A. R. PETERS.

ELEVATOR FOR SUCKER RODS.

APPLICATION FILED FEB. 11, 1910.

976,910.

Patented Nov. 29, 1910.

2 SHEETS—SHEET 1.

Fig. 1

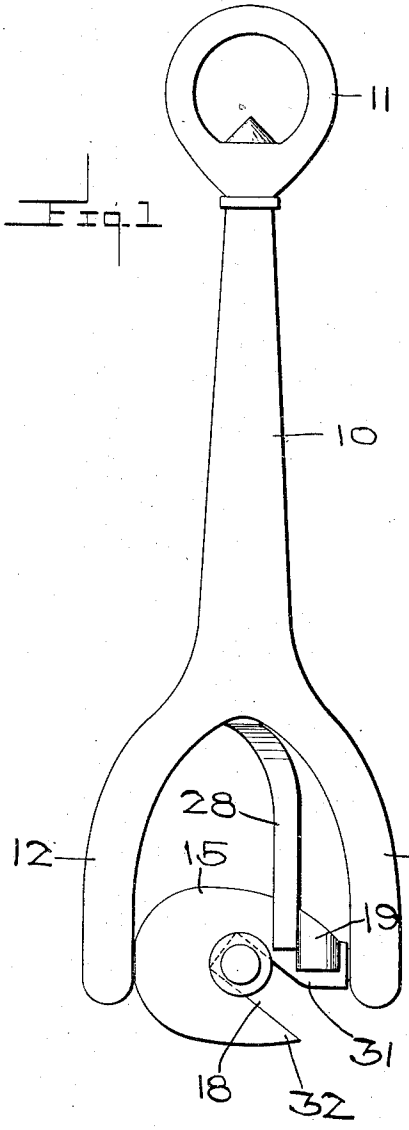
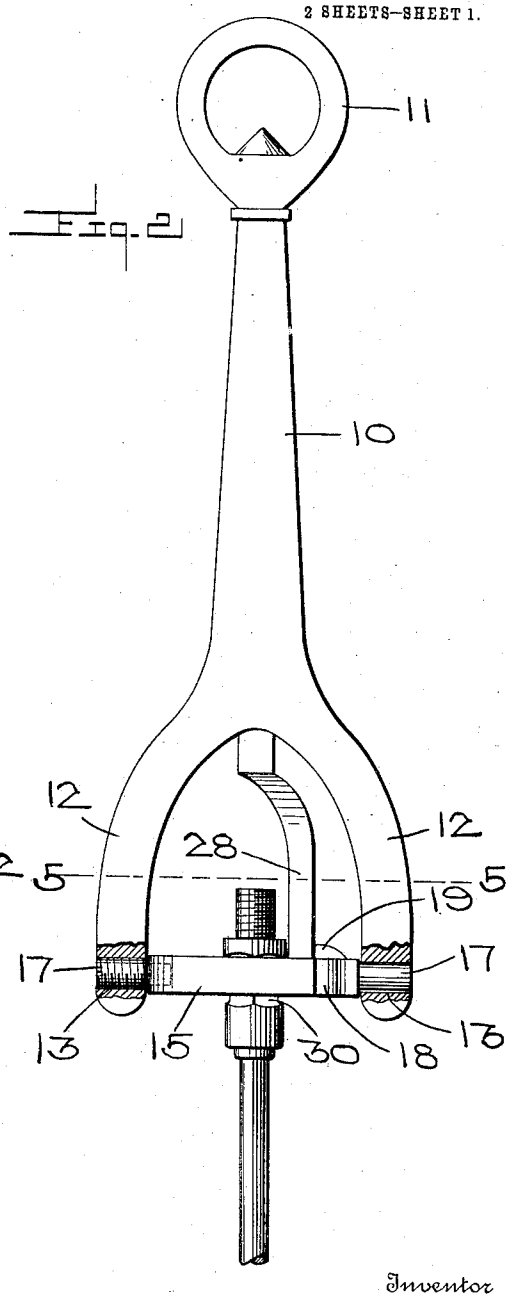


Fig. 2



Witnesses

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Fig. 3.

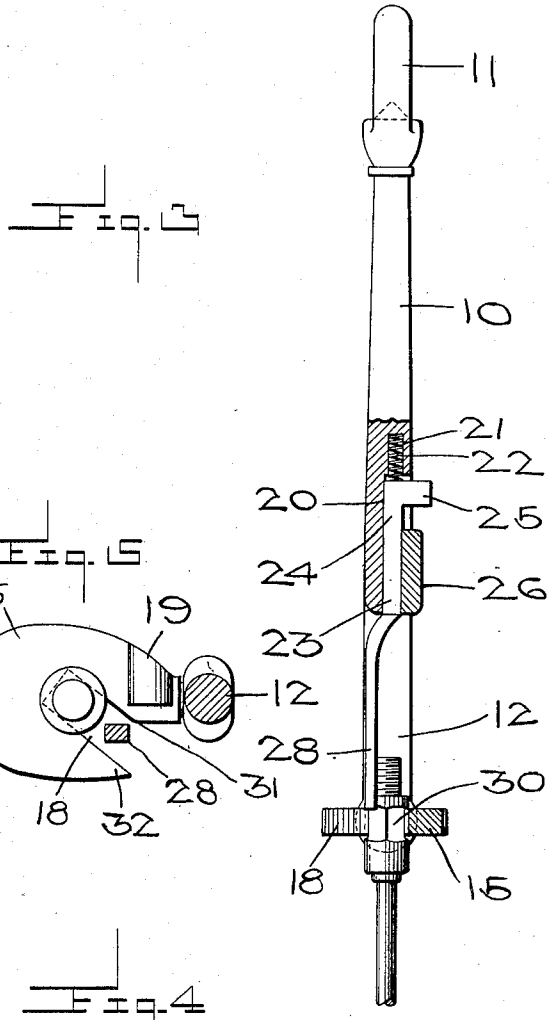
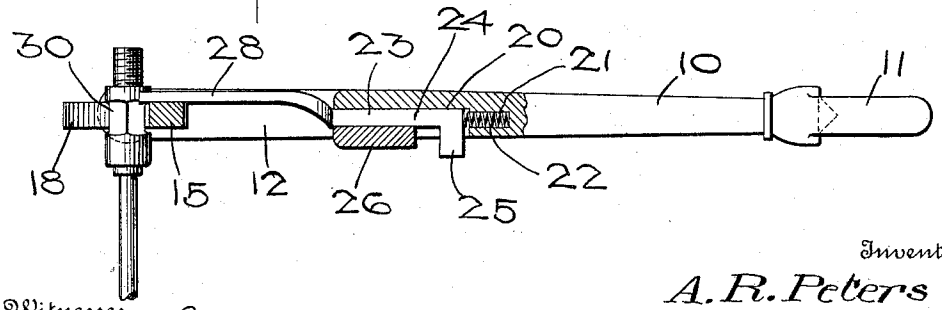


Fig. 5.

Fig. 4.



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UNITED STATES PATENT OFFICE.

ARCHIE R. PETERS, OF OCHELATA, OKLAHOMA.

ELEVATOR FOR SUCKER-RODS.

976,910. Specification of Letters Patent. Patented Nov. 29, 1910.

Application filed February 11, 1910. Serial No. 543,378.

To all whom it may concern:

Be it known that I, ARCHIE R. PETERS, a citizen of the United States, residing at Ochelata, in the county of Washington and State of Oklahoma, have invented certain new and useful Improvements in Elevators for Sucker-Rods, of which the following is a specification.

This invention relates to elevating devices for sucker-rods used in oil wells and the like, and has for its object to effect an improvement in devices of that type generally used.

A particular object is to provide a latch arranged for coöperation with the usual hook-shaped swiveled jaw member, whereby a sucker-rod may be securely locked therein with the jaw member in any position within its mounting.

Another very important object is to provide means for bracing the latch member against displacement during the initial lifting engagement of the elevator with the rod.

Another object is to provide a simple and economical form of construction for the elevator and a peculiarly formed socket carrying the latch member in such a manner as to interfere in a minimum degree with the operation of the device.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side view of the device in initial engagement with a sucker-rod, Fig. 2 is a similar view showing the device with a rod completely suspended therein, Fig. 3 is a longitudinal section transversely of the major plane of the device with the latch member fully retracted and in vertical position, Fig. 4 is a similar view with the latch and shank disposed horizontally, and laterally of an engaged rod, Fig. 5 is a sectional view on the line 5—5 of Fig. 2, showing the position of the latch member with respect to the slot 18.

Referring to the drawings, there is shown an elevator comprising the shank 10 having the swiveled suspending ring 11 at its upper end, the shank being cast integral and provided with the divergent furcations 12 at its lower end, in which there are formed suitable bearing openings 13, as shown. Extending horizontally between the extremities of the furcations 12, there is a hook-shaped jaw or wrench member 15, which comprises a major central portion ovate in form and having oppositely extending alined trunnions 17, disposed revolubly in the openings 13 of the shank. Opening upon one side of the member 15, there is a slot 18 extending diagonally with respect to the axis of the jaw member, its open end being spaced some distance laterally of the axis of the shank and of the jaw member. Formed upon the side of the jaw member adjacent the inner side of the slot, there is a lateral projection 19, the purpose of which will be subsequently indicated.

Formed in the side of the shank adjacent the bases of the furcations 12, there is a longitudinally extending slot 20, opening upon the side of the shank and through the inner end thereof between the furcations 12, from which a passage 21 is extended oppositely and longitudinally in the handle, being circumscribed by the handle and opening only into the slot 20. Seated in the passage 21, there is a protractile spring 22 bearing against the latch member 23 slidable in the slot, the latch member comprising an upper guiding portion 24 disposed slidably in the slot and provided with a lateral projection 25 projecting outwardly therethrough at its inner end. A retaining plate or block 26 is secured to the shank over the lower end of the slot, and serves as a check in engagement with the projection 25 to limit the outward movement of the latch member. The latch member is provided with a longitudinally extending finger 28 offset from the axis of the shank in a direction parallel to the major plane of the device, and also offset laterally of the major plane, for the performance of two peculiar functions which will be indicated. The finger 28 normally projects into the slot 18 when the jaw member extends transversely of the major axis of the device, and projects transversely thereacross when the jaw member is turned to lie in the major plane of the device. In the latter position the lug 19 is disposed snugly against the outer side of the finger 28 serving to firmly hold the finger against lateral displacement toward the outer end of the slot. When in either posi-

tion, the latch member may be operated. The latch member may be reciprocated to its fullest extent with the jaw member in either position, but it will be noted that when the jaw member is disposed horizontally or at right angles to the axis of the shank, movement of the latch member to the upper limit of its movement does not displace the outer end of the finger from closing engagement with the slot, the end of the finger lying flush with the plane of the upper surface of the jaw member and in a central position over the slot.

In use, the elevator being properly suspended from a suitable cable, the jaw member is turned to lie in a vertical plane, the slot thus being directed downwardly, and the device moved into position over the end of the sucker-rod to be elevated. The sucker-rod usually lies flat upon the ground when out of use, and with the device in a position previously described, the entrance to the slot may be presented against the usual angular neck portion 30, and by raising the latch member the neck may be moved slidably to the inner end of the slot, after which the latch is released, when the finger 28 will be projected over the slot, and supported by the lug 19 will sufficiently prevent the escape of the sucker-rod from the device when the lifting operation occurs. Upon the beginning of lifting of the rod, it will be seen that its tendency is to slide out of the slot, but as it is lifted farther and moved into vertical position its tendency to become disengaged is less by reason of its pulling directly transverse to the plane of the jaw member. The lifting device may then be swung over the well or other excavation into which the sucker-rod is to be lowered, and the lowering operation accomplished without difficulty. It will be observed that by the limiting of the upward movement of the latch, if, during the lowering operation, any obstruction should engage the latch, it cannot be entirely lifted out of position to prevent escape of the sucker-rod, as will be obvious. After the placing of the sucker-rod, when it is desired to remove the elevator, the shank is allowed to fall in horizontal position, after which the latch is dropped into releasing position and the jaw member moved transversely out of engagement with the sucker-rod.

It will be noted that one of the trunnions of the jaw member is detachable so that the device may readily be removed for replacement in case of damage. The formation of the slot in this device serves to form what may be termed two jaws, an inner one 31 and an outer one 32, as shown.

What is claimed is:

1. An elevator for sucker-rods comprising a body member having spaced supports, a transverse member revoluble therebetween and provided with spaced jaws adapted for embracing engagement with a sucker-rod, a projecting lug carried upon one side of the revoluble member, and a spring pressed latch member carried by the first named body member, said latch member having a finger offset from the axis of the first named body member and of the revoluble member, and adapted to project between the jaws of the revoluble member when in horizontal position and to be engaged outwardly by said lug for support against lateral displacement when said revoluble member is disposed in a vertical plane, and means for limiting the movement of the latch member as described.

2. An elevator for sucker-rods comprising a body member having spaced supports, a transverse member revoluble therebetween provided with spaced jaws extending diagonally with respect to its axis and adapted for embracing engagement with a sucker-rod, and a spring pressed latch member longitudinally reciprocal in the body member, said latch member having a finger offset from the axis of the first named body member and from the axis of the revoluble member, and adapted to project between the jaws of the revoluble member when in horizontal position, and to partially project across the space between the jaws when in vertical position, and means to check upward movement of the latch with the extremity of said finger immediately adjacent the plane of the revoluble member when in horizontal position.

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

ARCHIE R. PETERS.

Witnesses:
BURT STURM,
ALEX HENDRICKS.