

(No Model.)

J. A. HEYDRICK.
PACKING FOR OIL WELLS.

No. 254,649.

Patented Mar. 7, 1882.

Fig. 3.

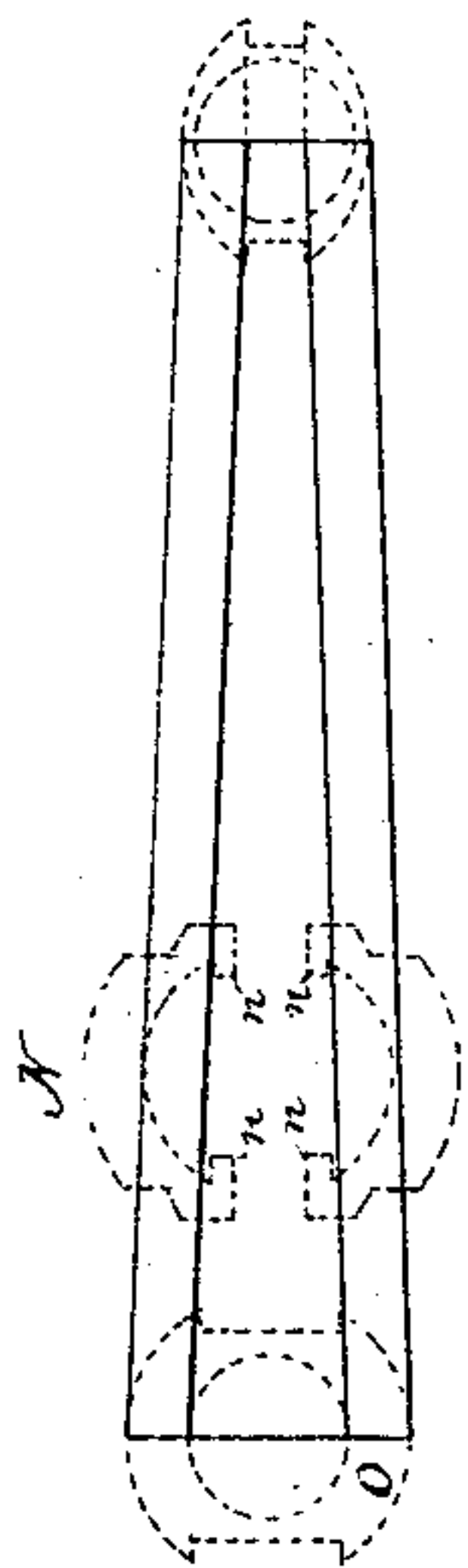


Fig. 1.

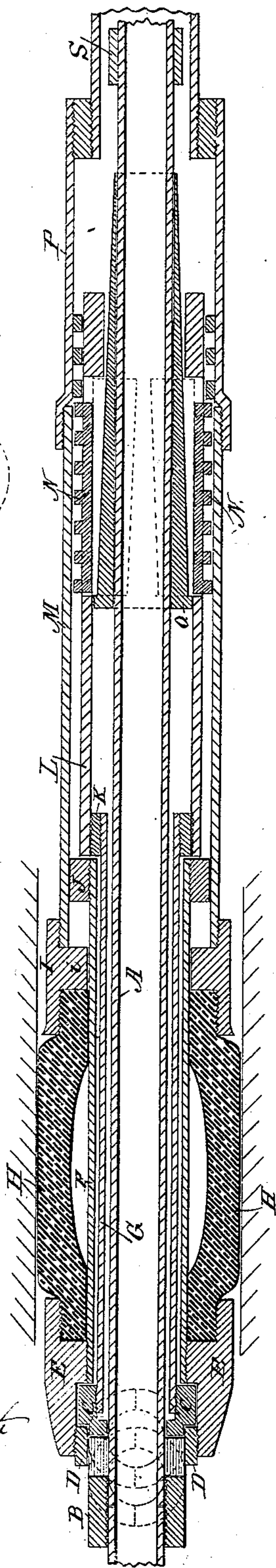
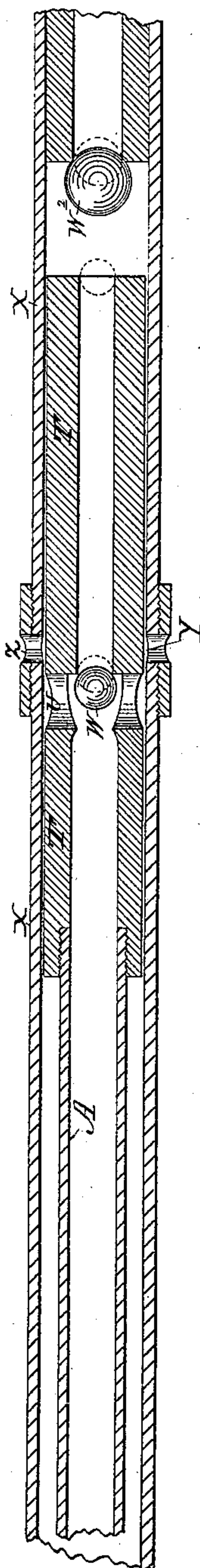


Fig. 2.



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PACKING FOR OIL-WELLS.

SPECIFICATION forming part of Letters Patent No. 254,649, dated March 7, 1882.

Application filed September 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, JESSE A. HEYDRICK, of Barnhart's Mills, in the county of Butler and State of Pennsylvania, have invented a new and useful Improvement in Packings for Oil-Wells; of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification, in which—

10 Figure 1 represents the upper portion of a pump, showing my improved well-packing. Fig. 2 is the lower part of the pump, and Fig. 3 is a detail view.

15 My invention relates to an improvement in oil-pumps; and it consists in certain peculiarities of construction and arrangement relating to the well-packing, as hereinafter described.

In the drawings, A represents the tubing, two sections of which are connected by a screw-threaded thimble, B. The lower end of the tubing A extends to the bottom of the well, where it is provided with a plunger, T, which works in the perforated cylinder or barrel X. This barrel rests in the bottom of the well and 25 is connected above to the outer casing, P M, by means of a suitable reducer. As a packer for the casing I employ the usual rubber collar, H, in connection with the following improved means of increasing its efficiency: The lower 30 end of the rubber packing is screwed into a thimble, I, until it rests against an interior collar, Z, and the thimble is screwed onto the upper end of the casing M. The upper end of the packer H is likewise held by means of a 35 thimble, E, which screws onto it, and which, also, by means of an interior threaded collar, is secured to a cylindrical lining, F, to prevent the packer from coming in contact with the interior parts of the pump. The lower end 40 of the lining F screws into a packer, J, consisting of a collar which is inclosed by the walls of the casing M.

As stated above, the thimble B is secured to the tubing A, and by means of two quadrantal recesses cut in its lower end, on opposite 45 sides thereof, this thimble is adapted to receive two corresponding projections on the thimble C, whereby the latter and its connections below may be rotated. The lower end of the thimble 50 C rests upon the interior collar of the thimble E, and is provided with a female thread for

receiving the upper end of a cylinder, G. A packer, D, screwing into E at the top, serves to hold C in position. The cylinder G extends below the packer J, where, by means of a reducer, K, it connects with a larger cylinder, 55 L. The cylinder L, near its lower end, is provided on opposite sides with two slots about five inches in length and one and three-fourths in breadth, through which are made to project 60 the threads of two sections of a cylindrical hollow screw, N, which sections are provided with flanges n, for securing them to a flanged conoidal wedge, O, which incases the tubing A. That part of the outer casing marked P 65 is provided with an internal screw-thread, into which the screw-sections are to be screwed by turning the tubing A at the top.

As heretofore used the rubber packer H has been made to expand to fill the bore of the 70 well by means of weight applied at the top; but it will be seen that screw-pressure is applied by simply turning the tubing A at the top, whereby the thimble C, the cylinders G and L, and with them the sectional screws N, 75 will be rotated.

When it is desired to remove the packer H from the well the tubing is raised until the knocker S, secured thereto below the wedge O, shall lift the wedge up through the screw- 80 section N and by means of its flanges the wedge shall draw the screw-sections N inward, until the threads thereof are disengaged from those of the casing P.

The plunger T, which is hollow and provided 85 with a ball-valve, W, near its center, and ports Z, leading to said hollow center through the ball-cage U, is adapted to be set so that its ports Z will register with the ports Y in the barrel X when it is desired to pump oil from 90 the well or to flood the well after filling the tube A; or by raising the plunger so as to cover the ports in the barrel X, the water in the bottom of the well may be pumped up through the lower part of the tubing, which 95 extends to the bottom, and thus through the valves W W². The ports or perforations in the barrel X may be formed through couplers and between the ends of sections, as shown, or by simply drilling holes through the barrel. 100

The pump, as above described, will be made the subject-matter of a subsequent application.

With the above construction the packer H will be securely fastened at the ends, so as to insure its being drawn out when desired, and by means of the sectional screws the rubber is made to pack from both ends and more tightly than where weight alone is used. It will also appear that the well may be easily agitated and flooded by filling the tubing and allowing the fluid to run back into the well through the ports. With this packer and pump all necessary pumping for a flowing well can be done with lever or segment, and cog-wheel with lever by hand.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a well-packing, the combination, with the packer H and the tubing A, of the internally-threaded casing P, the screw-sections N, and the conoidal wedge O, all arranged and adapted to operate substantially as specified.

2. In a well-packing, the combination, with the packer H, the tubing A, having knocker S, an outer casing having an internal screw-

thread, and an inner casing having longitudinal slots therein, of the screw-sections N N and the conoidal wedge O, adapted to move longitudinally between the said sections, substantially as shown and described.

3. In a well-packing, the combination, with the packer H, the outer casing, M P, and the tubing A, of the thimble B, having two quadrantal recesses in its lower end, and the thimble C, having quadrantal projections on its upper end, whereby the casing L G may be rotated, as shown and described.

4. In a well-packing, the combination, with the packer H, the outer casing, M P, and the tubing A, of the thimble E, screwing on the said packer, the lining F, the thimble C, held in engagement with the thimble E by the packer D, and the thimble B, screwed on the said tubing and meshing with thimble C, substantially as shown and described.

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