(No Model.)

M. TURTON.

GRIP FOR POLISHED PUMP RODS.

No. 520,716. Patented May 29, 1894.

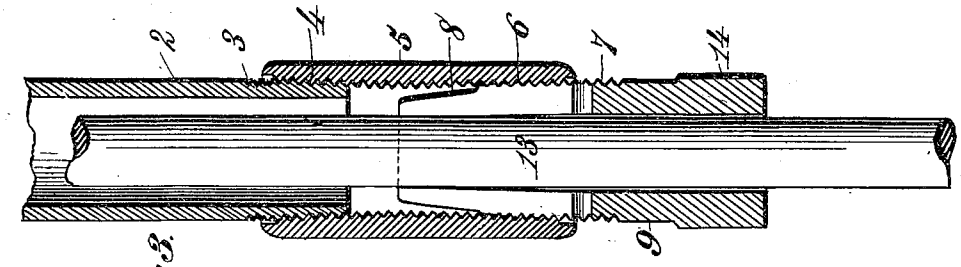

Fig. 3.

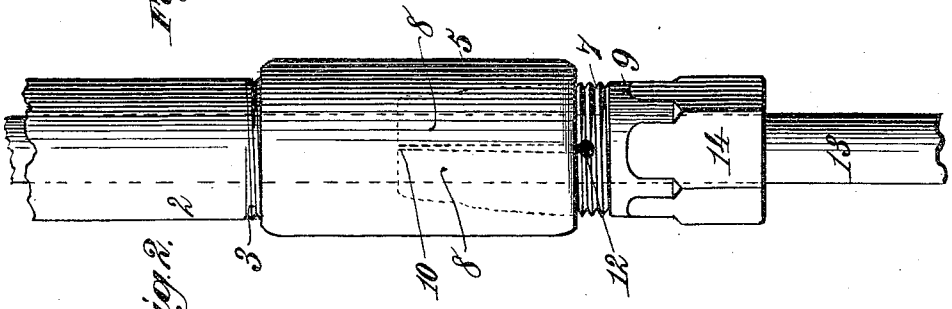

Fig. 2.

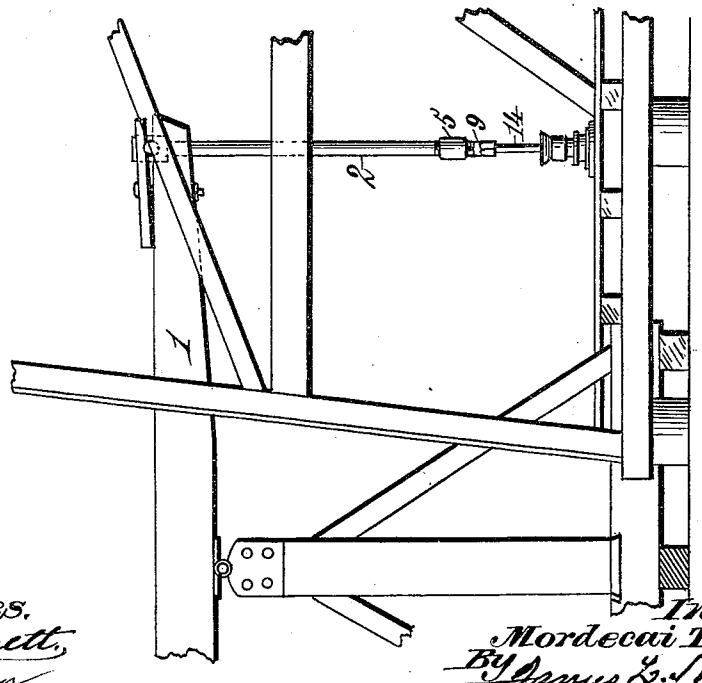

Fig. 1.

Witnesses.
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MORDECAI TURTON, OF JERRY CITY, OHIO.

GRIP FOR POLISHED PUMP-RODS.

SPECIFICATION forming part of Letters Patent No. 520,716, dated May 29, 1894.

Application filed January 8, 1894. Serial No. 496,078. (No model.)

To all whom it may concern:

Be it known that I, MORDECAI TURTON, a citizen of the United States, residing at Jerry City, in the county of Wood and State of Ohio, have invented new and useful Improvements in Grips for Polished Pump-Rods, of which the following is a specification.

This invention relates to pumping mechanism for oil and other wells wherein a polished pump rod, connected with a walking-beam, is susceptible of adjustment through the medium of grip devices, as in my Letters-Patent dated April 1, 1890, and January 20, 1891, numbered respectively 424,837 and 445,100.

The objects of my present invention are to provide novel, simple, durable, and efficient means for adjusting the polished rod in the well tubing; and to avoid the employment of the swivel joints and the lock nuts of the former devices, whereby the construction is more economical while the requisite strength for the purpose required is obtained.

To accomplish these objects my invention consists essentially in the combination with a walking-beam, of a tube pivotally mounted at its upper end on the beam, and having a screw-threaded lower end, a sleeve having its upper end screwed to the threaded part of said tube and provided in its lower end with a tapering screw-threaded socket, a polished rod running through the sleeve and tube, and a plug having a head at its lower end and formed integral at its upper end with a series of upwardly projecting, elastic, tapering jaws provided with screw threads on their tapering surfaces which engage the tapering screw-threaded socket in the lower end of the sleeve, for clamping the polished rod.

The invention is illustrated by the accompanying drawings, in which—

Figure 1 is a side elevation of sufficient of a pumping mechanism to enable my invention to be clearly understood. Fig. 2 is a detail side elevation; and Fig. 3 is a detail sectional view taken vertically through the tube, sleeve, and plug.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates the walking-beam of an ordinary pumping-rig, and 2 a tube pivotally connected at its upper end with the walking-beam and provided at its lower end with an external screw-thread 3 engaging a screw-threaded socket 4 in the upper end of a cylindrical sleeve 5 which is preferably of forged iron, and of the requisite thickness to secure suitable strength. The lower end of the sleeve 5 is provided with a tapering screw-threaded socket 6 to receive the screw-threads 7 on the surface of a series of tapering elastic jaws 8 formed by slotting a plug 9 from the point 10 to or about the point 12, whereby the tapering screw-threaded jaws are formed integral with the plug. The plug is formed with a central longitudinal bore through which the polished rod 13 extends, which rod also extends into the pendent tube 2. The plug 9 is provided with an angular head 14 to receive a wrench by which the plug can be screwed into or out of the tapering screw-threaded socket in the lower end of the sleeve 5, for the purpose of causing the elastic jaws 8 to grip or release the polished rod 13. I prefer to construct the plug 9 with an angular head 14 to receive a wrench for the purpose of rotating the plug to screw it into or out of the sleeve; but, obviously the plug may be otherwise constructed to render it susceptible of being rotated by any suitable instrument or device. The angular head is preferable, in that it avoids the necessity of drilling lateral holes therein to receive a special instrument for rotating the plug. The screw-threaded socket in the upper end portion of the sleeve 5 may be of uniform diameter to secure greater strength at the point of connection between the sleeve and the pendent tube 2; but the screw-threaded socket in the lower end of the sleeve gradually increases in diameter from near the center to the lower end of the sleeve, whereby a tapering form is imparted to the screw-threaded socket, in such manner that when the plug is rotated in the direction to screw it into the sleeve the elastic jaws 8 will be compressed, and caused to firmly grip the polished rod.

By the means described it is possible to quickly and conveniently adjust the polished rod according to the conditions required. An important feature of the construction resides

in the fact that the swivel joints and the lock-nuts heretofore employed are dispensed with and the gripping devices are materially simplified and rendered more economical in construction, while obtaining the requisite strength required for the connection between the walking-beam and the polished-rod.

By my improved construction I avoid casting any part of the gripping devices, and therefore do not require molds for this purpose. The sleeve 5 is preferably forged from iron, and this gives it the necessary strength.

The bore through the adjustable plug is smooth and cylindrical, so that it is possible to axially rotate the polished rod within the plug. By causing the tapering screw-threaded socket of the sleeve to directly engage the screw threads on the surfaces of the clamping jaws, the latter are caused to grip the polished rod in a very effective manner.

In the practical use of my invention it is advisable to construct the tube 2 about nine feet in length more or less, with the parts so arranged that the grip-plug will lie about three feet more or less above the derrick floor, thus enabling the polished rod to be adjusted vertically by a person standing on the derrick floor, and avoiding the necessity of climbing upon the walking beam, for the purpose of adjusting the rod, as is essential in those constructions where the adjusting grips are swiveled on the walking beams.

Having thus described my invention, what I claim is—

The combination with a walking beam, of a tube pivotally mounted at its upper end on the beam and having a screw-threaded lower end, a sleeve having its upper end screwed to the threaded part of said tube and provided in its lower end with a tapering screw-threaded socket, a polished rod running through the sleeve and tube, and a plug having a head at its lower end and formed integral at its upper end with a series of upwardly-projecting, elastic, tapering jaws provided with screw-threads on their tapering surfaces which engage the tapering screw-threaded socket in the lower end of the sleeve, for clamping the polished rod, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

MORDECAI TURTON. [L. S.]

Witnesses:

HARMAN L. ORR,

G. W. CUPP, Jr.