

No. 696,749.

Patented Apr. 1, 1902.

C. F. RIGBY.
GUIDE FOR OIL WELL PUMP RODS.

(Application filed Sept. 11, 1901.)

(No Model.)

Fig. 1.

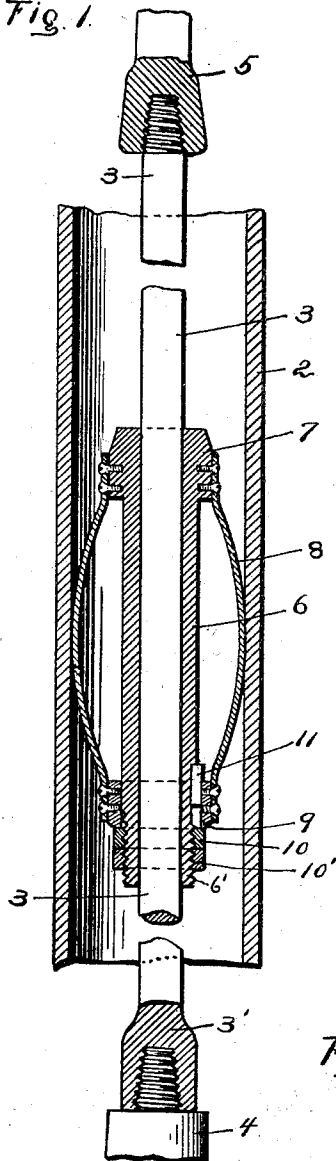


Fig. 2.

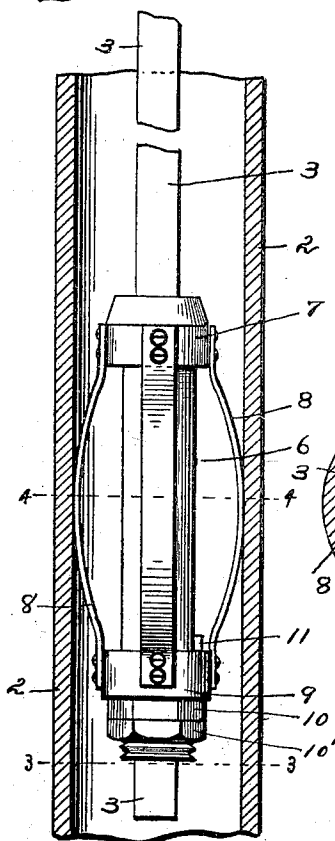


Fig. 4.

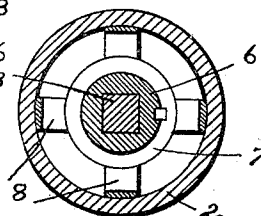
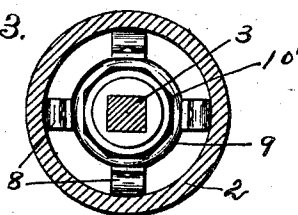


Fig. 3.



WITNESSES:

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CLARK F. RIGBY, OF NEW MARTINSVILLE, WEST VIRGINIA.

GUIDE FOR OIL-WELL-PUMP RODS.

SPECIFICATION forming part of Letters Patent No. 696,749, dated April 1, 1902.

Application filed September 11, 1901. Serial No. 75,036. (No model.)

To all whom it may concern:

Be it known that I, CLARK F. RIGBY, a citizen of the United States, residing at New Martinsville, in the county of Wetzel and State of West Virginia, have invented certain new and useful Improvements in Guides for Oil-Well-Pump Rods, of which the following is a specification, reference being had therein to the accompanying drawings.

In operating oil-well pumps by means of wire or other cables the great length of cable connecting the walking-beam and pump twists on the downstroke and untwists on the upstroke, causing the vertically-reciprocating pump or pump-plunger to constantly and rapidly rotate, causing it to wear rapidly and reducing or destroying its efficiency. Also in this twisting and untwisting there is considerable lost motion, as the length of cable is constantly varying. Up to the present time strings of sucker-rods have been more generally used than cables for operating deep-well pumps; but with these also there is a tendency to turn or twist, resulting not infrequently in the rods parting, necessitating expensive fishing operations.

The present invention is designed to obviate these difficulties and to render the operation of pumping more certain and effective by providing means for holding the pump-actuating means from rotating or twisting without interfering with its vertical reciprocations.

The invention consists in the novel features of construction, and in the combination and arrangement of parts hereinafter fully described and claimed, and illustrated by the accompanying drawings, wherein—

Figure 1 is a vertical sectional view of my improvement in position in a well-tube. Fig. 2 is a side elevation of the same. Fig. 3 is an inverted plan view of the same on line 3 3 of Fig. 2. Fig. 4 is a cross-sectional view on line 4 4 of the same figure.

Referring to the drawings, 2 represents a portion of a well-tube, and 3 a rod angular in cross-section and of greater length than the stroke of the pump or pump-plunger 4, a portion of the latter being shown in Fig. 1 and uniting with the lower enlarged end 3' of the rod. The upper end of the rod unites with socket 5, to which the pumping-cable is se-

cured, or to the lower extremity of a string of rods, (not shown,) if rods are employed.

Loosely mounted on rod 3, so that the latter may reciprocate therethrough, is tubular body 6, having an angular bore or passage corresponding to the rod and at its upper end formed with head 7, to which are secured the upper ends of the outwardly-bowed leaf-springs 8. The lower ends of the springs are secured to head 9, vertically adjustable on body 6 by means of nut 10, operative on the lower threaded end 6' of the body. A lock-nut 10' may be provided for nut 10. Head 9 is prevented from turning by spline 11. Upward movement of head 9 increases the outward bow of springs 8, and a reverse adjustment reduces the same, as will be understood. By this means the springs are caused to bear with a greater or less pressure against the inner surface of tube 2, gripping the same in such manner as to prevent rotation of rod 3 and the actuating means coupled thereto, whether a cable or rods.

Before the pump is inserted in the well the holding device is positioned on rod 3 and adjusted as required. Then as the pump is lowered it is forced downward through the tubing by being engaged by the socket or rod coupled to the upper end of rod 3 and in this manner brought to position immediately above the permanent position of the pump. When the pump is removed, the enlarged lower end of rod 3 engages and lifts the holding device from the tubing. With the opposite ends of the springs drawn inward the device may be thus readily inserted and removed.

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

1. Means for holding deep-well pumps from rotating comprising a body having a vertical passage-way, said passage-way being of such form as to prevent rotation of the pump-rod which reciprocates therethrough, and tube-impinging springs projecting laterally from said body, said springs being of sufficient strength to resist rotation of the pump-actuating mechanism and pump.

2. Means for holding deep-well pumps from rotating comprising a body having a vertical passage-way, said passage-way being of such

form as to prevent rotation of the pump-rod which reciprocates therethrough, and elongated outwardly-bowed springs secured at their ends to the body, said springs being adapted to impinge the well-tube and resist rotation of the pump-actuating mechanism and pump.

3. Means for holding deep-well pumps from rotating in the well-tubing comprising a device adapted to frictionally engage the interior surface of the tube, said device having a vertical passage-way of such form as to prevent rotation therein of the pump-rod which reciprocates therethrough, and means for varying the frictional engagement of said device with the tube.

4. In a device of the character described, the combination of a deep-well-pump-actuating rod angular in cross-section, an elongated body having an angular passage through which the rod reciprocates, said body being threaded at one end, elongated outwardly-bowed tube-impinging springs secured at one end to the body, a non-rotatable head slidable over the threaded portion of the body and to which the opposite ends of the springs are se-

cured, and a nut adjustable on the body for securing the said head, substantially as shown and described.

5. In a device of the character described, the combination of a pump-actuating rod angular in cross-section, a body having an angular passage through which the rod reciprocates, a resilient tube-impinging device carried by the body and adapted to be projected laterally by being contracted, and means for contracting said device, substantially as shown and described.

6. The combination of a rod adapted to be interposed between a deep-well pump and its actuating means, an elongated non-rotatable body through which the rod is adapted to reciprocate, outwardly-bowed leaf-springs secured at one end to the body, and a head vertically adjustable on the body to which the opposite ends of the springs are secured.

In testimony whereof I affix my signature in presence of two witnesses.

CLARK F. RIGBY.

Witnesses:

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C. W. JOHNSON.