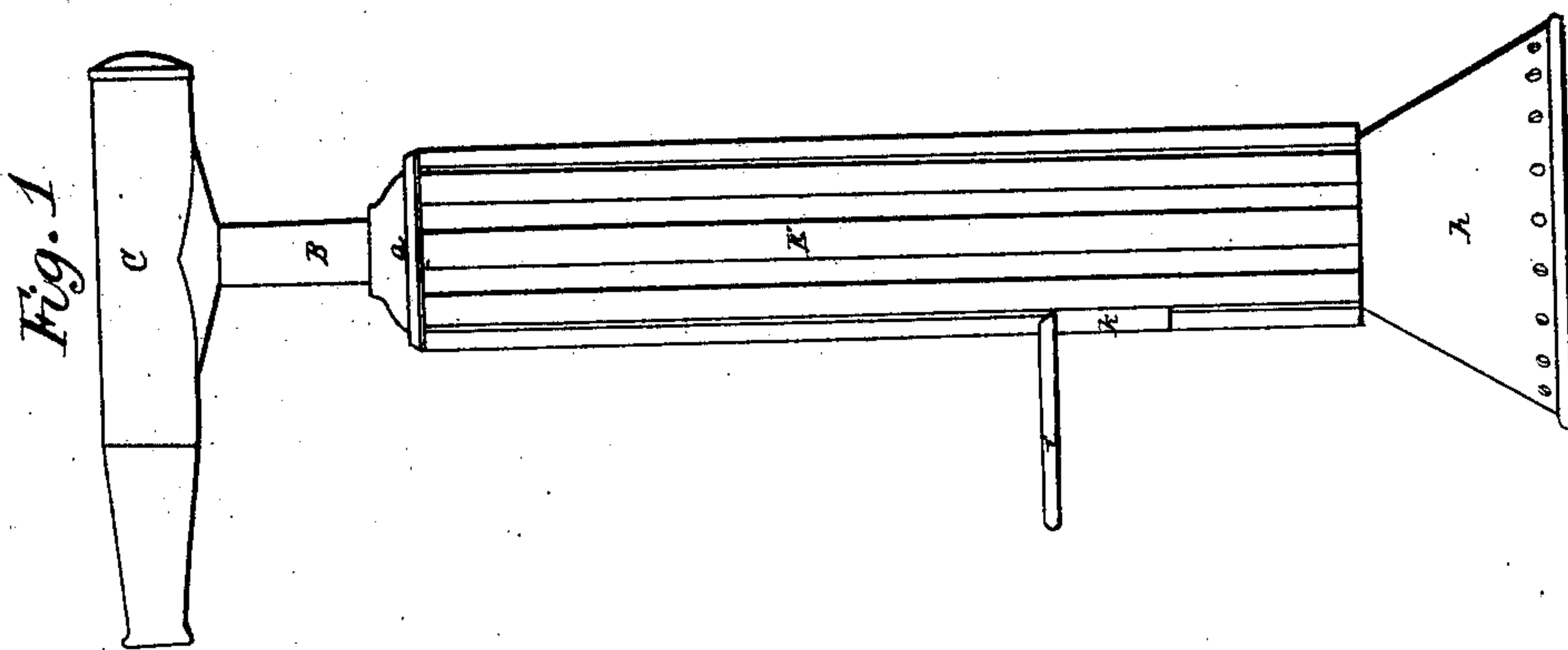
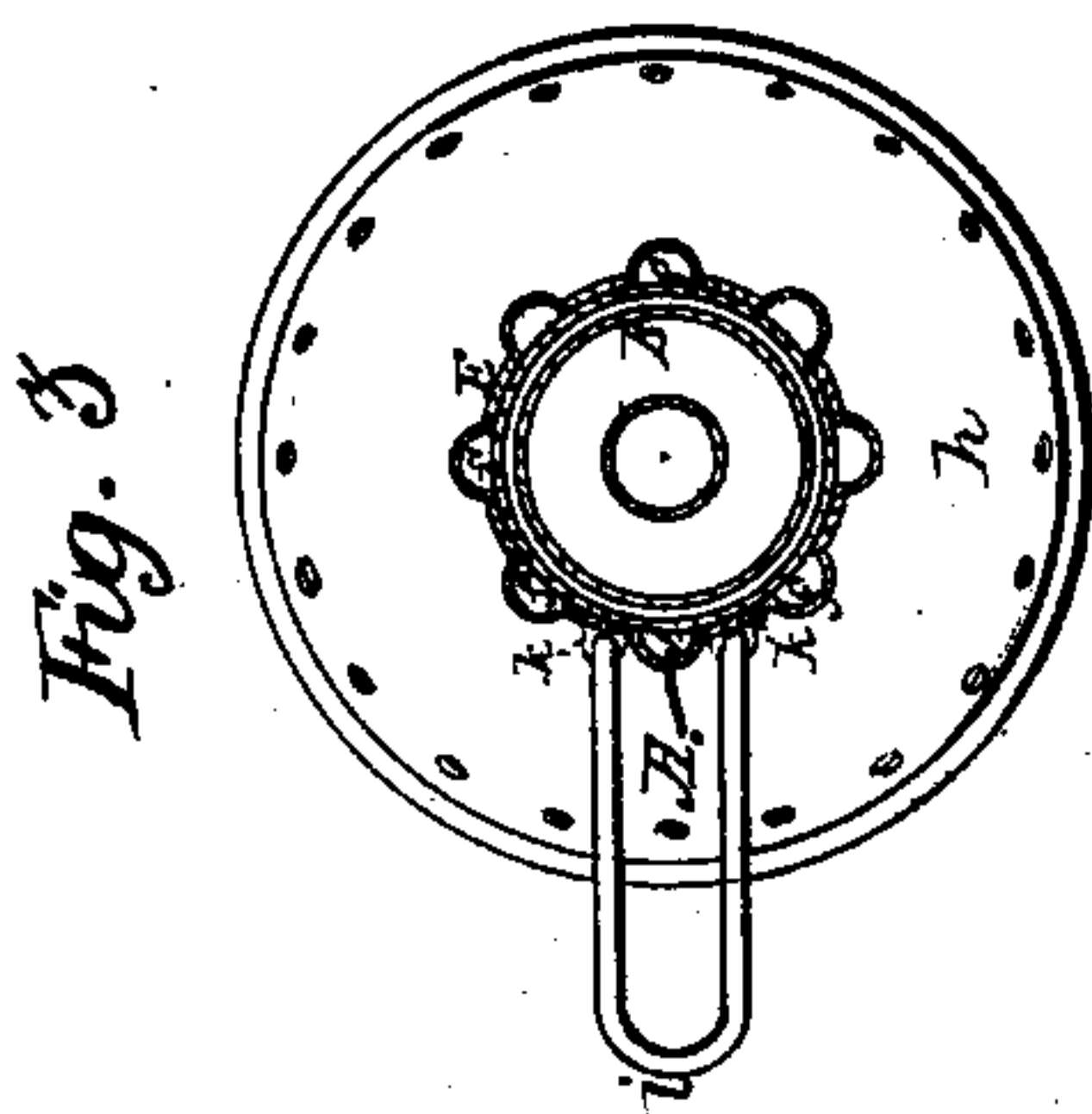
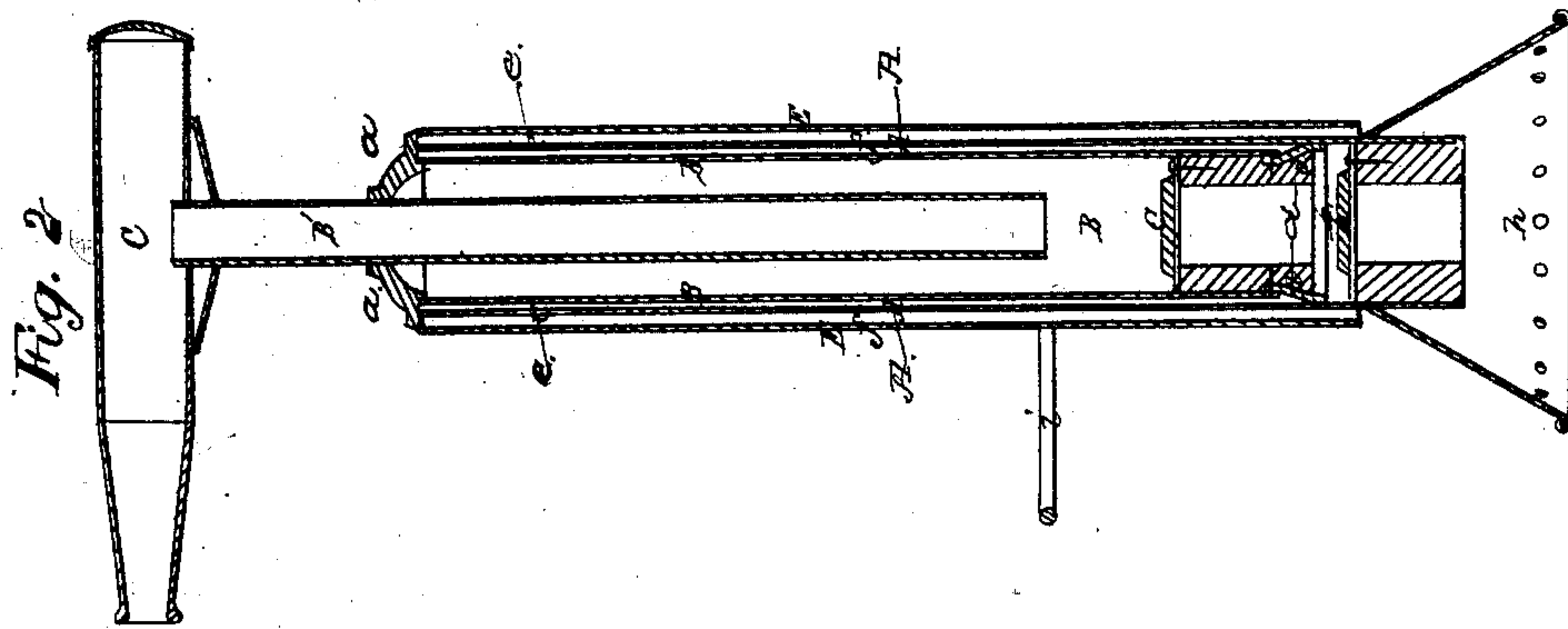


N. Page, Jr.,
Force Pump.
N^o 69578. Patented Oct. 8, 1867.



Witnesses:
Samuel N. Piper,
Lauritz Möller

Inventor:
Nathan Page Jr.
by his attorney
R. W. Bush

United States Patent Office.

NATHAN PAGE, JR., OF DANVERS, MASSACHUSETTS.

Letters Patent No. 69,578, dated October 8, 1867.

IMPROVEMENT IN PUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME :

Be it known that I, NATHAN PAGE, Jr., of Danvers, in the county of Essex, and State of Massachusetts, have invented a new and useful Improvement in Force-Pumps, and for washing windows, watering gardens, etc.; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a side elevation,

Figure 2 is a vertical and longitudinal section, and

Figure 3 a transverse section of a pump provided with my invention.

In this pump the plunger and its handle constitute the eduction-tube or a part thereof, a short hose, provided with a nozzle or jet-tube of any desirable kind, being applied to the discharging end of the handle.

The main purpose of the improvement made by me in this kind of pump is to conduct back into the vessel or bucket, into which the pump may be placed for the purpose of discharging water therefrom, any waste water which may flow up between the plunger and the pump-barrel. The secondary object of my invention is to make a very strong and light pump-barrel.

In the drawings, A denotes the pump-barrel, which may be supposed to have a cylindrical bore, and to be constructed of thin sheets of metal, as tinned iron, for instance. B is the plunger, which is a tube, which is furnished with an annular cap or shoulder, *a*, to rest on the upper end of the barrel when the plunger is in its lowest position. A valve, *b*, to open upward, is placed at the lower part of the barrel. The plunger communicates directly with and opens into its handle C, which is also tubular and open at its smaller end, it being closed at its larger extremity. The pipe B', which leads from the plunger B into handle C, is extended down within the plunger, for the purpose of making a chamber in the upper part of the plunger, in which the air will be compressed by the water, when the plunger is being forced downward, such compression of the air serving to aid in producing a steady discharge through the handle C. There is also a valve, *c*, in the plunger, and at the lower end of the plunger there is a flexible or elastic annulus, *d*, of vulcanized India rubber or leather, which is affixed to the plunger, and otherwise arranged as shown. The pump-barrel is surrounded by a corrugated case, E, which forms a series of channels or conduits, *f f*, extending down from the top to or nearly to the bottom of the barrel, each of such channels being closed at its upper and open at its lower end. There is an opening, *e*, leading from the upper part of the barrel into each, or some one or more of such conduits *f*. Any water or liquid which may be driven or drawn up into the space between the plunger and the barrel will be forced through the opening or openings *e*, and will run down the channel or channels *f* and be discharged into the bucket or vessel from which the water may be extracted. When the plunger is driven downward in the barrel, the resistance of the fluid therein will expand the elastic or flexible annulus and force it closely against the barrel, the water passing up within the plunger. The barrel, at its lower end, may be provided with a bell or conical mouth-piece, *h*, and such barrel may also have a foot-rest, *i*, formed of wire, and inserted in sockets *k k*, fixed to the side of the frame.

What I claim as my invention is—

The combination and arrangement of the corrugated covering E, the barrel A, one or more openings *e*, and the tubular plunger B, opening into the handle C, through the tube B', all substantially as described.

NATHAN PAGE, Jr.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.