

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO	
RAD: 13-101902- -2	FECHA: 2015-05-19 18:44:30
DEP: 2020 DIRECCION DE NUEVAS CREACIONES	EVE: 1 REGISTRO/DEPOSITO/CONCESION/DEPOSITO
TRA: 2 PATENTES DE INVENCION	FOLIOS: 3
ACT: 519 TRASLADOINFORME	

DIRECCIÓN DE NUEVAS CREACIONES

2020
Bogotá, D.C.,

Abogado(a)/Señor(a)
JOHAN SEBASTIAN GÓMEZ VILLA

Asunto: Radicación: 13-101902- -2
 Trámite: 2
 Evento: 1
 Actuación: 519
 Oficio: 5494
 Folios: 3

Patente de Invención	X			Patente de Modelo de Utilidad	
Vía Nacional	X				
Vía PCT (Fase Nacional)		Capítulo I		Capítulo II	
No. Solicitud Internacional					
Fecha de Presentación Internacional					

Como resultado del examen de fondo realizado, con fundamento en el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se comunica:

1. Documentos estudiados

Descripción:	Rad. N° 13-101902-00000-0000	22/abril/2013
Reivindicaciones:	Rad. N° 13-101902-00000-0000	22/abril/2013
Dibujos:	Rad. N° 13-101902-00000-0000	22/abril/2013

2. Objeto de la invención

De acuerdo con lo establecido en el numeral 1.2.2.2 del Capítulo Primero del Título X de la Circular Única para efectos del examen de patentabilidad, se tendrá en cuenta la tasa pagada por el solicitante al momento de comenzar el examen para las reivindicaciones adicionales; esto es que cuando la solicitud contenga más de diez (10) reivindicaciones y no se haya pagado la tasa complementaria, sólo se estudiarán las cubiertas por la tasa pagada. Por lo tanto, se estudiaran las reivindicaciones 1 a 10.

Título de la solicitud: “Válvula para re direccionamiento y control inverso de flujos” (Pág. 1 del radicado 13-101902-00000-0000).

El problema planteado en esta solicitud consiste en la necesidad de diseñar, un sistema de re direccionamiento y control del flujo de aire o líquido para evitar altas presiones en redes de acueducto domiciliarios.

Para resolver este problema técnico, la solicitud en estudio proporciona una válvula para re-direccionamiento y control inverso de flujos para red hidráulica y domiciliaria, con seis efectos compuesta por una estructura maciza prismática con tres ductos horizontales y dos ductos verticales que varían su diámetro y forma para una función específica complementada con una esfera y un resorte, con sello automático por sobrepresión de líquidos, sello manual con émbolo y tornillo de seguridad, direccionamiento automático para expulsión de aire, sello de flujos de que evita paso a equipos de medida y detención de flujos inversos.

El objeto de la presente solicitud se relaciona con la Clasificación Internacional de Patentes (CIP): F 16 K 1/00.

3. De la solicitud de patente

Reivindicaciones (Art 30 D 486, Art 22 PCT)

- Las siguiente reivindicación, presenta términos o frases de carácter general que sugiere de forma imprecisa que la protección se extiende a otras posibles variaciones o modificaciones, por lo tanto, no son claras ya que no definen la materia a proteger así: en la reivindicación 1 la expresión “...que varían su diámetro y forma para una función específica”
- Los términos “una porción mayor de diámetro”, “una porción menor de diámetro”, en las reivindicaciones 7 y 8, son utilizados para definir características del producto reivindicado. Estos términos no permiten establecer un intervalo puntual para cada una de las características técnicas, no siendo estas precisas y por lo tanto no claras, ya que no permiten una comparación con el estado de la técnica. Se le sugiere al solicitante sustituirlos por términos precisos o rangos concretos.
- Las reivindicaciones 1, 8 y 9 presentan resultados a alcanzar donde mencionan “...empujada por sobre presión de líquido (16)”
- Reivindicación 8: “y realiza el sello cuando no hay presión de líquido”
- Reivindicación 9 “...y contribuye a la formación de la trayectoria de anillo (20)”
- Las reivindicaciones 1, 2, 7, 8 y 10 se encuentran redactadas a partir de funcionalidades, donde mencionan:

Reivindicación 1: “...para el acceso de fluidos (...) para la salida de líquidos, (...) para paso de fluidos, (...) para sello de fluidos (...)”; reivindicación 2: “...una conexión a un equipo de flujos convencional (...) para el paso de fluidos”; Reivindicación 2: “...tiene una conexión para entrada de flujos”, “tiene conexión a un equipo de medida de flujos convencional”; reivindicaciones 7 y 8: “...tiene una porción de mayor diámetro en su parte superior (...) tiene una porción de menor diámetro en la parte inferior; reivindicación 10: “...dentro de la estructura maciza (13) los fluidos recorren el ducto superior de entrada (15), pasan al primer ducto vertical (14) de expulsión de aire (17) y continua su recorrido hasta el ducto horizontal inferior de paso (4), al llegar al final del ducto horizontal inferior de paso (4) los fluidos se encuentran el tapón (6) y en la parte superior de la esfera de sello (8) presionada por el resorte de sello (9); el aire (17) del fluido es expulsado por el primer ducto vertical (14) a una ventosa convencional (13) que hacen sobre presión por flujo de líquido (16) para que la sobre presión del líquido abra el paso de la esfera (8), contraiga el resorte de sello (9) y dejar pasar el fluido de líquido (16) para que la sobre presión (16) al ducto horizontal superior de salida (10) y una vez el líquido (16) este es el ducto superior de salida (10) no

se presente flujo inverso por el desnivel de los ducos y ubicación inferior de la esfera de sello (8)”; Las cuales no corresponden a características técnicas que puedan definir un producto o en este caso la válvula de re direccionamiento y control inverso de flujo, teniendo en cuenta lo anterior:

“La descripción de un aparato por medio de sus funcionalidades no demuestra efectivamente que el aparato pueda realizar las funcionalidades descritas. Por esta razón es necesario definir el aparato en términos de sus elementos físicos estructurales, que son los que permiten la realización de las funcionalidades. Ahora, para determinar la novedad y nivel inventivo frente a las anterioridades solo es suficiente comparar los elementos físicos estructurales porque, si dos aparatos tienen los mismos elementos físicos estructurales, entonces también pueden ambos realizar las mismas funcionalidades, debido a que, como se indicó anteriormente, son los elementos físicos estructurales los que permiten la realización de las funcionalidades”. En este orden de ideas, cuando se reivindica un aparato, las funcionalidades (funciones realizadas) sirven para entender la relación que hay entre los diferentes elementos estructurales, pero son solo los elementos estructurales los que definen la invención haciendo a las funcionalidades opcionales y, por lo tanto, las funcionalidades no le pueden dar novedad y/o nivel inventivo a un aparato. Se le sugiere al solicitante caracterizar la válvula para re direccionamiento y control inverso de flujos solamente por sus componentes técnicos estructurales que cumplen con los mismos efectos técnicos.

- En la reivindicación 10 se busca proteger condiciones de un proceso haciendo referencia a una reivindicación de producto, lo cual se reconoce como una combinación de reivindicaciones o falsa dependencia. Se le sugiere al solicitante caracterizar la invención por sus componentes técnicos estructurales, de acuerdo a lo anterior, el tribunal andino menciona lo siguiente:

“El objeto de la invención de producto está constituido por un cuerpo cierto destinado a llenar una necesidad industrial que el estado de la técnica aún no ha satisfecho. En cambio, el objeto de la invención de procedimiento se encuentra conformado por “una serie o sucesión de operaciones que inciden sobre una materia (solida, liquida o gaseosa) que se encamina a la obtención de una cosa o un resultado”. (Otero Lastres, José Manuel. Ob. Cit).¹

4. Determinación del Estado de la Técnica

El estado de la técnica se determinó con base en la fecha de presentación de la solicitud de patente nacional: abril 22 de 2013, y consultadas las bases de datos a las cuales tiene acceso esta oficina no se encontró documento alguno que anticipe el objeto de esta solicitud.

5. Conclusión

Los requisitos de patentabilidad de la actual reivindicación independientes 1, al igual que sus reivindicaciones dependientes, no se encuentran afectadas. Sin embargo, se requiere que el solicitante haga las correcciones o aclaraciones necesarias a las objeciones realizadas en el numeral 4 del presente requerimiento para continuar su trámite.

1 Proceso 129-IP-2007. Otero Lastres, José Manuel. Ob. Cit

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de sesenta (60) días contados a partir del día siguiente de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

Se invita al solicitante se sirva indicar, si así lo considera, su renuncia al término faltante de sesenta (60) días para dar respuesta a este requerimiento y presentarla por escrito.

Finalmente, se le recuerda al solicitante que si como respuesta a este requerimiento llegara a modificar el capítulo reivindicatorio y éste contenga más de diez (10) reivindicaciones, no pagará la tasa de modificación voluntaria pero sí la correspondiente al pago por reivindicación adicional.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única No. 10 de 2001.



JOSÉ LUIS SALAZAR LÓPEZ
Director de Nuevas Creaciones (c)

El anterior requerimiento fue notificado por fijación en lista, de fecha 2015-05-26

Elaboró: Harold Snehyder Vega Russi
Revisó: Rosa Patricia Tellez Chavarro

Search history

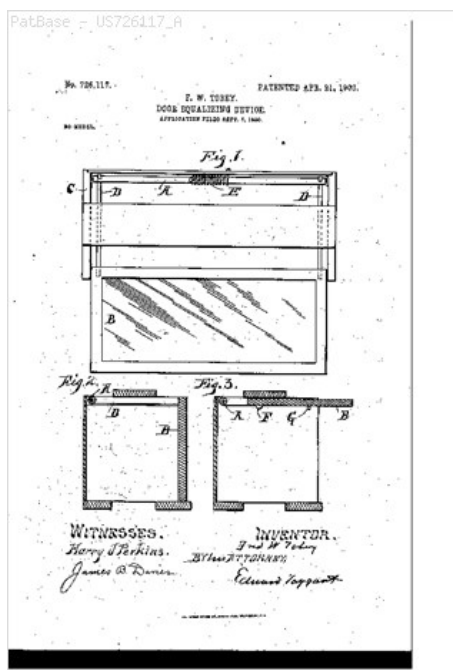
Search 1: Directional and pressure and regulator or valve (Results 13768)
Search 2: Four way and control and valve (Results 6972)
Search 3: Directional and pressure and regulator and valve (Results 801)
Search 4: Four way control valve (Results 187)
Search 5: Three way control valve (Results 635)
Search 6: Control and unloader valve and ball seal (Results 0)
Search 7: Directional and pressure and unloader and regulator and valve (Results 4)
Search 8: six-piece valve seal duct area (Results 0)
Search 9: monoblock and directional and valve and seal ball (Results 0)
Search 10: monoblock and directional and valve (Results 6)
Search 11: PN=(US726117 OR US5709325 OR WO2001020203 OR US3451416 OR US2183889 OR US2429489 OR US20040079411 OR US2210295 OR US3628727) (Results 9)

Title: DOOR-EQUALIZING DEVICE.

Classifications:

CPC: E05Y2900/20 E05D15/582

US: 312/110



Family:

Publication number	Publication date	Application number	Application date
US726117 A	19030421	US19000029304	19000907

Priority:

US19000029304 19000907

Assignee(s): (std): GLOBE WERNICKE CO

Assignee(s): GLOBE WERNICKE COMPANY

Inventor(s): (std): TOBEY FRED W

Inventor(s): FRED W TOBEY

Title: Pressure regulator

Abstract: Source: US2183889A 1. In a pressure regulating valve for spray systems handling liquids containing abrasives. a chamber having inlet and outlet ports, a relief port in said chamber having a valve seat in the path of liquid flow from said inlet port to said outlet port. a poppet valve for engagement with said valve seat and being otherwise free of said relief port to provide an unobstructed path of liquid flow when said valve is in port opening position, a hollow stem for said valve projecting through and spaced from an apertured wall of said chamber. non-metallic sealing means between said stem and said apertured wall, the cross sectional area of said stem engaged with said sealing means being substantially equal to the cross sectional area of said relief port at the valve engaging portion of said valve seat. a cylinder around the projecting portion of said stem out of contact therewith, a spring positioned within said stem and reacting against said cylinder for urging said valve to port closing position. and a non-metallic piston on said stem and slidably engaging said cylinder, said piston being subject to system pressure to control movement of said valve to open position, -

Classifications:

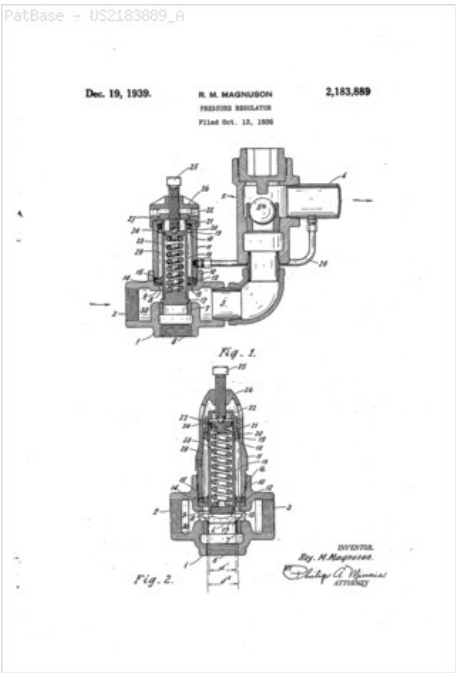
International (IPC 8-9): G05D16/10 (Advanced/Invention); G05D16/04 (Core/Invention)

International (IPC 1-7): F04B49/10 F16N7/38

CPC: G05D16/10

European: G05D16/10

US: 137/115.18 137/115.21 137/510



Family:

Publication number	Publication date	Application number	Application date
US2183889 A	19391219	US19360105389	19361013

Priority:

US19360105389 19361013

Assignee(s): (std): FMC CORP

Assignee(s): FOOD MACHINERY CORP

Inventor(s): (std): MAGNUSON ROY M

Title: Valve

Abstract: Source: US2210295A 1. In an automatic pressure regulator, a housing formed with a threaded inlet opening, a threaded outlet opening, means defining a passage connecting said inlet and said outlet opening, said means including a check valve and a threaded return opening formed in said housing, means defining a passage leading from said inlet to said return opening, said means including a valve seat, a valve assembly including a disc-like valve so as to be normally received on said seat cutting off communication between said inlet and said return passage, said valve assembly being particularly characterized by the provision of a tubular stem extending from the back face of said valve and terminating in a piston-like flange, said housing being formed with a cylindrical bore for receiving said piston-like flange, a sealing ring between said bore and flange, the effective pressure area of said disc-like valve tending to hold said valve closed - being made a predetermined amount greater than the effective pressure area of said seal and piston-like flange whereby there is provided a differential force acting on said valve tending to hold the same on said seat, whereby the force is only a small fraction of the inlet pressure to which said valve assembly is subjected, a cylindrical plunger member passing through said valve assembly and supporting the same intermediate the ends, thereof, said plunger being in communication at one end with the fluid beyond said check valve, said plunger having a limited axial movement relative to said valve and being provided with means for engaging said valve upon movement in one direction to raise the same from said seat, and means associated with the rear end of said plunger including a long sensitive helical spring, a bonnet-like member mounted on the rear end portion of said plunger and engaging one end of said spring adjusting means carried by said housing and engaging the other end of said spring for determining the compression thereof, said fluid pressure in communication with said plunger being effective when the same reaches a predetermined maximum value to force said plunger axially relative to said valve for actuating the same to place said inlet in communication with said return passage whereby to control the pressure delivered to said outlet.

Classifications:

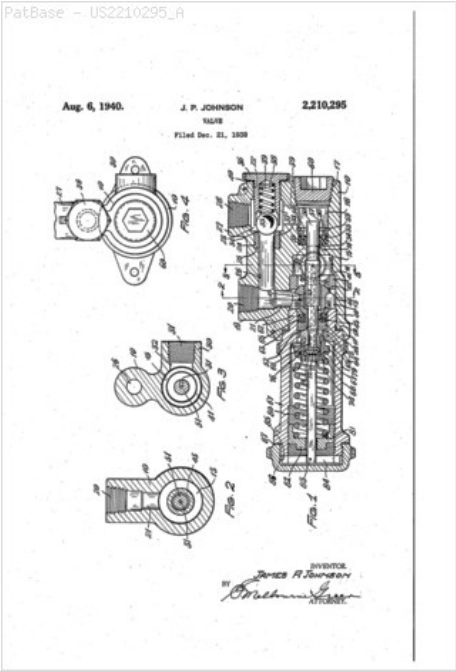
International (IPC 8-9): F16K17/04 G05D16/06 (Advanced/Invention);

F16K17/04 G05D16/04 (Core/Invention)

CPC: F16K17/0433 G05D16/0655

European: F16K17/04F G05D16/06H8D

US: 137/115.18 137/509



Family:

Publication number	Publication date	Application number	Application date
US2210295 A	19400806	US19380246950	19381221

Priority:

US19380246950 19381221

Assignee(s): (std): PUMP ENGINEERING SERVICE CORP

Inventor(s): (std): JOHNSON JAMES P

Title: Unloading valve

Abstract: Source: US2429489A 1. I claim: 1. A loading and unloading valve arrangement including a housing having an inlet adapted to receive pressure fluid from a fluid pressure supply line, a one-way check valve controlled outlet from said housing, an intermediate unloading outlet from said housing adapted to discharge to a low pressure zone, means denning a loading and unloading valve assembly including a main valve proper for controlling the flow through said interrediate outlet, motive means for moving said main valve to and from closed position, and control means responsive to a selected maximum value of pressure in said supply line effective to' control the operating pressure on said motive means and cause the same to open said main unloading valve, and means responsive to the drop in pressure within said check valve controlled outlet to a selected minimum value effective to cause delivery of the supply pressure iiuid to said motive means for applying a closing force to said main valve, said main valve assembly further including a coaxial piston-like stem extending from said main valve proper, means defining a cylindeiffor the reception of said piston, sealing means interposed between said piston and said cylinder denning means, an apertured closure for said cylinder for placing the outer terminal of said piston in constant communication with the surrounding atmosphere, and a coil compression spring surrounding said cylinder effective to urge said valve in the closing direction.

Classifications:

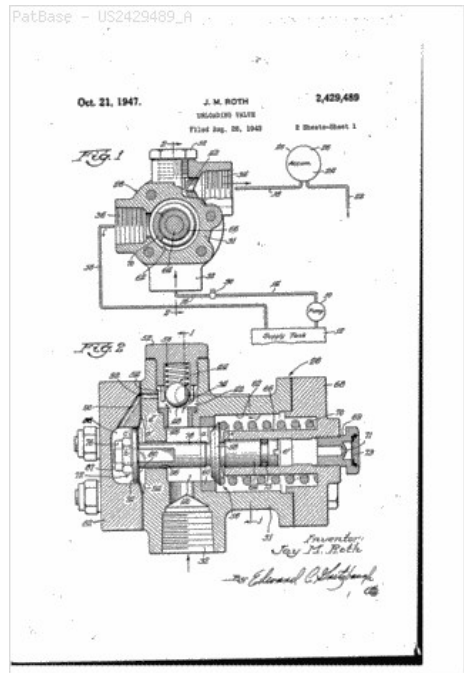
International (IPC 8-9): F15B1/027 (Advanced/Invention);
F15B1/00 (Core/Invention)

International (IPC 1-7): F15B1/02

CPC: F15B1/027

European: F15B1/027

US: 137/115.18



Family:

Publication number	Publication date	Application number	Application date
US2429489 A	19471021	US19430499608	19430823

Priority:

US19430499608 19430823

Assignee(s): (std): BORG WARNER

Assignee(s): BORG WARNER CORP

Inventor(s): (std): ROTH JAY M

Title: RELIEF VALVES

Abstract: Source: US3451416A ABSTRACT OF THE DISCLOSURE
lower sleeve 11 is sealingly fitted, by means of an O-ring An arrangement for unloading valves by which the 10'in the said valve housing. Seated on top of said sleeve valves can be adjusted manually by regulating a spring Is a sleeve-forming ring 12 provided with a convenient so that immediately upon exceeding a certain load in the 5 number of through-flow holes 13, the purpose of which pressure system determined by the force of the spring, wll be explained later. Situated above the sleeve ring 12 the valve immediately cuts off all communication with is a further sleeve 15 equally as closely fitted as sleeve 11 said system and automatically opens a shunt line through and provided with a seal, e.g. an O-rmg 14, a so-called which pressure medium, which is supplied constantly to on abutment plate 16 being positioned above said sleeve the valve, is lead away in a depressurized condition to a and pressed downwards by means of a coil spring 17, the reservoir. tension of which can be adjusted by means of a knob 18 mounted on a threaded bolt 19 which is screwed into an "" upper cap 20 which belongs to the valve housing and

Classifications:

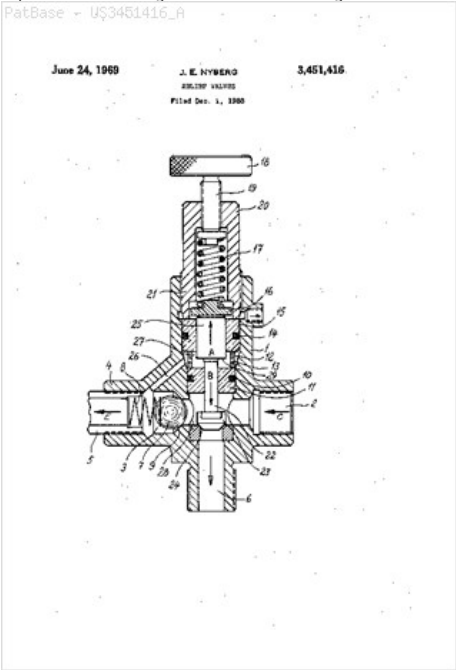
International (IPC 8-9): F16K17/04 F16K17/168 F16K39/02 (Advanced/Invention); F16K17/02 F16K17/04 F16K39/00 (Core/Invention)

International (IPC 1-7): F16K17/00 F16K17/04 F16K17/06 F16K17/10 F16K39/02 G05D11/00 G05D7/00 G05D9/00

CPC: F16K17/0473 F16K17/168 F16K39/022

European: F16K17/04K F16K17/168 F16K39/02B

US: 137/108 137/115.18



Family:

Publication number	Publication date	Application number	Application date
CH448659 A	19671215	CH19660017716	19661208
FR1503433 A	19671124	FR19660086611	19661208
GB1132929 A	19681106	GB19660053842	19661201
SE304421 B	19680923	SE19650016156	19651213
US3451416 A	19690624	US19660598408	19661201

Priority:

SE19650016156 19651213

Assignee(s): (std): NYBERGS MEK VERKST AB ; NYBERGS MEK VERKST S AB ; NYBERGS MEKANISKA VERKSTAB AB ; NYBERGS MEKANISKA VERKSTAD AB ; NYBERGS MEKANISKA VERKSTADS AB

Inventor(s): (std): NYBERG E ; NYBERG JOHAN EDVARD ; JOHAN EDVARD NYBERG

Inventor(s): EDVARD NYBERG JOHAN

Title: HIGH-PRESSURE SPRAY DEVICE

Abstract: Source: US3628727A (Claim 1) 1. 1. A high-pressure fluid spray system including the combination of: a. a high-pressure fluid pumping element having an inlet and an outlet; b. a first valving member arranged to receive high pressure fluid from said pumping element having pressure actuated control means therein to direct fluid to a first discharge in a first position and to a second discharge in a second position, said second position directing fluid to said inlet of said pumping element, said control means being responsive to pressure at said first discharge shifting to discharge to said second discharge upon shutoff of said first discharge; c. a spray head receiving fluid from said first discharge of said first valving member and having valving means thereon shiftable from a first full flow position to a second controlled partial flow position and a third closed position; d. at least one second valving member arranged to receive fluid from said pumping element, being pressure responsive to allow flow therethrough when said spray head valving member is shifted to said second position; e. a venturi-type injector receiving fluid under pressure from said second valving member and communicating with said inlet of said pumping element; and, f. means for supplying fluid to be included in the system communicating

Classifications:

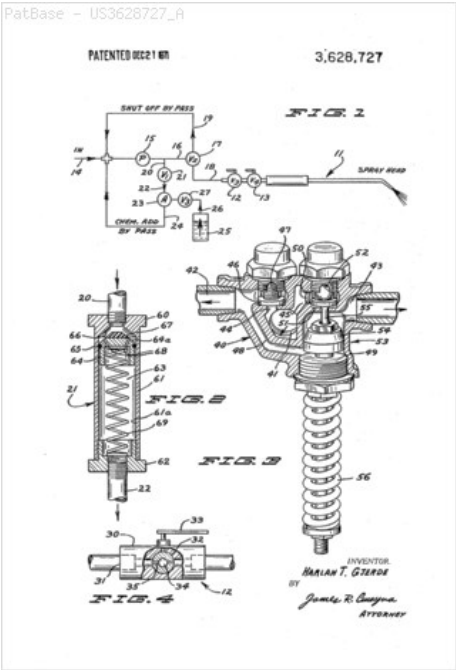
International (IPC 8-9): B05B7/32 B08B3/02 (Advanced/Invention)

International (IPC 1-7): B05B9/00 B05B9/04

CPC: B05B7/32 B08B3/02

European: B05B7/32 B08B3/02

US: 239/124 239/571



Family:

Publication number	Publication date	Application number	Application date
US3628727 A	19711221	US19690887235	19691222

Priority:

US19690887235 19691222

Assignee(s): (std): HARLAN T GJERDE

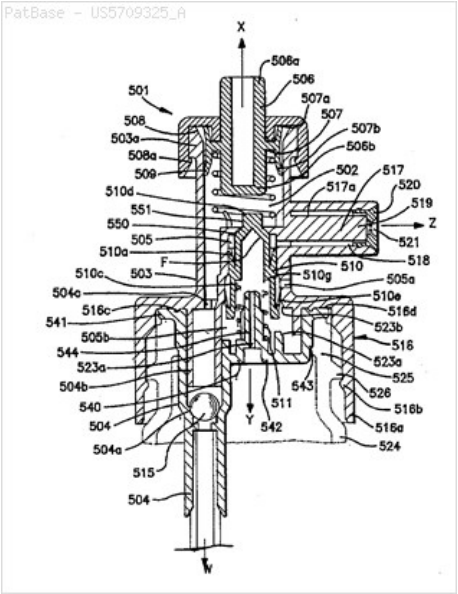
Inventor(s): (std): GJERDE HARLAN T

Inventor(s): HARLAN T GJERDE

Title: Manual precompression pump for spraying a liquid, and dispensing assembly equipped with such a pump

Abstract: Source: US5709325A A precompression pump for spraying a liquid comprises a pumping chamber (502) containing a first piston (507) associated with an operating member (506), this piston bearing against a first spring (509); a precompression chamber (505) equipped with a second piston (510) bearing against a second spring (511), the precompression chamber communicating with the pumping chamber via a passage (550), so that their axes of symmetry being offset. A feed channel (504) equipped with a valve (504a, 515) emerges in the pumping chamber. A dispensing element (517) is equipped with a nozzle (520) and with a dispensing channel (518) connecting the nozzle to the precompression chamber, the latter including a device (F) for placing in communication and for closing the said passage (550), so that communication is interrupted in the position of rest of the pump and so that communication is established under the action of the operating member.

Classifications:
International (IPC 8-9): B05B11/00 B05B9/043 B65D47/34 (Advanced/Invention); B05B11/00 B65D47/34 (Core/Invention)
International (IPC 1-7): B05B11/00 B05B11/00 B05B11/02 B05B9/04 B05B9/043 B65D47/34 B67D5/40 F04B13/00 F04B33/00 F04B9/14
CPC: B05B11/0016 B05B11/0062 B05B11/3015 B05B11/3061
European: B05B11/00B2 B05B11/00P3N B05B11/00P9N B05B11/00R7 B05B11/30C6 B05B11/30H5 L05B11/00B9
US: 222/383.1



Family:

Publication number	Publication date	Application number	Application date
AR000260 A1	19970618	AR19950334331	19951122
BRPI9504967 A	19971021	BR1995PI04967	19951117
CA2163483 AA	19960524	CA19952163483	19951122
CA2163483 C	19981201	CA19952163483	19951122
DE69500443 D1	19970821	DE19956000443	19951030
DE69500443 T2	19971106	DE19956000443T	19951030
EP0718045 A1	19960626	EP19950402419	19951030
EP0718045 B1	19970716	EP19950402419	19951030
ES2105854 T3	19971016	ES19950402419T	19951030
FR2727162 A1	19960524	FR19940014036	19941123
FR2727162 B1	19961220	FR19940014036	19941123
JP2809605 B2	19981015	JP19950303084	19951121
JP8224508 A2	19960903	JP19950303084	19951121
US5709325 A	19980120	US19950562626	19951124

Priority:
FR19940014036 19941123 CA19952163483 19951122

Assignee(s): (std): OREAL

Assignee(s): LOREAL ; L'OREAL ; L'OREAL ; RENAULT PHILIPPE ; DALSANT GUISEPPE ; GEIER ADALBERTO ; L OREAL ; L OREAL PARIS FR ; L OREAL SA

Inventor(s): (std): GEIER ADALBERTO ; DALSANT GUISEPPE ; RENAULT PHILIPPE ; RENAUT PHILIPPE ; JIYUZETSUPE DARUSANTO ; FUIRITSUPU RUNOO ; ADARUBERUTO GAIAA ; DALSANT GIUSEPPE

Inventor(s): ADALBERTO GEIER ; RENAULT PHILIPPE F 92370 CHAVILLE FR ; DALSANT GUISEPPE I 38042 BASELGA DI PINE IT ; GEIER ADALBERTO I 38050 VILLAZZONO IT ; GUISEPPE DALSANT ; PHILIPPE RENAUT

Designated states: DE ES FR GB IT

Title: MULTIFUNCTIONAL VALVE ASSEMBLY FOR FLUID FLOW REGULATION

Abstract: This invention relates to a multifunctional valve assembly for fluid flow regulation comprising, in association, a main body (200), a first flange (300) and a second flange (400) adjacent to the low and top end of the main body, a support element (500) centrally positioned on the front face of said main body, a first fastening element (800) centrally positioned on one of the side faces of said main body; a second fastening (1000) element internally located at the top and low end of the main body, filtering means (1500) located between the first valve seat and the first flange, a lever (1400) located above said support element, purging or sampling means located at every one of the first and second flanges, second tight sealing means located between the support element and the main body, third tight sealing means located between the first fastening element and the main body, a pressure gauge (1800), preferably located at the first flange, and a "non back-flow check" basket.

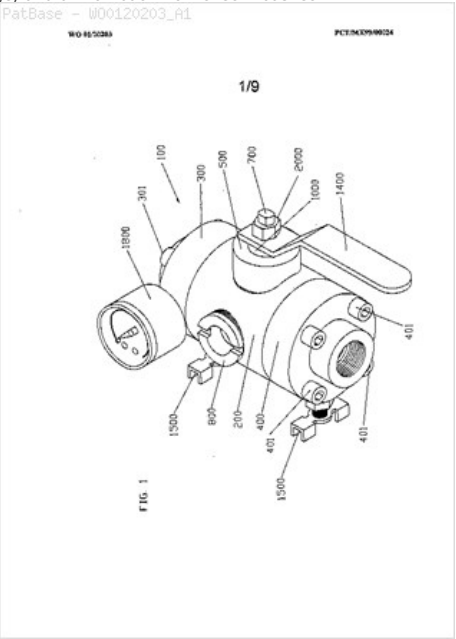
Classifications:

International (IPC 8-9): F16K27/06 F16K37/00 (Advanced/Invention); F16K27/06 F16K37/00 (Core/Invention)

International (IPC 1-7): F16K27/06

CPC: F16K27/065 F16K37/0058

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Family:

Publication number	Publication date	Application number	Application date
AU199956549 A1	20010417	AU19990056549	19990826
AU199956549 A5	20010417	AU19990056549	19990826
WO0120203 A1	20010322	WO1999MX00024	19990826

Priority:

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

Title: Flow-actuated trapped-pressure unloader valve

Abstract: Source: US2004079411A The invention recites an unloader valve operable to direct a flow of fluid. The valve includes a housing having a bypass opening, an inlet opening, an outlet opening and an internal chamber between the inlet opening and the outlet opening. A shuttle valve is disposed within the internal chamber and is movable between a first position wherein the flow of fluid is substantially directed to the bypass opening and a second position wherein the flow of fluid is directed to the outlet opening. The shuttle valve includes an internal flow path having a venturi therein. A biasing member biases the shuttle valve in the first position.

Classifications:

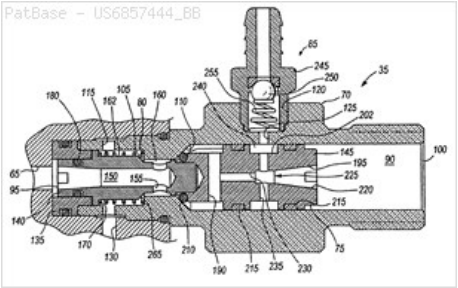
International (IPC 8-9): F04B49/035 (Advanced/Invention)

International (IPC 1-7): F04B49/035 F16K11/02 F16K17/00

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EP1413755 A2	20040428	EP20030023535	20031015
US2004079411 AA	20040429	US20020280909	20021025
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