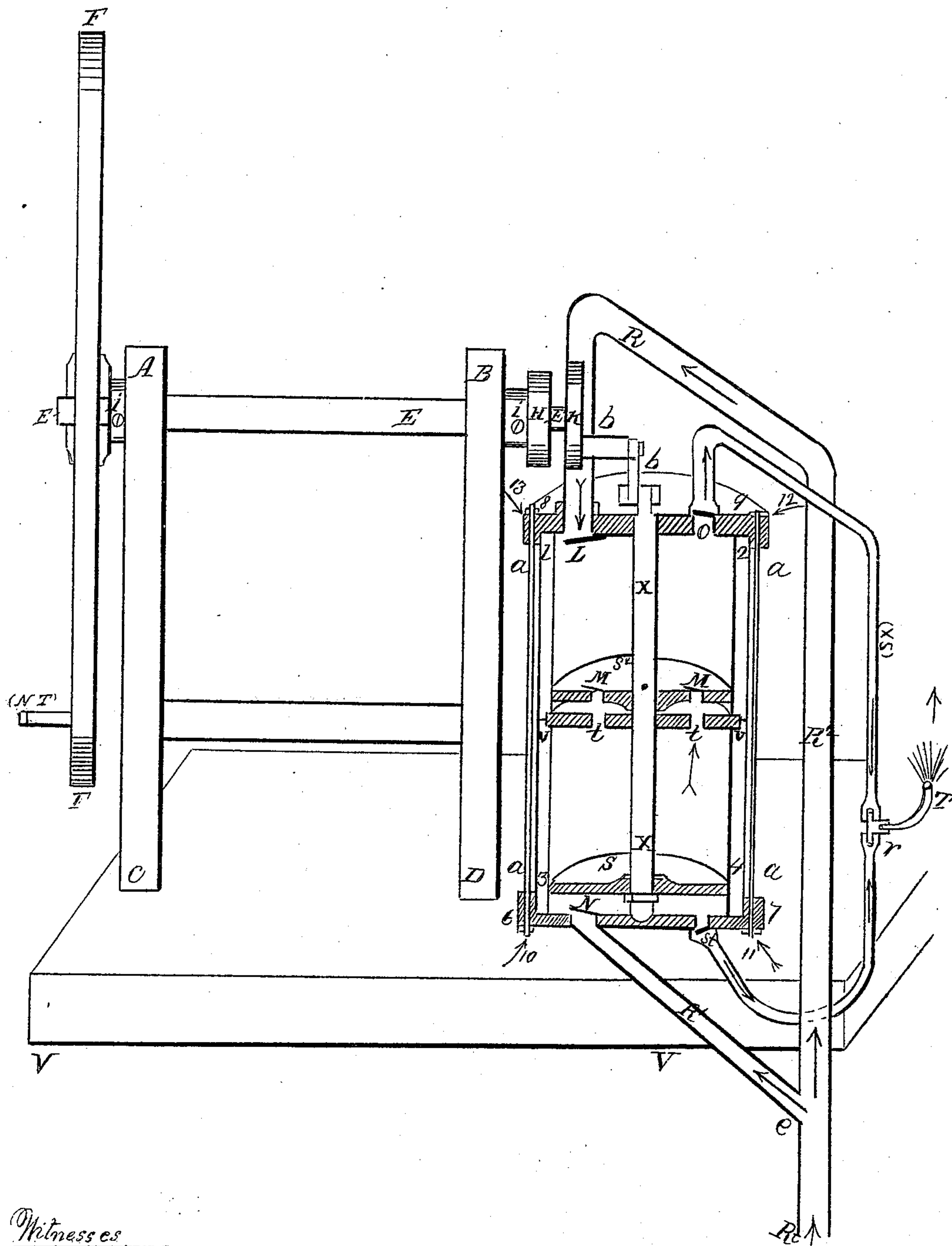


C. Schmidt,

Pump.

No. 92373.

Patented July 6. 1869.



Witnesses
A. J. Taylor.
Thomas Taylor.

Christian Schmidt.

United States Patent Office.

CHRISTIAN SCHMIDT, OF ROCK ISLAND, ILLINOIS.

Letters Patent No. 92,373, dated July 6, 1869.

IMPROVEMENT IN PUMPS.

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

To whom it may concern:

Be it known that I, CHRISTIAN SCHMIDT, of Rock Island, in the county of Rock Island, and State of Illinois, have invented a new and useful "Double-Acting Pump."

I herewith give a full description of the same, the accompanying drawing forming part of the specification.

Plate 1 represents a sectional drawing of my invention.

A B C D represent a suitable frame-work.

V V, the ground-work.

F F, a fly-wheel.

I I are two metallic washers secured in position; (collars.)

E E E, a shaft connecting the eccentric wheel *k* with the crank-combination *b b*, which in turn is connected with the piston *x x*.

S' S² are sectional views of two piston-plates, which are connected with the shaft X X, and are supposed to be air-tight.

L, a valve which opens inward.

O, a valve which opens outward.

N, a valve which opens inward.

S_o, a valve which opens outward.

Figures 6, 7, 8, and 9 represent the top and bottom plates of the double cylinders 1 and 2, and 3 and 4. The cylinders are joined in the centre at U U.

The arrows 10, 11, 12, and 13 point out two or more iron rods, passing through projecting flanges of top and bottom plates. The said plates are so constructed that the cylinders fit within those plates, and are securely held in position. The terminals of the binding-rods are provided with suitable binding-nuts or their equivalents.

The tubes R_o, R¹, R², R, are connected at *e*, and form the feed or supply-pipes of the pump, and S^x S^x are connected at *r*, but either of the tubes described may be separated from the other, and so used.

The pump may be used as two pumps (one for air and the other for water) at the same time.

H is a pulley secured on the shaft described, by means of which the double-acting pump may be

worked by means of steam-power; or, by attaching a handle to the fly-wheel, as at NT, it may be worked by man-power.

O. A represents a cistern of water.

Having described the parts of my invention, I shall now set forth its mode of action.

When the piston is moved upward, the water or air, as may be, will move along the pipe R_o, R¹, and pass through the valve N, and fill the lower cylinder or chamber, while the air above plate S will be forced upward, passing through the openings *t t* of plate U U, (or partition,) filling the chamber under the upper piston-plate S. During the upward motion of the piston, the valves M M will be shut; consequently the air above the valves M M will in like manner be removed upward, and pass through the valve O by S^x *r* to T performing the functions designed.

During the downward motion of the piston, the valves M M will open, while the valves O and N will close. The water or air, as may be, will rush through the valve L, filling the space between L and M M, while the water in the lower chamber will be forced out through the valve S_o by *r* and T.

My invention will be found of great value for many practical purposes, as its construction renders it quite portable.

It can be taken apart with ease and readjusted in a few moments, by having a series of holes in the flanges of top and bottom, agreeing with each other, and say about an inch apart. The cylinder may be readjusted by simply turning one of them round, thus enabling an operator to adjust his tubes to almost any condition required.

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

The combination and arrangement of chambers 1, 2, and 3, 4, with partitions U U and S S², induction and eduction-pipes R R¹ and S^x S_o, combined and operating substantially as described.

CHRISTIAN SCHMIDT.

Witnesses:

THOMAS TAYLOR,

WM. MARTIN.