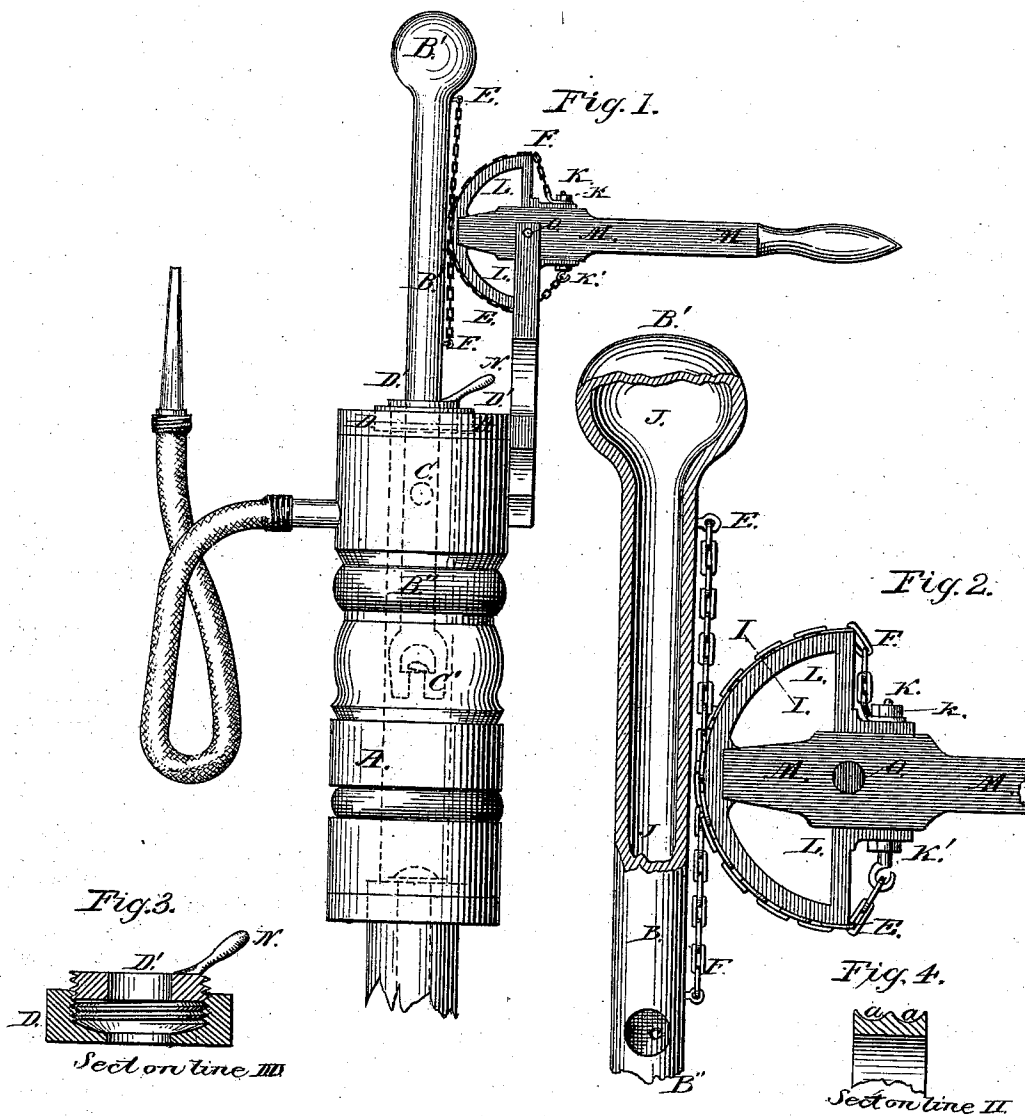


E. GLENDILLEN.

FORCE-PUMP.

No. 173,457.

Patented Feb. 15, 1876.



Witnesses.

James Masson
John Dobbin

Inventor.

Elyah Glendillen.

UNITED STATES PATENT OFFICE.

ELIJAH GLENDILLEN, OF OWEN SOUND, CANADA.

IMPROVEMENT IN FORCE-PUMPS.

• Specification forming part of Letters Patent No. **173,457**, dated February 15, 1876; application filed August 7, 1875.

To all whom it may concern:

Be it known that I, ELIJAH GLENDILLEN, of Owen Sound, in the county of Grey, in the Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Pumps; and I do hereby declare that the following is a clear and exact description of my invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation of the pump ready for use. Fig. 2 is an enlarged elevation of the piston-rod, partly in section, with attachment and handle or lever, showing the method of fastening and evenly tightening the operating chains. Fig. 3 is a vertical cross-section of the packing-box, showing the lid with handle attached; and Fig. 4 is a cross-section of the semicircular end of the handle or lever, showing the grooves or guides for the operating chains, or their equivalent.

Similar letters of reference indicate corresponding parts in all the figures.

This invention consists in the construction and arrangement of a tightening device for fastening and adjusting the operating chains to the handle or lever.

This invention is illustrated in Figs. 1 and 2, in which A is the body or cylinder of the pump. B is the piston, and M is the handle or lever by which the piston is operated. The said handle terminates in a semicircle or segment, L, having its fulcrum in the center of the circle at O. The chains E and F are secured upon the piston-stem B, and pass in opposite directions over the segment L, running

in the grooves or guides *a a*, Fig. 4. Passing over the segment the ends of said chains are secured to a tightening-bolt, K, which passes through a vertical hole in the solid part of the arm M, behind the segment L, in the following manner: The last link of chain E is hooked onto the hook K' of the bolt K, while the last link in F is secured to an eye or ring that passes over the top of the bolt K, and is kept in place by the tightening-nut *k*. By turning down the nut *k* both the chains are equally shortened, while by turning the nut *k* in the opposite direction the chains are equally lengthened. The piston B is hollow, and has an enlarged head, B', so as to form an interior air-chamber, J, extending from the top down to the mouth or opening C.

The means of tightening the packing is illustrated in Fig. 3. The lid D' of the packing-box D has a lever, N, attached to it, forming a solid projecting part thereof, so that the pump, being used as a lift-pump, can be conveniently changed to a force-pump by simply turning the lever-handle N, thereby compressing or tightening the packing in the box.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination of the lever M, perforated so as to admit of an upward or downward sliding motion of the bolt K, having hook K' and nut *k*, segment L, and chains E F, all combined and operating substantially as and for the purpose hereinbefore set forth.

ELIJAH GLENDILLEN.

Witnesses:

JAMES MASSON,
JOHN DOBBIN.