

Search history

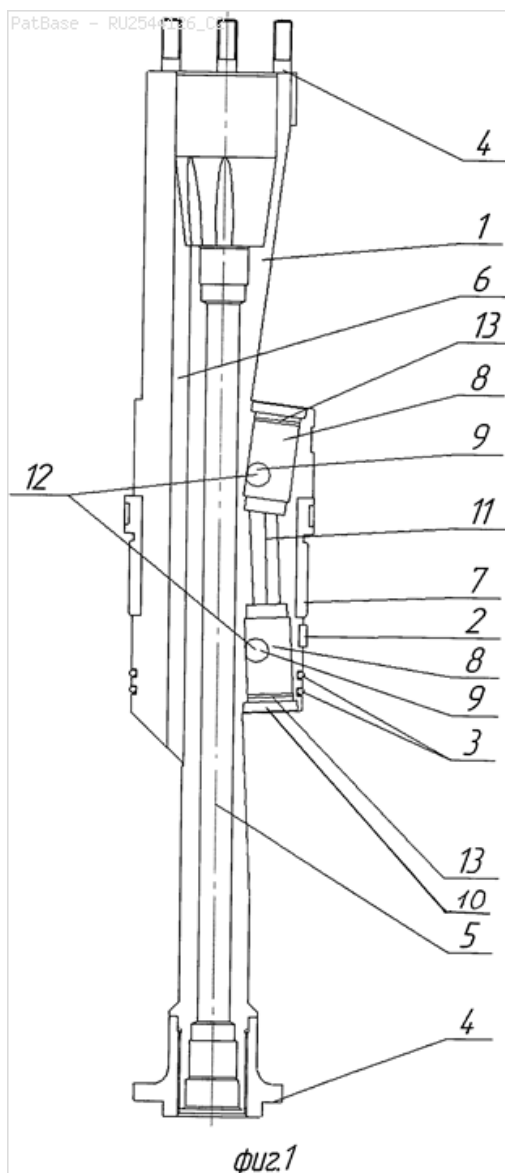
Search 1: STAC=(submersible and pump and coupling* and threa* and (shim or spline)) and PD<20140110 (Results 7)

Title: INPUT MODULE OF **SUBMERSIBLE PUMP** WITH TIGHT CONNECTIONS

Abstract: FIELD: engines and **pumps**. SUBSTANCE: invention relates to the field of hydrocarbons production and is intended for liquid **pumping** by **submersible pumps**. The input module of the **submersible pump** with tight connections consists of a housing designed without axis shift with reference to casing elements, with flanges for connection with the **pump** and the **submersible** electric motor. The module has a through channel for the **pump** unit shaft, channels for liquid passing. In the module housing a separate channel for placement of a tight bilateral **coupling** of electric connection of the **submersible** electric motor with the cable extender, holes for filling with electric insulating liquid and for pressure testing of connection of the electric line are provisioned. The module is connected to the tight casing by means of **threaded** split nut located in a deepening of the input module, the guiding **spline** and sealing ring elements for sealing of connection with the tight casing of the electric motor. The casing is designed with a possibility of movement during assembly and disassembly along the key slot that excludes mutual rotation of the tight casing and the input module, twisting of a power cable in the casing and its damage. EFFECT: invention is aimed at expansion of scope of application of the input module in the units with **submersible pumps**, improvement of its safety and reliability. 2 cl, 1 dwg

Classifications:

International (IPC 8-9): F04D13/10 F04D29/60 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
RU2012109238 A	20130920	RU20120109238	20120311
RU2544126 C2	20150310	RU20120109238	20120311

Priority:

RU20120109238 20120311

Probable Assignee: OOO SERVISNAJA KOMPANIJA NAVIGATOR

Assignee(s): (std): OOO SERVISNAJA KOMPANIJA NAVIGATOR

Assignee(s): OOSHCHESTVO S OGRANICHENNOJ OTVETSTVENNOST JU SERVISNAJA KOMPANIJA NAVIGATOR

Inventor(s): (std): MALYKHIN IGOR ALEKSANDROVICH ; SOLOV EV JURIJ SERGEEVICH ; SUNGATULLIN RAMIL MUKHAMETVALIEVICH ; VEGERA NIKOLAJ PETROVICH

Abstract: An electrical submersible well pump assembly having a pump, a pump motor, and a seal section. The motor drives the pump via shafts rotatively coupled with a coupling assembly. The coupling assembly includes an alignment device that maintains the shaft ends in coaxial alignment. The alignment device compressibly engages one or both of the shafts. The alignment device may be an elongated member having slots cut along its length on one or both ends configured to compress when inserted into a bore coaxially formed into the shaft ends within the coupling assembly.

International (c.8-9): E21B4/00 E21B43/12 F04B17/03 F04B35/04 F16B12/36 F16B13/00 F16B7/00 (Advanced/Invention); E21B43/12 F04B17/03 F04B35/00 (Core/Invention)
CPC: F04B17/03 E21B4/00E E21B43/128 Y10T29/49236 Y10T403/551 Y10T403/5733
European: E21B4/00F E21B43/12B10
US: 29/888.02 403/293 403/305 417/410.1 417/410.100P 417/410.3 417/423.6

Publication number	Publication date	Application number	Application date
BRPI0903194 A2	20100525	BR2009PI03194	20090520
US2009291001 AA	20091126	US20080332717	20081211
US2009291003 AA	20091126	US20080125350	20080522

US2013101447 AA	20130425	US20120657986	20121023
US2013343933 AA	20131226	US20130012717	20130828
US8591205 BB	20131126	US20120657986	20121023
US8876500 BB	20141104	US20130012717	20130828

Priority:

US20080125350 20080522 US20080332717 20081211 US20120657986 20121023
US20130012717 20130828

Probable Assignee: BAKER HUGHES INC

Assignee(s): (std): BAKER HUGHES INC

Inventor(s): (std): NEUROTH DAVID ; SHAFER TERRY ; WILSON BROWN LYLE ; WILSON EROWN LYLE ; BROWN DONN J

Inventor(s): DONN J BROWN ; EROWN LYLE WILSON

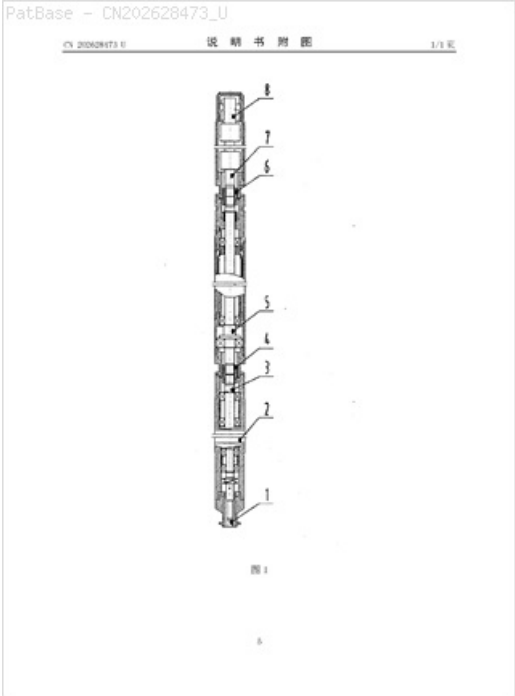
Agent(s): BRACEWELL AND GIULIANI LLP

Title: OIL DOWNHOLE DRIVE OIL EXTRACTION SPEED REDUCER

Abstract: The utility model relates to an oil downhole drive oil extraction speed reducer, which includes a planetary speed reducer, a speed reducer protector, and an eccentric coupling. An upper end is connected with a screw pump through screw threads of a sucker rod, and a lower end is connected with a submersible motor protector through a rectangular spline. As a core part of an oil downhole electrical submersible screw pump rodless oil extraction system, the oil downhole drive oil extraction speed reducer has the advantages of simple structure, small volume, less maintenance and long service life, can bear large torsion and large axial force, and fundamentally solves the eccentric problem of the electrical submersible screw pump rodless oil extraction system.

Classifications:

International (IPC 8-9): F04B47/06 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN202628473 U	20121226	CN201220192107U	20120502

Priority:

CN201220192107U 20120502

Probable Assignee: SHIJIAZHANG KEYI HEAVY INDUSTRY CO LTD

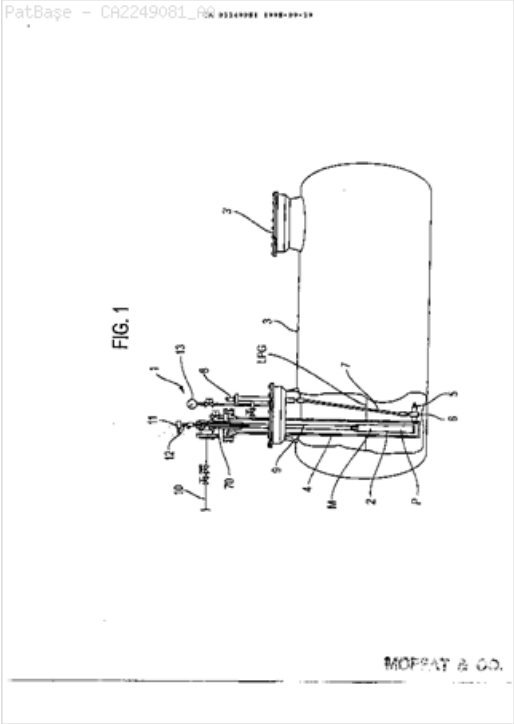
Assignee(s): (std): SHIJIAZHANG KEYI HEAVY INDUSTRY CO LTD

Inventor(s): (std): ZHANG HAIPENG ; YANG XIAOLIANG ; WU PENGWEI ; TIAN HUILONG ; LIU GANG ; JIN YUNSHAN ; HAO HAICHAO ; GUO JIANPING ; GU MENGJU ; FENG ZHANLEI ; CAO YUECONG

Title: LIQUID PETROLEUM GAS **SUBMERSIBLE** ELECTRIC MOTOR DRIVEN **PUMP** AND DRIVE **COUPLING** THEREFOR

Abstract: A **submersible** electric motor driven **pump** includes a motor assembly having an elongated tubular motor housing, an electric motor disposed in the motor housing, and a rotary motor shaft having an output end which extends from the electric motor; and a **pump** assembly including an elongated tubular **pump** housing, a driven **pump** shaft having external **spline** teeth at an end thereof, and at least one centrifugal impeller disposed on the **pump** shaft. A drive **coupling** is fixed to the output end of the motor shaft and has internal **spline** teeth which are slidably engaged with the external **spline** teeth of the **pump** shaft. The drive **coupling** transmits rotational power from the electric motor to the **pump** shaft, with the end of the **pump** shaft being operative to float axially within the drive **coupling**. A flanged interface surrounds the drive **coupling** and rigidly joins the motor assembly and the **pump** assembly together coaxially end to end in a sealed manner.

Classifications:
International (IPC 8-9): F04B17/03 F04B19/04 F04B53/00 F04D1/06 F04D13/02 F04D13/08 (Advanced/Invention); F04D1/00 F04D13/02 F04D13/06 (Core/Invention)
International (IPC 1-7): F04B17/03 F04B19/04 F04B53/00
CPC: F04D13/086 F04D1/063 F04D13/021
European: F04D1/06B F04D13/02B F04D13/08



Family:

Publication number	Publication date	Application number	Application date
CA2249081 AA	20000329	CA19982249081	19980929
CA2249081 C	20031118	CA19982249081	19980929

Priority:
CA19982249081 19980929

Probable Assignee: MARLEY PUMP
Assignee(s): (std): EWING DALE ; YOUNG DAVID STERLING
Assignee(s): MARLEY PUMP ; VEEDER ROOT CO
Inventor(s): (std): EWING DALE ; YOUNG DAVID STERLING
Agent(s): MOFFAT AND CO

Title: LIQUID PETROLEUM GAS **SUBMERSIBLE** ELECTRIC MOTOR DRIVEN **PUMP** AND DRIVE **COUPLING** THEREFOR

Abstract: A **submersible** electric motor driven **pump** includes a motor assembly having an elongated tubular motor housing, an electric motor disposed in the motor housing, and a rotary motor shaft having an output end which extends from the electric motor; and a **pump** assembly including an elongated tubular **pump** housing, a driven **pump** shaft having external **spline** teeth at an end thereof, and at least one centrifugal impeller disposed on the **pump** shaft. A drive **coupling** is fixed to the output end of the motor shaft and has internal **spline** teeth which are slidably engaged with the external **spline** teeth of the **pump** shaft. The drive **coupling** transmits rotational power from the electric motor to the **pump** shaft, with the end of the **pump** shaft being operative to float axially within the drive **coupling**. A flanged interface surrounds the drive **coupling** and rigidly joins the motor assembly and the **pump** assembly together coaxially end to end in a sealed manner.

Classifications:

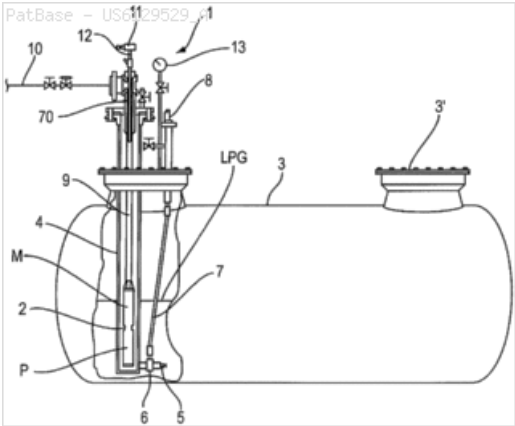
International (IPC 8-9): F04D13/02 F04D13/06 F04D13/16 F04D7/00 F04D9/00 (Advanced/Invention);
F04D13/00 F04D13/02 F04D13/06 F04D7/00 F04D9/00 (Core/Invention)

International (IPC 1-7): F04B17/00 F04B35/04

CPC: F04D13/16 F04D7/02 F04D9/001 F04D13/021 F04D13/06 F04D29/628

European: F04D13/02B F04D13/06 F04D13/16 F04D7/00 F04D9/00B

US: 417/423.14 417/423.3 417/423.6



Family:

Publication number	Publication date	Application number	Application date
US6129529 A	20001010	US19980161655	19980929

Priority:

US19980161655 19980929

Probable Assignee: VEEDER ROOT CO

Assignee(s): (std): PUMP MARLEY

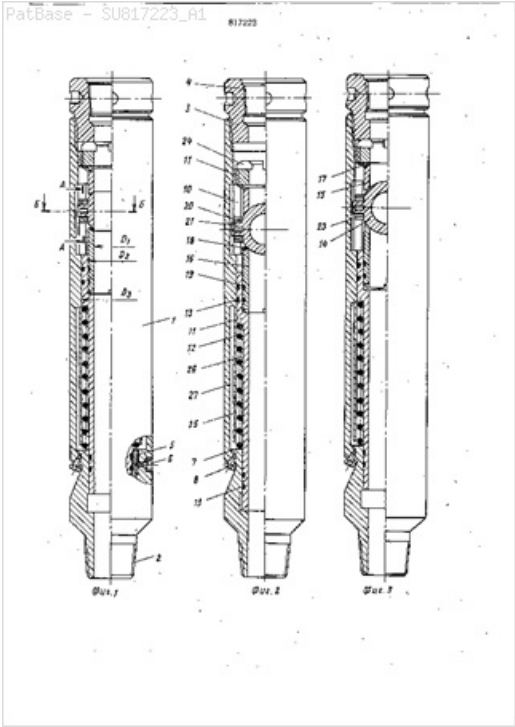
Assignee(s): VEEDER ROOT CO ; CHASE MANHATTAN BANK AS COLLATERAL AGENT ; CHASE MANHATTAN BANK COLLATERAL AGENT AS ; MARLEY CO ; MARLEY CO LLC WAS KNOWN AS MARLEY COMPANY.. ; MARLEY PUMP

Inventor(s): (std): EWING DALE ; YOUNG DAVID STERLING

Title: HOLE-BOTTOM CHECK VALVE

Abstract: Source: SU817223T **Machine translation:** I Invention relates to oil-field equipment, and more particularly, to the wells to a depth 3anoprfbiM devices and can be used in the oil industry for the purpose of clipping layer during workover. A device for closing kolopn ksempressornyh coiled tubing, comprising a housing, the gripper assembly, the seat, between which the locking element rail mounted for vzaimodeyotvi with a locking element, wherein the rake is made with teeth interacting with the gears, which mounted on the locking member 1. disadvantage of this device is the low reliability of its operation due to the complexity of the control device. closest, rescheniem is known downhole check valve, comprising a housing seat, between which the valve formed as an axial passage Shchara, pinions mounted on the cylindrical projection gate to cooperate with a toothed rack mounted in the housing and the shutter control mechanism configured as a spring-loaded cylinder forming the housing 2 gidrokameru. disadvantage of this valve is that it has low reliability due to the use for controlling the drive speed of the tube, which creates difficulties in the operation of the equipment. object of the invention - reliability improvement klapanaz.a bill to simplify the management of his. Said aim is achieved in that gidrokamera formed with a partition separating the two it is communicated between the bottom of the annular chambers, one of which is filled with pressurized gas, and other - WKR liquid, wherein pinions are associated with cylindrical using protrusions shutter spring schtopok. For transforming the reciprocating movement of the movable valve of the cylinder into a rotary motion of the rotary valve cylindrical protrusions ka latter freely planted pinions, which are in constant engagement with the rack and the housing through the spring-loaded tongues transmit the rotation of rotary valve in one direction only, committed in the reverse idler turning movement. For each cycle of the valve gate is rotated all the time in the same side of 90 degrees, the series of sequentially open and close their position. Now enough for gate drive to artificially raise the pressure in the borehole acting on the unbalanced annular ploshadka defined by a diameter of 2 and 3 (Fig. 1). This is easily achieved by the injection of fluid left in the wellbore surface **pumping** unit. This valve actuator is simple, reliable and applicable to all of the well known methods. Fig. 1 shows the valve in an initial position; Fig. 2 and 3 - the valve in section; Fig. 4 - section A-A in Fig. One; Fig. 5 - B-sectional B.na Fig. One; Fig. 6 - construction of the gas valve. Downhole check valve 1 has a housing 2 with an external **thread** 3 and a thrust nut 4 with an internal **thread** (Fig. 1). When pomoshi **threads** 2ili4 valve before running in hole is attached to the packer to install them together in a well on the calculated depth. The housing 1 has a channel 5 with sample 6 for feeding the viscous fluid and the passage 7, the valve plug 8 and 9 to yield feed gas under pressure (Fig. 6). The upper housing part 1 has a toothed rack 10 (FIGS. 2, 3, 4 and 5) housed inside the cabinet and latch assembly consisting IE movable cylinder 11, the spring-loaded by a spring 12 and fitted with sealing rings 13, the ball 14 is preloaded thrust seat 15 to the sealing seat 16, the spring force of the diaphragm 17. order to create a hermetic sealing valve seat 16 is provided with rings 18 and 19. Rotation Shchara 14 is performed two toothed gears 20 are diametrically oppositely disposed on two cylindrical projections 21, formed integrally with and having scharom 14 resilient schponki 22. pinions 20 are in constant engagement with the racks 10, 20 obkatyvanii which transmit the rotation of the pinion ball 14 in one direction only, committed bachelor turn in the opposite direction, the ball is rotated exactly 90 degrees, closing or pass valve opens. Cavity 23, which are within pinion 20 and a cylindrical protrusion 21 with spring dowels 22, isolated from contact with the process fluid and filled with grease. All elements of the locking unit (14 - 22) are assembled in the movable cylinder 11 and the **spline** nut 24 are fixed. Spring-loaded latch assembly spring 12 abuts the abutment nut 3. housing 1 together with the movable cylinder 11 and the partition 25 to form two annular chambers 26 and 27 communicating with each other at the bottom. Chamber 26 is filled with a viscous fluid (oil lubrication system by any of automotive vehicles), and the camera 27 - inert gas (e.g. nitrogen) under pressure. The viscous fluid provides a seal of the movable cylinder 11 on the housing 1 and the gas-filled chamber acts as a damper allowing the closed chambers 26 and 27 vary with the amount of movement x of the movable cylinder 11 at the time of actuation of the valve. Before launching valve hole is filled with a viscous fluid chamber 26 and a half volume of the chamber 27, a central gas injected under pressure to a value equal to the static pressure in the wellbore at the setting depth of the intended valve. This is necessary to equalize the pressure in chambers 26 and 27 with the downhole pressure of the valve. valve operates as follows. Since pressure chambers 26 and 27 of the valve power downhole pressure podvzhnny.tsilindr 11 is in trouble 5 upper extreme position (Fig. 1). for closing valve must stop the downhole **pump**, close the discharge line, injection wells in the shell side of the cavity fluid raise the wellhead pressure to the desired value. This pressure is determined by the annular area F 0,785 (force of spring 12, resistance of the sealing rings 13 and is stopped at the stand individually for each valve, the calculations do not indicate that its value should be within 20 - 30 kg / cm 2. Upon reaching cracking pressure entire latch assembly (items 11,14, 15, 16, 17, 20, 21, 22 and 24) against the spring 12 and the O-rings 13, moved all the way down his shoulder at the lower end of the housing 1 (Fig. 2). At this point, serrated schesterni 20 obkatyva fixed toothed rack 10, the ball 14 is rotated by 90 degrees and close central passage of the valve. Signal of the valve will be rapid growth in pressure **pumping** fluid into the well, but the tightness, can be judged by the pressure drop injection after stopping the machine at the time of the valve if the pressure derzhits a long time, then the valve plug is tight. When release of the wellhead pressure to zero all the latch assembly under the influence of the spring 12 is raised to upper end position (Fig. 3), the pinion 20, the toothed rack 10 obkatyva backwards perform idle rotation as the rotation of the key 22, the gear 20 is transmitted the ball 14 in one direction (FIGS. 4 and 5). Upon return of the movable cylinder iskhodnbe (upper) position lKgs 14 remains in the closed position, as the rotation resistance sandwiched between the seats 15 and 16 of the ball 14 Large Live resistance schesterni idle gear 20 rotate around the cylindrical projections 21. for open also need to raise the ustvoedavlenie, closing the valve assembly peremestits the way down, the ball will turn 14 on 90 degrees in the same direction and the valve otkroets. When wellhead pressure is dropped to zero latch assembly returns to its original position, and the valve remains open. Signal of the valve will drop wellhead, the pressure when the unit is stopped. valve of this design has a whole row of advantages: control valve simple and reliable; lack of mechanical **coupling** with **submersible pump** simplifies their operation; the autonomy of operation of the valve it provides versatility in terms of the method of operation of the well; Availability of through the central passage in the open position of the valve is expanded its technological capabilities (possible depth study wells appliances, washing slaughter); All work surfaces, and the shutter mechanism of the actuator are isolated from contact with the wellbore fluid, which increases the durability of it under conditions in the presence of complicated production wellbore solids or solid mineral deposits; working bodies of the gate (ball and seat) discharged from the downhole pressure at the time of actuation, which also increases the durability of the valve. Last property requires explaining. Initially (in the open position (Fig. 1) the ball 14 is pressed against the valve seat 16 only by the thrust of the spring 17. Wellbore pressure to raise the pressure of the valve. Movable cylinder 11 is moved down (Fig. 2), and the ball 14 rotates, pressed all the time to the saddle 16 only force spring 17. Once the movable cylinder 11 to move to the lower limit position, and the ball povernets 14 to the closed position, the contact pressure of the ball 14 against the seat 16 will increase as the discharge pressure in the wellbore fluid surface **pumping** unit. By the spring force 17 now also dobavits pressing force of the ball 14 against the seat 16 the excess wellhead pressure acting on the area defined by the diameter D i, but now the ball and seat are fixed, therefore there is no mechanical wear. After ejection, the wellhead pressure valve is closed (Fig. 3). Now, if in the well (below the valve pressure grows, the seat 16 is pressed against the Shchara 14 with a force determined emym increased pressure and circular platform with a diameter D, and D. This effort is only necessary to provide the seat tightness. force from excess pressure on the area with a diameter D j, perceives resistant nut 3 through slotted nut 24 and seat 15, and a tray compressed spring 17 and the seat 15 comes in contact with the socket slotted nut 24. If vozrosschee wells (under the flap) pressure more cracking pressure, then to start the ball rolling is necessary to raise the well head pressure (above valve) dr values increased downhole (under the flap) pressure. Once these are aligned pressure washer spring 17 is released and the ball 14 is again pressed against the seat 16 only force of spring 17, ie, the rotation of the ball occurs in the unloaded position. If the well is not able to develop singly overpressure occurs that the opening of the ball load of the pressure (20 - 30 kg / cm 2) for area with a diameter D. If the well creates overpressure less cracking pressure, the opening of the ball occurs under load, determined by the difference between the set pressure and excess downhole acting the square of diameter D Thus, the shutter is always loaded with a pressure not exceeding the pressure of the valve (20 - 30 kg/cm2). claims downhole check valve, comprising a housing seat, between which the valve formed as an axial passage Shchara, pinions mounted on the cylindrical projection gate to cooperate with a rack mounted in the housing, and a shutter control mechanism configured a spring-loaded cylinder forming the housing gidrokameru wherein, that, in order povyscheni reliability of the valve due to simplify the control process it is configured gidrokamera-partition dividing the into two communicating with each other at the bottom of the annular chambers, one of which is filled compressed gas, and the other - a viscous liquid, with pinions coupled with cylindrical projections pomoshi shutter while spring-loaded clamps. Sources of information, received into account in the examination 1.Avtorskoe USSR certificate number 612098, cl. 21 V 43/00, 24.07.72. 2.Patent USSR number 641876, cl. 2GV E 43/00, 14.06.74: A-A 2.1 IV

Classifications:
International (IPC 8-9): E21B43/00 (Advanced/Invention);
E21B43/00 (Core/Invention)
International (IPC 1-7): E21B43/00



Family:

Publication number	Publication date	Application number	Application date
SU817223 A1	19810330	SU19792758757	19790326
SU817223 T	19810330	SU19792758757	19790326

Priority:

SU19792758757 19790326

Probable Assignee: PROIZV OB NIZHNEVARTOVSKNEFTEG

Assignee(s): (std): PROIZV OB NIZHNEVARTOVSKNEFTEG

Assignee(s): PROIZV OB NIZHNEVARTOVSKNEFTEGAZ MINISTERSTVA NEFT ; PROIZV OB NIZHNEVARTOVSKNEFTEGAZ MINISTERSTVA NEFTYANOJ PROMY SSSR ; PROIZV OB "NIZHNEVARTOVSKNEFTEGAZ" MINISTERSTVA NEFTYANOJ PROMY SSSR

Inventor(s): (std): ABRAMOV ALEKSANDR F ; DUNAEV NIKOLAJ P ; KAVKAZOV ALEKSANDR E ; MARICHEV FEDOR N

Inventor(s): MARICHEV FEDOR N SU ; KAVKAZOV ALEKSANDR E SU ; DUNAEV NIKOLAJ P SU ; ABRAMOV ALEKSANDR F SU

US: 415/199.2