W. S. LANEY.

Pump.

No. 202,178. Patented April 9, 1878.

FIG.2.

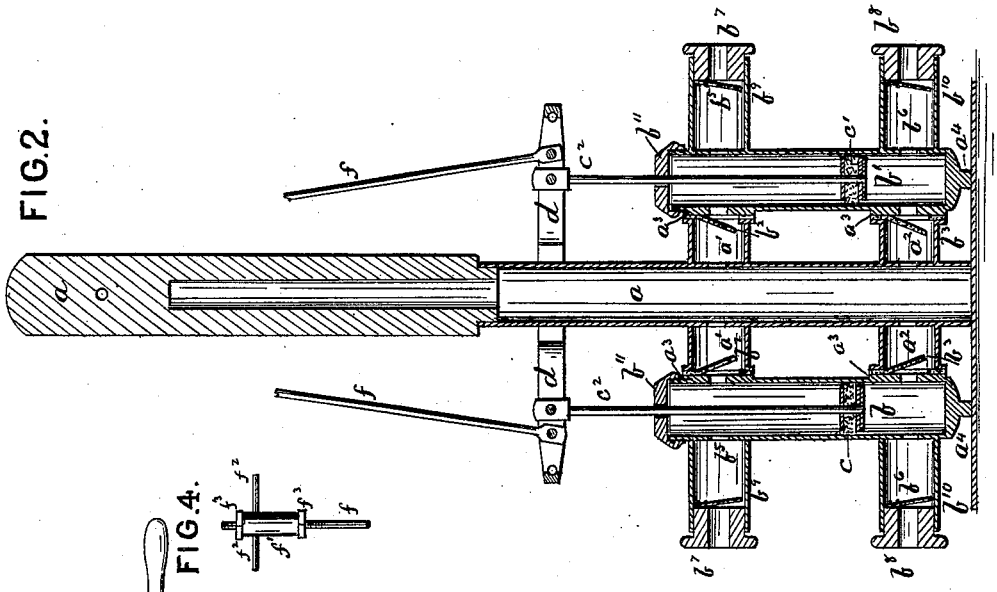


FIG.4.

FIG.3.

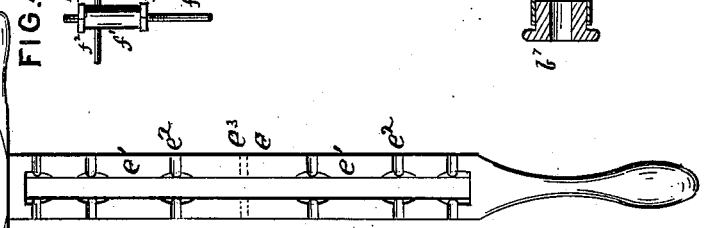
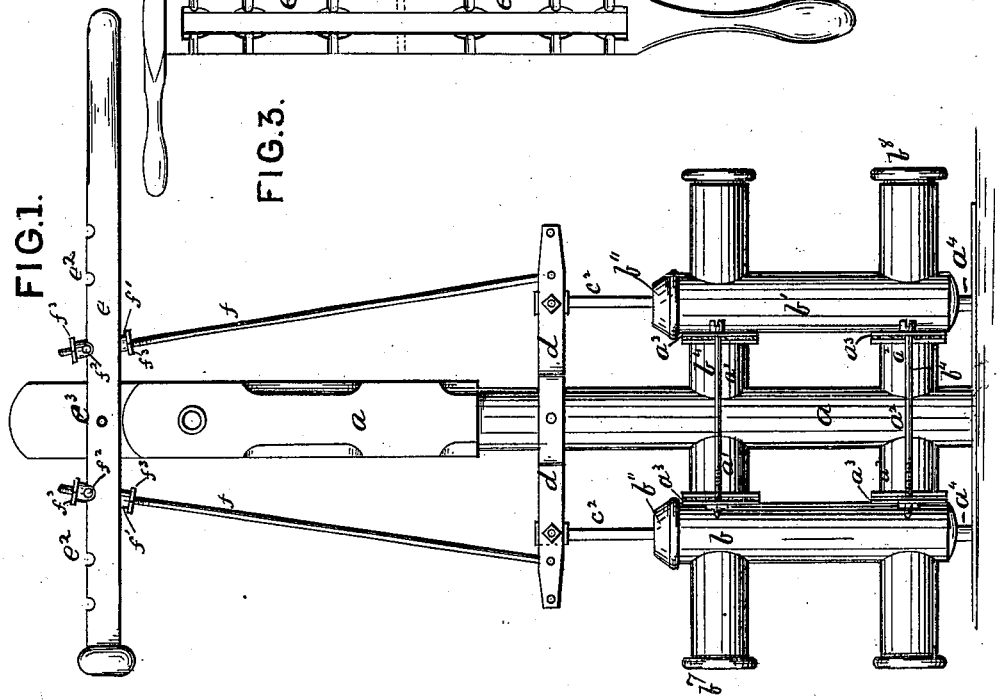


FIG.1.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM S. LANEY, OF LITHOPOLIS, OHIO.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **202,178**, dated April 9, 1878; application filed January 31, 1878.

To all whom it may concern:

Be it known that I, WM. S. LANEY, of Lithopolis, in the county of Fairfield and State of Ohio, have invented certain new and useful Improvements in Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to furnish an improved double-acting pump, the operation of which will be fully hereinafter explained.

In the drawings, Figure 1 is a side elevation; Fig. 2, a vertical longitudinal section; Fig. 3, a plan view of the walking-beam, and Fig. 4 a detail view of my invention.

a is the pump-stock, constructed with the inlet-pipes a^1 a^2, as shown. *b* b^1 are the cylinders, which are made in separate pieces from the stock *a*. They are provided with valves b^2 b^3, arranged to communicate with the pipes a^1 a^2. They have on them lugs a^3, through which are passed the bolts b^4, by which they are held firmly in position with the stock *a*, with capability of easy removal when it is desired to clean the plump or make necessary repairs. Their upper and lower ends are closed, and side inlet-pipes — one above and the other below the piston—are provided, in which are placed the valves b^9 b^{10}, which are secured on plugs b^7 b^8, which may be readily removed when desired.

In a pump thus constructed either one or both of the cylinders, with their valves, may be detached and raised from the well for any desired purpose without the inconvenience of lifting the entire pump. The outer or inlet valves are more liable to become injured or clogged by small sticks or other trash, and oftener require attention.

In my device I have constructed these outer valves and arranged them so that they can be readily reached and removed, when desired, without the necessity of removing the entire cylinder.

c c^1 are the pistons, operating in the cylinders *b* b^1, and are connected with the walking-lever *d* by the piston-rods c^2, as shown. *d* is the rocking lever. It is pivoted centrally to the pump-stock *a*, and communicates the motion of the walking-beam *e* to the piston-rods c^2 and pistons *c* c^1. *e* is the walking-beam, by which the pump is operated. It has formed through it the central longitudinal slot e^1, which extends nearly the entire length thereof, and equally on either side of the pivotal point e^3. Within this slot e^1 the upper ends of the swinging connecting-rods *f f* move back and forth, for the purpose of regulating the stroke of the piston. On the upper side of the walking-beam there are formed the transverse bearings e^2, in which the trunnions f^2 on the sleeves f^1 are held.

The stroke of the piston is regulated by moving the upper ends of the rods *f* outward or inward along the beam *e* and within the slot e^1.

On the upper ends of the swinging rods *f f* are placed the adjustable sleeves f^1 f^1, which may be set up or down by means of the nuts f^3.

The sleeves f^1 are arranged so that they will move back and forth in the slots e^1 as the ends of the rods *f* are swung outward or inward, as above described, and they are provided with trunnions f^2, which rest in the bearings e^2. The lower ends of the rods *f* are pivoted to the outer ends of the walking-bar *d*, as shown.

The rods may be affixed to the walking-beam *e* at any of the bearings e^2, by which the stroke of the pistons may be increased or diminished at pleasure.

The operation of this pump is similar to that of other pumps of this class, and will be readily understood by reference to the drawings.

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

In a double-acting pump, the cylinders *b* b^1, formed in separate pieces from the stock *a*, and provided with lugs a^3, whereby they may be secured together and to said stock *a*, and having the valves b^2 b^3 and the removable valves b^9 b^{10} arranged above and below the pistons, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM S. LANEY.

Witnesses:

FRANK W. ARNOLD,

JASPER N. RANDALL.