E21B17/20 E21B19/07 E21B19/086 E21B19/16 E21B19/22 E21B21/10 E21B23/00 E21B29/00 E21B29/06 E21B3/00 E21B37/00 E21B4/00 E21B4/04 E21B4/16 E21B4/18 E21B44/00 E21B47/00 E21B47/01 E21B47/02 E21B47/06 E21B47/12 E21B49/08 E21B7/00 E21B7/04 E21B7/06 E21B7/08 E21B7/10 E21B7/20 F16L11/12 F16L11/127 F16L25/00 F16L25/01 G01V11/00 G01V3/30 H01R4/60 (Advanced/Invention); E21B17/20 E21B23/00 E21B34/06 E21B4/00 E21B7/04 (Advanced/Non-invention); E21B17/00 E21B17/02 E21B19/00 E21B23/00 E21B29/00 E21B3/00 E21B4/00 E21B44/00 E21B47/00 E21B47/12 E21B49/00 E21B7/04 E21B7/20 F16L11/12 F16L25/00 G01V3/18 (Core/Invention); E21B23/00 (Core/Non-invention); E21B (Subclass/Invention)

International (IPC 1-7): E05B63/20 E21B0/00 E21B10/62 E21B17/00 E21B17/01 E21B17/02 E21B17/042 E21B17/046 E21B17/20 E21B19/07 E21B19/08 E21B19/16 E21B19/22 E21B23/00 E21B29/00 E21B29/06 E21B3/00 E21B4/00 E21B4/02 E21B4/04 E21B4/16 E21B4/18 E21B44/00 E21B47/00 E21B47/01 E21B47/02 E21B47/12 E21B49/08 E21B7/00 E21B7/04 E21B7/06 E21B7/08 E21B7/10 E21B7/20 F16D1/02 F16L11/127 F16L25/00 F16L25/01 F16L35/00 G01V3/30 H01R13/28 H01R13/62 E21B4/18 E21B7/068 E21B17/028 E21B17/03 E21B17/206 E21B19/07 E21B19/086 E21B19/161 E21B29/06 E21B47/01 E21B49/08 E21B2023/008 G01V3/30 G01V11/002 E21B17/042 E21B4/006 E21B4/04 E21B7/067 E21B17/20 E21B44/00 E21B17/02 E21B17/046 E21B21/103 E21B37/00

European: E21B17/02 E21B17/02E E21B17/03 E21B17/042 E21B17/046 E21B17/20 E21B17/20D E21B19/07 E21B19/086 E21B19/16B E21B21/10C E21B29/06 E21B37/00 E21B4/00F E21B4/04 E21B4/18 E21B44/00 E21B47/01 E21B49/08 E21B7/06K E21B7/06M G01V11/00B G01V3/30 P21B23/00T

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**Family:**

Publication number	Publication date	Application number	Application date
AU199889525 A1	19990513	AU19980089525	19981026
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Priority:

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US20040992284	20041118	AU20050200137	20050113	AU20050203776	20050823
CA20112474998	20111027				

Probable Assignee: HALLIBURTON CO

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Inventor(s): ODELL ALBERT ; ESTEP JAMES ; WILSON THOMAS ; EPPINK JAY ; TERRY JAMES ; EPPINK JAY MUS ; ESTEP JAMES WUS ; SONG HAOSHIUS ; TRAINOR WILLIAM FUS ; ODELL ALBERT C IIUS ; WILSON THOMAS PLATTUS ; TERRY JAMES BUS ; JM EPPINK AC ODELL II JW ESTEP ; J W ESTEP ; J M EPPINK ; A C ODELL II ; TERRY JAMES B WILSON THOMAS PLATT EPPINK JAY M ODE ; TERRY JAMES B WILSON THOMAS PLATT EPPINK JAY M ; JAMES W ESTE ; THOMAS PLAT WILSON ; J M EPPINK A C ODELL II J W ESTEP ; ALBERT C ODELL III ; ODELL ALBERT CII ; ODELL ; II ALBERT C

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; DEETH WILLIAMS WALL LLP; EMERY JAMIESON LLP; PARLEE MCLAWS LLP; CURTIS PHILIP ANTHONY; BENNETT ADRIAN ROBERT J; CONLEY ROSE PC; CONLEY ROSE P C

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199889525 A1	19990513	LSPB	+	published / reissued	
AU199889525 A1	20000316	LSRE	DA3	AMENDMENTS MADE SECTION 104	TEXT : THE NATURE OF THE AMENDMENT IS: AMEND THE INVENTORS NAMES TO INCLUDE THOMAS PLATT WILSON
AU200122637 A1	20010703	LSPB	+	published / reissued	
AU2001249199 AA	20011008	LSPB	+	published / reissued	
AU2003210744 AA	20030902	LSPB	+	published / reissued	
AU2003210744 BB	20080403	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2003210744 BB	20230130	PEXP		Calculated Patent Term Expiry	
AU2003210744 BH	20080731	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2003210744 BH	20130822	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2005200137 AA	20050210	LSPB	+	published / reissued	
AU2005200137 BB	20060216	LSGT	+	granted / extensions (spc,	

AU2005200137 BB	20060615	LSGT	+FGA	cpc, pte) LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2005200137 BB	20150709	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2005200137 BB	20250113	PEXP		Calculated Patent Term Expiry	
AU2005203776 AA	20050929	LSPB	+	published / reissued	
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AU2005203776 BB	20250823	PEXP		Calculated Patent Term Expiry	
AU743707 B2	20020131	LSGT	+	granted / extensions (spc, cpc, pte)	
AU743707 B2	20020530	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU743707 B2	20181115	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU743707 B2	20181026	PEXP		Calculated Patent Term Expiry	
AU777543 B2	20041021	LSGT	+	granted / extensions (spc, cpc, pte)	
AU777543 B2	20201214	PEXP		Calculated Patent Term Expiry	
BRPI0016525 A	20020924	LSPB	+	published / reissued	
BRPI0016525 A	20050920	LSAS	B25G	REQUESTED CHANGE OF HEADQUARTER APPROVED	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES INC. (US) OLDPARTY : SEDE ALTERADA CONFORME SOLICITADO NA PETICAO NO 016146-RJ DE 24.03.2004
BRPI0016525 A	20081014	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0016525 B1	20090225	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	TEXT : PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 14/12/2000, OBSERVADAS AS CONDICOES LEGAIS.
BRPI0016525 B1	20151124	LSLE	-B21F	LAPSE ACC. ART. 78, ITEM IV - ON NON-PAYMENT OF THE ANNUAL FEES IN TIME	TEXT : REFERENTE A 15A ANUIDADE.
BRPI0016525 B1	20160329	LSLE	-B24J	LAPSE BECAUSE OF NON-PAYMENT OF ANNUAL FEES (DEFINITIVELY: ART 78 IV LPI, RESOLUTION 113/2013 ART. 12)	TEXT : EM VIRTUDE DA EXTINCAO PUBLICADA NA RPI 2342 DE 24-11- 2015 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDA A EXTINCAO DA PATENTE E SEUS CERTIFICADOS, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
BRPI0016525 B1	20201214	PEXP		Calculated Patent Term Expiry	

BRPI0109506 A	20040113	LSPB	+	published / reissued	
BRPI0109506 A	20050920	LSAS	B25G	REQUESTED CHANGE OF HEADQUARTER APPROVED	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC. (US) OLDPARTY : ALTERADA A SEDE DO TITULAR CONFORME SOLICITADO NA PETICAO NO 016160/RJ DE 24/03/2004.
BRPI0109506 A	20090825	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE 8A. ANUIDADE.
BRPI0109506 A	20101221	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : REFERENTE AO DESPACHO PUBLICADO NA RPI 2016 DE 25/08/2009.
BRPI0307348 A	20051220	LSPB	+	published / reissued	
BRPI0307348 A	20131008	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 10A ANUIDADE.
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DE60037285 T2	20081218	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION
DE60037285 T2	20101021	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE

DE60037285 T2	20201214	PEXP		Calculated Patent Term Expiry	
DE60043793 D1	20110217	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69835567 D1	20070719	LSWD	-8332	NO LEGAL EFFECT FOR DE	
EP0911483 A2	19990428	LSPB	+	published / reissued	
EP0911483 A2	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161026 YEAR OF FEE PAYMENT : 19
EP0911483 A3	20030129	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20021129
EP0911483 A3	20030226	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB COUNTRY OF REF DOCUMENT : NL
EP0911483 A3	20030806	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20030618
EP0911483 B1	20060816	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0911483 B1	20060816	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 : 20060816
EP0911483 B1	20060816	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP0911483 B1	20061116	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 : 20061116
EP0911483 B1	20061117	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20061117
EP0911483 B1	20070201	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
EP0911483 B1	20070725	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20070518
EP0911483 B1	20080430	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070511
EP0911483 B1	20081128	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20060816

EP0911483 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170811 YEAR OF FEE PAYMENT : 20
EP0911483 B1	20181121	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : PE20 EXPIRY DATE : 20181026
EP0911483 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATION OF LAPSE : LAPSE BECAUSE OF EXPIRATION OF PROTECTION LAPSED DATE : 20181026
EP0911483 B1	20181026	PEXP		Calculated Patent Term Expiry	
EP0911483 B1	20181027	PEXP		Calculated Patent Term Expiry	
EP1246993 A1	20021009	LSPB	+	published / reissued	
EP1246993 A1	20021009	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020709
EP1246993 A4	20041201	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20041013
EP1246993 A4	20050511	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20050330
EP1246993 A4	20050831	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC.
EP1246993 A4	20151202	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20150701
EP1303720 A2	20030423	LSPB	+	published / reissued	
EP1303720 A2	20030423	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20021016
EP1303720 A4	20050615	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20050428
EP1303720 A4	20070613	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20061123
EP1478824 A2	20041124	LSPB	+	published / reissued	
EP1478824 A2	20041124	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20040827
EP1478824 A4	20051207	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20051024
EP1478824 A4	20070509	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20060125
EP1478824 A4	20130123	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20120801
EP1550788 A2	20050706	LSPB	+	published / reissued	
EP1550788 A2	20050907	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC.
EP1550788 A3	20060412	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060216
EP1550788 A3	20060419	LSES	+R17P	REQUEST FOR	EFFECTIVE DATE : 20060214

EP1550788 A3	20060531	LSFE	+AKX	EXAMINATION FILED (CORRECTED) DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB
EP1550788 B1	20071128	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1550788 B1	20071128	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1550788 B1	20081029	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20080228
EP1550788 B1	20081105	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20080829
EP1550788 B1	20090430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20081205 YEAR OF FEE PAYMENT : 9
EP1550788 B1	20090529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20081230 YEAR OF FEE PAYMENT : 9
EP1550788 B1	20090630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080228
EP1550788 B1	20091028	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : S28 TEXT : APPLICATION FILED
EP1550788 B1	20100331	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : S28 TEXT : RESTORATION ALLOWED EFFECTIVE DATE : 20100309
EP1550788 B1	20100924	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20100831
EP1550788 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20091231
EP1550788 B1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20100701
EP1550788 B1	20140131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20131126 YEAR OF FEE PAYMENT : 14
EP1550788 B1	20150826	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20141214
EP1550788 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20141214
EP1550788 B1	20201214	PEXP		Calculated Patent	

				Term Expiry	
EP1903178 A2	20080326	LSPB	+	published / reissued	
EP1903178 A2	20080326	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20080103
EP1903178 A3	20081203	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20081030
EP1903178 A3	20090218	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB
EP1903178 B1	20100127	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1903178 B1	20100127	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1903178 B1	20110105	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20101028
EP1903178 B1	20140131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20131126 YEAR OF FEE PAYMENT : 14
EP1903178 B1	20140228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20131126 YEAR OF FEE PAYMENT : 14
EP1903178 B1	20140430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20131230 YEAR OF FEE PAYMENT : 14
EP1903178 B1	20150701	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 60043793 COUNTRY OF REF DOCUMENT : DE
EP1903178 B1	20150826	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20141214
EP1903178 B1	20150925	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20150831
EP1903178 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150701
EP1903178 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20141214
EP1903178 B1	20151130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20141231
EP1903178 B1	20201214	PEXP		Calculated Patent Term Expiry	
EP2175100 A1	20100414	LSPB	+	published / reissued	
EP2175100 A1	20100811	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100610

EP2175100 A1	20100825	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20100727
EP2175100 A1	20110601	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20101207
EP2177710 A1	20100421	LSPB	+	published / reissued	
EP2177710 A1	20110504	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20101022
JP2003518214 T2	20030603	LSPB	+	published / reissued	
JP2003518214 T2	20050119	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20050118
JP2003518214 T2	20050720	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20050719
JP2003518214 T2	20050906	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2003518214 T2	20050914	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20050913
JP2003518214 T2	20051013	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20051006
JP2003518214 T2	20051014	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2003531320 T2	20031021	LSPB	+	published / reissued	
JP2003531320 T2	20060215	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20060214
JP2003531320 T2	20060812	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20060811
JP2003531320 T2	20070314	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070313
JP2003531320 T2	20071031	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20071030
JP2005517105 T2	20050609	LSPB	+	published / reissued	
JP3730570 B2	20060105	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3730570 B2	20081009	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP3730570 B2	20081014	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP3730570 B2	20091014	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3730570 B2	20201214	PEXP		Calculated Patent Term Expiry	
MXPA02006123 A1	20040823	LSPB	+	published /	

MXPA02006123 A1	20090622	LSGT	+FG	reissued GRANT OR REGISTRATION	
MXPA02009349 A1	20040625	LSPB	+	published / reissued	
MXPA04007484 A1	20060130	LSPB	+	published / reissued	
NO20022944 A	20020820	LSPB	+	published / reissued	
NO20024543 A	20021111	LSPB	+	published / reissued	
NO20024543 A	20081027	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
NO20043647 A	20040930	LSPB	+	published / reissued	
NO20043647 A	20120827	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
NO20091890 A	20020820	LSPB	+	published / reissued	
NO20091890 A	20150727	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
NO317359 B1	20041018	LSGT	+	granted / extensions (spc, cpc, pte)	
NO317359 B1	20181112	LSLE	-MK1K	PATENT EXPIRED	
NO317359 B1	20181026	PEXP		Calculated Patent Term Expiry	
NO328065 B1	20091116	LSGT	+	granted / extensions (spc, cpc, pte)	
NO328065 B1	20150727	LSLE	-MM1K	LAPSED BY NOT PAYING THE ANNUAL FEES	
NO328065 B1	20220619	PEXP		Calculated Patent Term Expiry	
NO984973 A	19990428	LSPB	+	published / reissued	
US2001052427 AA	20011220	LSPB	+	published / reissued	
US2001052427 AA	20030710	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2002007970 AA	20020124	LSPB	+	published / reissued	
US2002007970 AA	20050216	LSGT	PAT1	Patented Case	
US2002007970 AA	20050216	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2003075361 AA	20030424	LSPB	+	published / reissued	
US2003075361 AA	20050713	LSGT	PAT1	Patented Case	
US2003075361 AA	20050713	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2003094310 AA	20030522	LSPB	+	published / reissued	
US2003094310 AA	20041130	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:EPPINK, JAY M.; ODELL, II, ALBERT C.; ESTEP, JAMES W.; AND OTHERS; REEL/FRAME:015414/0494; SIGNING DATES FROM 20000216 TO 20000217

US2003094310 AA	20041230	LSGT		PAT1	Patented Case	
US2003094310 AA	20041230	LSGT		STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2003230893 AA	20031218	LSPB		+	published / reissued	
US2005098350 AA	20050512	LSPB		+	published / reissued	
US2005098350 AA	20070307	LSGT		STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2005115741 AA	20050602	LSPB		+	published / reissued	
US6296066 BA	20011002	LSGT		+	granted / extensions (spc, cpc, pte)	
US6296066 BA	19980520	LSAS		AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TERRY, JAMES B.; REEL/FRAME:009192/0006 EFFECTIVE DATE : 19980520
US6296066 BA	19990201	LSAS		AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WILSON, THOMAS PLATT; REEL/FRAME:009742/0270 EFFECTIVE DATE : 19990104
US6296066 BA	20010914	LSGT		PAT1	Patented Case	
US6296066 BA	20010914	LSGT		STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6296066 BA	20050329	LSFE		+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6296066 BA	20090320	LSFE		+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6296066 BA	20130318	LSFE		+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6296066 BA	20180520	PEXP			Calculated Patent Term Expiry	
US6598687 BB	20030729	LSGT		+	granted / extensions (spc, cpc, pte)	
US6598687 BB	20030710	LSGT		PAT1	Patented Case	
US6598687 BB	20061218	LSFE		+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6598687 BB	20101228	LSFE		+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6598687 BB	20141229	LSFE		+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6598687 BB	20210328	PEXP			Calculated Patent Term Expiry	
US6607044 BA	20030819	LSGT		+	granted / extensions (spc, cpc, pte)	
US6607044 BA	20030731	LSGT		PAT1	Patented Case	
US6607044 BA	20030731	LSGT		STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6607044 BA	20070119	LSFE		+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6607044 BA	20110103	LSFE		+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6607044 BA	20141231	LSFE		+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6607044 BA	20191220	PEXP			Calculated Patent Term Expiry	

US6659200 BA	20031209	LSGT	+	granted / extensions (spc, cpc, pte)	
US6659200 BA	20001004	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:EPPINK, JAY M.; REEL/FRAME:011193/0765 EFFECTIVE DATE : 20000929
US6659200 BA	20031120	LSGT	PAT1	Patented Case	
US6659200 BA	20031120	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6659200 BA	20070517	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6659200 BA	20110523	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6659200 BA	20150526	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6659200 BA	20201004	PEXP		Calculated Patent Term Expiry	
US6761574 BA	20040713	LSGT	+	granted / extensions (spc, cpc, pte)	
US6761574 BA	20000718	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SONG, HAOSHI; ESTEP, JAMES W.; REEL/FRAME:010986/0536; SIGNING DATES FROM 20000620 TO 20000626
US6761574 BA	20040205	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TERRY, JAMES B.; WILSON, THOMAS PLATT; REEL/FRAME:014951/0691; SIGNING DATES FROM 20040113 TO 20040114
US6761574 BA	20080713	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6761574 BA	20080811	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6761574 BA	20080811	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6761574 BA	20080902	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20080713
US6761574 BA	20200324	PEXP		Calculated Patent Term Expiry	
US6843332 BB	20050118	LSGT	+	granted / extensions (spc, cpc, pte)	
US6843332 BB	20080619	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6843332 BB	20120625	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6843332 BB	20160504	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6843332 BB	20221119	PEXP		Calculated Patent Term Expiry	
US6863137 BB	20050308	LSGT	+	granted / extensions (spc, cpc, pte)	
US6863137 BB	20080819	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4

US6863137 BB	20120828	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6863137 BB	20160504	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6863137 BB	20210723	PEXP		Calculated Patent Term Expiry	
US6923273 BB	20050802	LSGT	+	granted / extensions (spc, cpc, pte)	
US6923273 BB	20021226	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TERRY, JAMES B.; WILSON, THOMAS PLATT; EPPINK, JAY M.; AND OTHERS; REEL/FRAME:013626/0537; SIGNING DATES FROM 20021122 TO 20021213
US6923273 BB	20081229	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6923273 BB	20130125	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6923273 BB	20161111	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6923273 BB	20221208	PEXP		Calculated Patent Term Expiry (PTA 62 days)	
US7059881 BB	20060613	LSGT	+	granted / extensions (spc, cpc, pte)	
US7059881 BB	20030829	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SONG, HAOSHI; ESTEP, JAMES W.; REEL/FRAME:014434/0245 EFFECTIVE DATE : 20030522
US7059881 BB	20100613	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7059881 BB	20100712	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7059881 BB	20100712	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7059881 BB	20100803	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20100613
US7059881 BB	20230605	PEXP		Calculated Patent Term Expiry (PTA 59 days and a terminal disclaimer has been filed)	
US7172038 BB	20070206	LSGT	+	granted / extensions (spc, cpc, pte)	
US7172038 BB	20070117	LSGT	PAT1	Patented Case	
US7172038 BB	20100702	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7172038 BB	20140725	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7172038 BB	20180924	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7172038 BB	20190311	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY

US7172038 BB	20190311	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
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US7172038 BB	20190402	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20190206
US7172038 BB	20241115	PEXP		Calculated Patent Term Expiry	
US7195083 BB	20070327	LSGT	+	granted / extensions (spc, cpc, pte)	
US7195083 BB	20041118	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HALLIBURTON ENERGY SERVICES, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:EPPINK, JAY M.; ODELL, II, ALBERT C.; ESTEP, JAMES W.; AND OTHERS; REEL/FRAME:016019/0456; SIGNING DATES FROM 20000216 TO 20000217
US7195083 BB	20070307	LSGT	PAT1	Patented Case	
US7195083 BB	20100824	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7195083 BB	20140825	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7195083 BB	20180517	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7195083 BB	20241122	PEXP		Calculated Patent Term Expiry (PTA 4 days)	
WO0146549 A1	20010628	LSPB	+	published / reissued	
WO0146549 A1	20020605	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 22637/01 COUNTRY OF REF DOCUMENT : AU
WO0146549 A1	20020618	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2394950 COUNTRY OF REF DOCUMENT : CA
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WO0146549 A1	20020620	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2002/006123 COUNTRY OF REF DOCUMENT : MX
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WO0146549 A1	20020705	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2000986389 COUNTRY OF REF DOCUMENT : EP
WO0146549 A1	20021009	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000986389 COUNTRY OF REF DOCUMENT : EP
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WO0146549 A1	20050210	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 22637/01 COUNTRY OF REF DOCUMENT : AU
WO0173331 A2	20011004	LSPB	+	published / reissued	

WO0173331 A2	20020830	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2001249199 COUNTRY OF REF DOCUMENT : AU
WO0173331 A2	20020905	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0173331 A2	20020918	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2403960 COUNTRY OF REF DOCUMENT : CA
WO0173331 A2	20020924	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2001 571017 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
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WO0173331 A3	20030423	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001922390 COUNTRY OF REF DOCUMENT : EP
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WO03067018 A2	20040730	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003566350 COUNTRY OF REF DOCUMENT : JP
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WO03067018 A2	20040803	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2474998 COUNTRY OF REF DOCUMENT : CA
WO03067018 A3	20040825	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003737564 COUNTRY OF REF DOCUMENT : EP
WO03067018 A3	20041124	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2003737564 COUNTRY OF REF DOCUMENT : EP
WO03067018 A3	20051220	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0307348 COUNTRY OF REF DOCUMENT : BR
WO04092633 A2	20041028	LSPB	+	published / reissued	
WO04092633 A3	20060920	LSNE	-122	EP: PCT APPLICATION NON- ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO

Title: **PIPE** CONNECTING APPARATUS

Abstract: A **pipe** connecting apparatus for clamping flanged ends (26) of two **pipes** (28) comprises a first assembly (12) and a second assembly (14). Each assembly (12, 14) comprises a plurality of **pipe** engaging segments (16, 18) connected by an outer band (20) in an arcuate configuration. Each segment (16, 18) comprises a longitudinal arcuate channel (22) having tapered side walls (24) defining a channel (22) for receiving the flanged ends (26). The apparatus further comprises adjustable connecting members (32, 34) for connecting the first assembly (12) to the second assembly (14), so as to clamp the assemblies (12, 14) around the flanged ends (26).

Classifications:

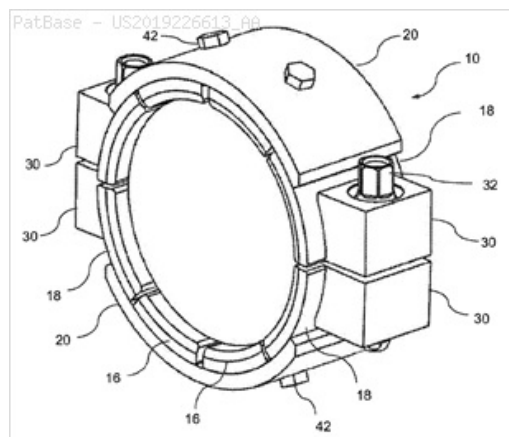
International (IPC 8-9): F16L1/26 F16L23/04 F16L23/08 F16L23/18

F16L3/10 (Advanced/Invention);

F16L23/18 (Advanced/Non-invention)

International (IPC 1-7): F16L1/26 F16L23/08 F16L23/18

CPC: F16L3/1066 F16L23/04 F16L23/08 F16L1/26 F16L23/18



Family:

Publication number	Publication date	Application number	Application date
BR112018075028 A2	20190306	BR20181175028	20170602
CA3026202 AA	20181130	CA20173026202	20170602
CA3026202 AA	20171207	CA20173026202	20170602
GB201609720 A0	20160720	GB20160009720	20160603
GB2550960 A1	20171206	GB20160009720	20160603
ID201903620 A	20190524	ID2018PID09906	20170602
NO20181626 A	20181217	NO20180001626	20181217
SG11201810747V A1	20181228	SG20181110747	20170602
US2019226613 AA	20190725	US20170306474	20170602
WO17208207 A1	20171207	WO2017IB53286	20170602

Priority:

GB20160009720 20160603 WO2017IB53286 20170602

Probable Assignee: AFGLOBAL UK LTD

Assignee(s): (std): AFGLOBAL UK LTD

Assignee(s): SCHNEIDER KIEREN ; WHITE JOHN

Inventor(s): (std): JOHN WHITE ; KIEREN SCHNEIDER ; SCHNEIDER KIEREN ; WHITE JOHN

Agent(s): NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; MAULITTA PRAMULASARI

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 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
CA3026202 AA	20171207	LSPB	+	published / reissued	
CA3026202 AA	20181130	LSPB	+	published / reissued	
GB2550960 A1	20171206	LSPB	+	published / reissued	
ID201903620 A	20190524	LSPB	+	published / reissued	
NO20181626 A	20181217	LSPB	+	published / reissued	
SG11201810747V A1	20181228	LSPB	+	published / reissued	
US2019226613 AA	20190725	LSPB	+	published / reissued	
WO17208207 A1	20171207	LSPB	+	published / reissued	
WO17208207 A1	20181130	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 3026202 COUNTRY OF REF

DOCUMENT : CA

WO17208207 A1	20181204	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17208207 A1	20190306	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112018075028 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20181203

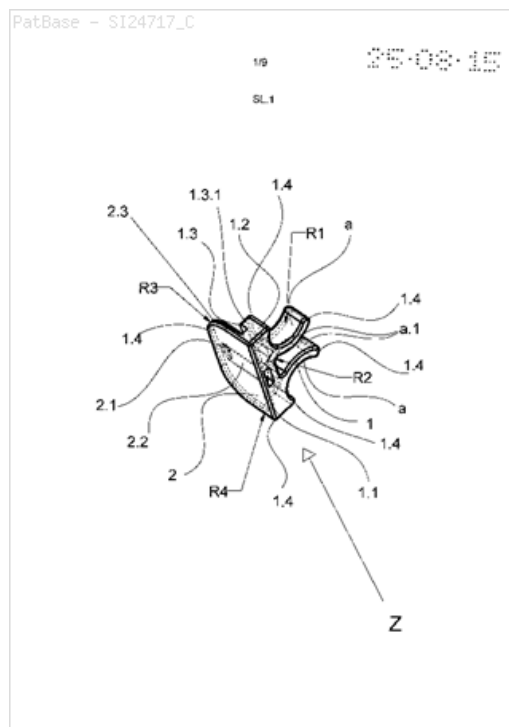
WO17208207 A1	20190626	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 17731297 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
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Title: SELF TENSIONER SAFETY SEAR OF RADIATOR SHELVES AND OTHER ACCESSORIES

Abstract: Source: SI24717C [SL] Predloženi izum se nanaša na nov proizvod, koncipiran kot samozatezna varovalna zaskocka za radiatorske police, ki je izdelana kot enodelni posebej oblikovno in konstrukcijsko rešen sestavni del L videza ter je konstrukcijsko in modelno oblikovana tako, da ima dva zatezna kraka (1) in telo zaskocke (1.5) kot eno stranico in samozatezno ploščino zaskocke (2) kot drugo stranico, ki med seboj tvorita skoraj pravi kot 90 stopinj, ki je zmanjšan za nagib (beta). Izdelek je izdelan kot odlitek iz posebne zmesi plastičnih mas, ki zagotavljajo zelo dobre torzijske lastnosti zateznih krakov (1) in samozatezne ploščine zaskocke (2). S takšno konstrukcijo samozateznih zaskock smo rešili problem zategovanja tako, da se dejansko z enim gibom roke natakne in fiksira zaskocka med cevi radiatorja in ob hkratnem potisku le-te proti za to namenjeni odprtini na polici radiatorja se ta bradavica (2.2) uleže v to kvadratasto luknjo in s tem fiksira zaskocko oziroma s tem zaklene radiatorsko polico na radiator. **Machine translation:** Predloženi invention relates to a new product, conceptualized as protective samozatezna zaskocka for the radiators shelf, which is manufactured as a single piece specially design and design an integral part of the hook and the design and appearance of the L model designed to have two zatezna the jib (1) and the body of zaskocke (1.5) as one side and samozatezno ploščino zaskocke (2) as the other side of that form an almost right angle 90 degrees that is reduced by the slope (beta). The product is made from special cast as a mixture of plasticnih, providing a very good torsional properties zateznih Krakow (1) and samozatezne ploščine zaskocke (2). With such a structure samozateznih zaskock we shall solve the problem in a way that is actually with one stroke of his hands and put it between the radiator hose zaskocka and fixes at the same time push you against this intended for the opening of the radiator on the shelf this wart (2.2) uleže in this square hole and thus fixes zaskocko or with this lock radiator shelf To the radiator.

Classifications:

International (IPC 8-9): F16L37/00 (Core/Invention)



Family:

Publication number	Publication date	Application number	Application date
SI24717 C	20151130	SI20150000195	20150825

Priority:

SI20150000195 20150825

Probable Assignee:

BIAL D O O

Assignee(s): (std):

BIAL D O O

Assignee(s):

BIAL DOO

Inventor(s): (std):

UROŠ KRIZNIK ; MATEJ KRIZNIK

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
SI24717 C	20151130	LSGT	+	granted / extensions (spc, cpc, pte)	
SI24717 C	20151231	LSGT	+0000	GRANT OF PATENT	EFFECTIVE DATE : 20151222
SI24717 C	20350825	PEXP		Calculated Patent Term Expiry	

Title: LINE TAPPING AND CLAMPING ASSEMBLY FOR REFRIGERATION SYSTEMS

Abstract: The disclosure is directed to a self-contained line tapping and clamping device for removing fluids from a refrigeration system. The apparatus includes a main inner shaft, and an outer tubular shaft slidably fitting over at least a portion of the inner shaft. A pair of opposing clamp arms are provided, one carried by the lower portion of the inner shaft and the other carried by the outer shaft. The clamp arms align by relative movement of the inner and outer shafts. One of the clamp arms carries a piercing device which includes a piercing point for piercing a line supported by the other clamping arm such that the piercing point is aimed directly at the line. A threaded actuating device including a mechanism for rotating the actuating device is provided for urging the two arms together as they move relative to each other to thereby cause the piercing point to pierce the line.

Classifications:

International (IPC 8-9): B25B5/06 B25B5/10 B25B5/16 B26F1/00

F16L41/06 (Advanced/Invention);

B25B5/00 B26F1/00 F16L41/00 (Core/Invention)

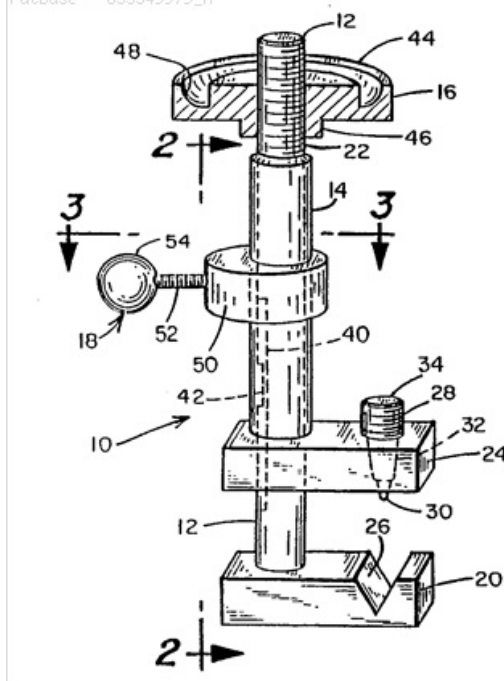
International (IPC 1-7): F16K43/00 F16L41/06 F25B45/00

CPC: Y10T408/56245 F16L41/065 B25B5/068 B25B5/102 B25B5/163 B26F1/0015 Y10T137/6123

European: B25B5/06D B25B5/10C B25B5/16B B26F1/00C F16L41/06B

US: 137/318 222/83 408/97

PatBase - US5349979_A

**Family:**

Publication number	Publication date	Application number	Application date
AU199349302 A1	19940412	AU19930049302	19930920
AU672819 B2	19961017	AU19930049302	19930920
CA2145079 AA	19950320	CA19932145079	19930920
US5349979 A	19940927	US19940189432	19940131
WO9407069 A1	19940331	WO1993US08879	19930920

Priority:

US19920948037 19920921 WO1993US08879 19930920 US19940189432 19940131

Probable Assignee: INSTANT PIERCE INC

Assignee(s): (std): INSTANT PIERCE INC

Assignee(s): RAHN RICHARD ; ZEIEN TERRY

Inventor(s): (std): RAHN RICHARD ; ZEIEN TERRI ; ZEIEN TERRY

Inventor(s): RICHARD RAHN ; TERRY ZEIEN

Agent(s): GRIFFITH HACK; SMART AND BIGGAR

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199349302 A1	19940412	LSPB	+	published / reissued	
AU672819 B2	19961017	LSGT	+	granted / extensions (spc, cpc, pte)	
AU672819 B2	20030501	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU672819 B2	20130920	PEXP		Calculated Patent Term Expiry	
CA2145079 AA	19950320	LSPB	+	published / reissued	

CA2145079 AA	20010920	LSLE	-FZDE	DEAD	
US5349979 A	19940927	LSGT	+	granted / extensions (spc, cpc, pte)	
US5349979 A	19940131	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INSTANT PIERCE, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEIEN, TERRY; RAHN, RICHARD; REEL/FRAME:006860/0835 EFFECTIVE DATE : 19940131
US5349979 A	19940914	LSGT	PAT1	Patented Case	
US5349979 A	19940914	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5349979 A	19970929	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5349979 A	20011018	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5349979 A	20051012	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5349979 A	20140131	PEXP		Calculated Patent Term Expiry	
WO9407069 A1	19940331	LSPB	+	published / reissued	
WO9407069 A1	19950320	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2145079 COUNTRY OF REF DOCUMENT : CA
WO9407069 A1	19960207	LSNE	-122	EP: PCT APPLICATION NON- ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO

Title: **Pipe** screwed connection

Abstract: The invention relates to a **pipe** screwed connection having a socket member attachable to one **pipe** end, a plug-in member at the opposite **pipe** end which can be partly inserted into the socket member, and a union **nut** for which the plug-in member has a bearing surface in the form of an annular shoulder and which engages over the plug-in member and is screwed on to the socket member. The characterizing feature of the invention is that the meshing screwthreaded surfaces of the union **nut** and the socket member are matchingly conical in construction.

Classifications:

International (IPC 8-9): F16L15/00 F16L19/00 F16L19/02

F16L19/03 (Advanced/Invention);

F16L15/00 (Advanced/Non-invention);

F16L15/00 F16L19/00 F16L19/02 (Core/Invention);

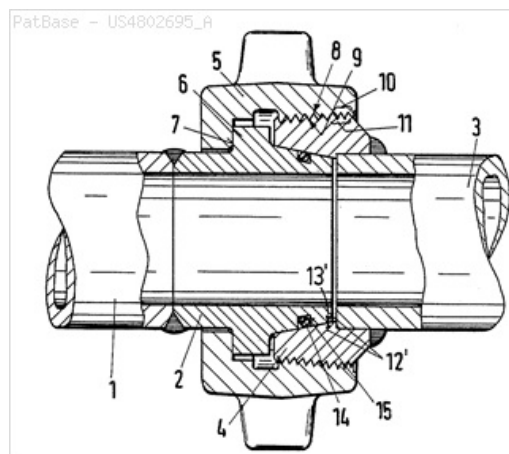
F16L (Subclass/Invention)

International (IPC 1-7): F16L15/00 F16L15/04 F16L19/00 F16L19/03 F16L37/08

CPC: F16L19/005 F16L19/0206

European: F16L19/00B F16L19/02C

US: 285/148.19 285/175 285/332.3 285/354 285/91



Family:

Publication number	Publication date	Application number	Application date
AU198773129 A1	19871126	AU19870073129	19870518
AU593650 B2	19900215	AU19870073129	19870518
CA1287079 A1	19910730	CA19870537420	19870519
DE3709819 A1	19871119	DE19873709819	19870325
DE3709819 C2	19880407	DE19873709819	19870325
PL152553 B1	19910131	PL19870265809	19870521
PL265809 A1	19880512	PL19870265809	19870521
RU1838706 C	19930830	SU19874202654	19870520
SU1838706 A3	19930830	SU19874202654	19870520
US4802695 A	19890207	US19870050327	19870518
ZA8703397 A	19871104	ZA19870003397	19870512

Priority:

DE19863617014 19860512 DE19863617014 19860521 DE19873709819 19870325
CA19870537420 19870519

Probable Assignee: WALUGA ARMATUREN

Assignee(s): (std): WALUGA ARMATUREN ; WEINHOLD K ; WEINHOLD KARL

Assignee(s): WALUGA ARMATUREN GMBH ; WALUGA ARMATUREN GMBH 4353 OER ERKENSCHWICK DE ; KARL VAJNKHOLD ; KARL WEINHOLD

Inventor(s): (std): WEINHOLD KARL ; KARL VAJNKHOLD

Inventor(s): VERZICHT DES ERFINDERS AUF NENNUNG ; KARL WEINHOLD

Agent(s): DAVIES COLLISON CAVE ; DAVIES COLLISON CAVE PTY LTD ; KIRBY EADES GALE BAKER

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU198773129 A1	19871126	LSPB	+	published / reissued	
AU593650 B2	19900215	LSGT	+	granted / extensions (spc, cpc, pte)	
AU593650 B2	20070518	PEXP		Calculated Patent Term Expiry	
CA1287079 A1	19910730	LSGT	+	granted / extensions (spc, cpc, pte)	
CA1287079 A1	20080730	LSLE	-MKEX	EXPIRY	
CA1287079 A1	20080730	PEXP		Calculated Patent Term Expiry	
DE3709819 A1	19871119	LSPB	+	published / reissued	
DE3709819 A1	19871119	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE3709819 C2	19880407	LSGT	+	granted / extensions (spc, cpc, pte)	
DE3709819 C2	19880407	LSGT	+D2	GRANT AFTER EXAMINATION	

DE3709819 C2	19880929	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3709819 C2	20070118	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
PL152553 B1	19910131	LSGT	+	granted / extensions (spc, cpc, pte)	
PL265809 A1	19880512	LSPB	+	published / reissued	
RU1838706 C	19930830	LSGT	+	granted / extensions (spc, cpc, pte)	
RU1838706 C	20070520	PEXP		Calculated Patent Term Expiry	
SU1838706 A3	19930830	LSGT	+	granted / extensions (spc, cpc, pte)	
US4802695 A	19890207	LSGT	+	granted / extensions (spc, cpc, pte)	
US4802695 A	19881207	LSGT	PAT1	Patented Case	
US4802695 A	19881207	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US4802695 A	19900306	LSRE	CC	CERTIFICATE OF CORRECTION	
US4802695 A	19920731	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4802695 A	19960807	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4802695 A	20000811	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
ZA8703397 A	19871104	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA8703397 A	20070511	PEXP		Calculated Patent Term Expiry	

Title: **PIPE** JOINT ASSEMBLY AND METHOD FOR USING SAME

Abstract: The present invention relates to a method for sealing an end of a **pipe**, to an external sealing surface. The method includes providing a **pipe** assembly which includes a **pipe** and a flange. The **pipe** includes a proximal **pipe** end and a flared end region. The flared end region is integral with the **pipe** and is proximate to and continuous with the proximal **pipe** end. The flange is non-integrally disposed around the **pipe** distal to the **pipe**'s flared end region. The method further includes securing, non-integrally and distally to the **pipe**'s flared end region, the flange to the **pipe** so that proximal movement of the flange relative to the **pipe** is restricted. The flange is drawn toward the external sealing surface, which causes the flange sealing surface to bias the **pipe**'s flared end region into sealing contact with the external sealing surface. **Pipe** assemblies which include a backup ring having a tapered inside surfaces and a flange having tapered outside surfaces are also discussed. The methods and assemblies disclosed herein are particularly useful for joining lengths of multi-laminate, especially dual-laminate, **pipe**.

Classifications:

International (IPC 8-9): C07C253/30 C07C255/56 C07D307/87 F16B9/00 F16B9/02 F16L23/00 F16L23/024 F16L23/026

F16L23/028 (Advanced/Invention);

F16L23/00 (Advanced/Non-invention);

C07C253/00 C07C255/00 C07D307/00 F16B9/00

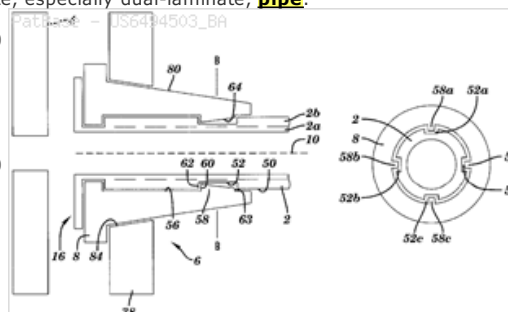
F16L23/00 (Core/Invention)

International (IPC 1-7): C07C253/30 C07C255/56 C07D307/87 F16B9/00 F16B9/02 F16L23/00 F16L23/024 F16L23/026 F16L23/028

CPC: F16L23/0283

European: F16L23/028B

US: 285/222.1 285/363 285/405 285/414 285/415



Family:

Publication number	Publication date	Application number	Application date
AU2001247681 AA	20011008	AU20010247681	20010322
AU200147681 A1	20011008	AU20010047681	20010322
AU200147681 A5	20011008	AU20010047681	20010322
CA2401770 AA	20020830	CA20012401770	20010322
CA2401770 C	20071127	CA20012401770	20010322
CN1324259 C	20070704	CN20018007169	20010322
CN1419639 A	20030521	CN20018007169	20010322
JP2003012663 A2	20030115	JP20020106016	19991025
JP2003012663 A2	20030115	JP20020106016	20020409
JP2004514842 T2	20040520	JP20010571018T	20010322
JP4315637 B2	20090819	JP20020106016	20020409
KR100735179 B1	20070703	KR20027012671	20010322
KR20030065307 A	20030806	KR20027012671	20020925
MXPA02009337 A1	20030212	MX2002PA09337	20010322
US6494503 BA	20021217	US20000536162	20000325
WO0173332 A2	20011004	WO2001US09186	20010322
WO0173332 A3	20020711	WO2001US09186	20010322

Priority:

JP20000571018 19991025 JP20000571018T 19991025 US20000536162 20000325
 WO2001US09186 20010322 WO2001US09186 20020925

Probable Assignee: NON METALLIC RESOURCES INC

Assignee(s): (std): LUNDBECK AND CO AS H ; LUNDBECK AND CO H AS ; NON METALLIC RESOURCES INC ; NON METALLIC RESOURCES INC

Assignee(s): ROYNAT CAPITAL INC ; RPS HOLDINGS INC ; TRIPP JAY D ; BANK OF NOVA SCOTIA ; H LUNDBECK AS ; HARPER LUNDBECK ACTIEZERUSKAVET ; HEUBACH GLENN C

Inventor(s): (std): HEUBACH G C ; TRIPP J D ; TRIPP JAY D ; TRIPP G C HEUBACH J D ; ROCK MICHAEL HAROLD ; PETERSEN HANS ; HEUBACH GLENN C ; ELLEGAARD PETER ; JD TRIPP ; GC HEUBACH

Inventor(s): GLENN C HEUBACH ; G C HEUBACH ; GC HEUBACH JD TRIPP ; G C HEUBACH J D TRIPP ; JAY D TRIPP ; J D TRIPP

Agent(s): GOWLING LAFLEUR HENDERSON LLP

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AU2001247681 AA	20011008	LSPB	+	published / reissued	
AU200147681 A1	20011008	LSPB	+	published / reissued	
CA2401770 AA	20020830	LSPB	+	published / reissued	
CA2401770 AA	20020830	LSSES	+EEER	EXAMINATION	

CA2401770 C	20071127	LSGT	+	REQUEST granted / extensions (spc, cpc, pte)	
CA2401770 C	20110322	LSLE	-MKLA	LAPSED	
CA2401770 C	20210322	PEXP		Calculated Patent Term Expiry	
CN1324259 C	20070704	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1324259 C	20070704	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1324259 C	20090520	LSLE	-C19	LAPSE OF PATENT RIGHT DUE TO NON- PAYMENT OF THE ANNUAL FEE	
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CN1324259 C	20210322	PEXP		Calculated Patent Term Expiry	
CN1419639 A	20030521	LSPB	+	published / reissued	
CN1419639 A	20030521	LSPB	+C06	PUBLICATION	
JP2003012663 A2	20030115	LSPB	+	published / reissued	
JP2003012663 A2	20030115	LSPB	+	published / reissued	
JP2003012663 A2	20060704	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20060704
JP2003012663 A2	20060704	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20060704
JP2003012663 A2	20061227	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20061226
JP2003012663 A2	20061227	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20061226
JP2003012663 A2	20080610	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20080610
JP2003012663 A2	20080610	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20080610
JP2003012663 A2	20081008	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20081007
JP2003012663 A2	20081008	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20081007
JP2003012663 A2	20081016	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20081015
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JP2003012663 A2	20090310	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20090310
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JP2003012663 A2	20090324	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20090323

JP2003012663 A2	20090324	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20090323
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JP2003012663 A2	20090410	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2003012663 A2	20090512	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20090512
JP2003012663 A2	20090512	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20090512
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JP2003012663 A2	20090528	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20090519
JP2003012663 A2	20090528	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20090519
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JP2003012663 A2	20090529	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
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JP2004514842 T2	20070301	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20070228
JP4315637 B2	20090819	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4315637 B2	20120515	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP4315637 B2	20130502	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP4315637 B2	20130514	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4315637 B2	20140529	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4315637 B2	20220409	PEXP		Calculated Patent Term Expiry	
KR100735179 B1	20070703	LSGT	+	granted / extensions (spc, cpc, pte)	

KR100735179 B1	20100628	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR100735179 B1	20210322	PEXP		Calculated Patent Term Expiry	
KR20030065307 A	20030806	LSPB	+	published / reissued	
KR20030065307 A	20060320	LSSES	A201	REQUEST FOR EXAMINATION	
KR20030065307 A	20070329	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20030065307 A	20070627	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
MXPA02009337 A1	20030212	LSPB	+	published / reissued	
MXPA02009337 A1	20060316	LSGT	+FG	GRANT OR REGISTRATION	
US6494503 BA	20021217	LSGT	+	granted / extensions (spc, cpc, pte)	
US6494503 BA	20000720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NON-METALLIC RESOURCES, INC., ALABAMA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HEUBACH, GLENN C.; TRIPP, JAY D.; REEL/FRAME:010992/0072 EFFECTIVE DATE : 20000510
US6494503 BA	20061218	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6494503 BA	20080725	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE BANK OF NOVA SCOTIA, CANADA OLDPARTY : NOTICE OF INTELLECTUAL PROPERTY SECURITY AGREEMENT; ASSIGNOR:NON METALLIC RESOURCES, INC.; REEL/FRAME:021291/0404 EFFECTIVE DATE : 20080724
US6494503 BA	20080725	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROYNAT CAPITAL INC., CANADA OLDPARTY : NOTICE OF INTELLECTUAL PROPERTY SECURITY AGREEMENT; ASSIGNOR:NON METALLIC RESOURCES, INC.; REEL/FRAME:021291/0421 EFFECTIVE DATE : 20080724
US6494503 BA	20080729	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NON METALLIC RESOURCES, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:RPS HOLDINGS, INC.; REEL/FRAME:021301/0569 EFFECTIVE DATE : 20080724
US6494503 BA	20080729	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : RPS HOLDINGS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:NON METALLIC RESOURCES, INC.; REEL/FRAME:021301/0566 EFFECTIVE DATE : 20080724
US6494503 BA	20101217	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6494503 BA	20110117	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6494503 BA	20110117	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6494503 BA	20110208	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY	EFFECTIVE DATE : 20101217

MAINTENANCE FEE					
US6494503 BA	20200325	PEXP		Calculated Patent Term Expiry	
WO0173332 A2	20011004	LSPB	+	published / reissued	
WO0173332 A3	20020830	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2401770 COUNTRY OF REF DOCUMENT : CA
WO0173332 A3	20020905	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0173332 A3	20020920	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2001571018 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0173332 A3	20020924	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 018071694 COUNTRY OF REF DOCUMENT : CN
WO0173332 A3	20020924	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2002/009337 COUNTRY OF REF DOCUMENT : MX
WO0173332 A3	20020925	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020027012671 COUNTRY OF REF DOCUMENT : KR
WO0173332 A3	20030709	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO0173332 A3	20030806	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020027012671 COUNTRY OF REF DOCUMENT : KR

Title: FATIGUE-RESISTANT THREADED BEVELLED TUBULAR ELEMENT

Abstract: A fatigue resistant waisted threaded tubular element for threaded tubular connection, and resulting threaded tubular connection. The threaded tubular element is waisted by a groove formed in the material beneath the threading to reduce the stiffness of the wall at the level of the first engaging threads. The groove can prevent an increase in the transfer of tensile loads at the level of the first engaging threads of the threaded element on which it is formed and on the corresponding last engaging threads of the mating threaded element intended to be connected thereto to form a threaded tubular connection. This improvement in load transfer limits the risk of initiating a fatigue crack in threaded tubular connections subjected to a cyclic load without reducing their static performances.

Classifications:

International (IPC 8-9): E21B17/042 F16L15/00 (Advanced/Invention);

E21B17/042 (Advanced/Non-invention);

E21B17/02 F16L15/00 (Core/Invention);

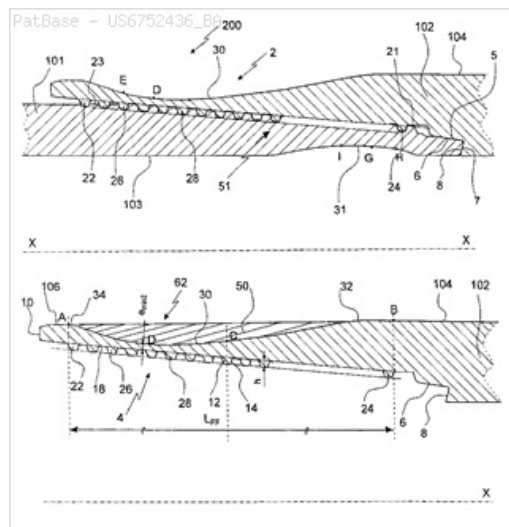
E21B17/02 (Core/Non-invention)

International (IPC 1-7): E21B17/042 F16L15/00 F16L15/06 F16L25/00

CPC: E21B17/042 F16L15/00

European: F16L15/00 P21B17/042

US: 285/333 285/390



Family:

Publication number	Publication date	Application number	Application date
AR027665 AA	20030409	AR2001P101207	20010315
AT289397 E	20050315	AT20010919568T	20010326
AU200146643 A1	20011015	AU20010046643	20010326
AU200146643 A5	20011015	AU20010046643D	20010326
BRPI0109604 A	20030204	BR2001PI09604	20010326
BRPI0109604 B1	20101228	BR2001PI09604	20010326
CA2400820 AA	20020821	CA20012400820	20010326
CA2400820 C	20080108	CA20012400820	20010326
CN1215277 C	20050817	CN20018007420	20010326
CN1420974 A	20030528	CN20018007420	20010326
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DE60108949 D1	20050324	DE20016008949T	20010326
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DE60108949 T2	20051229	DE20016008949T	20010326
DZ3270 A1	20011011	DZ20010003270	20010326
EA004342 B1	20040429	EA20020001043	20010326
EA200201043 A1	20030227	EA20020001043	20010326
EP1269059 A1	20030102	EP20010919568	20010326
EP1269059 B1	20050216	EP20010919568	20010326
ES2236207 T3	20050716	ES20010919568T	20010326
FR2807095 A1	20011005	FR20000004137	20000331
FR2807095 B1	20020830	FR20000004137	20000331
JP2003529733 T2	20031007	JP20010572788T	20010326
JP4746246 B2	20110810	JP20010572788T	20010326
MXPA02009388 A1	20031006	MX2002PA09388	20010326
PL197968 B1	20080530	PL20010357948	20010326
PL357948 A1	20040809	PL20010357948	20010326
UA73983 C2	20030217	UA20021008637	20010326
US6752436 BA	20040622	US20020926675	20020315
VN5163 A1	20051025	VN20020000988	20010326
WO0175345 A1	20011011	WO2001FR00913	20010326

Priority:

FR20000004137 20000331 WO2001FR00913 20010326

Probable Assignee: VALLOUREC OIL AND GAS FRANCE

Assignee(s): (std): SUMITOMO METAL IND ; SUMITOMO METAL IND LTD ; VALLOUREC MANNESMANN OIL AND GAS ; VALLOUREC MANNESMANN OIL AND G ; VALLOUREC MANNESMANN OIL AND GAS FRANCE ; GAS FRANCE ; VALLOUREC MANNESMANN OIL AND AMP ; VERDILLON LIONEL

Assignee(s): VALLOUREC MANNESMANN OIL AND GAS FRANCE AULNOYE AYMERIES ; VALLOUREC OIL AND GAS FRANCE ; SUMITOMO METAL IND LTD 50 PERCENT ; NIPPON STEEL AND SUMITOMO METAL CORP ; VALLOUREC

MANNESMANN OIL AND GAS FRANCE AULNOYE AY ; VALLOUREC MANNESMANN OIL AND ; SUMITOMO METAL IND LTD (50 PERCENT) ; NIPPON STEEL CORP

Inventor(s): (std): LIONEL VERDILLON ; VERDILLON LIONEL ; VERDILLON LIONEL MME CHATAIN

Agent(s): ROBIC; YAMASAKI YUKUZO; KANAYAMA MASATAKA; SUGIYAMA NAOTO

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 GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AR027665 AA	20030409	LSPB	+	published / reissued	
AR027665 AA	20040722	LSGT	+FG	GRANT, REGISTRATION	
AT289397 E	20050315	LSGT	+	granted / extensions (spc, cpc, pte)	
AT289397 E	20051115	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	REF DOCUMENT NUMBER : 1269059 COUNTRY OF REF DOCUMENT : EP
AT289397 E	20210326	PEXP		Calculated Patent Term Expiry	
AU200146643 A1	20011015	LSPB	+	published / reissued	
AU200146643 A5	20020411	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
BRPI0109604 A	20030204	LSPB	+	published / reissued	
BRPI0109604 A	20100427	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0109604 B1	20101228	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	TEXT : PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 26/03/2001, OBSERVADAS AS CONDICOES LEGAIS.
BRPI0109604 B1	20140225	LSAS	B25A	REQUESTED TRANSFER OF RIGHTS APPROVED	PARTYTYPE : OWNER OWNER : VALLOUREC MANNESMANN OIL AND GAS FRANCE (FR) , NIP
BRPI0109604 B1	20140318	LSAS	B25D	REQUESTED CHANGE OF NAME OF APPLICANT APPROVED	PARTYTYPE : OWNER OWNER : VALLOUREC MANNESMANN OIL AND GAS FRANCE (FR) , NIP
BRPI0109604 B1	20151229	LSAS	B25D	REQUESTED CHANGE OF NAME OF APPLICANT APPROVED	PARTYTYPE : OWNER OWNER : NIPPON STEEL AND SUMITOMO METAL CORPORATION (JP) ,
BRPI0109604 B1	20210326	PEXP		Calculated Patent Term Expiry	
CA2400820 AA	20020821	LSPB	+	published / reissued	
CA2400820 AA	20040224	LSSES	+EEER	EXAMINATION REQUEST	
CA2400820 C	20080108	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2400820 C	20210326	PEXP		Calculated Patent Term Expiry	
CN1215277 C	20050817	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1215277 C	20050817	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1215277 C	20090520	LSLI	LIC	PATENT LICENCE CONTRACT FOR EXPLOITATION SUBMITTED FOR RECORD	PARTYTYPE : LICENSEE LICENSEE : VAM (CHANGZHOU) OIL AND GAS PREMIUM EQUIPMENTS CO. OLDPARTY : COMMON LICENSE; TIME LIMIT OF IMPLEMENTING CONTACT: 2008.5.26 TO 2018.5.26; CHANGE OF CONTRACT

					EFFECTIVE DATE : 20090223
CN1215277 C	20140430	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	PARTYTYPE : OWNER OWNER : NIPPON STEEL + SUMITOMO METAL CORPORATION OLDPARTY : FORMER OWNER: CHUGAI SEIYAKU KABUSHIKI KAISHA EFFECTIVE DATE : 20140408
CN1215277 C	20140430	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN1215277 C	20150506	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN1215277 C	20150506	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	PARTYTYPE : OWNER OWNER : VALLOUREC OIL AND GAS FRANCE S. A. S. OLDPARTY : FORMER NAME: VALLOUREC MANNESMANN OIL + GAS FRANCE S. A. S.
CN1215277 C	20210326	PEXP		Calculated Patent Term Expiry	
CN1420974 A	20030528	LSPB	+	published / reissued	
CN1420974 A	20030528	LSPB	+C06	PUBLICATION	
CZ20023598 A3	20030212	LSPB	+	published / reissued	
CZ301599 B6	20100428	LSGT	+	granted / extensions (spc, cpc, pte)	
CZ301599 B6	20210326	PEXP		Calculated Patent Term Expiry	
DE60108949 D1	20060420	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60108949 D1	20060420	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60108949 D1	20140403	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PARTYTYPE : OWNER OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION, TOKYO, JP OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR OLDPARTY : SUMITOMO METAL INDUSTRIES, LTD., OSAKA, JP OLDPARTY : VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR
DE60108949 D1	20140403	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PARTYTYPE : OWNER OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION, TOKYO, JP OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR OLDPARTY : SUMITOMO METAL INDUSTRIES, LTD., OSAKA, JP OLDPARTY : VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR
DE60108949 D1	20190618	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PARTYTYPE : OWNER OWNER : NIPPON STEEL CORPORATION, TOKYO, JP OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR OLDPARTY : NIPPON STEEL & SUMITOMO METAL CORPORATION, TOKYO, JP OLDPARTY : VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR
DE60108949 D1	20190618	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PARTYTYPE : OWNER OWNER : NIPPON STEEL CORPORATION, TOKYO, JP

					OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR OLDPARTY : NIPPON STEEL & SUMITOMO METAL CORPORATION, TOKYO, JP OLDPARTY : VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR
DE60108949 T2	20051229	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60108949 T2	20060420	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60108949 T2	20190618	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PARTYTYPE : OWNER OWNER : NIPPON STEEL CORPORATION, TOKYO, JP OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR OLDPARTY : NIPPON STEEL & SUMITOMO METAL CORPORATION, TOKYO, JP OLDPARTY : VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR
DE60108949 T2	20210326	PEXP		Calculated Patent Term Expiry	
DZ3270 A1	20011011	LSGT	+	granted / extensions (spc, cpc, pte)	
DZ3270 A1	20210326	PEXP		Calculated Patent Term Expiry	
EA004342 B1	20040429	LSGT	+	granted / extensions (spc, cpc, pte)	
EA004342 B1	20051229	LSLE	-MM4A	LAPSE OF A EURASIAN PATENT DUE TO NON- PAYMENT OF RENEWAL FEES WITHIN THE TIME LIMIT IN THE FOLLOWING DESIGNATED STATE(S)	COUNTRY OF REF DOCUMENT : AM COUNTRY OF REF DOCUMENT : AZ COUNTRY OF REF DOCUMENT : BY COUNTRY OF REF DOCUMENT : KG COUNTRY OF REF DOCUMENT : KZ COUNTRY OF REF DOCUMENT : MD COUNTRY OF REF DOCUMENT : TJ COUNTRY OF REF DOCUMENT : TM
EA004342 B1	20141128	LSRE	PD4A	REGISTRATION OF TRANSFER OF A EURASIAN PATENT IN ACCORDANCE WITH THE SUCCESSION IN TITLE	
EA004342 B1	20210326	PEXP		Calculated Patent Term Expiry	
EA200201043 A1	20030227	LSPB	+	published / reissued	
EP1269059 A1	20030102	LSPB	+	published / reissued	
EP1269059 A1	20030102	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20021008
EP1269059 A1	20030910	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20030724
EP1269059 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160321 YEAR OF FEE PAYMENT : 16
EP1269059 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160321 YEAR OF FEE PAYMENT : 16
EP1269059 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20160322 YEAR OF FEE PAYMENT : 16

EP1269059 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160330 YEAR OF FEE PAYMENT : 16
EP1269059 A1	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 : 16
EP1269059 B1	20050216	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1269059 B1	20050216	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 : 20050216
EP1269059 B1	20050216	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 : 20050216
EP1269059 B1	20050216	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 : 20050216
EP1269059 B1	20050216	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 : 20050216
EP1269059 B1	20050216	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP1269059 B1	20050228	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1269059 B1	20050323	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : FRENCH
EP1269059 B1	20050326	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 : 20050326
EP1269059 B1	20050326	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 : 20050326
EP1269059 B1	20050331	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 : 20050331
EP1269059 B1	20050331	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050331
EP1269059 B1	20050331	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 : 20050331
EP1269059 B1	20050331	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 : 20050331
EP1269059 B1	20050516	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 : 20050516
EP1269059 B1	20050516	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 : 20050516
EP1269059 B1	20050516	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 : 20050516
EP1269059 B1	20050716	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2236207 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP1269059 B1	20050801	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
EP1269059 B1	20050804	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 : 20050804
EP1269059 B1	20050921	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FD4D
EP1269059 B1	20050930	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : SUMITOMO METAL INDUSTRIES, LTD. EFFECTIVE DATE : 20050331
EP1269059 B1	20050930	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE EFFECTIVE DATE : 20050331

EP1269059 B1	20051115	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1269059 B1	20060208	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20051117
EP1269059 B1	20070329	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20070329 YEAR OF FEE PAYMENT : 7
EP1269059 B1	20071231	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE EFFECTIVE DATE : 20050331
EP1269059 B1	20071231	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : SUMITOMO METAL INDUSTRIES, LTD. EFFECTIVE DATE : 20050331
EP1269059 B1	20090528	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20080327
EP1269059 B1	20090731	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 : 20080327
EP1269059 B1	20140515	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE, FR REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 60108949 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNER: VALLOUREC MANNESMANN OIL & GAS , SUMITOMO METAL INDUSTRIES, LTD., , JP EFFECTIVE DATE : 20140403
EP1269059 B1	20140515	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE, FR REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 60108949 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNERS: VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR; SUMITOMO METAL INDUSTRIES, LTD., OSAKA, JP EFFECTIVE DATE : 20140403
EP1269059 B1	20140515	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION, JP REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 60108949 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNERS: VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR; SUMITOMO METAL INDUSTRIES, LTD., OSAKA, JP EFFECTIVE DATE : 20140403
EP1269059 B1	20140515	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : NIPPON STEEL & SUMITOMO METAL

					CORPORATION, JP REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 60108949 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNER: VALLOUREC MANNESMANN OIL & GAS , SUMITOMO METAL INDUSTRIES, LTD., , JP EFFECTIVE DATE : 20140403
EP1269059 B1	20150313	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : FR OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION, JP REF LEGAL EVENT CODE : CD EFFECTIVE DATE : 20150206
EP1269059 B1	20150313	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : FR OWNER : VALLOUREC OIL AND GAS FRANCE, FR REF LEGAL EVENT CODE : CD EFFECTIVE DATE : 20150206
EP1269059 B1	20160321	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 : 16
EP1269059 B1	20170221	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
EP1269059 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170222 YEAR OF FEE PAYMENT : 17
EP1269059 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170221 YEAR OF FEE PAYMENT : 17
EP1269059 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170224 YEAR OF FEE PAYMENT : 17
EP1269059 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20170222 YEAR OF FEE PAYMENT : 17
EP1269059 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170221 YEAR OF FEE PAYMENT : 17
EP1269059 B1	20180220	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 18
EP1269059 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180226 YEAR OF FEE PAYMENT : 18
EP1269059 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180219 YEAR OF FEE PAYMENT : 18
EP1269059 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20180221 YEAR OF FEE PAYMENT : 18
EP1269059 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20180219 YEAR OF FEE PAYMENT : 18

EP1269059 B1	20180531	LSFE	+PGFP	EPO] ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180220 YEAR OF FEE PAYMENT : 18
EP1269059 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20190219 YEAR OF FEE PAYMENT : 19
EP1269059 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190222 YEAR OF FEE PAYMENT : 19
EP1269059 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190219 YEAR OF FEE PAYMENT : 19
EP1269059 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20190221 YEAR OF FEE PAYMENT : 19
EP1269059 B1	20190618	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : NIPPON STEEL CORPORATION, JP REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 60108949 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNERS: NIPPON STEEL & SUMITOMO METAL CORPORATION, TOKYO, JP; VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE- AYMERIES, FR
EP1269059 B1	20190618	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE, FR REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 60108949 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNERS: NIPPON STEEL & SUMITOMO METAL CORPORATION, TOKYO, JP; VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE- AYMERIES, FR
EP1269059 B1	20210326	PEXP		Calculated Patent Term Expiry	
ES2236207 T3	20050716	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2236207 T3	20210326	PEXP		Calculated Patent Term Expiry	
FR2807095 A1	20011005	LSPB	+	published / reissued	
FR2807095 B1	20020830	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2807095 B1	20150313	LSAS	CD	CHANGE OF NAME OR COMPANY NAME	PARTYTYPE : OWNER OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION, JP EFFECTIVE DATE : 20150206
FR2807095 B1	20150313	LSAS	CD	CHANGE OF NAME OR COMPANY NAME	PARTYTYPE : OWNER OWNER : VALLOUREC OIL AND GAS FRANCE, FR EFFECTIVE DATE : 20150206
FR2807095 B1	20160321	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 17
FR2807095 B1	20170221	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 18
FR2807095 B1	20180220	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 19

FR2807095 B1	20200331	PEXP		Calculated Patent Term Expiry	
JP2003529733 T2	20031007	LSPB	+	published / reissued	
JP2003529733 T2	20080216	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080215
JP2003529733 T2	20080216	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080215
JP2003529733 T2	20101027	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20101026
JP2003529733 T2	20110106	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110105
JP2003529733 T2	20110426	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2003529733 T2	20110509	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20110506
JP2003529733 T2	20110512	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2003529733 T2	20110519	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20110513
JP2003529733 T2	20110520	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2003529733 T2	20110520	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP4746246 B2	20110810	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4746246 B2	20110517	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4746246 B2	20121102	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4746246 B2	20121105	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	TEXT : JAPANESE INTERMEDIATE CODE: R313115
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JP4746246 B2	20140515	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4746246 B2	20140520	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
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JP4746246 B2	20150601	LSLE	R280	納付書補充指令書 (Payment refilling order form)	
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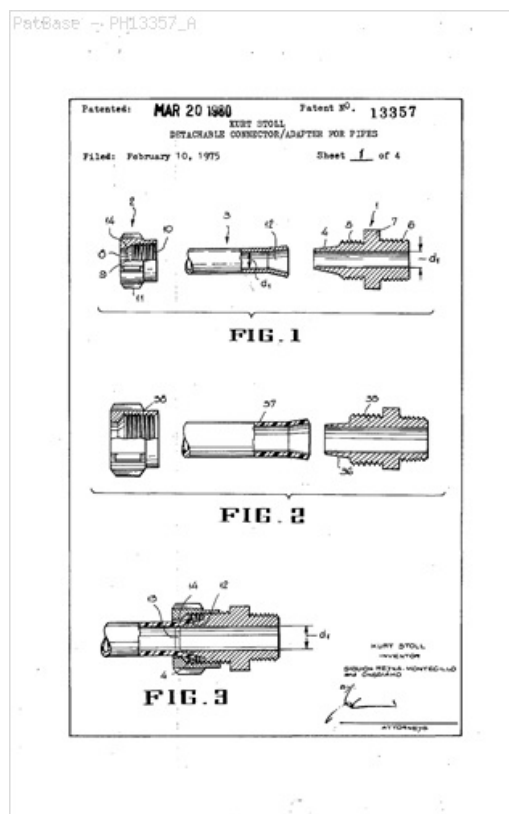
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JP4746246 B2	20210326	PEXP		Calculated Patent Term Expiry	
MXPA02009388 A1	20031006	LSPB	+	published / reissued	
MXPA02009388 A1	20060130	LSGT	+FG	GRANT OR REGISTRATION	
PL197968 B1	20080530	LSGT	+	granted / extensions (spc, cpc, pte)	
PL357948 A1	20040809	LSPB	+	published / reissued	
UA73983 C2	20030217	LSGT	+	granted / extensions (spc, cpc, pte)	
UA73983 C2	20210326	PEXP		Calculated Patent Term Expiry	
US6752436 BA	20040622	LSGT	+	granted / extensions (spc, cpc, pte)	
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US6752436 BA	20030619	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SUMITOMO METAL INDUSTRIES, LTD. (50%), JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VALLOUREC MANNESMANN OIL & GAS FRANCE; REEL/FRAME:014186/0411 EFFECTIVE DATE : 20030610
US6752436 BA	20040603	LSGT	PAT1	Patented Case	
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US6752436 BA	20071213	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6752436 BA	20111215	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6752436 BA	20140416	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VALLOUREC OIL AND GAS FRANCE, FRANCE OLDPARTY : CHANGE OF NAME; ASSIGNOR:VALLOUREC

					MANNESMANN OIL & GAS FRANCE; REEL/FRAME:032696/0146 EFFECTIVE DATE : 20131001
US6752436 BA	20151214	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
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US6752436 BA	20190514	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NIPPON STEEL CORPORATION, JAPAN OLDPARTY : CHANGE OF NAME; ASSIGNOR:NIPPON STEEL & SUMITOMO METAL CORPORATION; REEL/FRAME:049257/0828 EFFECTIVE DATE : 20190401
US6752436 BA	20220315	PEXP		Calculated Patent Term Expiry	
VN5163 A1	20051025	LSPB	+	published / reissued	
WO0175345 A1	20011011	LSPB	+	published / reissued	
WO0175345 A1	20010326	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1200200988 COUNTRY OF REF DOCUMENT : VN
WO0175345 A1	20020315	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 09926675 COUNTRY OF REF DOCUMENT : US
WO0175345 A1	20020821	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2400820 COUNTRY OF REF DOCUMENT : CA
WO0175345 A1	20020925	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2002/009388 COUNTRY OF REF DOCUMENT : MX
WO0175345 A1	20020928	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 018074200 COUNTRY OF REF DOCUMENT : CN
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WO0175345 A1	20021008	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2001919568 COUNTRY OF REF DOCUMENT : EP
WO0175345 A1	20021030	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200201043 COUNTRY OF REF DOCUMENT : EA
WO0175345 A1	20021030	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PV2002-3598 COUNTRY OF REF DOCUMENT : CZ
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WO0175345 A1	20030212	LSPB	+WWP	WIPO INFORMATION:	REF DOCUMENT NUMBER :

WO0175345 A1	20050216	LSGT	+WWG	PUBLISHED IN NATIONAL OFFICE	PV2002-3598 COUNTRY OF REF DOCUMENT : CZ
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[illegible]

International (IPC 8-9): F16L19/00 (Advanced/Invention);
F16L19/00 (Core/Invention)
International (IPC 1-7): F16L19/00



Publication number	Publication date	Application number	Application date
PH13357 A	19800320	PH19750016787	19750210

Probable Assignee:	PESTO MASHINFAB STOLL G
Assignee(s): (std):	PESTO MASHINFAB STOLL G
Inventor(s): (std):	STOLL K

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Patent	Date recorded	Event group	Code	Event	Details
PH13357 A	19800320	LSGT	+	granted / extensions (spc, cpc, pte)	
PH13357 A	19970320	PEXP		Calculated Patent Term Expiry	

Title: COUPLING FOR THE TRANSFER OF FLUIDS UNDER PRESSURE

Abstract: A separable coupling may be formed by a connecting stub (2) and a locking jacket (5) which, when the locking jacket is moved relative to the connecting stub, can lock a nipple (16) in the coupling if fluids under pressure are fed through the coupling, as the connecting stub is provided with a part (21, 29) therein which is movable transversely to the connecting stub, and which, when pressure is applied through the coupling, is pressed partly out of the locking jacket (5) so that movement of the locking jacket is prevented. The movable part may be formed by an O-ring (21), a four-edged ring or the like which can press a split locking ring, concentric with the O-ring, partly out of the connecting stub (2). In an embodiment, the movable part is formed by a bushing (28) with a spring-biased, movable piston (29) which presses the piston (29) out of the bushing (28) and blocks movement of the locking jacket by the action of the fluid which is fed. The bushing (28) has a central through hole in which a spring-biased piston (29) may be moved, such that when pressure is applied through the coupling, the piston protrudes through the hole of the bushing. The invention provides a coupling which ensures that the coupling parts cannot be separated unintentionally from each other, when fluids are fed through the coupling at high pressures and temperatures, which may moreover be chemically aggressive.

Classifications:

International (IPC 8-9): F16L37/088 F16L37/23

F16L37/62 (Advanced/Invention);

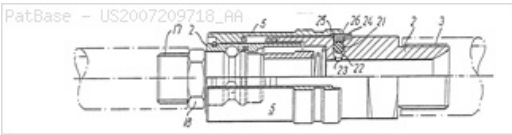
F16L37/00 (Core/Invention)

International (IPC 1-7): F16L37/00 F16L37/23

CPC: Y10T137/87925 F16L37/23

European: F16L37/23

US: 137/614



Family:

Publication number	Publication date	Application number	Application date
AT372481 E	20070915	AT20050700579T	20050119
CN100587308 C	20100203	CN200580015510	20050119
CN101027516 A	20070829	CN200580015510	20050119
DE602005002366 D1	20071018	DE200560002366T	20050119
DE602005002366 T2	20080103	DE200560002366T	20050119
DK1745237 T3	20080325	DK20050700579T	20050119
DK200400771 A5	20040514	DK20040000771	20040514
EP1745237 A1	20070124	EP20050700579	20050119
EP1745237 B1	20070905	EP20050700579	20050119
US2007209718 AA	20070913	US20050596046	20050119
WO05111491 A1	20051124	WO2005DK00029	20050119

Priority:

DK20040000771 20040514 WO2005DK00029 20050119

Probable Assignee: TALKOB APS

Assignee(s): (std): HANSEN STEFAN ; HCT TOOL AS ; TALKOB A P S ; TALKOB APS

Assignee(s): HCT TOOL A S

Inventor(s): (std): HANSEN STEFAN ; STEFAN HANSEN

Agent(s): DYKEMA GOSSETT PLLC

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT372481 E	20070915	LSGT	+	granted / extensions (spc, cpc, pte)	
AT372481 E	20080315	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	REF DOCUMENT NUMBER : 1745237 COUNTRY OF REF DOCUMENT : EP
AT372481 E	20250119	PEXP		Calculated Patent Term Expiry	
CN100587308 C	20100203	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100587308 C	20100203	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN100587308 C	20110202	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	PARTYTYPE : OWNER OWNER : LIDASHI CO., LTD. OLDPARTY : FORMER OWNER: TALKOB APS EFFECTIVE DATE : 20101224
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CN100587308 C	20110202	LSRE	COR	APPLICATION OR PATENT RIGHT OR UTILITY MODEL CHANGE OF BIBLIOGRAPHIC DATA	TEXT : CORRECT: ADDRESS; FROM: FARUM, DENMARK TO: NUSSDORF, EBERDINGEN, GERMANY
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CN101027516 A	20070829	LSPB	+	published / reissued	
CN101027516 A	20070829	LSPB	+C06	PUBLICATION	
DE602005002366 D1	20130207	LSRV	-R064	EPO'S REVOCATION DECISION NOW FINAL	
DE602005002366 D1	20130207	LSRV	-R103	PATENT REVOKED BY EPO	
DE602005002366 T2	20080103	LSGT	+	granted / extensions (spc, cpc, pte)	
DE602005002366 T2	20080821	LSOP	-8363	OPPOSITION AGAINST THE PATENT	
DE602005002366 T2	20100520	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : RECTUS GMBH, 71735 EBERDINGEN, DE
DE602005002366 T2	20250119	PEXP		Calculated Patent Term Expiry	
DK1745237 T3	20080325	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1745237 T3	20250119	PEXP		Calculated Patent Term Expiry	
DK200400771 A5	20040514	LSPB	+	published / reissued	
DK200400771 A5	20051114	LSWD	-AHS	APPLICATION SHELVED FOR OTHER REASONS THAN NON-PAYMENT	
EP1745237 A1	20070124	LSPB	+	published / reissued	
EP1745237 A1	20070124	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20061128
EP1745237 B1	20070905	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP1745237 B1	20070928	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
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EP1745237 B1	20121231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20120718 YEAR OF FEE PAYMENT : 8
EP1745237 B1	20130207	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R064 REF DOCUMENT NUMBER : 602005002366 COUNTRY OF REF DOCUMENT : DE
EP1745237 B1	20130207	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R103 REF DOCUMENT NUMBER : 602005002366 COUNTRY OF REF DOCUMENT : DE
EP1745237 B1	20130329	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20120628 YEAR OF FEE PAYMENT : 8
EP1745237 B1	20130715	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1745237 B1	20130807	LSRV	-27W	PATENT REVOKED	EFFECTIVE DATE : 20130207

EP1745237 B1	20130807	LSRV	-GBPR	GB: PATENT REVOKED UNDER ART. 102 OF THE EP CONVENTION DESIGNATING THE UK AS CONTRACTING STATE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20130207
EP1745237 B1	20130926	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R107 REF DOCUMENT NUMBER : 602005002366 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20130926
EP1745237 B1	20131015	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MA03 REF DOCUMENT NUMBER : 372481 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20130207
EP1745237 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF THE APPLICANT RENOUNCES LAPSED DATE : 20070905
EP1745237 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATION OF LAPSE : LAPSE BECAUSE OF THE APPLICANT RENOUNCES LAPSED DATE : 20070905
EP1745237 B1	20140204	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SE REF LEGAL EVENT CODE : ECNC
EP1745237 B1	20140401	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SE REF LEGAL EVENT CODE : ECNC
EP1745237 B1	20250119	PEXP		Calculated Patent Term Expiry	
US2007209718 AA	20070913	LSPB	+	published / reissued	
US2007209718 AA	20061121	LSAS	AS	ASSIGNMENT	PARTY TYPE : OWNER OWNER : TALKOB APS, DENMARK OLD PARTY : ASSIGNMENT OF ASSIGNOR'S INTEREST; ASSIGNOR : HANSEN, STEFAN; REEL/FRAME : 018599/0197 EFFECTIVE DATE : 20061114
US2007209718 AA	20111128	LSWD	-EAB1	Expressly Abandoned -- During Examination	
WO05111491 A1	20051124	LSPB	+	published / reissued	
WO05111491 A1	20061114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200580015510.5 COUNTRY OF REF DOCUMENT : CN
WO05111491 A1	20061115	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO05111491 A1	20061115	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	TEXT : DE
WO05111491 A1	20061121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 11596046 COUNTRY OF REF DOCUMENT : US
WO05111491 A1	20061121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007209718 COUNTRY OF REF DOCUMENT : US
WO05111491 A1	20061128	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005700579 COUNTRY OF REF DOCUMENT :

					EP
WO05111491 A1	20070124	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005700579 COUNTRY OF REF DOCUMENT : EP
WO05111491 A1	20070905	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005700579 COUNTRY OF REF DOCUMENT : EP
WO05111491 A1	20070913	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 11596046 COUNTRY OF REF DOCUMENT : US

Title: PIPE-COUPLING DEVICE

Abstract: A pipe-coupling device comprises a joint body 2 having an opening 2h with external threads 2d to receive a pipe P, a locknut 5 having internal threads 5a engaged with the external threads 2d of the joint body 2, an annular core member 6 disposed within the locknut 6, and a plurality of locking members 7 retained in apertures 6d of the core member 6 to be spaced circumferentially apart from each other. Upon tightening rotation of the locknut 5 around the joint body 2, the internal conical surface 5c of the locknut 5 slidably contacts with the conical surfaces 7a of the locking members 7 so as to press the locking members 7 radially inwardly, to cause the gripping portions 7b of the locking members 7 come into gripping engagement with the outer periphery of the inserted pipe P, thereby strongly preventing withdrawal of the pipe P from the joint body 2 even when the pipe is made of hard material.

Classifications:

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

F16L21/08 (Advanced/Invention);

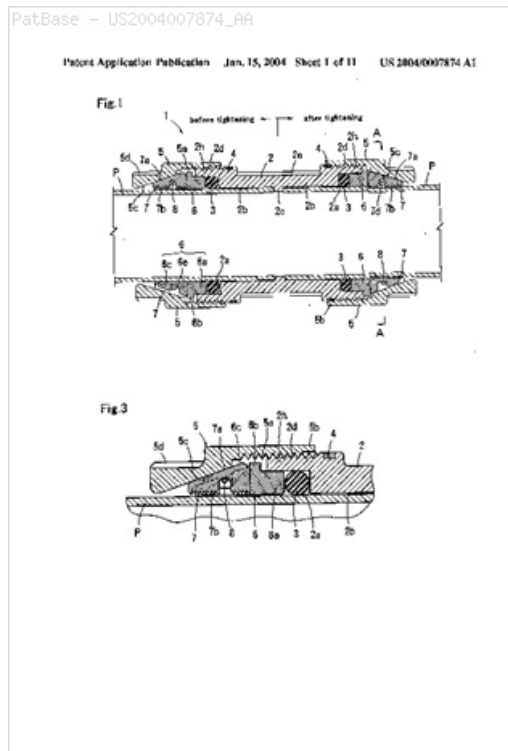
F16L19/00 F16L21/08 (Core/Invention)

International (IPC 1-7): F16L17/00 F16L19/06 F16L19/08 F16L21/08 F16L33/18

CPC: F16L19/075 F16L47/04 F16L19/086

European: F16L19/08C2 F16L47/04

US: 285/113 285/232 285/323 285/339 285/342 285/355 285/383



Family:

Publication number	Publication date	Application number	Application date
AT313035 E	20051215	AT20030013984T	20030620
DE60302723 D1	20060119	DE20036002723	20030620
DE60302723 D1	20060119	DE20036002723T	20030620
DE60302723 T2	20060614	DE20036002723T	20030620
EP1380788 A1	20040114	EP20030013984	20030620
EP1380788 B1	20051214	EP20030013984	20030620
JP2004092903 A2	20040325	JP20030004934	20030110
JP3497158 B1	20040216	JP20030004934	20030110
US2004007874 AA	20040115	US20030460395	20030613
US6851728 BB	20050208	US20030460395	20030613

Priority:

JP20020201688 20020710 JP20030004934 20030110

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Inventor(s): (std): MINAMI MASABUMI ; MINAMI MASAFUMI

Agent(s): ARMSTRONG KRATZ QUINTOS HANSON AND BROOKS LLP

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT313035 E	20051215	LSGT	+	granted / extensions (spc, cpc, pte)	
AT313035 E	20060615	LSLE	-RER	CEASED AS TO	

				PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT313035 E	20230620	PEXP		Calculated Patent Term Expiry	
DE60302723 D1	20070104	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60302723 D1	20070104	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60302723 D1	20080417	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60302723 D1	20080417	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60302723 T2	20060614	LSGT	+	granted / extensions (spc, cpc, pte)	
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DE60302723 T2	20080417	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60302723 T2	20230620	PEXP		Calculated Patent Term Expiry	
EP1380788 A1	20040114	LSPB	+	published / reissued	
EP1380788 A1	20040114	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030701
EP1380788 A1	20040721	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20040603
EP1380788 A1	20041006	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : BG COUNTRY OF REF DOCUMENT : CH COUNTRY OF REF DOCUMENT : CY COUNTRY OF REF DOCUMENT : CZ COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : EE 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 : HU 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 : RO COUNTRY OF REF DOCUMENT : SE COUNTRY OF REF DOCUMENT : SI COUNTRY OF REF DOCUMENT : SK COUNTRY OF REF DOCUMENT : TR
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				INFORMATION FROM NATIONAL OFFICE TO EPO]	A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20051214
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EP1380788 B1	20051214	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 : 20051214
EP1380788 B1	20051214	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 : 20051214
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EP1380788 B1	20051214	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 : 20051214
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EP1380788 B1	20051214	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 : 20051214
EP1380788 B1	20051214	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 : 20051214					
EP1380788 B1	20051214	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1380788 B1	20051215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1380788 B1	20060111	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1380788 B1	20060314	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 : 20060314
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EP1380788 B1	20060325	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 : 20060325
EP1380788 B1	20060515	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 : 20060515
EP1380788 B1	20060601	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
EP1380788 B1	20060615	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 : 20060615
EP1380788 B1	20060620	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	DUE FEES LAPSED DATE : 20060620
EP1380788 B1	20060620	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20060620 YEAR OF FEE PAYMENT : 4
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EP1380788 B1	20060630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20060630 YEAR OF FEE PAYMENT : 4
EP1380788 B1	20060630	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1380788 B1	20061122	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20060915
EP1380788 B1	20080227	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20070620
EP1380788 B1	20080430	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070202
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EP1380788 B1	20080731	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 : 20060620
EP1380788 B1	20080731	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 : 20051214
EP1380788 B1	20081128	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

LAPSED DATE : 20051214					
EP1380788 B1	20081128	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY 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 : 20051214
EP1380788 B1	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20070620
EP1380788 B1	20230620	PEXP		Calculated Patent Term Expiry	
JP2004092903 A2	20040325	LSPB	+	published / reissued	
JP2004092903 A2	20061017	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP2004092903 A2	20091128	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3497158 B1	20040216	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3497158 B1	20230110	PEXP		Calculated Patent Term Expiry	
US2004007874 AA	20040115	LSPB	+	published / reissued	
US2004007874 AA	20090309	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6851728 BB	20050208	LSGT	+	granted / extensions (spc, cpc, pte)	
US6851728 BB	20030613	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HAKKO METAL INDUSTRIES LTD., JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MINAMI, MASAFUMI; REEL/FRAME:014182/0447 EFFECTIVE DATE : 20030527
US6851728 BB	20090208	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6851728 BB	20090309	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6851728 BB	20090331	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20090208
US6851728 BB	20230613	PEXP		Calculated Patent Term Expiry	

Title: **PIPE** COUPLING CLAMP

Abstract: A **pipe** coupling clamp comprising a pair of clamp half members essentially C-shaped in cross-section each having a **pipe** flange receiving groove for receiving the mating flanges of two **pipes** to be coupled. The clamp half members being hinged together at one pair of ends by a hinge comprising plates and releasably connected together at the other pair of ends by a locking eyebolt and associated locking eyebolt **nut** hingedly connected at its proximal end to the end of one clamp half member to allow pivoting moving through a slot into an open securing jaw on the other end. The locking eyebolt comprises, at its proximal end, an eyebolt seating portion connected to a stepped threaded portion of reduced diameter at its distal end. Thus, initially, on loosening of the **nut**, the locking eyebolt will not disengage from within the securing jaw.

Classifications:

International (IPC 8-9): F16L23/00 F16L23/10

F16L25/00 (Advanced/Invention);

F16L23/00 (Core/Invention)

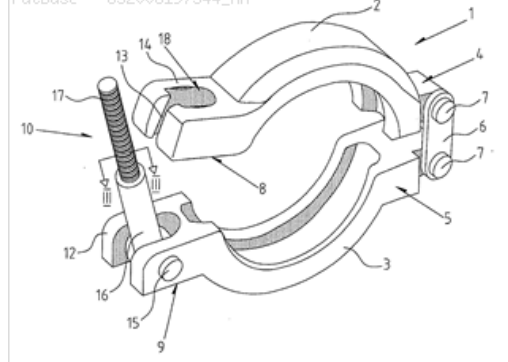
International (IPC 1-7): F16L23/00

CPC: F16L23/10

European: F16L23/10

US: 285/367 285/410 285/420 285/420P

PatBase - US2006197344_AA



Family:

Publication number	Publication date	Application number	Application date
DE102006000773 A1	20060907	DE200610000773	20060104
DE202006000070 U1	20060601	DE200620000070U	20060104
DE602006034068 D1	20130307	DE200660034068T	20060104
EP1693609 A2	20060823	EP20060100086	20060104
EP1693609 A3	20071128	EP20060100086	20060104
EP1693609 B1	20130109	EP20060100086	20060104
ES2419305 T3	20130820	ES20060100086T	20060104
IE200600003 A2	20060823	IE200600000003	20060103
IE200600004 A1	20060823	IE200600000004	20060103
SG125175 A1	20060929	SG200600000016	20060104
SI1693609 T1	20131030	SI20060031561T	20060104
US2006197344 AA	20060907	US20060324238	20060104
US7883121 BB	20110208	US20060324238	20060104

Priority:

EP20050394005 20050218 IE20050000682 20051007 EP20060100086 20060104

Probable Assignee: ADVANCED COUPLINGS LTD

Assignee(s): (std): ADVANCED COUPLINGS LTD ; HENRY JOHN J ; HENRY JOHN JULIAN

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Inventor(s): (std): HENRY JOHN JULIAN ; HENRY JOHN J ; JOHN JULIAN HENRY

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
DE102006000773 A1	20060907	LSPB	+	published / reissued	
DE102006000773 A1	20130411	LSDW	-R005	APPLICATION DEEMED WITHDRAWN DUE TO FAILURE TO REQUEST EXAMINATION	EFFECTIVE DATE : 20130105
DE202006000070 U1	20060601	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202006000070 U1	20060706	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 20060706
DE202006000070 U1	20090702	LSGT	+R150	TERM OF PROTECTION	EFFECTIVE DATE : 20090427

DE202006000070 U1	20120217	LSGT	+R151	EXTENDED TO 6 YEARS TERM OF PROTECTION EXTENDED TO 8 YEARS	
DE202006000070 U1	20120412	LSGT	+R151	TERM OF PROTECTION EXTENDED TO 8 YEARS	EFFECTIVE DATE : 20120217
DE202006000070 U1	20140213	LSGT	+R152	TERM OF PROTECTION EXTENDED TO 10 YEARS	EFFECTIVE DATE : 20140108
DE202006000070 U1	20160201	LSLE	-R071	EXPIRY OF RIGHT	
DE202006000070 U1	20160104	PEXP		Calculated Patent Term Expiry	
EP1693609 A2	20060823	LSPB	+	published / reissued	
EP1693609 A2	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK 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 : 20130109
EP1693609 A2	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ 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 : 20130109
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EP1693609 B1	20130115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 592962 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20130115
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EP1693609 B1	20130213	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1693609 B1	20130307	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006034068 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20130307
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EP1693609 B1	20130612	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20130109
EP1693609 B1	20130625	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP1693609 B1	20130702	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : RO REF LEGAL EVENT CODE : EPE
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				NATIONAL OFFICE TO EPO]	WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20130509
EP1693609 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT 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 : 20130109
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EP1693609 B1	20130731	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 : 20130109
EP1693609 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG 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 : 20130409
EP1693609 B1	20130820	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2419305 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20130820
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				TO EPO]	LIMIT LAPSED DATE : 20130109
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EP1693609 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ 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 : 20130109
EP1693609 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE 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 : 20130109
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EP1693609 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC 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 : 20130109
EP1693609 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU 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 : 20140104
EP1693609 B1	20160127	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 : 11
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EP1693609 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 12
EP1693609 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20161125 YEAR OF FEE PAYMENT : 12
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EP1693609 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170131 YEAR OF FEE PAYMENT : 12
EP1693609 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20170125 YEAR OF FEE PAYMENT : 12
EP1693609 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20170104 YEAR OF FEE PAYMENT : 12
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EP1693609 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20171130 YEAR OF FEE PAYMENT : 13
EP1693609 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180131 YEAR OF FEE PAYMENT : 13
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EP1693609 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20190110 YEAR OF FEE PAYMENT : 14
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EP1693609 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190115 YEAR OF FEE PAYMENT : 14
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ES2419305 T3	20130820	LSGT	+	granted / extensions (spc, cpc, pte)	
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IE20060003 A2	20060823	LSPB	+	published / reissued	

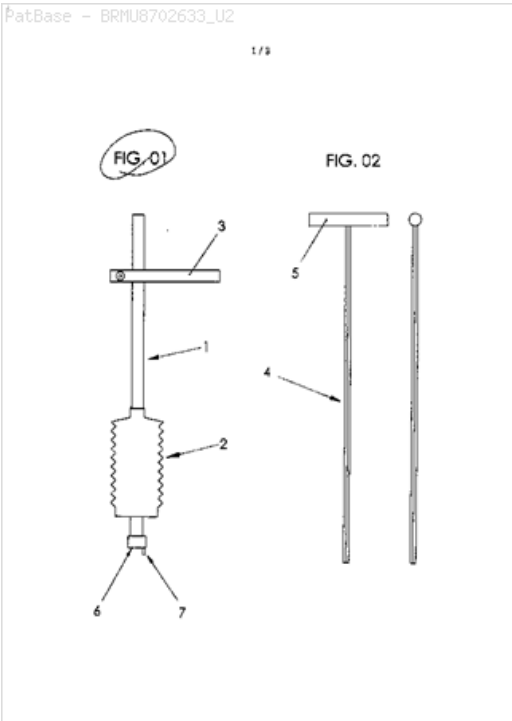
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IE20060004 A1	20130814	LSRV	-FC9A	APPLICATION REFUSED SECT. 31(1)	
SG125175 A1	20060929	LSPB	+	published / reissued	
SI1693609 T1	20131030	LSGT	+	granted / extensions (spc, cpc, pte)	
SI1693609 T1	20260104	PEXP		Calculated Patent Term Expiry	
US2006197344 AA	20060907	LSPB	+	published / reissued	
US2006197344 AA	20101006	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ADVANCED COUPLINGS LIMITED, UNITED KINGDOM OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HENRY, JOHN JULIAN; REEL/FRAME:025101/0963 EFFECTIVE DATE : 20100901
US2006197344 AA	20110119	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7883121 BB	20110208	LSGT	+	granted / extensions (spc, cpc, pte)	
US7883121 BB	20110119	LSGT	PAT1	Patented Case	
US7883121 BB	20140619	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7883121 BB	20180711	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7883121 BB	20281011	PEXP		Calculated Patent Term Expiry (PTA 1011 days)	

Title: trava reutilizAvel retentora de Agua com chave aplicada em cano Lock reusable retainer of Agua keyed applied in barrel
(Machine translation)

Abstract: Source: BRMU8702633U [PT] HV - 3 1 /1 Resumo Trava reutilizavel retentora de agua com chave aplicada em cano. consistindo de tres pecas que atuam de modo interrelacionado, onde uma chave oca com haste sextavada e utilizada para a colocacao e retirada da peca de 5 bloqueio do fornecimento de agua, um parafuso alien com rosca que atua sobre um elemento de expansao, que promove a expansao do cone de vedacao, sendo responsavel pela vedacao da passagem de agua. ss ss ss

Machine translation: HV - 3 1/1 Summary Lock reusable water retaining keyed applied to pipe. consisting of three parts that act of interrelated mode where a hollow key with hexagonal rod and used for placement and removal of the sins of 5 blockage of water supply, an alien screw thread acting on an expansion element, which promotes sealing cone expansion, being responsible for sealing the water passage. ss ss ss

Classifications:
International (IPC 8-9): F16L35/00 F16L55/12
F16L55/136 (Advanced/Invention);
F16L35/00 F16L55/10 (Core/Invention)



Family:

Publication number	Publication date	Application number	Application date
BRMU8702633 U2	20081209	BR2007MU02633U	20071221

Priority:

BR2007MU02633U 20071221

Probable Assignee: CLEBER STADLER ANGELO
Assignee(s): (std): CLEBER STADLER ANGELO ; COSTA PINTO BRUNO CESAR
Assignee(s): ANGELO CLEBER STADLER ; BRUNO CESAR COSTA PINTO
Inventor(s): (std): CLEBER STADLER ANGELO ; COSTA PINTO BRUNO CESAR
Inventor(s): ANGELO CLEBER STADLER ; BRUNO CESAR COSTA PINTO

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
BRMU8702633 U2	20081209	LSPB	B03B	PUBLICATION OF AN APPLICATION: ANTICIPATED PUBLICATION	
BRMU8702633 U2	20100217	LSLE	-B10A	CESSATION: CESSATION CONFIRMED	TEXT : HOMOLOGADA A DESISTENCIA DO PEDIDO, SOLICITADA ATRAVES DA PETICAO NO 15090003167/PR DE 23.10.2009.

Title: FATIGUE-RESISTANT THREADED COMPONENT FOR A TUBULAR THREADED JOINT

Abstract: Fatigue-resistant threaded element for threaded tubular connection A portion of threads (12) of a threaded element (2) have a helical groove (22) opening into the thread crest. Groove (22) is formed in all or a portion of the threads of one or both end zones, namely the first engaged thread zone (32) and the last engaged thread zone (36), and it is optionally formed in the threads of the medial thread zone (34); it reduces the stiffness of threads carrying a groove in the end zone or zones compared with the stiffness of the threads in the medial thread zone. The threaded tubular connection obtained after making up the threaded element with a mating threaded element is much more resistant to cyclic tensile stresses and/or axial compressive stresses and/or flexion stresses.

Classifications:

International (IPC 8-9): F16B33/02 F16L15/00 F16L15/04

F16L15/06 (Advanced/Invention);

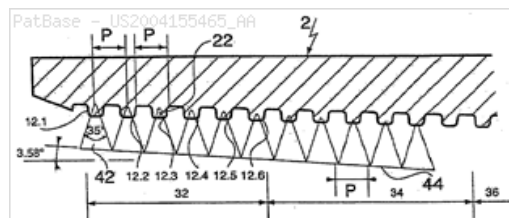
F16B33/00 F16L15/00 (Core/Invention)

International (IPC 1-7): F16B33/02 F16L15/00 F16L15/06 F16L25/00

CPC: F16L15/004 F16L15/002

European: F16L15/00B F16L15/00B2

US: 285/333 285/334 285/39 285/390



Family:

Publication number	Publication date	Application number	Application date
AR032866 AA	20031126	AR2002P100668	20020226
AT278902 E	20041015	AT20020713006T	20020304
AU2002244799 AA	20020924	AU20020244799	20020304
BRPI0207956 A	20040225	BR2002PI07956	20020304
BRPI0207956 B1	20110419	BR2002PI07956	20020304
CA2439977 AA	20030902	CA20022439977	20020304
CA2439977 C	20070522	CA20022439977	20020304
CN1288378 C	20061206	CN20028005471	20020304
CN1492980 A	20040428	CN20028005471	20020304
CZ20032441 A3	20031217	CZ20030002441	20020304
CZ303344 B6	20120808	CZ20030002441	20020304
DE60201518 D1	20041111	DE20026001518	20020304
DE60201518 D1	20041111	DE20026001518T	20020304
DE60201518 T2	20051020	DE20026001518T	20020304
EP1373775 A1	20040102	EP20020713006	20020304
EP1373775 B1	20041006	EP20020713006	20020304
ES2230474 T3	20050501	ES20020713006T	20020304
FR2821916 A1	20020913	FR20010003249	20010309
FR2821916 B1	20030516	FR20010003249	20010309
JP2004531675 T2	20041014	JP20020572301T	20020304
JP4111386 B2	20080702	JP20020572301T	20020304
MXPA03007240 A1	20031204	MX2003PA07240	20020304
MY128854 A	20070228	MY20020000809	20020307
PL202710 B1	20090731	PL20020363973	20020304
PL363973 A1	20041129	PL20020363973	20020304
RU2003129887 A	20050410	RU20030129887	20020304
RU2261395 C2	20050927	RU20030129887	20020304
SA1890 B1	20071029	SA20020220707	20020311
US2004155465 AA	20040812	US20030469839	20030905
US7513534 BB	20090407	US20030469839	20030905
WO02073076 A1	20020919	WO2002FR00773	20020304

Priority:

FR20010003249 20010309

WO2002FR00773 20020304

FR20010003249 20030309

Probable Assignee: VALLOUREC OIL AND GAS FRANCE

Assignee(s): (std): NOEL THIERRY ; ROUSSIE GABRIEL ; SUMITOMO METAL IND ; VALLOUREC MANNESMANN OIL AND GAS ; SUMITOMO METAL IND ; VALLOUREC MANNESMANN OIL AND GAS FRANCE ; SUMITOMO METAL IND LTD

Assignee(s): VALLOUREC MANNESMANN OIL AND GAS FRANCE AULNOYE AYMERIES ; VALLOUREC OIL AND GAS FRANCE ; NIPPON STEEL AND SUMITOMO METAL CORP ; NIPPON STEEL CORP ; VALLOUREC MANNESMANN OIL AND GAS FRANCE AULNOYE AY ; SUMITOMO METAL INDUSTRIESCLTD

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Inventor(s): NOEL T'ERRI ; RUSSI GABRIEL ; THIERRY NOEL GABRIEL ROUSSIE

Agent(s): ROBIC ; YAMASAKI YUKUZO ; AKAMATSU TOSHIKI ; SHIROGANE HIROSHI ; SUGIYAMA NAOTO ; HOSHI TAKAKO ; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC

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

Patent	Date recorded	Event group	Code	Event	Details
AR032866 AA	20031126	LSPB	+	published / reissued	
AR032866 AA	20050829	LSGT	+FG	GRANT, REGISTRATION	
AT278902 E	20041015	LSGT	+	granted / extensions (spc, cpc, pte)	
AT278902 E	20050515	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	REF DOCUMENT NUMBER : 1373775 COUNTRY OF REF DOCUMENT : EP
AT278902 E	20220304	PEXP		Calculated Patent Term Expiry	
AU2002244799 AA	20020924	LSPB	+	published / reissued	
BRPI0207956 A	20040225	LSPB	+	published / reissued	
BRPI0207956 A	20100803	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0207956 B1	20110419	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	TEXT : PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 04/03/2002, OBSERVADAS AS CONDICOES LEGAIS.
BRPI0207956 B1	20140128	LSAS	B25A	REQUESTED TRANSFER OF RIGHTS APPROVED	PARTYTYPE : OWNER OWNER : VALLOUREC MANNESMANN OIL AND GAS FRANCE (FR) , NIP
BRPI0207956 B1	20140218	LSAS	B25D	REQUESTED CHANGE OF NAME OF APPLICANT APPROVED	PARTYTYPE : OWNER OWNER : VALLOUREC MANNESMANN OIL AND GAS FRANCE (FR) , NIP
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CN1288378 C	20061206	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
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CN1288378 C	20140430	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	PARTYTYPE : OWNER OWNER : NIPPON STEEL + SUMITOMO METAL CORPORATION OLDPARTY : FORMER OWNER: CHUGAI SEIYAKU KABUSHIKI KAISHA EFFECTIVE DATE : 20140408
CN1288378 C	20140430	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN1288378 C	20150506	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	PARTYTYPE : OWNER OWNER : VALLOUREC OIL AND GAS FRANCE S. A. S. OLDPARTY : FORMER NAME:

VALLOUREC MANNESMANN OIL + GAS FRANCE S. A. S.					
CN1288378 C	20150506	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN1288378 C	20220304	PEXP		Calculated Patent Term Expiry	
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CN1492980 A	20040428	LSPB	+C06	PUBLICATION	
CZ20032441 A3	20031217	LSPB	+	published / reissued	
CZ303344 B6	20120808	LSGT	+	granted / extensions (spc, cpc, pte)	
CZ303344 B6	20170920	LSLE	-MM4A	PATENT LAPSED DUE TO NON-PAYMENT OF FEE	EFFECTIVE DATE : 20170304
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EP1373775 A1	20040407	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : SUMITOMO METAL INDUSTRIES, LTD.
EP1373775 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160321 YEAR OF FEE PAYMENT : 15
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EP1373775 B1	20050325	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20041006
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				NATIONAL CODE	REF LEGAL EVENT CODE : PL
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EP1373775 B1	20100430	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT REINSTATED DATE : 20091201
EP1373775 B1	20140515	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION, JP REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 60201518 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNERS: VALLOUREC MANNESMANN OIL & GAS FRANCE, AULNOYE-AYMERIES, FR; SUMITOMO METAL INDUSTRIES, LTD., OSAKA, JP EFFECTIVE DATE : 20140403
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				NATIONAL CODE	REF COUNTRY CODE : DE OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION, JP REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 60201518 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNER: VALLOUREC MANNESMANN OIL & GAS , SUMITOMO METAL INDUSTRIES, LTD. , JP EFFECTIVE DATE : 20140403
EP1373775 B1	20150313	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : FR OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION, JP REF LEGAL EVENT CODE : CD EFFECTIVE DATE : 20150206
EP1373775 B1	20150313	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : FR OWNER : VALLOUREC OIL AND GAS FRANCE, FR REF LEGAL EVENT CODE : CD EFFECTIVE DATE : 20150206
EP1373775 B1	20160321	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
EP1373775 B1	20170221	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 : 16
EP1373775 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170222 YEAR OF FEE PAYMENT : 16
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EP1373775 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180219 YEAR OF FEE PAYMENT : 17
EP1373775 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180226 YEAR OF FEE PAYMENT : 17
EP1373775 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20180219 YEAR OF FEE PAYMENT : 17
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ES2230474 T3	20050501	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2230474 T3	20220304	PEXP		Calculated Patent Term Expiry	
FR2821916 A1	20020913	LSPB	+	published / reissued	
FR2821916 B1	20030516	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2821916 B1	20080104	LSLE	-ST	NOTIFICATION OF LAPSE	EFFECTIVE DATE : 20071130
FR2821916 B1	20210309	PEXP		Calculated Patent Term Expiry	
JP2004531675 T2	20041014	LSPB	+	published / reissued	
JP2004531675 T2	20041117	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20041116
JP2004531675 T2	20070724	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070724
JP2004531675 T2	20080125	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080124
JP2004531675 T2	20080312	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2004531675 T2	20080318	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20080318
JP2004531675 T2	20080410	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20080403
JP2004531675 T2	20080418	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2004531675 T2	20080421	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4111386 B2	20080702	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4111386 B2	20080321	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP4111386 B2	20080408	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4111386 B2	20110414	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
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JP4111386 B2	20120412	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP4111386 B2	20120417	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF	YEAR OF FEE PAYMENT : 5

JP4111386 B2	20121102	LSFE	+FPAY	DATABASE) RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP4111386 B2	20121105	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	TEXT : JAPANESE INTERMEDIATE CODE: R313115
JP4111386 B2	20121113	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
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JP4111386 B2	20130411	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP4111386 B2	20130416	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
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JP4111386 B2	20140415	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4111386 B2	20140806	LSAS	S533	WRITTEN REQUEST FOR REGISTRATION OF CHANGE OF NAME	TEXT : JAPANESE INTERMEDIATE CODE: R313533
JP4111386 B2	20140814	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	TEXT : JAPANESE INTERMEDIATE CODE: R350
JP4111386 B2	20150409	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4111386 B2	20150423	LSFE	R21	特許料納付書 (補充) (Patent fee payment form (replenishment))	
JP4111386 B2	20150423	LSLE	R280	納付書補充指令書 (Payment refilling order form)	
JP4111386 B2	20150512	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4111386 B2	20160414	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4111386 B2	20160419	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4111386 B2	20170330	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4111386 B2	20170404	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4111386 B2	20180405	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4111386 B2	20180410	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4111386 B2	20220304	PEXP		Calculated Patent Term Expiry	
MXPA03007240 A1	20031204	LSPB	+	published / reissued	
MXPA03007240 A1	20060605	LSGT	+FG	GRANT OR REGISTRATION	
MY128854 A	20070228	LSGT	+	granted / extensions (spc, cpc, pte)	
MY128854 A	20220307	PEXP		Calculated Patent Term Expiry	
PL202710 B1	20090731	LSGT	+	granted / extensions (spc, cpc, pte)	
PL363973 A1	20041129	LSPB	+	published / reissued	

RU2003129887 A	20050410	LSPB	+	published / reissued	
RU2261395 C2	20050927	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2261395 C2	20140720	LSLI	PC43	OFFICIAL REGISTRATION OF THE TRANSFER OF THE EXCLUSIVE RIGHT WITHOUT CONTRACT FOR INVENTIONS	EFFECTIVE DATE : 20140623
RU2261395 C2	20220304	PEXP		Calculated Patent Term Expiry	
SA1890 B1	20071029	LSGT	+	granted / extensions (spc, cpc, pte)	
US2004155465 AA	20040812	LSPB	+	published / reissued	
US2004155465 AA	20090227	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VALLOUREC MANNESMANN OIL & GAS FRANCE, FRANCE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NOEL, THIERRY; ROUSSIE, GABRIEL; REEL/FRAME:022325/0053; SIGNING DATES FROM 20030811 TO 20030901
US2004155465 AA	20090227	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SUMITOMO METAL INDUSTRIES, LTD., JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NOEL, THIERRY; ROUSSIE, GABRIEL; REEL/FRAME:022325/0053; SIGNING DATES FROM 20030811 TO 20030901
US2004155465 AA	20090318	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7513534 BB	20090407	LSGT	+	granted / extensions (spc, cpc, pte)	
US7513534 BB	20090318	LSGT	PAT1	Patented Case	
US7513534 BB	20090526	LSRE	CC	CERTIFICATE OF CORRECTION	
US7513534 BB	20120926	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7513534 BB	20140416	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VALLOUREC OIL AND GAS FRANCE, FRANCE OLDPARTY : CHANGE OF NAME; ASSIGNOR:VALLOUREC MANNESMANN OIL & GAS FRANCE; REEL/FRAME:032696/0146 EFFECTIVE DATE : 20131001
US7513534 BB	20160926	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7513534 BB	20190514	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NIPPON STEEL & SUMITOMO METAL CORPORATION, JAPAN OLDPARTY : MERGER; ASSIGNOR:SUMITOMO METAL INDUSTRIES, LTD.; REEL/FRAME:049165/0517 EFFECTIVE DATE : 20121003
US7513534 BB	20190514	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NIPPON STEEL CORPORATION, JAPAN OLDPARTY : CHANGE OF NAME; ASSIGNOR:NIPPON STEEL & SUMITOMO METAL CORPORATION; REEL/FRAME:049257/0828 EFFECTIVE DATE : 20190401
US7513534 BB	20230905	PEXP		Calculated Patent Term Expiry	
WO02073076 A1	20020919	LSPB	+	published / reissued	

WO02073076 A1	20030813	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2003/007240 COUNTRY OF REF DOCUMENT : MX
WO02073076 A1	20030825	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 028054717 COUNTRY OF REF DOCUMENT : CN
WO02073076 A1	20030902	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2439977 COUNTRY OF REF DOCUMENT : CA
WO02073076 A1	20030905	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 10469839 COUNTRY OF REF DOCUMENT : US
WO02073076 A1	20030909	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002572301 COUNTRY OF REF DOCUMENT : JP
WO02073076 A1	20030909	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PV2003-2441 COUNTRY OF REF DOCUMENT : CZ
WO02073076 A1	20030929	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002713006 COUNTRY OF REF DOCUMENT : EP
WO02073076 A1	20031217	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : PV2003-2441 COUNTRY OF REF DOCUMENT : CZ
WO02073076 A1	20040102	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002713006 COUNTRY OF REF DOCUMENT : EP
WO02073076 A1	20040129	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO02073076 A1	20041006	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002713006 COUNTRY OF REF DOCUMENT : EP

Title: IMPROVED **PIPE** CONNECTOR

Abstract: A telescopic **pipe** fitting (10) for joining two spaced apart axially aligned **pipe** ends (6 and 8) is disclosed. The **pipe** fitting comprises: a hollow body (20) defining an inner bore and having an end (28); an extension tube (30) telescopically mounted within the inner bore; an intermediate annular seal disposed between the tube (30) and the inner bore of the body (20) effecting a seal there-between; and a retaining means (40) for retaining the extension tube (30) within the inner bore. First and second joining means (50 and 70) are provided for mechanically and sealably joining the fitting (10) the **pipe** ends (6 and 8) respectively. The tube (30) is telescopically movable with respect to the body (20) so as to vary the spacing between the end of the body (28) and the end of the extension tube (38) so as to allow installation between the **pipe** ends (6 and 8) without the need to move the **pipe** ends.

Classifications:

International (IPC 8-9): F16L25/12 F16L27/12

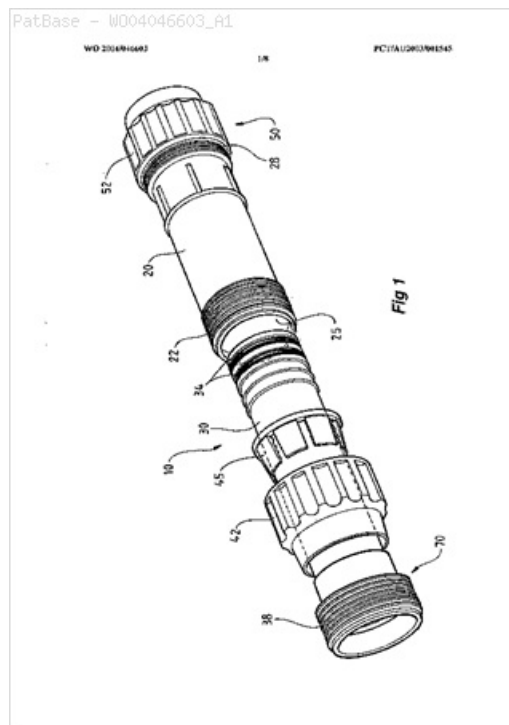
F16L47/18 (Advanced/Invention);

F16L25/00 F16L27/12 F16L47/00 (Core/Invention)

International (IPC 1-7): F16L25/12 F16L27/12 F16L47/18

CPC: F16L25/12 F16L27/12

European: F16L25/12 F16L27/12



Family:

Publication number	Publication date	Application number	Application date
AU2002952729 A0	20021205	AU20020952729	20021119
AU2003101082 AD	20050922	AU20030101082	20031119
AU2003283056 AA	20040615	AU20030283056	20031119
WO04046603 A1	20040603	WO2003AU01545	20031119

Priority:

AU20020952729 20021119 AU20030101082 20031119 AU20030283056 20031119
WO2003AU01545 20031119

Probable Assignee: JTL AUSTRALIA PTY LTD

Assignee(s): (std): JTL AUSTRALIA PTY LTD ; PHILLIPPS GUY MALCOLM

Inventor(s): (std): PHILLIPPS GUY MALCOLM

Inventor(s): GUY MALCOLM PHILLIPPS

Agent(s): MADDERNS PATENT AND TRADE MARK ATTORNEYS; MADDERNS PTY LTD

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2003101082 AD	20050922	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2003101082 AD	20050922	LSGT	+FGI	LETTERS PATENT SEALED OR GRANTED (INNOVATION PATENT)	
AU2003101082 AD	20111208	LSLE	-MK22	PATENT CEASED SECTION 143A(D), OR EXPIRED - NON PAYMENT OF	

RENEWAL FEE OR EXPIRY					
AU2003101082 AD	20231119	PEXP		Calculated Patent Term Expiry	
AU2003283056 AA	20040615	LSPB	+	published / reissued	
AU2003283056 AA	20050811	LSRE	DA3	AMENDMENTS MADE SECTION 104	TEXT : THE NATURE OF THE AMENDMENT IS: APPLICATION IS TO PROCEED UNDER THE NUMBER 2003101082
WO04046603 A1	20040603	LSPB	+	published / reissued	
WO04046603 A1	20050617	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003283056 COUNTRY OF REF DOCUMENT : AU
WO04046603 A1	20060104	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO04046603 A1	20061018	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO04046603 A1	20061018	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	TEXT : JP

Title: **PIPE** COUPLING

Abstract: A **pipe** coupling (1) includes a **pipe**-shaped sleeve (2) being provided with a protruding flange (4) at least in one end, said flange having a tapering end face (6). The **pipe** coupling further including an annular gripping ring (13) divided into ring segments (17), an annular resilient sealing ring (12) provided between the flange (4) and the gripping ring (13), a pressure ring (8) and tightening means of the bolt/**nut** type (26, 27). The pressure ring (8) is divided into a number of separate, mutually interspaced ring segments (10) each provided with an abutment face (9) adapted to displaceably abut the end face (6) of the flange (4). The bolts (26) extend through elongated, radially extending openings (30) in the flange (4) and through clearance holes (32) in the pressure ring segments (10).

Classifications:

International (IPC 8-9): F16L F16L21/02 F16L21/04

F16L33/10 (Advanced/Invention);

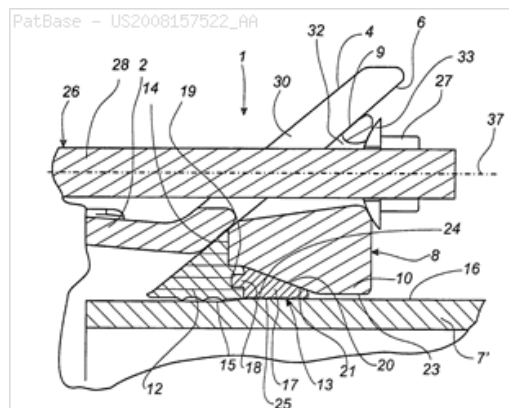
F16L21/02 F16L33/02 (Core/Invention);

F16L (Subclass/Invention)

CPC: F16L21/04 F16L21/08

European: F16L21/04 F16L21/08

US: 285/104 285/337 285/339 285/341 285/368 285/369



Family:

Publication number	Publication date	Application number	Application date
AT479865 E	20100915	AT20060706095T	20060302
AU2006220131 AA	20060908	AU20060220131	20060302
AU2006220131 BB	20110210	AU20060220131	20060302
BRPI0609257 A2	20100309	BR2006PI09257	20060302
CA2602430 AA	20070904	CA20062602430	20060302
CA2602430 C	20130528	CA20062602430	20060302
CN100516615 C	20090722	CN200680007131	20060302
CN101133274 A	20080227	CN200680007131	20060302
CY11111064 T1	20150611	CY20101101105T	20101201
DE602006016574 D1	20101014	DE200660016574T	20060302
DK176282 B1	20070611	DK20050000337	20050304
DK1864049 T3	20110103	DK20060706095T	20060302
DK200500337 A5	20060905	DK20050000337	20050304
EP1864049 A1	20071212	EP20060706095	20060302
EP1864049 B1	20100901	EP20060706095	20060302
ES2350703 T3	20110126	ES20060706095T	20060302
HK1113191 A1	20100827	HK20080107695	20080714
HK1113191 A1	20080926	HK20080107695	20080714
HK1113191 A3	20080926	HK20080107695	20080714
HK1113191 B	20100827	HK20080107695	20080714
HR20100584 T1	20101231	HR20100000584	20101028
ME01202 B	20130320	ME20100000174	20060302
NO20074646 A	20071204	NO20070004646	20070912
NO20074646 L	20071204	NO20070004646	20070912
NO337691 B1	20160606	NO20070004646	20070912
NZ560824 A	20100730	NZ20060560824	20060302
PT1864049 T	20100921	PT20060706095T	20060302
RS51514 B	20110630	RS20100000471	20060302
RU2007136795 A	20090410	RU20070136795	20060302
RU2373450 C2	20091120	RU20070136795	20060302
SI1864049 T1	20101231	SI20060030788T	20060302
US2008157522 AA	20080703	US20060885437	20060302
US7789431 BB	20100907	US20060885437	20060302
WO06092144 A1	20060908	WO2006DK00124	20060302
ZA200707497 A	20081126	ZA20070007497	20060312

Priority:

DK20050000337 20050304 EP20060706095 20060302 WO2006DK00124 20060302

Probable Assignee: AAGE V KJAERS MASKINFABRIK A S

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Assignee(s): OGE VKERS MASKINFABRIK A S ; AAGE V KJAERS MASHINFABRIK A S ; OGE V KERS MASKINFABRIK A S ; AAGE V KJARS MASKINFABRIK A S ; AAGE V KJORS MASKINFABRIK A S ; AAGEV KJAERS MASHINFABRIK A

S ; AAGE V KJERS MASKINFABRIK A S ; AAGE V KJAERS MASKINFABRIK A S

Inventor(s): (std): FREUDENDAHL ERLING ; ARNUM FREUDENDAHL ERLING ; FREUDENDAKHL EHRLING A ; FREUDENDAHL ERLING ARNUM ; FREUDENDAHL ERLING A

Inventor(s): ERLING A FREUDENDAHL ; FREUDENDAKHL' EHRLING A.

Agent(s): DAVIES COLLISON CAVE PTY LTD; DAVIES COLLISON CAVE; EQUINOX; JENSEN PETER KIM; LEHMAN LEE AND XU PATENT AND TRADEMARK AGENTS LTD; NATH AND ASSOCIATES; NATH LAW GROUP; JERALD L; STANLEY N

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT479865 E	20100915	LSGT	+	granted / extensions (spc, cpc, pte)	
AT479865 E	20110615	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	REF DOCUMENT NUMBER : 1864049 COUNTRY OF REF DOCUMENT : EP
AT479865 E	20260302	PEXP		Calculated Patent Term Expiry	
AU2006220131 AA	20060908	LSPB	+	published / reissued	
AU2006220131 BB	20110210	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2006220131 BB	20110609	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2006220131 BB	20260302	PEXP		Calculated Patent Term Expiry	
BRPI0609257 A2	20170110	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 11A ANUIDADE.
BRPI0609257 A2	20170425	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	
CA2602430 AA	20070904	LSPB	+	published / reissued	
CA2602430 AA	20110224	LSES	+EEER	EXAMINATION REQUEST	
CA2602430 C	20130528	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2602430 C	20260302	PEXP		Calculated Patent Term Expiry	
CN100516615 C	20090722	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100516615 C	20090722	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN100516615 C	20100827	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : GR REF DOCUMENT NUMBER : 1113191 COUNTRY OF REF DOCUMENT : HK
CN100516615 C	20260302	PEXP		Calculated Patent Term Expiry	
CN101133274 A	20080227	LSPB	+	published / reissued	
CN101133274 A	20080227	LSPB	+C06	PUBLICATION	
CY1111064 T1	20150611	LSGT	+	granted / extensions (spc, cpc, pte)	
DK176282 B1	20070611	LSGT	+	granted / extensions (spc, cpc, pte)	
DK176282 B1	20141020	LSLE	-PBP	PATENT LAPSED	EFFECTIVE DATE : 20140331
DK176282 B1	20250304	PEXP		Calculated Patent Term Expiry	

DK1864049 T3	20110103	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1864049 T3	20260302	PEXP		Calculated Patent Term Expiry	
DK200500337 A5	20060905	LSPB	+	published / reissued	
EP1864049 A1	20071212	LSPB	+	published / reissued	
EP1864049 A1	20071212	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20070921
EP1864049 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG PAYMENT DATE : 20160325 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20160322 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK PAYMENT DATE : 20160215 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20160323 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160318 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ PAYMENT DATE : 20160216 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT PAYMENT DATE : 20160217 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20160315 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE PAYMENT DATE : 20160324 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160324 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20160224 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20160203 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20160318 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV PAYMENT DATE : 20160314 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO PAYMENT DATE : 20160215 YEAR OF FEE PAYMENT : 11

EP1864049 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI PAYMENT DATE : 20160209 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20160208 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI PAYMENT DATE : 20160316 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU PAYMENT DATE : 20160205 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20160322 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20160323 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160331 YEAR OF FEE PAYMENT : 11
EP1864049 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160322 YEAR OF FEE PAYMENT : 11
EP1864049 B1	20100901	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1864049 B1	20100901	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1864049 B1	20100915	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1864049 B1	20100929	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1864049 B1	20101118	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : RO REF LEGAL EVENT CODE : EPE
EP1864049 B1	20101118	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GR REF LEGAL EVENT CODE : EP REF DOCUMENT NUMBER : 20100402397 COUNTRY OF REF DOCUMENT : GR
EP1864049 B1	20101124	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : T3
EP1864049 B1	20110126	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A EFFECTIVE DATE : 20110114
EP1864049 B1	20110428	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HU REF LEGAL EVENT CODE : AG4A REF DOCUMENT NUMBER : E009728 COUNTRY OF REF DOCUMENT : HU
EP1864049 B1	20110810	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20110606
EP1864049 B1	20111006	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006016574 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20110606

EP1864049 B1	20150430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC PAYMENT DATE : 20150317 YEAR OF FEE PAYMENT : 10
EP1864049 B1	20150430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU PAYMENT DATE : 20150325 YEAR OF FEE PAYMENT : 10
EP1864049 B1	20150430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20150317 YEAR OF FEE PAYMENT : 10
EP1864049 B1	20150529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20150325 YEAR OF FEE PAYMENT : 10
EP1864049 B1	20150529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20150323 YEAR OF FEE PAYMENT : 10
EP1864049 B1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY PAYMENT DATE : 20150217 YEAR OF FEE PAYMENT : 10
EP1864049 B1	20160331	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 : 11
EP1864049 B1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS PAYMENT DATE : 20160322 YEAR OF FEE PAYMENT : 11
EP1864049 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160331
EP1864049 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160302
EP1864049 B1	20161123	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20160302
EP1864049 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160302
EP1864049 B1	20161228	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1864049 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160302
EP1864049 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160302
EP1864049 B1	20170202	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GR REF LEGAL EVENT CODE : ML REF DOCUMENT NUMBER : 20100402397

					COUNTRY OF REF DOCUMENT : GR EFFECTIVE DATE : 20161006
EP1864049 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20161006
EP1864049 B1	20170314	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 : 12
EP1864049 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT PAYMENT DATE : 20170210 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170320 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20170322 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170314 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE PAYMENT DATE : 20170329 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI PAYMENT DATE : 20170320 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO PAYMENT DATE : 20170207 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20170315 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20170320 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20170323 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU PAYMENT DATE : 20170207 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG PAYMENT DATE : 20170330 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK PAYMENT DATE : 20170215 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20170215 YEAR OF FEE PAYMENT : 12

EP1864049 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI PAYMENT DATE : 20170209 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV PAYMENT DATE : 20170324 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20170315 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ PAYMENT DATE : 20170216 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20170131 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20170327 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20170222 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170321 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20170328 YEAR OF FEE PAYMENT : 12
EP1864049 B1	20180227	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 13
EP1864049 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS 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 : 20171001
EP1864049 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20180222 YEAR OF FEE PAYMENT : 13
EP1864049 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ PAYMENT DATE : 20180301 YEAR OF FEE PAYMENT : 13
EP1864049 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20180314 YEAR OF FEE PAYMENT : 13
EP1864049 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180227 YEAR OF FEE PAYMENT : 13
EP1864049 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20180301 YEAR OF FEE PAYMENT : 13
EP1864049 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20180226

					[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 13
EP1864049 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK PAYMENT DATE : 20180227 YEAR OF FEE PAYMENT : 13	
EP1864049 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20180228 YEAR OF FEE PAYMENT : 13	
EP1864049 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20180223 YEAR OF FEE PAYMENT : 13	
EP1864049 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180227 YEAR OF FEE PAYMENT : 13	
EP1864049 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU PAYMENT DATE : 20180307 YEAR OF FEE PAYMENT : 13	
EP1864049 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 : 13	
EP1864049 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20180313 YEAR OF FEE PAYMENT : 13	
EP1864049 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180402 YEAR OF FEE PAYMENT : 13	
EP1864049 B1	20180925	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MM4D EFFECTIVE DATE : 20180302	
EP1864049 B1	20181015	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : EE REF LEGAL EVENT CODE : MM4A REF DOCUMENT NUMBER : E004963 COUNTRY OF REF DOCUMENT : EE EFFECTIVE DATE : 20180331	
EP1864049 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180302	
EP1864049 B1	20181031	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20180302	
EP1864049 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180302	
EP1864049 B1	20181031	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 : 20180903	
EP1864049 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES	

EP1864049 B1	20181130	LSLE	-PG25	INFORMATION FROM NATIONAL OFFICE TO EPO] LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	LAPSED DATE : 20180302 COUNTRY OF REF DOCUMENT : SI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180303
EP1864049 B1	20181130	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SI REF LEGAL EVENT CODE : KO00 EFFECTIVE DATE : 20181009
EP1864049 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20181006
EP1864049 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180331
EP1864049 B1	20190329	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20190226 YEAR OF FEE PAYMENT : 14
EP1864049 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ PAYMENT DATE : 20190227 YEAR OF FEE PAYMENT : 14
EP1864049 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20190314 YEAR OF FEE PAYMENT : 14
EP1864049 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20190226 YEAR OF FEE PAYMENT : 14
EP1864049 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190305 YEAR OF FEE PAYMENT : 14
EP1864049 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190219 YEAR OF FEE PAYMENT : 14
EP1864049 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20190326 YEAR OF FEE PAYMENT : 14
EP1864049 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20190311 YEAR OF FEE PAYMENT : 14
EP1864049 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20190214 YEAR OF FEE PAYMENT : 14
EP1864049 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU PAYMENT DATE : 20190307 YEAR OF FEE PAYMENT : 14
EP1864049 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20190226 YEAR OF FEE PAYMENT : 14
EP1864049 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20190226 YEAR OF FEE PAYMENT : 14

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EP1864049 B1	20260302	PEXP		Calculated Patent Term Expiry	
ES2350703 T3	20110126	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2350703 T3	20260302	PEXP		Calculated Patent Term Expiry	
HK1113191 A1	20080926	LSPB	+	published / reissued	
HK1113191 A1	20100827	LSPB	+	published / reissued	
HK1113191 A1	20280714	PEXP		Calculated Patent Term Expiry	
HK1113191 A1	20280714	PEXP		Calculated Patent Term Expiry	
HK1113191 A3	20080926	LSPB	+	published / reissued	
HK1113191 B	20100827	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1113191 B	20280714	PEXP		Calculated Patent Term Expiry	
HR20100584 T1	20101231	LSPB	+	published / reissued	
ME01202 B	20130320	LSGT	+	granted / extensions (spc, cpc, pte)	
ME01202 B	20260302	PEXP		Calculated Patent Term Expiry	
NO20074646 A	20071204	LSPB	+	published / reissued	
NO337691 B1	20160606	LSGT	+	granted / extensions (spc, cpc, pte)	
NO337691 B1	20270912	PEXP		Calculated Patent Term Expiry	
NZ560824 A	20100730	LSPB	+	published / reissued	
NZ560824 A	20101126	LSGT	+PSEA	PATENT SEALED	
NZ560824 A	20110331	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ560824 A	20130222	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 3 YEARS UNTIL 02 MAR 2016 BY LEA SKYLLERSTEDT EFFECTIVE DATE : 20130220
NZ560824 A	20160226	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 02 MAR 2017 BY LEA EFFECTIVE DATE : 20160225
NZ560824 A	20170331	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 02 MAR 2018 BY CPA GLOBAL (PATRALEE) EFFECTIVE DATE : 20170224
NZ560824 A	20180323	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 02 MAR 2019 BY CPA GLOBAL EFFECTIVE DATE : 20180301
NZ560824 A	20190222	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 02 MAR 2020 BY CPA GLOBAL EFFECTIVE DATE : 20190215
PT1864049 T	20100921	LSGT	+	granted / extensions (spc, cpc, pte)	
PT1864049 T	20260302	PEXP		Calculated Patent Term Expiry	
RS51514 B	20110630	LSGT	+	granted / extensions (spc, cpc, pte)	
RS51514 B	20260302	PEXP		Calculated Patent Term Expiry	
RU2007136795 A	20090410	LSPB	+	published / reissued	

RU2373450 C2	20091120	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2373450 C2	20260302	PEXP		Calculated Patent Term Expiry	
SI1864049 T1	20101231	LSGT	+	granted / extensions (spc, cpc, pte)	
SI1864049 T1	20260302	PEXP		Calculated Patent Term Expiry	
US2008157522 AA	20080703	LSPB	+	published / reissued	
US2008157522 AA	20100818	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7789431 BB	20100907	LSGT	+	granted / extensions (spc, cpc, pte)	
US7789431 BB	20070831	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AAGE V. KJAERS MASKINFABRIK A/S, DENMARK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FREUDENDAHL, ERLING A.; REEL/FRAME:019827/0438 EFFECTIVE DATE : 20050401
US7789431 BB	20100818	LSGT	PAT1	Patented Case	
US7789431 BB	20140221	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7789431 BB	20180301	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7789431 BB	20270726	PEXP		Calculated Patent Term Expiry (PTA 511 days)	
WO06092144 A1	20060908	LSPB	+	published / reissued	
WO06092144 A1	20070821	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 560824 COUNTRY OF REF DOCUMENT : NZ
WO06092144 A1	20070831	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 11885437 COUNTRY OF REF DOCUMENT : US
WO06092144 A1	20070903	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12007501882 COUNTRY OF REF DOCUMENT : PH
WO06092144 A1	20070904	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200680007131.6 COUNTRY OF REF DOCUMENT : CN
WO06092144 A1	20070904	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2602430 COUNTRY OF REF DOCUMENT : CA
WO06092144 A1	20070904	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006220131 COUNTRY OF REF DOCUMENT : AU
WO06092144 A1	20070905	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO06092144 A1	20070921	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006706095 COUNTRY OF REF DOCUMENT : EP
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WO06092144 A1	20070927	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2006220131 COUNTRY OF REF DOCUMENT : AU
WO06092144 A1	20071004	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007136795 COUNTRY OF REF DOCUMENT : RU
WO06092144 A1	20071212	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN	REF DOCUMENT NUMBER : 2006706095

				NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : EP
WO06092144 A1	20100309	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0609257 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :
WO06092144 A1	20101103	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : P-2010/0471 COUNTRY OF REF DOCUMENT : RS
ZA200707497 A	20081126	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200707497 A	20260311	PEXP		Calculated Patent Term Expiry	

Title: PROCESS FOR MANUFACTURING A FLEXIBLE TUBULAR CONDUIT HAVING A JACKET MADE OF CROSSLINKED POLYETHYLENE

Abstract: The present invention relates to a flexible tubular conduit with a jacket or tube made of crosslinked polyethylene, specially crosslinked polyethylene, and a method for manufacturing the conduit. A jacket or tube is made from polyethylene crosslinked by hydrolysis.

Classifications:

International (IPC 8-9): B29D23/00 B29L23/22 B32B1/08 B32B27/32 C08F8/00 C08J3/24 C08J5/00 C08L43/04 F16L11/02 F16L11/04 F16L11/08 (Advanced/Invention); B29D23/00 C08F8/00 C08J3/24 C08J5/00 F16L11/04 (Advanced/Non-invention); B29D23/00 C08F8/00 C08J3/24 C08J5/00 C08L43/00 F16L11/04 F16L11/08 (Core/Invention)

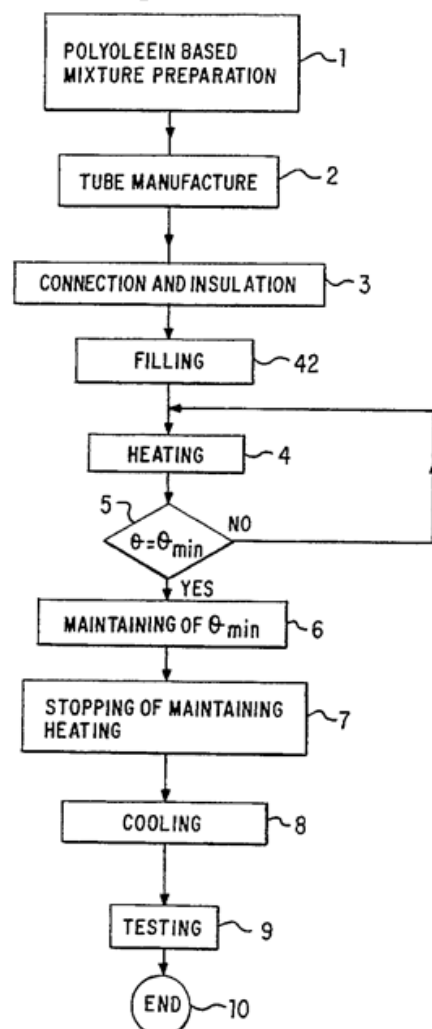
International (IPC 1-7): B29C35/02 B29C35/04 B29C35/06 B29C47/92 B29D23/00 B29L23/22 B32B1/08 B32B27/32 C08F8/00 C08J3/24 C08J5/00 C08L23/26 F16L11/00 F16L11/02 F16L11/04

CPC: C08L43/04 F16L11/087

European: C08L43/04 F16L11/08H2

US: 138/132 138/137 138/140 264/101 264/103 264/209.6 264/236 264/347 264/40.3 264/40.6 264/403 264/406 264/558 264/83

PatBase - US5514312_A



Family:

Publication number	Publication date	Application number	Application date
AU199180070 A1	19920107	AU19910080070	19910618
AU199468992 A1	19941103	AU19940068992	19940810
AU653533 B2	19941006	AU19910080070	19910618
AU672508 B2	19961003	AU19940068992	19940810
BRPI9105793 A	19920602	BR1991PI05793	19910618
CA2064226 AA	19920122	CA19912064226	19910618
CA2064226 C	20040217	CA19912064226	19910618
DE69111572 D1	19950831	DE19916011572	19910618
DE69111572 T2	19960328	DE19916011572T	19910618
DK0487691 T3	19951218	DK19910911854T	19910618
EP0487691 A1	19920603	EP19910911854	19910618
EP0487691 B1	19950726	EP19910911854	19910618
ES2075960 T3	19951016	ES19910911854T	19910618
FR2663401 A1	19911220	FR19900007576	19900618
FR2663401 B1	19920918	FR19900007576	19900618
JP3175013 B2	20010611	JP19910510943	19910618
JP5500686 T2	19930212	JP19910510943T	19910618
NO304477 B1	19981221	NO19920000615	19920217
NO920615 A	19920414	NO19920000615	19920217
NO920615 A0	19920217	NO19920000615	19920217
NO920615 L	19920414	NO19920000615	19920217

 RU2073612 C 1	19970220	SU19915011590	19910618
 US5514312 A	19960507	US19940258740	19940909
 US5918641 A	19990706	US19970861573	19970522
 WO9119924 A1	19911226	WO1991FR00487	19910618

Priority:

FR19900007576 19900618 AU19910080070 19910618 WO1991FR00487 19910618
US19930809532 19930122 US19940258740 19940909 US19940311004 19940922
US19960586306 19960117 US19970861573 19970522

Probable Assignee: COFLEXIP

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Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; OGILVY RENAULT LLP SENCRL SRL

Designated states: AT AU BE BR CA CH DE DK ES FR GB GR IT JP LU NL NO SE SU US

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AU199180070 A1	19920107	LSPB	+	published / reissued	
AU199468992 A1	19941103	LSPB	+	published / reissued	
AU653533 B2	19941006	LSGT	+	granted / extensions (spc, cpc, pte)	
AU653533 B2	20110618	PEXP		Calculated Patent Term Expiry	
AU672508 B2	19961003	LSGT	+	granted / extensions (spc, cpc, pte)	
AU672508 B2	20020117	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU672508 B2	20140810	PEXP		Calculated Patent Term Expiry	
BRPI9105793 A	19920602	LSPB	+	published / reissued	
BRPI9105793 A	19950620	LSWD	-FB19	GRANT PROCEDURE SUSPENDED (ART. 19)	
BRPI9105793 A	19951219	LSGT	+FF	DECISION: INTENTION TO GRANT	
BRPI9105793 A	19960924	LSGT	+FG	LETTER PATENT GRANTED	
BRPI9105793 A	20100706	LSLE	-B21A	EXPIRY ACC. ART. 78, ITEM I OF IPL- EXPIRY OF THE TERM OF PROTECTION	TEXT : PATENTE EXTINTA EM 18/06/2006
CA2064226 AA	19920122	LSPB	+	published / reissued	
CA2064226 AA	19980423	LSES	+EEER	EXAMINATION REQUEST	
CA2064226 C	20040217	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2064226 C	20060619	LSLE	-MKLA	LAPSED	
CA2064226 C	20110618	PEXP		Calculated Patent Term Expiry	
DE69111572 D1	19960822	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69111572 D1	19970612	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69111572 T2	19960328	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69111572 T2	20110618	PEXP		Calculated Patent Term Expiry	
DK0487691 T3	19951218	LSGT	+	granted / extensions (spc, cpc, pte)	
DK0487691 T3	20110618	PEXP		Calculated Patent Term Expiry	
EP0487691 A1	19920603	LSPB	+	published / reissued	
EP0487691 A1	19920729	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19920604
EP0487691 A1	19930317	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19930128

EP0487691 B1	19950726	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0487691 B1	19951016	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2075960 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP0487691 B1	19951026	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE LAPSED DATE : 19951026
EP0487691 B1	19960619	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONNOFLAPSE : THE PATENT HAS BEEN ANNULLED BY A DECISION OF A NATIONAL AUTHORITY LAPSED DATE : 19960619
EP0487691 B1	19960630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE LAPSED DATE : 19960630
EP0487691 B1	19960717	LSGT	+26N	NO OPPOSITION FILED	
EP0487691 B1	19961231	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : COFLEXIP EFFECTIVE DATE : 19960630
EP0487691 B1	19970301	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE LAPSED DATE : 19970301
EP0487691 B1	20020401	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20020204
EP0487691 B1	20030625	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20030625 YEAR OF FEE PAYMENT : 13
EP0487691 B1	20030630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20030630 YEAR OF FEE PAYMENT : 13
EP0487691 B1	20040630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20040630
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EP0487691 B1	20050124	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP
EP0487691 B1	20050301	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20050101
EP0487691 B1	20050618	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050618

EP0487691 B1	20100730	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20100615 YEAR OF FEE PAYMENT : 20
EP0487691 B1	20101130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20100521 YEAR OF FEE PAYMENT : 20
EP0487691 B1	20110713	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : PE20 EXPIRY DATE : 20110617
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EP0487691 B1	20110618	PEXP		Calculated Patent Term Expiry	
ES2075960 T3	19951016	LSGT	+	granted / extensions (spc, cpc, pte)	
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ES2075960 T3	20110618	PEXP		Calculated Patent Term Expiry	
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FR2663401 B1	19920918	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2663401 B1	19970430	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2663401 B1	20100618	PEXP		Calculated Patent Term Expiry	
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JP3175013 B2	20040316	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3175013 B2	20050329	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3175013 B2	20060328	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3175013 B2	20070403	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3175013 B2	20080408	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 8
JP3175013 B2	20090305	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 8
JP3175013 B2	20090310	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 9
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JP3175013 B2	20110405	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 11
JP3175013 B2	20110618	LSLE	-EXPY	CANCELLATION BECAUSE OF COMPLETION OF TERM	
JP3175013 B2	20110914	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 11
JP3175013 B2	20110618	PEXP		Calculated Patent Term Expiry	

JP5500686 T2	19930212	LSPB	+	published / reissued		
NO304477 B1	19981221	LSGT	+	granted / extensions (spc, cpc, pte)		
NO304477 B1	20050425	LSLE	-MM1K	LAPSED BY NOT PAYING THE ANNUAL FEES		
NO304477 B1	20120217	PEXP		Calculated Patent Term Expiry		
NO920615 A	19920414	LSPB	+	published / reissued		
RU2073612 C1	19970220	LSGT	+	granted / extensions (spc, cpc, pte)		
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Title: FERRULE WITH RELIEF TO REDUCE GALLING

Abstract: High localized loading, galling, and high torque forces have been generally eliminated or greatly reduced in a two ferrule tube fitting assembly through suitable modification of the rear ferrule so as to redirect the reaction forces acting between the front ferrule and the drive **nut**. The rear ferrule has a cylindrical interior wall that closely surrounds the tube end and is provided on the interior cylindrical wall with a circumferentially continuous radial recess that is located between the nose and rear wall of the rear ferrule. The rear ferrule also has a radially external wall that is substantially conical and additionally shaped to extend radially outward toward the enlarged diameter portion or flange of the rear ferrule. The rear ferrule further includes a contoured face on the rear driven surface of the ferrule that engages the drive surface of the drive **nut**.

Classifications:

International (IPC 8-9): F16J15/08 F16J9/02 F16L F16L19/00 F16L19/02 F16L19/03 F16L19/04 F16L19/06 F16L19/065 F16L19/07 F16L19/08 F16L19/10 F16L21/00 F16L21/08 F16L25/06 F16L37/124 F16L47/00 (Advanced/Invention);

F16J15/08 F16L19/00 F16L19/06 F16L19/10 F16L37/124 (Advanced/Non-invention);

F16J15/08 F16L19/00 F16L21/00 F16L21/08 F16L37/00 (Core/Invention); F16J9/02 F16L19/03 (Core/Non-invention);

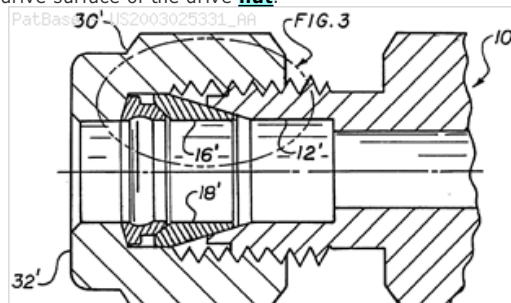
F16L (Subclass/Invention)

International (IPC 1-7): F16J15/08 F16J9/02 F16L17/00 F16L19/00 F16L19/03 F16L19/04 F16L19/06 F16L19/08 F16L19/10 F16L21/02 F16L21/08 F16L25/06

CPC: F16L19/0653 F16L19/04 F16L21/08 F16L19/005 F16L19/10 F16L19/103

European: F16L19/10 F16L19/10B

US: 1/1 285/249 285/249P 285/332 285/342 285/342P 285/342S 285/343 285/343S 285/348 285/348S 285/382.1 285/382.7 285/382.700P

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Priority:

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Inventor(s): KUHNS HOWARD CB

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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 UG US UZ VN YU ZA ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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EP0975910 A1	20000202	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19991029
EP0975910 A1	20010627	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20010509
EP0975910 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160427 YEAR OF FEE PAYMENT : 19
EP0975910 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160427 YEAR OF FEE PAYMENT : 19
EP0975910 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160425 YEAR OF FEE PAYMENT : 19
EP0975910 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160421 YEAR OF FEE PAYMENT : 19
EP0975910 B1	20050810	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0975910 B1	20050810	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 : 20050810
EP0975910 B1	20050810	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 : 20050810
EP0975910 B1	20050810	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT : FI

				CONTRACTING STATE [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 : 20050810
EP0975910 B1	20050810	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP0975910 B1	20050815	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP0975910 B1	20050907	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP0975910 B1	20051110	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 : 20051110
EP0975910 B1	20051121	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 : 20051121
EP0975910 B1	20060110	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 : 20060110
EP0975910 B1	20060425	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20060425 YEAR OF FEE PAYMENT : 9
EP0975910 B1	20060428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20060428 YEAR OF FEE PAYMENT : 9
EP0975910 B1	20060430	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 : 20060430
EP0975910 B1	20060719	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20060511
EP0975910 B1	20071210	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP
EP0975910 B1	20080206	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP0975910 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 : 20070430
EP0975910 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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20070416
EP0975910 B1	20080731	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20060414
EP0975910 B1	20150630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20150426 YEAR OF FEE PAYMENT : 18
EP0975910 B1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20150429 YEAR OF FEE PAYMENT : 18
EP0975910 B1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20150427 YEAR OF FEE PAYMENT : 18
EP0975910 B1	20160425	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 : 19
EP0975910 B1	20161129	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SE REF LEGAL EVENT CODE : EUG
EP0975910 B1	20161130	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0975910 B1	20170131	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 : 20160501
EP0975910 B1	20170131	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 : 20160430
EP0975910 B1	20170131	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 : 20160430
EP0975910 B1	20170228	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 : 20160415
EP0975910 B1	20170426	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 20
EP0975910 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170427 YEAR OF FEE PAYMENT : 20
EP0975910 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170427 YEAR OF FEE PAYMENT : 20
EP0975910 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170426 YEAR OF FEE PAYMENT : 20
EP0975910 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170421 YEAR OF FEE PAYMENT : 20
EP0975910 B1	20180414	LSLE	REG	REFERENCE TO A	REF COUNTRY CODE : DE

				NATIONAL CODE	REF LEGAL EVENT CODE : R071 REF DOCUMENT NUMBER : 69831146 COUNTRY OF REF DOCUMENT : DE
EP0975910 B1	20180509	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : PE20 EXPIRY DATE : 20180413
EP0975910 B1	20180731	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 EXPIRATION OF PROTECTION LAPSED DATE : 20180413
EP0975910 B1	20180413	PEXP		Calculated Patent Term Expiry	
EP0975910 B1	20180414	PEXP		Calculated Patent Term Expiry	
EP1244884 A1	20021002	LSPB	+	published / reissued	
EP1244884 A1	20021002	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020603
EP1244884 A1	20070516	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20050822
EP1244884 A1	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 16
EP1244884 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20151217 YEAR OF FEE PAYMENT : 16
EP1244884 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 16
EP1244884 B1	20091021	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1244884 B1	20091021	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1244884 B1	20091030	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1244884 B1	20091111	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1244884 B1	20100401	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
EP1244884 B1	20100430	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 : 20100201
EP1244884 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100222
EP1244884 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	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

				EPO]	TIME-LIMIT LAPSED DATE : 20091021
EP1244884 B1	20100430	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 : 20091021
EP1244884 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20091021
EP1244884 B1	20100630	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 : 20091021
EP1244884 B1	20100730	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 : 20100701
EP1244884 B1	20100730	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 : 20091021
EP1244884 B1	20100730	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1244884 B1	20100929	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20100722
EP1244884 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 : 20091231
EP1244884 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 : 20091231
EP1244884 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100122
EP1244884 B1	20101029	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 : 20091220
EP1244884 B1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT

				INFORMATION FROM NATIONAL OFFICE TO EPO]	A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20091021
EP1244884 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20091220
EP1244884 B1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR 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 : 20091021
EP1244884 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY 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 : 20091021
EP1244884 B1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL 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 : 20091021
EP1244884 B1	20151217	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 : 16
EP1244884 B1	20161227	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
EP1244884 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161228 YEAR OF FEE PAYMENT : 17
EP1244884 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161227 YEAR OF FEE PAYMENT : 17
EP1244884 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161229 YEAR OF FEE PAYMENT : 17
EP1244884 B1	20171227	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 18
EP1244884 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171227 YEAR OF FEE PAYMENT : 18
EP1244884 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171227 YEAR OF FEE PAYMENT : 18
EP1244884 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171229 YEAR OF FEE PAYMENT : 18

EP1244884 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181227 YEAR OF FEE PAYMENT : 19
EP1244884 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181226 YEAR OF FEE PAYMENT : 19
EP1244884 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181231 YEAR OF FEE PAYMENT : 19
EP1244884 B1	20201220	PEXP		Calculated Patent Term Expiry	
EP1406039 A1	20040407	LSPB	+	published / reissued	
EP1406039 A1	20040407	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20031113
EP1406039 A1	20041229	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : CH 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
EP1406039 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160427 YEAR OF FEE PAYMENT : 19
EP1406039 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160427 YEAR OF FEE PAYMENT : 19
EP1406039 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160421 YEAR OF FEE PAYMENT : 19
EP1406039 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160425 YEAR OF FEE PAYMENT : 19
EP1406039 B1	20070613	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1406039 B1	20070613	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1406039 B1	20070629	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1406039 B1	20070711	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1406039 B1	20071124	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	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
EP1406039 B1	20080102	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 : 20070613
EP1406039 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
EP1406039 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
EP1406039 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
EP1406039 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
EP1406039 B1	20080521	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20080314
EP1406039 B1	20081128	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 : 20080430
EP1406039 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
EP1406039 B1	20090430	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 : 20080414
EP1406039 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 : 20080414

EP1406039 B1	20150630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20150426 YEAR OF FEE PAYMENT : 18
EP1406039 B1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20150429 YEAR OF FEE PAYMENT : 18
EP1406039 B1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20150427 YEAR OF FEE PAYMENT : 18
EP1406039 B1	20160425	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 : 19
EP1406039 B1	20161129	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SE REF LEGAL EVENT CODE : EUG
EP1406039 B1	20161130	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1406039 B1	20170131	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 : 20160430
EP1406039 B1	20170131	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 : 20160501
EP1406039 B1	20170131	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 : 20160430
EP1406039 B1	20170228	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 : 20160415
EP1406039 B1	20170426	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 20
EP1406039 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170427 YEAR OF FEE PAYMENT : 20
EP1406039 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170426 YEAR OF FEE PAYMENT : 20
EP1406039 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170427 YEAR OF FEE PAYMENT : 20
EP1406039 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170421 YEAR OF FEE PAYMENT : 20
EP1406039 B1	20180414	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R071 REF DOCUMENT NUMBER : 69837947 COUNTRY OF REF DOCUMENT : DE

EP1406039 B1	20180509	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : PE20 EXPIRY DATE : 20180413
EP1406039 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATION OF LAPSE : LAPSE BECAUSE OF EXPIRATION OF PROTECTION LAPSED DATE : 20180413
EP1406039 B1	20180413	PEXP		Calculated Patent Term Expiry	
EP1406039 B1	20180414	PEXP		Calculated Patent Term Expiry	
EP1503129 A2	20050202	LSPB	+	published / reissued	
EP1503129 A2	20050202	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20041105
EP1503129 A3	20051026	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : CH 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
EP1503129 A3	20070103	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20050822
EP1503129 B1	20110608	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1503129 B1	20110608	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1503129 B1	20110615	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1503129 B1	20110706	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1503129 B1	20110721	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 69842303 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20110721
EP1503129 B1	20110928	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20110608
EP1503129 B1	20111031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE 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 : 20110608

EP1503129 B1	20111130	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 : 20110919
EP1503129 B1	20111130	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 : 20110608
EP1503129 B1	20111130	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 : 20110909
EP1503129 B1	20111130	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 : 20110608
EP1503129 B1	20111202	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1072800 COUNTRY OF REF DOCUMENT : HK
EP1503129 B1	20111230	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 : 20110608
EP1503129 B1	20111230	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 : 20110608
EP1503129 B1	20120131	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 : 20111010
EP1503129 B1	20120516	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20120309
EP1503129 B1	20120531	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 : 20110608
EP1503129 B1	20120629	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	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 : 20110608
EP1503129 B1	20120712	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 69842303 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20120309
EP1503129 B1	20121130	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 : 20120430
EP1503129 B1	20121130	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1503129 B1	20121226	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20120414
EP1503129 B1	20130116	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1503129 B1	20130118	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20121228
EP1503129 B1	20130131	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 : 20120414
EP1503129 B1	20130131	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 : 20120414
EP1503129 B1	20130131	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 : 20120430
EP1503129 B1	20130131	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 : 20120430
EP1503129 B1	20130228	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 : 20120430
EP1503129 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 : 20120414
EP1503129 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170427 YEAR OF FEE PAYMENT : 20
EP1503129 B1	20180414	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R071 REF DOCUMENT NUMBER :

EP1503129 B1	20180414	PEXP		Calculated Patent Term Expiry	
HK1057599 A1	20051202	LSPB	+	published / reissued	
HK1057599 A1	20090731	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	EFFECTIVE DATE : 20081220
HK1057599 A1	20240119	PEXP		Calculated Patent Term Expiry	
HK1057599 B	20051202	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1057599 B	20240119	PEXP		Calculated Patent Term Expiry	
HK1072800 A1	20050909	LSPB	+	published / reissued	
HK1072800 A3	20050909	LSPB	+	published / reissued	
IL132256 A1	20030917	LSPB	+	published / reissued	
IL132256 A1	20040208	LSGT	+FF	PATENT GRANTED	
IL132256 A1	20040328	LSFE	+KB	PATENT RENEWED	
IL132256 A1	20040601	LSFE	+KB	PATENT RENEWED	
IL132256 A1	20080605	LSFE	+KB	PATENT RENEWED	
IL132256 A1	20120430	LSFE	+KB	PATENT RENEWED	
IL132256 A1	20160421	LSFE	+KB	PATENT RENEWED	
IL132256 A1	20181129	LSLE	-EXP	PATENT EXPIRED	
IL150021 A1	20100616	LSPB	+	published / reissued	
IL150021 A1	20101230	LSGT	+FF	PATENT GRANTED	
IL150021 A1	20110131	LSFE	+KB	PATENT RENEWED	
IL150021 A1	20141231	LSFE	+KB	PATENT RENEWED	
IL150021 A1	20181231	LSFE	+KB	PATENT RENEWED	
IL202308 A1	20110630	LSPB	+	published / reissued	
IL202308 A1	20111130	LSGT	+FF	PATENT GRANTED	
IL202308 A1	20111229	LSFE	+KB	PATENT RENEWED	
IL202308 A1	20141231	LSFE	+KB	PATENT RENEWED	
IL202308 A1	20181231	LSFE	+KB	PATENT RENEWED	
IL213196 A1	20121231	LSPB	+	published / reissued	
IL213196 A1	20130430	LSGT	+FF	PATENT GRANTED	
IL213196 A1	20141231	LSFE	+KB	PATENT RENEWED	
IL213196 A1	20181231	LSFE	+KB	PATENT RENEWED	
IL213197 A1	20121231	LSPB	+	published / reissued	
IL213197 A1	20130430	LSGT	+FF	PATENT GRANTED	
IL213197 A1	20141231	LSFE	+KB	PATENT RENEWED	
IL213197 A1	20181231	LSFE	+KB	PATENT RENEWED	
JP2001520728 T2	20011030	LSPB	+	published / reissued	
JP2001520728 T2	20040129	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20040106
JP2001520728 T2	20050222	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20050222
JP2001520728 T2	20050908	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20050822
JP2001520728 T2	20051018	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20051018

JP2001520728 T2	20060518	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20060418
JP2001520728 T2	20060620	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20060620
JP2001520728 T2	20070118	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20061215
JP2001520728 T2	20070207	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2001520728 T2	20070220	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20070220
JP2001520728 T2	20070308	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20070302
JP2001520728 T2	20070309	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2003529032 T2	20030930	LSPB	+	published / reissued	
JP2003529032 T2	20071031	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20071030
JP2003529032 T2	20100914	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100914
JP2003529032 T2	20110315	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110314
JP2003529032 T2	20110726	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20110726
JP2003529032 T2	20111126	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111125
JP2003529032 T2	20111205	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20111202
JP2003529032 T2	20111227	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2003529032 T2	20120110	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20120110
JP2003529032 T2	20120112	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2003529032 T2	20120126	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20120117
JP2003529032 T2	20120127	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2003529032 T2	20120130	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2011153711 A2	20110811	LSPB	+	published / reissued	

JP2011153711 A2	20110315	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20110314
JP2011153711 A2	20121225	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20121225
JP2011153711 A2	20130820	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20130820
JP3927247 B2	20070606	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3927247 B2	20070222	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP3927247 B2	20070306	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP3927247 B2	20100225	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP3927247 B2	20100302	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP3927247 B2	20110303	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP3927247 B2	20110308	LSFE	+R250	年金領収書, 年金領収書 (分納) (Pension receipt, annuity receipt (scheduled))	
JP3927247 B2	20120301	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP3927247 B2	20120306	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP3927247 B2	20130228	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP3927247 B2	20130305	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 7
JP3927247 B2	20140227	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3927247 B2	20140304	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3927247 B2	20150226	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3927247 B2	20150303	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3927247 B2	20160225	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3927247 B2	20160301	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3927247 B2	20170302	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3927247 B2	20170307	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3927247 B2	20180309	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3927247 B2	20180414	PEXP		Calculated Patent Term Expiry	
JP4911853 B2	20120404	LSGT	+	granted / extensions (spc, cpc, pte)	

JP4911853 B2	20120112	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP4911853 B2	20120124	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4911853 B2	20120127	LSGT	+R150	特許証 (Patent certificate)	
JP4911853 B2	20150115	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4911853 B2	20150120	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4911853 B2	20160114	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4911853 B2	20160119	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4911853 B2	20170112	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4911853 B2	20170117	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4911853 B2	20180118	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4911853 B2	20180123	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4911853 B2	20190117	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4911853 B2	20190122	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4911853 B2	20201220	PEXP		Calculated Patent Term Expiry	
KR100622360 B1	20060911	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100622360 B1	20120822	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20120823 YEAR OF FEE PAYMENT : 7
KR100622360 B1	20130822	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20130822 YEAR OF FEE PAYMENT : 8
KR100622360 B1	20140820	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20140821 YEAR OF FEE PAYMENT : 9
KR100622360 B1	20150820	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20150821 YEAR OF FEE PAYMENT : 10
KR100622360 B1	20160825	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160826 YEAR OF FEE PAYMENT : 11
KR100622360 B1	20170825	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170828 YEAR OF FEE PAYMENT : 12
KR100622360 B1	20180415	LSLE	-EXPY	EXPIRATION OF TERM	
KR100622360 B1	20191014	PEXP		Calculated Patent Term Expiry	
KR100803685 B1	20080220	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100803685 B1	20070417	LSSE	A201	REQUEST FOR EXAMINATION	
KR100803685 B1	20130123	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20130124 YEAR OF FEE PAYMENT : 6
KR100803685 B1	20140123	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20140123 YEAR OF FEE PAYMENT : 7
KR100803685 B1	20150123	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20150126 YEAR OF FEE PAYMENT : 8
KR100803685 B1	20160121	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160122 YEAR OF FEE PAYMENT : 9

KR100803685 B1	20170125	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170126 YEAR OF FEE PAYMENT : 10
KR100803685 B1	20180125	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20180126 YEAR OF FEE PAYMENT : 11
KR100803685 B1	20190123	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20190124 YEAR OF FEE PAYMENT : 12
KR100803685 B1	20201220	PEXP		Calculated Patent Term Expiry	
KR100803687 B1	20080220	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100803687 B1	20070417	LSES	A201	REQUEST FOR EXAMINATION	
KR100803687 B1	20130123	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20130124 YEAR OF FEE PAYMENT : 6
KR100803687 B1	20140123	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20140123 YEAR OF FEE PAYMENT : 7
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KR100803687 B1	20170125	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170126 YEAR OF FEE PAYMENT : 10
KR100803687 B1	20180125	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20180126 YEAR OF FEE PAYMENT : 11
KR100803687 B1	20190123	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20190124 YEAR OF FEE PAYMENT : 12
KR100803687 B1	20201220	PEXP		Calculated Patent Term Expiry	
KR100871624 B1	20081202	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100871624 B1	20051219	LSES	A201	REQUEST FOR EXAMINATION	
KR100871624 B1	20051219	LSRE	AMND	AMENDMENT	
KR100871624 B1	20061117	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR100871624 B1	20070319	LSRE	AMND	AMENDMENT	
KR100871624 B1	20070810	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR100871624 B1	20080310	LSRE	AMND	AMENDMENT	
KR100871624 B1	20080711	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR100871624 B1	20080912	LSRE	AMND	AMENDMENT	
KR100871624 B1	20081023	LSGT	+B701	DECISION TO GRANT	
KR100871624 B1	20081126	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR100871624 B1	20121106	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20121107 YEAR OF FEE PAYMENT : 5
KR100871624 B1	20131114	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20131114 YEAR OF FEE PAYMENT : 6
KR100871624 B1	20141106	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20141107 YEAR OF FEE PAYMENT : 7
KR100871624 B1	20151106	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20151109 YEAR OF FEE PAYMENT : 8
KR100871624 B1	20161107	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20161108 YEAR OF FEE PAYMENT : 9
KR100871624 B1	20171108	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20171109 YEAR OF FEE PAYMENT : 10

KR100871624 B1	20181107	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20181108 YEAR OF FEE PAYMENT : 11
KR100871624 B1	20201220	PEXP		Calculated Patent Term Expiry	
KR100871625 B1	20081202	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100871625 B1	20080317	LSES	A201	REQUEST FOR EXAMINATION	
KR100871625 B1	20121106	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20121107 YEAR OF FEE PAYMENT : 5
KR100871625 B1	20131114	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20131114 YEAR OF FEE PAYMENT : 6
KR100871625 B1	20141106	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20141107 YEAR OF FEE PAYMENT : 7
KR100871625 B1	20151106	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20151109 YEAR OF FEE PAYMENT : 8
KR100871625 B1	20161107	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20161108 YEAR OF FEE PAYMENT : 9
KR100871625 B1	20171108	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20171109 YEAR OF FEE PAYMENT : 10
KR100871625 B1	20181107	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20181108 YEAR OF FEE PAYMENT : 11
KR100871625 B1	20201220	PEXP		Calculated Patent Term Expiry	
KR100914946 B1	20090831	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100914946 B1	20080912	LSES	A201	REQUEST FOR EXAMINATION	
KR100914946 B1	20120806	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20120807 YEAR OF FEE PAYMENT : 4
KR100914946 B1	20130816	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20130816 YEAR OF FEE PAYMENT : 5
KR100914946 B1	20140805	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20140806 YEAR OF FEE PAYMENT : 6
KR100914946 B1	20150805	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20150806 YEAR OF FEE PAYMENT : 7
KR100914946 B1	20160809	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160810 YEAR OF FEE PAYMENT : 8
KR100914946 B1	20170810	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170811 YEAR OF FEE PAYMENT : 9
KR100914946 B1	20180809	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20180810 YEAR OF FEE PAYMENT : 10
KR100914946 B1	20201220	PEXP		Calculated Patent Term Expiry	
KR20010006382 A	20010126	LSPB	+	published / reissued	
KR20010006382 A	20021018	LSES	A201	REQUEST FOR EXAMINATION	
KR20010006382 A	20050831	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20010006382 A	20060711	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20010006382 A	20060904	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20020069220 A	20020829	LSPB	+	published / reissued	
KR20070046211 A	20070502	LSPB	+	published / reissued	

KR20070046211 A	20070713	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20070046211 A	20080104	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20070046211 A	20080205	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20070046984 A	20070503	LSPB	+	published / reissued	
KR20070046984 A	20070713	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20070046984 A	20080104	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20070046984 A	20080205	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20080025218 A	20080319	LSPB	+	published / reissued	
KR20080025218 A	20080501	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20080025218 A	20081106	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20080025218 A	20081126	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20080095289 A	20081028	LSPB	+	published / reissued	
KR20080095289 A	20081205	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20080095289 A	20090528	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20080095289 A	20090825	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
MXPA02006314 A1	20030922	LSPB	+	published / reissued	
MXPA02006314 A1	20060313	LSGT	+FG	GRANT OR REGISTRATION	
TW370599 B	19990921	LSGT	+	granted / extensions (spc, cpc, pte)	
TW370599 B	20180521	LSLE	-MK4A	EXPIRATION OF PATENT TERM OF AN INVENTION PATENT	
TW370599 B	20180415	PEXP		Calculated Patent Term Expiry	
TW473600 B	20020121	LSGT	+	granted / extensions (spc, cpc, pte)	
TW473600 B	20020517	LSGT	+GD4A	ISSUE OF PATENT CERTIFICATE FOR GRANTED INVENTION PATENT	
TW473600 B	20210220	PEXP		Calculated Patent Term Expiry	
US10100955 BB	20181016	LSGT	+	granted / extensions (spc, cpc, pte)	
US10100955 BB	20180926	LSGT	PAT1	Patented Case	
US10100955 BB	20370410	PEXP		Calculated Patent Term Expiry (PTA 1018 days)	
US2003025331 AA	20030206	LSPB	+	published / reissued	
US2003025331 AA	20030918	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2003178848 AA	20030925	LSPB	+	published / reissued	
US2004113429 AA	20040617	LSPB	+	published / reissued	
US2004113429 AA	20080416	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2004119286 AA	20040624	LSPB	+	published / reissued	
US2004119286 AA	20070620	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2004119287 AA	20040624	LSPB	+	published / reissued	

US2004119287 AA	20040105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: WILLIAMS, PETER C.; KUHNS, HOWARD C.B.; REEL/FRA:014230/0679 EFFECTIVE DATE : 20000224
US2004119287 AA	20060818	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006273581 AA	20061207	LSPB	+	published / reissued	
US2006273581 AA	20060914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: WILLIAMS, PETER C.; KUHNS, HOWARD C.B.; REEL/FRA:018246/0258 EFFECTIVE DATE : 20000224
US2006273581 AA	20090515	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008296895 AA	20081204	LSPB	+	published / reissued	
US2010025990 AA	20100204	LSPB	+	published / reissued	
US2010025990 AA	20110323	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011049877 AA	20110303	LSPB	+	published / reissued	
US2011049877 AA	20140709	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011278840 AA	20111117	LSPB	+	published / reissued	
US2014049044 AA	20140220	LSPB	+	published / reissued	
US2015097368 AA	20150409	LSPB	+	published / reissued	
US2015097368 AA	20160615	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015145245 AA	20150528	LSPB	+	published / reissued	
US2015145245 AA	20171030	LSES	NFA1	Non Final Action Mailed	
US2015145245 AA	20180522	LSES	ADV1	Advisory Action Mailed	
US2015145245 AA	20180619	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015145245 AA	20180629	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2015145245 AA	20180629	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015145245 AA	20180926	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5882050 A	19990316	LSGT	+	granted / extensions (spc, cpc, pte)	
US5882050 A	19970808	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CRAWFORD FITTING COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: WILLIAMS, PETER C.; MCMILLAN, DAVID A.; KUHNS, HOWARD C.B.; REEL/FRA:008637/0902 EFFECTIVE DATE : 19970415
US5882050 A	19990208	LSGT	PAT1	Patented Case	
US5882050 A	19990208	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

US5882050 A	20000103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CRAWFORD FITTING CO.; REEL/FRAME:010531/0882 EFFECTIVE DATE : 19991228
US5882050 A	20020913	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5882050 A	20060918	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5882050 A	20100916	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5882050 A	20170415	PEXP		Calculated Patent Term Expiry	
US6131963 A	20001017	LSGT	+	granted / extensions (spc, cpc, pte)	
US6131963 A	19980402	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK MARKETING CO., A CORP. OF OHIO, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WILLIAMS, PETER C.; KUHNS, HOWARD C.B.; REEL/FRAME:009107/0298 EFFECTIVE DATE : 19980330
US6131963 A	20000103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CRAWFORD FITTING CO.; REEL/FRAME:010531/0882 EFFECTIVE DATE : 19991228
US6131963 A	20000929	LSGT	PAT1	Patented Case	
US6131963 A	20000929	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6131963 A	20040419	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6131963 A	20040525	LSRE	CC	CERTIFICATE OF CORRECTION	
US6131963 A	20080417	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6131963 A	20120417	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6131963 A	20180402	PEXP		Calculated Patent Term Expiry	
US6629708 BB	20031007	LSGT	+	granted / extensions (spc, cpc, pte)	
US6629708 BB	20000307	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, AN OHIO CORPORATION, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WILLIAMS, PETER C.; KUHNS, HOWARD C.B.; REEL/FRAME:010650/0139 EFFECTIVE DATE : 20000224
US6629708 BB	20030918	LSGT	PAT1	Patented Case	
US6629708 BB	20040120	LSRE	CC	CERTIFICATE OF CORRECTION	
US6629708 BB	20051227	LSRE	CC	CERTIFICATE OF CORRECTION	
US6629708 BB	20070409	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6629708 BB	20110407	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6629708 BB	20150407	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6629708 BB	20191222	PEXP		Calculated Patent Term Expiry	
US7100949 BB	20060905	LSGT	+	granted / extensions	

(spc, cpc, pte)					
US7100949 BB	20030924	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WILLIAMS, PETER C.; KUHNS, HOWARD C.B.; REEL/FRAE:013992/0362 EFFECTIVE DATE : 20000224
US7100949 BB	20060816	LSGT	PAT1	Patented Case	
US7100949 BB	20061205	LSRE	CC	CERTIFICATE OF CORRECTION	
US7100949 BB	20100305	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7100949 BB	20140228	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7100949 BB	20180416	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7100949 BB	20181008	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7100949 BB	20181008	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7100949 BB	20181030	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20180905
US7100949 BB	20230513	PEXP		Calculated Patent Term Expiry (PTA 77 days)	
US7240929 BB	20070710	LSGT	+	granted / extensions (spc, cpc, pte)	
US7240929 BB	20040105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WILLIAMS, PETER C.; KUHNS, HOWARD C.B.; REEL/FRAE:014230/0639 EFFECTIVE DATE : 20000224
US7240929 BB	20070620	LSGT	PAT1	Patented Case	
US7240929 BB	20110110	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7240929 BB	20150112	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7240929 BB	20190225	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7240929 BB	20240105	PEXP		Calculated Patent Term Expiry	
US7367595 BB	20080506	LSGT	+	granted / extensions (spc, cpc, pte)	
US7367595 BB	20030924	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOCK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WILLIAMS, PETER C.; KUHNS, HOWARD C.B.; REEL/FRAE:013992/0952 EFFECTIVE DATE : 20000224
US7367595 BB	20080416	LSGT	PAT1	Patented Case	
US7367595 BB	20110923	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7367595 BB	20151106	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7367595 BB	20240114	PEXP		Calculated Patent Term	

				Expiry (PTA 112 days and a terminal disclaimer has been filed)	
US7614668 BA	20091110	LSGT	+	granted / extensions (spc, cpc, pte)	
US7614668 BA	20070717	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: WILLIAMS, PETER C; KUHN, HOWARD C.B.; REEL/FRAME: 019563/0711 EFFECTIVE DATE : 20000224
US7614668 BA	20091021	LSGT	PAT1	Patented Case	
US7614668 BA	20130510	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7614668 BA	20171211	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7614668 BA	20171211	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7614668 BA	20171211	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7614668 BA	20180102	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20171110
US7614668 BA	20270716	PEXP		Calculated Patent Term Expiry (PTA 7 days and a terminal disclaimer has been filed)	
US7699358 BB	20100420	LSGT	+	granted / extensions (spc, cpc, pte)	
US7699358 BB	20100331	LSGT	PAT1	Patented Case	
US7699358 BB	20100831	LSRE	CC	CERTIFICATE OF CORRECTION	
US7699358 BB	20131010	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7699358 BB	20171204	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7699358 BB	20180521	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7699358 BB	20180521	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7699358 BB	20180521	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7699358 BB	20180612	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20180420
US7699358 BB	20280505	PEXP		Calculated Patent Term Expiry	
US7922217 BB	20110412	LSGT	+	granted / extensions (spc, cpc, pte)	
US7922217 BB	20091021	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: WILLIAMS, PETER C.; KUHN, HOWARD C.B.; REEL/FRAME: 023402/0751 EFFECTIVE DATE : 20000224

US7922217 BB	20091021	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SWAGELOK COMPANY,OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WILLIAMS, PETER C.; KUHNS, HOWARD C.B.; REEL/FRAME:023402/0751 EFFECTIVE DATE : 20000224
US7922217 BB	20110323	LSGT	PAT1	Patented Case	
US7922217 BB	20141013	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7922217 BB	20181203	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
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US8480135 BB	20310408	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8777276 BB	20140715	LSGT	+	granted / extensions (spc, cpc, pte)	
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US8777276 BB	20180226	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
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WO9846925 A1	19991029	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1998918092 COUNTRY OF REF DOCUMENT : EP
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WO9846925 A1	20020103	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 71081/98 COUNTRY OF REF DOCUMENT : AU
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WO9846925 A1	20060711	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1019997009469 COUNTRY OF REF DOCUMENT : KR

Title: FITTING FOR USE WITH TUBING CONTAINMENT SYSTEM

Abstract: A fitting for use with metal tubing in a jacket, the fitting including: an adaptor having exterior threads at a first adaptor end, the adaptor having a longitudinal passage for fluid flow; a body having interior threads at a first body end, the interior threads engaging the exterior threads to secure the body to the body in a first body cavity; and a jacket lock ring positioned at a second body end, the jacket lock ring including barbs for engaging a surface of the jacket.

Classifications:

International (IPC 8-9): F16L F16L15/00 F16L15/02 F16L15/04 F16L19/00 F16L23/00 F16L25/00 F16L33/00 F16L33/26 F16L39/02 G01M

G01M3/04 (Advanced/Invention);

F16L15/00 F16L19/00 F16L23/00 F16L25/00 F16L33/26 (Core/Invention);

F16L15/00 F16L15/04 (Core/Non-invention);

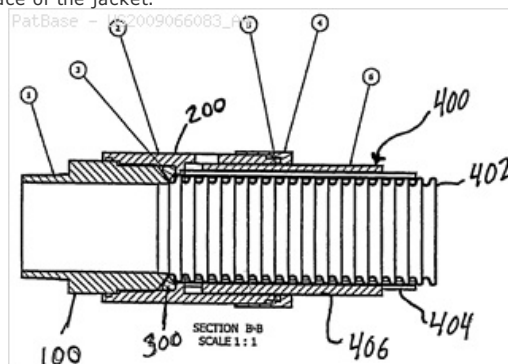
F16L G01M (Subclass/Invention)

International (IPC 1-7): F16L11/15 F16L11/20 F16L25/00 F16L9/06

CPC: F16L39/02 F16L2201/30 F16L25/0036 G01M3/04

European: F16L25/00K

US: 285/13 285/248 285/334.5 285/334.500P 285/354 285/354S



Family:

Publication number	Publication date	Application number	Application date
AR068393 AA	20091111	AR2008P103916	20080910
AU2008299042 AA	20090319	AU20080299042	20080910
AU2008299042 BB	20130131	AU20080299042	20080910
BRPI0816722 A2	20150317	BR2008PI16722	20080910
BRPI0816722 B1	20190702	BR2008PI16722	20080910
CA2696141 AA	20090319	CA20082696141	20080910
CA2696141 C	20161129	CA20082696141	20080910
CL2008002682 A1	20090911	CL20080002682	20080910
CL50722 B	20150311	CL20080002682	20080910
CN101802475 A	20100811	CN200880106351	20080910
CN101802475 B	20130501	CN200880106351	20080910
CO6270167 A2	20110420	CO20100027081	20100308
CY1118491 T1	20170712	CY20171100097T	20170124
DK2188562 T3	20170213	DK20080830952T	20080910
EP2188562 A1	20100526	EP20080830952	20080910
EP2188562 A4	20140326	EP20080830952	20080910
EP2188562 B1	20161026	EP20080830952	20080910
ES2612330 T3	20170516	ES20080830952T	20080910
HK1143196 A1	20170804	HK20100109387	20100930
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HK1143196 B	20170804	HK20100109387	20100930
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MX2010002624 A1	20100326	MX20100002624	20080910
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PE08682009 A1	20090715	PE20080001570	20080909
PT2188562 T	20170203	PT20080830952T	20080910
RU2010114183 A	20111020	RU20100114183	20080910
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RU2466325 C9	20131110	RU20100114183	20080910
SA2784 B1	20111008	SA20080290564	20080910
TR201701008 T4	20170221	TR20170001008T	20080910
TW200933058 A	20090801	TW20080134425	20080908
TWI432664 B	20140401	TW20080134425	20080908
US2009066083 AA	20090312	US20080207626	20080910
US7857358 BB	20101228	US20080207626	20080910
UY31333 A1	20090302	UY20080031333	20080909
WO09035999 A1	20090319	WO2008US75766	20080910
ZA201001682 A	20101124	ZA20100001682	20100309

Priority:

US20070971024P 20070910 EP20080830952 20080910 US20080207626 20080910
WO2008US75766 20080910

Probable Assignee: OMEGA FLEX INC

Assignee(s): (std): OMEGA FLEKS INK ; OMEGA FLEX INC ; RIVEST DEAN W ; ROLLAND STIRLING KEITH

Assignee(s): STIRLING KEITH ROLLAND ; DEAN W RIVEST

Inventor(s): (std): ROLLAND STIRLING KEITH ; RIVEST DEAN W ; DEAN W RIVEST ; STIRLING KEITH ROLLAND ; KEITH ROLLAND STIRLING ; W RIVEST DEAN ; RIVEST DIN V ; ROLLAND STERLING KIT

Inventor(s): WRIVEST DEAN ; ROLLAND STIRLING KEITH RIVEST DEAN W

Agent(s): CULLENS PATENT AND TRADE MARK ATTORNEYS; CULLENS PTY LTD; SPRUSON AND FERGUSON; NORTON

ROSE FULBRIGHT CANADA LLP SENCRL SRL; CLARKE; JAIME EDUARDO DELGADO VILLEGAS; DELORME NICOLAS; DE ELZABURU ALBERTO; DEACONS; GE EHRICH 1995 LTD; UGUR GUERSAD YALCINER; CANTOR COLBURN LLP; FOX DAVID A

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AR068393 AA	20091111	LSPB	+	published / reissued	
AR068393 AA	20150310	LSGT	+FG	GRANT, REGISTRATION	
AU2008299042 AA	20090319	LSPB	+	published / reissued	
AU2008299042 BB	20130131	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2008299042 BB	20130530	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2008299042 BB	20280910	PEXP		Calculated Patent Term Expiry	
BRPI0816722 A2	20190507	LSGT	B09A	DECISION: INTENTION TO GRANT	
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CN101802475 B	20130501	LSGT	+	granted / extensions (spc, cpc, pte)	
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CN101802475 B	20280910	PEXP		Calculated Patent Term Expiry	
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CO6270167 A2	20130429	LSGT	+FG	APPLICATION GRANTED	

CY1118491 T1	20170712	LSGT	+	granted / extensions (spc, cpc, pte)	
DK2188562 T3	20170213	LSGT	+	granted / extensions (spc, cpc, pte)	
DK2188562 T3	20280910	PEXP		Calculated Patent Term Expiry	
EP2188562 A1	20100526	LSPB	+	published / reissued	
EP2188562 A1	20100526	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100315
EP2188562 A4	20140326	LSSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20140225
EP2188562 A4	20160622	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160527
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EP2188562 B1	20161031	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
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EP2188562 B1	20170227	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
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EP2188562 B1	20170810	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 10
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EP2188562 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NO PAYMENT DATE : 20170911 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170906 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170810 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170925 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170905 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20170810 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20170912 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC PAYMENT DATE : 20170728 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI 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 : 20161026
EP2188562 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20170912 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20170906 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20170915 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20170825 YEAR OF FEE PAYMENT : 10

EP2188562 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20170912 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20170904 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20170724 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY PAYMENT DATE : 20170821 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20171002 YEAR OF FEE PAYMENT : 10
EP2188562 B1	20180813	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 11
EP2188562 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170910
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EP2188562 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC PAYMENT DATE : 20180829 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU PAYMENT DATE : 20180824 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20180911 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180828 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20180911 YEAR OF FEE PAYMENT : 11

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	
EP2188562 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20180828 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180905 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20180810 YEAR OF FEE PAYMENT : 11
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EP2188562 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20180717 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20180913 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20180905 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20181231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20180910 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY PAYMENT DATE : 20180807 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20181001 YEAR OF FEE PAYMENT : 11
EP2188562 B1	20190615	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : UEP REF DOCUMENT NUMBER : 840272 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20161026
EP2188562 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO LAPSED DATE : 20080910
EP2188562 B1	20280910	PEXP		Calculated Patent Term Expiry	
ES2612330 T3	20170516	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2612330 T3	20280910	PEXP		Calculated Patent	

					Term Expiry	
HK1143196 A1	20101224	LSPB	+		published / reissued	
HK1143196 A1	20170804	LSPB	+		published / reissued	
HK1143196 A1	20300930	PEXP			Calculated Patent Term Expiry	
HK1143196 A1	20300930	PEXP			Calculated Patent Term Expiry	
HK1143196 B	20170804	LSGT	+		granted / extensions (spc, cpc, pte)	
HK1143196 B	20300930	PEXP			Calculated Patent Term Expiry	
IL204386 A1	20120628	LSPB	+		published / reissued	
IL204386 A1	20121031	LSGT	+FF		PATENT GRANTED	
IL204386 A1	20121129	LSFE	+KB		PATENT RENEWED	
IL204386 A1	20180830	LSFE	+KB		PATENT RENEWED	
MX2010002624 A1	20100326	LSPB	+		published / reissued	
MX2010002624 A1	20130118	LSGT	+FG		GRANT OR REGISTRATION	
NZ583527 A	20121130	LSPB	+		published / reissued	
NZ583527 A	20130328	LSGT	+PSEA		PATENT SEALED	
NZ583527 A	20130328	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 3 YEARS UNTIL 10 SEP 2015 BY CPA GLOBAL EFFECTIVE DATE : 20130318	
NZ583527 A	20150828	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 10 SEP 2016 BY CPA GLOBAL EFFECTIVE DATE : 20150801	
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NZ583527 A	20180727	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 10 SEP 2019 BY CPA GLOBAL EFFECTIVE DATE : 20180726	
PE08682009 A1	20090715	LSPB	+		published / reissued	
PE08682009 A1	20130228	LSGT	+FG		GRANT, REGISTRATION	
PT2188562 T	20170203	LSGT	+		granted / extensions (spc, cpc, pte)	
PT2188562 T	20280910	PEXP			Calculated Patent Term Expiry	
RU2010114183 A	20111020	LSPB	+		published / reissued	
RU2466325 C2	20121110	LSGT	+		granted / extensions (spc, cpc, pte)	
RU2466325 C2	20280910	PEXP			Calculated Patent Term Expiry	
RU2466325 C9	20131110	LSPB	TH4A		REISSUE OF PATENT SPECIFICATION	
SA2784 B1	20111008	LSGT	+		granted / extensions (spc, cpc, pte)	
TR201701008 T4	20170221	LSGT	+		granted / extensions (spc, cpc, pte)	
TR201701008 T4	20280910	PEXP			Calculated Patent	

Term Expiry					
TW200933058 A	20090801	LSPB	+	published / reissued	
TWI432664 B	20140401	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI432664 B	20280908	PEXP		Calculated Patent Term Expiry	
US2009066083 AA	20090312	LSPB	+	published / reissued	
US2009066083 AA	20101208	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7857358 BB	20101228	LSGT	+	granted / extensions (spc, cpc, pte)	
US7857358 BB	20080910	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : OMEGA FLEX, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROLLAND, STIRLING KEITH; RIVEST, DEAN W.; SIGNING DATES FROM 20080908 TO 20080909; REEL/FRAME:021507/0035
US7857358 BB	20080910	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : OMEGA FLEX, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROLLAND, STIRLING KEITH; RIVEST, DEAN W.; REEL/FRAME:021507/0035; SIGNING DATES FROM 20080908 TO 20080909
US7857358 BB	20101208	LSGT	PAT1	Patented Case	
US7857358 BB	20140528	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7857358 BB	20180614	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7857358 BB	20280917	PEXP		Calculated Patent Term Expiry (PTA 7 days)	
UY31333 A1	20090302	LSPB	+	published / reissued	
WO09035999 A1	20090319	LSPB	+	published / reissued	
WO09035999 A1	20080910	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200880106351.3 COUNTRY OF REF DOCUMENT : CN
WO09035999 A1	20100224	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008299042 COUNTRY OF REF DOCUMENT : AU
WO09035999 A1	20100224	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 583527 COUNTRY OF REF DOCUMENT : NZ
WO09035999 A1	20100224	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2696141 COUNTRY OF REF DOCUMENT : CA
WO09035999 A1	20100308	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2010/002624 COUNTRY OF REF DOCUMENT : MX
WO09035999 A1	20100308	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 10027081 COUNTRY OF REF DOCUMENT : CO
WO09035999 A1	20100309	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 204386 COUNTRY OF REF DOCUMENT : IL
WO09035999 A1	20100311	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

WO09035999 A1	20100315	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008830952 COUNTRY OF REF DOCUMENT : EP
WO09035999 A1	20100325	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2008299042 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20080910 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO09035999 A1	20100412	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010114183 COUNTRY OF REF DOCUMENT : RU
WO09035999 A1	20150317	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0816722 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20100308
ZA201001682 A	20101124	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA201001682 A	20300308	PEXP		Calculated Patent Term Expiry	

Title: INCLINED VALVE WITH FORCED ROTATION (VALFORZO)

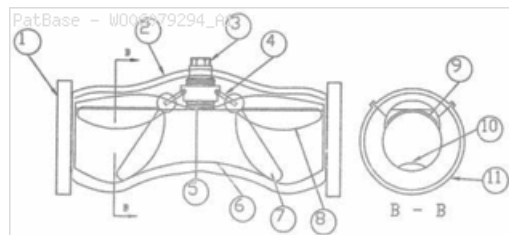
Abstract: The invention relates to an elliptical valve that is suspended from a rotary drum which is sealed to a smooth, inclined surface. The invention essentially takes the form of a small elliptical disc which is uniformly folded at the points along the shorter diagonal, such as to form a circular cap having the same radius as the tubing in which it is installed, thereby enabling same to be concealed without acting as an obstacle to the passage of the fluid. The surface of the seat is curved longitudinally such as to prevent contact with the internal surface of the valve, i.e. only the valve is seated and friction is minimal since there is no contact with the walls. The valve moves by means of a **nut** with the aid of a worm screw on the outside of the valve body and a hexagonal- or other-shaped head for adjustment using a wrench with a standard lever that is moved by an operator. Operation with liquids, such as water, requires the use of an auxiliary valve which can be used to reduce pressure when the latter is very high. The double valve enables the use of a hydraulic cap which in turn partially reduces the water hammer phenomenon. The purpose of the inventive valve is to replace the spherical valve which is large and heavy. In addition, the invention can be used to eliminate the cap that forms part of a gate valve. Moreover, the inventive valve reduces friction losses that can be caused by cracks in standard gate valves. The use of compressible fluids, such as air, dispenses with the need for an auxiliary valve. It is not recommended for operation with an intermediate opening as is possible with a globe valve. The valve is equipped with an upper cover which is used to maintain and replace any part. The invention can be used to obtain a reduction in costs, occupied space and friction losses compared to standard valves.

Classifications:

International (IPC 8-9): F16K15/18 (Advanced/Invention);
F16K15/00 (Core/Invention)

CPC: F16K15/181

European: F16K15/18B



Family:

Publication number	Publication date	Application number	Application date
WO06079294 A1	20060803	WO2005CR00002	20050125

Priority:

WO2005CR00002 20050125

Probable Assignee: AGUILAR ARRIETA DANIEL

Assignee(s): (std): AGUILAR ARRIETA DANIEL

Inventor(s): (std): AGUILAR ARRIETA DANIEL

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
WO06079294 A1	20060803	LSPB	+	published / reissued	
WO06079294 A1	20080227	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 05756113 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO06079294 A1	20080227	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 5756113 COUNTRY OF REF DOCUMENT : EP

Title: Branch-off connection

Abstract: PCT No. PCT/GB93/02121 Sec. 371 Date Jun. 16, 1995 Sec. 102(e) Date Jun. 16, 1995 PCT Filed Oct. 14, 1993 PCT Pub. No. WO94/09305 PCT Pub. Date Apr. 28, 1994 An adaptor (1) and method for fitting or replacing a branch-off connection in a fluid distribution main in which the adaptor (1) is inserted into a hole in the wall of the distribution main, the adaptor (1) comprising a rigid body (2) with an internal bore (3) therein, the internal bore (3) being closed with a displaceable blocking element (10), and a service pipe (16) is inserted into the internal bore (3) of the adaptor (1) so as to displace the blocking element (10) and open the internal bore (3) of the adaptor (1).

Classifications:

International (IPC 8-9): F16L41/08 F16L41/14 (Advanced/Invention);

F16L41/08 (Advanced/Non-invention);

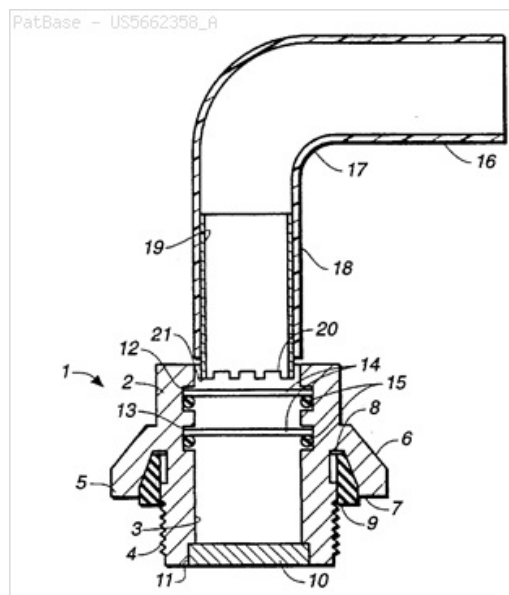
F16L41/08 (Core/Invention)

International (IPC 1-7): F16L F16L35/00 F16L41/02 F16L41/08 F16L41/14 F16L41/16

CPC: F16L41/14

European: F16L41/14

US: 285/197 285/23 285/3



Family:

Publication number	Publication date	Application number	Application date
AT146579 E	19970115	AT19930922601T	19931014
AU199351542 A1	19940509	AU19930051542	19931014
AU679192 B2	19970626	AU19930051542	19931014
CA2147165 AA	19950413	CA19932147165	19931014
CA2147165 C	20050621	CA19932147165	19931014
DE69306807 D1	19970130	DE19936006807	19931014
DE69306807 T2	19970724	DE19936006807T	19931014
DK0664867 T3	19970609	DK19930922601T	19931014
EP0664867 A1	19950802	EP19930922601	19931014
EP0664867 B1	19961218	EP19930922601	19931014
ES2098787 T3	19970501	ES19930922601T	19931014
FI102986 B	19990331	FI19950001795	19950413
FI951795 A	19950601	FI19950001795	19950413
FI951795 A0	19950413	FI19950001795	19950413
GB2273137 A1	19940608	GB19930014003	19930707
GB2273137 B2	19960131	GB19930014003	19930707
GB9221843 A0	19921202	GB19920021843	19921017
GB9314003 A0	19930818	GB19930014003	19930707
HU219284 B	20010328	HU19950001074	19931014
HU70601 A2	19951030	HU19950001074	19931014
HU9501074 A0	19950628	HU19950001074	19931014
JP3445274 B2	20030908	JP19940509767	19931014
JP8504497 T2	19960514	JP19940509767T	19931014
PL172670 B1	19971031	PL19930308362	19931014
PL308362 A1	19950724	PL19930308362	19931014
US5662358 A	19970902	US19950416819	19950616
WO9409305 A1	19940428	WO1993GB02121	19931014

Priority:

GB19920021843 19921017 GB19930014003 19930707 WO1993GB02121 19931014

Probable Assignee: UPONOR ALDYL LTD

Assignee(s): (std): UPONOR ALDYL LTD ; UPONOR LTD ; GODFREY STUART NIGEL ; LEES GEORGE ALBERT

Assignee(s): UPONOR ALDYL LIMITED ; UPONOR LIMITED ; UPONOR LTD ALFRETON DERBYSHIRE GB

Inventor(s): (std): LEES GEORGE ALBERT ; GODFREY STUART NIGEL ; LEES GEORGR A ; GODFREY STUART N

Inventor(s): STUART NIGEL GODFREY ; GEORGE ALBERT LEES ; GODFREY STUART NIGEL SOUTH NORMANTON... ; LEES GEORGE ALBERT KEYWORTH NOTTINGHAM NG12 5HP GB ; GODFREY STUART NIGEL SOUTH NORMANTON DERBYSHIRE DE

Agent(s): WRAYS; WRAYS PTY LTD; GOWLING LAFLEUR HENDERSON LLP

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT146579 E	19970115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT146579 E	20131014	PEXP		Calculated Patent Term Expiry	
AU199351542 A1	19940509	LSPB	+	published / reissued	
AU679192 B2	19970626	LSGT	+	granted / extensions (spc, cpc, pte)	
AU679192 B2	20131014	PEXP		Calculated Patent Term Expiry	
CA2147165 AA	19950413	LSPB	+	published / reissued	
CA2147165 AA	20001004	LSES	+EEER	EXAMINATION REQUEST	
CA2147165 C	20050621	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2147165 C	20071015	LSLE	-MKLA	LAPSED	
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DK0664867 T3	19970609	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP0664867 A1	19950802	LSPB	+	published / reissued	
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EP0664867 A1	19960313	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19960126
EP0664867 B1	19961218	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP0664867 B1	20070727	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20070629
EP0664867 B1	20080116	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20061016
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GB2273137 A1	19940608	LSPB	+	published / reissued	
GB2273137 B2	19960131	LSGT	+	granted / extensions (spc, cpc, pte)	
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HU219284 B	20131014	PEXP		Calculated Patent Term Expiry	
HU70601 A2	19951030	LSPB	+	published / reissued	
JP3445274 B2	20030908	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3445274 B2	20060627	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3445274 B2	20131014	PEXP		Calculated Patent Term Expiry	
JP8504497 T2	19960514	LSPB	+	published / reissued	
PL172670 B1	19971031	LSGT	+	granted / extensions (spc, cpc, pte)	
PL172670 B1	20080630	LSLE	-LAPS	DECISIONS ON THE LAPSE OF THE PROTECTION RIGHTS	EFFECTIVE DATE : 20061014
PL308362 A1	19950724	LSPB	+	published / reissued	

US5662358 A	19970902	LSGT	+	granted / extensions (spc, cpc, pte)	
US5662358 A	19960226	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : UPONOR ALDYL LIMITED, UNITED KINGDOM OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LEES, GEORGE ALBERT; GODFREY, STUART NIGEL; REEL/FRAME:007834/0898 EFFECTIVE DATE : 19960124
US5662358 A	19960226	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : UPONOR ALDYL LIMITED, UNITED KINGDOM OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:UPONOR LIMITED; REEL/FRAME:007834/0923 EFFECTIVE DATE : 19960112
US5662358 A	19960819	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : UPONOR LIMITED, UNITED KINGDOM OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT CONVEYING PARTY AND RECEIVING PARTY, PREVIOUSLY RECORDED AT REEL 7834 AND FRAME 0923; ASSIGNOR:UPONOR ALDYL LIMITED; REEL/FRAME:008089/0524 EFFECTIVE DATE : 19960112
US5662358 A	20010517	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5662358 A	20050215	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5662358 A	20090902	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5662358 A	20090928	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5662358 A	20090928	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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US5662358 A	20150616	PEXP		Calculated Patent Term Expiry	
WO9409305 A1	19940428	LSPB	+	published / reissued	
WO9409305 A1	19950413	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2147165 COUNTRY OF REF DOCUMENT : CA
WO9409305 A1	19950413	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 951795 COUNTRY OF REF DOCUMENT : FI
WO9409305 A1	19950418	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1993922601 COUNTRY OF REF DOCUMENT : EP
WO9409305 A1	19950616	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 08416819 COUNTRY OF REF DOCUMENT : US
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WO9409305 A1	19990331	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 951795 COUNTRY OF REF DOCUMENT : FI
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Title: SENSOR FOR A FINGERBOARD LATCH ASSEMBLY

Abstract: A sensor unit for a fingerboard latch assembly comprising a latch bracket and a latch rotatably mounted on the latch bracket comprises a sensor arranged to sense the orientation of the latch and a wireless, optical or other communication unit arranged to communicate the orientation of the latch sensed by the sensor. The sensor unit may be mountable on the latch and comprise an orientation sensor arranged to take measurements that are dependent on the orientation of the sensor unit, and a processor arranged to derive an orientation signal representing the orientation of the latch from the measurements, the communication unit being arranged to communicate the orientation signal. A monitoring system receives the sensed orientations from plural sensor units.

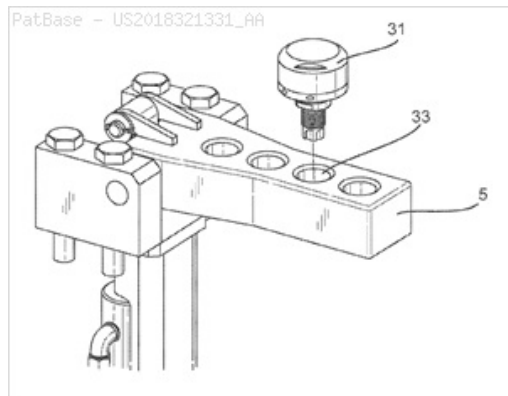
Classifications:

International (IPC 8-9): E21B19/14 E21B19/15 E21B23/04 E21B47/09
F03G7/08 F16B39/12 F16L3/00 G01C9/08 G01D7/00 G01R33/07
G08C17/00 G08C17/02 G08C23/04 (Advanced/Invention)

International (IPC 1-7): E21B19/14 F16L3/00

CPC: G01C9/08 F16B39/12 G01R33/07 E21B23/04 E21B47/09
G01R33/072 F16L3/00 E21B19/15 G01D7/005 H04W16/28 G08C23/04
G08C17/02 E21B19/14

US: 175/52 324/207.13



Family:

Publication number	Publication date	Application number	Application date
AU2017294148 AA	20190221	AU20170294148	20170704
AU2017357634 AA	20190620	AU20170357634	20170824
BR112019000094 A2	20190409	BR20191100094	20170704
CA3029116 AA	20181221	CA20173029116	20170704
CA3029116 AA	20180111	CA20173029116	20170704
CA3041945 AA	20190426	CA20173041945	20170824
CN109661500 A	20190419	CN201780041748	20170704
EP3482033 A1	20190515	EP20170739652	20170704
GB201611744 A0	20160817	GB20160011744	20160705
GB201615037 A0	20161019	GB20160015037	20160905
GB201700925 A0	20170308	GB20170000925	20170119
GB201701273 A0	20170308	GB20170001273	20170125
GB201703269 A0	20170412	GB20170003269	20170228
GB201705355 A0	20170517	GB20170005355	20170403
GB201707923 A0	20170628	GB20170007923	20170517
SG11201811822W A1	20190130	SG20181111822	20170704
US2018321331 AA	20181108	US20180039108	20180718
US2018328124 AA	20181115	US20180039058	20180718
US2019211635 AA	20190711	US20170086236	20170704
US10240408 BB	20190326	US20180039108	20180718
WO18007804 A1	20180111	WO2017GB51972	20170704
WO18087511 A1	20180517	WO2017GB52494	20170824

Priority:

GB20160011744	20160705	GB20160015037	20160905	GB20160018935	20161109
GB20160018910	20161109	GB20170000925	20170119	GB20170001273	20170125
GB20170003269	20170228	GB20170005355	20170403	GB20170007923	20170517
WO2017GB51972	20170704	WO2017GB52494	20170824	US20180039108	20180718
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Probable Assignee: SALUNDA LTD

Assignee(s): (std): FINLAY ALAN P AND SALUNDA LTD ; FINLAY ALAN PATRICK ; SALUNDA LTD

Assignee(s): NEWTON JOHN MARK ; NICHOLLS GRANT ; DAVIS MATHEW WILLIAM ; FINLAY ALAN PATRICK JOHN ; LARKINS ANDREW HENRY JOHN

Inventor(s): (std): FINLAY ALAN PATRICK JOHN ; NEWTON JOHN MARK ; LARKINS ANDREW HENRY JOHN ; DAVIS MATHEW ; NICHOLLS GRANT ; DAVIS MATHEW WILLIAM

Inventor(s): ALAN PATRICK JOHN FINLAY ; JOHN MARK NEWTON ; ANDREW HENRYJOHN LARKINS ; MATHEW WILLIAM DAVIS ; GRANT NICHOLLS

Agent(s): FB RICE PTY LTD; KIRBY EADES GALE BAKER; J A KEMP; HONIGMAN LLP; MERRYWEATHER COLIN HENRY

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 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

Patent	Date recorded	Event group	Code	Event	Details
AU2017294148 AA	20190221	LSPB	+	published / reissued	
AU2017357634 AA	20190620	LSPB	+	published / reissued	
CA3029116 AA	20180111	LSPB	+	published / reissued	
CA3029116 AA	20181221	LSPB	+	published / reissued	
CA3041945 AA	20190426	LSPB	+	published / reissued	
CN109661500 A	20190419	LSPB	+	published / reissued	
CN109661500 A	20190419	LSPB	PB01	PUBLICATION	
EP3482033 A1	20190515	LSPB	+	published / reissued	
EP3482033 A1	20190515	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20190125
GB201611744 A0	20171101	LSAS	COOA	CHANGE IN APPLICANT'S NAME OR OWNERSHIP OF THE APPLICATION	PARTYTYPE : OWNER OWNER : SALUNDA LIMITED OLDPARTY : FORMER OWNER: ALAN PATRICK FINLAY
GB201611744 A0	20180103	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GB201615037 A0	20180307	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GB201700925 A0	20171101	LSAS	COOA	CHANGE IN APPLICANT'S NAME OR OWNERSHIP OF THE APPLICATION	PARTYTYPE : OWNER OWNER : SALUNDA LIMITED OLDPARTY : FORMER OWNER: ALAN PATRICK FINLAY
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GB201701273 A0	20180912	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GB201703269 A0	20180822	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GB201705355 A0	20181003	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
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SG11201811822W A1	20190130	LSPB	+	published / reissued	
US10240408 BB	20190326	LSGT	+	granted / extensions (spc, cpc, pte)	
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US10240408 BB	20180924	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SALUNDA LIMITED, UNITED KINGDOM OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FINLAY, ALAN PATRICK JOHN; NEWTON, JOHN MARK; LARKINS, ANDREW HENRY JOHN; AND OTHERS; SIGNING DATES FROM 20180913 TO 20180924; REEL/FRAME:046953/0716
US10240408 BB	20190306	LSGT	PAT1	Patented Case	
US10240408 BB	20380718	PEXP		Calculated Patent Term Expiry	
US2018321331 AA	20181108	LSPB	+	published / reissued	
US2018321331 AA	20190103	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018321331 AA	20190201	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2018321331 AA	20190211	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2018321331 AA	20190306	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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US2018328124 AA	20190628	LSES	NFA1	Non Final Action Mailed	
US2019211635 AA	20190711	LSPB	+	published / reissued	
US2019211635 AA	20181128	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SALUNDA LIMITED, UNITED KINGDOM OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FINLAY, ALAN PATRICK JOHN; LARKINS, ANDREW HENRY JOHN; NICHOLLS, GRANT; AND OTHERS; SIGNING DATES FROM 20181026 TO 20181106; REEL/FRAME:047611/0541
WO18007804 A1	20180111	LSPB	+	published / reissued	
WO18007804 A1	20181221	LSNP	ENP	ENTRY INTO	REF DOCUMENT NUMBER : 3029116

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	20190221	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017294148 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20170704 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
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WO18087511 A1	20190510	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18087511 A1	20190614	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017758922 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190611
WO18087511 A1	20190620	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017357634 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20170824 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

Title: Plastic bore seal

Abstract: A plastic bore seal assembly, for use in a static or dynamic mode, comprising a sleeve-type seal element with an annular sealing lip at each end thereof, an anti-extrusion ring surrounding the seal element intermediate the sealing lips, one or more sleeve-like finger springs within the seal element, and optionally a wear sleeve within the seal element bore.

Classifications:

International (IPC 8-9): E21B17/04 F16J15/14 F16J15/32 F16L17/00 F16L17/06 F16L19/02 F16L19/03 F16L27/08 (Advanced/Invention); F16L17/00 (Advanced/Non-invention);

E21B17/02 F16J15/32 F16L17/00 F16L19/02 F16L27/00 (Core/Invention)

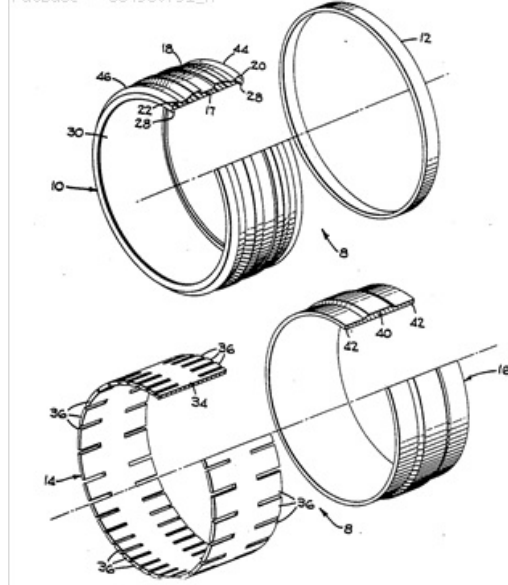
International (IPC 1-7): E21B17/04 F16J15/14 F16J15/32 F16J9/08 F16L15/04E02 F16L17/00 F16L17/025 F16L17/03 F16L19/03 F16L21/02 F16L21/2 F16L23/16 F16L27/08

CPC: F16J15/3256 F16L17/06 F16L19/0212

European: F16J15/32E2B F16L17/06 F16L19/02D

US: 277/151 277/198 277/207R 277/208 277/235R 277/607 277/614 277/615 277/616 285/354

PatBase - US4930791_R



Family:

Publication number	Publication date	Application number	Application date
AR244412 A1	19931029	AR19900316584	19900409
AU199052587 A1	19901011	AU19900052587	19900404
AU627857 B2	19920903	AU19900052587	19900404
BRPI9001668 A	19910514	BR1990PI01668	19900409
CA2012033 AA	19901010	CA19902012033	19900313
CA2012033 C	19940222	CA19902012033	19900313
DE69002183 D1	19930819	DE19906002183	19900410
DE69002183 T2	19931028	DE19906002183T	19900410
EP0392470 A2	19901017	EP19900106874	19900410
EP0392470 A3	19910724	EP19900106874	19900410
EP0392470 B1	19930714	EP19900106874	19900410
ES2041465 T3	19931116	ES19900106874T	19900410
JP1990536 C3	19951108	JP19900092379	19900409
JP3206288 A2	19910909	JP19900092379	19900409
JP7013428 B4	19950215	JP19900092379	19900409
MX172951 B	19940125	MX19900020206	19900405
NO300563 B1	19970616	NO19900001619	19900409
NO901619 A	19901011	NO19900001619	19900409
NO901619 A0	19900409	NO19900001619	19900409
NO901619 L	19901011	NO19900001619	19900409
US4930791 A	19900605	US19890415465	19891002

Priority:

US19890335630 19890410 US19890415465 19891002 CA19902012033 19900313

Probable Assignee: FMC TECHNOLOGIES INC

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Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; FPA PATENT ATTORNEYS PTY LTD; SIM AND MCBURNEY

Designated states: BE DE ES FR GB IT NL

Legal status (INPADOC)

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Patent Date recorded Event group Code Event

Details

AR244412 A1	19931029	LSGT	+	granted / extensions (spc, cpc, pte)	
AR244412 A1	20100409	PEXP		Calculated Patent Term Expiry	
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AU627857 B2	19920903	LSGT	+	granted / extensions (spc, cpc, pte)	
AU627857 B2	20021107	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU627857 B2	20100404	PEXP		Calculated Patent Term Expiry	
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EP0392470 A2	19910619	LSRE	RHK1	MAIN CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : F16L 21/02
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JP7013428 B4	19950215	LSPB	+	published / reissued	
MX172951 B	19940125	LSGT	+	granted / extensions (spc, cpc, pte)	
MX172951 B	20080125	PEXP		Calculated Patent Term Expiry	
NO300563 B1	19970616	LSGT	+	granted / extensions (spc, cpc, pte)	
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NO300563 B1	20100409	PEXP		Calculated Patent Term Expiry	
NO901619 A	19901011	LSPB	+	published / reissued	
US4930791 A	19900605	LSGT	+	granted / extensions (spc, cpc, pte)	
US4930791 A	19900410	LSGT	PAT1	Patented Case	
US4930791 A	19900410	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US4930791 A	19931202	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4930791 A	19970929	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4930791 A	20010928	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
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US4930791 A	20091002	PEXP		Calculated Patent Term Expiry	

Title: RAPID ASSEMBLY FLANGE JOINT

Abstract: The invention relates to flange joint devices. The rapid assembly flange joint consists of a connecting device in the form of a constricting collar made up of at least two parts with a shaped groove on the concave face, said channel corresponding to the cross-section of the two coupled flanges of the members that are being connected, and clamping elements in the form of retaining sections on the flanges. The connecting device is provided with fasteners in the form of walls; the retaining sections are in the form of grooves, the width of which is not less than the thickness of the one or two fasteners that engage therewith. The number of grooves is not less than the number of component parts of the connecting device. The invention provides for a reliable connection between flanged cylindrical members without the need for additional fastening and clamping elements and without increasing the sizes of the connection point.

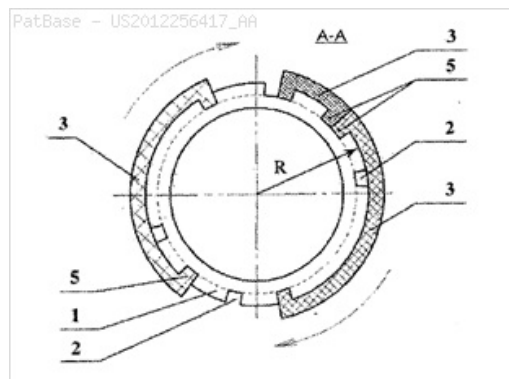
Classifications:

International (IPC 8-9): B23P11/00 F16L23/00 F16L23/04 F16L37/12 (Advanced/Invention)

CPC: F16L23/04 F16L37/1225 Y10T29/49826

European: F16L23/00J F16L23/02 F16L23/032 F16L23/036

US: 285/406 29/428



Family:

Publication number	Publication date	Application number	Application date
BR112012011555 A2	20170912	BR20121111555	20101006
CN102770700 A	20121107	CN201080052140	20101006
CN102770700 B	20151216	CN201080052140	20101006
DE602010018637 D1	20141009	DE201060018637T	20101006
EP2503204 A1	20120926	EP20100831856	20101006
EP2503204 A4	20130828	EP20100831856	20101006
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IN03570DN2012 A	20151030	IN2012DN03570	20120424
RU2418227 C1	20110510	RU20090144014	20091120
US2012256417 AA	20121011	US20100510953	20101006
US9845905 BB	20171219	US20100510953	20101006
WO11062519 A1	20110526	WO2010RU00559	20101006

Priority:

RU20090144014 20091120 EP20100831856 20101006 WO2010RU00559 20101006

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Agent(s): MEISSNER BOLTE AND PARTNER GBR; RUPPRECHT KAY; HOFFMANN AND BARON LLP; SMIRNOVA LUDMILA NIKOLAEVNA

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LR LK 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 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
CN102770700 A	20121107	LSPB	+	published / reissued	
CN102770700 A	20121107	LSPB	+C06	PUBLICATION	
CN102770700 B	20151216	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102770700 B	20151216	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
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EP2503204 A1	20120926	LSPB	+	published / reissued	
EP2503204 A1	20120926	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120507
EP2503204 A4	20130828	LSSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20130731
EP2503204 A4	20140507	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20140410
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EP2503204 B1	20150128	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20140827
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EP2503204 B1	20150430	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT : RO

				CONTRACTING STATE [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 : 20140827
EP2503204 B1	20150430	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 : 20140827
EP2503204 B1	20150430	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 : 20140827
EP2503204 B1	20150430	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 : 20140827
EP2503204 B1	20150430	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 : 20140827
EP2503204 B1	20150430	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 : 20140827
EP2503204 B1	20150528	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602010018637 COUNTRY OF REF DOCUMENT : DE
EP2503204 B1	20150529	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 : 20140827
EP2503204 B1	20150529	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20140827
EP2503204 B1	20150529	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20141006
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EP2503204 B1	20150630	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 : 20141031
EP2503204 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE

EP2503204 B1	20150731	LSLE	-PG25	POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO] LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	FEES LAPSED DATE : 20141031 COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20141031
EP2503204 B1	20150805	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20150528
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EP2503204 B1	20151130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20140827
EP2503204 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SM NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20140827
EP2503204 B1	20160729	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 : 20140827
EP2503204 B1	20160729	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; INVALID AB INITIO LAPSED DATE : 20101006
EP2503204 B1	20160729	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 : 20140827
EP2503204 B1	20160729	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 : 20140827
EP2503204 B1	20161031	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 : 7
EP2503204 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161031 YEAR OF FEE PAYMENT : 7
EP2503204 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20161026 YEAR OF FEE PAYMENT : 7
EP2503204 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161028 YEAR OF FEE PAYMENT : 7
EP2503204 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO	COUNTRY OF REF DOCUMENT : GB

				NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	PAYMENT DATE : 20161027 YEAR OF FEE PAYMENT : 7
EP2503204 B1	20171031	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 8
EP2503204 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171027 YEAR OF FEE PAYMENT : 8
EP2503204 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171031 YEAR OF FEE PAYMENT : 8
EP2503204 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20171027 YEAR OF FEE PAYMENT : 8
EP2503204 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171024 YEAR OF FEE PAYMENT : 8
EP2503204 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MK 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 : 20140827
EP2503204 B1	20181025	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 9
EP2503204 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AL 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 : 20140827
EP2503204 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 : 9
EP2503204 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20181026 YEAR OF FEE PAYMENT : 9
EP2503204 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181025 YEAR OF FEE PAYMENT : 9
EP2503204 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181016 YEAR OF FEE PAYMENT : 9
EP2503204 B1	20301006	PEXP		Calculated Patent Term Expiry	
IN03570DN2012 A	20151030	LSPB	+	published / reissued	
RU2418227 C1	20110510	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2418227 C1	20291120	PEXP		Calculated Patent Term Expiry	
US2012256417 AA	20121011	LSPB	+	published / reissued	
US2012256417 AA	20160121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ELECTROPHOR, INC., NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR: AQUAPHOR CORPORATION; REEL/FRAME: 037544/0797

					EFFECTIVE DATE : 20151223
US2012256417 AA	20160121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AQUAPHOR CORPORATION, RUSSIAN FEDERATION OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SMIRNOV, SERGEY VICTOROVICH; KNIZEL, VADIM NIKOLAEVICH; REEL/FRAME:037544/0656 EFFECTIVE DATE : 20151223
US2012256417 AA	20170731	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2012256417 AA	20170806	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2012256417 AA	20170818	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2012256417 AA	20171017	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2012256417 AA	20171019	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2012256417 AA	20171026	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2012256417 AA	20171027	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2012256417 AA	20171129	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9845905 BB	20171219	LSGT	+	granted / extensions (spc, cpc, pte)	
US9845905 BB	20131202	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US9845905 BB	20171129	LSGT	PAT1	Patented Case	
US9845905 BB	20301006	PEXP		Calculated Patent Term Expiry	
WO11062519 A1	20110526	LSPB	+	published / reissued	
WO11062519 A1	20101006	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201080052140.3 COUNTRY OF REF DOCUMENT : CN
WO11062519 A1	20120424	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 3570/DELNP/2012 COUNTRY OF REF DOCUMENT : IN
WO11062519 A1	20120507	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010831856 COUNTRY OF REF DOCUMENT : EP
WO11062519 A1	20120520	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13510953 COUNTRY OF REF DOCUMENT : US
WO11062519 A1	20120521	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11062519 A1	20170912	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112012011555 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20120515

Title: Press joint between a fitting and a **pipe** end

Abstract: The durable press fit bond, for the end of a **pipe** in a fitting, is formed through cold shaping. A seal is laid in a groove (5) of the fitting (2). When the end of the **pipe** (1) is pushed over the fitting, the leakage point (D) is closed by the cold pressing action, which distorts the end of the **pipe** at the seal (6) against the inner surface (9) of the **pipe** end. The leakage point is developed by a tool at the installation site.

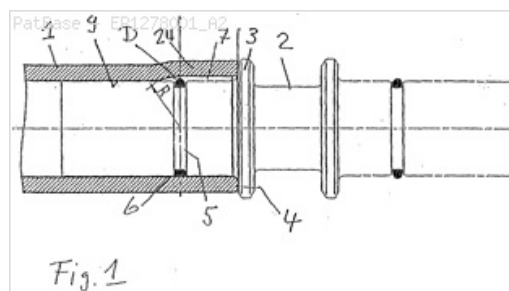
Classifications:

International (IPC 8-9): F16L13/14 (Advanced/Invention); F16L13/14 (Core/Invention)

International (IPC 1-7): F16L13/14

CPC: F16L13/143 F16L13/148

European: F16L13/14 F16L13/14B6 F16L13/14H



Family:

Publication number	Publication date	Application number	Application date
AT292769 E	20050415	AT20020405592T	20020712
DE50202693 D1	20050512	DE20025002693	20020712
EP1278001 A2	20030122	EP20020405592	20020712
EP1278001 A3	20030917	EP20020405592	20020712
EP1278001 B1	20050406	EP20020405592	20020712

Priority:

CH20010001342 20010719

Probable Assignee: GEBERIT TECHNIK AG

Assignee(s): (std): GEBERIT TECHNIK AG

Assignee(s): GEBERIT TECHNIK AG JONA

Inventor(s): (std): ALLEMANN RUDOLF ; RUEEGG URS ; WILI HANSRUEDI ; SCHOLZ JUERG

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT292769 E	20050415	LSGT	+	granted / extensions (spc, cpc, pte)	
AT292769 E	20061015	LSRV	-RZN	PATENT REVOKED	
AT292769 E	20220712	PEXP		Calculated Patent Term Expiry	
DE50202693 D1	20060420	LSOP	-8363	OPPOSITION AGAINST THE PATENT	
DE50202693 D1	20070516	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
EP1278001 A2	20030122	LSPB	+	published / reissued	
EP1278001 A3	20040331	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20040124
EP1278001 A3	20040609	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : BG COUNTRY OF REF DOCUMENT : CH COUNTRY OF REF DOCUMENT : CY COUNTRY OF REF DOCUMENT : CZ COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : EE 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

					COUNTRY OF REF DOCUMENT : SK COUNTRY OF REF DOCUMENT : TR
EP1278001 A3	20040623	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20040510
EP1278001 B1	20050406	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1278001 B1	20050406	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 : 20050406
EP1278001 B1	20050406	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 : 20050406
EP1278001 B1	20050406	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 : 20050406
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EP1278001 B1	20050406	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP1278001 B1	20050415	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1278001 B1	20050504	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : LANGUAGE OF EP DOCUMENT: GERMAN
EP1278001 B1	20050609	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20050609 YEAR OF FEE PAYMENT : 4
EP1278001 B1	20050614	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20050614 YEAR OF FEE PAYMENT : 4
EP1278001 B1	20050617	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20050617 YEAR OF FEE PAYMENT : 4

EP1278001 B1	20050628	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20050628 YEAR OF FEE PAYMENT : 4
EP1278001 B1	20050706	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050706
EP1278001 B1	20050706	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050706
EP1278001 B1	20050706	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050706
EP1278001 B1	20050706	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050706
EP1278001 B1	20050712	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050712
EP1278001 B1	20050712	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050712
EP1278001 B1	20050717	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050717
EP1278001 B1	20050731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050731
EP1278001 B1	20050908	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050908
EP1278001 B1	20051130	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FD4D
EP1278001 B1	20060208	LSOP	-26	OPPOSITION FILED	PARTYTYPE : OPPONENT OPPONENT : UPONOR INNOVATION AB EFFECTIVE DATE : 20051215

EP1278001 B1	20060403	LSOP	-NLR1	NL: OPPOSITION HAS BEEN FILED WITH THE EPO	PARTYTYPE : OPPONENT REF COUNTRY CODE : EP OPPONENT : UPONOR INNOVATION AB
EP1278001 B1	20060726	LSRV	-27W	PATENT REVOKED	EFFECTIVE DATE : 20060526
EP1278001 B1	20060726	LSRV	-GBPR	GB: PATENT REVOKED UNDER ART. 102 OF THE EP CONVENTION DESIGNATING THE UK AS CONTRACTING STATE	REF COUNTRY CODE : EP TEXT : 20060526
EP1278001 B1	20060731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20060731 YEAR OF FEE PAYMENT : 5
EP1278001 B1	20060731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1278001 B1	20061002	LSOP	NLR2	NL: DECISION OF OPPOSITION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20060526
EP1278001 B1	20100421	LSOP	-R26	OPPOSITION FILED (CORRECTED)	PARTYTYPE : OPPONENT OPPONENT : UPONOR INNOVATION AB EFFECTIVE DATE : 20051215
EP1278001 B1	20220712	PEXP		Calculated Patent Term Expiry	

Title: ADJUSTABLE PRESSURE VARIABLE RESPONSE FLUID BRAKE SYSTEM REGULATORS

Abstract: Disclosed is a regulator for use in fluid braking systems of motor vehicles, particularly hydraulic braking systems. The regulator includes a housing which is advantageously formed of a main housing piece and a detachable cap piece. A resilient bulb is mounted within the housing, such as between the main piece and cap. The housing includes a bulb cavity in which expandable portions of the resilient bulb are mounted. The bulb cavity is larger than the resilient bulb so that increased braking pressures applied by the braking system to the interior of the bulb cause the bulb to expand outwardly within the cavity. The space between the interior surfaces of the cavity and the outer surfaces of the bulb define a bulb restraint chamber. The housing is preferably provided with a restraint pressure supply which allows a desired, elevated restraint pressure to be established within the restraint chamber. The bulb restraint chamber is advantageously provided with a restraint member which is preferably elastic and mounted to the interior surfaces of the bulb cavity so as to extend inwardly. The restraint member is positioned to engage the bulb within a medial band. The restraint member provides decreasing responsiveness of the bulb as braking pressure increases but increases responsiveness at high pressures which would otherwise fully expand the bulb. This and the pressurized restraint chamber provide improved operation over a wide range of braking pressures.

Classifications:

International (IPC 8-9): B41J33/14 B60T11/18 B60T15/36 B60T17/00 B60T17/04 F16L55/04 (Advanced/Invention); B60T11/16 B60T15/00 B60T17/00 F16L55/04 (Core/Invention); B60T (Subclass/Invention)

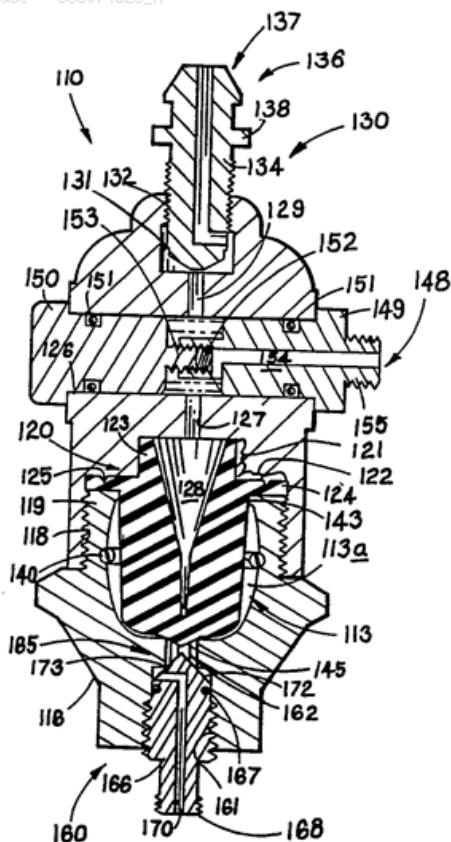
International (IPC 1-7): B41J33/14 B60T10/02 B60T15/00 B60T15/36 B60T17/00 B60T17/04 B60T8/00 F16D65/14 F16L55/04

CPC: Y10T137/86381 B60T8/42 B60T11/18 B60T17/00 F16L55/04

European: B60T11/18 B60T17/00 B60T8/42 F16L55/04

US: 137/568 137/593 138/30 303/87

PatBase - US5074625_A

**Family:**

Publication number	Publication date	Application number	Application date
AU199175590 A1	19911010	AU19910075590	19910312
AU655765 B2	19950112	AU19910075590	19910312
BRPI9106152 A	19930309	BR1991PI06152	19910312
CA2078149 AA	19920911	CA19912078149	19910312
EP0520030 A1	19921230	EP19910907064	19910312
EP0520030 A4	19940413	EP19910907064	19910312
FI924070 A	19920911	FI19920004070	19920911
FI924070 A0	19920911	FI19920004070	19920911
HU64896 A2	19940328	HU19920002907	19910312
HU9202907 A0	19930329	HU19920002907	19910312
JP5504315 T2	19930708	JP19910506579	19910312
KR19910016554 A	19911105	KR19900012125	19900808
KR920010515 B1	19921204	KR19900012125	19900808
NO923545 A	19921111	NO19920003545	19920911
NO923545 A0	19920911	NO19920003545	19920911
NO923545 L	19921111	NO19920003545	19920911
OA9614 A	19930430	OA19920060271	19920910
RU2048328 C1	19951120	SU19915053126	19910312
TW203580 B	19930411	TW19920106855	19920829
US5074625 A	19911224	US19900491706	19900312
US5265942 A	19931130	US19910805851	19911210
US5380074 A	19950110	US19930152438	19931112

Priority:

US19900491706 19900312 WO1991US01644 19910312 US19910805851 19911210
US19930152438 19931112

Probable Assignee: JONES

Assignee(s): (std): COMPAQ COMPUTER CORP ; ED F DZHOUNZ ; ED F JONES ; JONES ELLSWORTH FORREST ; JONES ELLSWORTH F ; JONES ED F ; ELLSWORTH FORREST JONES ; JONES

Assignee(s): JONES ED F US ; CASCADE RANGE LLC ; CASCADE RANGE LLC C O JEFFREY POOLE ; CASCADE RANGE LLC C O JEFFREY POOLE ESQ 600 ; MANNAHOUSE FELLOWSHIP MINISTRIES PO BOX ; MANNAHOUSE FELLOWSHIP MINISTRIES

Inventor(s): (std): JONES ELLSWORTH FORREST ; ED F DZHOUNZ ; JONES ELLSWORTH F ; JONES ED F ; ELLSWORTH FORREST JONES

Inventor(s): ED F JONES

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; RICHES MCKENZIE AND HERBERT LLP

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199175590 A1	19911010	LSPB	+	published / reissued	
AU655765 B2	19950112	LSGT	+	granted / extensions (spc, cpc, pte)	
AU655765 B2	20110312	PEXP		Calculated Patent Term Expiry	
BRPI9106152 A	19930309	LSPB	+	published / reissued	
BRPI9106152 A	19951010	LSGT	+FF	DECISION: INTENTION TO GRANT	
BRPI9106152 A	19960319	LSFE	KD	FEES DUE (LETTER PATENT)	
BRPI9106152 A	19961029	LSGT	+FG	LETTER PATENT GRANTED	
BRPI9106152 A	20100706	LSLE	-B21A	EXPIRY ACC. ART. 78, ITEM I OF IPL- EXPIRY OF THE TERM OF PROTECTION	TEXT : PATENTE EXTINTA EM 12/03/2006
CA2078149 AA	19920911	LSPB	+	published / reissued	
CA2078149 AA	19930218	LSSES	+EEER	EXAMINATION REQUEST	
CA2078149 AA	20020521	LSLE	-FZDE	DEAD	
EP0520030 A1	19921230	LSPB	+	published / reissued	
EP0520030 A1	19921230	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19920929
EP0520030 A4	19940413	LSSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 19940223
EP0520030 A4	19950222	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19950111
EP0520030 A4	19960327	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 19951002
FI924070 A	19920911	LSPB	+	published / reissued	
FI924070 A	19961009	LSLE	-FD	APPLICATION LAPSED	
HU64896 A2	19940328	LSPB	+	published / reissued	
HU64896 A2	19961230	LSLE	DFD9	TEMPORARY PROT. CANCELLED DUE TO NON-PAYMENT OF FEE	
HU64896 A2	19970128	LSRE	DNF4	RESTORATION OF LAPSED FINAL PROT.	
HU64896 A2	19971229	LSLE	DFD9	TEMPORARY PROT. CANCELLED DUE TO NON-PAYMENT OF FEE	
JP5504315 T2	19930708	LSPB	+	published / reissued	
KR19910016554 A	19911105	LSPB	+	published / reissued	
KR920010515 B1	19921204	LSGT	+	granted / extensions (spc, cpc, pte)	

KR920010515 B1	19910311	LSES	A201	REQUEST FOR EXAMINATION	
KR920010515 B1	19920330	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR920010515 B1	19921105	LSPB	G160	DECISION TO PUBLISH PATENT APPLICATION	
KR920010515 B1	19930204	LSOP	-0035	OPPOSITION [PATENT]: REQUEST FOR OPPOSITION	
KR920010515 B1	19931224	LSAL	J2X1	APPEAL (BEFORE THE PATENT COURT)	TEXT : TRIAL NUMBER: 1993201002541; APPEAL AGAINST DECISION TO DECLINE REFUSAL
KR920010515 B1	19931224	LSAL	J2X1	APPEAL (BEFORE THE PATENT COURT)	TEXT : APPEAL AGAINST DECISION TO DECLINE REFUSAL
KR920010515 B1	19960629	LSGT	+B701	DECISION TO GRANT	
KR920010515 B1	19960828	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR920010515 B1	19980529	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 19980529 YEAR OF FEE PAYMENT : 6
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KR920010515 B1	20100808	PEXP		Calculated Patent Term Expiry	
NO923545 A	19921111	LSPB	+	published / reissued	
OA9614 A	19930430	LSGT	+	granted / extensions (spc, cpc, pte)	
OA9614 A	20120910	PEXP		Calculated Patent Term Expiry	
RU2048328 C1	19951120	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2048328 C1	20110312	PEXP		Calculated Patent Term Expiry	
TW203580 B	19930411	LSGT	+	granted / extensions (spc, cpc, pte)	
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TW203580 B	20120829	PEXP		Calculated Patent Term Expiry	
US5074625 A	19911224	LSGT	+	granted / extensions (spc, cpc, pte)	
US5074625 A	19911216	LSGT	PAT1	Patented Case	
US5074625 A	19911216	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5074625 A	19950616	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5074625 A	19980928	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MANNAHOUSE FELLOWSHIP MINISTRIES, WASHINGTON OLDPARTY : CORRECTIV; ASSIGNOR: JONES, ED F., BRAKE GUARD PRODUCTS, INC.; REEL/FRAME: 009857/0194 EFFECTIVE DATE : 19980922
US5074625 A	19990624	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5074625 A	20011015	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CASCADE RANGE, LLC, WASHINGTON OLDPARTY : ASSIGNMENT WITH CO-CONSENT; ASSIGNOR: JONES, ELLSWORTH (ED) F.; REEL/FRAME: 012263/0217 EFFECTIVE DATE : 20010926
US5074625 A	20031112	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5074625 A	20100312	PEXP		Calculated Patent	

Term Expiry					
US5265942 A	19931130	LSGT	+	granted / extensions (spc, cpc, pte)	
US5265942 A	19971009	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5265942 A	20010524	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5265942 A	20011015	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CASCADE RANGE, LLC, WASHINGTON OLDPARTY : ASSIGNMENT WITH CO-CONSENT; ASSIGNOR: JONES, ELLSWORTH (ED) F.; REEL/FRAME: 012263/0605 EFFECTIVE DATE : 20010926
US5265942 A	20051130	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5265942 A	20051228	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5265942 A	20051228	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5265942 A	20060124	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20051130
US5265942 A	20111210	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US5380074 A	19950110	LSGT	+	granted / extensions (spc, cpc, pte)	
US5380074 A	19941228	LSGT	PAT1	Patented Case	
US5380074 A	19941228	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5380074 A	19990111	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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US5380074 A	20020709	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5380074 A	20070110	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5380074 A	20131112	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO9113785 A1	19910919	LSPB	+	published / reissued	
WO9113785 A1	19920911	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2078149 COUNTRY OF REF DOCUMENT : CA
WO9113785 A1	19920911	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 924070 COUNTRY OF REF DOCUMENT : FI
WO9113785 A1	19920914	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 92- 01191 COUNTRY OF REF DOCUMENT : RO
WO9113785 A1	19920916	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1991907064 COUNTRY OF REF DOCUMENT : EP
WO9113785 A1	19921230	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1991907064 COUNTRY OF REF DOCUMENT : EP

WO9113785 A1	19930114	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO9113785 A1	19951002	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1991907064 COUNTRY OF REF DOCUMENT : EP

Title: ADAPTOR FOR CONNECTING POLYMERIC **PIPE** TO **PIPE** FITTINGS

Abstract: An adaptor 17 for the connection of a polymeric **pipe** 10 to a fitting 13 comprises a double-ended hollow spigot 28 with one end 27 having an outer diameter which is appropriate for a standard fitting 13 and the other end 35 having radially projecting barbs 36 of diameter to engage the inner surface of a **pipe** 10 with an interfering fit. The fitting 13 includes a fitting **nut** 23, threadedly engaged with the fitting body, a deformable gripping member 14 with internal barbs 17 which engage the outside of the **pipe** 10 and also presses the **pipe** 10 over the external barbs 36 of the inserted spigot 28, and an elastomeric seal 38 which seals against the other end 35 of the spigot 28.

Classifications:

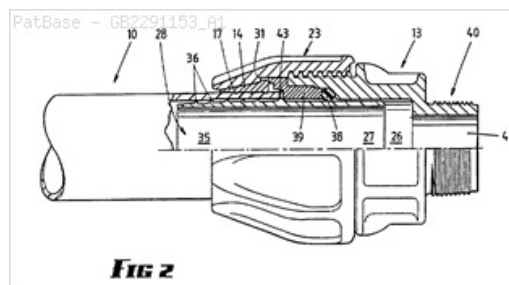
International (IPC 8-9): F16L19/00 F16L19/065 F16L19/08 F16L33/22 F16L47/04 (Advanced/Invention);

F16L19/00 F16L33/22 F16L47/00 (Core/Invention)

International (IPC 1-7): F16L19/00 F16L19/065 F16L19/08 F16L21/06 F16L33/22 F16L47/04

CPC: F16L33/224 F16L19/086

European: F16L19/08C2 F16L33/22G



Family:

Publication number	Publication date	Application number	Application date
AU199524963 A1	19960201	AU19950024963	19950712
AU676394 A0	19940804	AU1994PM06763	19940712
AU707930 B2	19990722	AU19950024963	19950712
CA2153634 AA	19960113	CA19952153634	19950711
CA2153634 C	20010807	CA19952153634	19950711
GB2291153 A1	19960117	GB19950014063	19950710
GB2291153 B2	19980527	GB19950014063	19950710
GB9514063 A0	19950906	GB19950014063	19950710
NZ272524 A	19970624	NZ19950272524	19950707

Priority:

AU1994PM06763 19940712 AU19940072236 19940720 CA19952153634 19950711
AU19950024963 19950712

Probable Assignee: PHILMAC PTY LTD

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

Assignee(s): CHELCHOWSKI DAVID ; HARRIS WAYNE ; PETERS MICHAEL EDWARD

Inventor(s): (std): CHELCHOWSKI DAVID ; HARRIS WAYNE ; PETERS MICHAEL EDWARD ; CHELCHOWSKI DAVID

Inventor(s): DAVID CHELCHOWSKI ; WAYNE HARRIS ; MICHAEL EDWARD PETERS

Agent(s): LESICAR PERRIN; LESICAR MURRAY TRENTO; LESICAR MAYNARD ANDREWS PTY LTD; FETHERSTONHAUGH AND CO

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199524963 A1	19960201	LSPB	+	published / reissued	
AU707930 B2	19990722	LSGT	+	granted / extensions (spc, cpc, pte)	
AU707930 B2	20150712	PEXP		Calculated Patent Term Expiry	
CA2153634 AA	19960113	LSPB	+	published / reissued	
CA2153634 AA	19970509	LSES	+EEER	EXAMINATION REQUEST	
CA2153634 C	20010807	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2153634 C	20150914	LSLE	-MKEX	EXPIRY	EFFECTIVE DATE : 20150713
CA2153634 C	20150711	PEXP		Calculated Patent Term Expiry	
GB2291153 A1	19960117	LSPB	+	published / reissued	
GB2291153 B2	19980527	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2291153 B2	20150729	LSLE	-PE20	PATENT EXPIRED AFTER TERMINATION OF 20 YEARS	EXPIRY DATE : 20150709
GB2291153 B2	20150709	PEXP		Calculated Patent Term Expiry	
NZ272524 A	19970624	LSPB	+	published / reissued	

Title: Flexible plastic **pipe** joint

Abstract: A synthetic resin **pipe** joint having front and rear inclined walls defining a packing holding annular groove is provided with softness and elasticity sufficient to cause flattening deformation on impingement with a **pipe** contained therein, and expansion of a gap between this **pipe** and the inner circumferential face of the **pipe** joint is effectively prevented. On overall flattening deformation of the **pipe** joint, the front and rear inclined walls are similarly deformed and a packing contained therein is stably deformed with the deformation of the inclined walls without causing distortions in the packing. Because of such high elasticity and flexibility as not possessed by rigid joints, a **pipe** line can be effectively constructed by using this **pipe** joint.

Classifications:

International (IPC 8-9): F16L21/02 F16L27/10 F16L47/08 F16L47/18 F16L51/00 (Advanced/Invention);

F16L21/02 F16L27/00 F16L47/00 (Core/Invention)

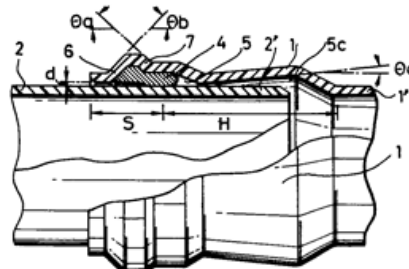
International (IPC 1-7): F16L17/00 F16L21/02 F16L25/00 F16L47/06 F16L51/00

CPC: F16L27/1017 F16L47/08 F16L47/18

European: F16L27/10H F16L47/08 F16L47/18

US: 285/110 285/231 285/260 285/345 285/423

PatBase - US4275909_H



Family:

Publication number	Publication date	Application number	Application date
CA1101904 A1	19810526	CA19780316576	19781121
DE2862335 D1	19831117	DE19782862335	19781122
EP0002071 A1	19790530	EP19780101437	19781122
EP0002071 B1	19831012	EP19780101437	19781122
IN150591 A	19821113	IN1978CA01263	19781122
JP54081912 U1	19790611	JP19770157237U	19771122
JP58014311 Y2	19830322	JP19770157237U	19771122
PH16144 A	19830712	PH19780021805	19781114
US4275909 A	19810630	US19780961558	19781117

Priority:

JP19770157237 19771122 JP19770157237U 19771122 CA19780316576 19781121

Probable Assignee: KUBOTA LTD

Assignee(s): (std): KUBOTA LTD ; SAKAGUCHI MASAYUKI ; YOSHIZAWA TADAO

Assignee(s): KUBOTA LIMITED

Inventor(s): (std): MASAYUKI SAKAGUCHI ; SAKAGUCHI MASAYUKI ; TADAO YOSHIZAWA ; YOSHIZAWA TADAO

Agent(s): MARKS AND CLERK

Designated states: DE FR GB NL

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE2862335 D1	19961107	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
EP0002071 A1	19790530	LSPB	+	published / reissued	
EP0002071 A1	19800206	LSSE	+17P	REQUEST FOR EXAMINATION FILED	
EP0002071 B1	19831012	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0002071 B1	19841017	LSGT	+26N	NO OPPOSITION FILED	
EP0002071 B1	19941108	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 19941108 YEAR OF FEE PAYMENT : 17
EP0002071 B1	19941125	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 19941125 YEAR OF FEE PAYMENT : 17
EP0002071 B1	19941129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 19941129 YEAR OF FEE PAYMENT : 17

EPO]					
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EP0002071 B1	19960601	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL LAPSED DATE : 19960601
EP0002071 B1	19960717	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 19951122
EP0002071 B1	19960731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR LAPSED DATE : 19960731
EP0002071 B1	19960801	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 19960601
EP0002071 B1	19960801	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE LAPSED DATE : 19960801
EP0002071 B1	19960927	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
IN150591 A	19821113	LSPB	+	published / reissued	
JP54081912 U1	19790611	LSPB	+	published / reissued	
JP58014311 Y2	19830322	LSPB	+	published / reissued	
PH16144 A	19830712	LSGT	+	granted / extensions (spc, cpc, pte)	
PH16144 A	20000712	PEXP		Calculated Patent Term Expiry	
US4275909 A	19810630	LSGT	+	granted / extensions (spc, cpc, pte)	
US4275909 A	19810223	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KUBOTA LIMITED, NO.22, FUNADE-CHO, 2-CHOME, NANIWA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:YOSHIZAWA TADAO; SAKAGUCHI, MASAYUKI; REEL/FRAME:003835/0788 EFFECTIVE DATE : 19801128
US4275909 A	19810317	LSGT	PAT1	Patented Case	
US4275909 A	19810317	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

Title: COMPRESSION FITTING

Abstract: Joining of stainless steel **pipes** by means of a compression fitting requires a special configuration of it, since the known cutting fittings cannot be used with steel parts because of the hardness of the steel **pipe**. When a fitting according to the invention is configured with a reception member (4) and this is provided with an internally extending cone face (1) and a cone ring (3) having an externally extending, cooperating cone face and having slits (14, 16) in the cone ring (3), these parts may be tightened together by means of a union **nut** (2). Tightness is ensured, even at very high media pressures: in that the cone ring (3) is capable of adapting itself to the surface of the **pipe** (1) at the tightening-together.

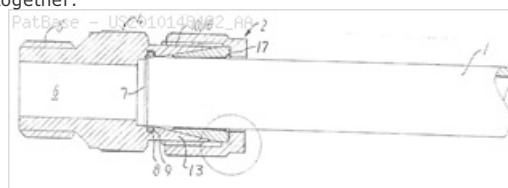
Classifications:

International (IPC 8-9): F16L19/065 F16L55/00 (Advanced/Invention);
F16L19/00 F16L55/00 (Core/Invention)

CPC: F16L19/065

European: F16L19/065

US: 285/24 285/24P



Family:

Publication number	Publication date	Application number	Application date
AT550589 E	20120415	AT20090388018T	20091202
DE602009006003 D1	20120524	DE200960006003T	20091202
DK200800240 U4	20100326	DK20080000240U	20081212
EP2196715 A1	20100616	EP20090388018	20091202
EP2196715 B1	20120321	EP20090388018	20091202
US2010148492 AA	20100617	US20090630493	20091203

Priority:

DK20080000240U 20081212 EP20090388018 20091202

Probable Assignee: HOVE A S

Assignee(s): (std): HOVE AS

Assignee(s): HOVE A S

Inventor(s): (std): HOVE THOMAS ; THOMAS HOVE

Agent(s): STORK BAMBERGER PATENTANWALTE; LARSEN HANS OLE; WILLIAM J SAPONE COLEMAN SUDOL SAPONE PC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL 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
AT550589 E	20120415	LSGT	+	granted / extensions (spc, cpc, pte)	
AT550589 E	20291202	PEXP		Calculated Patent Term Expiry	
DK200800240 U4	20100326	LSPB	+	published / reissued	
EP2196715 A1	20100616	LSPB	+	published / reissued	
EP2196715 A1	20110126	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20101216
EP2196715 B1	20120321	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP2196715 B1	20120330	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2196715 B1	20120411	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2196715 B1	20120415	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 550589 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20120415
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EP2196715 B1	20130418	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602009006003 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20130102
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EP2196715 B1	20130927	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20130830
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EP2196715 B1	20131129	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20130102
EP2196715 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

EP2196715 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	LAPSED DATE : 20120321 COUNTRY OF REF DOCUMENT : TR NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20120321
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				NATIONAL OFFICE TO EPO]	
EP2196715 B1	20291202	PEXP		Calculated Patent Term Expiry	
US2010148492 AA	20100617	LSPB	+	published / reissued	
US2010148492 AA	20091223	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HOVE A/S,DENMARK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HOVE, THOMAS; REEL/FRAME:023698/0670 EFFECTIVE DATE : 20091216
US2010148492 AA	20120725	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	

Abstract: A coupling has first and second segments attached to one another end to end surrounding a central space for receiving **pipe** elements. A spring assembly attaches the segments at one end and an adjustable attachment assembly attaches the segments at the opposite end. The spring assembly biases the segments away from one another sufficient to permit insertion of the **pipe** elements into the central space while the segments are attached to one another. The coupling may include a split ring toothed retainer for coupling plain end **pipe** elements, or it may have arcuate keys which engage grooved or shouldered **pipe** elements.

International (IPC 8-9): F16L17/04 F16L19/02 F16L19/08 F16L19/10 F16L19/12 F16L21/00 F16L21/02 F16L21/025 F16L21/03 F16L21/06 F16L21/08 F16L23/036 F16L23/08 F16L23/18 F16L25/06 F16L25/08 F16L37/086 F16L37/091 F16L43/00 (Advanced/Invention)

CPC: F16L23/036 F16L23/18 F16L37/0915 F16L17/04 F16L23/08
F16L37/091 F16L2201/10 F16L21/065 F16L21/08

Publication number	Publication date	Application number	Application date
AU2017266873 AA	20180802	AU20170266873	20170516
AU2017266873 BB	20181213	AU20170266873	20170516
AU2017266879 AA	20180802	AU20170266879	20170515
AU2017266879 BB	20190221	AU20170266879	20170515
AU2018267610 AA	20181213	AU20180267610	20181121
BR112018067684 A2	20190212	BR20181167684	20170515
BR112018068503 A2	20190122	BR20181168503	20170516
CA3022630 AA	20181030	CA20173022630	20170515
CA3022687 AA	20181030	CA20173022687	20170516
CA3022687 AA	20171123	CA20173022687	20170516
CL2018003082 A1	20190322	CL20180003082	20181029
CL2018003083 A1	20190322	CL20180003083	20181029
CN108779882 A	20181109	CN201780017580	20170516
CN108779883 A	20181109	CN201780017974	20170515
CO20180011333 A2	20190118	CO20180011333	20181023
CO20180011357 A2	20190118	CO20180011357	20181024
EP3458762 A1	20190327	EP20170799932	20170516
EP3458763 A1	20190327	EP20170799935	20170515
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IN201847046543 A	20181221	IN201847046543	20181210
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KR20190005228 A	20190115	KR20187036371	20170516
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MA42879 A1	20181231	MA20170042879	20170516
MA42879 B1	20190430	MA20170042879	20170516
MA42884 A1	20181231	MA20170042884	20170515
MA42884 B1	20190329	MA20170042884	20170515
MX2018014009 A1	20190401	MX20180014009	20170515
MX2018014014 A1	20190401	MX20180014014	20170516
PE19352018 A1	20181213	PE20180002506	20170515
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PH2018501613 A	20190408	PH20180501613	20180730
PH2018501661 A	20190617	PH20180501661	20180803
SG11201806184P A1	20180830	SG20181106184	20170515
SG11201806355V A1	20180830	SG20181106355	20170516
TW201743003 A	20171216	TW20170116187	20170516
TW201743004 A	20171216	TW20170116184	20170516
US2017328500 AA	20171116	US20170593662	20170512
US2017328505 AA	20171116	US20170593673	20170512
WO17200897 A1	20171123	WO2017US32588	20170516
WO17200903 A1	20171123	WO2017US32601	20170515

Priority:

US20160336879P 20160516 US20160336885P 20160516 US20170593662 20170512
 US20170593673 20170512 WO2017US32601 20170515 AU20170266873 20170516
 WO2017US32588 20170516 AU20180267610 20181121

Probable Assignee: VICTAULIC CO**Assignee(s):** (std): VICTAULIC CO ; VICTAULIC CO OF AMERICA**Assignee(s):** YOVANOVICH KATHRYN ; BANCROFT PHILIP WAYNE ; BOWMAN MATTHEW A ; MADARA SCOTT D ; SAVAGE THOMAS C ; SITH AHMAD**Inventor(s):** (std): MADARA SCOTT D ; SAVAGE THOMAS C ; BANCROFT PHILIP WAYNE ; YOVANOVICH KATHRYN E ; BOWMAN MATTHEW A ; SITH AHMAD ; YOVANOVICH KATHRYN ; AHMAD SITH ; PHILIP WAYNE BANCROFT ; SCOTT D MADARA ; THOMAS C SAVAGE ; KATHRYN YOVANOVICH ; MATTHEW A BOWMAN ; BOWMAN MATTHEW ; BANCROFT PHILIP ; SAVAGE THOMAS ; MADARA SCOTT ; STERNER JEFFREY LANCE**Inventor(s):** E YOVANOVICH, KATHRYN E. ; C SAVAGE, THOMAS C. ; A BOWMAN, MATTHEW A. ; D MADARA, SCOTT D.**Agent(s):** SPRUSON AND FERGUSON; BERESKIN AND PARR LLP SENCRL SRL; SARGENT AND KRAHN; DE ANNA PIER LUIGI; MAROLITA SETIATI; CHIONCHIO JOHN A ET AL; CHIOBNCHIO JOHN A ET AL**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG 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)**[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AU2017266873 AA	20180802	LSPB	+	published / reissued	
AU2017266873 BB	20181213	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2017266873 BB	20190411	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2017266873 BB	20370516	PEXP		Calculated Patent Term Expiry	
AU2017266879 AA	20180802	LSPB	+	published / reissued	
AU2017266879 BB	20190221	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2017266879 BB	20190620	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
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IN201847046543 A	20181221	LSPB	+	published / reissued	
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KR20190005228 A	20190115	LSPB	+	published / reissued	
KR20190005228 A	20181214	LSES	A201	REQUEST FOR EXAMINATION	
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MA42879 B1	20370516	PEXP		Calculated Patent Term Expiry	
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MX2018014014 A1	20190401	LSPB	+	published / reissued	
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PH2018501613 A	20190408	LSPB	+	published / reissued	
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SG11201806184P A1	20180830	LSPB	+	published / reissued	
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US2017328500 AA	20170523	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VICTAULIC COMPANY, PENNSYLVANIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BOWMAN, MATTHEW A.; BANCROFT, PHILIP WAYNE; MADARA, SCOTT D.; AND OTHERS; REEL/FRAME:042477/0817 EFFECTIVE DATE : 20170518
US2017328500 AA	20190404	LSSES	NFA1	Non Final Action Mailed	
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US2017328505 AA	20170523	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VICTAULIC COMPANY, PENNSYLVANIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SITH, AHMAD; BOWMAN, MATTHEW A.; MADARA, SCOTT D.; REEL/FRAME:042477/0694 EFFECTIVE DATE : 20170516
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Title: FITTING HAVING TABBED RETAINER AND OBSERVATION APERTURES

Abstract: A **pipe** fitting for plain end **pipe** is formed of housing portions defining receptacles for receiving **pipe** elements. The receptacles are coaxial with respective axes oriented angularly with respect to each other. Each receptacle has a channel that faces a respective axis with floors at different radii of curvature. Retainers are received within the channels. The retainers have teeth and one or more offset tabs that cooperate with the channels to prevent improper assembly of the fitting. Ring seals are received within channels positioned adjacent to the receptacles. The ring seals cooperate with the retainers to hold the segments in spaced relation sufficient to insert **pipe** elements into the receptacles when the fitting is pre-assembled. Apertures are provided in the receptacles to permit visual determination of the presence of the retainers post assembly.

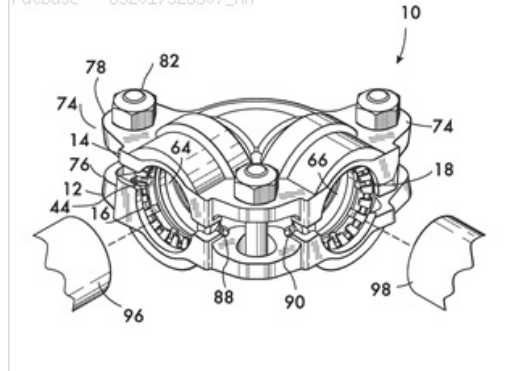
Classifications:

International (IPC 8-9): F16L17/04 F16L19/08 F16L19/12 F16L21/00 F16L21/02 F16L21/03 F16L21/06 F16L21/08 F16L23/00 F16L23/02 F16L23/18 F16L37/091 F16L39/00 F16L43/00 (Advanced/Invention)

International (IPC 1-7): F16L21/00 F16L21/02 F16L21/03 F16L21/06 F16L23/00 F16L23/02 F16L23/18

CPC: F16L43/00 F16L37/0915 F16L17/04 F16L21/08 F16L37/091 F16L2201/10 F16L21/06

PatBase - US2017328507_AA

**Family:**

Publication number	Publication date	Application number	Application date
AU2017266869 AA	20180809	AU20170266869	20170515
AU2017266869 BB	20181108	AU20170266869	20170515
BR112018067752 A2	20190115	BR20181167752	20170515
CA3021996 AA	20181023	CA20173021996	20170515
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RU2689242 C1	20190524	RU20180142489	20170515
SG11201806363R A1	20180830	SG20181106363	20170515
TW201743006 A	20171216	TW20170116088	20170516
TWI629426 B	20180711	TW20170116088	20170516
US2017328507 AA	20171116	US20170593681	20170512
WO17200893 A1	20171123	WO2017US32580	20170515

Priority:

US20160336893P 20160516 US20170593681 20170512 WO2017US32580 20170515

Probable Assignee: VICTAULIC CO**Assignee(s):** (std): VICTAULIC CO ; VICTAULIC CO OF AMERICA**Assignee(s):** BOWMAN MATTHEW A ; MADARA SCOTT D ; SITH AHMAD ; STERNER JEFFREY LANCE**Inventor(s):** (std): SITH AHMAD ; MADARA SCOTT D ; STERNER JEFFREY LANCE ; BOWMAN MATTHEW A ; BOWMAN MATTHEW ; MADARA SCOTT ; AHMAD SITH ; JEFFREY LANCE STERNER ; SCOTT D MADARA ; MATTHEW A BOWMAN**Inventor(s):** A BOWMAN, MATTHEW A. ; D MADARA, SCOTT D.**Agent(s):** SPRUSON AND FERGUSON; BERESKIN AND PARR LLP SENCRL SRL; SARGENT AND KRAHN; DE ANNA PIER LUIGI; MAROLITA SETIATI; YURIDICHESKAYA GORODISSKIJ I PARTNER YOO FA; CHIONCHIO JOHN A ET AL**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG 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)**

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
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AU2017266869 BB	20181108	LSGT	+	granted / extensions (spc, cpc, pte)	
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US2017328507 AA	20170523	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VICTAULIC COMPANY, PENNSYLVANIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SITH, AHMAD; BOWMAN, MATTHEW A.; MADARA, SCOTT D.; AND OTHERS; REEL/FRAME:042477/0616 EFFECTIVE DATE : 20170516
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US2017328507 AA	20190403	LSES	NFA1	Non Final Action Mailed	
WO17200893 A1	20171123	LSPB	+	published / reissued	
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Title: Expansion joint device

Abstract: Both ends of a bellows-type outer cylinder [31] capable of axial expansion and contraction are connected in a leakproof manner to a pair of connection passage ends [20], thereby constituting an expansion passage [30]. A cylindrical resin film [33] having no permeability to fluid is arranged in an interior of the bellows-type outer cylinder [31], and the axial ends thereof are connected in a leakproof manner to said connecting passage end regions. The cylindrical region [34] positioned in the intermediate region of the cylindrical resin film [33] covers the inner surface of said bellows-type outer cylinder [31] in a leakproof manner. According to such structure, the fluid traveling through said bellows-type outer cylinder [31] and the impurities contained in the fluid are prevented from residing in the grooves formed to the inner circumferential surface of the bellows-type outer cylinder [31], and the cleanness and quality maintaining property of the expansion joint device is secured. In another example, further added to or instead of said bellows-type outer cylinder [31], an inner sleeve and an outer sleeve may be slidably superposed to form an expansion outer cylinder.

Classifications:

International (IPC 8-9): F16L27/108 F16L27/111 F16L27/113 F16L27/12 F16L51/02 (Advanced/Invention); F16L27/12 (Advanced/Non-invention); F16L27/00 F16L51/00 (Core/Invention)

International (IPC 1-7): F16L27/111 F16L27/113 F16L27/12 F16L51/02 H01F27/14 H02G15/26

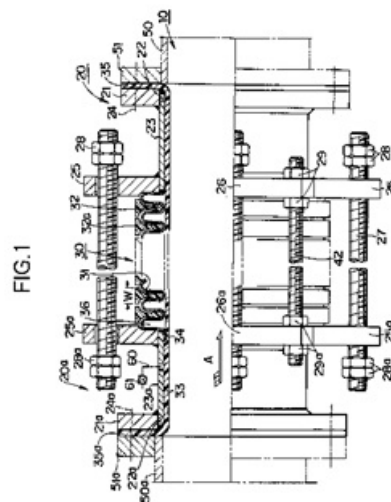
CPC: F16L27/1085 F16L27/111 F16L51/027

European: F16L27/108B F16L27/111 F16L51/02N

US: 285/226 285/299 285/300 285/301 92/42 92/43

PatBase - US6631928_BA

U.S. Patent Oct. 14, 2003 Sheet 1 of 6 US 6,631,928 B1



Family:

Publication number	Publication date	Application number	Application date
■ CN1192179 C	20050309	CN20008000742	20000229
■ CN1339095 A	20020306	CN20008000742	20000229
■ EP1156257 A1	20011121	EP20000905410	20000229
■ EP1156257 A4	20050615	EP20000905410	20000229
■ JP2001065164 A1	20030722	JP20010542112T	20000229
■ KR20020077940 A	20021018	KR20007014878	20000229
■ MXPA00012947 A1	20020730	MX2000PA12947	20000229
■ US6631928 BA	20031014	US20010720646	20010308
■ WO0165164 A1	20010907	WO2000JP01173	20000229

Priority:

WO2000JP01173 20000229

Probable Assignee: ASAHI BEER ENGINEERING LTD

Assignee(s): (std): ASAHI BEER ENGINEERING LTD ; SAKATA YUZO

Inventor(s): (std): YUZO SAKATA ; SAKATA YUZO

Agent(s): NISHIYAMA HARUYUKI; SASAJIMA FUJIO

Designated states: AT BE BR CH CN CY DE DK ES FI FR GB GR IE IT JP KR LI LU MC MX NL PT SE US

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
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EP1156257 A1	20011121	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20001227
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KR20020077940 A	20021018	LSPB	+	published / reissued	
MXPA00012947 A1	20020730	LSPB	+	published / reissued	
US6631928 BA	20031014	LSGT	+	granted / extensions (spc, cpc, pte)	
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US6631928 BA	20111114	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
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US6631928 BA	20210308	PEXP		Calculated Patent Term Expiry	
WO0165164 A1	20010907	LSPB	+	published / reissued	
WO0165164 A1	20000229	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 00800742.X COUNTRY OF REF DOCUMENT : CN
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WO0165164 A1	20050713	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000905410 COUNTRY OF REF DOCUMENT : EP

Title: PROCESS FOR WELDING BUTT-JOINTED PLASTIC TUBES AND WELDING DEVICE FOR PERFORMING THE PROCESS

Abstract: In order to weld butt-jointed plastic tubes, a welding element with a wire coil for electrical resistance heating is positioned between the abutting tube ends. The tube ends are pressed to each other while at the same time the welding device is heated to welding temperature. Lastly, the tube ends are held together until the welded area has hardened by cooling. The welding device is constructed in the form of an annular disc the external diameter of which is approximately equal to the external diameter of the tubes and the internal diameter of which is approximately equal to the nominal internal diameter of the tubes. A heating wire coil spirals around the geometric center of the annular disc, and is positioned on the two annular disc surfaces that come into contact with the tube ends.

Classifications:

International (IPC 8-9): B29C65/20 B29C65/34 B29D23/00 F16L47/00 F16L47/02 (Advanced/Invention);

B29C65/18 B29C65/34 B29D23/00 F16L47/00 F16L47/02 (Core/Invention)

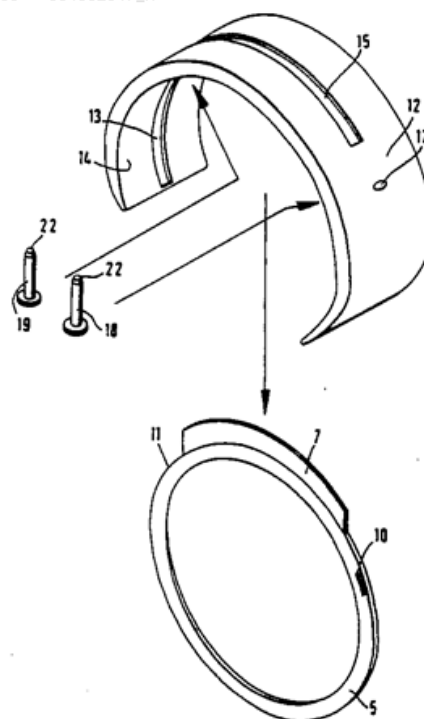
International (IPC 1-7): B29C65/20 B29C65/34 B29L23/22 F16L47/00 F16L47/02

CPC: B29C65/3476 B29D23/005 B29C65/342 B29C66/5221 B29C66/71 F16L47/02 Y10T403/477 Y10T428/218 B29C65/3468 B29C66/112 B29C66/114 B29C66/1222 B29C66/1224 B29C66/52292 B29C66/8167

European: B29C65/34 B29C65/34B4 B29C66/1142 B29C66/5221 B29D23/00T2E F16L47/02 L29C66/71

US: 156/158 156/274.2 156/304.2 156/304.3 156/304.6 156/379.7 219/535 219/536 403/270 428/65 428/66.6

PatBase - US4851647_A



Family:

Publication number	Publication date	Application number	Application date
AT95113 E	19931015	AT19870103165T	19870305
DE3611192 A1	19871015	DE19863611192	19860404
DE3787557 D1	19931104	DE19873787557	19870305
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EP0240732 A3	19900131	EP19870103165	19870305
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Priority:

DE19863611192 19860404 DE19873787557 19870305 EP19870103165 19870305
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Probable Assignee: RIESSELMANN AND SOHN

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Inventor(s): KUEHLING SIEGFRIED D 2842 LOHNE DE

Designated states: AT BE CH DE ES FR GB GR IT LI LU NL SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT95113 E	19931015	LSGT	+	granted / extensions (spc, cpc, pte)	
AT95113 E	19951215	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	

AT95113 E	20070305	PEXP		Calculated Patent Term Expiry	
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DE3611192 A1	19871015	LSSES	+OM8	SEARCH REPORT AVAILABLE AS TO PARAGRAPH 43 LIT. 1 SENTENCE 1 PATENT LAW	
DE3611192 A1	19930603	LSSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
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DE3787557 D1	19941027	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
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EP0240732 A3	19900808	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19900613
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EP0240732 B1	19990316	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 19990201
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JP63001526 A2	19880106	LSPB	+	published / reissued	
US4851647 A	19890725	LSGT	+	granted / extensions (spc, cpc, pte)	
US4851647 A	19890610	LSGT	PAT1	Patented Case	
US4851647 A	19930125	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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US4851647 A	19971007	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19970730
US4851647 A	20180129	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
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US4851647 A	20080801	PEXP		Calculated Patent Term Expiry	

Title: SPACE PROVISION SYSTEM USING COMPRESSION DEVICES FOR THE REALLOCATION OF RESOURCES TO NEW TECHNOLOGY, BROWNFIELD AND GREENFIELD DEVELOPMENTS

Abstract: System and method of well space provision for forming a geologic testing space for proving an operation of an unproven downhole apparatus (78, 92), generally referred to as new technology, within an aged geology, during the rig-less abandonment of an aging well to in use, reallocate operation of said unproven downhole apparatus from unproven to proven operation within a proximally similarly aged geology of said aging well, another aging well (79), a new well (80), or a field of said wells (79, 80) generally referred to as Brownfields and Greenfields, wherein said unproven downhole apparatus comprises a hydrodynamic bearing boring apparatus (1A, 1E, 1BM, 9AA, 92D) or a bore hole piston apparatus (1A, 1AF, 92A-92C, 92E-92G).

Classifications:

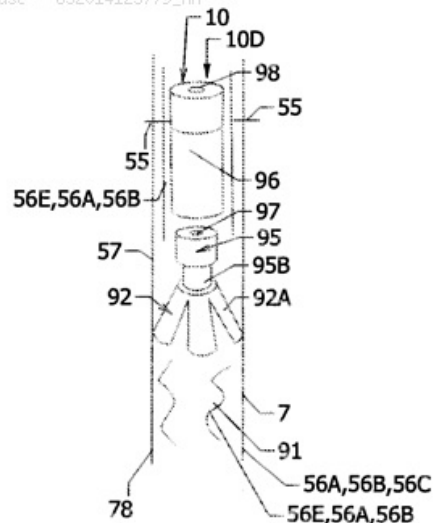
International (IPC 8-9): E21B10/22 E21B10/32 E21B12/06 E21B17/05 E21B17/10 E21B17/20 E21B23/14 E21B27/00 E21B28/00 E21B29/00 E21B29/02 E21B29/06 E21B29/10 E21B33/12 E21B33/128 E21B33/13 E21B33/134 E21B33/14 E21B34/06 E21B37/00 E21B37/02 E21B4/00 E21B41/00 E21B43/10 E21B43/117 E21B47/00 E21B47/003 E21B47/01 E21B47/024 E21B47/09 E21B47/12 E21B49/00 E21B7/00 E21B7/06 E21B7/20 F16C17/00 F16C32/06 G01M99/00 (Advanced/Invention); E21B41/00 E21B49/00 E21B7/00 (Core/Invention)

CPC: E21B33/13 E21B4/02 E21B7/068 E21B17/20 E21B33/1243 E21B34/06 E21B43/11 E21B43/129 E21B43/14 E21B33/14 E21B17/10 E21B47/09 E21B33/05 E21B43/116 E21B47/01 E21B47/06 E21B33/12 E21B29/10 E21B43/103 E21B43/105 E21B43/119 E21B37/04 E21B12/06 E21B7/205 E21B47/12 E21B29/002 E21B28/00 E21B29/02 E21B17/1078 E21B33/134 E21B17/05 E21B43/10 E21B47/0002 F16C32/0629 E21B10/322 E21B7/06 E21B4/003 E21B41/0035 E21B7/00 E21B37/02 E21B23/14 E21B29/005 E21B29/06 E21B41/00 E21B17/1021 E21B27/00 E21B33/1208 E21B33/128 E21B43/117 E21B7/061 E21B37/00 E21B7/20 E21B47/0005 E21B47/011 E21B47/024 E21B29/00 E21B33/10

European: E21B17/20 E21B29/06 E21B33/124B E21B33/13 E21B34/06 E21B4/00B E21B4/02 E21B43/11 E21B43/12B12 E21B43/14 E21B47/01P E21B47/024 E21B7/06B E21B7/06M E21B7/20

US: 1/1 166/174 166/177.4 166/179 166/250.14 166/254.2 166/285 166/298 166/299 166/311 166/378 166/386 166/387 166/55.7 166/65.1 166/66 166/66.4 175/107 175/267 175/325.1 175/61 175/65 175/73 73/865.6

PatBase - US2014123779_AA



Family:

Publication number	Publication date	Application number	Application date
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AU2012278973 BB	20160728	AU20120278973	20120705
AU2012279476 AA	20130110	AU20120279476	20120705
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Priority:

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Probable Assignee: TUNGET BRUCE L

Assignee(s): (std): BRUCE A TUNGET ; BRUCE ARNOLD TUNGET ; TUNGET BRUCE A ; TUNGET BRUCE ARNOLD ; TUNGET BRUCE ; TUNGET BRUCE L ; TANDZHET BRYUS E

Assignee(s): TUNGET BRUCE A35 EASTSIDE DRIVEABERDEENSHIREAB32 6QNWESTHILL6QNGB ; SILICON VALLEY BANK ; COMERICA BANK ; RAFTER INC AKA BOOKRENTERCOM INC

Inventor(s): (std): TANDZHET BRYUS E ; BRUCE A TUNGET ; TUNGET BRUCE ; TUNGET BRUCE A ; TUNGET BRUCE ARNOLD ; BRUCE ARNOLD TUNGET

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN 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
AU2012278973 AA	20130110	LSPB	+	published / reissued	
AU2012278973 BB	20160728	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2012278973 BB	20161124	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2012278973 BB	20320705	PEXP		Calculated Patent Term Expiry	
AU2012279476 AA	20130110	LSPB	+	published / reissued	
AU2012279476 BB	20170831	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2012279476 BB	20180104	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2012279476 BB	20320705	PEXP		Calculated Patent Term Expiry	
CA2841144 AA	20140106	LSPB	+	published / reissued	
CA2841144 AA	20170712	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20170630
CA2841144 C	20190604	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2841144 C	20320705	PEXP		Calculated Patent Term Expiry	
CA2841841 AA	20140106	LSPB	+	published / reissued	
CA2841841 AA	20150810	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20150727
CA2841841 C	20170725	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2841841 C	20320705	PEXP		Calculated Patent Term Expiry	
CN103764940 A	20140430	LSPB	+	published / reissued	
CN103764940 A	20140430	LSPB	+C06	PUBLICATION	
CN103781992 A	20140507	LSPB	+	published / reissued	
CN103781992 A	20140507	LSPB	+C06	PUBLICATION	
CN103781992 B	20161116	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103781992 B	20161116	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103781992 B	20320705	PEXP		Calculated Patent Term Expiry	
CN104603391 A	20150506	LSPB	+	published / reissued	
CN104603391 A	20150506	LSPB	+C06	PUBLICATION	
CN104603391 A	20170510	LSGT	+GR01	PATENT GRANT	
CN104603391 B	20170510	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104603391 B	20330705	PEXP		Calculated Patent Term Expiry	
CN105518248 A	20160420	LSPB	+	published / reissued	
CN105518248 A	20160420	LSPB	+C06	PUBLICATION	
DE602012038192 D1	20190201	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
DE602012041676 D1	20190402	LSDW	-R119	APPLICATION DEEMED	

					WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE
EP2729657 A2	20140514	LSPB	+	published / reissued	
EP2729657 A2	20140514	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140130
EP2729657 A4	20160511	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20160412
EP2729657 A4	20170823	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20170719
EP2729657 A4	20190320	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190221
EP2729662 A2	20140514	LSPB	+	published / reissued	
EP2729662 A2	20140514	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140130
EP2729662 A4	20160518	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20160414
EP2729662 A4	20170510	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20170412
EP2729662 B1	20171004	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2729662 B1	20171004	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2729662 B1	20171013	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
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EP2729662 B1	20171116	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602012038192 COUNTRY OF REF DOCUMENT : DE
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				EPO]	FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171004
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EP2729662 B1	20180531	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 : 20171004
EP2729662 B1	20180531	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

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EP2729662 B1	20180629	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 7
EP2729662 B1	20180705	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602012038192 COUNTRY OF REF DOCUMENT : DE
EP2729662 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE 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 : 20171004
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EP2729662 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ 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 : 20171004
EP2729662 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK 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 : 20171004
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EP2729662 B1	20190201	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602012038192 COUNTRY OF REF DOCUMENT : DE
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EP2729662 B1	20190329	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 : 20180705
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EP2729662 B1	20320705	PEXP		Calculated Patent Term Expiry	
EP2748422 A2	20140702	LSPB	+	published / reissued	
EP2748422 A2	20140702	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140327
EP2748422 A4	20160525	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20160428
EP2748422 A4	20170816	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20170721
EP2748422 B1	20180103	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP2748422 B1	20180124	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2748422 B1	20180215	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602012041676 COUNTRY OF REF DOCUMENT : DE
EP2748422 B1	20180525	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2748422 B1	20180615	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 960452 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20180103
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EP2748422 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : FI 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 : 20180103
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EP2748422 B1	20180917	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 7
EP2748422 B1	20181005	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602012041676 COUNTRY OF REF DOCUMENT : DE
EP2748422 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO 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 : 20180103
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EP2748422 B1	20190430	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2748422 B1	20190626	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2748422 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180917

EP2748422 B1	20320917	PEXP		Calculated Patent Term Expiry	
EP2791519 A1	20141022	LSPB	+	published / reissued	
EP2791519 A1	20141022	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140716
EP2791519 A4	20160713	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20160613
EP2875207 A1	20150527	LSPB	+	published / reissued	
EP2875207 A1	20150527	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150130
EP2875207 A1	20160706	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20160603
EP2875207 A1	20170830	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20170731
EP3017138 A1	20160511	LSPB	+	published / reissued	
EP3017138 A1	20160511	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20160203
EP3017138 A4	20170531	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20170504
EP3017138 A4	20181121	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20181026
EP3017138 A4	20190424	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190319
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EP3017138 B1	20190515	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
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GB2483675 A1	20120321	LSPB	+	published / reissued	
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GB2486591 A1	20120620	LSPB	+	published / reissued	
GB2486591 B2	20150603	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2486591 B2	20311216	PEXP		Calculated Patent Term Expiry	
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GB2486592 A1	20150520	LSWD	-WAP	APPLICATION WITHDRAWN, TAKEN TO BE WITHDRAWN OR REFUSED ** AFTER PUBLICATION UNDER SECTION 16(1)
GB2487274 A1	20120718	LSPB	+	published / reissued
GB2487274 B2	20130327	LSGT	+	granted / extensions (spc, cpc, pte)
GB2487274 B2	20311216	PEXP		Calculated Patent Term Expiry
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GB2492663 B2	20140129	LSGT	+	granted / extensions (spc, cpc, pte)
GB2492663 B2	20320705	PEXP		Calculated Patent Term Expiry
GB2494780 A1	20130320	LSPB	+	published / reissued
GB2494780 B2	20151118	LSGT	+	granted / extensions (spc, cpc, pte)
GB2494780 B2	20320914	PEXP		Calculated Patent Term Expiry
GB2496095 A1	20130508	LSPB	+	published / reissued
GB2496095 B2	20140402	LSGT	+	granted / extensions (spc, cpc, pte)
GB2496095 B2	20310919	PEXP		Calculated Patent Term Expiry
GB2506235 A1	20140326	LSPB	+	published / reissued
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GB2506235 B2	20330705	PEXP		Calculated Patent Term Expiry
GB2515858 A1	20150107	LSPB	+	published / reissued
GB2515858 B2	20151021	LSGT	+	granted / extensions (spc, cpc, pte)
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MX2014000079 A1	20160819	LSGT	+FG	GRANT OR REGISTRATION
MX2014000080 A1	20140501	LSPB	+	published / reissued
MX2014000080 A1	20180208	LSGT	+FG	GRANT OR REGISTRATION
MX341411 B	20160819	LSGT	+	granted / extensions (spc, cpc, pte)
MX341411 B	20320705	PEXP		Calculated Patent Term Expiry
MX354003 B	20180208	LSGT	+	granted / extensions (spc, cpc, pte)
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RU2014103793 A	20150810	LSPB	+	published / reissued
RU2014103795 A	20150810	LSPB	+	published / reissued
RU2592623 C2	20160727	LSGT	+	granted / extensions (spc, cpc, pte)
RU2592623 C2	20320705	PEXP		Calculated Patent Term Expiry
RU2689933 C2	20190529	LSGT	+	granted / extensions (spc, cpc, pte)
RU2689933 C2	20320705	PEXP		Calculated Patent Term Expiry
US10081998 BB	20180925	LSGT	+	granted / extensions (spc, cpc, pte)
US10081998 BB	20340508	PEXP		Calculated Patent Term Expiry (PTA 307 days)
US10119368 BB	20181106	LSGT	+	granted / extensions

(spc, cpc, pte)					
US10119368 BB	20181017	LSGT	PAT1	Patented Case	
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US2014123779 AA	20141103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SILICON VALLEY BANK, CALIFORNIA OLDPARTY : SECURITY INTEREST; ASSIGNOR:RAFTER, INC.; REEL/FRAME:034087/0702 EFFECTIVE DATE : 20141031
US2014123779 AA	20141103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : RAFTER INC (AKA BOOKRENTER.COM, INC.), CALIFORNIA OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:COMERICA BANK; REEL/FRAME:034092/0944 EFFECTIVE DATE : 20141103
US2014123779 AA	20151111	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014311741 AA	20141023	LSPB	+	published / reissued	
US2014311741 AA	20161122	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015034311 AA	20150205	LSPB	+	published / reissued	
US2015034311 AA	20170807	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015034311 AA	20170919	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2015034311 AA	20171004	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015152704 AA	20150604	LSPB	+	published / reissued	
US2015152704 AA	20161123	LSES	NFA1	Non Final Action Mailed	
US2015152704 AA	20180607	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015152704 AA	20180905	LSGT	PAT1	Patented Case	
US2015152704 AA	20180905	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015252621 AA	20150910	LSPB	+	published / reissued	
US2015252621 AA	20161122	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016138369 AA	20160519	LSPB	+	published / reissued	
US2016138369 AA	20171228	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2016138369 AA	20171229	LSES	NFA1	Non Final Action Mailed	
US2016138369 AA	20181017	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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US9200504 BB	20140214	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : COMERICA BANK, MICHIGAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:RAFTER, INC.; REEL/FRAME:032264/0901 EFFECTIVE DATE : 20140109
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US9200504 BB	20151111	LSGT	PAT1	Fee Payment Verified Patented Case	
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US9518443 BB	20161213	LSGT	+	granted / extensions (spc, cpc, pte)	
US9518443 BB	20161122	LSGT	PAT1	Patented Case	
US9518443 BB	20330218	PEXP		Calculated Patent Term Expiry (PTA 228 days)	
US9797240 BB	20171024	LSGT	+	granted / extensions (spc, cpc, pte)	
US9797240 BB	20171004	LSGT	PAT1	Patented Case	
US9797240 BB	20331114	PEXP		Calculated Patent Term Expiry (PTA 423 days)	
WO13006208 A2	20130110	LSPB	+	published / reissued	
WO13006208 A3	20140105	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : P7/2014 COUNTRY OF REF DOCUMENT : AE
WO13006208 A3	20140106	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2841144 COUNTRY OF REF DOCUMENT : CA
WO13006208 A3	20140107	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13006208 A3	20140107	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2014/000080 COUNTRY OF REF DOCUMENT : MX
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WO13006208 A3	20140206	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2012279476 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20120705 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
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WO13006735 A4	20140106	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2841841 COUNTRY OF REF DOCUMENT : CA
WO13006735 A4	20140106	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14131133 COUNTRY OF REF DOCUMENT : US
WO13006735 A4	20140107	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13006735 A4	20140107	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2014/000079 COUNTRY OF REF DOCUMENT : MX
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WO13043217 A2	20130328	LSPB	+	published / reissued	
WO13043217 A4	20140319	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13043217 A4	20140319	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14345909 COUNTRY OF REF DOCUMENT : US
WO13043217 A4	20140327	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012834486 COUNTRY OF REF DOCUMENT : EP
WO13089810 A1	20130620	LSPB	+	published / reissued	
WO13089810 A1	20140613	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14365563 COUNTRY OF REF DOCUMENT : US
WO13089810 A1	20140616	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13089810 A1	20140716	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012857584 COUNTRY OF REF DOCUMENT : EP
WO14007843 A1	20140109	LSPB	+	published / reissued	

WO14007843 A1	20150105	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO14007843 A1	20150130	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2013813254 COUNTRY OF REF DOCUMENT : EP
WO15003188 A1	20150108	LSPB	+	published / reissued	
WO15003188 A1	20160105	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15003188 A1	20160105	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14903028 COUNTRY OF REF DOCUMENT : US
WO15003188 A1	20160203	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2014819707 COUNTRY OF REF DOCUMENT : EP

Title: Laterally and/or angularly compensating element made of metal for **pipe** systems under pressure.

Abstract: The invention relates to a laterally and/or angularly compensating element made of metal for **pipe** systems under pressure, in which, for insulating the transmission of body noise, the connection of the tie rods to one another or to the plates arranged at the ends are produced without direct contact between these parts, via intermediately connected metal wire cushions.

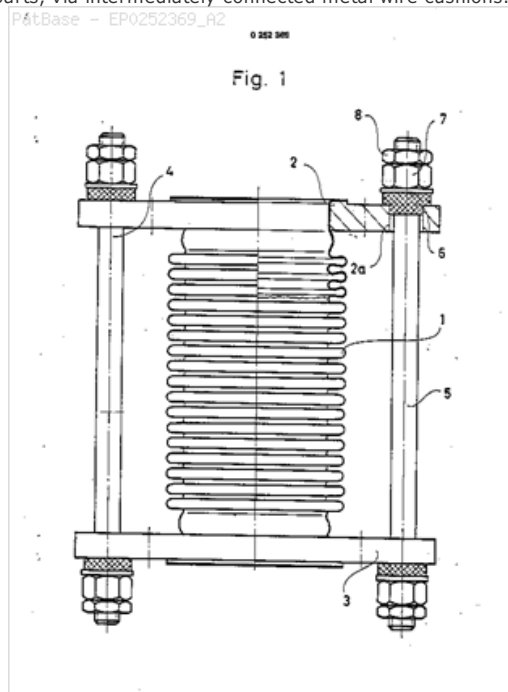
Classifications:

International (IPC 8-9): F16L51/02 (Advanced/Invention)

International (IPC 1-7): F16L51/2

CPC: F16L51/027

European: F16L51/02N



Family:

Publication number	Publication date	Application number	Application date
AT76173 E	19920515	AT19870109066T	19870624
DE3622647 A1	19880114	DE19863622647	19860705
DE3778980 D1	19920617	DE19873778980	19870624
EP0252369 A2	19880113	EP19870109066	19870624
EP0252369 A3	19881123	EP19870109066	19870624
EP0252369 B1	19920513	EP19870109066	19870624
ES2031852 T3	19930101	ES19870109066T	19870624

Priority:

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Probable Assignee: WITZENMANN METALLSCHLAUCHFAB

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Inventor(s): BUCHAUER FRANZ W 7530 PFORZHEIM DE ; BERGER DIPL ING PETER W 7531 PFORZHEIM EUTINGEN DE

Designated states: AT BE CH DE ES FR GB IT LI NL SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT76173 E	19920515	LSGT	+	granted / extensions (spc, cpc, pte)	
AT76173 E	19990315	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT76173 E	20070624	PEXP		Calculated Patent Term Expiry	
DE3622647 A1	19880114	LSPB	+	published / reissued	
DE3622647 A1	19930930	LSLE	-8141	DISPOSAL/NO REQUEST FOR EXAMINATION	
DE3778980 D1	19930401	LSOP	-8363	OPPOSITION AGAINST THE PATENT	

DE3778980 D1	20030213	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : WITZENMANN GMBH, 75175 PFORZHEIM, DE
EP0252369 A2	19880113	LSPB	+	published / reissued	
EP0252369 A3	19890208	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19881214
EP0252369 A3	19891102	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19890919
EP0252369 B1	19920513	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP0252369 B1	19930224	LSOP	-26	OPPOSITION FILED	PARTYTYPE : OPPONENT OPPONENT : BOA AG LUZERN EFFECTIVE DATE : 19921228
EP0252369 B1	19930416	LSOP	-NLR1	NL: OPPOSITION HAS BEEN FILED WITH THE EPO	PARTYTYPE : OPPONENT REF COUNTRY CODE : EP OPPONENT : BOA AG LUZERN
EP0252369 B1	19940415	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 19940415 YEAR OF FEE PAYMENT : 8
EP0252369 B1	19940420	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 19940420 YEAR OF FEE PAYMENT : 8
EP0252369 B1	19940630	LSFE	ITTA	IT: LAST PAID ANNUAL FEE	REF COUNTRY CODE : EP
EP0252369 B1	19940928	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 19940928 YEAR OF FEE PAYMENT : 8
EP0252369 B1	19950131	LSGT	+EAL	SE: EUROPEAN PATENT IN FORCE IN SWEDEN	REF COUNTRY CODE : EP TEXT : 87109066.8
EP0252369 B1	19950624	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB LAPSED DATE : 19950624
EP0252369 B1	19950625	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE LAPSED DATE : 19950625
EP0252369 B1	19950630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH LAPSED DATE : 19950630
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OFFICE TO EPO]					19950630
EP0252369 B1	19950712	LSRE	+27C	OPPOSITION PROCEEDINGS TERMINATED	EFFECTIVE DATE : 19950521
EP0252369 B1	19950901	LSOP	NLR2	NL: DECISION OF OPPOSITION	REF COUNTRY CODE : EP
EP0252369 B1	19960221	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 19950624
EP0252369 B1	19960229	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0252369 B1	19960304	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	REF COUNTRY CODE : EP TEXT : 87109066.8
EP0252369 B1	19970512	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 19970512 YEAR OF FEE PAYMENT : 11
EP0252369 B1	19970602	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 19970602 YEAR OF FEE PAYMENT : 11
EP0252369 B1	19970626	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 19970626 YEAR OF FEE PAYMENT : 11
EP0252369 B1	19970627	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 19970627 YEAR OF FEE PAYMENT : 11
EP0252369 B1	19970630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 19970630 YEAR OF FEE PAYMENT : 11
EP0252369 B1	19980624	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 19980624
EP0252369 B1	19980625	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 19980625
EP0252369 B1	19980630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 19980630
EP0252369 B1	19981231	LSLE	-BERE	BE: LAPSED	PARTY TYPE : OWNER REF COUNTRY CODE : EP

					OWNER : WITZENMANN G.M.B.H. METALLSCHLAUCH- FABRIK PFORZHE EFFECTIVE DATE : 19980630
EP0252369 B1	19990101	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 19990101
EP0252369 B1	19990226	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 19990226
EP0252369 B1	19990301	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 19990101
EP0252369 B1	19990402	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
EP0252369 B1	20000516	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20000403
EP0252369 B1	20050624	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050624
EP0252369 B1	20060627	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20060627 YEAR OF FEE PAYMENT : 20
EP0252369 B1	20070624	PEXP	Calculated Patent Term Expiry		
ES2031852 T3	19930101	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2031852 T3	19930101	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 252369 COUNTRY OF REF DOCUMENT : ES
ES2031852 T3	20070624	PEXP	Calculated Patent Term Expiry		

Title: BAND CLAMP

Abstract: A band clamp for **pipe** joints is disclosed comprising a band with confronting sidewalls when wrapped around **pipes** to be coupled. The clamping mechanism includes a pair of force bars outboard of the sidewalls and a spline with concave surfaces on opposite sides, the spline being disposed between the end flanges. A bolt extends through bolt holes and draws the flanges against the spline to stretch the band around the **pipes** when the bolt is tightened against the force bars. The sidewalls have lateral flanges which overhang the spline to arrest movement of the sidewalls relative to the spline to obtain alignment of the bolt holes when the clamp is tightened. In some embodiments, the band is folded back on itself to form a double thickness which extends from the upper end of each sidewall to a point beyond the lower end of the sidewall and provides an inverted flap sandwiched between the clamp band and the **pipe**. The inverted flap may be secured to the band by mechanical interlock between the layers.

Classifications:

International (IPC 8-9): F16B2/08 F16L21/06

F16L33/04 (Advanced/Invention);

F16L33/04 (Advanced/Non-invention);

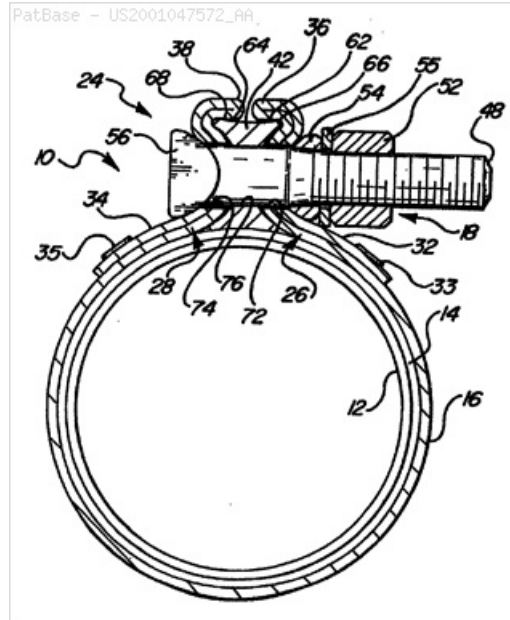
F16L21/06 F16L33/02 (Core/Invention)

International (IPC 1-7): A44B1/04 F16B2/08 F16L21/06 F16L33/04

CPC: F01N13/1805 F01N13/1855 F01N13/1872 Y10T24/1441 F16L21/065 F16L33/04

European: F16L21/06B F16L33/04

US: 24/279 24/279P



Family:

Publication number	Publication date	Application number	Application date
AT377728 E	20071115	AT19990963090T	19991214
CA2376430 AA	20011210	CA19992376430	19991214
CA2376430 C	20080205	CA19992376430	19991214
DE69937504 D1	20071220	DE19996037504	19991214
DE69937504 D1	20071220	DE19996037504T	19991214
DE69937504 T2	20080731	DE19996037504T	19991214
EP1203181 A1	20020508	EP19990963090	19991214
EP1203181 A4	20030326	EP19990963090	19991214
EP1203181 B1	20071107	EP19990963090	19991214
JP2003502597 T2	20030121	JP20010503453T	19991214
JP3703432 B2	20051005	JP20010503453T	19991214
KR100637587 B1	20061023	KR20017015945	19991214
KR20020036785 A	20020516	KR20017015945	19991214
MXPA01012734 A1	20020702	MX2001PA12734	19991214
US2001047572 AA	20011206	US20010921764	20010803
US6269524 BA	20010807	US19990330626	19990611
US6519815 BB	20030218	US20010921764	20010803
WO0077436 A1	20001221	WO1999US29732	19991214

Priority:

US19980088868P 19980611	US19980107610P 19981109	US19990330626 19990611
WO1999US29732 19991214	US20010921764 20010803	KR20017015945 20011211

Probable Assignee: BREEZE TORCA PRODUCTS LLC

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Assignee(s): GENERAL ELECTRIC CAPITAL AGENT AS CORP ; NON K S CO ; CASSEL THOMAS R ; BREEZE TORCA PRODUCTS LLC ; GENERAL ELECTRIC CAPITAL CORP ; BKS COMPANY ; AMEDURE MICHAEL E ; ANTARES CAPITAL AGENT AS CORP ; ANTARES CAPITAL CORP ; ANTARES CAPITAL FIRST LIEN COLLATERAL AGENT AS COR ; ANTARES CAPITAL FIRST LIEN COLLATERAL AGENT AS CORP ; ANTARES CAPITAL SECOND LIEN COLLATERAL AGENT AS CO ; ANTARES CAPITAL SECOND LIEN COLLATERAL AGENT AS CORP

Inventor(s): (std): CASSEL THOMAS ; AMEDURE MICHAEL E ; CASSEL THOMAS R

Agent(s): FINLAYSON AND SINGLEHURST; NAKAMURA GIHEI; ITOH HIDEHIKO; HORII YUTAKA; MORITA TOSHIO; MORISHITA HACHIRO; FUKAMI HISAO

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

Legal status (INPADOC)
[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT377728 E	20071115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT377728 E	20080515	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	REF DOCUMENT NUMBER : 1203181 COUNTRY OF REF DOCUMENT : EP
AT377728 E	20100515	LSAS	EEIH	CHANGE IN THE PERSON OF PATENT OWNER	
AT377728 E	20191214	PEXP		Calculated Patent Term Expiry	
CA2376430 AA	20011210	LSPB	+	published / reissued	
CA2376430 AA	20020830	LSSES	+EEER	EXAMINATION REQUEST	
CA2376430 C	20080205	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2376430 C	20191214	PEXP		Calculated Patent Term Expiry	
DE69937504 D1	20080703	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : BKS CO., LLC, BIRMINGHAM, MICH., US
DE69937504 D1	20080703	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : BKS CO., LLC, BIRMINGHAM, MICH., US
DE69937504 D1	20080703	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : BKS CO., LLC, BIRMINGHAM, MICH., US
DE69937504 D1	20080703	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : BKS CO., LLC, BIRMINGHAM, MICH., US
DE69937504 D1	20081030	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, AUBURN HILLS, MICH, US
DE69937504 D1	20081030	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, AUBURN HILLS, MICH, US
DE69937504 D1	20081127	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69937504 D1	20081127	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69937504 T2	20080731	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69937504 T2	20081030	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, AUBURN HILLS, MICH, US
DE69937504 T2	20081127	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69937504 T2	20191214	PEXP		Calculated Patent Term Expiry	
EP1203181 A1	20020508	LSPB	+	published / reissued	
EP1203181 A1	20020508	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020111
EP1203181 A1	20150331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20141227 YEAR OF FEE PAYMENT : 16
EP1203181 A1	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 17
EP1203181 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20151119 YEAR OF FEE PAYMENT : 17
EP1203181 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20151230 YEAR OF FEE PAYMENT : 17
EP1203181 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20151217 YEAR OF FEE PAYMENT : 17
EP1203181 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20151226 YEAR OF FEE PAYMENT : 17
EP1203181 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 17
EP1203181 A4	20030326	LSSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20030206
EP1203181 A4	20040303	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20040121
EP1203181 B1	20071107	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1203181 B1	20071107	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1203181 B1	20080709	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC
EP1203181 B1	20080901	LSAS	NLS	NL: ASSIGNMENTS OF EP-PATENTS	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : BREEZE-TORCA PRODUCTS, LLC (USA) EFFECTIVE DATE : 20080602
EP1203181 B1	20081015	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20080808
EP1203181 B1	20081128	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : TP
EP1203181 B1	20100430	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 : 20091231
EP1203181 B1	20151217	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
EP1203181 B1	20161227	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
EP1203181 B1	20161230	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 : 20151214
EP1203181 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20161226 YEAR OF FEE PAYMENT : 18

EPO]					
EP1203181 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161228 YEAR OF FEE PAYMENT : 18
EP1203181 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161227 YEAR OF FEE PAYMENT : 18
EP1203181 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20161121 YEAR OF FEE PAYMENT : 18
EP1203181 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 18
EP1203181 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161229 YEAR OF FEE PAYMENT : 18
EP1203181 B1	20170831	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 : 20151214
EP1203181 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20161222 YEAR OF FEE PAYMENT : 18
EP1203181 B1	20170831	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT REINSTATED DATE : 20170710
EP1203181 B1	20171227	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 19
EP1203181 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20171226 YEAR OF FEE PAYMENT : 19
EP1203181 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171227 YEAR OF FEE PAYMENT : 19
EP1203181 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20171121 YEAR OF FEE PAYMENT : 19
EP1203181 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171227 YEAR OF FEE PAYMENT : 19
EP1203181 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20171229 YEAR OF FEE PAYMENT : 19
EP1203181 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171229 YEAR OF FEE PAYMENT : 19
EP1203181 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 19
EP1203181 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20181121

				NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 20
EP1203181 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20181227 YEAR OF FEE PAYMENT : 20
EP1203181 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181227 YEAR OF FEE PAYMENT : 20
EP1203181 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181226 YEAR OF FEE PAYMENT : 20
EP1203181 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181231 YEAR OF FEE PAYMENT : 20
EP1203181 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20181226 YEAR OF FEE PAYMENT : 20
EP1203181 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181220 YEAR OF FEE PAYMENT : 20
EP1203181 B1	20191214	PEXP		Calculated Patent Term Expiry	
JP2003502597 T2	20030121	LSPB	+	published / reissued	
JP2003502597 T2	20041201	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20041130
JP2003502597 T2	20050531	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20050530
JP2003502597 T2	20050615	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2003502597 T2	20050622	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20050621
JP2003502597 T2	20050728	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20050719
JP2003502597 T2	20050729	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP3703432 B2	20051005	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3703432 B2	20050623	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP3703432 B2	20050726	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP3703432 B2	20080731	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3703432 B2	20080805	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP3703432 B2	20090723	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3703432 B2	20090728	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP3703432 B2	20100715	LSFE	R20	特許料納付書 (Patent fee payment form)	

JP3703432 B2	20100720	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP3703432 B2	20110714	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
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JP3703432 B2	20150709	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3703432 B2	20150714	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP3703432 B2	20160714	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP3703432 B2	20180712	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP3703432 B2	20190711	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP3703432 B2	20191214	PEXP		Calculated Patent Term Expiry	
KR100637587 B1	20061023	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100637587 B1	20041208	LSSES	A201	REQUEST FOR EXAMINATION	
KR100637587 B1	20060411	LSSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR100637587 B1	20060727	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR100637587 B1	20061017	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR100637587 B1	20121005	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20121008 YEAR OF FEE PAYMENT : 7
KR100637587 B1	20131007	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20131008 YEAR OF FEE PAYMENT : 8
KR100637587 B1	20141006	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20141007 YEAR OF FEE PAYMENT : 9

KR100637587 B1	20151005	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20151006 YEAR OF FEE PAYMENT : 10
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KR100637587 B1	20191214	PEXP		Calculated Patent Term Expiry	
KR20020036785 A	20020516	LSPB	+	published / reissued	
MXPA01012734 A1	20020702	LSPB	+	published / reissued	
MXPA01012734 A1	20060310	LSGT	+FG	GRANT OR REGISTRATION	
US2001047572 AA	20011206	LSPB	+	published / reissued	
US2001047572 AA	20030130	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6269524 BA	20010807	LSGT	+	granted / extensions (spc, cpc, pte)	
US6269524 BA	20010719	LSGT	PAT1	Patented Case	
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US6269524 BA	20030422	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BKS COMPANY, MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CASSEL, THOMAS R.; REEL/FRAME:013974/0031 EFFECTIVE DATE : 19991110
US6269524 BA	20030612	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BKS COMPANY, L.L.C.; REEL/FRAME:013718/0929 EFFECTIVE DATE : 20030527
US6269524 BA	20030626	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BKS COMPANY, L.L.C.; REEL/FRAME:014210/0925 EFFECTIVE DATE : 20030527
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US6269524 BA	20040902	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, MICHIGAN OLDPARTY : RELEASE AND REASSIGNMENT; ASSIGNOR:ANTARES CAPITAL CORPORATION, AS AGENT; REEL/FRAME:015740/0880 EFFECTIVE DATE : 20040827
US6269524 BA	20040903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANTARES CAPITAL CORPORATION, AS FIRST LIEN COLLATE OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:BREEZE- TORCA PRODUCTS, LLC; REEL/FRAME:015756/0167 EFFECTIVE DATE : 20040827

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US6269524 BA	20050201	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6269524 BA	20060811	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, MICHIGAN OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:ANTARES CAPITAL CORPORATION, AS FIRST LIEN COLLATERAL AGENT; REEL/FRAME:018087/0579 EFFECTIVE DATE : 20060810
US6269524 BA	20060811	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, MICHIGAN OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:ANTARES CAPITAL CORPORATION, AS SECOND LIEN COLLATERAL AGENT; REEL/FRAME:018087/0585 EFFECTIVE DATE : 20060810
US6269524 BA	20060815	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION, AS AGENT, IL OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:BREEZE-TORCA PRODUCTS, LLC; REEL/FRAME:018099/0940 EFFECTIVE DATE : 20060810
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US6269524 BA	20090110	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
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US6269524 BA	20190611	PEXP		Calculated Patent Term Expiry	
US6519815 BB	20030218	LSGT	+	granted / extensions (spc, cpc, pte)	
US6519815 BB	20010803	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BKS COMPANY, LLC, MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AMEDURE, MICHAEL E.; REEL/FRAME:012055/0947 EFFECTIVE DATE : 20010803
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US6519815 BB	20030612	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, MICHIGAN

					OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BKS COMPANY, L.L.C.; REEL/FRA:013718/0929 EFFECTIVE DATE : 20030527
US6519815 BB	20030626	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANTARES CAPITAL CORPORATION, AS AGENT, ILLINOIS OLDPARTY : SECURITY INTEREST; ASSIGNOR:BREEZE- TORCA PRODUCTS, LLC; REEL/FRA:014210/0917 EFFECTIVE DATE : 20030516
US6519815 BB	20030626	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BKS COMPANY, L.L.C.; REEL/FRA:014210/0925 EFFECTIVE DATE : 20030527
US6519815 BB	20040902	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, MICHIGAN OLDPARTY : RELEASE AND REASSIGNMENT; ASSIGNOR:ANTARES CAPITAL CORPORATION, AS AGENT; REEL/FRA:015740/0880 EFFECTIVE DATE : 20040827
US6519815 BB	20040903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANTARES CAPITAL CORPORATION, AS FIRST LIEN COLLATE OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:BREEZE- TORCA PRODUCTS, LLC; REEL/FRA:015756/0167 EFFECTIVE DATE : 20040827
US6519815 BB	20040910	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANTARES CAPITAL CORPORATION, AS SECOND LIEN COLLAT OLDPARTY : SECURITY INTEREST; ASSIGNOR:BREEZE- TORCA PRODUCTS, LLC; REEL/FRA:015766/0018 EFFECTIVE DATE : 20040827
US6519815 BB	20060518	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6519815 BB	20060811	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BREEZE-TORCA PRODUCTS, LLC, MICHIGAN OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:ANTARES CAPITAL CORPORATION, AS FIRST LIEN COLLATERAL AGENT; REEL/FRA:018087/0579 EFFECTIVE DATE : 20060810
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US6519815 BB	20060815	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION, AS AGENT, IL OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:BREEZE- TORCA PRODUCTS, LLC; REEL/FRA:018099/0940 EFFECTIVE DATE : 20060810
US6519815 BB	20100809	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8

US6519815 BB	20140815	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6519815 BB	20210803	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO0077436 A1	20001221	LSPB	+	published / reissued	
WO0077436 A1	20011210	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2376430 COUNTRY OF REF DOCUMENT : CA KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0077436 A1	20011210	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2001 503453 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0077436 A1	20011210	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2376430 COUNTRY OF REF DOCUMENT : CA
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WO0077436 A1	20011211	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020017015945 COUNTRY OF REF DOCUMENT : KR
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WO0077436 A1	20020508	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999963090 COUNTRY OF REF DOCUMENT : EP
WO0077436 A1	20020516	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020017015945 COUNTRY OF REF DOCUMENT : KR
WO0077436 A1	20060727	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020017015945 COUNTRY OF REF DOCUMENT : KR
WO0077436 A1	20071107	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999963090 COUNTRY OF REF DOCUMENT : EP

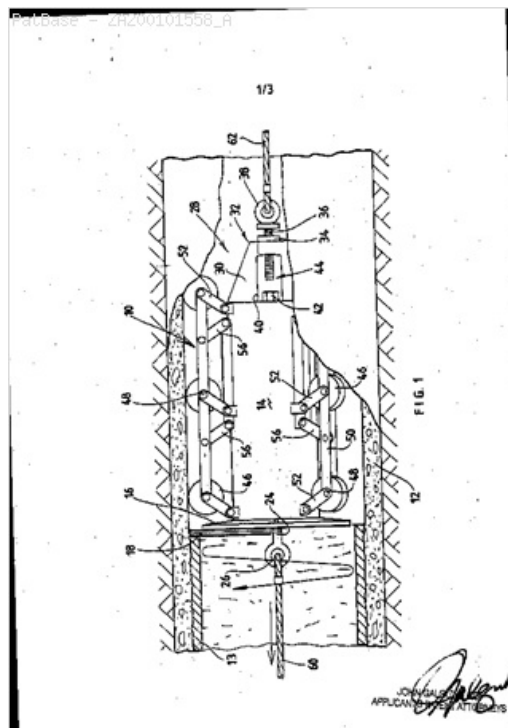
Title: METHOD AND APPARATUS FOR CLEARING THE LINING OF **PIPES**.

Abstract: Patent Form P 8 REPUBLIC OF SOUTH AFRICA PATENTS ACT, 1978 PUBLICATION PARTICULARS AND ABSTRACT [Section 32(3) (a) - Regulations 22(1) (G) and 31] JG ref 74717 Official application No Lodging Date Acceptance Date 21 01 2001/1558 22 2001.02.26 43 - International Classification 51 B08B; **F16L** Not for publication Classified by: Full names of Applicant(s) 71 Thermobore (SA) (Proprietary) Limited Full name(s) of inventor(s) 72 Richard James Michael Robinson Earliest Priority claimed Country Number Date 33 ZA 31 99/7282 32 1999.11.24 Title of Invention 54 Method and Apparatus for Clearing the Lining of **Pipes** 57 Abstract (not more than 150 words) Number of sheets ssIf no classification is furnished, form P9 should accompany this form. The figure of the drawings to which the abstract refers is attached. A machine for removing high alumina cement liners for cement **pipes** for carrying sewage is described. The machine has a mainframe carrying a rotary cutter at one end. It has rollers that roll on the interior of the **pipe**. Eyes are provided at each end of the mainframe -to enable a draw cable to be attached thereto to draw the machine through the **pipe**.

Classifications:

International (IPC 8-9): B08B F16L (Subclass/Invention)

International (IPC 1-7): B08B F16L



Family:

Publication number	Publication date	Application number	Application date
ZA200101558 A	20020205	ZA20010001558	20010226

Priority:

ZA19990007282 19991124 ZA20010001558 20010226

Probable Assignee: THERMOBORE SA PROPRIETARY LTD

Assignee(s): (std): THERMOBORE PROPRIETARY LTD SA ; THERMOBORE SA PROPRIETARY LTD

Inventor(s): (std): RICHARD JAMES MICHAEL ROBINSON ; ROBINSON RICHARD JAMES MICHAEL

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
ZA200101558 A	20020205	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200101558 A	20210225	PEXP		Calculated Patent Term Expiry	

Title: TUBE-END FITTING

Abstract: A tube end having an outwardly projecting ridge is secured in a fitting having a body formed with a seat centered on an axis and open axially rearwardly. The tube end is coaxially engageable in the seat, and a retaining clip on the body extends secantally across the seat and can move between an outer spread position engaging a respective inner surface of the seat and an inner retaining position spaced radially inward from the respective inner surface. The tube end when fully axially inserted in the seat is engaged axially outward of the ridge by the clip. A latch element can move between an outer freeing position generally clear of the clip and an inner locking position engaged outward of the clip between same and the respective inner surface and preventing the clip from moving from the inner retaining position to the outer spread position.

Classifications:

International (IPC 8-9): F16L37/084 F16L37/088

F16L37/12 (Advanced/Invention);

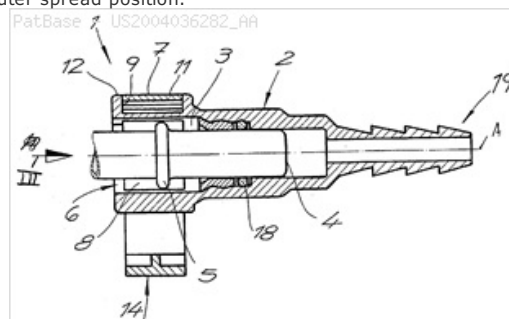
F16L37/00 (Core/Invention)

International (IPC 1-7): F16L35/00 F16L37/00 F16L37/084 F16L37/088 F16L37/12

CPC: F16L37/088 F16L37/144 F16L2201/10

European: F16L37/088 F16L37/14B1 R16L201/10

US: 285/305 285/319 285/81 285/91

**Family:**

Publication number	Publication date	Application number	Application date
DE50204467 D1	20060216	DE20025004467T	20020504
EP1359361 A1	20031105	EP20020010003	20020504
EP1359361 B1	20051005	EP20020010003	20020504
ES2245710 T3	20060116	ES20020010003T	20020504
JP2004003635 A2	20040108	JP20030117259	20030422
JP4036784 B2	20080123	JP20030117259	20030422
US2004036282 AA	20040226	US20030423820	20030425
US6846021 BB	20050125	US20030423820	20030425

Priority:

EP20020010003 20020504

Probable Assignee: TI AUTOMOTIVE FULDABRUCK GMBH

Assignee(s): (std): TI AUTOMOTIVE FULDABRUCK GMBH ; TI AUTOMOTIVE FULDABRUECK GMBH

Assignee(s): TI AUTOMOTIVE GMBH ; TI AUTOMOTIVE GMBH INDUSTRIES ; TI AUTOMOTIVE LLC ; WILMINGTON TRUST LTD ; TI GROUP AUTOMOTIVE SYSTEMS LLC ; WILMINGTON TRUST (LONDON) LTD ; WILMINGTON TRUST LONDON LTD ; HANIL USA LLC ; TI AUTOMOTIVE (FULDABRUCK) GMBH

Inventor(s): (std): ROHDE REINER ; ROSE ANDREAS ; THOMKE TORSTEN ; SZCZEPANIAK ANDREAS ; APEL KURT ; THOMKE DIPL ING ; ROHDE DIPL ING ; SZCZEPANIAK DIPL ING ; APEL DIPL ING ; ROSE DIPL ING ; APEL KURT DIPL ING ; SZCZEPANIAK ANDREAS DIPL ING ; THOMKE TORSTEN DIPL ING ; ROSE ANDREAS DIPL ING ; ROHDE REINER DIPL ING

Agent(s): HERBERT; ANDREW

Designated states: DE ES FR GB IT

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
DE50204467 D1	20061026	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
EP1359361 A1	20031105	LSPB	+	published / reissued	
EP1359361 A1	20040107	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20031108
EP1359361 A1	20040512	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20040325
EP1359361 A1	20040728	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : ES COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB COUNTRY OF REF DOCUMENT : IT
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				APPLICATION TRANSFERRED	OWNER : TI AUTOMOTIVE (FULDABRUECK) GMBH
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EP1359361 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160520 YEAR OF FEE PAYMENT : 15
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EP1359361 B1	20051005	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP1359361 B1	20060116	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2245710 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP1359361 B1	20060913	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20060706
EP1359361 B1	20160530	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 15
EP1359361 B1	20170525	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 16
EP1359361 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170530 YEAR OF FEE PAYMENT : 16
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EP1359361 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180529 YEAR OF FEE PAYMENT : 17
EP1359361 B1	20220504	PEXP		Calculated Patent Term Expiry	
ES2245710 T3	20060116	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2245710 T3	20220504	PEXP		Calculated Patent Term Expiry	
JP2004003635 A2	20040108	LSPB	+	published / reissued	
JP2004003635 A2	20040630	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20040629
JP2004003635 A2	20070529	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070529
JP2004003635 A2	20070710	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20070709

JP2004003635 A2	20070921	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2004003635 A2	20071016	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20071016
JP2004003635 A2	20071108	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20071030
JP2004003635 A2	20071109	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2004003635 A2	20071112	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4036784 B2	20080123	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4036784 B2	20071018	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP4036784 B2	20071106	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4036784 B2	20101028	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4036784 B2	20101102	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP4036784 B2	20111027	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4036784 B2	20111101	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP4036784 B2	20121101	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP4036784 B2	20121106	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP4036784 B2	20131031	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4036784 B2	20131105	LSFE	+R250	年金領収書, 年金領収書 (分納) (Pension receipt, annuity receipt (scheduled))	
JP4036784 B2	20141030	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4036784 B2	20141104	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4036784 B2	20151029	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4036784 B2	20151104	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250

JP4036784 B2	20161027	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4036784 B2	20161101	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4036784 B2	20171026	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4036784 B2	20171031	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4036784 B2	20181101	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4036784 B2	20181106	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4036784 B2	20230422	PEXP		Calculated Patent Term Expiry	
US2004036282 AA	20040226	LSPB	+	published / reissued	
US2004036282 AA	20050106	LSGT	PAT1	Patented Case	
US2004036282 AA	20050106	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6846021 BB	20050125	LSGT	+	granted / extensions (spc, cpc, pte)	
US6846021 BB	20030708	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TI AUTOMOTIVE (FULDABRUCK) GMBH, GERMANY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROHDE, REINER; ROSE, ANDREAS; THOMKE, TORSTEN; AND OTHERS; REEL/FRAME:014257/0033; SIGNING DATES FROM 20030520 TO 20030616
US6846021 BB	20080725	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6846021 BB	20100310	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WILMINGTON TRUST (LONDON) LIMITED, UNITED KINGDOM OLDPARTY : ASSIGNMENT OF SECURITY INTEREST; ASSIGNOR:JP MORGAN CHASE BANK, N.A.; REEL/FRAME:024055/0633 EFFECTIVE DATE : 20100208
US6846021 BB	20100310	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WILMINGTON TRUST (LONDON) LIMITED, UNITED KINGDOM OLDPARTY : ASSIGNMENT OF SECURITY INTEREST; ASSIGNOR:JP MORGAN CHASE BANK, N.A.; REEL/FRAME:024055/0633 EFFECTIVE DATE : 20100208
US6846021 BB	20100826	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TI AUTOMOTIVE, L.L.C., MICHIGAN OLDPARTY : RELEASE AND TERMINATION OF PATENT SECURITY INTEREST; ASSIGNOR:WILMINGTON TRUST (LONDON) LIMITED (AS SUCCESSOR IN INTEREST TO JP MORGAN CHASE BANK, N.A.); REEL/FRAME:024891/0671 EFFECTIVE DATE : 20100825
US6846021 BB	20100826	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TI GROUP AUTOMOTIVE SYSTEMS, L.L.C., MICHIGAN OLDPARTY : RELEASE AND TERMINATION OF PATENT SECURITY INTEREST; ASSIGNOR:WILMINGTON TRUST (LONDON) LIMITED (AS SUCCESSOR IN INTEREST TO JP MORGAN CHASE BANK, N.A.); REEL/FRAME:024891/0671 EFFECTIVE DATE : 20100825
US6846021 BB	20100826	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANIL USA, L.L.C., MICHIGAN OLDPARTY : RELEASE AND TERMINATION OF PATENT SECURITY INTEREST;

ASSIGNOR: WILMINGTON TRUST
(LONDON) LIMITED (AS SUCCESSOR IN
INTEREST TO JP MORGAN CHASE BANK,
N.A.); REEL/FRAME: 024891/0671
EFFECTIVE DATE : 20100825

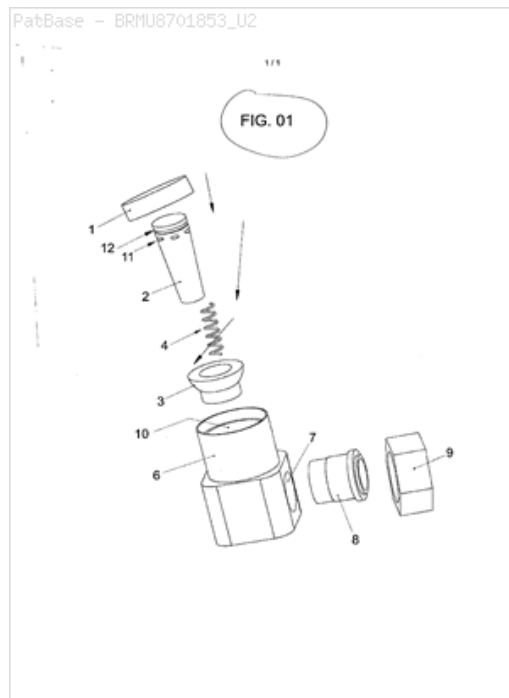
US6846021 BB	20120725	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6846021 BB	20160725	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6846021 BB	20230425	PEXP		Calculated Patent Term Expiry	

Title: tubo regulador de ar com valvula tronco de cone Regulator tube air valve cone frustum (Machine translation)

Abstract: Source: BRMU8701853U [PT] 1 Resumo Tubo regulador de ar com valvula tronco de cone, sendo esse dispositivo instalado a montante do hidrometro impedindo que o ar dentro da tubulacao seja contabilizado como agua. 5 O modelo proposto se caracteriza pelo desenvolvimento de um tubo regulador de ar com valvula tronconica, onde a peca em formato de "T" e fabricado em latao, com conexoes a esquerda uniao percent de polegada e a direita rosca percent. Em seu interior existe uma camara conica, onde esta acoplada no sentido vertical/central um tubo eixo (sistema pistao macho - SPM) em forma de tronco de 10 cone. O tubo eixo e fixado na carcaca da peca por rosca na parte inferior. A parte superior do eixo (topo) e fechada. A uma determinada distancia do topo assenta-se um anel ring e, logo abaixo deste, localizam-se quatro janelas de vazao. ss ss ss
Machine translation: 1 Summary **pipe** air regulator valve truncated cone, with this device installed hydrometer the amount preventing the air inside the **pipe** is recorded as water. 5 The proposed model is characterized by the development of a regulator air tube with frustoconical valve where the piece in the shape of "T" and made of brass, with connections left union percent inch and the right thread percent. Inside there is a conical chamber, where it engaged in vertical / central meaning an axle tube (male piston system - SPM) in the form of 10 cone trunk. The shaft tube and fixed to the carcass of the piece for the bottom thread. The top of the shaft (top) and closed. At a certain distance from the top sit a ring and ring, just below this, are located four windows flow. ss ss ss

Classifications:

International (IPC 8-9): E03B7/07 F16K17/42
 G01F15/08 (Advanced/Invention);
 E03B7/00 F16K17/00 G01F15/00 (Core/Invention)



Family:

Publication number	Publication date	Application number	Application date
BRMU8701853 U2	20090714	BR2007MU01853U	20071123

Priority:

BR2007MU01853U 20071123

Probable Assignee: PRATES ZAVAGNA PEDRO LUIZ
Assignee(s): (std): PRATES ZAVAGNA PEDRO LUIZ
Assignee(s): PEDRO LUIZ PRATES ZAVAGNA
Inventor(s): (std): PRATES ZAVAGNA PEDRO LUIZ
Inventor(s): PEDRO LUIZ PRATES ZAVAGNA

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BRMU8701853 U2	20090714	LSPB	B03A	PUBLICATION OF AN APPLICATION: PUBLICATION OF A PATENT APPLICATION OR OF A CERTIFICATE OF ADDITION OF INVENTION	
BRMU8701853 U2	20110322	LSRV	-B11A	DISMISSAL ACC. ART.33 OF IPL - EXAMINATION NOT REQUESTED WITHIN 36 MONTHS OF FILING	
BRMU8701853 U2	20110705	LSRV	-B11Y	DEFINITIVE DISMISSAL ACC. ARTICLE 33 OF IPL - EXTENSION OF TIME LIMIT FOR REQUEST OF EXAMINATION EXPIRED	