J. A. NEWELL & A. LUCASSE

SEATING FOOT-VALVES IN PUMPS.

No. 195,153. Patented Sept. 11, 1877.

Fig. 3.

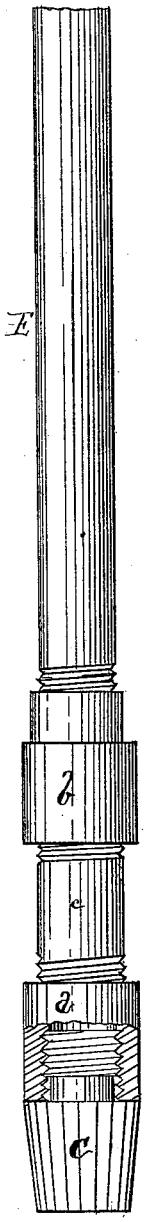


Fig. 2.

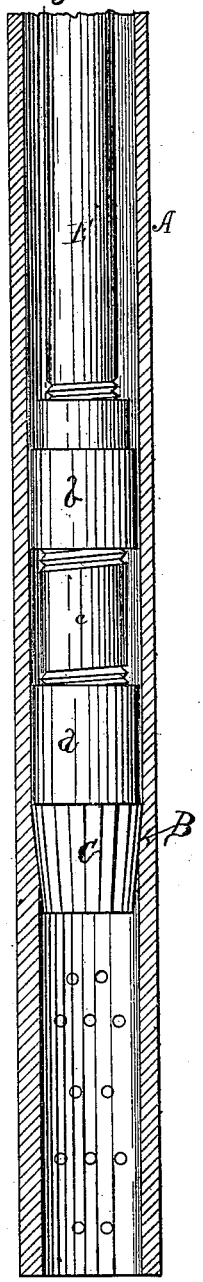


Fig. 1.

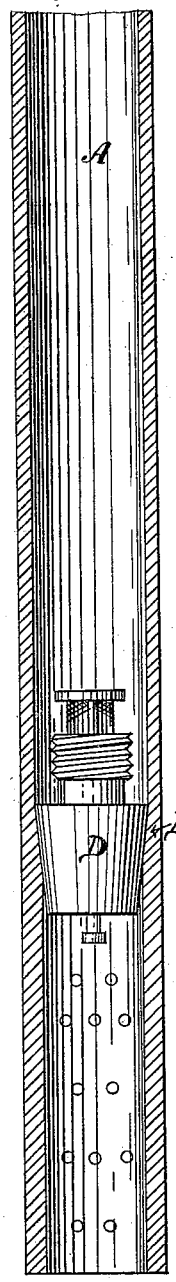
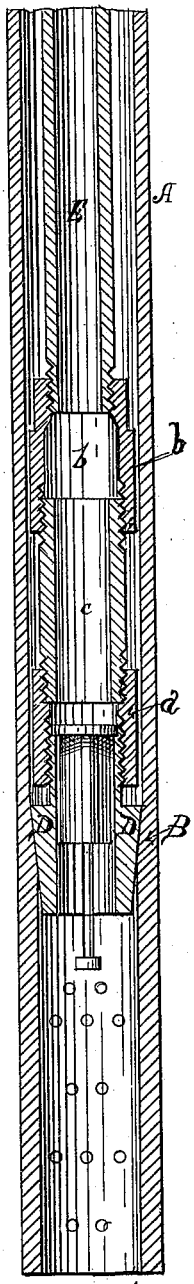


Fig. 4.



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JOHN A. NEWELL AND ARY LUCASSE, OF KALAMAZOO, MICHIGAN.

IMPROVEMENT IN SEATING FOOT-VALVES IN PUMPS.

Specification forming part of Letters Patent No. **195,153**, dated September 11, 1877; application filed March 3, 1877.

To all whom it may concern:

Be it known that we, JOHN A. NEWELL and ARY LUCASSE, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented an Improvement in Tubular Well-Pumps, of which the following is a specification:

In driving a tube-well it is desirable to fasten the valve-box and valve in the seat, just above the strainer, after the well is driven, and thereby obviate the liability of the valve to become clogged with earth or sand in driving the well.

The object we have in view is to furnish a means for accurately reaming the seat preparatory to seating the valve-box, and to accurately seat the latter in position; and to this end it consists in two short nipples screwed onto the lower end of a rod, and coupled by couplings which fit the bore of the pipe and serve as guides. The projecting end of the lower coupling is threaded to receive a screw-shank on a reamer that reams the seat in the well for the tapered valve-box, which has also a screw-shank to attach it to the rod while being seated, after which the rod is unscrewed from it, leaving it in position.

Figure 1 is a vertical section of the lower end of a tube-well, showing the valve-box seated. Fig. 2 is a sectional elevation, showing the tools for and manner of reaming out the valve-box seat. Fig. 3 is an elevation of the rod with the reamer screwed on. Fig. 4 is a vertical section of the well and tool, showing the manner of seating the valve-box.

In the drawing, A represents the lower end of a tube-well, whose lower extremity is perforated to admit the water. The walls of this perforated end are made thicker than the rest of the tube, reducing that part of the bore, leaving a shoulder, B, at the top, in which to seat a tapered valve-box, D.

The tube-well is driven in the usual way, after which the seat B is prepared to receive the valve-box by a reamer, C, having the same taper, and a screw-shank, by which it is fastened to the end of a coupling-socket, *a*, at the end of a short nipple, *c*, which is coupled to a similar one by a like coupling, *b*, and which upper nipple *c* is screwed onto the lower end of a light rod or tube, E. The couplings *a b* fit snugly the bore of the well, so that when sent down and rotated the reamer will be guided by them in the axis of the well while reaming a tapered seat at the shoulder B, after which the tool is withdrawn, the reamer removed, and the shank of the valve-box D is screwed into the socket-coupling *a*. The valve-box is then lowered into the tube and guided fairly into its seat, when a few taps on the top of the tube E sets it fast, after which the tube E is unscrewed from the valve-box and withdrawn from the well.

What we claim as our invention is—

The socket-couplings *a b* and nipples *c c*, in combination with the tube E, for guiding a reamer in forming a seat for a valve-box, D, and for guiding the latter into its seat, substantially as described.

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ARY LUCASSE.

Witnesses:
AMOS D. ALLEN,
D. E. GROESBECK.