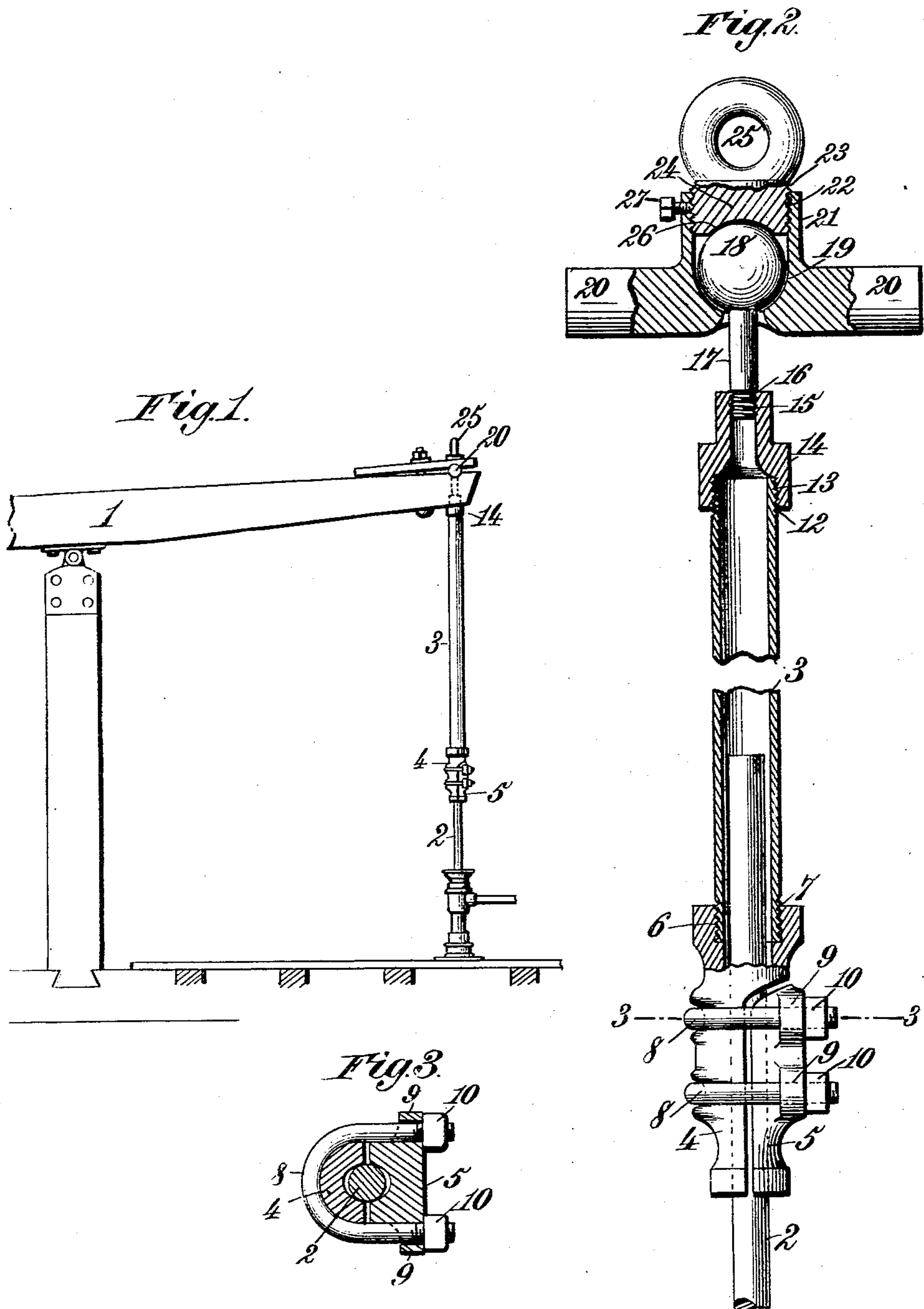


(No Model.)

T. G. LANEY.
POLISH ROD ADJUSTER.

No. 560,101.

Patented May 12, 1896.



Witnesses.
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UNITED STATES PATENT OFFICE.

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POLISH-ROD ADJUSTER.

SPECIFICATION forming part of Letters Patent No. 560,101, dated May 12, 1896.

Application filed March 5, 1896. Serial No. 581,932. (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 Polish-Rod Adjusters, of which the following is a specification.

This invention relates to that type of polish-rod-adjusting devices wherein the upper end of the rod enters and is adjustably clamped to the lower end of a pipe or tube connected at its upper end with a cross-head which is journaled or trunnioned to the walking-beam of an oil-well-pumping mechanism, for example, as in Letters Patent No. 445,100, issued January 20, 1891.

In the class of devices referred to the polish-rod is lengthwise adjustable and is axially rotatable for the purpose of removing the paraffin, as stated in the patent referred to.

The objects of my invention are to improve the devices of the character referred to, and to provide novel, simple, efficient, durable, and economical means for connecting the polish-rod with the walking-beam in such manner that the polish-rod can be conveniently rotated axially and adjusted longitudinally, while at the same time the parts which connect the polish-rod with the walking-beam are susceptible of being quickly assembled together and connected for practical operation and disconnected or separated if occasion therefor should arise.

To accomplish these objects my invention consists in the features of construction and in the combination or arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a detail side elevation showing my invention applied to the walking-beam of an oil-well-pumping mechanism. Fig. 2 is a longitudinal central sectional view of the same; and Fig. 3 is a sectional view taken on the line 3 3, Fig. 2.

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 oil-well-pumping mechanism, and 2 the usual polish-rod of the pump. The polish-

rod enters the lower end of a suspended pipe or tube 3 and is rigidly connected therewith through the medium of a clamp carried by the lower end of the pipe or tube and composed of two detachably-connected sections 4 and 5, between which the polish-rod is adapted to be clamped, so that the rod can be adjusted lengthwise and then be rigidly connected with the pipe or tube, so that if the latter be axially rotated the polish-rod will also be axially rotated. The section 4 of the clamp is constructed at its upper end with a screw-threaded socket 6, in which the lower screw-threaded end 7 of the pipe or tube is screwed. The section 5 of the clamp is adapted to be clamped in operative connection with the section 4 and the polish-rod 2 through the medium of a pair of clamping-yokes 8, which embrace the clamp-section 4, pass through perforated ears 9 on the clamp-section 5, and are provided with screw-threaded nuts 10, adapted to be tightened or loosened to hold or release the polish-rod.

The bore through the clamp is formed by providing each clamp-section with a channel or groove approximately semicircular in cross-section, but struck from a radius different from the polish-rod, so that the latter can be more firmly and rigidly clamped in position by tightening the screw-nuts of the clamping-yokes.

The upper end of the pipe or tube 3 is provided with an external screw-thread 12, which screws into the internal screw-thread 13 in the lower end of a coupling or socket 14, which is provided in its upper end with an internal screw-thread 15, engaging the screw-threaded lower end 16 of a spindle or stem 17. The spindle or stem is formed integral at its top portion with a ball or sphere 18, which seats into a semispherical ball-socket 19, formed centrally in a cross-head having two journals or trunnions 20 extending in opposite directions, and adapted to be journaled upon the walking-beam.

The cross-head may be formed in one or two parts, but, as shown in the drawings, it is composed of a single casting comprising the journals or trunnions 20 and a central upwardly-projecting tubular extension 21, having an internal screw-thread 22, with which engages the external screw-thread 23 of a plug

24, having an eye 25. The lower end of the plug 24 is constructed with a concavity 26 to accurately fit the upper side portion of the ball or sphere 18, the construction of the several parts being such as to provide a ball-and-socket connection between the pipe or tube and the walking-beam. The journals or trunnions 20 of the cross-head enable the walking-beam to oscillate, as usual, while the polish-rod remains perpendicular, or approximately so, and this result is facilitated by the ball and socket. The ball and socket enable the pipe or tube to be axially rotated for the purpose of axially rotating the polish-rod to remove the paraffin, as usual.

The screw-threaded plug 24 can be adjusted to compensate for wear of the ball and ball-seat, and after the desired adjustment of the plug is effected it can be locked in a fixed position through the medium of a set-screw 27 passing through the tubular extension 21 and engaging the screw-threaded part of the plug.

The clamp, composed of the sections 4 and 5, is detachably connected with the lower end of the pipe or tube 3, and this tube or pipe is detachably connected with the spindle or stem 17 of the ball 18 through the medium of the screw-threaded coupling or socket 14, and since the plug 24 is removable and replaceable it will be obvious that the several parts which connect the polish-rod with the walking-beam can be conveniently and quickly connected and disconnected whenever occasion demands.

The simplicity of the parts which serve to connect the polish-rod with the walking-beam is an important feature of my invention. The construction is simple and economical, and the parts can be readily assembled to operatively connect the polish-rod with the walking-beam, while enabling the polish-rod to be rotated axially and adjusted longitudinally.

Having thus described my invention, what I claim is—

1. The combination of a cross-head having journals or trunnions and provided internally between the journals or trunnions with a ball-seat, a rotatable ball arranged in said ball-seat and provided with a spindle which rotates with said ball, a clamp-support connected with the spindle and rotating with said spindle and ball, and a polish-rod adjustable longitudinally in the clamp and rotatable axially with the clamp, the clamp-support, the spindle, and the ball, substantially as described.

2. The combination of a cross-head having journals or trunnions and an internal ball-seat, a rotatable ball arranged in said ball-seat and provided with a spindle which rotates with said ball, a pipe connected with

the spindle and axially rotatable therewith, a clamp mounted on the lower end of and rotating with the pipe, and a polish-rod adjustable lengthwise in the clamp and axially rotatable with said clamp, the pipe, the spindle and the ball, substantially as described.

3. The combination of a cross-head having journals or trunnions and an internal ball-seat, a rotatable ball arranged in said ball-seat and provided with a spindle which rotates with said ball, a pipe connected with the spindle and axially rotatable therewith, a clamp mounted on the lower end of and rotating with the pipe, a polish-rod adjustable lengthwise in the clamp and axially rotatable with the clamp, the pipe, the spindle, and the ball, and a plug adjustable in the cross-head and having a concavity to fit the ball, substantially as described.

4. The combination of a cross-head having journals or trunnions, and an internal ball-seat, a ball arranged in the ball-seat and having a spindle or stem, a screw-threaded plug engaging the cross-head and having a concavity to fit the ball, a pipe or tube connected with the spindle or stem of the ball, and a clamp mounted on the pipe or tube for lengthwise adjusting a polish-rod, substantially as described.

5. The combination of a cross-head having journals or trunnions and an internal ball-seat, a rotatable ball arranged in the ball-seat and having a spindle rotating with said ball, a coupling or socket detachably engaged with the spindle and rotating therewith, a pipe detachably engaged with the coupling or socket and turning with the same, a sectional clamp mounted on the lower end of and rotating with the pipe, and a polish-rod lengthwise adjustable in the clamp and axially rotating with said clamp, the pipe, the spindle, and the ball, substantially as described.

6. The combination of a cross-head having journals or trunnions, and an internal ball-seat, a ball arranged in the ball-seat and having a spindle or stem, a plug adjustably fitted into the cross-head to bear against the ball, a coupling or socket screwed into the spindle or stem, a pipe or tube screwed into engagement with the coupling or socket, and a clamp composed of two detachably-connected sections for receiving and lengthwise adjusting the polish-rod of a pump mechanism, substantially as described.

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

THOMAS G. LANEY.

Witnesses:

WM. STEWART,
W. T. COPELAND.