(No Model.)

E. B. KENDIG & D. N. LANDIS, Jr.

FORCE PUMP.

No. 363,897. Patented May 31, 1887.

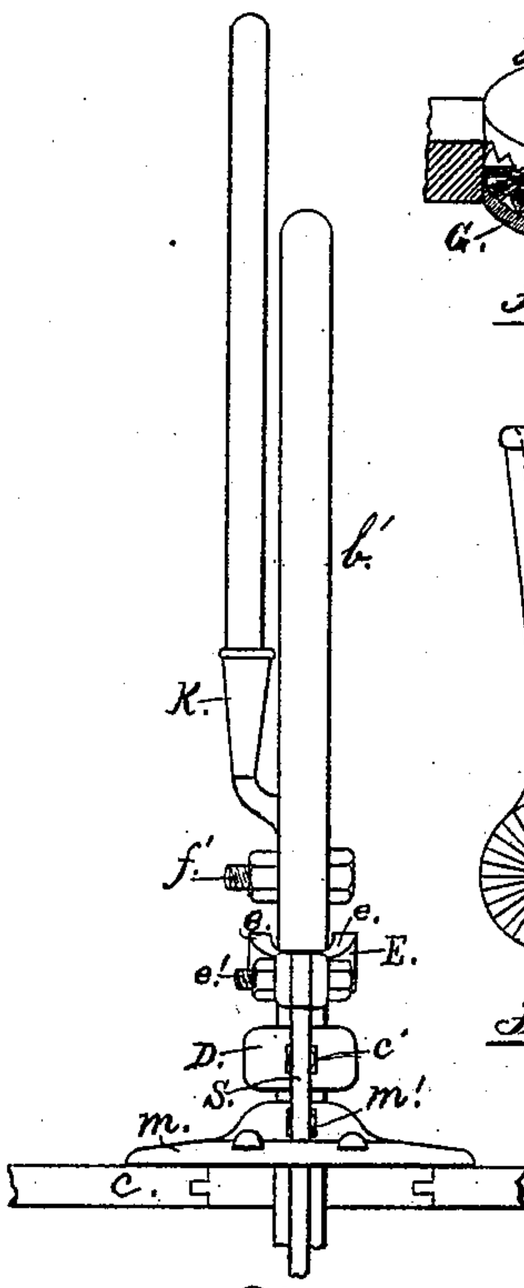


Fig. 2.

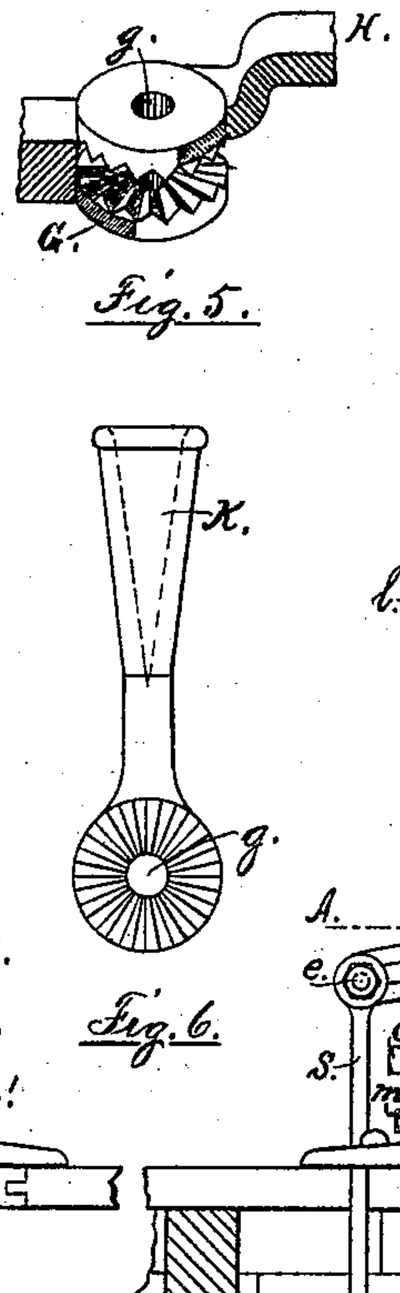


Fig. 5.

Fig. 6.

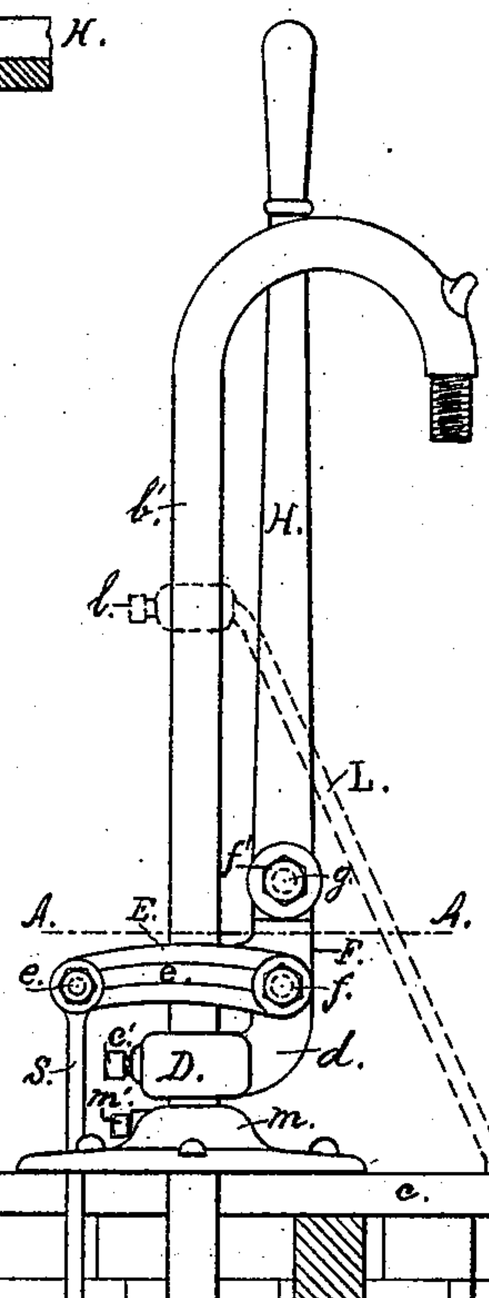


Fig. 1.

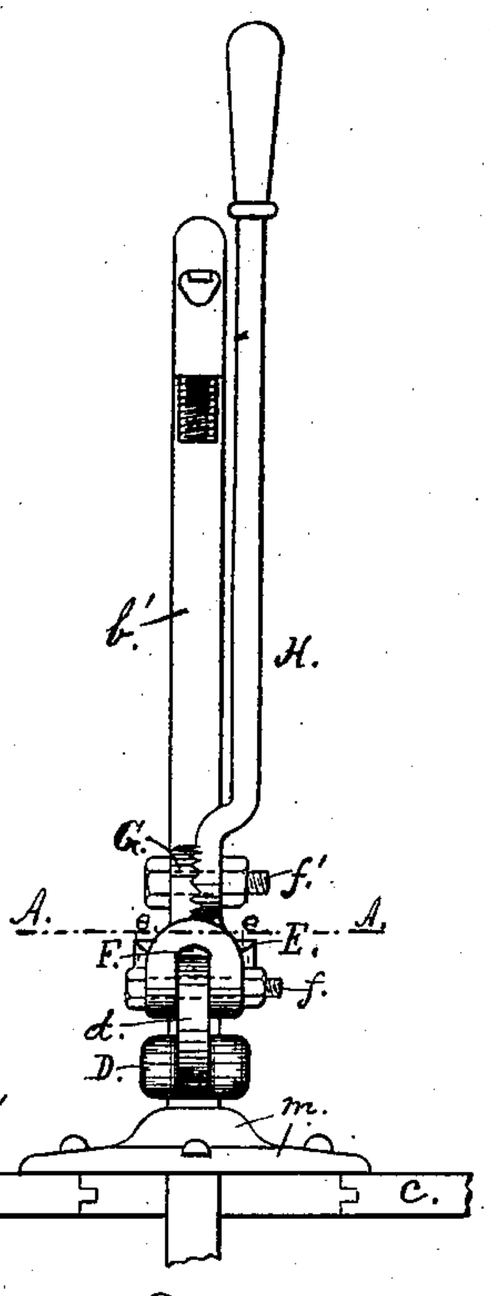


Fig. 3.

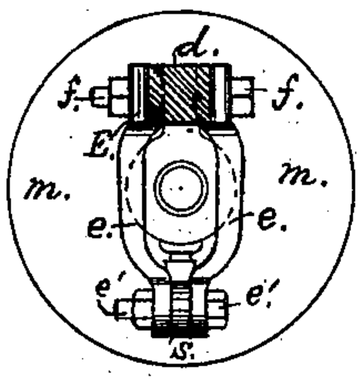
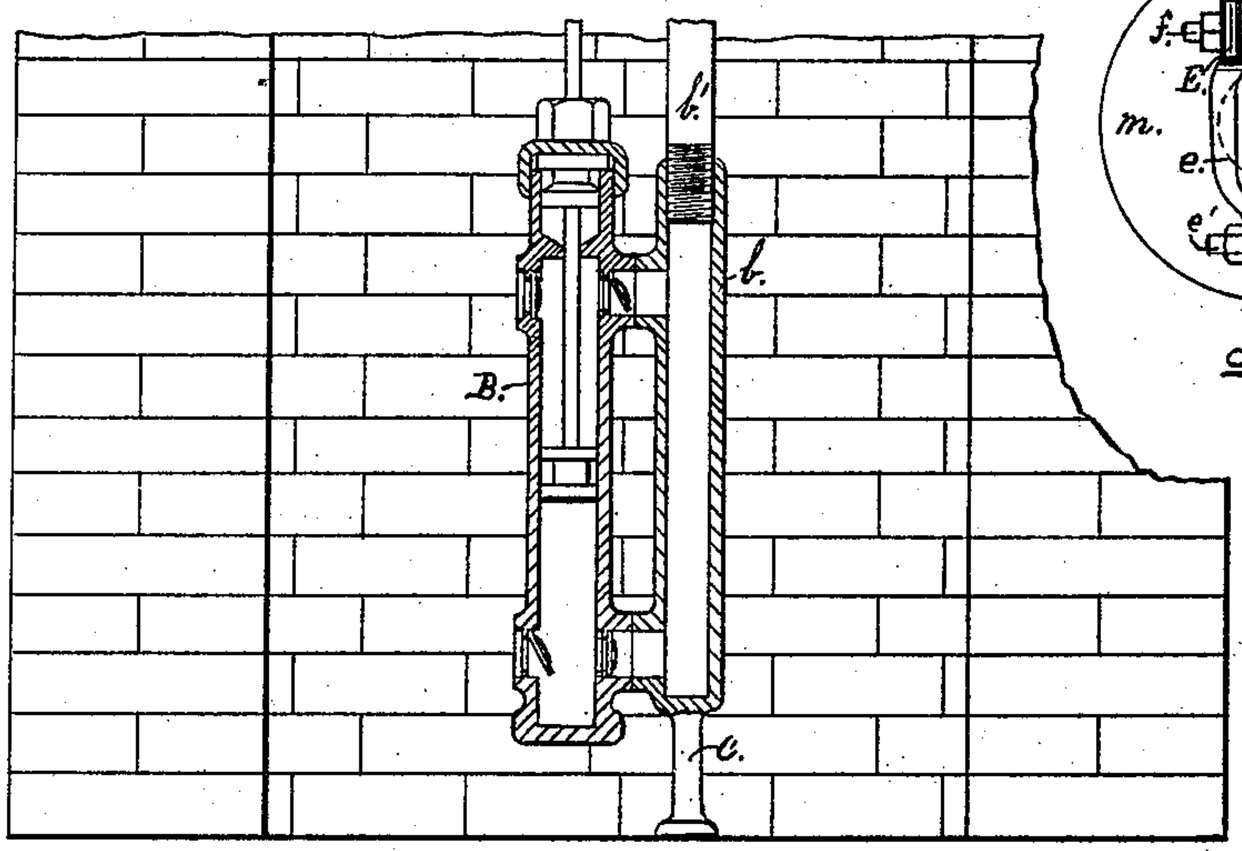


Fig. 4.



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UNITED STATES PATENT OFFICE.

ELIAS B. KENDIG AND DAVID N. LANDIS, JR., OF WITMER, PENNSYLVANIA.

FORCE-PUMP.

SPECIFICATION forming part of Letters Patent No. 363,897, dated May 31, 1887.

Application filed August 26, 1886. Serial No. 211,878. (No model.)

To all whom it may concern:

Be it known that we, ELIAS B. KENDIG and DAVID N. LANDIS, Jr., citizens of the United States, residing at Witmer, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Force-Pumps; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to pumps worked by hand; and the objects of our improvements are, first, to supply an adjustable handle that may be used in a vertical or horizontal position; second, an attachment to the cylinder of a submerged pump—an arrangement by which the same may be kept a certain distance from the bottom of the well. The manner of obtaining these results will be readily understood by reference to the following specification and accompanying drawings, similar letters referring to similar parts.

Figure 1 is a full side elevation showing the adjustable handle attached to the eduction-pipe of the pump; Fig. 2, an end elevation of the upper part of the arrangement with the socket for the wooden handle attached; Fig. 3, an end elevation showing the iron handle in position; Fig. 4, a top plan view through the line A A of Fig. 1; Fig. 5, a perspective side view of the clutch device for the handle; Fig. 6, a side elevation of the socket for wood handle.

In Fig. 1 the submerged cylinder B has bolted fast to its side the chamber *b*, which forms a base for the eduction-pipe *b'*, which is screwed into its upper part, as shown. On the lower part of this chamber *b*, and fast to the same is a projecting foot-piece, C. This foot-piece may be made of any length to suit, but under ordinary cases should be from eight to ten inches. This foot resting on the bottom of the well prevents the lower valves in the chamber *b* coming in contact with the sediment accumulated there.

Above the curb of the well *c*, and held fast on the eduction-pipe *b'* by means of the set-screw *c'*, is a slip-collar D. On one side of this collar, and fast to the same, is a projecting lug, *d*. The upper part of this lug has through it a bolt-hole, for a purpose hereinafter described.

Spanning the pipe *b'*, and attached to the lug *d* of the collar D, is a yoke, E. On the outer ends of this yoke are jaws *e*, between which the pitman-rod S of the cylinder B is held by means of the bolt *e'*. On the inner end of this yoke is a socket, F, which fits on the lug *d* of the collar D, and is held in position on this lug by means of the bolt *f*, which passes through holes in the sides of this socket, and in the upper part of this lug *d*, which is fast to the collar D, the bolt forms the center for the reciprocating yoke E. On the upper part of this socket F, and fast to the same, is a lug, G, through which is a bolt-hole, *g*. On the inner face of this lug G is a disk rosette-clutch with V-shaped teeth on its face radiating toward the center. The handle shown at H is of iron, and on its lower end is a rosette-clutch with teeth to match the one on the lug G. Through the center of this clutch is a bolt-hole to suit the one through the lug G.

In Fig. 6 is shown a socket, K, on the lower side of which is a rosette-clutch, the same as on the iron handle H. This socket is intended to receive a bar or lever of wood, if desired to use one, instead of the iron handle H.

The dotted line L in Fig. 1 shows a brace with a slip-collar fast to its upper end. This collar passes over the pipe *b'*, and is held fast to the same by the set-screw *l*. The other end of the brace is fast to the curb of the well by means of bolts or screws through its foot *l'*. The object of this brace is to support the pipe *b'* when it is desired to place the reciprocating device above so that the handle H may be used in a horizontal position.

Having thus described this arrangement, the manner of working it is as follows: The pump-cylinder B, Fig. 1, fast to the chamber *b*, with the eduction-pipe *b'* screwed into its upper end, is lowered into the well with the foot C of the chamber *b* resting on the bottom. The eduction-pipe *b'* is extended above the curb any desired length. If it is intended to have the handle or lever H work in a vertical position, as shown in this figure, the steady-plate *m* is now slipped over the pipe *b'* and screwed fast to the curb. The slip-collar D, with the lug *d* on one of its ends, is now slipped on the pipe and made fast to the same by the set-screw *c'* in any desired position. The yoke E is now placed in position with its

socket F over the lug *d* on the collar D, and the bolt *f*, which forms its center, is placed in position. The pitman-rod S is now made of a length to suit the depth of the well, its upper end placed between the jaws *e* and held fast to these by the bolt *e'*. The handle H is now placed at any desired angle on the rosette-clutch on the face of the lug G and held fast in this position by the bolt *f'* passing through both of them. The lever H can be now worked by the hand-hold on its upper end, this movement causing the yoke E to reciprocate in its center bolt, *f*, through the socket F and lug *d*, by this means giving the desired motion to the pitman-rod S. If it is desired to work the lever H in a horizontal position after making the plate *m* fast to the curb *c* by screws or bolts and fast to the pipe *b'* by the set-screw *m'*, we place the brace L in position fast to the pipe *b'* by the set-screw *l* and to the curb by screws through its foot *l'*. The socket D, with the yoke E attached, as before described, is now placed in position above the top of the brace L on the pipe *b'* and fast by the set-screw *c'*. The pitman-rod S of the proper length is now attached as before, the lever-handle H connected so as to work horizontally, and held in position by the bolt *f'* through the center of the rosette-clutch on its end.

If it is desired to use a wooden lever instead of iron, it is fitted in the socket K, Fig. 6, and this socket, which has a clutch on its end, the same as the iron handle, may be held fast to the yoke E by the bolt *f'* in the same manner. This arrangement is shown and described attached to a submerged pump, but may be used on any style where hand-levers are made to work the same.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

A pump-cylinder, piston, and piston-rod, in combination with slotted yoke E, the collar D, having lug *d*, bolts *e*, *f*, and *f'*, the interlocking rosettes G and H, and means for turning said rosettes to operate said piston-rod, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

ELIAS B. KENDIG.
DAVID N. LANDIS, JR.

Witnesses:
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