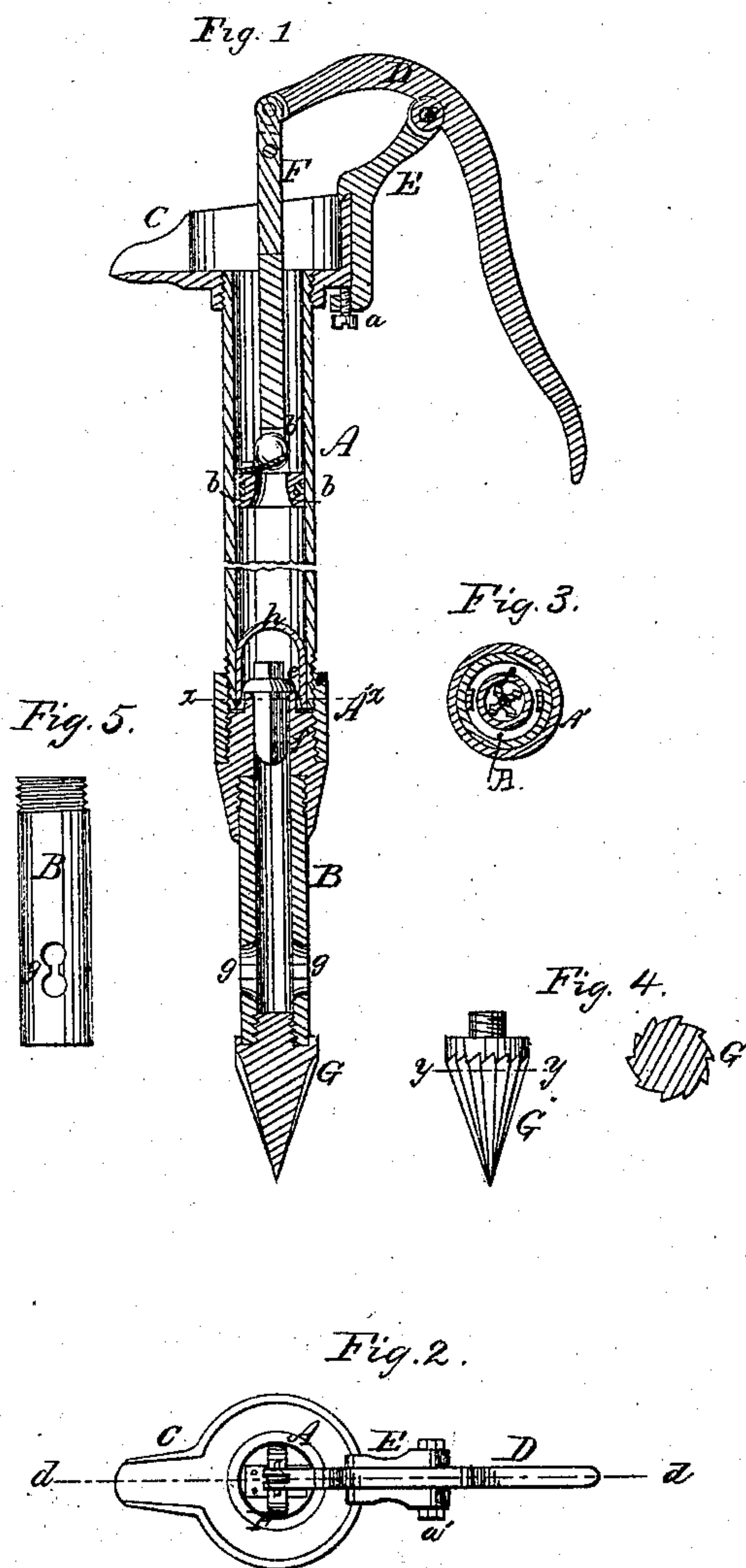


R.E. Strait,

Pump Lift,

No 70,285,

Patented Oct. 29, 1867.



Witnesses
W Clayton
J G Clayton

Inventor.
R. E. Strait
by *W Clayton*

United States Patent Office.

RANSOM E. STRAIT, OF BATTLE CREEK, MICHIGAN.

Letters Patent No. 70,285, dated October 29, 1867.

IMPROVEMENT IN PUMPS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, RANSOM E. STRAIT, of Battle Creek, in the county of Calhoun, and in the State of Michigan, have invented certain new and useful "Improvements in Pumps;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a vertical section through the complete pump.

Figure 2 is a top view.

Figure 3 is a horizontal section through the line of $x x$ in fig. 1.

Figure 4 is a side view and longitudinal section through the line $y y$ of the said view of the conical burr.

The nature of my invention consists in the mode of joining two tubes of unequal size together, of the construction and arrangement of the valves, the valve-seat, and the spout and handle, as hereinafter set forth, and of the slotted holes.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the construction of my invention, in fig. 1, A the upper and larger pipe, B the lower and smaller pipe, C the spout, D the handle, E the bearing or fulcrum of handle; a , screw for attaching the same to the spout; F the piston, b the packing, b' ball-valve, h the movable arch spring, e the valve of metal with four flanges ground to an edge each, to prevent the sand from catching in it; f the valve-seat, which is screwed into the joint A' of the pipe or barrel of the pump; $g g$, holes and slots in the pipe or barrel B; G the conical burr for cutting and boring, attached to the barrel B.

The same letters in figs. 2, 3, 4, and 5 represent like parts as in fig. 1.

In fig. 4 the cutting burrs are shown of the conical point G, both vertically and in cross-section. In constructing the valve-seat f , it will be seen in fig. 1 that that portion on which the valve sets, and which is the seat proper, is allowed to project some distance above the main body of the joint f , so that if any sand or similar substance be carried up above the valve, it may fall over and lodge on it, and not fall back into the tube. The shoulder of this joint is made to fit snugly up against the lower end of barrel A by being first screwed into joint A', and the joint A' being screwed tightly on to barrel A, as seen in fig. 1, causing the shoulder of joint f to fit up against barrel A. The barrel or smaller pipe B is then screwed into joint f , and the conical point G, with cutting burrs, is screwed on to said pipe B. It will be seen in fig. 1 that the spout is made with an open cup, the cup and spout being made of one piece, and is screwed on to the upper end of barrel A, allowing the water to flow into the cup freely, and out of the spout C, without any obstruction. The handle D is attached to the bearing or fulcrum E by a screw-bolt, a' , and this fulcrum E has a clutch which fits snugly down on the top of the spout or cup C, and a projection on its lower end that passes under the cup, through which passes screw a , and which, when screwed up, causes the fulcrum to be firmly attached to the cup or spout C. The valve in this pipe A may be a ball-valve, as seen at b' in fig. 1, or a spring-valve, as seen in colors in same figure. The lower valve e is made with four flanges, e , as seen in fig. 3. Each flange is ground to an edge to prevent any gravel or like substance from lodging in it. The top projects over the flange far enough to cover the valve-seat, and is ground to fit the seat, thus forming a complete valve at the head of the smaller pipe or barrel of the pump. The arch-spring h is to prevent this valve e from being raised out of its position, and is pushed down the barrel from the top. This pump can be increased to any required length by admitting an additional joint or joints in the barrel A, as shown where the barrel may be broken in fig. 1, by a broken line across the barrel A. The barrel being of the same size down to the valve e , I can take out the suction-rod, valve, and spring, if desired, and repair them, or any of them, without raising the barrel or pump. The joint f I call a reducing-socket, as it is made wider at the top of the orifice than at the bottom, thus making it correspond at both ends with the pipes A and B, and to let the water flow freely in passing the valve e . The holes and slots between them are to admit the water into the pipe B. These holes and slots are connected with each other, and are placed on each side. Their number can be increased if desired, and they are made larger on the inside than on the outside, so that nothing of a hard substance will be retained in them, as whatever passes into them must go through into the pipe or barrel of the pump.

In the operation of my invention, having constructed the parts as described, it is driven into the earth or twisted as an auger boring its way, by means of the conical burr-cutting point G to the required depth. When the spout is arranged as described, the rod and valve *b'* inserted, and the handle arranged, it is ready for use. When the handle is raised both the valves are closed, but by depressing the handle the water is caused to ascend past the valve *e* until it rises to valve *b'*, where it is caught by the suction of the same, and is forced up to the cup, and runs off at the spout C. The valve *e* then closes and holds in pipe A all the water above it until another stroke is made with the handle, when another supply of water is brought up, while the water above is carried up as before and runs off at the spout C. Thus the operation is continued, and I am able to raise water to a very great height with ease and facility.

Having thus described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The detachable spout C and rest or fulcrum E, constructed as specified, and operating as set forth.
2. I claim the spring *h*, and valve *e*, and valve-seat *f*, constructed as described, and operating as set forth, and for the purposes specified.
3. I claim the arrangement of the cup or spout C, barrel A, reducing-socket *f*, joint A', barrel B, and conical point G, and valves *b'* and *e*, plunger F, standard E, and handle D, the whole constructed and operating as described, and for the purposes set forth.

In testimony that I claim the above-described "improvements in pumps," I have hereunto signed my name this fourth day of March, 1867.

RANSOM E. STRAIT.

Witnesses:

MADISON YOUNG,
P. H. EMERSON