W. CLOUGH.
Pump.

No. 209,549. Patented Nov. 5, 1878.

FIG. 1

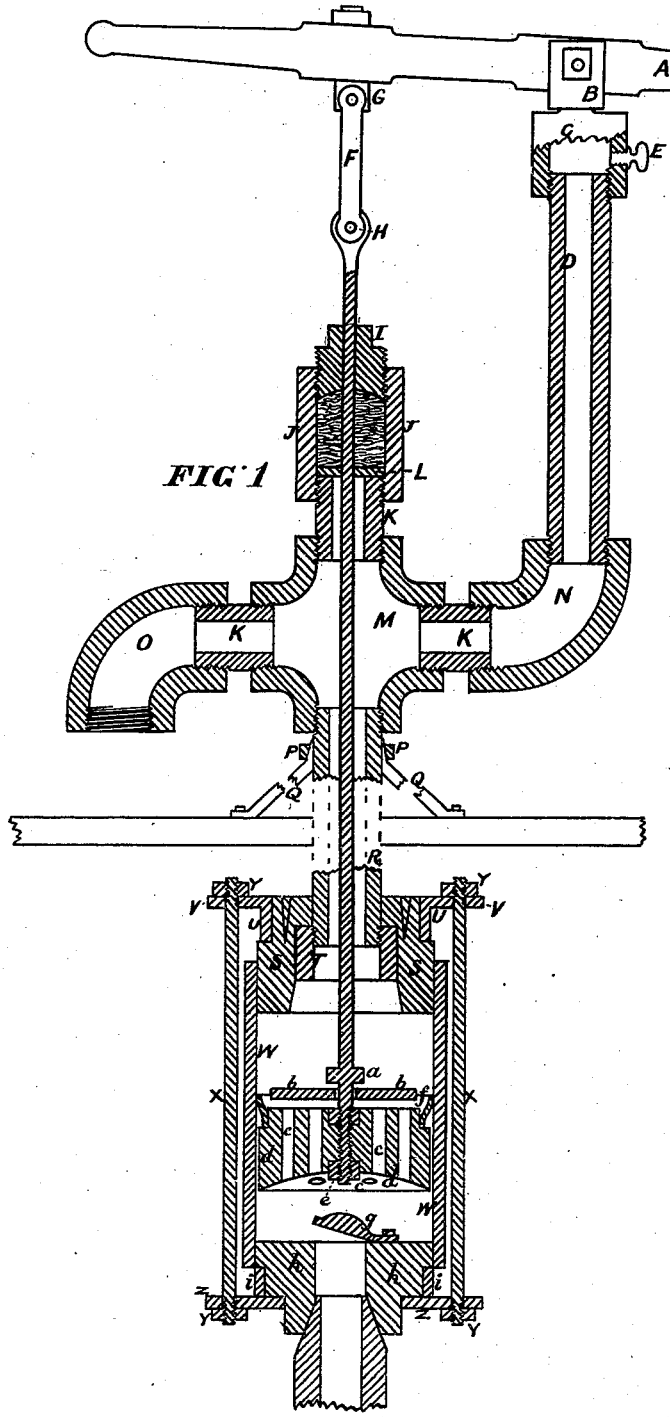
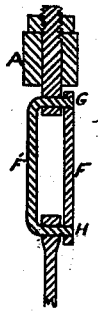


FIG. 2



Witnesses

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IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **209,549**, dated November 5, 1878; application filed September 23, 1878.

To all whom it may concern:

Be it known that I, WILLARD CLOUGH, of Oshkosh, Winnebago county, Wisconsin, have invented certain Improvements in Pumps, of which the following is a specification:

The nature of my invention relates, first, to the construction of a metallic pump composed of parts put together with screw-joints, and which may be used either as a common or force pump.

It relates, second, to the use and construction, of the same material, of a combined fulcrum and air-chamber.

It relates, third, to a brace for the shaft or tube having a wedged top, which goes under a loose ring on the shaft or tube, which may be driven down tightly, thus stiffening the shaft and fastening it to the platform, the feet of the braces being attached thereto.

It relates, fourth, to the attachment of a shoulder by a screw-joint to the foot of the shaft or tube, both of the same metal as the upper part of the pump, this foot and shoulder being let into the wooden top plug of the cylinder, and the joint made tight by driving wedges in the plug.

It relates, fifth, to the use of a metallic cylinder having wooden upper and lower plugs, into which wedges may be driven if necessary to tighten the joints.

Figure 1 is a section of the pump. Fig. 2 is a section of the link connecting the plunging-rod to the lever.

A is the lever, pivoted to ears B on top of the air-chamber, which is composed of a closed cover, C, hollow shaft D, and elbow N, screwed together, as shown. When the air-chamber is not in use as such, loosening the thumb-screw E allows the air to escape.

The lever is attached to the plunging-rod by a link, F F′, pivoted at G and H to the lever and rod respectively. The link is composed of two pieces, the piece F′ being bent at the ends and passing through F and riveted.

J is the packing-box, having a washer bottom, L, and plug I, the washer resting on top of the nipple K and the other parts screwed together. M is a cross, into which are screwed the nipples K, connecting with the packing-box J, the air-chamber N D C, the spout O, and the shaft or tube R. On the foot of R is screwed the shoulder T.

All the parts C D N K J M O R T are of metal and screwed together, as shown.

P is a loose ring on the shaft or tube R, under which pass the wedged tops of the braces Q. The lower ends of the braces are fastened to the floor.

W is a metallic cylinder, having wooden plugs S and *h*. Around S, I pass a hoop or band, U, having ears V, and around *h*, I pass a hoop or band, *i*. These bands strengthen the plugs for the insertion of wedges to tighten the joints.

On the lower end of the cylinder is a metallic plate, Z, having ears, through which and the ears V on the upper band I pass the tightening-rods X, having nuts Y.

a is a stop on the plunging-rod, between which and the plunger *d* the plunger-valve *b* plays. The plunger has apertures *c* for the passage of the liquid.

f is the elastic rim of the plunger. *g* is the lower valve. *e* are two nuts, one in the top and one in the bottom of the plunger, through which passes a continuous thread on the rod.

I claim—

1. A metallic pump constructed with parts O K M J N D C R screwed together, substantially as shown and described.

2. The combined fulcrum and air-chamber C D N K E, substantially as shown and described.

3. The wedge-topped brace Q and loose ring P, substantially as shown and described.

4. The shoulder T, screwed to the tube R, by which it may be tightly wedged into the wooden plug S, substantially as shown and described.

5. The metallic cylinder W, having wooden plugs S and *h*, with bands U and *i*.

WILLARD CLOUGH.

Witnesses:

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