P. Umholtz,

Rotary Pump,

No. 48,604. Patented July 4, 1865.

Fig. 1.

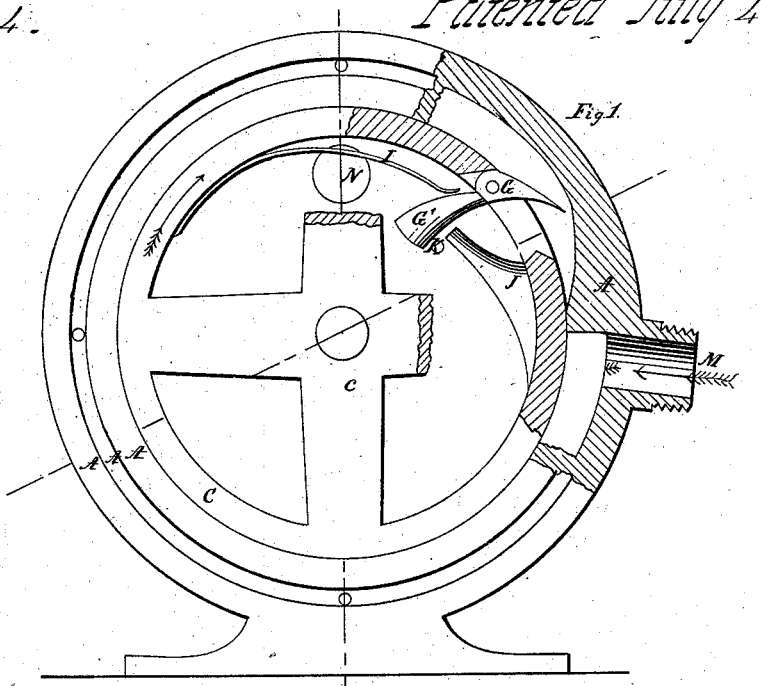
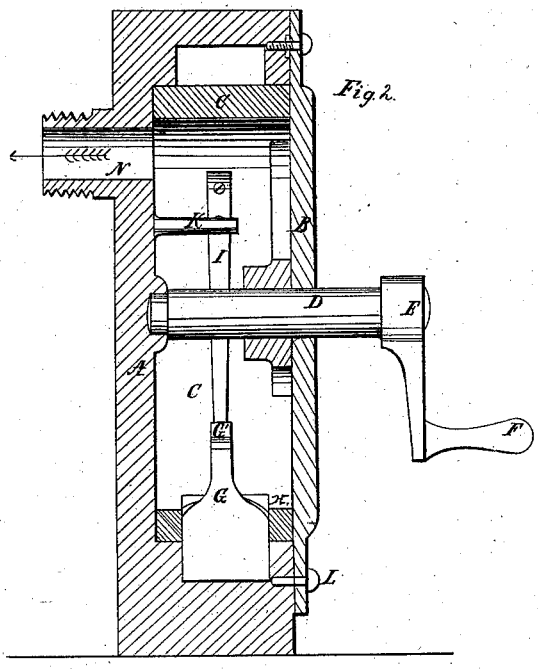


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

PHILIP UMHOLTZ, OF TREMONT, PENNSYLVANIA.

IMPROVEMENT IN ROTARY PUMPS.

Specification forming part of Letters Patent No. **48,604**, dated July 4, 1865.

To all whom it may concern:

Be it known that I, PHILIP UMHOLTZ, of Tremont, county of Schuylkill, and State of Pennsylvania, have made certain new and useful Improvements in Rotary Pumps; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of the pump, the movable side plate being removed, and a portion of the rim and rotating cylinder being broken away to show more clearly the working parts. Fig. 2 is a vertical section on the line *x x*, Fig. 1, the rotating cylinder being supposed to be rotated in the direction of the arrow, so that *y y* thereon shall be in line with *x x*.

Similar letters denote like parts in the two figures.

This pump is constructed with a vibrating valve on the periphery of the cylinder which rotates within the casing, the water which enters from a supply-pipe being drawn from the annular space surrounding the cylinder into the interior of the latter, and discharged at an orifice in the side of the casing.

To enable others skilled in the art to which my invention appertains to fully understand and use the same, I will proceed to describe its construction and operation.

A is an outer casing or cylindrical box containing an annular recess within it, which is traversed by a piston, G, pivoted at H, so as to vibrate within the slot in the periphery of an open-ended spoked cylinder, C, which is attached to a shaft, D, and driven by a crank, E F. The said annular space within the outer casing communicates by the pipe M with the water-supply, and as the cylinder C, under the impulse of the crank, rotates in the direction of the arrow marked upon it the inwardly-projecting arm G′ of the valve G strikes against the pin K, which is permanently attached to the side of the casing, and trips the valve, so that it passes the abutment on the casing, which is seen in Fig. 1 immediately above the water-supply aperture M. As soon as the valve G passes the abutment it is again thrown out by the spring I, so as to occupy the annular space in the cylindrical casing, being restrained from too great a movement in that direction by the stopper J, which is secured to the inner side of the rotary cylinder, and, of course, rotates with it, so as to retain the valve in the right position, not quite in contact with the sides of the annular space, thus preventing the friction of the valve on the sides of the annular space. As the cylinder revolves the water from the pipe M, being pressed against by the valve, and being prevented from escaping forward, owing to the fitting of the cylinder against the face of the abutment, is crowded into the interior of the cylinder and escapes by the pipe or opening N.

The plate B is secured to the side of the casing A by means of the screws L through it and the packing-ring.

Having thus fully, clearly, and exactly described the nature, construction, and operation of my improved rotary pump, what I claim therein as new, and desire to secure by Letters Patent, is—

The combination of the casing A and its plate B and pin K with the rotary cylinder C, vibrating valve G G′, spring L, and stopper J, substantially as described and represented.

P. UMHOLTZ.

Witnesses:

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