F. BOWEN.
Pump for Oil-Wells.

No. 208,709. Patented Oct. 8, 1878.

Fig. 1.

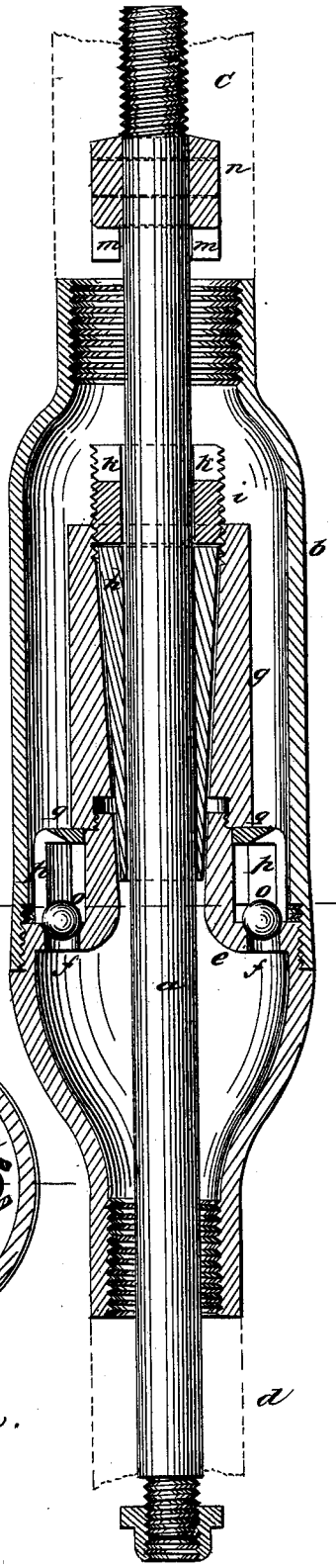


Fig. 2.

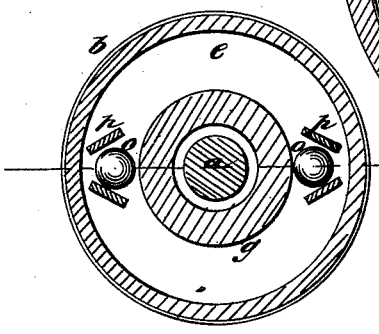
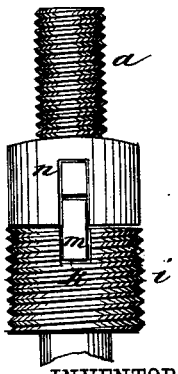


Fig. 3.



WITNESSES:
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UNITED STATES PATENT OFFICE.

FREDERICK BOWEN, OF BARNHART'S MILLS, PENNSYLVANIA.

IMPROVEMENT IN PUMPS FOR OIL-WELLS.

Specification forming part of Letters Patent No. **208,709**, dated October 8, 1878; application filed September 21, 1878.

To all whom it may concern:

Be it known that I, FREDERICK BOWEN, of Barnhart's Mills, in the county of Butler and State of Pennsylvania, have invented a new and Improved Pump for Oil-Wells, of which the following is a specification:

The object of my invention is to provide for withdrawing and replacing the packing of the pump-plunger in oil or Artesian wells without disturbing the tubing or valves.

My invention consists in the arrangement of the upper valves in connection with the cell containing the stuffing-box, and to the manner of securing and removing the packing-ring of Babbitt metal, and also consists in certain details of construction hereinafter described.

In the accompanying drawing, Figure 1 is a longitudinal section of a cell or chamber containing the upper valves and stuffing-box in connection with the plunger of a pump. Fig. 2 is a cross-section at the line *x x*, and Fig. 3 shows the plunger in position for disconnecting the packing.

Similar letters of reference indicate corresponding parts.

a is the plunger or pump rod. *b* is a cell or chamber, through which the rod *a* passes. The chamber *b* is one section of the well-tubing, the other sections being connected, as seen by dotted lines at *c* and *d*, and the section *d* connects with pump-barrels of usual character. The rod *a* is shown with screw-threads at both ends for the connection of other lengths of rod.

The chamber *b* is divided by a horizontal partition, *e*, into two parts, that have communication with each other by the circular openings *f* in partition *e*. The walls of chamber *b* are shown as in two parts, united by a screw-thread on the line of the partition *e*, so as to give access to interior.

The partition *e* is formed in one piece with or supports the central stuffing-box *g*, that is around the plunger *a*. The inner surface of the stuffing-box *g* is conical in form, the base of the cone being upward, and *h* is a conical ring or tube of Babbitt metal fitting within the stuffing-box *g* around the rod *a*. The packing-ring *h* is pressed tightly to place, and retained by a screw-collar, *i*, fitting around the plunger *a*, and screwing in at the upper end of the stuffing-box *g*. The outer end of collar *i* is provided with mortises *k k*, by which the collar *i* may be screwed in and out, as next described.

Upon the rod *a*, above the stuffing-box *g*, are two lugs or projections, *m m*, at opposite sides, and of such size that they will fit into the mortises *k k* of collar *i*, as seen in Fig. 3. These lugs may be the projecting ends of a cross-pin secured in a slot in rod *a*, or they may be formed with the collar *n*, that is secured on rod *a*.

By lowering the rod *a*, the lugs *m* are engaged with the mortises *k*, and then the collar *i* can be unscrewed by turning rod *a*, and when the collar *i* is free it and the packing-ring *h* may be drawn up with rod *a*. A new packing can thus be placed from the top of the well and the collar *i* screwed to place again.

The openings *f* in partition *e* are furnished with the ball-valves *o*, which are retained in place by the cages *p p*. The cages *p* are formed with and are held in place by a ring, *q*, around the stuffing-box *g*. The valves *o* are thus in the same chamber that contains the stuffing-box, and there is nothing outside of the chamber to hinder the ready removal of the tubing when that operation is necessary.

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

1. The combination and arrangement of the stuffing-box *g*, partition *e*, and valve or valves *o* within the cell or chamber *b*, substantially as and for the purposes set forth.

2. The screw-collar *i*, provided with slots or mortises *k*, in combination with the lugs or projections *m* upon the plunger-rod *a*, substantially as and for the purposes set forth.

3. The combination of the ring *q* with the stuffing-box *g*, partition *e*, and valves *o*, substantially as and for the purposes set forth.

FREDERICK BOWEN.

Witnesses:

S. I. MCKEE,

F. M. SMALL.