M. D. TEMPLE.

PUMP.

No. 187,934. Patented Feb. 27, 1877.

FIG. 1.

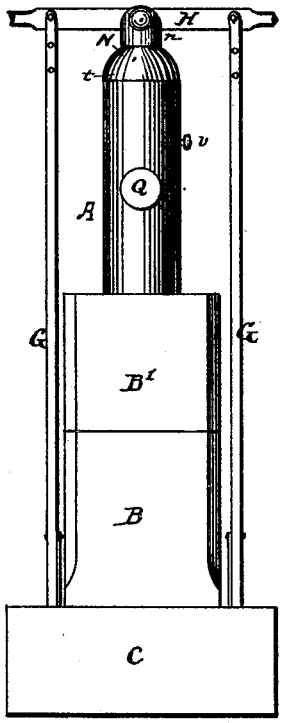
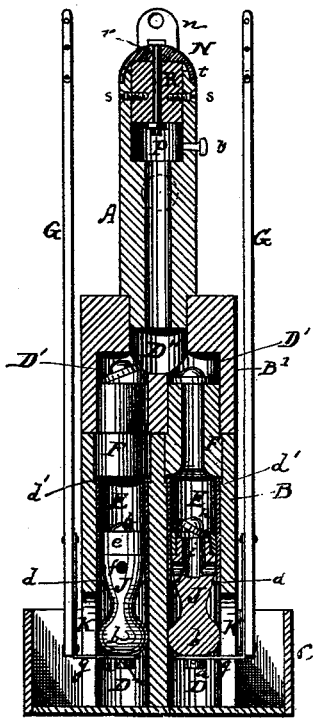


FIG. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MORRIS D. TEMPLE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **187,934**, dated February 27, 1877; application filed July 13, 1876.

To all whom it may concern:

Be it known that I, MORRIS D. TEMPLE, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Pumps, of which the following is a specification:

In the accompanying drawing, which forms a part of this specification, Figure 1 is a front elevation of my improved pump, and Fig. 2 is a transverse vertical central section of the same.

Like letters of reference indicate like parts in both figures.

In the said drawing, A represents the pump-stock, which may be of a length to suit the depth of the well. B B′ is the piston and valve chamber, made, for convenience of construction, in two parts, as will be presently explained. This chamber or casing is joined to the lower end of the stock A, and takes its place at the bottom of the well or cistern. Below this casing, and surrounding the lower end thereof, is a water-box, C, serving to strengthen and brace this lower portion, and at the same time as a step or foundation upon which the pump may rest on the yielding sand, and also as a sand-guard, to prevent sand from entering the working parts of the pump. The top of this box should be below the water-level, and the water reaches the pump by flowing over the top. Consequently the working of the pump does not agitate and stir up the sand.

In the drawing I have chosen to show a two-piston double-acting pump. A single piston, however, may be used, and in such case no modification will be necessary other than to dispense with one of the cylinders. Hence no special description of the single-piston form will be needed to enable those skilled in the art to make and use the same, and I shall only describe the two-piston form.

The lower portion B of the casing I bore with two holes, D D, extending entirely through this part from top to bottom. Then, commencing at the top with a proper tool, I enlarge this bore down to the point *d*, for the reception of a metallic sheath-tube, E, which is usually porcelain-lined, and within which the piston plays. Again commencing at the top, and with a still larger tool, I cut out the bores down to the point *d′*, which shoulder affords a bearing for a flange at the top of the tube E, and also a resting-place for the lower end of the valve-tube F, which is inserted for about half its length in this enlargement. The upper portion B′ of the casing I bore with two holes, D′ D′, corresponding to the holes D of the lower portion. These are, however, not bored entirely through, but are connected to the water-way of the pump-stock by a central hole, D″, bored from above, and into which the lower end of the pump-stock is set. When the valve-tubes F, with their valves and the metal sheaths, are in place, the two parts B B′ of the casing are brought together, and secured by metal straps, (not shown,) or by any convenient method. The pump-rods G G extend from the handle or pump-lever H down to the bottom of the well, entirely outside of the pump-stock, casing, and water-way, and are connected to their pistons J J by short arms *g g*, which project through slots in the walls of the casing into the bores D D at the bottom. These slots K K serve also to admit water to the pump. The pistons J, made usually of wood, are turned to a form somewhat resembling an hour-glass, as shown. The upper end is made for a short distance cylindrical, and is fitted with a packing-band, *e*. This portion is bored with a vertical cavity, *i*, terminating below in several lateral openings, *f*, and fitted above with the valve *h*. The lower end of this piston-block terminates below the globular part *b* in a neck, *a*, which sets into an eye or socket in the arm *g*, and is held by a pin or key, *m*, through the neck below the eye. The purpose of the globular enlargement *b* is to serve as a guide to the piston in its movement. It affords a bearing-point below the packing, to center the movement and keep it true.

The hand-lever H is pivoted to the metal cap N, which covers the top of the pump, said metal cap being furnished for this purpose with standards or ears *n*, through which the pivot passes.

To provide an air-chamber in the top of the pump-stock, I bore from the top downward the enlarged chamber P, terminating just above the spout Q. A wooden plug, R, of the same size as this chamber in diameter, is

secured to the bottom of N the cap by a bolt, *v*. This plug, being driven in and secured by lateral pegs or screws *s* through the walls of the pump, serves to inclose the air-chamber, and also to secure the cap in place.

The metal cap N, it will be noticed, sets down over the top of the pump-stock with a flange, *t*, and serves not only to protect the same from the weather, but also to bind as a ferrule the wood against checking and splitting.

When the pump is to be used otherwise than as a force-pump, the plug *v* may be removed from the side, giving vent to the air.

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

1. The valve-casing made in two parts, correspondingly bored to receive the valve-tubes, and combined with said tubes, whereby said parts are united, substantially as set forth.

2. The piston or plunger packed at the top, and made with the swell or enlargement at the bottom, substantially as specified.

3. The valve-casing made in two parts, with a transverse joint, and bored or chambered to receive the shoulder or flange of the metallic lining E and base of the valve-tube F, whereby the said valve-tube retains the metallic lining in place, and also unites the said parts of the casing.

4. The metallic lining, made with a flange at the top, in combination with the water-way of the casing, made with a shoulder and enlargement, to receive said flange and the valve-tube, substantially as specified.

5. The combination, with the pump-stock having an enlarged bore or air-chamber at the top, of the plug bolted to the metal cap, the metal cap flanging down over the stock, and the pins or screws, or equivalent means for securing the plug to the stock through the sides thereof, substantially as described.

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Witnesses:
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