

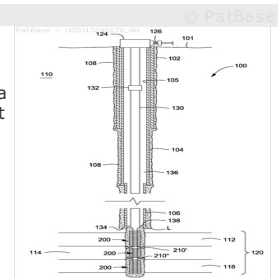
1) Family number: 51333693 (US2013248178A)

WELLBORE APPARATUS AND METHODS FOR ZONAL ISOLATIONS AND FLOW CONTGROL

Abstract: Source: US2013248178A Method for completing a wellbore in a subsurface formation includes providing a sand control device representing one or more joints of sand screens, and a packer assembly along the joints with at least one mechanically-set packer with at least one alternate flow channel therein. Running the packer assembly and connected sand screen into the wellbore, setting a mechanically-set packer into engagement with the surrounding wellbore, injecting gravel slurry into the wellbore to form a gravel pack. An elongated isolation string is run into the sand control device across the packer assembly with valves that serve as an inflow control device. Thereafter, seals are activated around the isolation string and adjacent the packer assembly. A zonal isolation apparatus allows flow control to be provided above and below packer assembly.

Probable Assignee: EXXON MOBIL CORP

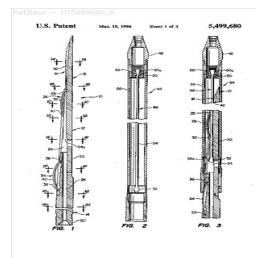
Earliest Publication Date: 20120621



Abstract: Source: US5499680A A diverter for a subterranean well, a diverter retrieving tool and methods of diverting objects traversing the well and retrieving the diverter. The diverter comprises: (1) a body having a lower portion adapted to be coupled to a diverter anchoring structure and an upper portion having a slanted diverting surface, the diverter adapted to be placed within a main borehole of the subterranean well at a predetermined location and orientation proximate a junction of a lateral borehole with the main borehole, the slanted diverting surface adapted to redirect an object having a particular diameter and coming into contact with the diverter into the lateral borehole and (2) a compliant spring member associated with the slanted diverter surface. The spring member is resiliently retractable toward the slanted diverter surface to allow the object to traverse the junction and enter the lateral borehole, the diverter therefore dynamically adjustable to compensate for an insufficient minimum diameter of a selectable one of the main borehole, junction and lateral borehole. The diverter is configured to receive a flexible finger of the retrieving tool into a central longitudinal shaft therein to engage and retrieve the diverter without having to orient the retrieving tool.

Probable Assignee: HALLIBURTON CO

Earliest Publication Date: 19960227



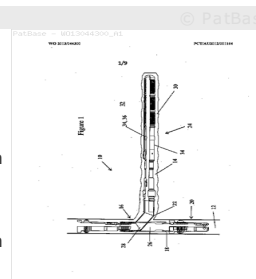
6) Family number: 53423823 (WO13044300A1)

A METHOD AND SYSTEM OF DEVELOPMENT OF A MULTILATERAL WELL

Abstract: A system and method of developing a multilateral well for the production of formation fluids from a subterranean or subsea formation is disclosed. The multilateral well comprises a completed multilateral junction having a primary wellbore access window from which a primary wellbore extends and a lateral wellbore access window from which a lateral wellbore extends. The method comprises: a) pre-installing a lateral wellbore completion string in the lateral wellbore thereby forming an annulus between the lateral wellbore completion string and the formation, the lateral wellbore completion string includes at least one ported sleeve positioned adjacent to a production zone of the formation; and, b) running an intervention string through the completed multilateral junction and through the lateral wellbore completion string to reconfigure the ported sleeve between an open configuration in which the annulus is in fluid communication with an internal diameter of the lateral wellbore completion string and a closed configuration in which the lateral wellbore completion string is sealed to prevent fluid communication between the internal diameter of the lateral wellbore completion string and the annulus, wherein the intervention string terminates at its lower end in a kick-over tool.

Probable Assignee: WOODSIDE ENERGY LTD

Earliest Publication Date: 20130404



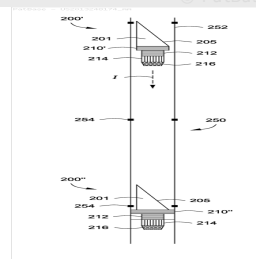
7) Family number: 51333694 (US2013248174A)

AUTONOMOUS DOWNHOLE CONVEYANCE SYSTEM

Abstract: Source: US2013248174A A tool assembly is provided that includes an actuatable tool such as a valve or a setting tool. And includes a location device that senses the location of the tool assembly within a tubular body based on a physical signature. The tool assembly also includes an on-board controller configured to send an activation signal to the actuatable tool when the location device has recognized a selected location of the tool based on the physical signature. The actuatable tool, the location device, and the on-board controller are together dimensioned and arranged to be deployed in the wellbore as an autonomous unit.

Probable Assignee: EXXON MOBIL CORP

Earliest Publication Date: 20120621



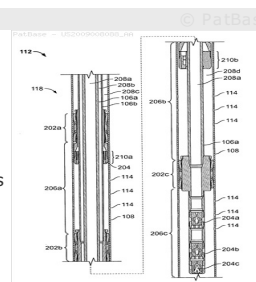
8) Family number: 42777084 (US2009008088A)

OSCILLATING FLUID FLOW IN A WELLBORE

Abstract: Source: US2009008088A A system for oscillating compressible working fluid in a wellbore defined in a subterranean formation includes a fluid supply and a fluid oscillator device. The fluid supply communicates compressible working fluid into a conduit disposed within the wellbore. The fluid oscillator device is configured to reside in the wellbore. The fluid oscillator device includes an interior surface that defines an interior volume of the fluid oscillator device, an inlet into the interior volume, and an outlet from the interior volume. The interior surface is static during operation to receive the compressible working fluid into the interior volume through the inlet and to vary over time a flow rate of the compressible working fluid from the interior volume through the outlet.

Probable Assignee: HALLIBURTON CO

Earliest Publication Date: 20090108



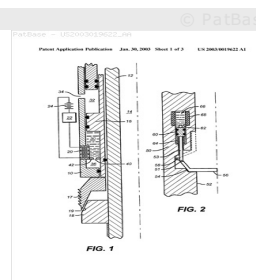
9) Family number: 28038606 (US2003019622A)

DOWNHOLE ACTUATION SYSTEM UTILIZING ELECTROACTIVE FLUIDS

Abstract: Source: US2003019622A Downhole wellbore tools are actuated by electrically controllable fluids energized by a magnetic field for example. When energized, the viscosity state of the fluid may be increased by a degree depending on the fluid formulation. Reduction of the controllable fluid viscosity by terminating a magnetic field acting upon the fluid may permit in situ wellbore pressure to displace a tool actuating piston. Displacement of the tool actuating piston is prevented by the controllable fluid in a viscous state. The viscous state of the fluid is energized by a magnetic field environment. When the field is de-energized, the controllable fluid viscosity quickly falls thereby permitting the fluid to flow through an open orifice into a low pressure receiving volume. In an alternative embodiment of the invention, an expandable volume fluid may be used against a slip actuating element in the same manner as a fluid pressure motor. A magnetic field, aligned to act upon the controllable fluid, causes the fluid to volumetrically expand and thereby displace a slip actuating piston. Other embodiments of the invention include valve flapper actuating motors and valve flapper locking sleeves.

Probable Assignee: BAKER HUGHES INC

Earliest Publication Date: 20030130



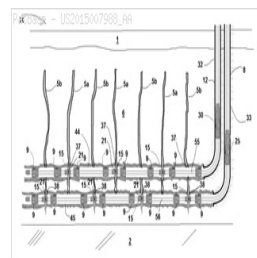
10) Family number: 54791909 (US2015007988A)

HYDROCARBON RECOVERY PROCESS EXPLOITING MULTIPLE INDUCED FRACTURES

Abstract: Source: US2015007988A A method for enhancing production from multiple-fractured underground "tight" formations. Spaced upwardly-extending injection fissures are created along a horizontal injection wellbore, and upwardly-extending collection fissures, alternately spaced with the injection fissures, are created along the horizontal injection wellbore or another adjacent production wellbore. The injection wellbore is supplied with fluid under pressure, which flows into such created fissures and drives reservoir fluids within the formation to the remaining (alternately) spaced adjacent fissures along such wellbore or another parallel adjacent (production) wellbore, thereby allowing reservoir fluids to flow downwardly along such alternately spaced production fissures for collection. In a refinement, production is carried out initially from both the production and injection wellbores, and upon the rate of production of hydrocarbons slowing, production from the injection wellbore is stopped and a fluid is injected therein and thus into the formation via the alternate spaced fissures, thereby re-pressurizing the formation.

Probable Assignee: IOR CANADA LTD

Earliest Publication Date: 20130920



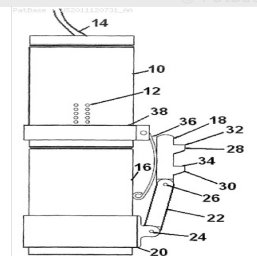
11) Family number: 48961416 (US2011120731A)

TOOL POSITIONING AND LATCHING SYSTEM

Abstract: Source: US2011120731A A system and method for positioning a tool within a wellbore are described herein. The interior surface of a tubular string is provided with one or more pluralities of grooves, each defining a selected profile. A tool is lowered into the tubular string, having a blade in communication therewith. The blade includes a plurality of protruding members thereon, which define a profile complementary to at least one of the selected profiles formed by one of the pluralities of grooves. A biasing member in communication with the blade continually biases the blade toward the interior surface of the tubular string to cause the profile of the blade to engage within the corresponding complementary profile of the tubular string. Positioning a tool in this manner is especially advantageous for locating a cutting tool at a precise location to sever a tubular segment at a joint, releasing tensile forces from the joint.

Probable Assignee: MCR OIL TOOLS LLC

Earliest Publication Date: 20110526



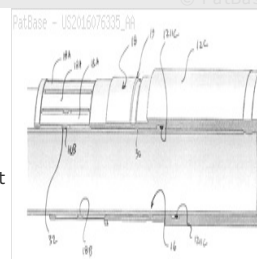
12) Family number: 61719375 (US2016076335A)

APPARATUS AND METHOD FOR TREATING A RESERVOIR USING RE-CLOSEABLE SLEEVES

Abstract: Source: US2016076335A There is provided a flow control apparatus comprising: a housing; a port extending through the housing; a housing passage defined within the housing and configured for fluidly communicating via the port; a flow control member displaceable relative to the port for effecting opening and closing of the port; a retainer housing space, disposed between the housing and the flow control member, and co-operating with the flow control member such that, at least while the flow control member is disposed in the closed position, a sealing interface is disposed between the retainer housing space and the housing passage; and a resilient retainer member, extending from the housing and into the retainer housing space, and configured to releasably engage the flow control member for resisting displacement of the flow control member.

Probable Assignee: NCS MULTISTAGE INC

Earliest Publication Date: 20160219



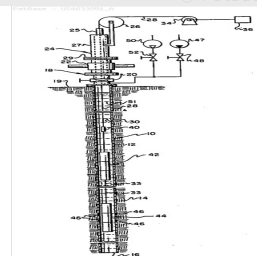
13) Family number: 3303401 (US4633951A)

WELL TREATING METHOD FOR STIMULATING RECOVERY OF FLUIDS

Abstract: Source: US4633951A Subterranean oil and gas producing formations are fractured by providing one or more combustion gas generating units using rocket fuel type propellants disposed in a well casing at preselected depths. The well casing is filled with a compressible hydraulic fracturing fluid comprising a mixture of liquid, compressed gas, and proppant material and precompressed to a pressure of about 1,000 psi or more greater than the fracture extension pressure at the depth of the zone to be fractured. At least one of the gas generating units is equipped with perforating shaped charges to form fluid exit perforations at the selected depth of the fracture zone. The gas generating units are simultaneously ignited to generate combustion gasses and perforate the well casing. The perforated zone is fractured by the rapid outflow of an initial charge of sand free combustion gas at the compression pressure followed by a charge of fracturing fluid laden with proppant material and then a second charge of combustion gas. The column of precompressed fracturing fluid is discharged into the formation until the hydraulic extension pressure is reached and eventually the perforations sanded off.

Probable Assignee: MT MORIAH

Earliest Publication Date: 19870106



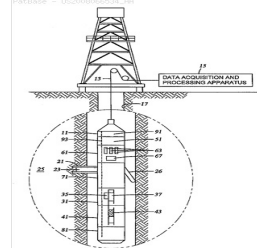
14) Family number: 36060226 (US2008066534A)

OBTAINING AND EVALUATING DOWNHOLE SAMPLES WITH A CORING TOOL

Abstract: Source: US2008066534A Samples of hydrocarbon are obtained with a coring tool. An analysis of some thermal or electrical properties of the core samples may be performed downhole. The core samples may also be preserved in containers sealed and/or refrigerated prior to being brought uphole for analysis. The hydrocarbon trapped in the pore space of the core samples may be extracted from the core samples downhole. The extracted hydrocarbon may be preserved in chambers and/or analyzed downhole.

Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

Earliest Publication Date: 20080318



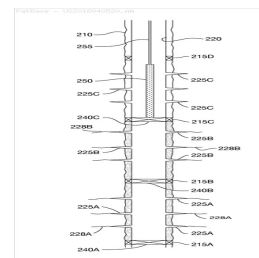
15) Family number: 61643149 (US2016040520A)

METHODS FOR MULTI-ZONE FRACTURE STIMULATION OF A WELL

Abstract: Source: US2016040520A A completion assembly designed to perforate a section of casing along a wellbore, comprises a perforating gun, a canister, and a locator device. The canister contains ball sealers that are dimensioned to seal perforations, while the locator device is a casing collar locator that senses the location of the assembly within the wellbore based on the spacing of casing collars. The completion assembly also includes an on-board controller configured to send an actuation signal to the perforating gun to cause one or more detonators to fire when the locator has recognized a selected location of the completion assembly, thereby perforating the casing, and to release the ball sealers from the canister. Methods for seamlessly perforating and fracturing multiple zones along a wellbore are also provided, using a select-fire perforating gun.

Probable Assignee: EXXON MOBIL CORP

Earliest Publication Date: 20160211



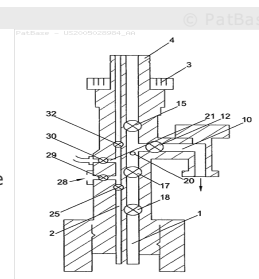
16) Family number: 32617178 (US2005028984A)

RECOVERY OF PRODUCTION FLUIDS FROM AN OIL OR GAS WELL

Abstract: Source: US2005028984A A method and assembly for recovering fluids from, or injecting fluids into, a well having a Christmas tree; the fluids typically flow between first and second flowpaths in a continuous path. The assembly may be located within the main bore, or a side passage of the Christmas tree. Embodiments of the invention allow the fluids to be fed to a processing apparatus, (e.g. a pump or chemical injection apparatus) for treatment, before being returned to the Christmas tree. Optionally, the assembly may include a pump located inside the Christmas tree body.

Probable Assignee: ONESUBSEA IP UK LTD

Earliest Publication Date: 20001123



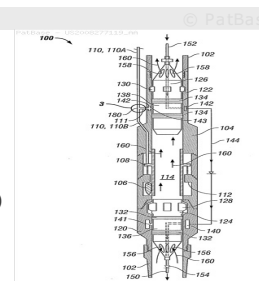
17) Family number: 33095706 (US2008277119A)

METHOD AND APPARATUS TO HYDRAULICALLY BYPASS A WELL TOOL

Abstract: Source: US2008277119A Apparatuses and methods to communicate with a zone below a subsurface safety valve (104, 204, 404) independent of the position of a closure member (106) of the safety valve are disclosed. The apparatuses and methods include deploying a subsurface safety valve (104, 204, 404) to a profile located within a string of production tubing. The subsurface safety valve (104, 204, 404) is in communication with a surface station through an injection conduit (150,152; 250,252; 450,452) and includes a bypass pathway (144, 244, 444) to inject various fluids to a zone below. A redundant control to actuate subsurface safety valve (104, 204, 404) can include a three-way valve (180, 280) or three-way manifold 480 connecting the injection conduit (150,152; 250,252; 452) or the hydraulic ports (140,142; 240,242; 442 ') to the subsurface safety valve (104, 204, 404).

Probable Assignee: BAKER HUGHES A GE CO LLC

Earliest Publication Date: 20060629



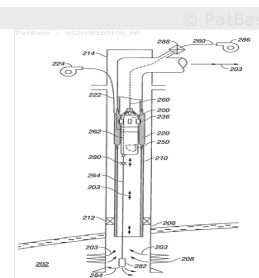
18) Family number: 33089726 (US2008169106A)

METHOD AND APPARATUS FOR FLUID BYPASS OF A WELL TOOL

Abstract: Source: US2008169106A Apparatuses and methods to inject chemical stimulants (284) to a production zone (102, 202) through a string of production tubing (110, 210) around a downhole obstruction are disclosed. The apparatuses and methods include deploying an anchor seal assembly (200) to a landing profile (120, 220) located within a string of production tubing (110, 210). The anchor seal assembly (200) is in communication with a surface station through an injection conduit (260, 264) and includes a bypass pathway (262) to inject various fluids to a zone below.

Probable Assignee: BAKER HUGHES A GE CO LLC

Earliest Publication Date: 20060629



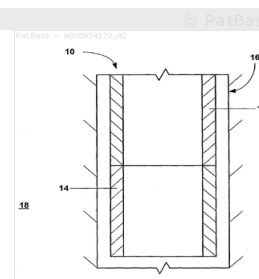
19) Family number: 43479079 (WO05024170A2)

RADIAL EXPANSION SYSTEM

Abstract: A radial expansion system.

Probable Assignee: ENVENTURE GLOBAL TECHNOLOGY

Earliest Publication Date: 20050317



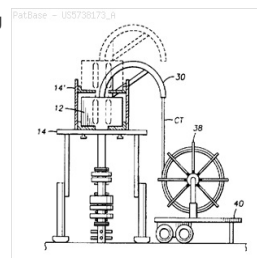
20) Family number: 30139739 (US5738173A)

UNIVERSAL PIPE AND TUBING INJECTION APPARATUS AND METHOD

Abstract: Source: US5738173A An apparatus for injection of coiled tubing or jointed tubulars into a well bore, using an injector head capable of handling either type of tubular. The injector head and a working platform are mounted on a structure over the well head, with the injector being positioned so as to allow personnel access to the tubing on the working platform without having to relocate the injector head away from the well head location. The injector can be mounted below the working platform, or it can be mounted spaced above the working platform on a vertically movable trolley on a mast. When the injector is mounted below the working platform, the tubulars and any bottom hole assembly are accessible to personnel on top of the working platform, whether coiled tubing or jointed tubulars are being used. When the vertically movable trolley is used for coiled tubing operations, the injector head can be lowered to the working platform for injection or pulling operations, and it can be raised above the working platform to give access to the tubing and the bottom hole assembly. When the vertically movable trolley is used for jointed tubular operations, the injector head can be raised above the working platform for all phases, and a movable mandrel can be used in the injector head for raising or lowering the jointed tubulars.

Probable Assignee: BAKER HUGHES INC

Earliest Publication Date: 19960919



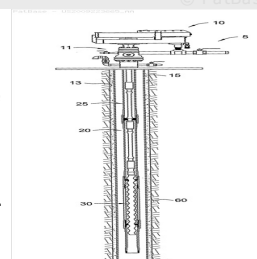
21) Family number: 33587781 (US2009223665A)

WELL TREATMENT USING A PROGRESSIVE CAVITY PUMP

Abstract: Source: US2009223665A Embodiments of the present invention include methods and apparatus for treating a formation with fluid using a downhole progressive cavity pump ("PCP"). In one aspect, the direction of the PCP is reversible to pump treatment fluid into the formation. In another aspect, two or more PCP's are disposed downhole and reversible to allow a chemical reaction downhole prior to the treatment fluid entering the formation. In yet another aspect, embodiments of the present invention provide a method of flowing treatment fluid downhole using one or more downhole PCP's. Treatment of the formation with the fluid and production of hydrocarbon fluid from the formation may both be conducted using the same downhole PCP operating in opposite rotational directions. In an alternate embodiment, one or more downhole PCP's may be utilized in tandem with one or more surface pumps.

Probable Assignee: WEATHERFORD TECHNOLOGY HOLDINGS LLC

Earliest Publication Date: 20061102



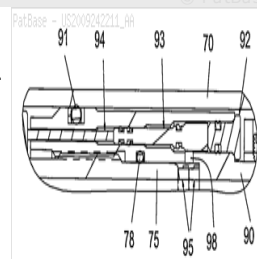
22) Family number: 43766688 (US2009242211A)

METHODS AND APPARATUS FOR A DOWNHOLE TOOL

Abstract: Source: US2009242211A An apparatus and method for operating a packer and a fracture valve is shown. The packer may include a tubular mandrel having a longitudinal bore with an annular packing element and a first piston disposed around the mandrel, wherein the first piston is operable to set the packing element, and a second piston operable to isolate fluid communication between the first piston and the mandrel bore. The fracture valve may include a tubular mandrel having a longitudinal bore and a port, a piston operable to close fluid communication between the bore and the port, and a latch disposed between the piston and the mandrel operable to resist movement of the piston.

Probable Assignee: WEATHERFORD TECHNOLOGY HOLDINGS LLC

Earliest Publication Date: 20090928



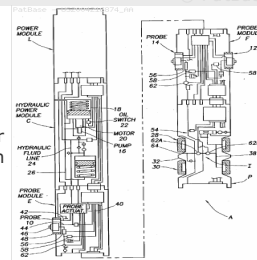
23) Family number: 31196086 (US2004216874A)

APPARATUS AND METHOD FOR CONTROLLING THE PRESSURE OF FLUID WITHIN A SAMPLE CHAMBER

Abstract: Source: US2004216874A A formation testing tool and method for providing pressure controlled sampling is provided. A flow line delivers formation fluid to a sample chamber in the testing tool. A first valve controls the flow of formation fluid from the flow line to the sample chamber. A piston is slidably disposed in the sample chamber to define a sample cavity and an actuation cavity having variable volumes determined by movement of the piston. An actuator is also provided to move the piston in a first direction to increase the volume of the sample cavity and a second direction to decrease the volume of the sample cavity whereby formation fluid may be drawn into the sample cavity and pressurized therein using the actuator and the first valve.

Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

Earliest Publication Date: 20041104



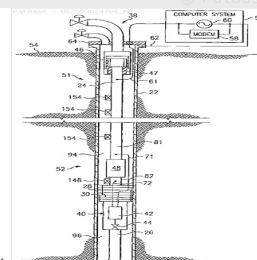
24) Family number: 28044317 (US2003024704A)

USE OF DOWNHOLE HIGH PRESSURE GAS IN A GAS-LIFT WELL

Abstract: Source: US2003024704A A gas-lift petroleum well (38, 98, 150) and method for producing petroleum products using downhole pressurized gas to provide lift. The gas-lift well (38, 98, 150) comprises a well casing (22), a production tubing (24), a packer (40), and a gas-lift valve (148). The well casing (22) extends within a wellbore of the well (38), and the wellbore extends through oil and gas zones. The production tubing (24) extends within the casing (22). The tubing (24) comprises an opening formed therein, which is in fluid communication with an oil zone. The packer (40) is located downhole in the casing (22) and coupled to the tubing (24). The packer (40) can comprise an electrically controllable packer valve (44), which is adapted to control a flow of downhole pressurized gas from one side of the packer to another. The downhole pressurized gas is provided by a gas zone that the wellbore passes through. The downhole gas-lift valve (148) is coupled to the tubing (24) and is adapted to control a flow of downhole pressurized gas into oil in the tubing for lifting the oil. The gas-lift valve (148) can be an electrically controllable valve. The tubing (24) and casing (22) are used as electrical conductors for supplying power and/or communications downhole. The current in the tubing (24) is routed using a ferromagnetic induction choke (48) to create a voltage potential, which provides electrical power to downhole electrical devices. Also, there may be a bypass passageway (146) to route downhole gas to gas-lift valves (148, 154). There may also be downhole sensors to measure physical quantities (e.g., pressure). Such measurements can be used for feedback control of downhole electrically controllable valves.

Probable Assignee: SHELL OIL CO

Earliest Publication Date: 20010907



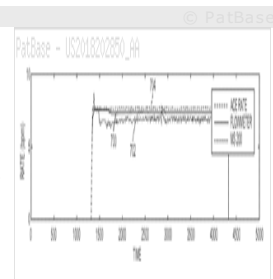
25) Family number: 65136168 (US2018202850A)

FLOW-RATE MONITORING SYSTEM FOR A PRESSURE PUMP

Abstract: Source: US2018202850A A flow-rate monitoring system may include a position sensor, a strain gauge, and a computing device for determining a rate of fluid flow through a pump using strain measurements. The strain gauge may determine strain in the chamber. The position sensor may determine the position of a crankshaft coupled to a plunger in the chamber. The computing device may receive signals generated by the strain gauge and the position sensor related to the strain in the chamber and the position of the crankshaft and process the signals to determine a flow rate through the chamber of the pump.

Probable Assignee: HALLIBURTON CO

Earliest Publication Date: 20170309



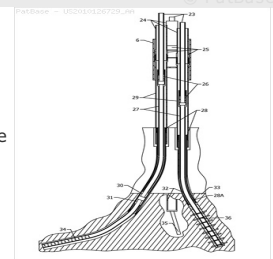
26) Family number: 42867973 (US2010126729A)

SYSTEMS AND METHODS FOR OPERATING A PLURALITY OF WELLS THROUGH A SINGLE BORE

Abstract: Source: US2010126729A Systems and methods usable to operate on a plurality of wells through a single main bore are disclosed herein. One or more chamber junctions are provided in fluid communication with one or more conduits within the single main bore. Each chamber junction includes a first orifice communicating with the surface through the main bore, and one or more additional orifices in fluid communication with individual wells of the plurality of wells. Through the chamber junctions, each of the wells can be individually or simultaneously accessed. A bore selection tool having an upper opening and at least one lower opening can be inserted into the chamber junction such that the one or more lower openings align with orifices in the chamber junction, enabling selected individual or multiple wells to be accessed through the bore selection tool while other wells are isolated from the chamber junction.

Probable Assignee: BRUCE TUNGET

Earliest Publication Date: 20100526



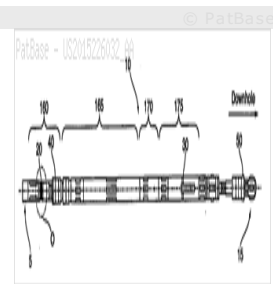
27) Family number: 59022625 (US2015226032A)

COMBINED PERFORATING AND FRACKING TOOLS

Abstract: Source: US2015226032A A tool for both perforating a well casing in a hydrocarbon formation and for subsequently fracturing the formation. The tool allows not only perforation and fracking, but in a preferred embodiment allows both perforation of the casing and fracking of the formation without having to further reposition the tool within the wellbore. The tool comprises a cylindrical member having thereon an upper and lower seal member and a longitudinal bore therein, and a cooperating piston which operates a punch to perforate the well casing. A flushing port is provided immediately uphole of the upper seal member, which port when said tool is lowered downhole allows fluid flowing up a longitudinal channel to flush an annular region immediately uphole of the said upper seal, thereby greatly reducing the incidence of sand impaction and thereby better allow the tool to be moved uphole for further perforation and fluid injection into the formation.

Probable Assignee: IRON HORSE COILED TUBING INC

Earliest Publication Date: 20150414



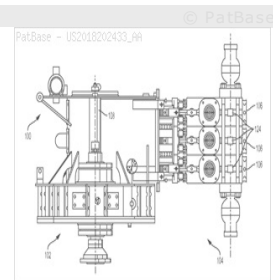
28) Family number: 65136189 (US2018202433A)

PRESSURE PUMP VALVE MONITORING SYSTEM

Abstract: Source: US2018202433A A monitoring system may include a position sensor, a strain gauge, and a computing device for determining the condition of a valve in a chamber of a pump using strain measurements. The strain gauge may determine strain in the chamber. The position sensor may determine the position of a crankshaft coupled to a plunger in the chamber. The computing device may receive signals generated by the strain gauge and the position sensor related to the strain in the chamber and the position of the crankshaft, respectively, and may process the signals to determine delays in the actuation of the valves.

Probable Assignee: HALLIBURTON CO

Earliest Publication Date: 20170309



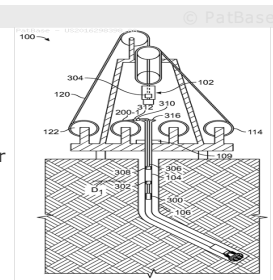
29) Family number: 63732806 (US2016298398A)

MULTI-SEGMENT INSTRUMENT LINE FOR INSTRUMENT IN DRILL STRING

Abstract: Source: US2016298398A A drilling system and method for deploying an instrument in a drill string in a wellbore. The method includes receiving an active instrument line through a drilling device and into the drill string, the active instrument line being connected to the instrument via a shallow connection, the instrument and the shallow connection being in the drill string. The method also includes lowering the active instrument line until a lower connection thereof reaches a predetermined depth, disconnecting the active instrument line from the shallow connection at the predetermined depth, and removing the active instrument line from the drill string, while the instrument remains in the drill string. The method further includes connecting a first interconnected line to the shallow connection in the drill string and to the active instrument line, and lowering the active instrument line, the first interconnected line, and the instrument in the drill string.

Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

Earliest Publication Date: 20161013



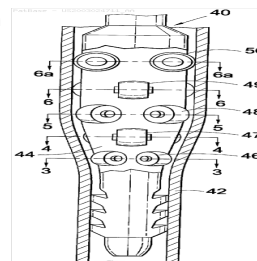
30) Family number: 29002764 (US2003024711A)

TUBING EXPANSION

Abstract: Source: US2003024711A A method of expanding tubing comprises locating an expansion tool in a section of tubing to be expanded, applying a fluid pressure to the tubing to create a fluid pressure expansion force and induce a hoop stress in the tubing, and applying a mechanical expansion force to the tubing via the expansion tool. The combined fluid pressure expansion force and mechanical expansion force is selected to be sufficient to induce expansion of the tubing.

Probable Assignee: WEATHERFORD TECHNOLOGY HOLDINGS LLC

Earliest Publication Date: 20021017



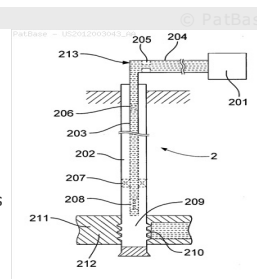
31) Family number: 46841043 (US2012003043A)

FLUID INJECTION

Abstract: Source: US2012003043A A method is described of injecting CO₂ into an aquifer or a depleted hydrocarbon reservoir (211) via at least one injection well (202) that penetrates said aquifer or reservoir, wherein the injection well is provided with an injection tubing (203) that is in sealing engagement with the injection well. The injection tubing terminates at or immediately above the interval of the aquifer or the reservoir into which the CO₂ is to be injected and the injection tubing is provided with a fluid injection control valve (208) at or near the bottom thereof which is closed or closes when the pressure above the valve is less than a pre-set pressure value and opens or reopens when the pressure above the valve is at or greater than said pre-set pressure value, the pre-set pressure value being selected such that the CO₂ in the injection tubing is maintained in a liquid or supercritical state.

Probable Assignee: BP PLC

Earliest Publication Date: 20100916



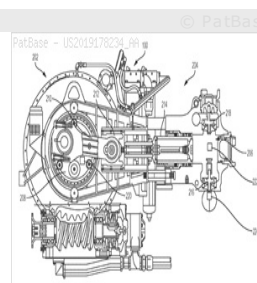
32) Family number: 68953531 (US2019178234A)

CAVITATION AVOIDANCE SYSTEM

Abstract: Source: US2019178234A A monitoring system for a plurality of pressure pumps may include, for each pump, a strain gauge, a position sensor and a pressure transducer. A strain gauge may be positionable on each pump to generate a strain measurement corresponding to strain in each pump. A position sensor may be positionable on each pump to generate a position measurement corresponding to a position of a rotating member corresponding of each pump. A pressure transducer is positionable on each pump to generate a boost pressure measurement that is usable with the strain measurement and the position measurement to determine a cavitation threshold for each pump.

Probable Assignee: HALLIBURTON CO

Earliest Publication Date: 20180322



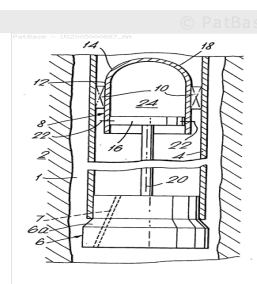
33) Family number: 28517495 (US2005000687A)

DEVICE FOR PERFORMING A DOWNHOLE OPERATION

Abstract: Source: US2005000687A A device for performing a downhole operation in a wellbore formed into an earth formation, the device having an actuator movable from a first configuration to a second configuration by the action of a selected increase of fluid pressure acting on the exterior of the actuator, and a tool arranged to be moved by the actuator so as to perform the downhole operation upon movement of the actuator from the first configuration to the second configuration thereof.

Probable Assignee: SHELL OIL CO

Earliest Publication Date: 20030501



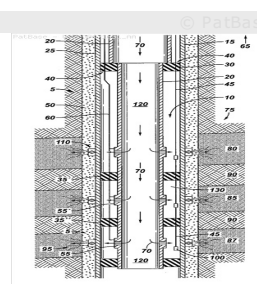
34) Family number: 42593738 (US2009071651A)

SYSTEM FOR COMPLETING WATER INJECTOR WELLS

Abstract: Source: US2009071651A A system for completing water injection wells includes an injector well completion system. In an embodiment, an injector well completion system in a formation has a casing string disposed in a wellbore having an annulus. The casing string includes a casing and a perforating gun. The casing string is run into the wellbore and cemented to provide a cemented casing string having the perforating gun. The tubing is run into the wellbore inside the cemented casing string.

Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

Earliest Publication Date: 20090317



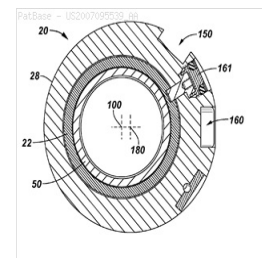
35) Family number: 34071281 (US2007095539A)

ECCENTRICALLY-DISPOSED CHOKE INJECTOR

Abstract: Source: US2007095539A An apparatus that is usable with a well includes a tool and a shroud. The tool is to be disposed in a wellbore and includes an opening to inject fluid into the well. The shroud at least partially surrounds the tool to eccentrically dispose the tool with respect to a longitudinal axis of the wellbore.

Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

Earliest Publication Date: 20070503



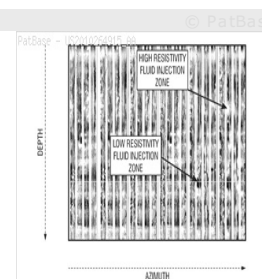
36) Family number: 43222291 (US2010264915A)

FORMATION TESTING AND EVALUATION USING LOCALIZED INJECTION

Abstract: Source: US2010264915A Evaluating a formation by lowering a downhole tool in a wellbore penetrating the formation, injecting a fluid into the formation at an injection zone via the downhole tool, and using a formation evaluation sensor to perform a measurement at each of a plurality of locations in the wellbore each proximate the injection zone. At least two of the plurality of measurements are compared, and a formation property is determined based on the comparison.

Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

Earliest Publication Date: 20090507



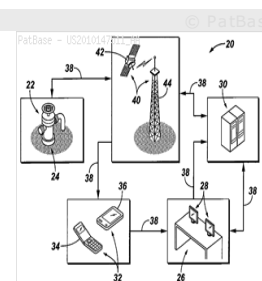
37) Family number: 45441336 (US2010147511A)

INJECTION WELL SURVEILLANCE SYSTEM

Abstract: Source: US2010147511A A method for surveillance of a well includes the steps of providing a pumping system in a wellbore that penetrates a formation; producing a fluid from the formation into the wellbore; injecting a fraction of the fluid from the wellbore into the formation via operation of the pumping system; surveying the pumping system in real-time via a sensor that senses well data; determining in real-time the correlation of a well parameter with a preselected threshold well parameter, wherein the well parameter is related to the sensed well data; and outputting a signal in response to the well parameter exceeding the preselected threshold parameter.

Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

Earliest Publication Date: 20100611



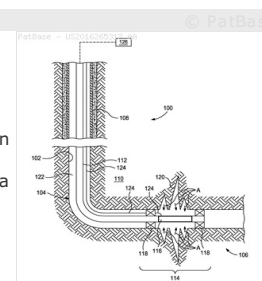
38) Family number: 59104676 (US2016265312A)

USING DYNAMIC UNDERBALANCE TO INCREASE WELL PRODUCTIVITY

Abstract: Source: US2016265312A Disclosed are systems and methods that use dynamic underbalancing to increase fluid flow within a wellbore. A disclosed underbalance pressure generator device includes a housing having a first end and a second end and defining a piston chamber that extends between the first and second ends, a piston movably arranged within the piston chamber, one or more influx ports defined in the housing at or near the second end and configured to enable fluid communication between the piston chamber and an exterior of the housing, and a locking mechanism arranged at or near the second end and capable of securing the piston at or near the second end.

Probable Assignee: HALLIBURTON CO

Earliest Publication Date: 20150430



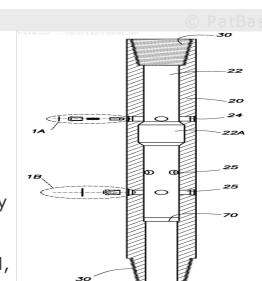
39) Family number: 49418086 (US2011203809A)

WELLBORE BYPASS TOOL AND RELATED METHODS OF USE

Abstract: Source: US2011203809A Disclosed is a bypass tool for connection in a tubing string suspended in a subterranean location in a wellbore. The bypass tool has a tubular body for connection to a tubing string with ports in the body wall to inject fluid into the annulus, surrounding the tubing string. In some applications, nozzles are placed in the ports to create fluid jets which can be utilized, for example, for cleaning a subsea BOP. In other applications, fluids are injected into the annulus to assist circulation. An axially shiftable sleeve is mounted in the body's internal bore and acts as a valve to open and block flow through the ports. Spring-loaded detents in the body engage openings in the sleeve to lock the sleeve against axial movement. The detents extend into the sleeve to be engaged by an actuator ball pumped down the tubing string to the bypass tool. In operation, the bypass tool is run into the wellbore in the closed position with the sleeve closing the ports in the mandrel. When bypass flow is desired, an actuation ball is pumped down the wellbore to the bypass tool. The ball engages a seat in the sleeve to block flow down the tubing string. The ball also engages and depresses the detents, unlocking the sleeve to shift axially down the wellbore to the bypass position where ports in the sleeve align with ports in the mandrel to permit flow through the ports. To return the bypass tool to the closed position, a second ball of the same diameter as the first ball is pumped down the well to abut the first ball and engage and depress the detents to allow the sleeve to shift to a closed position. In this closed position, flow through the tubing string is reopened by shifting the ball-seat assembly to an enlarged area of the mandrel bore where fluid is free to flow around the ball seat.

Probable Assignee: HALLIBURTON CO

Earliest Publication Date: 20110825



40) Family number: 50735541 (US2012048558A)

APPARATUS AND METHOD FOR ESTIMATING FORMATION PROPERTIES USING NANOEXPLOSIVE ELEMENTS

Earliest Publication Date: 20120229

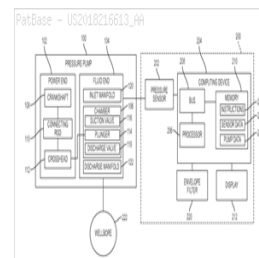
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PatBase PDF Export - Page: 9 17/07/2019

Abstract: Source: US2018216613A An analysis system may determine a discharge pressure or a suction pressure using a single measurement sensor coupled to a computing device. The measurement sensor may include a pressure sensor or a strain sensor. In some aspects, the pressure sensor may generate a pressure signal representing the total pressure in a chamber of the pressure pump. The computing device may apply an envelope filter to the pressure signal to determine the discharge or suction pressure in the chamber from the pressure signal. In other aspects, the strain sensor may generate a strain signal representing the strain in the chamber. The computing device may determine the discharge or suction portions of the strain signal and may correlate the portions with a predetermined internal pressure for the pressure pump to determine the discharge or suction pressure in the chamber.

Probable Assignee: HALLIBURTON CO

Earliest Publication Date: 20170309



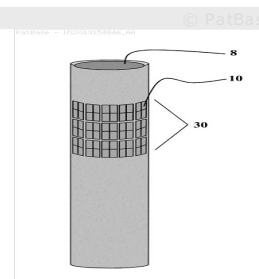
46) Family number: 54126784 (US2013154846A)

APPARATUS, METHOD AND SYSTEM FOR MAPPING FRACTURE FEATURES IN HYDRAULICALLY FRACTURED STRATA USING FUNCTIONAL PROPPANT PROPERTIES

Abstract: Source: US2013154846A System and method for deploying multiple antennas in an array configuration with unobstructed electromagnetic access to a formation outside of a casing, sequencing the transmitted signal to control the direction of transmission into the formation, receiving the reflected signals, and locating the position of the reflection based on the scanned transmission signal orientation and the direction of the received signal. Such a deployment of an antenna array with unobstructed electromagnetic access to the formation outside of the casing, sequencing of the interrogation signal, and analysis of the received signal relative to the transmitted signal direction form the basis for reflection image rendering as the transmitted signal is scanned by a sequenced stimulus signal.

Probable Assignee: MANGIONE MICAH THOMAS

Earliest Publication Date: 20130620



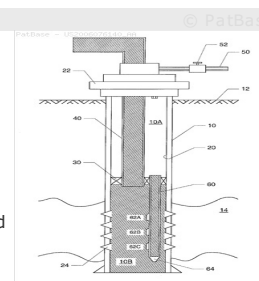
47) Family number: 32813202 (US2006076140A)

GAS LIFT APPARATUS AND METHOD FOR PRODUCING A WELL

Abstract: Source: US2006076140A A gas lift system is provided for use in unloading a fluid from a perforation interval of a subterranean well to facilitate producing gas from a gas-bearing formation. The system may include a packer having dual ports, a tubing string running from the surface to the packer for producing the well, and an injection tool extending below from the packer into the perforation interval. The injection tool may include at least one gas lift valve for injecting gas into the perforating interval of the well. It is emphasized that this abstract is provided to comply with the rules requiring an abstract, which will allow a searcher or other reader to quickly ascertain the subject matter of the technical disclosure. It is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims.

Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

Earliest Publication Date: 20060413



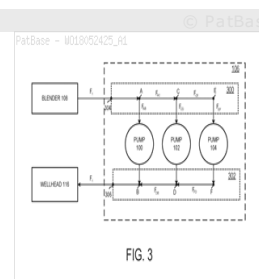
48) Family number: 68953498 (WO18052425A1)

PRESSURE PUMP BALANCING SYSTEM

Abstract: A system may include multiple strain gauges and multiple position sensors positioned on multiple pressure pumps. The strain gauges may measure strain in chambers of the pressure pumps. The position sensors may measure positions of rotating members of the pressure pumps. One or more computing devices may be communicatively couplable to the strain gauges and the position sensors to determine an adjustment to a flow rate of fluid through at least one pump using a strain measurement and a position measurement for the at least one pump such that a timing of changes in composition of the fluid delivered to into a first manifold at an input for the pressure pumps matches the timing of the changes in composition of the fluid delivered from a second manifold at an output for the pressure pumps.

Probable Assignee: HALLIBURTON CO

Earliest Publication Date: 20180322



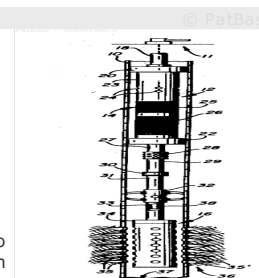
49) Family number: 9296435 (US4372384A)

WELL COMPLETION METHOD AND APPARATUS

Abstract: Source: US4372384A Method and apparatus for completing a highly unconsolidated formation located downhole in a cased borehole in one trip. A tool string is run downhole into the borehole on the end of a tubing string. The tool string includes a perforator, a gravel packing tool, and a packer means. The gravel packing tool includes a removable mandrel and a sand screen. The casing is perforated by running a gun firing device down through the tubing string and mandrel, and the well is free flowed to clean up the perforated formation. The sand screen is next positioned near the perforations and the packer means employed at each end of the screen to straddle and pack-off the perforated pay zone. The mandrel is then manipulated to form an isolated flow path which extends from the surface of the ground into the annulus behind the screen, and then back uphole from the screen to the casing annulus located between the tubing string and the casing, so that gravel admixed with fluid can flow down the tubing string into the screen annulus where the gravel separates from the fluid. The carrier fluid returns through the screen, back up through the tool string, into the casing annulus, and to the surface of the ground. The tool string is left downhole in the borehole as a permanent completion device. Produced fluid flows through the perforations, through the gravel and sand screen, and back uphole through the tubing string.

Probable Assignee: HALLIBURTON CO

Earliest Publication Date: 19820322



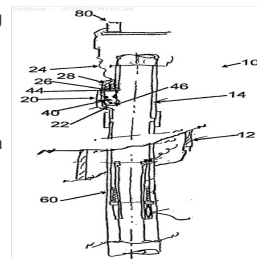
50) Family number: 30397087 (US2003234110A)

DOCKABLE DIRECT MECHANICAL ACTUATOR FOR DOWNHOLE TOOLS AND METHOD

Abstract: Source: US2003234110A The present invention provides an improved system and method for performing a desired operation at a remote location in a wellbore. The system is composed of a downhole docking station assembly and a detachable downhole tool assembly. The downhole tool assembly includes electrically operated means to move in the wellbore and an end work device to perform the desired work. The downhole tool can also include an imaging device to provide pictures of the downhole environment and various sensors. Data from the downhole tool is communicated to a surface computer, which controls the operation of the tool and displays pictures of the tool environment. The downhole tool detaches itself from the docking station, travels to the desired location in the wellbore and performs a predefined operation according to programmed instruction. The downhole tool returns and connects to the docking station, where it transfers data relating to the operation and can be recharged for further operation. Various attachments for the downhole tool assembly can be stored and selectively retrieved for downhole locations.

Probable Assignee: HALLIBURTON CO

Earliest Publication Date: 20031225



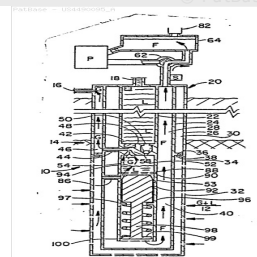
51) Family number: 2011063 (US4490095A)

OILWELL PUMP SYSTEM AND METHOD

Abstract: Source: US4490095A A method, system and apparatus is disclosed for pumping liquid from a well such that vapor lock of the pump cannot occur due to gas or steam and such that the pump strokes only in response to the production rate of well liquid. The pump can be used for lifting heavy oils heated by steam floods or the like as well as for pumping liquids from conventional wells. Reduced pump wear, reduced energy requirements, reduced maintenance and the automatic adaption to changing well production rates are among the objects of this invention.

Probable Assignee: SODERBERG RES AND DEV

Earliest Publication Date: 19830526



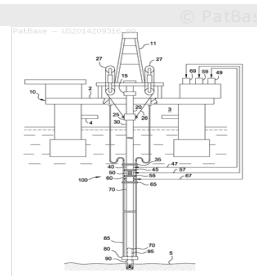
52) Family number: 57084692 (US2014209316A)

RISER FLUID HANDLING SYSTEM

Abstract: Source: US2014209316A A fluid handling system comprising an annular sealing device and a flow control system to divert fluid flow from an annulus of a riser package to a control system located on a rig. A method of installing a fluid handling system on a riser package from a rig comprises connecting the fluid handling system to an upper end of a riser string, supporting the fluid handling system and the riser string using a first tubular handling device, and lowering the fluid handling system and the riser string to an operating position.

Probable Assignee: ROWAN COMPANIES INC

Earliest Publication Date: 20140731



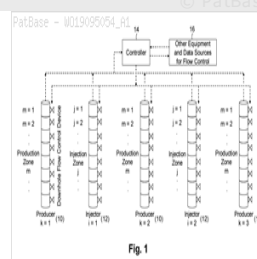
53) Family number: 74435315 (WO19095054A1)

ENHANCING HYDROCARBON RECOVERY OR WATER DISPOSAL IN MULTI-WELL CONFIGURATIONS USING DOWNHOLE REAL-TIME FLOW MODULATION

Abstract: The technology generally relates to control strategies for multi-well systems for conducting water disposal or hydrocarbon recovery from subterranean reservoirs, such as methods and systems for real-time fluid flow monitoring and control in response to breakthrough events with reallocation of fluid flows.

Probable Assignee: PAMBAN ENERGY SYSTEMS CANADA INC

Earliest Publication Date: 20190517



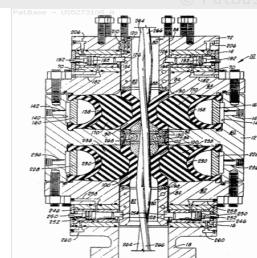
54) Family number: 11399754 (US5273108A)

CLOSURE APPARATUS FOR BLOW OUT PREVENTION

Abstract: Source: US5273108A Blow-out prevention apparatus consisting of a body housing having upper and lower annular chambers opening on an axial bore that provides communication into the wellbore. First and second toroidal-type packers are then arrayed around each of the upper and lower annular chambers, and an insert packer cylinder including upper and lower sleeve packers is disposed within the axial bore with upper and lower sleeve packers adjacent respective first and second toroidal packers. Upon emergency activation, the first and second toroidal packers are expanded inward to force the upper and lower sleeve packers inward thereby closing off the axial bore. An injector is then actuatable to provide rapid injection of a viscous plugging agent into the central void between the upper and lower sleeve packers.

Probable Assignee: PIPER OILFIELD PRODUCTS INC

Earliest Publication Date: 19931228



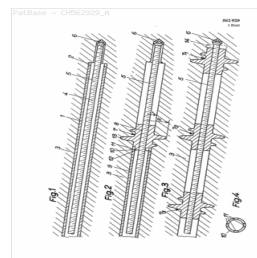
55) Family number: 1430468 (CH562929A)

GROUND ANCHOR WITH TENSION ROD AND ANCHOR PLATES - HAS CENTRAL ROD ONTO WHICH PLATES ARE SCREWED

Abstract: Source: CH562929A The ground anchor is placed into a hole in the ground bored by a tubular borer and the threaded tension rod is pushed into the hole through this borer tube. The tension rod has at its end a boring head so that this rod proceeds into the ground beyond the end of the boring tube. Subsequently the boring tube is pulled out of the ground and the first anchoring plate (7) is screwed into the hole by means of an actuating tube (9). This tube has at its front end a number of steps for engaging with the anchor plate. The anchor plate screw thread has the same pitch as the tension rod and the anchor plate screw thread cuts into the ground and form a firm connection. A number of such anchoring plates can be screwed on the tension rod. The anchor is removed by unscrewing the anchor plates. A permanent anchor is made by pressing concrete around the anchor rod and plates.

Probable Assignee: STUMP BOHR AG

Earliest Publication Date: 19750613



56) Family number: 1700284 (DE2810621A1)

VORRICHTUNG ZUM LUFTHEBEBOHREN REVERSE FLUSHING DRILL PIPE - WITH AIR PASSAGE VALVE ACTUATED BY HYDROSTATIC DRILLING FLUID PRESSURE

Abstract: Source: DE2810621A1 Vorrichtung fuer Bohrgestaenge, insbesondere Doppelwand Bohrgestaenge, zum Lufthebebohren mit einer Luftleitung und einem im Weg zwischen dieser und dem die hochsteigen de Spuelung fuehrenden Gestaengehohlraum angeordneten Ven til, gekennzeichnet durch wenigstens ein in Abhaengigkeit vom Druck der im Bohrloch ausserhalb des Gestaenges (1, 50) befindlichen Fluessigkeit betaetigbares Luftdurchlass-Off-nungsventil (11; 51). A string of double-walled drill pipes for use in the reversed flushing has an annulus between inner and outer pipe for the supply of compressed air and the inner cross-section for the rising mixt. of drilling mud and air. An air passage valve to connect the annulus with the inner cross-section is spring loaded and responds to the hydrostatic pressure of the fluid between the drill pipes and the borehole wall. This makes it possible to inject air into the central cross-section at the desired depth up to the maximum injection pressure without having to raise the string of pipes.

Probable Assignee: WIRTH CO MASCH BOHR KG

Earliest Publication Date: 19790913

