No. 801,408. PATENTED OCT. 10, 1905.

F. SMEED.

PUMPING JACK.

APPLICATION FILED NOV. 28, 1904.

2 SHEETS—SHEET 1.

FIG. 1.

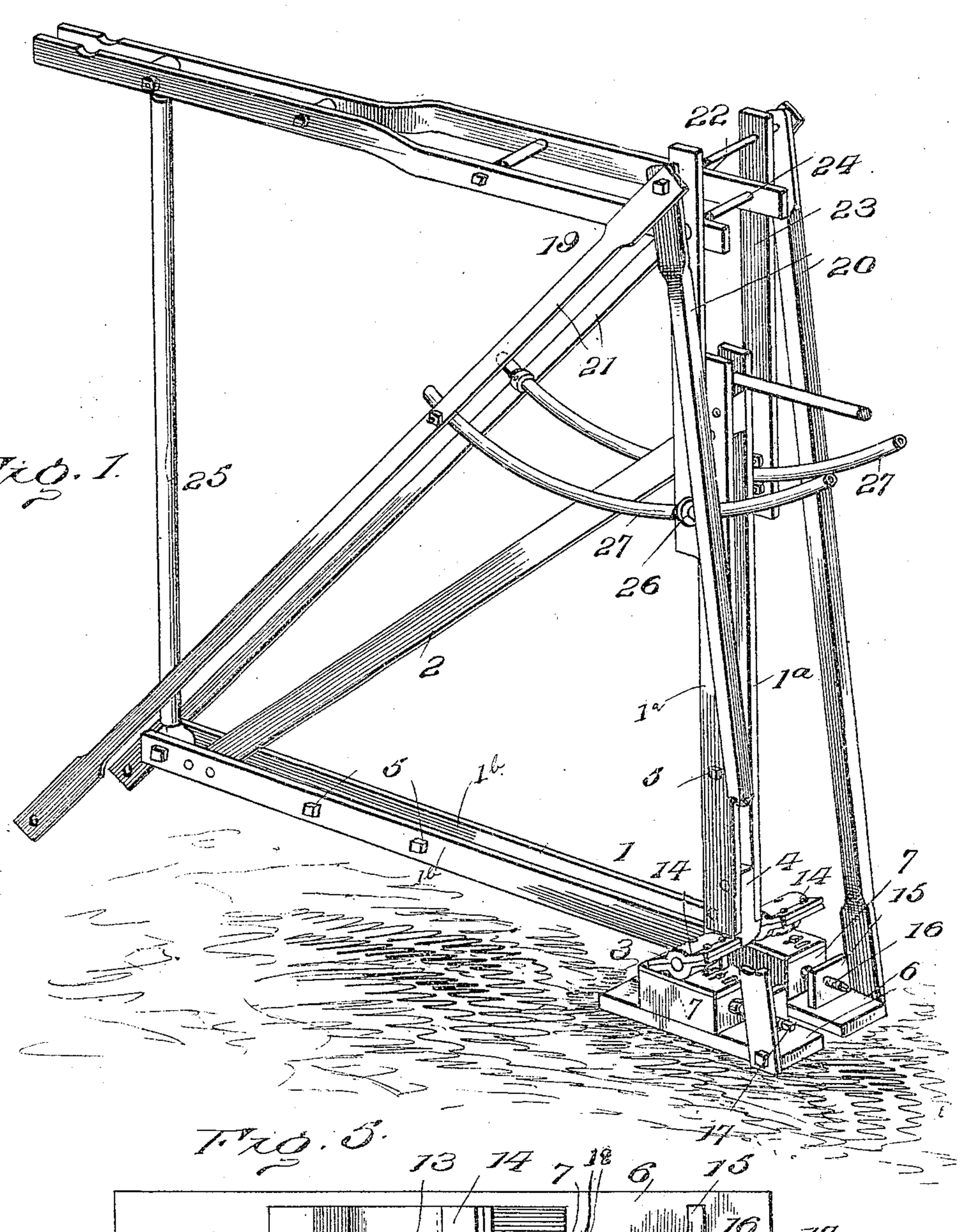
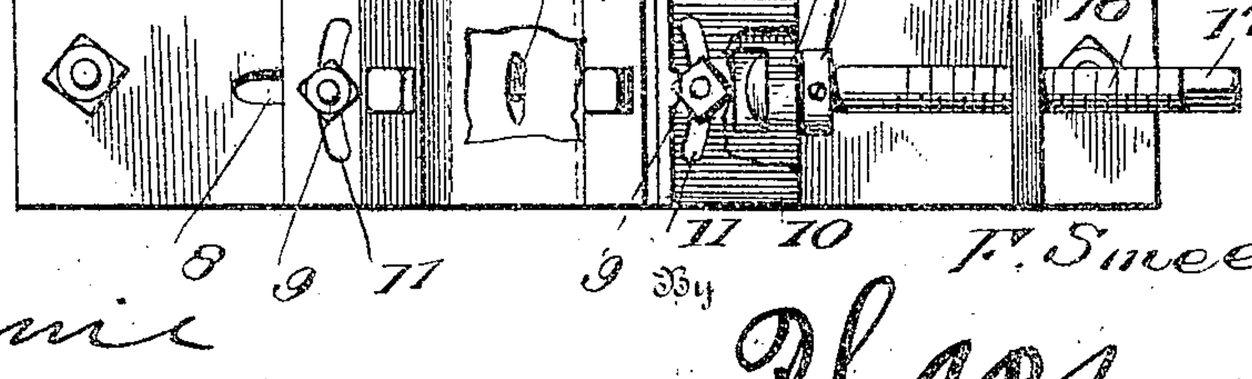


FIG. 3.



Witnesses

W. T. Woodson

Inventor

F. Smeed

By Shaw & Macy. Attorneys

No. 801,408. PATENTED OCT. 10, 1905.

F. SMEED.

PUMPING JACK.

APPLICATION FILED NOV 28, 1904.

2 SHEETS—SHEET 2.

Fig. 2

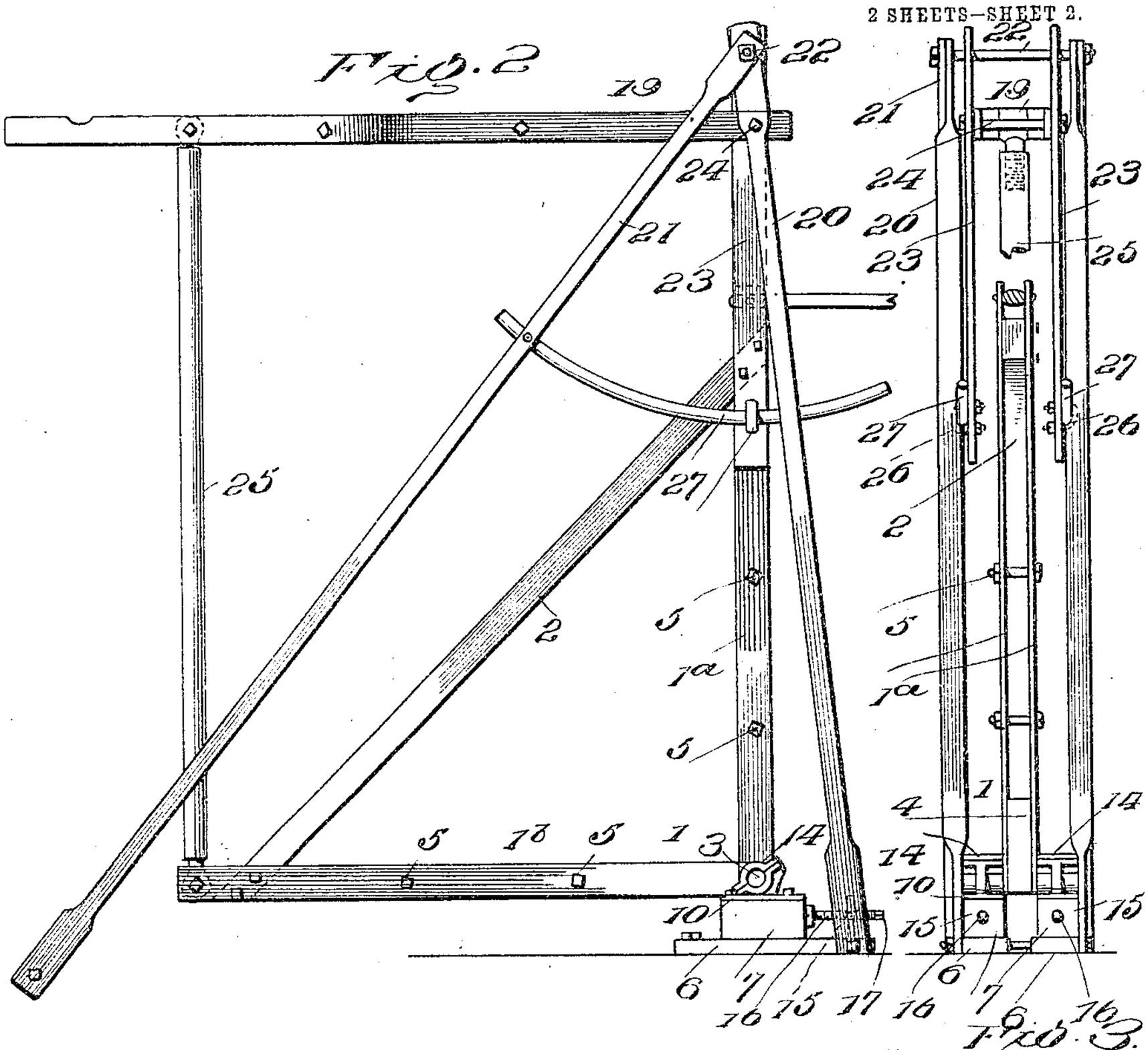


Fig. 3.

Fig. 6

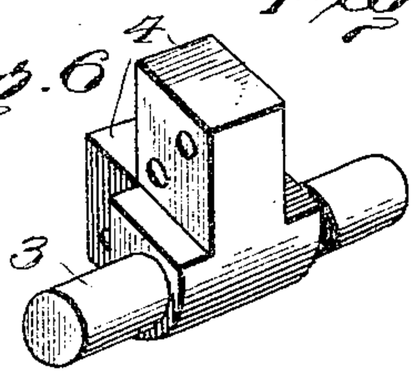
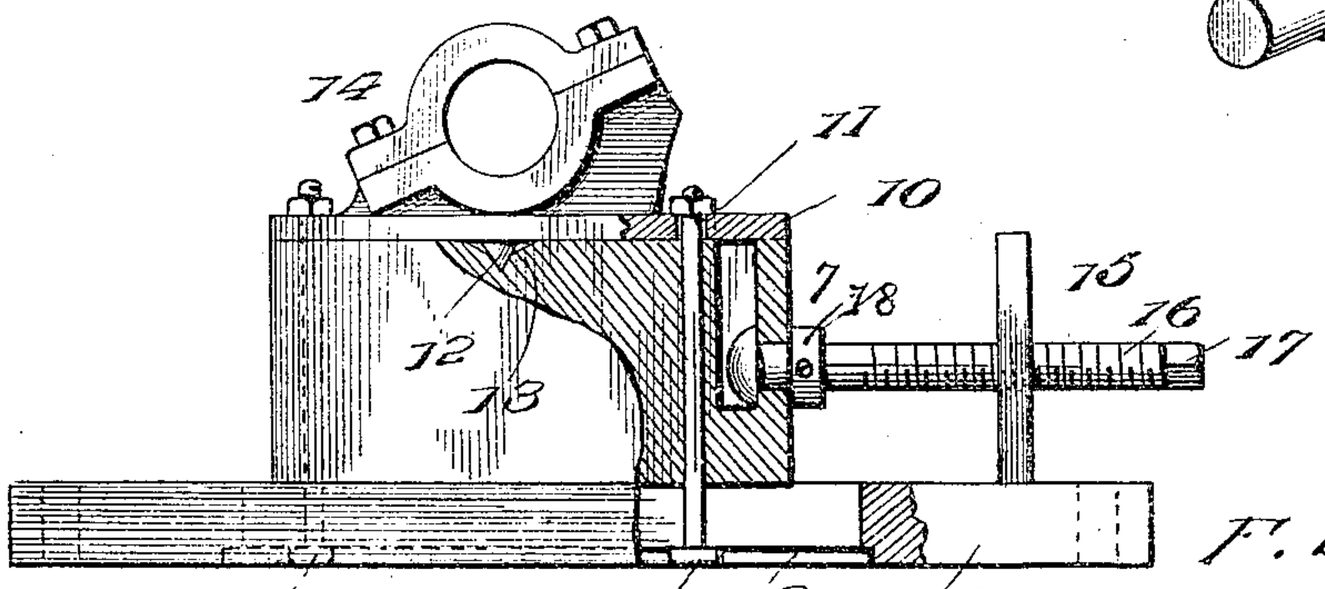


Fig. 4.



Witnesses

H. A. Woodson

Inventor

F. Smeed

By

Thos. O. Lacey. Attorneys

UNITED STATES PATENT OFFICE.

FOREST SMEED, OF BRADNER, OHIO.

PUMPING-JACK.

No. 801,408. Specification of Letters Patent. Patented Oct. 10, 1905.

Application filed November 28, 1904. Serial No. 234,598.

To all whom it may concern:

Be it known that I, FOREST SMEED, a citizen of the United States, residing at Bradner, in the county of Wood and State of Ohio, have invented certain new and useful Improvements in Pumping-Jacks for Oil-Wells, of which the following is a specification.

This invention provides novel improvements in pumping-jacks of the type especially designed for oil-wells.

The essential feature of the invention resides in the provision of peculiar mountings for the jack and walking-beam operated thereby, admitting of adjustment of these parts to a nicety both with reference to each other and the well-pumping mechanism.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment of the invention is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a device embodying the essential features of the invention. Fig. 2 is a side elevation of the invention. Fig. 3 is an end elevation. Fig. 4 is an enlarged sectional view of the base to which the jack is fulcrumed and one of the bearing-blocks mounted thereon. Fig. 5 is a plan view showing the several parts illustrated in Fig. 4. Fig. 6 is a detail perspective view of the shaft which carries the jack.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

In carrying out the invention the pumping-jack 1 in general structure is of the usual bell-crank form, consisting of spaced vertical bars 1^a and spaced horizontal bars 1^b, said bars 1^a and 1^b being connected at remote ends by means of a brace 2, suitably secured between the bars. The jack is mounted upon a shaft 3, from which extend lugs or members 4, the latter projecting at approximately a right angle to each other and situated at a point about intermediate the ends of the shaft. The near ends of the bars 1^a and 1^b of the jack are rigidly secured to the lugs 4 of the shaft 3 upon opposite sides of said lugs by means of suitable bolts or fastenings. The bars 1^a are connected at points between the ends thereof by means of bolts 5 or like devices. The jack 1 is mounted upon spaced bearing-blocks 7, which receive thereon the ends of the shaft 3. The bearing-blocks 7 are disposed upon spaced supporting-plates 6, the latter being secured to the base or foundation in any suitable manner. The blocks 7 are movable longitudinally of the plates 6, said plates being provided with longitudinal slots 8, which receive bolts 9, securing the blocks 7 to the plates. The bolts 9 may be moved longitudinally of the slots 8 in adjusting the blocks 7 upon which they are secured, and the said bolts not only secure the blocks 7 to the plates 6, but also attach a movable bearing-plate 10 to each of the respective blocks 7 above mentioned. The bearing-plates 10 are likewise movable upon the blocks 7 carrying the same, such movement being admitted of because of the provision of arcuate slots 11 in the end portions of the plates 10, which slots 11 receive the upper ends of the bolts 9 aforesaid. Each plate 10 has projected from its under side a lug 12, which is received in a recess 13 in the upper side of the block 7 adjacent, and this lug 12 reinforces the bolts 9, which attach the plate 10 to the block, the lugs 12, however, admitting of a circular or pivotal adjustment of the plates 10, from which it is extended. Each of the bearing-plates 10 constitutes the lower member of the bearing which receives the shaft 3, upper bearing-plates 14 being also provided, the same being secured to the plates 10 by bolts or screws.

Projecting upwardly from one end of each supporting-plate 6 is an integral rigid member 15, and mounted in this member is an adjusting-screw 16, square at one end, as shown at 17, to receive a wrench, crank, or similar turning device, the opposite end of the screw 17 being provided with a head received upon the interior of the block 7 adjacent and having a swivel connection with the

said block. A set-collar 18 coöperates with the head of the screw 16 to secure the swivel connection of the latter with the block 7 with which it coöperates. Adjustment of each screw 16 will impart longitudinal movement to the block to which it is connected, and the blocks 7 are thus adapted to be adjusted with relation to each other in order to likewise adjust the jack 1.

The bearing-plates 10 have a longitudinal adjustment, as before mentioned, so that the jack may be moved so as to occupy a position at an angle to the supporting-plates 6, if desired. When the blocks 7 are in transverse alinement, the bearing of each block is likewise in such alinement. However, it will be understood that the blocks 7 may be positioned so that one is in advance of the other when it is necessary to aline bearings of each block by the pivotal adjustment of the respective plate 10 carried thereby.

A walking-beam 19 is utilized in connection with the jack, and this beam is supported by a framework consisting of spaced uprights 20 and diagonal braces 21, secured at their upper ends to the uprights 20 by means of a transverse bolt 22 or like part. Supported by the transverse member 22 are spaced hangers 23, which latter are pivoted at their upper ends to the member 22. The beam 19 consists also of spaced bars bent laterally between their ends, so as to be separated at a greater distance at their rear ends than at the front ends thereof. The beam 19 is pivoted at its rear end between the hangers or pivot-supporting members 23, as shown at 24, and the front end portion of the beam 19 is connected with the front ends of the spaced bars 1^b of the jack 1 by means of a pitman or rod 25. The other extremity of the beam 19 is connected with the pumping mechanism in the usual manner.

The pull-rod by which the jack 1 is actuated is preferably connected with the jack at the upper end portions of the bars 1^a thereof, and when the jack is actuated or rocked by the pull-rod the beam 19 will likewise be raised and lowered in a manner apparent to those versed in the art to which this invention relates. As has been before described, the fulcrum of the jack is adjustable, both longitudinally or at an angle to the base members upon which it is mounted, and it is designed further to permit adjustment of the beam 19 with reference to the pumping mechanism to which it is connected. The adjustment of the beam 19 is secured by the provision of the hangers or supporting members 23, the latter being pendent from the transverse member 22 and adapted for pivotal movement. The lower ends of the hangers 23 are provided with clips 26, and these clips 26 are adapted to receive curved bars 27, rigidly attached to the braces 21 of the framework. The clips 26 may be adjusted so as to fix the position of the hangers at any desired adjustment in the length of the bars 27, said clips being adapted to positively clamp the hangers to the bars 27 in adjusted positions. The front end of the beam 19 may thus be moved forwardly by adjusting the hangers 23 after the latter have been likewise moved forwardly along the bars 27, and a reverse adjustment of the parts would be secured by reverse movement, as will be obvious.

Having thus described the invention, what is claimed as new is—

1. In combination, a horizontal rigid bed, a jack pivoted thereto, means for adjusting the pivotal bearing of the jack longitudinally of the bed, and means for adjusting said bearing angularly.

2. In combination, a horizontal rigid support or bed, an extension projected upwardly therefrom, a block movably mounted upon the support, a bearing on said block, a jack pivoted in the bearing of the block aforesaid, and an adjusting-screw connecting the extension of the block for adjusting the latter.

3. In combination with a suitable support, spaced supporting-plates, a block mounted upon each of said plates, bearings on said blocks, a shaft mounted in the bearings of the blocks, a jack mounted upon said shaft, means for effecting longitudinal adjustment of the bearing-blocks, and means for adjusting the jack independently of the blocks aforesaid.

4. In combination with a suitable support, embodying supporting-plates, blocks adjustable lengthwise of the plates, adjusting-screws coöperating with said blocks, a bearing-plate mounted upon each block and adjustable in a horizontal plane, a shaft mounted upon the bearing-plates aforesaid, and a jack of bell-crank form carried by the shaft.

5. In combination with a suitable support, a jack fulcrumed to said support, a rigid framework, a walking-beam fulcrumed upon said framework, connecting means between the walking-beam and the jack, means for adjusting the fulcrum of the walking-beam, and means for adjusting the fulcrum of the jack.

6. In combination with a suitable support, a jack fulcrumed to said support, a rigid framework, a walking-beam fulcrumed in said framework, connecting means between the beam and jack, and means for shifting the fulcrum of the walking-beam aforesaid.

7. In combination with a suitable support, a jack fulcrumed to said support, a rigid framework, hangers carried by said framework, a walking-beam fulcrumed upon said hangers, connecting means between the walking-beam and the jack, and means for adjusting the position of the hangers to shift the fulcrum of the beam.

8. In combination, a support, a jack ful-

crumed to said support, a rigid framework, hangers pivoted to said framework, a walking-beam fulcrumed to said hangers, connecting means between the walking-beam and the jack, and means carried by the rigid framework for adjusting the position of the hangers to shift the fulcrum of the walking-beam.

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

FOREST SMEED. [L. S.]

Witnesses:
DANIEL STAHL,
CHARLES F. SMEED.