

(No. Model.)

T. G. LANEY.
PUMPING MECHANISM FOR OIL WELLS.

No. 448,573.

Patented Mar. 17, 1891.

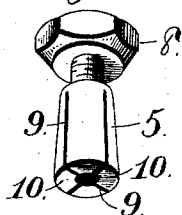
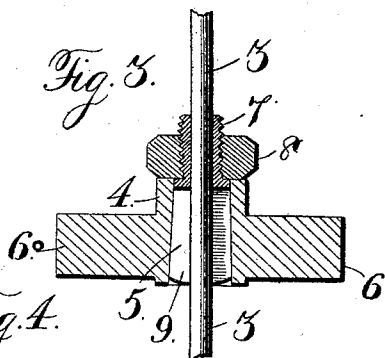
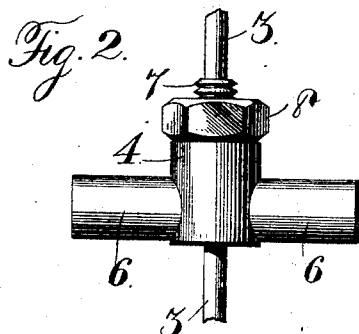
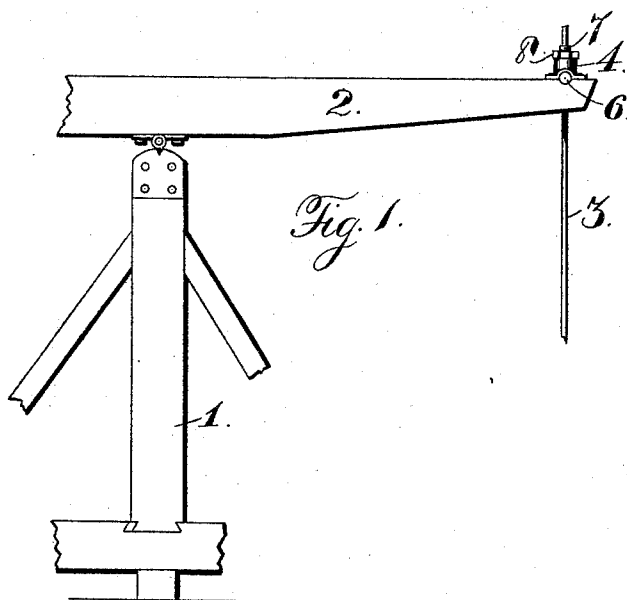


Fig. 5.



Witnesses:
Jas. C. Hutchinson.
James A. Rutherford.

Inventor.
Thomas G. Laney.
By James L. Norris.
Attorney.

UNITED STATES PATENT OFFICE.

THOMAS G. LANEY, OF LIMA, OHIO, ASSIGNOR OF ONE-HALF TO MORDECAI
TURTON, OF SAME PLACE.

PUMPING MECHANISM FOR OIL-WELLS.

SPECIFICATION forming part of Letters Patent No. 448,573, dated March 17, 1891.

Application filed December 24, 1890. Serial No. 375,698. (No model.)

To all whom it may concern:

Be it known that I, THOMAS G. LANEY, a subject of the Queen of Great Britain, residing at Lima, in the county of Allen and State of Ohio, have invented new and useful Improvements in Pumping Mechanism for Oil-Wells, of which the following is a specification.

This invention relates to pumping mechanism for oil-wells; and it has for its object to provide novel, simple, and efficient means for adjusting the polish-rod lengthwise to secure the correct action of the valves at the bottom of the well, whereby cutting of the rod is rendered unnecessary and slipping, bending, marring, or defacing of the same are entirely avoided, while the rod can be conveniently and rapidly adjusted lengthwise in the well-tubing.

To accomplish this object my invention involves the features of construction, the combination or arrangement of devices, and the principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a detail side elevation showing a portion of a pump rig with my invention applied thereto. Fig. 2 is a side elevation of my improved grip, showing a portion of the polish-rod extending therethrough. Fig. 3 is a vertical central sectional view of the same. Fig. 4 is a detail perspective view of the split gripping-plug with its adjusting-nut in position thereupon. Fig. 5 is a transverse sectional view of the same.

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 samson-post, and 2 the walking-beam, which actuates the polish-rod 3 of an ordinary pumping rig.

In practice it is desirable to adjust the pump-rod lengthwise to avoid cutting it and to prevent the valves from striking at the bottom of the well-tubing, and to effect this lengthwise adjustment of the pump-rod I employ a grip, which is composed of a sleeve 4, having its internal caliper tapering from end to end, and a gripping-plug 5, which is corre-

spondingly tapered and fitted to the interior of the sleeve. The sleeve 4, as here shown, is provided with oppositely-projecting journals or supports 6, carried by the walking-beam in any suitable manner, the gripping-plug being formed with an internal cylindrical orifice for the passage of the polish-rod and with an externally-screw-threaded stem or shank 7 for an adjusting screw-nut 8. The plug is split on radial lines, as at 9, to form a series of spring-fingers 10, which in cross-section, Fig. 5, are segmental in shape and extend from the inner end or base of the screw stem or shank, leaving the latter solid or unsplit. The tapering plug accurately fits the interior of the sleeve, so that the screw stem or shank projects above the upper end of the sleeve for the reception of the screw-nut, which can come to a bearing against the sleeve for the purpose of moving the tapering plug lengthwise in the latter to compress the elastic or spring fingers and cause them to grip the polish-rod, which extends centrally through the plug. If the screw-nut be turned in one direction, the tapering plug is drawn upwardly in the sleeve, and the spring-fingers are caused to grip the polish-rod, while if the screw-nut be turned in the opposite direction the weight of the pump-rod will tend to draw the tapering plug downward and relieve the gripping action thereon, which obviously permits the pump-rod to be adjusted lengthwise as occasion demands.

The journals or supports of the sleeve permit the proper movement of the walking-beam for the purpose of reciprocating the pump-rod, and in practice the latter connects by rod-sections with the sucker at the bottom portion of the well, as is usual in oil-pumping mechanism.

By the construction of grip described the pressure is uniform upon the polished surface of the pump-rod, and consequently there is no danger of bending the latter by the action of the grip, and, furthermore, the gripping action is such as to entirely prevent slipping of the pump-rod or marring or defacing its polished surface.

I have illustrated my invention as applied to the walking-beam of an oil-pumping rig;

but I do not confine myself to this particular arrangement, for obviously other uses of the improved grip will readily suggest themselves to those skilled in the art.

5 I prefer to provide the sleeve with lateral journals for use in connection with a walking-beam or other support; but I do not confine myself to the sleeve having lateral journals or supports.

10 Having thus described my invention, what I claim is—

1. The combination, with a sleeve having a longitudinal tapering bore, of a shank having a tubular tapering gripping-plug comprising
15 elastic fingers carried by and moving with the tubular shank, and means for adjusting the latter lengthwise for causing the elastic fingers to grip a rod extending through the plug, substantially as described.

20 2. The combination, with the sleeve provided with oppositely-projecting journals or supports and having a tapering bore or interior caliber, of a tapering gripping-plug fitting the sleeve, having radial slits to form elastic fin-
25 gers and provided with a screw-threaded stem or shank projecting above or beyond one end

of the sleeve, and a screw-nut engaging the stem or shank and adapted to bear against the sleeve for the purpose of adjusting the plug lengthwise and causing its spring-fin- 30 gers to grip or release a rod extending centrally through the plug, substantially as described.

3. In an oil-pumping rig, the combination, with the walking-beam and the polished rod, 35 of the internally-tapered sleeve having journals or supports mounted on the beam, a tapered gripping-plug arranged in the sleeve and slitted radially to form spring-fingers and having a shank or stem projecting beyond 40 one end of the sleeve, and means engaging the shank or stem for moving the gripping-plug lengthwise and causing its spring-fingers to grip or release the polished pump-rod, substantially as described. 45

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

THOS. G. LANEY. [L. S.]

Witnesses:

J. A. VENELL,

C. C. BLACKMAN.