S. H. Rhoades.

Well Tubing.

No. 58,479. Patented Oct. 2, 1866.

Fig. 1

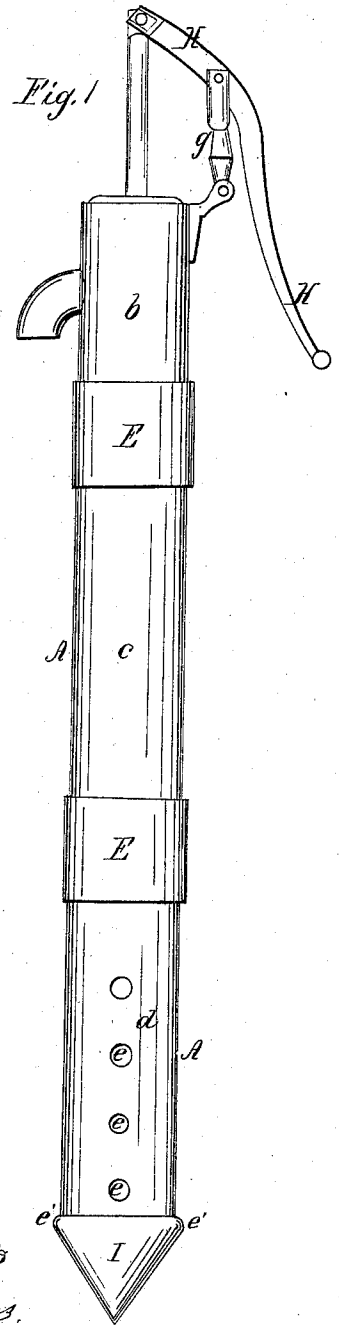
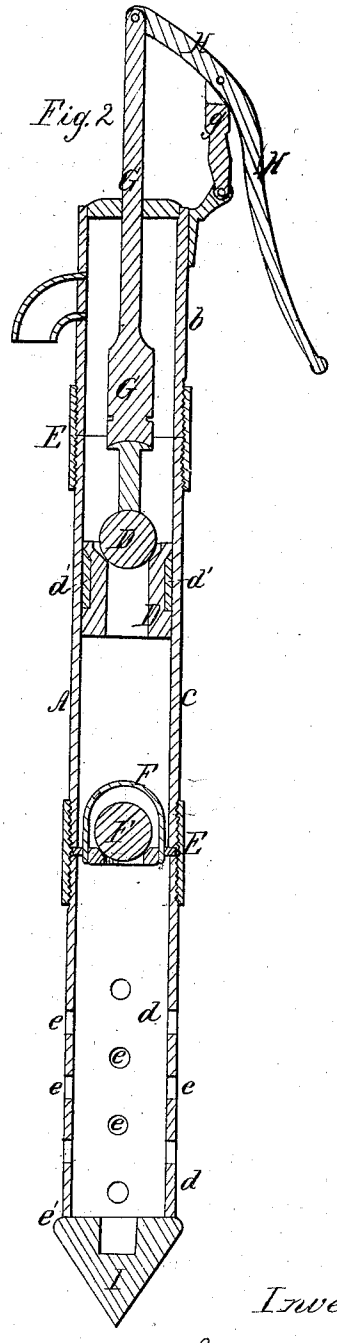


Fig. 2



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UNITED STATES PATENT OFFICE.

SAMUEL H. RHOADES, OF CLYDE, OHIO.

IMPROVEMENT IN DRIVING-PUMPS.

Specification forming part of Letters Patent No. **58,479**, dated October 2, 1866.

To all whom it may concern:

Be it known that I, SAMUEL H. RHOADES, of Clyde, in the county of Sandusky and State of Ohio, have invented certain new and useful Improvements in Pumps; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of the pump. Fig. 2 is a vertical section.

Like letters of reference refer to like parts in the views.

My improvement relates to a drifting-pump, that is inserted or forced into the ground, without previously boring, the lower end of which terminates in a steel point, and above are perforations, to allow the water to enter the pump, that is then pumped out, as hereinafter described.

The pump-barrel or cylinder A is made of sections *b c d* of tubing, of which there can be any desired number, coupled together by the ends being screwed into collars E, as represented in the figures.

The lower section or end of the pump terminates in a sharp point, I, made of tempered steel, that is to be driven into the ground, above which are holes or perforations *e*.

F is a stationary ball-valve, secured between the ends of the sections in the pump, constructed and operating in the ordinary way, or any other kind of a valve can be used.

But it will be observed that the valve and its seat are dependent for their arrangement and stability upon the pressure of the ends of two sections of the pipe, and the support of the screw-collars E, and, consequently, that a necessary relation of arrangement exists between all the said parts, and enlargements of the point I, by means of which space is provided for the free descent of said screw-collars and their adjustment in relation to the sides of the well.

D is a sliding ball-valve, constructed as shown in Fig. 2, with packing *d'* around it, so that it fits close inside of the pump-barrel. This valve is connected to the lower end of the piston-rod G, that extends up through the top of the pump, and to the upper end is pivoted the handle H, that has its bearings in a standard, *g*, connected to the pump, as represented.

In the practical use of this pump, the lower section *d*, by means of the point I, is first driven into the ground, when the valve F is put in the upper end, as shown in Fig. 2. Another section is then attached to this by means of the screw-joint, in which the lower end of the section screws down upon the valve-seat, holding the valve in place. This section is then driven down in the same way.

The enlargement of the cylinder or tubing, by the collar E, presents no obstruction to the descent of the pump, because the point I projects that much, and more, beyond the sides of the cylinder, as shown at *e'*.

When the section *c* is driven down, another section can be connected to the top of it, in the same manner, and so on, of as many sections as may be required in making the well the desired depth, and when the desired depth is obtained, the section *b*, with the piston-rod, handle, &c., is connected to the upper section, the valve being inserted in the chamber, and the lower end of the section screwed into the collar, as represented.

The water flows into the pump through the holes *e*, passes up through the stationary valve, and is pumped out by the valve and piston-rod in the ordinary manner.

There can be any number of sections connected together, as described, according to the depth that the well has to be made, the connections being firm and close.

There can be one or more stationary valves, or any number of lifting-valves required to produce the most perfect operation.

If the pump, when driven into the ground, comes against a rock, it must be withdrawn, and a drill introduced and operated till the water is obtained or the rock drilled through, when the pump is again inserted. This pump is like a curb for the well, as it is being sunk, and it prevents the crumbling of the wall or the well from filling up with dirt.

The tubing forming the sections may be made of wrought-iron, and the sections, where the sliding valves move, lined with brass, to

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make a smoother surface for the valves to slide in, and that is not so liable to rust.

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

The point I, with an enlargement or projection, e', corresponding in size to the sides of the tubular sections and collars, in combination with the said sections and collars, valves F D, and rod G, arranged and operating in the manner and for the purpose set forth.

SAMUEL H. RHOADES.

Witnesses:

J. HOLMES,

A. W. MCCLELLAN.