

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO	
RAD: 14-173498- -4	FECHA: 2016-06-13 09:16:37
DEP: 2020 DIRECCION DE NUEVAS CREACIONES	EVE: 1 REGISTRO/DEPOSITO/CONCESION/DEPOSITO
TRA: 2 PATENTES DE INVENCION	FOLIOS: 7
ACT: 519 TRASLADOINFORME	

DIRECCIÓN DE NUEVAS CREACIONES

2020
Bogotá, D.C.,

Abogado(a)/Señor(a)
ALVARO GUSTAVO LADRÓN DE GUEVARA GONZALEZ

Asunto: Radicación: 14-173498- -4
Trámite: 2
Evento: 1
Actuación: 519
Oficio: 7026
Folios: 7

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 85 y en concordancia con el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica:

1. Documentos estudiados

Descripción:	Radicado N° 14-173498-0000-0000	09/Agosto/2014
Reivindicaciones:	Radicado N° 14-173498-0000-0000	09/Agosto/2014
Dibujos:	Radicado N° 14-173498-0000-0000	09/Agosto/2014

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 la 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. En el presente caso se estudiarán las reivindicaciones 1 a 9 del capítulo reivindicatorio (Radicado N° 14-173498-0000-0000).

Título de la solicitud: “Válvula cheque anti bloqueo por gas” (Radicado N° 14-173498-0000-0000).

El problema planteado en esta solicitud consiste en la necesidad de proporcionar una válvula cheque anti-bloqueo por gas que impida o disminuya el golpe de fluido en el interior de un sistema de bombeo de pozo, y aumente la eficiencia del proceso de bombeo, al proteger de introducción de sólidos (arenas) en dichas bombas de subsuelo que son usadas, en tecnologías de bombeo mecánico, para la producción de hidrocarburos.

Para resolver este problema técnico la solicitud en estudio proporciona una válvula cheque anti bloqueo por gas para bombas de subsuelo en tecnologías de bombeo mecánico (compuestas por una unidad de superficie, una sarta de varillas y una bomba de subsuelo), que elimina el bloqueo por gas, disminuye el golpe de fluido y evita el atascamiento por sólidos en las bombas de subsuelo.

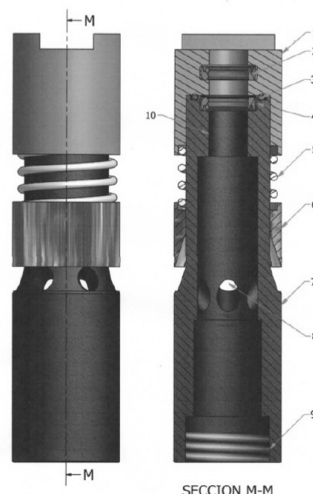


Figura 3.

El objeto de la presente solicitud se relaciona con la Clasificación Internacional de Patentes (CIP): E 21 B 34/08; E 21 B 43/12.

3. De la solicitud de patente

Reivindicaciones (Art 30 D 486, Art 22 PCT)

Las reivindicaciones 1 a 9 no son claras porque:

- Las expresiones: “(...) impide que la presión de la columna hidrostática de un pozo se ejerza sobre la válvula viajera de una bomba de subsuelo” (Reiv. 1); “(...) que aloja dicha válvula en el tope superior de una bomba de subsuelo” (Reiv. 2); “(...) que impide el paso de fluido entre la tuerca 1 y el eje que conecta las varillas a la válvula viajera de la bomba de subsuelo” (Reiv. 3); “(...) que impide el paso de fluido entre el cuerpo 7 y el eje que conecta las varillas a la válvula viajera durante el movimiento ascendente de la válvula viajera de la bomba de subsuelo” (Reiv. 4); “(...) que ejerce una fuerza descendente sobre la campana 6 de forma que la válvula anti bloqueo por gas permanece normalmente cerrada” (Reiv. 5); “(...) puede desenroscarse de la rosca superior 11 para permitir la instalación de la campana 6 y el resorte 5” (Reiv. 9), corresponden a características funcionales, las cuales aunque explican la relación que hay entre diversas características estructurales y pueden estar incluidas en las reivindicaciones, no definen la invención; de tal manera no se tienen en cuenta para el estudio de patentabilidad.
- Las expresiones: “(...) donde la tuerca 1 se enrosca en la rosca superior 11 del cuerpo 7” (Reiv. 7); “(...) donde una campana 6 se mueve axialmente sobre el cuerpo 7” (Reiv. 8), son resultados a alcanzar puesto que la reivindicación incluiría no sólo la solución propuesta por el solicitante, sino todas las alternativas presentes o futuras que lleguen a ese resultado. Se sugiere reemplazarlo por las

características esenciales, estructurales, que contribuyen a la obtención de ese efecto.

- Se sugiere incluir entre paréntesis () los números de referencia de elementos o componentes de la invención citados en el capítulo reivindicatorio.

El capítulo reivindicatorio no es conciso porque contiene un excesivo número de reivindicaciones independientes, lo cual hace difícil definir cuál es el objeto que se busca proteger. Las reivindicaciones 2 a 9, se refieren a una serie de componentes y/o características de la invención, sin relacionar dichas características particulares con una reivindicación independiente, es decir, sin tener una relación entre ellas. Se sugiere presentar un nuevo capítulo reivindicatorio en donde se enseñe de forma clara la materia para la cual se busca protección.

Artículo 30 (D486) - Las reivindicaciones definirán la materia que se desea proteger mediante la patente. Deben ser claras y concisas y estar enteramente sustentadas por la descripción.

Las reivindicaciones podrán ser independientes o dependientes. Una reivindicación será independiente cuando defina la materia que se desea proteger sin referencia a otra reivindicación anterior. Una reivindicación será dependiente cuando defina la materia que se desea proteger refiriéndose a una reivindicación anterior. Una reivindicación que se refiera a dos o más reivindicaciones anteriores se considerará una reivindicación dependiente múltiple.

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: agosto 9 de 2014, y se encontró el siguiente documento que anticipa el objeto de esta solicitud:

Ítem	Documento	Título	Fecha de Publicación
D1	US6382244	"Reciprocating pump standing head valve"	07/Mayo/2002
D2	US6497281	"Cable actuated downhole smart pump"	24/Diciembre/2002

El documento D1¹ divulga una válvula de retención circular con una abertura central. El uso preferido como una válvula de cabeza permanente para la reducción de la presión hidrostática en un pozo siendo producido por se discute una bomba de émbolo. En esta aplicación la válvula de retención circular permite que la una varilla de bombeo, o fuente equivalente de energía de bombeo, para pasar. El dispositivo está unido al cilindro de la bomba en comunicación con cámaras de la bomba y la tubería de producción. El dispositivo de válvula de retención aísla los componentes internos de la bomba y la formación de la cabeza hidrostática del fluido producido. (Resumen)

El documento D2² divulga mejoras en el método y un aparato para la producción de hidrocarburos a partir de los pozos de petróleo marginales, especialmente pozos que utilizaban anteriormente conectores de la bomba estándar. La sustitución de la presente invención para el equipo de producción de la técnica anterior resuelve muchos problemas comunes que se encuentran en la técnica anterior, tales como una bomba de pozo que experimenta cierre de gas y golpes, que es un obstáculo para la

1http://worldwide.espacenet.com/publicationDetails/originalDocument?CC=US&NR=2002014268A1&KC=A1&FT=D&ND=3&date=20020207&DB=&locale=en_EP
2http://worldwide.espacenet.com/publicationDetails/originalDocument?CC=US&NR=2002007952A1&KC=A1&FT=D&ND=3&date=20020124&DB=&locale=en_EP

producción eficiente en otros sistemas de bombas conocidos pero es ventajoso cuando se utiliza el bomba inteligente de esta descripción. (Resumen).

5. Examen de Patentabilidad (Art 14 D486)

Novedad (Art 16 D486)

La reivindicación 1 consiste en: “*Válvula cheque anti bloqueo por gas caracterizada porque comprende...*” (Ver. Pág. 15 del Radicado N° 14-173498-0000-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D1	D2
Una campana 6 que asienta sobre un cuerpo 7.	Carcasa superior (29) (Párr. 51)	Cubierta superior anular (79) (Párr. 71)

De acuerdo con la tabla, las características esenciales del dispositivo reclamado en la reivindicación 1 habían sido divulgadas previamente en los documentos D1 y D2, por lo tanto, la materia reivindicada no es nueva.

La reivindicación 2 consiste en: “*Válvula cheque anti bloqueo por gas caracterizada porque comprende...*” (Ver. Pág. 15 del Radicado N° 14-173498-0000-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D1	D2
Un cuerpo 7 con rosca inferior 9.	Rosca de la carcasa inferior coincidirá con el barril de la bomba intermedia estándar. (Párr.. 41)	Un extremo del cuerpo inferior roscado 76 (Párr. 71)

De acuerdo con la tabla, las características esenciales del dispositivo reclamado en la reivindicación 2 habían sido divulgadas previamente en los documentos D1 y D2, por lo tanto, la materia reivindicada no es nueva.

La reivindicación 3 consiste en: “*Válvula cheque anti bloqueo por gas caracterizada porque comprende...*” (Ver. Pág. 15 del Radicado N° 14-173498-0000-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D1
Un empaque retenedor de presión externa 2	Un sistema de sellado opcional, (42), puede ser incorporado en la carcasa superior, a fin de proporcionar un sellado adicional. (Párr. 54)

De acuerdo con la tabla, las características esenciales del dispositivo reclamado en la reivindicación 3 habían sido divulgadas previamente en el documento D1, por lo tanto, la materia reivindicada no es nueva.

La reivindicación 4 consiste en: “*Válvula cheque anti bloqueo por gas caracterizada porque comprende...*” (Ver. Pág. 15 del Radicado N° 14-173498-0000-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D1	D2
Un empaque retenedor de presión interna 4	Un subconjunto general que se intercala entre la parte baja y carcasa	Una jaula de bolas (80) situado entre los cubiertas (77) y (79). La jaula de

	superior. (Ver Fig. 10.) En esencia, este subconjunto es una válvula de retención de bola circular. El subconjunto puede ser sustituido por una serie de válvulas de sello co-ubicados sobre las aberturas de flujo (30), para formar una válvula de retención alternativa. (Parr. 49, Fig. 10)	bolas (80) se ha separado radialmente orificios (180) en el que las bolas (81) son capturados en relación espaciada radialmente de tal manera que cada bola se puede mover el orificio superior una distancia limitada dentro de su agujero con relación a su asiento. Los asientos de las bolas se forman dentro de la cara superior (82) del miembro (77) como se ve ilustrado en la figura. 7. Las bolas radialmente espaciadas (81) están unidos individualmente a un extremo de los pasadores (84) con los extremos opuestos de los mismos (85). (Párr. 72)
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De acuerdo con la tabla, las características esenciales del dispositivo reclamado en la reivindicación 4 habían sido divulgadas previamente en los documentos D1 y D2, por lo tanto, la materia reivindicada no es nueva.

La reivindicación 5 consiste en: *“Válvula cheque anti bloqueo por gas caracterizada porque comprende...”* (Ver. Pág. 15 del Radicado N° 14-173498-0000-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

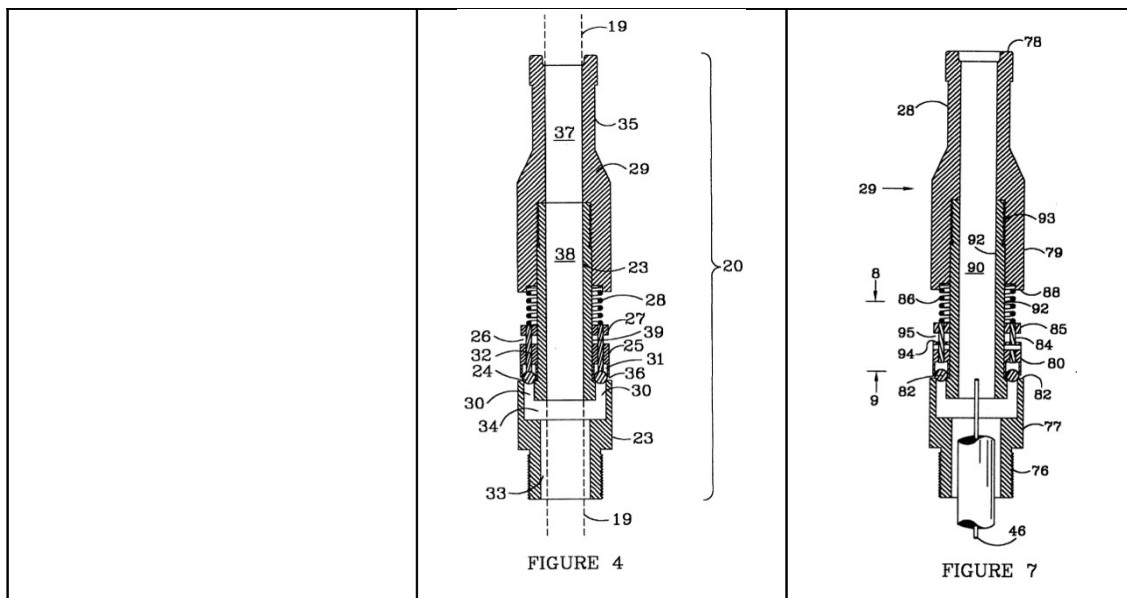
Características esenciales	D1	D2
Un resorte 5	Un resorte (28) (Figura 4)	Un resorte (92) (Figura 7)

De acuerdo con la tabla, las características esenciales del dispositivo reclamado en la reivindicación 5 habían sido divulgadas previamente en los documentos D1 y D2, por lo tanto, la materia reivindicada no es nueva.

La reivindicaciones 6 a 8 consisten en: *“Válvula cheque anti bloqueo por gas caracterizada porque comprende...”* (Ver. Pág. 15 del Radicado N° 14-173498-0000-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D1	D2
Una tuerca 1, un resorte 5 y una campana 6, concéntricos a un cuerpo 7.	Una tuerca (35), un resorte (28) y una campana (29), concéntricos a un cuerpo (23). (Figura 4)	Una tuerca (78), un resorte (92) y una campana (79), concéntricos a un cuerpo (76). (Figura 7)



De acuerdo con la tabla, las características esenciales del dispositivo reclamado en las reivindicaciones 6 a 9 habían sido divulgadas previamente en los documentos D1 y D2, por lo tanto, la materia reivindicada no es nueva.

En consecuencia, las reivindicaciones 1 a 9 carecen de novedad, según lo divulgado en los documentos D1 y D2.

6. Conclusión

Los requisitos de Patentabilidad de la presente solicitud están afectados así:

Ítem	Documento	Reivindicaciones afectadas	Requisito que afecta
D1	US6382244	1 a 9	Novedad
D2	US6497281	1 a 9	Novedad

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 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.

Si como respuesta a este requerimiento el solicitante llegara a modificar: i) el capítulo reivindicatorio, ii) la descripción de la invención a proteger, iii) o presente un nuevo capítulo reivindicatorio, y desee que se realice un nuevo examen de patentabilidad a esta modificación, no deberá pagar la tasa de modificación voluntaria pero sí la correspondiente a la tasa de examen de patentabilidad. En todo caso, el número de requerimientos por no patentabilidad estará supeditado a que el término del estudio de patentabilidad no sea superior a 18 meses, contados desde la publicación de la solicitud de patente de invención. Adicionalmente, 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 deberá pagar la tasa 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 2016-06-21

Elaboró: Oscar Ivan Orduz Berdugo

Revisó: Sonia Andrea Diaz Pirazan

Search history

Search TA=(oil and valve and anti* and lock and gas) (Results 70)

1:

Search TA=(check and valve and well and pump) (Results 2396)

2:

Search TA=(check and valve and well and pump and spring and hole*) (Results 114)

3:

Search TA=(check and valve and well and pump and spring and hole*) and IC=(E21B43/12 or E21B34/08) (Results 6)

4:

Search PN=(US2002007952 AA OR US2002014268 AA) (Results 1)

5:

Search [SP]: anti-gas-lock check valve valvula cheque anti bloqueo por gas clapet de non-retour anti-bouchon de gaz the invention relates to an anti-gas-lock check valve for subsurface pumps in mechanical pumping technologies (formed by a surface unit, a rod string, and a subsurface pump), which eliminates gas lock, reduces fluid pound and prevents sticking due to solids in the subsurface pumps. the anti-gas-lock check valve is formed by four main parts: a nut a spring a bell and a body with production holes. during the downward movement of the travelling valve or in the event of the system stopping, the spring which is supported on the nut constantly exerts a downward force on the bell, forcing the bell to sit on the body, thereby closing the production holes. consequently, the anti-gas-lock check valve prevents the pressure of the hydrostatic column inside a well from being exerted on the travelling valve of the subsurface pump during the downward movement of the system or in the event of the system stopping. la invencion corresponde a una valvula cheque anti bloqueo por gas para bombas de subsuelo en tecnologias de bombeo mecanico (compuestas por una unidad de superficie, una sarta de varillas y una bomba de subsuelo), que elimina el bloqueo por gas, disminuye el golpe de fluido y evita el atascamiento por solidos en las bombas de subsuelo. la valvula cheque anti bloqueo por gas esta compuesta por cuatro partes principales: una tuerca, un resorte, una campana y un cuerpo con orificios de produccion. durante el movimiento descendente de la valvula viajera o ante una parada del sistema, el resorte que se apoya sobre la tuerca, ejerce constantemente una fuerza descendente en la campana, obligando a la campana a asentarse sobre el cuerpo, cerrando los orificios de produccion. como resultado la valvula cheque anti bloqueo por gas impide que la presion de la columna hidrostatica, al interior de un pozo, sea ejercida sobre la valvula viajera de la bomba de subsuelo durante el movimiento descendente del sistema o ante una parada del sistema. l'invention concerne un clapet de non-retour anti-bouchon de gaz pour pompes de fond, trouvant une application dans les technologies de pompage mecanique (avec unite de surface, train de tiges et pompe de fond), permettant de supprimer le phenomene de bouchon de gaz, de limiter les problemes de pompage trop rapide du fluide et d'eviter le colmatage par des solides dans les pompes de fond. ce clapet de non-retour anti-bouchon de gaz est constitue par quatre parties principales: un ecrou, un ressort, une cloche et un corps avec orifices de production. pendant le mouvement descendant du clapet de refoulement ou avant un arret du systeme, le ressort qui repose contre l'ecrou exerce de maniere constante une force descendante sur la cloche, contraignant la cloche a appuyer sur le corps, fermant ainsi les orifices de production. il en resulte que le clapet de non-retour anti-bouchon de gaz empeche que la pression de la colonne hydrostatique a l'interieur d'un puits soit exercee sur le clapet de refoulement de la pompe de fond pendant le mouvement descendant du systeme ou avant un arret du systeme. (Results 2)

Search TA=(valve and well and pump and spring and hole*) and IC=(E21B43/12 or E21B34/08) (Results 18)

7:

Title: UNDERWATER WELLHEAD ELECTRIC CONNECTION APPARATUS FOR SUBMERGED ELECTRIC MOTOR DRIVEN **WELL PUMPS** AND METHOD OF INSTALLATION

Abstract: Source: US3638732A An underwater bottom **hole** electrically driven **well pump** has an electric power cable extending to the wellhead, a connectable and disconnectable electrical connection being provided at the wellhead between the cable and the power cable adapted to extend to a power source, the connection being disconnectable and connectable at the wellhead to permit the **pump** to be pulled from the **well**, or run back into the **well**, through the wellhead and production tree without necessitating removal of the wellhead and production tree.

Classifications:

International (IPC 8-9): E21B17/02 E21B33/035 E21B33/04 E21B43/01 E21B43/013 H02G15/08 (Advanced/Invention);

E21B17/02 E21B33/03 E21B43/00 H02G15/08 (Core/Invention)

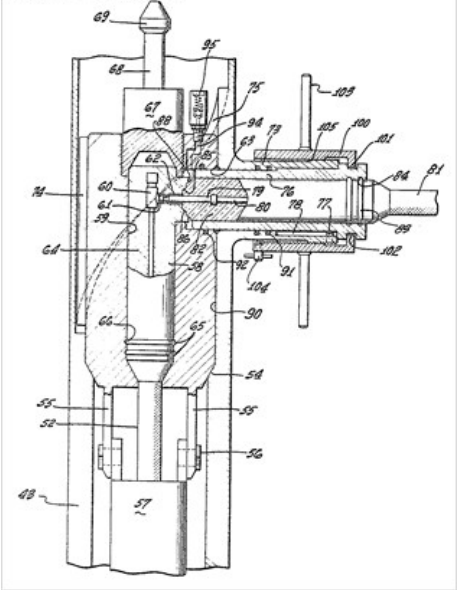
International (IPC 1-7): E21B23/04 E21B33/03 E21B33/035 E21B43/00 E21B43/01 E21B43/12 E21B43/16 F04B47/00 H02G15/02

CPC: E21B43/128 E21B33/0407 E21B17/023 E21B17/028 E21B33/035

European: E21B17/02C E21B17/02E E21B33/035 E21B33/04E

US: 166 166/315 166/368 166/379 166/6 166/65 166/65.1 166/68 166/85

PatBase - US3638732_H



Family:

Publication number	Publication date	Application number	Application date
CA919581 A1	19730123	CA19700097664	19701109
FR2076036 A1	19711015	FR19700046992	19701229
FR2076036 B1	19740215	FR19700046992	19701229
GB1313553 A	19730411	GB19700049521	19701019
JP51023923 B4	19760720	JP19700125082	19701229
US3638732 A	19720201	US19700002241	19700112

Priority:

US19700002241 19700112

Probable Assignee: VETCO GRAY INC

Assignee(s): (std): VETCO OFFSHORE IND INC

Assignee(s): VETCO OFFSHORE INDUSTRIES INC ; VETCO OFFSHORE INDUSTRIE INC ; VETCO OFFSHORE INC A CORP OF DE ; VETCO OFFSHORE IND INC A DE CORP ; CITIBANK NA ; FRITZ R HUNTSINGER ; JAMES W E HANES ; VETCO GRAY INC ; VETCO OFFSHORE INC ; VETCO OFFSHORE IND ; VETCO OFFSHORE IND INC US

Inventor(s): (std): HANES J W E ; HANES JAMES W E ; HUNTSINGER F R ; HUNTSINGER FRITZ R

Inventor(s): JAMES W E HANES ; JAMES WE HANES ; FRITZ R HUNTSINGER

Title: Bottom **hole** flow control apparatus

Abstract: Source: US4022273A An apparatus for controlling flow from a producing zone through a tubing string and through a bypass into the annulus between the tubing string and casing, the apparatus including a production flow tube and bypass tube extending through a packer which is set by fluid pressure supplied through the tubing string. A safety **valve** and sleeve assembly is positioned by wire line after the packer is set, the sleeve including a bypass control **valve**. The tubing string may carry a **pump** and electric motor and the bypass may receive encased conductors for the motor. The safety **valve** sleeve assembly includes fluid pressure responsive means for holding the safety **valve** in its open position, and a small pressure fluid line extends to the **well** mouth. Drop in pressure in the fluid line, either by control at the **well** mouth or by damage to the pressure fluid line, permits a **spring** to close the safety **valve** against upward flow of **well** fluid, and also to close the bypass control **valve**.

Classifications:

International (IPC 8-9): E21B17/00 E21B33/129 E21B34/10 (Advanced/Invention);

E21B34/00 (Advanced/Non-invention);

E21B17/00 E21B33/12 E21B34/00 (Core/Invention)

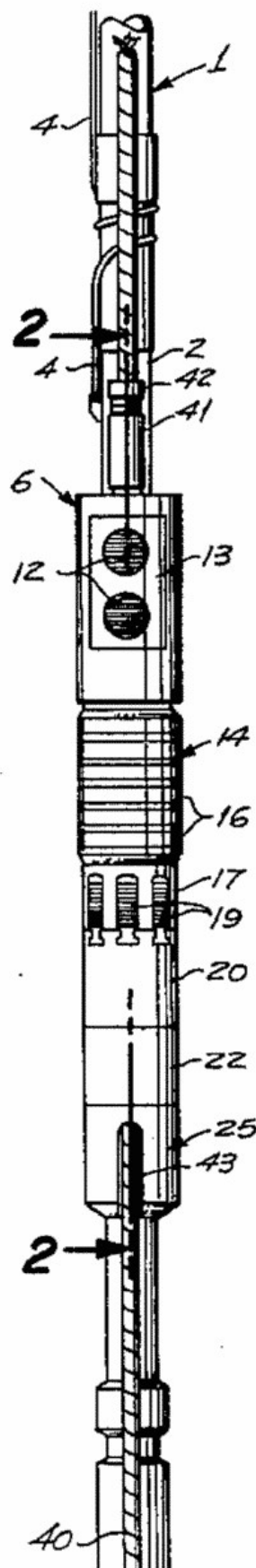
International (IPC 1-7): E21B33/12 E21B43/00 E21B43/12

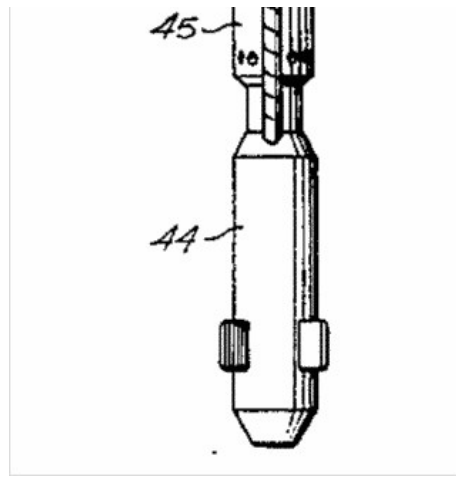
CPC: E21B17/003 E21B33/1294 E21B34/105 E21B2034/005

European: E21B17/00K E21B33/129N E21B34/10R P21B34/00F

US: 166/129 166/322 166/65R 166/66.4

PatBase - US4022273_A





Family:

Publication number	Publication date	Application number	Application date
US4022273 A	19770510	US19750621588	19751010

Priority:

US19750621588 19751010

Probable Assignee: COOK TESTING CO

Assignee(s): (std): COOK TESTING CO

Inventor(s): (std): MARATHE ANIL

Title: Down **hole pump** and testing apparatus

Abstract: Source: US4246964A A downhole testing apparatus has a modular construction including a **pump** assembly, a screen assembly, a first packer assembly, an intake port assembly, and a second packer assembly. The **pump** assembly includes an improved ratchet assembly for opening and closing a relief port of a discharge passage of said **pump**. The **pump** assembly is constructed so that said ratchet assembly and the moving components of the **pump** are covered with a lubricating fluid contained between upper and lower seals.

Classifications:

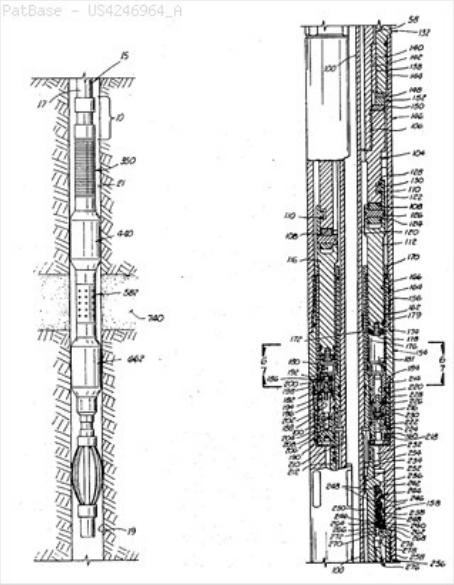
International (IPC 8-9): E21B33/124 E21B33/127 E21B43/00 E21B43/08 E21B49/08 F04B47/00 F04B47/02 F04B47/06 (Advanced/Invention); E21B33/12 E21B43/00 E21B43/02 E21B49/00 F04B47/00 (Core/Invention)

International (IPC 1-7): E21B23/06 E21B33/124 E21B33/127 E21B41/00 E21B43/00 E21B43/08 E21B43/12 E21B49/08 F04B1/16 F04B37/10 F04B47/00 F04B47/02 F04B47/06

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European: E21B33/124 E21B33/124B2 E21B33/127B E21B43/00 E21B43/08 E21B49/08 E21B49/08T E21B49/08T2

US: 137/540 137/561R 166/105 166/106 166/169 166/185 166/187 166/191 166/231 166/233 166/236 166/237 166/242 166/330 166/334 175/321 285/123.1 285/133R 417/269 417/271 417/458



Family:

Publication number	Publication date	Application number	Application date
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CA1136546 A1	19821130	CA19820395704	19820205
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US4458752 A	19840710	US19820411799	19820826

Priority:

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Probable Assignee: HALLIBURTON CO A CORP OF DE

Assignee(s): (std): HALLIBURTON CO

Assignee(s): HALLIBURTON CO A CORP OF DE ; HALLIBURTON CO DUNCAN OK A CORP OF DE ; HALLIBURTON COMPANY ; BRANDELL JOHN T

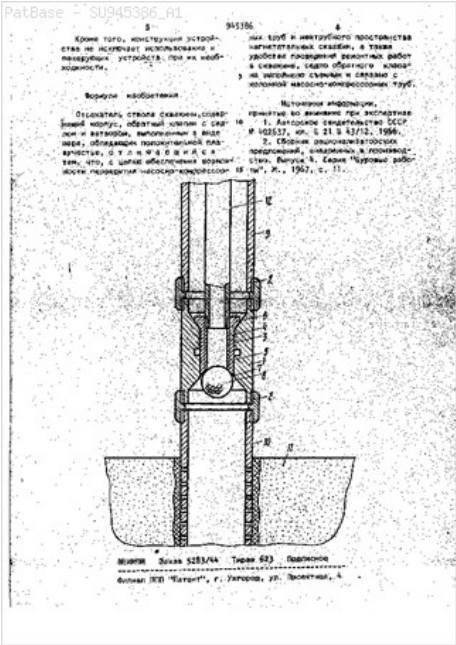
Inventor(s): (std): BRANDELL JOHN T

Agent(s): SWABEY OGILVY RENAULT

Title: BOREHOLE SHUTOFF VALVE

Abstract: Source: SU945386T 1, invention relates to the mining industry, namely, to the devices used for closing the barrel emym nagnetately.h wells. A device for closing the well bore, comprising a pump, a packer and a stem that interacts with a check valve D. Disadvantages are the complexity of the device of embodiment, the presence of such details as the elastic sealing elements, slips, spring, stem, etc., as well as the inconvenience of carrying out repair work and research as unit No. cumbersome and narrows the central canal of the well, preventing descent drilling tools, as well as research priborovIzvesten razor wellbore, comprising a housing, check valve seat and gate formed in the shape of a ball having polozhiT.elnoy buoyancy T2. Disadvantages device relates the impossibility of simultaneous overlapping tubing and annulus, and the inability to recover the non-return valve without pulling the tubing. Moreover, the device restricts the central channel hole, preventing the descent devices. 10 object of the invention is to provide a possible overlap of tubing and annulus injection wells, as well as the convenience of repair 5 tion works well. The goal is achieved in that the check valve seat is removable and is associated with a string of tubing. 20 The drawing shows the device in an arrangement with a casing and a pipe nasosnokompressornoy longitudinal section. Fireproof 39 consists of a housing 1, configured as a thick-walled sleeve having at the ends of connecting threads 2 and 3 threads on the inner surface. All internal surfaces of the housing are made broadened under a truncated cone with a large base in the transition schimi cylinders and are directed towards the ends for better and unimpeded passage of instruments drilling tools, etc. if necessary, their use in research and repair work, as well as for improved fit to it other parts. Housing is provided with a protector, you I complements the sleeve having an outer thread 3 load response to Busan internal connecting thread 5 - The upper end of the head protector Made 6, the outer surface of which is made under the truncated cone for better and tighter with a conical surface of the armature Pusa 1. lower end protector 7 has a seat for the ball 8, together with the constituent. These ball valves obpatny After razor wellbore is performed as follows. During construction of the well casing 1 razor advance stationarily mounted between the casing 9 and 10 in the required range. For example, for cutting off the wellbore reservoir 11 ot.produktivnyh it set up M from the producing formation, and if necessary clipping wellbore between productive strata - to behold die impermeable layer, separating these layers. t After draining and cementing the casing string in the well 8 phur dissolved ball with a diameter slightly greater than the inner diameter of the holes of the tread A, but with the possibility of passing through the central channel of the body 1. ball can be made for example of polyethylene, polystyrene or from a hollow metal etc.. with the possibility of swimming in liquid. Next Protector lowered into the well on the column tubing 12 while pushing the ball B n the trunk into the central channel of the housing. Upon reaching the top of the protector body rotation column pump-compressor pipes but it is screwed into the body, when the ball zhotorom 8 OER binds at the bottom of the housing adjacent the seat protector 7 and its working position. In this installation is completed and the device is ready for use well. By injecting the fluid into the reservoir balloon 11, pressurized fluid 8 departs from the valve seat 7 thereby allowing the passage of liquid through the passageway of the tread. Upon termination of the injection fluid ball is seated on the saddle again and cuts the rest of the formation from the wellbore. Furthermore, the protector and also serves as a safety valve annulus of the well formation. If necessary production workover tubing unscrewed from the tread and rise to the surface for subsequent descent into the well downhole tool required. The device is simple in design concept, it does not contain such items as unreliable slip, elastic, packer elements, springs, and stock. It can operate as a cutter of the borehole and annulus. Using the device provides convenience in conducting complex geophysical investigations and repair works in the well, because due to the execution of such constructive udaets save the maximum possible diameter of the borehole, ie prevent excessive narrowing it. For example, the inner diameter of the housing 1 of the device can be made with a size up to 124 mm and the tread up to 110-112 mm, which allows to carry out operation processing bottomhole zone, drilling, flushing slaughtering and other repairs, while using known devices of these works is not possible to produce. Device reliability, guarantees complete immobility and leaks in all types of wells, including high temperature, while the existing devices shall be allowed similar movement packer devices in the wellbore at x pulsation, pressure, temperature or load and lose their tightness.

Classifications:
International (IPC 8-9): E21B34/06 E21B43/12 (Advanced/Invention);
E21B34/06 (Advanced/Non-invention);
E21B34/00 E21B43/12 (Core/Invention);
E21B34/00 (Core/Non-invention)
International (IPC 1-7): E21B34/06 E21B43/12



Family:

Publication number	Publication date	Application number	Application date
SU945386 A1	19820723	SU19802967825	19800728
SU945386 T	19820723	SU19802967825	19800728

Priority:

SU19802967825 19800728

Probable Assignee: AZNAKAEVSKOE U POVYSHENIYU NEF

Assignee(s): (std): AZNAKAEVSKOE U POVYSHENIYU NEF

Assignee(s): AZNAKAEVSKOE U PO POVYSHENIYU NEFTEOTDACHI PLASTOV ; AZNAKAEVSKOE U PO POVYSHENIYU NEFTEOTDACHI PLASTOV KAPITALNOMU REMONTU SKVAZHIN

Inventor(s): (std): GABDULLIN RAFAGAT G

Inventor(s): GABDULLIN RAFAGAT G SU

Title: Down-hole, production pump and circulation system

Abstract: Source: US5655604A A production pump and circulation tool (1, Fig. 1) used down-hole on the end of a production string (Fig. 10) including: a combined traveling valve assembly bottom connector (10) and fishing tool section (20, FIGS. 2A-2C) which engages gripping pins (51) for twisting the tool and is associated with a traveling ball valve (11/12); a sleeve (30, FIGS. 3A-3C); peripherally spaced, "J" slots (43) in an outer member (40, FIGS. 4A-4C) in which guide pins (52) move changing the tool's state when one part is rotated about a longitudinal axis with respect to the other, causing it to longitudinally move with respect to the other under or against a biasing spring (81); a standing valve assembly (50, FIGS. 5A-5C) which carries at its top a projector for unseating the traveling ball valve and to which the pins are attached and which encloses a standing valve ball (50A) and carries its seat (50B); a combined bushing (60) and top spring seat (70, FIGS. 6A and 6B); a spring housing (80, FIGS. 7A and 7B); and a standing valve projector (90, FIGS. 8A and 8B) which can unseat the standing ball from its valve seat when the assembly 50 is lowered against the force of the spring. When in its pumping, "valve locked closed" disposition (FIGS. 10B-D) the tool acts, similar to a standard traveling ball and standing ball valve arrangement. However, when twisted and longitudinally moved into its activation, "valve locked open" disposition (Fig. 10E), treatment fluids can be injected from the surface into the well formation without avoiding pulling the tubing (106) or sucker rod (107) strings.

Classifications:

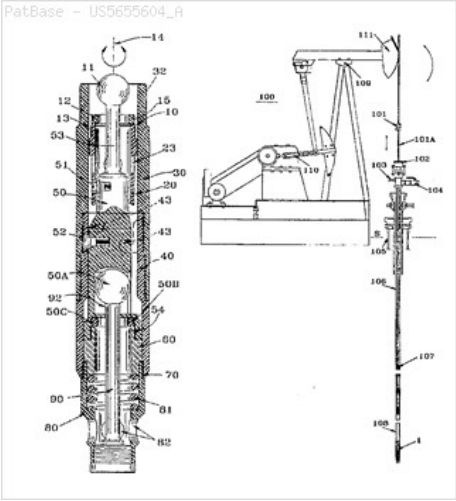
International (IPC 8-9): E21B43/12 F04B47/02 F04B53/00 (Advanced/Invention)

International (IPC 1-7): E21B43/12

CPC: E21B43/12 E21B43/127 F04B47/02 F04B53/005

European: E21B43/12 E21B43/12B9C F04B47/02 F04B53/00F

US: 166/105 166/369 417/444



Family:

Publication number	Publication date	Application number	Application date
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Priority:

US19940237662 19940504 US19960762870 19961212 BR1997PI11902 19970811
WO1997US14063 19970811

Probable Assignee: NEWTON TECHNOLOGIES INC

Assignee(s): (std): NEWTON TECHNOLOGIES INC ; NEWTON TECHONOLOGIES INC

Assignee(s): NEWTON CARL ROBERT

Inventor(s): (std): NEWTON CARL R ; NEWTON CARL ROBERT ; NEWTON ROBERT CARL

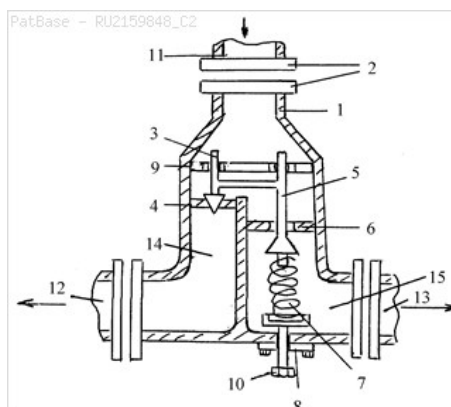
Inventor(s): ROBERT CARL NEWTON ; CARL ROBERT NEWTON

Agent(s): OGILVY RENAULT LLP SENCRL SRL

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

Abstract: Source: RU2159848C

Classifications:
International (IPC 8-9): E21B43/12 (Advanced/Invention);
 E21B43/12 (Core/Invention)
International (IPC 1-7): E21B43/12



Publication number	Publication date	Application number	Application date
RU2159848 C2	20001127	RU19980122813	19981215
RU98122813 A	20000927	RU19980122813	19981215

RU19980122813 19981215

Inventor(s): (std): SKURATOV A V : SKURATOV AV

Title: Borehole hydraulic change **valve**

Abstract: Source: CN2507993Y An underground liquid change-over **valve** comprises a conical seal cartridge, an axle bearing, a **spring**, a slide sheath, and a guide shoe which are on a piston rod inside an upper casing. The utility model is connected with a **hole**-enlarging tool in use. When the surface **pump** pressure arrives at 15-20 Mpa under construction, the **spring** constricts. The conical seal cartridge and the conical seat on the piston rod are sealed. Meanwhile, a liquid stream forces the **hole**-enlarging tool to splay and enlarge the **hole**. When the pressure is lower than 15-20 Mpa, the **spring** resets and pushes the piston up. A liquid stream is made to flow through the slide sheath and pour through the nozzle of the guide shoe fluently, to clean the bottom of the **well** in high flow rate, thereby water jetting at a high pressure can flow into the horizontal **well** and the down-**hole** hydraulic mechanic **hole**-enlarging can be accomplished. The utility model has the advantages of compact structure and safe reliability, the hydraulic mechanic **hole**-enlarging tool can be used under **wells**, and the bottom of the **well** can be cleaned in high rate flow according to needs. The down-**hole** accidents are reduced effectively and the **hole**-enlarging efficiency is improved quickly.

Classifications:

International (IPC 8-9): E21B34/08 E21B7/28 (Advanced/Invention);
E21B34/00 E21B7/00 (Core/Invention)

International (IPC 1-7): E21B34/08 E21B7/28

Family:

Publication number	Publication date	Application number	Application date
CN2507993 Y	20020828	CN20012051189U	20011026

Priority:

CN20012051189U 20011026

Probable Assignee: ENGRG TECH INST LIAOHE PETROLE

Assignee(s): (std): ENGRG TECH INST LIAOHE PETROLE

Assignee(s): ENGRG TECH INST LIAOHE PETROLEUM EXPLORATION BUREA ; ENGRG TECH INST

Inventor(s): (std): LI YONGHE ; SHI LIANHAI ; WANG CHUNJIE

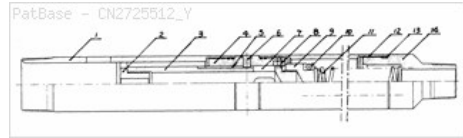
Inventor(s): YONGHE LI ; LIANHAI SHI ; CHUNJIE WANG

Title: Overflow valve

Abstract: Source: CN2725512Y The utility model relates to an overflow valve, which comprises an exterior casing which is interconnecting formed by an upper connecting sheath, a heart body, a lower connecting sheath, and a lower connector. Inside the exterior casing, a core body, a core seat, a bearing and a spring are successively arranged. The upper end of the core body is provided with a core body top cover, and the lower end is connected with a core block. The exterior wall is provided with a spiral groove and an overflow hole. A pin penetrates the heart body to the spiral groove of the core body. The overflow valve can conveniently connect with the underground pipe of the screw pump with flexible and reliable operation, and thus realize killed fluid-free well killing job. The requirement of environmental protecting production is reached since both the ground surface and the underground are not polluted.

Classifications:

International (IPC 8-9): E21B33/10 E21B34/08 F04B7/00 (Advanced/Invention);
E21B33/10 E21B34/00 F04B7/00 (Core/Invention)
International (IPC 1-7): E21B33/10 E21B34/08 F04B7/00



Family:

Publication number	Publication date	Application number	Application date
CN2725512 Y	20050914	CN200420063401U	20040910

Priority:

CN20042063401U 20040910 CN200420063401U 20040910

Probable Assignee: SHI YUHUA

Assignee(s): (std): SHI YUHUA

Inventor(s): (std): SHI YUHUA

Inventor(s): YUHUA SHI

Title: SYSTEM AND METHODS USING FIBER OPTICS IN COILED TUBING

Abstract: Source: US2005263281A Apparatus having a fiber optic tether disposed in coiled tubing for communicating information between downhole tools and sensors and surface equipment and methods of operating such equipment. Wellbore operations performed using the fiber optic enabled coiled tubing apparatus includes transmitting control signals from the surface equipment to the downhole equipment over the fiber optic tether, transmitting information gathered from at least one downhole sensor to the surface equipment over the fiber optic tether, or collecting information by measuring an optical property observed on the fiber optic tether. The downhole tools or sensors connected to the fiber optic tether may either include devices that manipulate or respond to optical signal directly or tools or sensors that operate according to conventional principles.

Classifications:

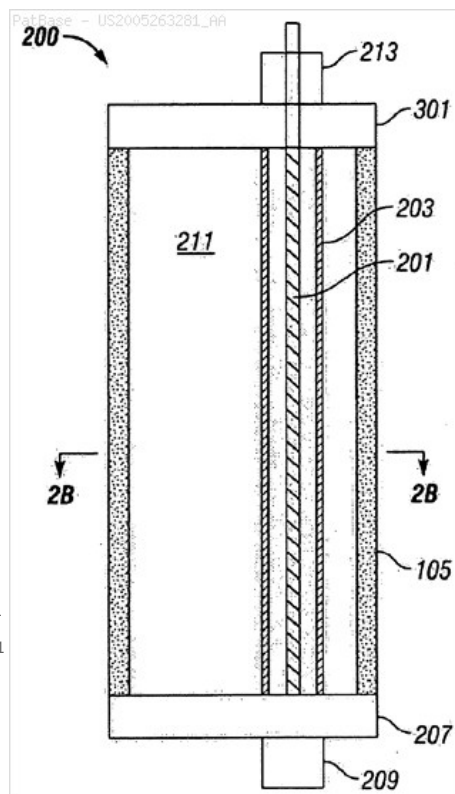
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International (IPC 1-7): E21B17/20 E21B47/09 E21B47/12

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European: C09K8/80B C22C1/04B C22C12/00 C22C13/02 C22C21/00 C22C21/00B C22C21/06 C22C21/10 C22C28/00 C22C30/04 C22C30/06 E21B17/20D E21B21/01 E21B23/04 E21B23/14 E21B33/124 E21B33/124F E21B33/134 E21B34/08 E21B37/00 E21B4/04 E21B4/18 E21B41/00P E21B43/267 E21B47/01 E21B47/10G E21B47/12M2 E21B7/20B2 F16L55/26 F16L55/30 F16L55/32 G01N23/12 G01N33/28E G01N9/24 G01V5/00 G21K1/10 H01J35/18 P21B23/00T R16L101/70 S01N15/06N T01J235/18

US: 148/400 166/105 166/118 166/118S 166/119 166/135 166/135S 166/179 166/241.1 166/241.5 166/241.500S 166/242.2 166/242.7 166/244.1 166/250.01 166/250.010S 166/250.07 166/250.070S 166/250.12 166/250.120S 166/254.2 166/254.200P 166/255.1 166/255.100P 166/255.100S 166/255.2 166/255.200P 166/279 166/305.1 166/311 166/312 166/316 166/373 166/383 166/384 166/386 166/387 166/53 166/65.1 166/65.100S 166/66 166/66S 166/77.2 166/77.200S 175/51 175/97 175/99 250/256 250/256S 250/258 250/265 250/267 250/269.1 29/428 378/143 378/147 378/194 378/53 378/53P 378/54 378/56 404/108 414/133 414/133P 414/356 414/384 414/386 414/801 419/1 419/1S 428/544 507/270 507/270S 977/770 977/770S

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Priority:

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Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

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TUNC GOKTURK ; PRAD RES AND DEV NV ; SCHLUMBERGER CA LTD ; SCHLUMBERGER SERVICES PETROL ; SCHLUMBERGER HOLDINGS ; SCHLUMBERGER TECHNOLOGY BV ; SCHLUMBERGER TECHNOLOGY CORP ; NOYA JOSE VIDAL ; VAN KUIJK ROBERT ; REVELLAT GUILLAUME ; STAFFORD JACK ; SCHLUMBERGER TEHNOLOGY BV ; RYTLEWSKI GARY L ; VAIDYA NITIN Y ; REN XIAOHONG ; ZEMLAK KEAN ; ZAZOVSKY ALEXANDER F ; VAYNSHTEYN VLADIMIR ; WRAIGHT PETER ; WHITSITT JOHN ; PRAD RES AND DEV LTD ; SHEIRETOV TODOR K

Assignee(s): SCHLUMBERGER HOLDINGS LTD ; PRAD RESEARCH AND DEVELOPMENT NV ; SCHLUMBERGER TEKNOLODZHI BV ; PRAD RESEARCH AND DEVELOPMENT N V ; PRAD RESEARCH AND DEVELOPMENT LTD ; SCHLUMBERGER CANADA LTD ; SERVICES PETROLIERS SCHLUMBERGER ; SCHLUMBERGER HOLDINGS LTD

Inventor(s): (std): DAVID ROWATT JOHN ; DJURKOVSKI EHNTONI ; DURKOWSKI ANTHONY ; ELLSON NICHOLAS ; ELLSON NICK ; ESKINGER DAVID MILTON ; ESLINGER DAVID M ; ESLINGER DAVID MILTON ; ETIENNE VALLEE ; FLEMING DZHON ; FLEMING JOHN ; FLOWERS JOSEPH K ; GAY MICHAEL ; GAY MICHAEL G ; GREENAWAY ROBERT ; GREESON BILLY ; GRISON BILLI ; GROUVZ DZHOEHL L ; ALLAN THOMAS ; ALLCORN MARC ; ANTHONY DURKOWSKI ; BECKEL JEFF ; BHAVSAR RASHMI ; BHAVSAR RASHMI B ; BOLZE VICTOR M ; BURGOS REX ; GROVES JOEL ; GROVES JOEL L ; GUILLAUME REVELLAT ; HACKWORTH MATTHEW R ; HAYES CHOW JING ; HILL STEPHEN D ; HOCQUET PHILIPPE ; CHEE SOON SEONG ; CHOW JING HAYES ; CORRE PIERRE YVES ; KEAN ADNAN SARMAD GAY MICHAEL ; KEESE ROGER ; KHARRAT WASSIM ; KHILL STEFEN D ; LEMME SR FREDERICK ; LOVELL JOHN ; LOVELL JOHN R ; MARC ALLCORN ; MARIJA MANUEHL P ; MARYA MANUEL ; MARYA MANUEL P ; REJT PITER ; REN XIAOHONG ; REVELLAT GUILLAUME ; ROBERT GREENAWAY ; ROD SHAMPINE ; ROWATT JOHN DAVID ; RYTLEWSKI GARY L ; SARMAD ADNAN ; SHAMPAJN ROD ; SHAMPINE ROD ; SHEIRETOV TODOR K ; MILTON ESLINGER DAVID ; NOYA JOSE VIDAL ; PETER WRAIGHT ; ADNAN SARMAD ; STAFFORD JACK ; STEHFFORD DZHEK ; ZEMLAK KEAN ; ZAZOVSKY ALEXANDER F ; VAYNSHTEYN VLADIMIR ; VALLEE ETIENNE ; WRAIGHT PETER ; VAN KUIJK ROBERT ; VAIDYA NITIN Y ; VALLE EHT ENN ; VAN KUIJK ROBERT ; WHITSITT JOHN ; THOMAS ALLAN ; TUNK GOKTURK ; TUNE GOKTURK ; SHEIRETOV TODOR ; TUNC GOKTURK ; PRIETO CECILIA ; PRIETO SESILJA ; KUIJK ROBERT VAN

Inventor(s): HILL STEPHEN D PEARLAND ; SHEIRETOV TODOR K HOUSTON ; ROBERT VAN KUIJK ; MICHAEL G GAY ; KEAN ZEMLAK ; JOHN R LOVELL ; JOEL L GROVES ; TUNC GOKTURK STAFFORD ; VALLE EHT'ENN ; STEPHEN D HILL ; ADNAN SARMAD GAY MICHAEL LOVELL JOHN ZEMLAK KEAN ; PRIETO CECILIA HOUSTON ; SOON SEONG CHEE ; MATTHEW R HACKWORTH ; KUIJK ROBERT VAN ; DAVID MILTON ESKINGER ; DAVID MILTON ESLINGER ; JING HAYES CHOW ; JOHN DAVID ROWATT ; JOSE VIDAL NOYA ; CECILIA PRIETO

Agent(s): SMART AND BIGGAR; RZANIAK MARTIN; GILES ASHLEY SIMON; SCHLUMBERGER TECHNOLOGY CORP; SCHLUMBERGER TECHNOLOGY DAVID CATE CORP; SCHLUMBERGER IPC, ATTN: DAVID CATE; SCHLUMBERGER IPC ATTN DAVID CATE; FLYNN MICHAEL; CATE DAVID; NAVA ROBIN; MICHAEL; ROBIN; DAVID; RODNEY; JAIME; MICHAEL L; DAVID J; BRANDON S; JEFFERY R; BRANDON; TIMOTHY; FONSECA DARLA P ET AL; WAFFORD RODNEY V ET AL

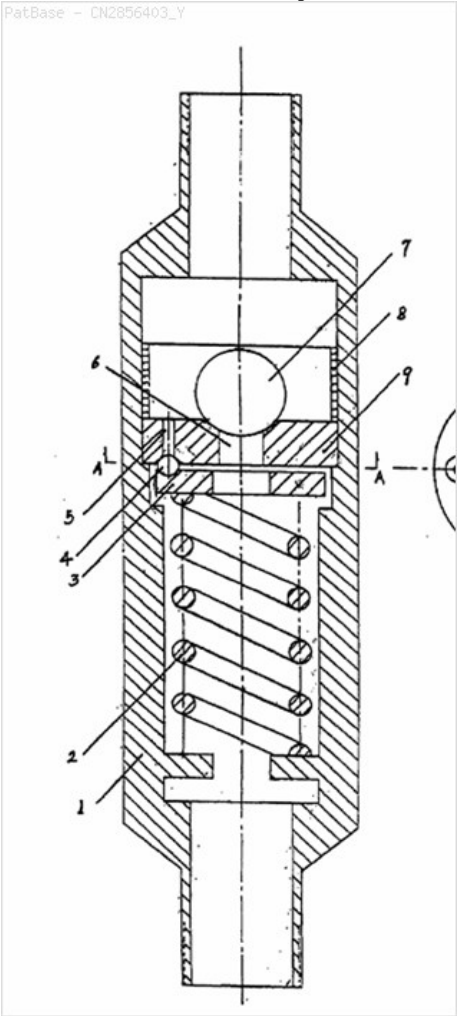
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Title: One-way fixed pressure stop valve of electric pump flushable well

Abstract: Source: CN2856403Y The utility model relates to an one-way stop valve, especially a one-way constant pressure stop valve for charge pump flushable well. A working seat 9 has a movable operation pad 3 and a spring 2 disposed under it and three flushing through holes 5 uniformly distributed along the axial direction. A ball or a sealing column cone 4 corresponding to the flushing through hole 5 is arranged under the working seat 9, a hole linked up with the main channel and a ring slot for limiting the ball or sealing column cone 4 are formed on the movable operation pad 3; the working seat 9 is fixed by a valve body 1 with O-shaped sealing and a working seat limiting sleeve 6; a step is formed on the valve body 1 for limiting the down range of the movable operation pad 3; and the spring 2, the movable operation pad 3, the working seat 9, the working seat limiting sleeve and valve ball or sealing column cone 7 are arranged concentrically. The utility model has the beneficial effects of preventing liquid from flowing backwards and providing flow channel for normal circulation flushing.

Classifications:

International (IPC 8-9): E21B34/08 F04B53/10 F16K15/04 (Advanced/Invention); E21B34/00 F04B53/10 F16K15/02 (Core/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN2856403 Y	20070110	CN200620080555U	20060120

Priority:

CN200620080555U 20060120

Probable Assignee: CHEN JUN

Assignee(s): (std): CHEN JUN

Inventor(s): (std): CHEN JUN

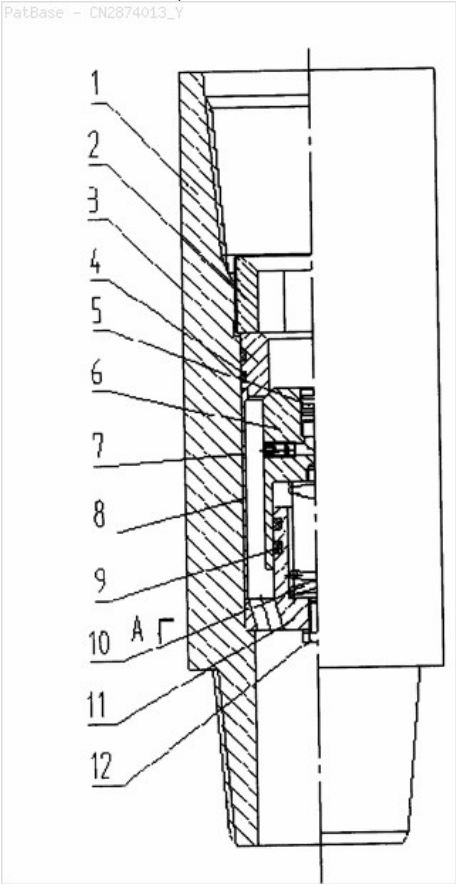
Inventor(s): JUN CHEN

Title: Anti-splash **valve** of kelly

Abstract: Source: CN2874013Y The utility model relates to an anti-splashing **valve** for a square drill rod comprising a body, a **valve** seat pressure cap, a **valve** seat, a **valve** spool, a **spring** and a **spring** seat. In the hollow **hole** at upper part of the body, the **valve** seat pressure cap is connected by thread. Below the **valve** seat pressure cap, the **valve** seat, the **valve** spool and the **spring** seat are mounted in sequence. A supporting ring is located between the **valve** seat and the **spring** seat. The **valve** spool is looped on the **spring** seat. On the upper end of the **spring** seat, a conic sealing surface matching with the **valve** seat is provided. In the hollow **hole** of the **valve** spool and the **spring** seat, a **spring** is mounted. On the lower end of the **spring** seat, a passageway for drilling fluid is provided that is communicated with the circular space formed up by the **valve** spool and the supporting ring. At using, the passageway for drilling fluid is opened by turning on the **pump**, and closed when turning off the **pump**. The utility model can reduce any waste in drilling fluid, is useful for environmental protection at a **well** site.

Classifications:

International (IPC 8-9): E21B34/08 (Advanced/Invention);
E21B34/00 (Core/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN2874013 Y	20070228	CN200520128295U	20051123

Priority:

CN200520128295U 20051123

Probable Assignee: DRILL ENGINEERING TECHNOLOGY I

Assignee(s): (std): DRILL ENGINEERING TECHNOLOGY I

Assignee(s): DRILL ENGINEERING TECHNOLOGY INST ; DRILL ENGINEERING TECHNOLOGY INST ZHONGYUAN PETROL

Inventor(s): (std): SUN QIYU HU

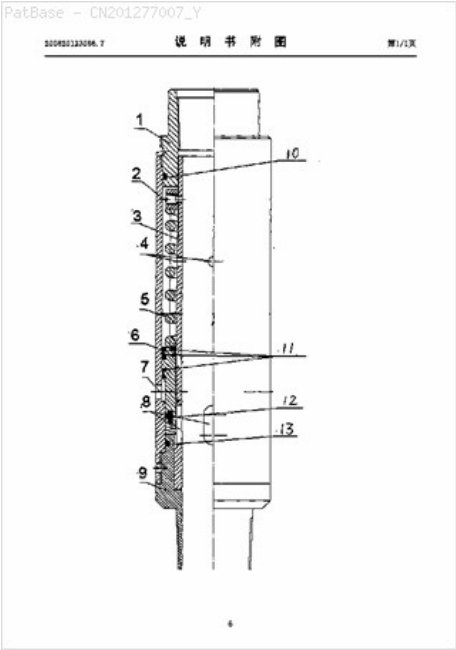
Inventor(s): QIYU HU SUN

Title: Anti-clamp sliding bush backwashing valve

Abstract: Source: CN201277007Y An anti-jamming sliding sleeve backwash valve for backwashing wells in oil field to relieve paraffin precipitation comprises an upper joint (1), an outer cylinder (2), an inner cylinder (3), a balance hole (4), a return spring (5), a sliding sleeve (6) and the like, wherein the upper joint (1) is connected with the outer cylinder (2) and the inner cylinder (3) respectively, a lower joint (9) is connected with the outer cylinder (2) and the inner cylinder (3) respectively, the return spring (5) is arranged between the outer cylinder and the inner cylinder, the sliding sleeve (6) is arranged at the lower portion of the return spring (5), thereby effectively resolving the problem of low success rate of pump backwashing well operation. The anti-jamming sliding sleeve backwash valve has the largest inner diameter of 62 mm, can be used to be mounted on a mechanical oil production pump, which has the advantages of reliable process, flexible switching, jamming prevention, simple operation, reusage, flexible mounting and dismounting, easy process and maintenance, low manufacture cost and good economical performance.

Classifications:

International (IPC 8-9): E21B34/08 (Advanced/Invention);
E21B34/00 (Core/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN201277007 Y	20090722	CN200820123086U	20081022

Priority:

CN200820123086U 20081022

Probable Assignee: PETROCHINA CO LTD

Assignee(s): (std): PETROCHINA CO LTD

Assignee(s): PETROCHINA CO

Inventor(s): (std): XUELIAN YU ; YUANXIN CHENG ; ZHICHAO FENG

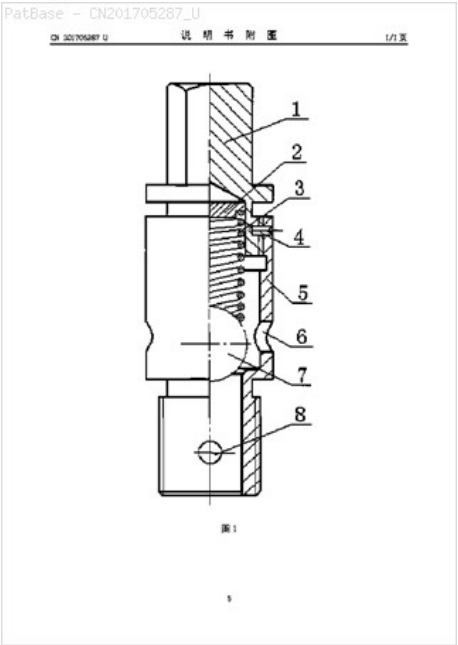
Inventor(s): YU XUELIAN ; CHENG YUANXIN ; FENG ZHICHAO

Title: Anti-backflow lubricating nipple of **pumping well** mouth

Abstract: Source: CN201705287U An anti-backflow lubricating nipple of a **pumping well** mouth is applied to an oil **pumping well** mouth to prevent the backflow of crude oil in an oil extraction system caused by low pressure of stratum or loss of a **pump** pipe. A hexagonal plug is fixed at an internal thread end of a shell, a stepped central **hole** of the shell is provided with a cone **valve** seat on which a **valve** ball is arranged, the shell is provided with a compression **spring** and a **spring** seat inside, and the **spring** seat is fixed in the central **hole** at the inner end of the hexagonal plug. The side wall of the shell is provided with an oil guide **hole**. The effect of the anti-backflow lubricating nipple gives play to the anti-backflow function by being installed in a lubricating nipple sleeve of a Christmas tree.

Classifications:

International (IPC 8-9): E21B34/02 E21B43/12 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN201705287 U	20110112	CN201020212673U	20100524

Priority:

CN201020212673U 20100524

Probable Assignee: PETROCHINA CO LTD

Assignee(s): (std): PETROCHINA CO LTD

Assignee(s): PETROCHINA COMPANY LIMITED

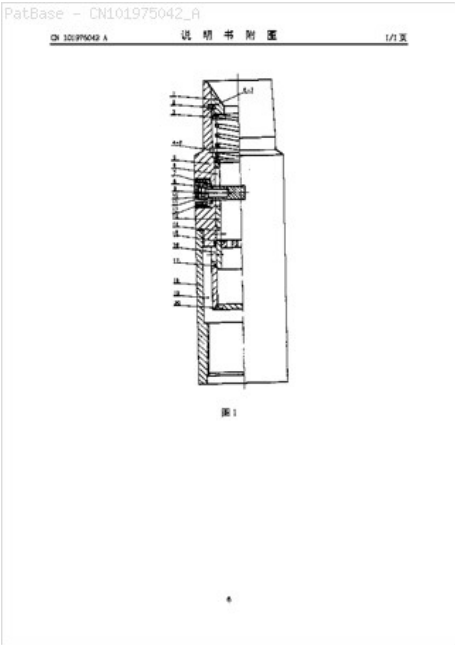
Inventor(s): (std): HONGCHUN WANG ; QILIANG CHEN ; ANJIANG ZHU

Inventor(s): CHEN QILIANG ; WANG HONGCHUN ; ZHU ANJIANG

Title: FULLY FUNCTIONAL ANTI-SPOUTING OIL DRAIN DEVICE

Abstract: Source: CN101975042A The invention relates to a fully functional anti-spouting oil drain device which is characterized in that a one-way oil drain **valve** is adopted and is arranged in a **hole** on the wall of a body; a plurality of body flow channel **holes** are arranged on the body in the radial direction; an axial long **hole** and a plurality of sliding sleeve flow channel **holes** corresponding to the body flow channel **holes** are arranged on a sliding sleeve; the sliding sleeve is arranged in the inner cavity of the body and is in clearance fit with the inner cavity; a compression **spring** is arranged between a guiding body and the sliding sleeve, and the upper end and the lower end of the compression **spring** are respectively connected with the guiding body and the sliding sleeve; and a **hole** plate is positioned in the inner cavity of the sliding sleeve. The oil drain device of the invention realizes the purpose of effectively preventing the **well** fluid from being spouted when a **pump** and a tubular column are conveyed into an oil **well**, the **well** is repaired, the **pump** is inspected and the tubular column is lifted. The invention has the advantages of safety, reliability, simple and convenient operation and the like, saves the energy sources, reduces the pollution, improves the working efficiency and lowers the **well** repair cost.

Classifications:
International (IPC 8-9): E21B34/06 E21B34/08 E21B34/14 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN101975042 A	20110216	CN201010517977	20101025
CN101975042 B	20130612	CN201010517977	20101025

Priority:
CN201010517977 20101025

Probable Assignee: ZHANG CHUANMIN

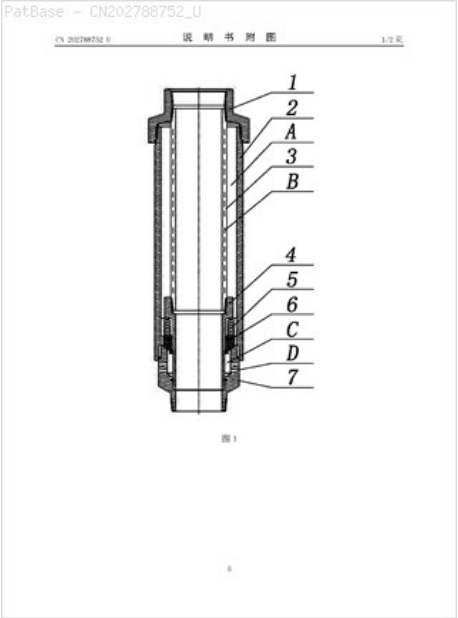
Assignee(s): (std): CHUANMIN ZHANG ; ZHANG CHUANMIN

Inventor(s): (std): CHUANMIN ZHANG ; LI MANPING ; MA HONGXING ; SUN JIANXIN ; WANG FANGYI ; WU XUJIU ; ZHANG CHUANMIN

Title: EFFICIENT EMULSIFICATION ONE-WAY WATERING VALVE OF HEAVY OIL WELL PUMP

Abstract: Source: CN202788752U An efficient emulsification one-way watering valve of a heavy oil well pump comprises an upper connector, an outer working cylinder, an inner working cylinder, an inner connector, a spring, a seal ring and a lower connector. The efficient emulsification one-way watering valve of the heavy oil well pump is of a cylindrical tube structure, internal threads are arranged on the upper portion of a central hole of the upper connector, the longitudinal section of the upper connector is Y-shaped, two stages of internal threads are arranged on the lower portion of the central hole, the internal threads and the two stages of internal threads are respectively connected with the outer working cylinder and the inner working cylinder, an upper-ring cavity is arranged between the outer working cylinder and the inner working cylinder, and cutting-line kerfs are evenly arranged inside the inner working cylinder. The lower end of the outer working cylinder is in threaded connection with the lower connector, the lower end of the inner working cylinder is in threaded connection with the inner connector, the spring and the seal ring are arranged between the inner connector and the lower connector, a lower-ring cavity is formed between the inner connector of the lower portion of the seal ring and the lower connector, a changeable nozzle is arranged on the lower connector faced with the lower-ring cavity, and external threads are arranged on the lower portion of the lower connector. The efficient emulsification one-way watering valve of the heavy oil well pump is reasonable in design and novel in structure, good in watering and oil flow emulsification mixing, improves the effect of a watering process on a pump, and increases the crude output of the heavy oil well.

Classifications:
International (IPC 8-9): E21B34/08 E21B43/20 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN202788752 U	20130313	CN201220398656U	20120813

Priority:
CN201220398656U 20120813

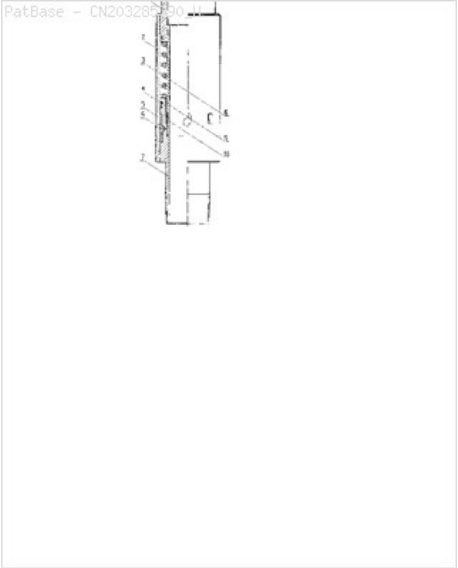
Probable Assignee: GUDONG OIL PRODUCTION PLANT OF SHENGLI OIL FIELD BRANCH CO SINOPEC
Assignee(s): (std): CHINA PETROLEUM AND CHEMICAL ; CHINA PETROLEUM AND CHEMICAL CORP ; GUDONG OIL PRODUCTION PLANT OF SHENGLI OIL FIELD BRANCH CO OF SINOPEC ; GUDONG OIL PRODUCTION PLANT OF SHENGLI OIL FIELD BRANCH CO SINOPEC
Inventor(s): (std): HE HAIFENG ; JIANG HUAYING ; LIN KAI ; WANG DONG ; WANG ZHEN ; ZHANG YOUZHEN

Title: WELL-FLUSHING CIRCULATING CHECK VALVE ON PUMP

Abstract: Source: CN203285390U The utility model relates to a well-washing circulating check valve on a pump. The upper part of an outer sealing pipe is connected with outer threads of the lower part of an upper connector, the upper part of an inner pipe is connected with inner threads of the lower part of the upper connector, a spring and a piston are installed between the outer sealing pipe and the inner pipe, the spring is arranged above the piston, an outer sealing ring is installed between the outer sealing pipe and the piston, the lower part of the outer sealing pipe is connected with a lower connector, an end surface sealing ring is installed on the upper end of the lower connector, the lower part of the piston is arranged on the end surface sealing ring, the outer sealing pipe is provided with an outer communication hole, the communication hole is arranged between the outer sealing ring and the end surface sealing ring, the pressure of well-washing water pushes the piston to move upwards, so that the communication between the inside and the outside of an oil pipe is facilitated, and the circulating well washing can be realized; the well-washing circulating check valve can be installed below a wax precipitation point on the pump, so that the well is does not need to be circularly washed from the bottom of an oil extraction pipe column, the heat efficiency is high, the manpower and the material resource can be saved, the well-washing liquid can be prevented from entering an oil layer to avoid polluting the oil layer, and the well washing effect can be improved; the movement of a sealing piece is not needed by adopting the end surface sealing ring, so that the reliability in sealing can be realized, and the normal production after the washing of an oil well can be guaranteed.

Classifications:

International (IPC 8-9): E21B34/08 E21B37/00 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN203285390 U	20131113	CN201320283178U	20130514

Priority:

CN201320283178U 20130514

Probable Assignee: DONGYING BAIHUA PETROLEUM TECHNOLOGY DEV CO LTD

Assignee(s): (std): DONGYING BAIHUA PETROLEUM TECHNOLOGY DEV CO LTD

Assignee(s): DONGYING BAIHUA PETROLEUM TECHNOLOGY DEVELOPMENT CO

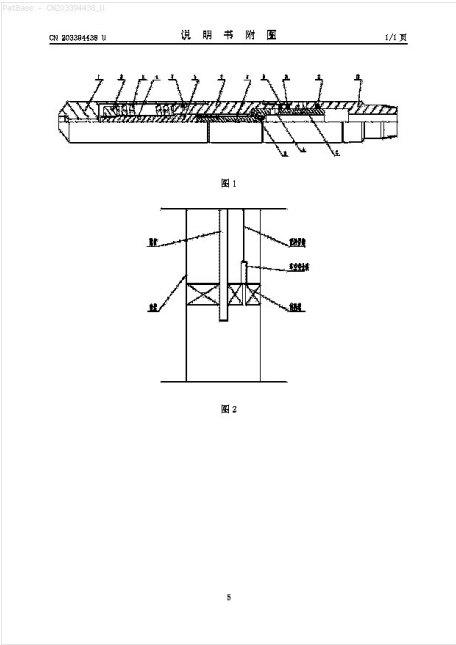
Inventor(s): (std): BI XINZHONG ; CHEN QIXU ; FAN LI ; LI HAIJUN ; LI XIWEN ; LV WEI ; NIU JUN ; ZHANG LIANZHEN ; ZHANG QU ; ZHANG WENBO ; ZHAO QINGLIN

Title: ANNULUS SAFETY VALVE FOR ELECTRIC PUMP

Abstract: Source: CN203394438U The utility model relates to an annulus safety valve for an electric pump. The safety valve is composed of an upper connector (1), a nut (2), a spring (3), a valve rod (4), a connection sleeve (7), a sliding valve (8) and a lower connector (12). The upper connector (1) is sequentially connected with the connection sleeve (7) and the lower connector (12). The nut (2), the spring (3) and the valve rod (4) are sequentially installed in the upper connector (1) and an inner cavity of the connection sleeve (7). The valve rod (4) in the inner cavity of the connection sleeve (7) is connected with the sliding valve (8), and a balance hole B is formed in the sliding valve (8). The safety valve can achieve the effects of sealing the oil sleeve annulus area, discharging sleeve gas and conducting circulation well control under emergent conditions, and effectively prevents blowout or overflowing.

Classifications:

International (IPC 8-9): E21B34/08 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN203394438 U	20140115	CN201320485302U	20130809

Priority:

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Probable Assignee: PETROCHINA CO LTD

Assignee(s): (std): PETROCHINA CO LTD

Inventor(s): (std): BAI DIANGANG ; DU QIANG ; GUO HAITAO ; JIN HAIFENG ; LI GUANGXIANG ; LIU BAILIANG ; LIU WENFENG ; MA AIMIN ; MA HUIJIE ; YU QINGGUO ; ZU ZHENKUN

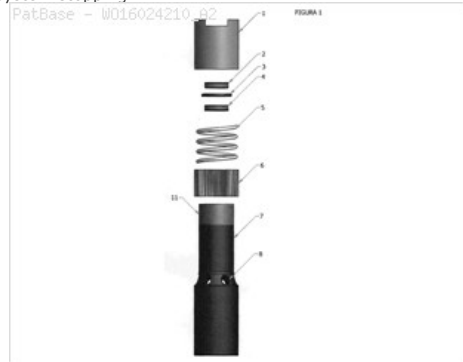
Title: ANTI-GAS-LOCK CHECK VALVE

Abstract: The invention relates to an anti-gas-lock check valve for subsurface pumps in mechanical pumping technologies (formed by a surface unit, a rod string, and a subsurface pump), which eliminates gas lock, reduces fluid pound and prevents sticking due to solids in the subsurface pumps. The anti-gas-lock check valve is formed by four main parts: a nut; a spring; a bell; and a body with production holes. During the downward movement of the travelling valve or in the event of the system stopping, the spring which is supported on the nut constantly exerts a downward force on the bell, forcing the bell to sit on the body, thereby closing the production holes. Consequently, the anti-gas-lock check valve prevents the pressure of the hydrostatic column inside a well from being exerted on the travelling valve of the subsurface pump during the downward movement of the system or in the event of the system stopping.

Classifications:

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CPC: E21B34/08



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Probable Assignee: REPRESENTACIONES Y SERVICIOS DE PETROLEOS SERINPET LIMITADA

Assignee(s): (std): REPRESENTACIONES Y SERVICIOS DE PETROLEOS SERINPET LIMITADA

Assignee(s): SERINPET LTDA REPRESENTACIONES Y SERVICIOS DE PETROLEOS

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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 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