(No Model.)

L. VAUGHAN.

SUCKER ROD ELEVATOR.

No. 456,071. Patented July 14, 1891.

Fig. 1.

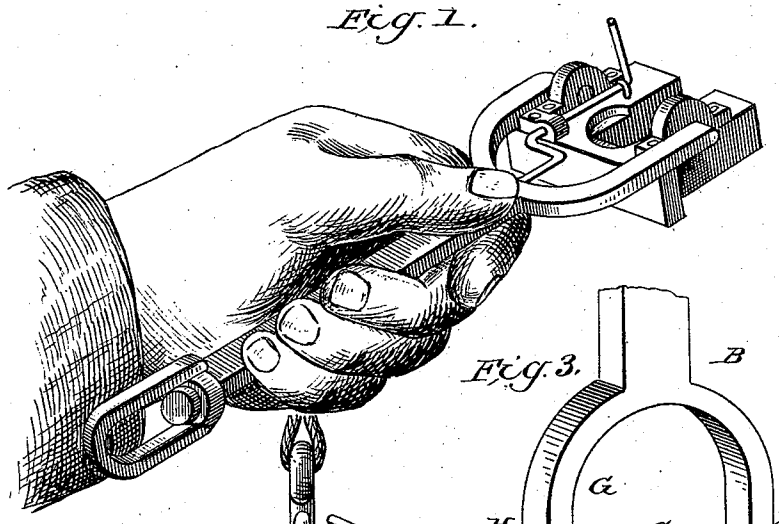


Fig. 3.

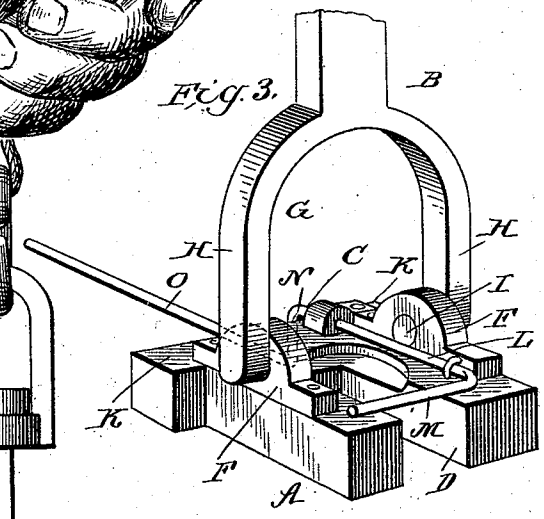


Fig. 2.

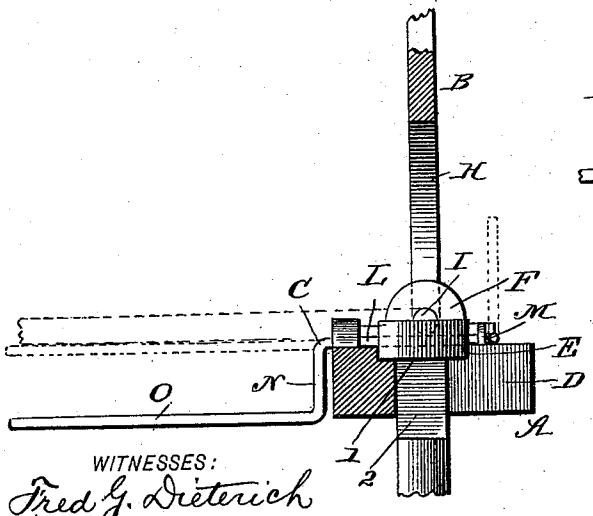
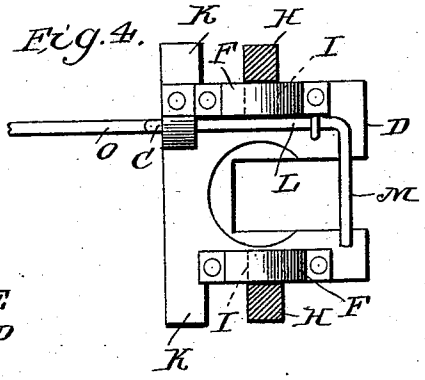


Fig. 4.



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SUCKER-ROD ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 456,071, dated July 14, 1891.

Application filed March 26, 1891. Serial No. 386,572. (No model.)

To all whom it may concern:

Be it known that I, LEWIS VAUGHAN, of Summit City, in the county of McKean and State of Pennsylvania, have invented a new and useful Improvement in Sucker-Rod Elevators, of which the following is a specification.

My invention is an improvement in rod-lifters, and is intended especially for lifting the sucker-rods of oil and other deep wells.

The invention consists in certain features of construction and novel combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my improved elevator, illustrating the manner of holding the same in applying it to and removing it from a rod-section. Fig. 2 is a sectional view of the elevator, parts being broken away. Fig. 3 is a perspective view of the elevator, the upper part of the hanger being broken away; and Fig. 4 is a detail top plan view of the base plate or block.

The elevator is shown as composed of the base plate or block A, hanger B, and the latch C. The base-plate is provided with a slot D, formed from one edge and opening out at what may, for convenience of reference, be termed the "front edge" of the block. At the inner edge of the slot D, I form in the top of the base-plate a recessed seat E, curved in the arc of a circle and adapted to receive the shoulder at the upper end of a sucker-rod section.

In applying the block A to the rod-section the block is slipped laterally onto the rod just below the shoulder 1 thereof. The slot D slips onto the angular part 2 of the rod, and when the block has been adjusted fully onto the rod the shoulder or head of the rod will drop into the recessed seat E. The hanger B is hinged at its lower end to the block on opposite sides of the curved seat E and in a line drawn diametrically through such seat.

In effecting the hinge connection between the hanger and the block it is preferred to provide boxes F on the base-plate and to form the hanger at its lower end with a yoke G, providing arms H, which have lateral pivot-studs I, fitting in the bearings of the boxes F. At its upper or free end the hanger is adapted for connection with the hoisting devices, being preferably provided at such end with a swivel-link J, as shown. When adjusted to a horizontal position, to which it is preferably turned in applying the elevator to a rod-section, the hanger-rod is stopped in such horizontal position by the stops K, consisting of lugs projecting laterally at the rear edge of the base-plate.

The latch C is of a special construction, and is formed with a shaft-like portion L, journaled to the base-plate and having crank-arms M and N and a handle-rod O, projecting from the outer end of the crank N. The cranks M and N are arranged at right angles to each other and are located as shown, the crank M being arranged to be lowered to a position in front of the recessed plate to secure the head of the rod-section therein or be raised to permit the head to be adjusted into or out of the seat. The crank N swings up and down alongside the rear edge of the base-plate and the relation of cranks M and N is such that when the crank M is down in position to hold the rod-head in its seat the arm N will hang vertically down and that when the crank M is raised to vertical unlocked position the arm N will be in approximately a horizontal position, so that the gravity of the crank N and handle-rod O tends to secure the latch normally in closed position with the crank-arm M in position to hold the head in its seat.

The operation is simple and will be readily understood. In practice I use two of the improved elevators, one being engaged with the head of one sucker-rod section and the whole being lifted by any suitable hoisting devices. When lifted to bring the head of the next lower section above the well-tube, the other elevator may be taken in one hand, the hanger being turned to horizontal position. It will be noticed that the handle-rod O projects adjacent to the hanger-rod when in said position, so that the hand grasping the hanger can conveniently operate the latch.

Having thus described my invention, what I claim as new is—

1. An improved elevator, substantially as described, comprising the base-plate provided with a seat E and having a slot D leading from such seat and opening out of its edge, and the latch consisting of a rock-shaft jour-

naled in bearings upon the said base-plate on one side of the slot and held from longitudinal movement and provided with a crank-arm movable vertically and arranged when lowered to extend across the slot D and rest upon the base-plate, all substantially as described, and for the purposes set forth.

2. In an elevating device, substantially as shown and described, the combination of the base-plate having a seat for the rod and a slot or opening leading thereto, the hanger pivoted to said plate, and the latch having a shaft portion journaled to the base-plate and provided at its front end with a crank-arm arranged to extend across and close the slot or opening in the base-plate and provided at its opposite end with a crank-arm having a handle extended from said arm and arranged to project adjacent to the hanger in the lowered position thereof, whereby the latch may be released by the hand grasping the said hanger, all substantially as and for the purposes set forth.

LEWIS VAUGHAN.

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