C. J. DEVER.

PUMP JACK.

APPLICATION FILED SEPT. 30, 1920.

1,387,364.

Patented Aug. 9, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

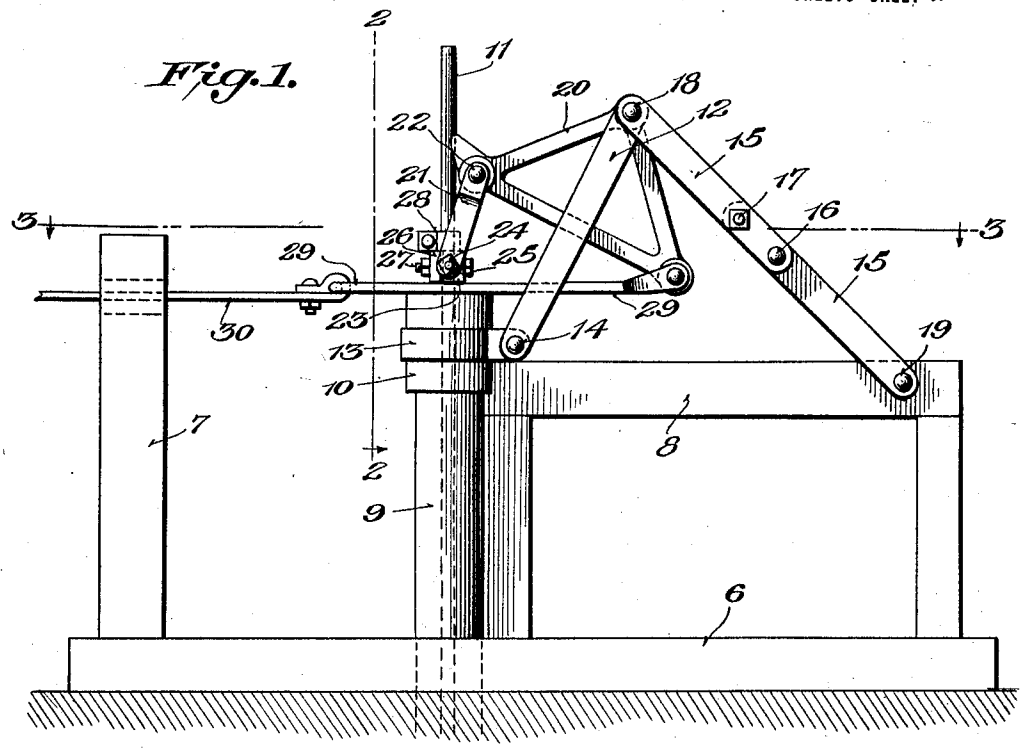
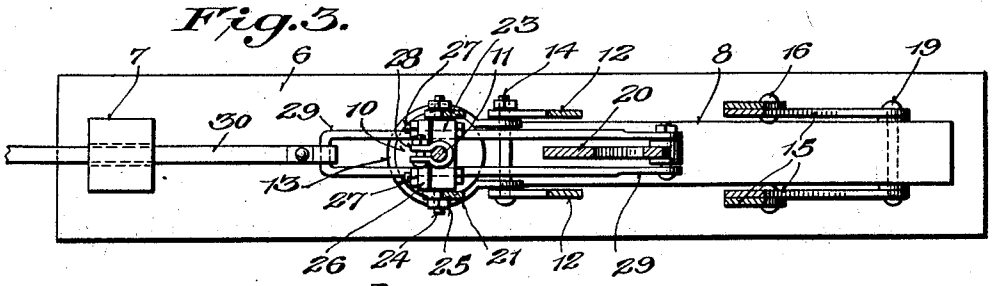


Fig. 3.



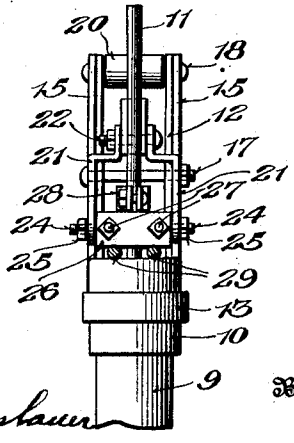


Fig. 2.

WITNESS:—

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2 SHEETS—SHEET 2.

Fig. 4.

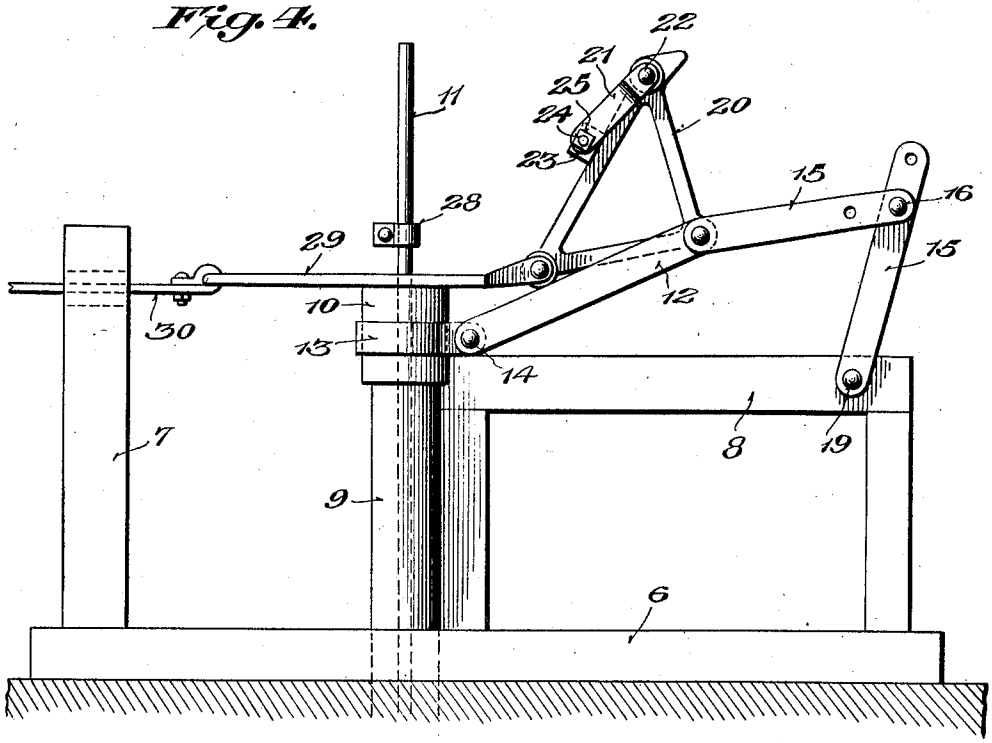
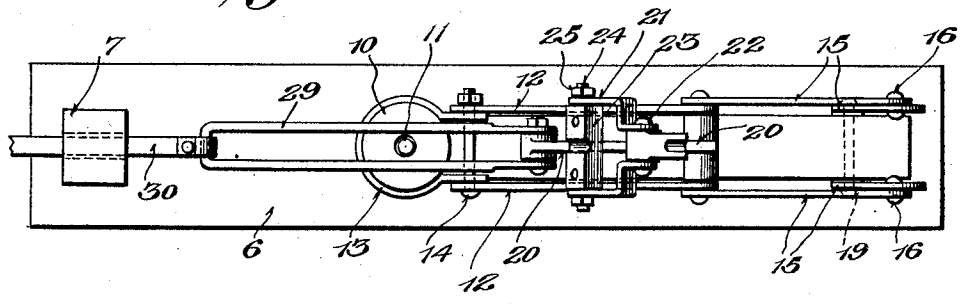


Fig. 5.



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UNITED STATES PATENT OFFICE.

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PUMP-JACK.

1,387,364. Specification of Letters Patent. Patented Aug. 9, 1921.

Application filed September 30, 1920. Serial No. 413,704.

To all whom it may concern:

Be it known that I, CHRISTY J. DEVER, a citizen of the United States, residing at Clinton, in the county of Custer and State of Oklahoma, have invented certain new and useful Improvements in Pump-Jacks, of which the following is a specification, reference being had therein to the accompanying drawings.

It is an object of this invention so to arrange a pump-jack that the means for operating the pump-rod may easily and quickly be moved out of operating position when it is desired to pull the rod out of the well-casing or to perform other operations with which the operating means would interfere.

It also is an object of the invention to provide an efficient and simple means for operating the pump-rod.

When read in connection with the description herein, the details of construction and arrangement of parts contemplated by the invention will be apparent from the accompanying drawings, forming part hereof, wherein an embodiment of the invention is disclosed, for purposes of illustration.

While the disclosures herein exemplify what now is considered to be a preferable embodiment of the invention, it is to be understood that it is not the intention to be limited necessarily thereto in interpretation of the claims, as modifications and adaptations within the limits of the claims can be made without departing from the nature of the invention.

Like reference-characters refer to corresponding parts in the views of the drawings, of which—

Figure 1 is a side elevation, the parts being in working position;

Fig. 2 is an end view, as seen when looking in direction of the arrow, Fig. 1;

Fig. 3 is a sectional view on the line 3—3, Fig. 1;

Fig. 4 is a side elevation, the parts being in withdrawn position; and

Fig. 5 is a top view.

Having more particular reference to the drawings, 6 designates a sill constituting a support for parts hereinafter described, 7 a post or standard extending upwardly from one end portion of the sill, 8 framework or other suitable support mounted on the other end portion of the sill, and 9 the upper end portion of a well-casing extending through the sill and having the usual head-cap 10 thereon formed with a passageway in which reciprocates the usual pump-rod 11.

For supporting the means for reciprocating the pump-rod, the invention provides a substantially V-shaped frame.

One side of this frame is formed of two substantially parallel struts 12, which are swingably mounted at their lower ends. As shown in the drawings, one suitable means of mounting the struts 12 at their lower ends includes a strap 13 disposed around the head-cap 10, and a bolt 14 extending through the struts and the terminal portions of the strap.

The other side of the V-shaped frame is formed of two substantially parallel two-part struts 15. The parts of the struts overlap about midway between the ends of the struts, and they are swingably connected in any suitable manner, as by rivets 16. At a place eccentric of the pivotal connection of the parts of the struts 15, a bolt or pin 17 extends through the overlapped portions and holds the struts in substantially straight position.

The upper ends of the struts 12 and 15 are connected by a bolt or pin 18 disposed therethrough, and the lower end portions of the struts 15 are swingably connected with the framework 8 by fastenings 19.

A substantially triangular beam 20 is rockably mounted at its apex between the struts 12 and 15 on the bolt or pin 18 at the apex of the V-shaped frame, and one of its end portions extends toward the pump-rod and the other in the opposite direction.

Arms 21 are swingably connected by a fastening 22 to, and depend from, the end of beam 20 adjacent to the pump-rod. A member 23 of a clamp has terminal journals 24 extending through the arms 21, the journals being held in the arms by nuts 25. Another member 26 of the clamp is held by bolts 27 against the member 23, and the pump-rod extends between the two clamp members. Above the clamp, the pump-rod is fitted with an abutment, such as a clamp 28, which may be adjusted to different positions on the rod, and against which the clamp 23—26 operates.

Means for rocking the beam 20 are connected with the end thereof opposite to the

pump-rod. In the present embodiment of the invention, that means includes a link 29 connected to the end of the beam and having its sides disposed over the head-cap 10 and on each side of the pump-rod, and a rod 30 reciprocable in the post or standard 7 connected with the link.

Power for operating the pump-rod is applied to the rod 30. When the link 29 is drawn toward the post or standard 7, the beam 20 is rocked and the end adjacent to the pump-rod is raised, the members 23 and 26 carried by the depending arms 21 are pulled against the abutment on the pump-rod, and that rod thereby is raised. The pump-rod recedes on movement of the rod 30 in the opposite direction. Thus, as the rod 30 is reciprocated, the pump-rod is reciprocated upwardly and downwardly.

When it is desired to move the operating means from position above or adjacent to the upper part of the well-casing, so that the pump-rod may be withdrawn from the casing or other operation performed, the clamp carried by the depending arms 21 is released from the pump-rod by removing the bolts 27, and the bolt or pin 17 in the struts 15 is removed. Then the struts 15 are broken at their pivotal joints and the parts swung to the position shown by Fig. 4, this movement withdrawing the beam and its associated parts from position adjacent to the well-casing. The parts may be restored to operative position by reversal of this process.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A pump-jack comprising struts swingably connected together at an apex and swingably mounted at their lower ends, one of said struts being of swingably-connected parts, means whereby said parts are releasably maintained in substantially straight position, an operating-beam rockably mounted at the apex of said struts, and means for connecting said beam with a pump-rod.

2. A pump-jack comprising a substantially V-shaped frame formed of a pair of struts at one side, a pair of struts swingably connected thereto at the apex formed of swingably-connected parts and having releasable means maintaining them in substantially straight position, said struts being swingably mounted at their lower ends, an operating-beam rockably mounted at the apex of said struts, and means for connecting said beam with a pump-rod.

3. In a pump-rod operating device, the combination of struts swingably connected together at an apex and swingably mounted at their lower ends, one of said struts being of swingably-connected parts and having releasable means maintaining them in substantially straight position, an operating-beam rockably mounted at the apex of said struts, arms swingably connected with said beam, and a member pivotally mounted on said arms arranged to engage a pump-rod.

In testimony whereof I affix my signature.

CHRISTY JOHNSON DEVER.