L. CHAPMAN.

Rotary-Pumps.

No. 137,057. Patented March 25, 1873.

Fig. 1.

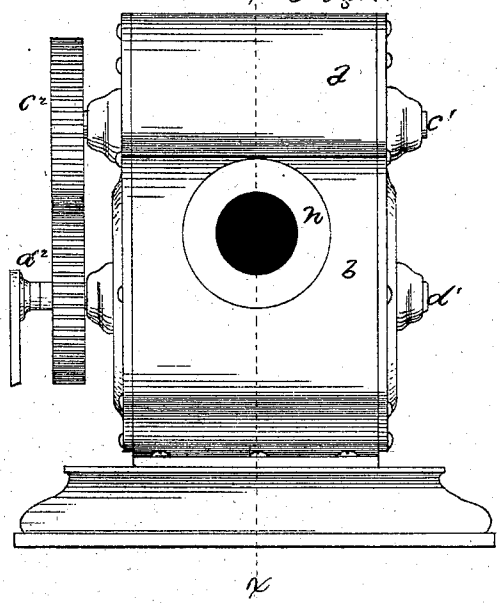


Fig. 2.

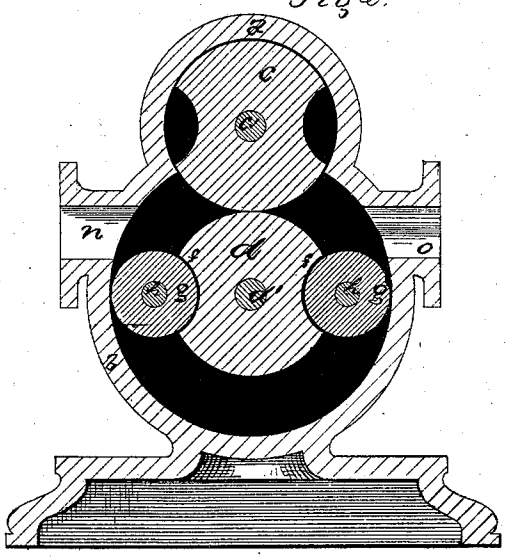


Fig. 5.

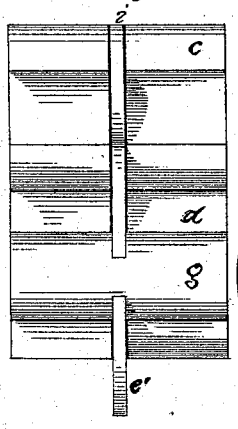


Fig. 4.

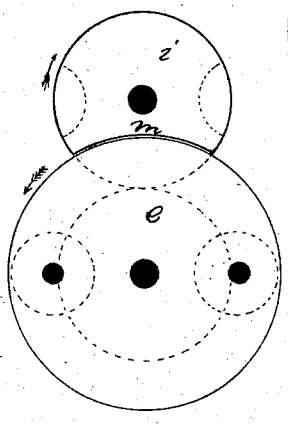
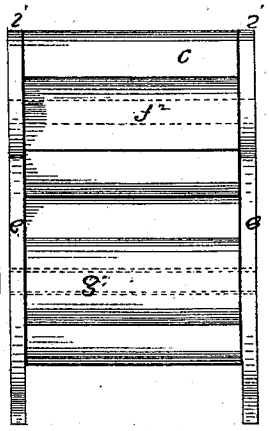


Fig. 3.



WITNESSES.

S. G. Simmonds

John Pollitt

INVENTOR.

Luke Chapman

By W. E. Simmonds

Atty

UNITED STATES PATENT OFFICE.

LUKE CHAPMAN, OF COLLINSVILLE, CONNECTICUT, ASSIGNOR OF ONE-HALF HIS RIGHT TO WILLIAM J. WOOD, OF SAME PLACE.

IMPROVEMENT IN ROTARY PUMPS.

Specification forming part of Letters Patent No. **137,057**, dated March 25, 1873.

D.

To all whom it may concern:

Be it known that I, LUKE CHAPMAN, of Collinsville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Rotary Pumps, as well applicable to rotary motors, meters, and blowers, of which the following is a specification, reference being had to the accompanying drawing, in which—

Figure 1 is a side elevation of the complete pump. Fig. 2 is a view of the same in central vertical section through the dotted line *x x*. Fig. 3 is a side view of the interior mechanism. Fig. 4 is an end view of such interior mechanism. Fig. 5 is a side view of the interior mechanism, of a modified construction.

The outer shell or case is composed of the two hollow intersecting cylinders *a* and *b*. The upper one, *a*, contains the solid rotating cut-off *c*, which just fits into such upper part. This cut-off is set upon and rotates with the shaft c^1. The lower cylinder *b* contains the solid rotating piston *d*, which is of the same size as the cut-off *c* set upon and rotating with the shaft d^1. The gears c^2 and d^2 cause the cut-off and piston to rotate synchronously. Upon the two ends of the piston are the two round plates *e e*, of the same diameter as the internal diameter of the part *b*. These two plates with the piston just fill the part *b* from end to end. In the surface of the piston are parti-circular valve-seats *f f*, in which fit the round valves or buckets *g g* hung upon central shafts *h h*, the ends of which are hung in the plates *e e*, leaving the valves free to rotate. On the ends of the cut-off are two plates, *i i*, of the same size as the cut-off, but with a part of a circle, *m*, cut out at one place fitting upon the peripheries of the two lower plates *e e;* these two plates *i i* do not rotate; taken with the cut-off they just fill the part *a* from end to end. Instead of having the plates described upon the ends of the piston and cut-off, such plates may be set centrally in the length of the cut-off and piston, as shown in Fig. 5, thus necessitating but one plate for the piston and one for the cut-off. In this case the lower plate e' partially embraces the whole body of the valves. Supposing the cut-off and piston to rotate in the direction indicated by the arrows, *n* is the ingress-pipe for the fluid, and *o* the egress-pipe.

I claim as my invention—

The combination of the rotating cut-off, rotating piston, cylindrical valves hung in the plate or plates *e*, and the plate or plates *i*, all constructed and designed for operation substantially as described.

LUKE CHAPMAN.

Witnesses:

OLIVER F. PERRY,

ALBERT L. THAYER.