T. J. MAYALL.

Improvement in Hand Pumps.

No. 125,824. Patented April 16, 1872.

Fig. 1.

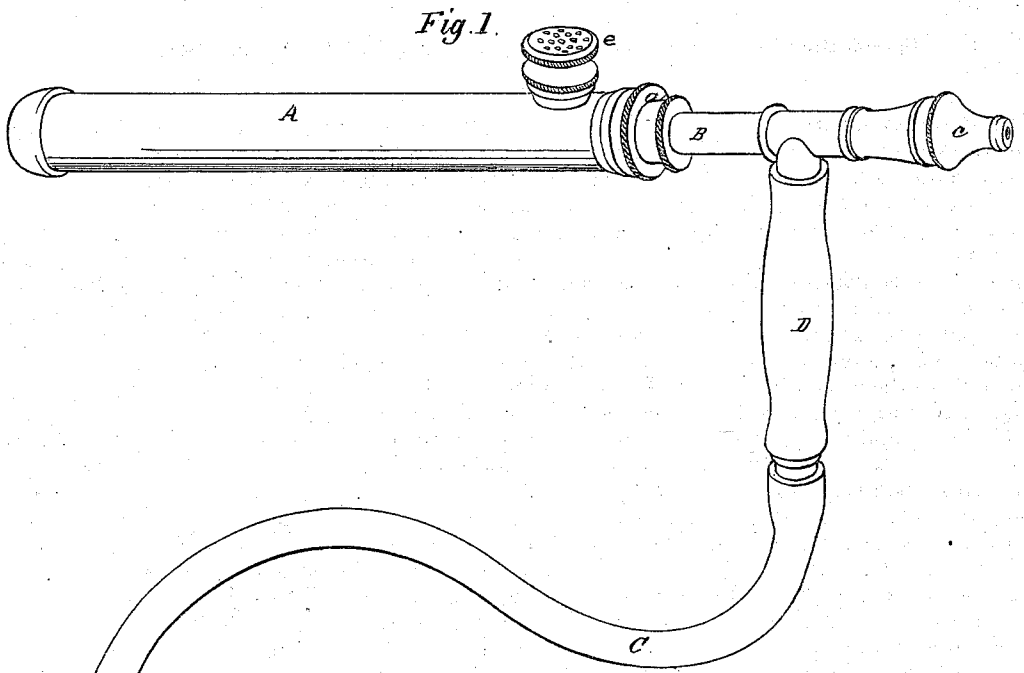
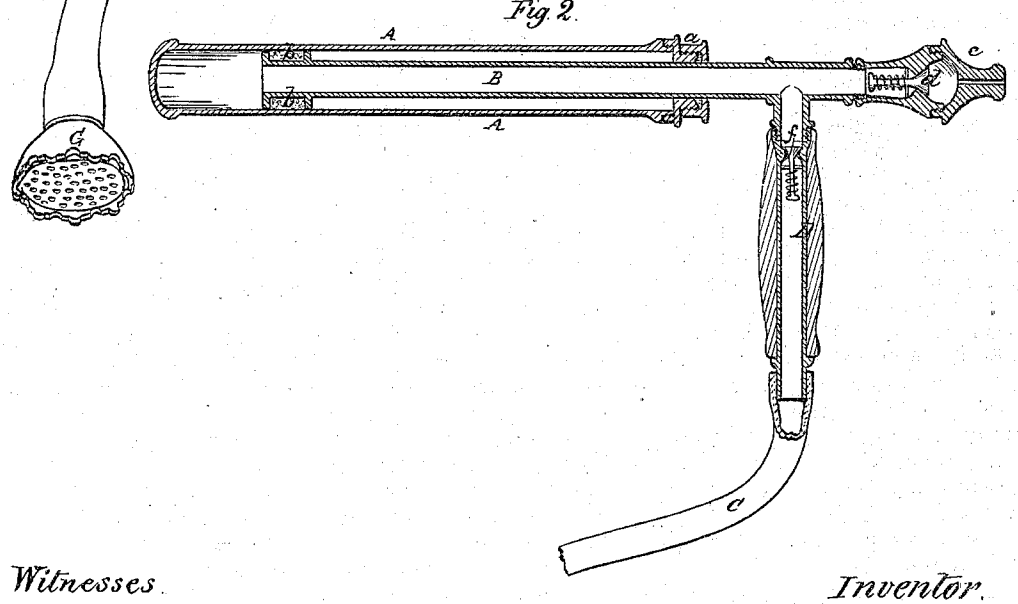


Fig. 2.



Witnesses.

C. B. Nottingham

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Thos. J. Mayall

by atty Pollock

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

THOMAS J. MAYALL, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN HAND-PUMPS.

Specification forming part of Letters Patent No. 125,824, dated April 16, 1872.

To whom it may concern:

Be it known that I, THOMAS J. MAYALL, of Boston, Suffolk county, Massachusetts, have invented certain new and useful Improvements in Hand-Pumps, of which the following is a specification:

Hand-pumps consisting of a cylinder and hose or flexible tubing, and a hollow piston-rod provided with a nozzle have been heretofore made; but in such devices the tubing has been usually connected with the rear end of the cylinder, and the back-and-forth movement of the cylinder required, in order to draw up and force out the water, has necessitated a corresponding movement of the hose or tubing connected with it, which movement of the tubing is disadvantageous and inconvenient on many accounts.

My invention relates to hand-pumps of this kind; and its object is to effect such an arrangement of the part of the pump as will remove the objectionable features alluded to and will admit of the pump being more easily and conveniently manufactured and used than has heretofore been practicable. My invention consists, first, in the combination, with the cylinder, of a hollow piston-rod and nozzle, and a water-supply pipe or tube, connected with and discharging into said hollow piston-rod, whereby the cylinder may be reciprocated back and forth on the piston-rod without causing the movement of the tubing; second, in the combination, with the elements named under the arrangement stated in the preceding clause, of a handle attached to and extending transversely from or at about right angles with said piston-rod; third, in the combination, with said cylinder and hollow piston-rod, of a hollow handle attached to and arranged transversely or at about right angles with said piston-rod, communicating above with the interior of said rod, connected at the opposite end with the water-supply tube, and having within it the check-valve, which prevents the back flow of water from the piston-rod through the tube when the cylinder is forced forward.

The manner in which my invention is or may be carried into effect will be understood by reference to the accompanying drawing, in which—

Figure 1 is a perspective view of a hand-pump made in accordance with my invention. Fig. 2 is a longitudinal central section of the same.

A is the pump-cylinder, of such size as to allow it to be grasped by the hand and easily moved upon the piston and piston-rod. It is provided at the end through which the piston-rod passes with a suitable stuffing-box, *a*, as shown. B is the hollow piston-rod, opening into the interior of the cylinder, provided with a suitable piston, *b*, and carrying on its outer end a nozzle, *c*. In the front of this piston-rod, in advance of the point where the water-supply enters, is a check-valve, *d*, to prevent the ingress of air when the cylinder is being drawn back to draw up the water from the tank or other source of supply. The nozzle is screw-threaded and removable, being interchangeable in the usual manner with a sprinkling nozzle or rose, *e*, which is carried on screw-seat affixed to the cylinder. The water-pipe or tube C, instead of being attached, as usual, to the cylinder, enters the hollow piston B at *d*. It may be attached directly to a suitable elbow projecting from the piston-rod and provided with a suitable check-valve for preventing back flow of water through the tubing when the cylinder moves forward; and in this case it will be independent of the transverse or projecting handle D, which may be separately attached to the piston-rod and need not be hollow. But I prefer, for the sake of economy and compactness, the arrangement shown in the drawing—that is to say, the projecting handle is made hollow, being attached to and communicating with the interior of the piston-rod at one end, and carrying at the other end the flexible tubing, and having within it the check-valve *f* for preventing back flow of water, as above mentioned. The lower end of the tubing should be provided with the usual strainer G to prevent impurities from entering and clogging the pump.

In operating the pump the handle D is grasped in one hand and held stationary, while with the other hand the cylinder is reciprocated. As the piston-rod does not move, the tubing remains at rest and is not jerked back and forth, as it must be under the arrangement heretofore used.

The arrangement of the handle transversely to or at about right angles with the piston-rod is advantageous, as it enables the apparatus

to be grasped and held firmly with greater ease and convenience than heretofore.

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

1. The combination, with the cylinder, of the hollow piston-rod and nozzle and the water-supply pipe or tube connected with and discharging into said piston-rod, substantially as and for the purposes set forth.

2. In combination with the said cylinder, hollow piston-rod, and water-supply tube, arranged as specified in the preceding clause, a handle attached to and projecting laterally from and at about right angles with the said piston-rod, substantially as shown and described.

3. The combination, with said cylinder and hollow piston-rod, of a hollow handle attached to and projecting laterally from said piston-rod, communicating at one end with the interior of said rod, connected at the opposite end with the water-supply tube, and having within it the check-valve for preventing back flow of water from the cylinder into the tube, substantially as shown and set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

THOS. J. MAYALL.

Witnesses:
A. POLLOK,
EDM. F. BROWN.