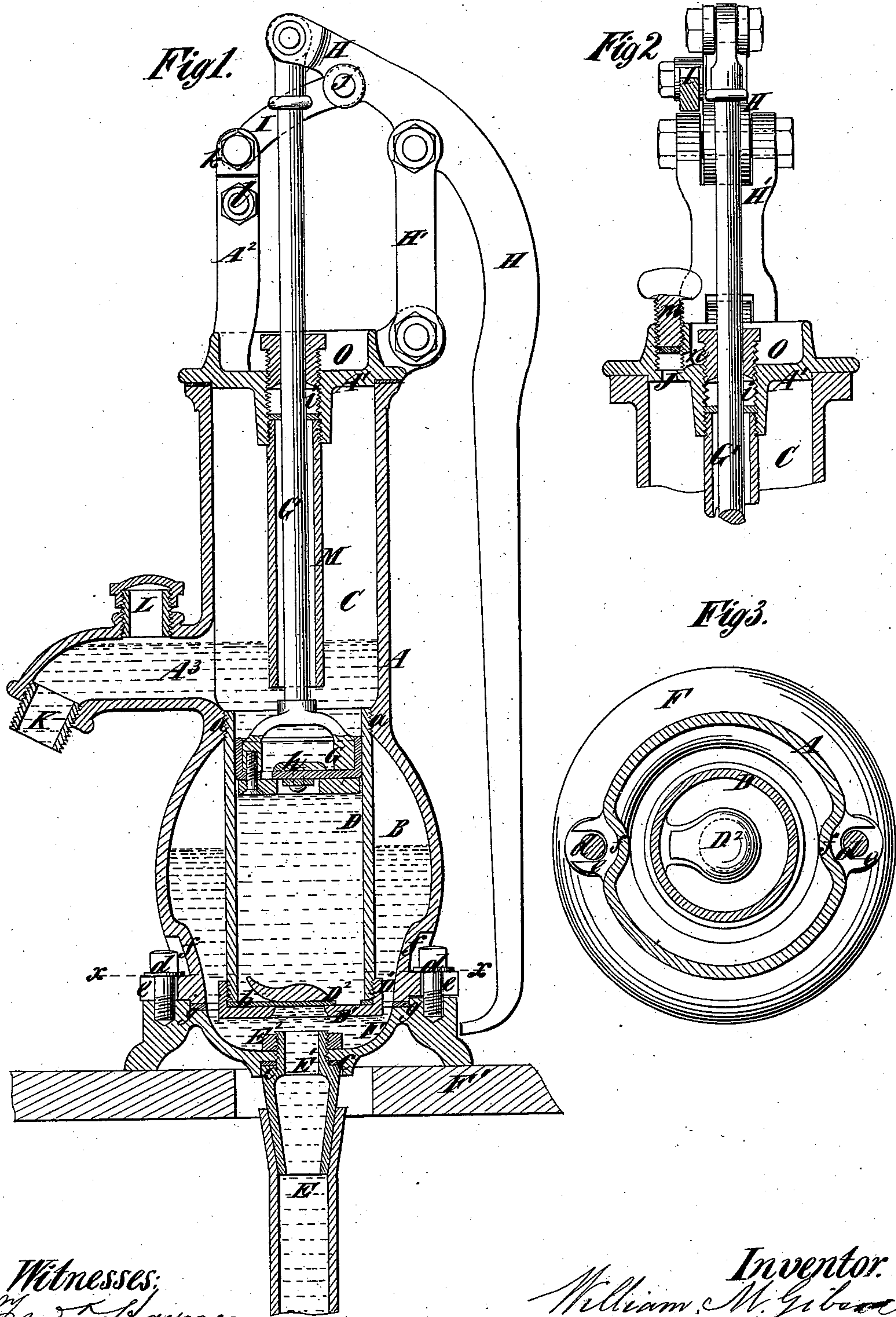


W. M. GIBSON.
Pump.

No. 227,761.

Patented May 18, 1880.



Witnesses:
Fred Stagner
Thomas E. Birch.

Inventor:
William M. Gibson
by his Attorney
Robert Brown

UNITED STATES PATENT OFFICE.

WILLIAM M. GIBSON, OF PHENIX, RHODE ISLAND, ASSIGNOR TO ALBERT
C. GIBSON, OF SAME PLACE.

PUMP.

SPECIFICATION forming part of Letters Patent No. 227,761, dated May 18, 1880.

Application filed July 31, 1879.

To all whom it may concern:

Be it known that I, WILLIAM M. GIBSON, of Phenix, in the county of Kent and State of Rhode Island, have invented new and useful
5 Improvements in Pumps, of which the following is a specification.

My improvements are more particularly intended for pumps used for ordinary household purposes; and their object is to furnish a pump
10 which may be conveniently and expeditiously set up, and is durable in all its parts and very effective in its operation.

To this end the invention consists in the combination, with the body of a pump having
15 an internal screw-thread, of a suspended cylinder adapted to be inserted from the lower end of said body, having an external screw-thread upon one end for engagement with the said internal screw-thread.

20 It also consists in a novel means of adjusting a parallel motion, whereby the pump piston-rod is at all times maintained in line, and side wear upon the several parts of the pump is obviated.

25 It also consists in a novel method of securing the suction-pipe to the pump, enabling the connection to be made very conveniently and expeditiously.

30 It also consists in various details and combinations of parts, hereinafter described.

In the accompanying drawings, Figure 1 represents a central vertical section of a pump embodying my improvements. Fig. 2 is a vertical section of the top portion thereof, taken
35 at right angles to Fig. 1; and Fig. 3 is a horizontal section on the line *x x*, Fig. 1.

Similar letters of reference designate corresponding parts in all the figures.

40 A designates the casing or body of the pump, which is represented as made in one casting, and forms both the vacuum-chamber B and the receiving-chamber C. D designates the pump-cylinder, which may be made of a piece of brass tubing, is adapted to be inserted from
45 the lower end of said casing, and is suspended from its upper end, the casing A being provided with an internal screw-threaded socket, *a*, and the said suspended cylinder, with a corresponding screw-thread for engagement

with the former. This mode of connections 50 enables a tight joint to be conveniently and easily made.

In order to have the vacuum-chamber B at all times in communication with the suction-pipe E, I place the suction-valve at the lower 55 end of the suspended cylinder D. A cap, D', is screwed upon the end of the cylinder, and forms, without any other parts, a seat for the suction-valve D², which may be made in one and the same piece of leather as the packing, 60 *b*, between the cylinder and cap.

The suction-pipe E is connected to the base F of the pump by means of a nipple, E', provided with a shoulder, *c*, bearing upon the bottom of the base, and secured by a screw- 65 nut, E², upon the opposite or under side of the said base. This mode of connecting the suction-pipe enables the pump to be erected upon a shelf, F', and the work of making the connection performed from the top. 70

The casing A of the pump is secured to the base F by means of bolts *d*, which pass through open sided or slotted lugs *e* upon the side of the said casing and enter corresponding lugs 75 in the base. In the sides of the casing A are recesses *f*, for the reception of said bolt-heads, in order to bring them partially under cover of the pump and nearer the packing *g*, so as to make a more secure joint.

The piston or bucket G of the pump is of the 80 kind forming the subject of Letters Patent No. 197,354, granted to me November 20, 1877, and having its valve *h* made of one piece of leather with the cup.

G' designates the pump or piston rod which 85 passes through a stuffing-box, *i*, in the head A', and thence upward to one end of the handle H, to which it is connected. The fulcrum of said handle consists of a swinging link, H', secured at its lower end to a lug extending 90 from the head A'.

I designates a radius-link, of which two might be employed, one upon each side of the piston-rod. The said link is connected to the handle H at *j*, and is hinged at the other end 95 to a fulcrum-piece or standard, A², which is here represented as cast in one piece with the head A'. The standard A², in order to effect

the proper adjustment, is provided with a movable top piece, *k*, which may be adjusted and held in any position by the bolt *l*.

5 The swinging fulcrum *H'* of the handle *H* and the radius-links *I*, when properly adjusted, at all times maintain the piston-rod *G* in line with the pump-cylinder, preventing side wear of any of the parts.

10 If desirable, the handle *H* might be extended upon the other side of the pump, and thus afford means for two persons to operate the pump.

When the pump is to be used for lifting only, air enters through an opening, *J*, in the head *A'*.
 15 When it is desired to use the pump for forcing, the thumb-screw *m*, which has a piece of leather or packing secured to its lower end, is adjusted downward past the opening *n*, through which air passes and closes the opening *J*.
 20 The receiving-chamber *C* then forms an air-chamber, and by screwing a cap over the mouth or nozzle *K* of the spout *A³* and attaching a hose to the nozzle *L* water may be forced to a height corresponding with the
 25 power applied.

M designates a pipe, which surrounds the piston-rod *G'* and is screwed in the head *A'*.

When the pump is used as a force-pump the said pipe extends below the level of water in
 30 the receiving-chamber and prevents air from leaking from the air-chamber *C* through the stuffing-box.

The opening *J*, through which air enters, communicates with a recess, *O*, in the head
 35 *A'*, and, when the screw *m* is adjusted upward, water poured into the said recess will pass into the receiving-chamber *C* for the purpose of charging the pump.

By my invention I produce a pump the parts of which may be readily separated and 40 replaced by others, which may be conveniently erected, and in which the parallel motion may be very readily adjusted so as to keep the piston-rod at all times in line.

What I claim as my invention, and desire 45 to secure by Letters Patent, is—

1. The combination, with the body *A* of a pump having the internal screw-thread, *a*, formed in its contracted opening below the discharge-passage *A³*, and provided with a 50 removable lower end, of a working-cylinder, *D*, having an external screw-thread upon its upper end, and provided at its lower end with a check-valve, said working-cylinder *D* being of less diameter than the removable lower end 55 of the body of the pump, substantially as set forth.

2. The combination, with the piston-rod *G*, handle or lever *H*, link *H'*, and radius-link *I*, of the standard *A²*, cast in one piece with the 60 head *A'*, and provided with the adjustable top piece, *k*, substantially as specified.

3. The combination, with the base *F*, of the pump-body *A*, provided with open or slotted 65 lugs *e* and recesses *f* in the sides of said body, adapted to receive within them the heads of the bolts *d*, whereby the bolts are brought near the joint and are protected from injury, substantially as specified.

WILLIAM M. GIBSON.

Witnesses:

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