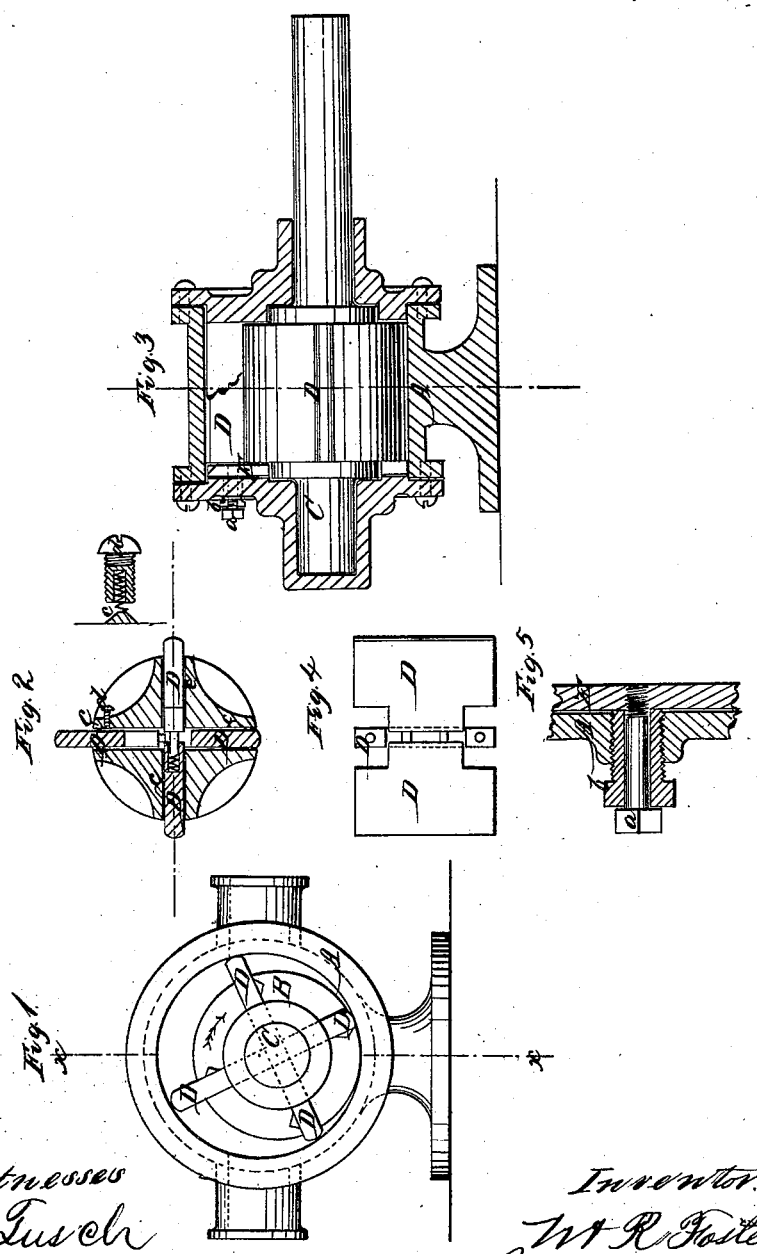
W & R. Foster,

Rotary Pump.

No. 51,936. Patented Jan. 9, 1866.



Witnesses
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UNITED STATES PATENT OFFICE.

WM. FOSTER AND ROBERT FOSTER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN ROTARY PUMPS.

Specification forming part of Letters Patent No. **51,936**, dated January 9, 1866.

To all whom it may concern:

Be it known that we, WILLIAM FOSTER and ROBERT FOSTER, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Rotary Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a front elevation of this invention when the head of the pump-cylinder is taken off. Fig. 2 is a transverse section of the piston detached. Fig. 3 is a longitudinal vertical section of the pump, the line *x x*, Fig. 1, indicating the plane of section. Fig. 4 is a horizontal section of the piston detached, the line *y y*, Fig. 2, indicating the plane of section. Fig. 5 is a detached sectional view of one of the regulating-screws.

Similar letters of reference indicate like parts.

This invention relates to certain improvements in that class of rotary pumps in which the piston-wheel is placed eccentrically in the cylinder and provided with a series of slides, the outer edges of which bear continually against the inner circumference of the cylinder. The ends of these slides and of the piston-wheel work steam or water tight against the heads of the cylinder, and in order to provide for wear one of the heads of the cylinder is made adjustable by means of set-screws. These set-screws are tapped into the adjustable head, and they pass freely through tubes, which screw into the head of the cylinder and bear on the outer surface of the adjustable head, and by adjusting these tubes and the set-screws the position of the adjustable head can be so regulated that the same bears steam or water tight against the end of the piston-wheel and slides, and that a spontaneous or accidental change of the position of said adjustable head is avoided. To prevent the slides from wearing loose in their guide-slots in the piston-wheel, adjustable V-shaped strips are inserted, the position of which can be regulated by suitable set-screws.

A represents the cylinder, which is provided with two openings in its circumference, one to connect with the suction-pipe and the other with the ascension-pipe. The interior of this cylinder is occupied by the piston-wheel B, which is mounted on the shaft C in an eccentric position toward the cylinder, as clearly shown in Figs. 1 and 3 of the drawings. In the piston-wheel work the sliders D; and in order to make up for wear on the ends of the piston-wheel and of the sliders, we have arranged an adjustable head, E, inside of one of the heads of the cylinder. By means of this head the pump can be made to work tight at any moment, and its useful effect is greatly improved. The head is adjusted by means of set-screws *a*, which are tapped into suitable holes in the same, and which pass freely through tubes *b*, that screw into the cylinder-head and bear against the outer surface of the adjustable head, as shown in Fig. 5. Said tubes are provided with heads, so that they can be readily screwed in and out, and by the combined action of the set-screws and tubes the adjustable head is adjusted and firmly locked in the desired position, and it is not liable to change its position spontaneously, and at the same time it can be easily adjusted in the desired position by the combined action of the tubes and set-screws.

The sliders D are liable to wear sidewise in their guide-grooves and to become loose after the pump has been operated for a short time. This difficulty we have overcome by inserting V-shaped strips *c*, of brass or other suitable material, which can be adjusted by set-screws *d*. By means of these strips and set-screws the sliders can be kept tight in their guide-slots for any length of time. and the pump works correct and is not liable to wear out or get out of order.

We claim as new and desire to secure by Letters Patent—

1. The adjustable head E, in combination with the cylinder A, piston-wheel B, and sliders D, substantially as and for the purpose set forth.

2. The combination of the set-screws *a* and tubes *b* with the adjustable head E, and with the cylinder-head and piston, substantially as and for the purpose specified.

3. The V-shaped adjustable strips *c*, in combination with the sliders D of the piston-wheel, substantially as and for the purpose described.

The above specification of our invention signed by us this 23d day of August, 1865.

WILLIAM FOSTER.
ROBERT FOSTER.

Witnesses:
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