2 Sheets--Sheet 1.

L. CHAPMAN.

Rotary-Pumps.

No. 137,058. Patented March 25, 1873.

Fig. 1.

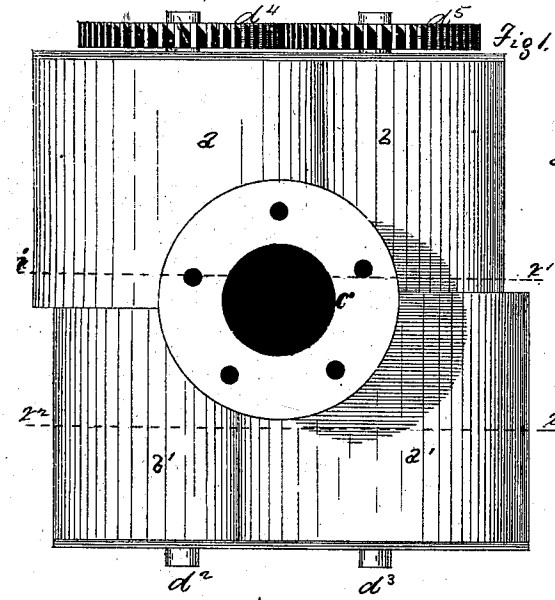


Fig. 2.

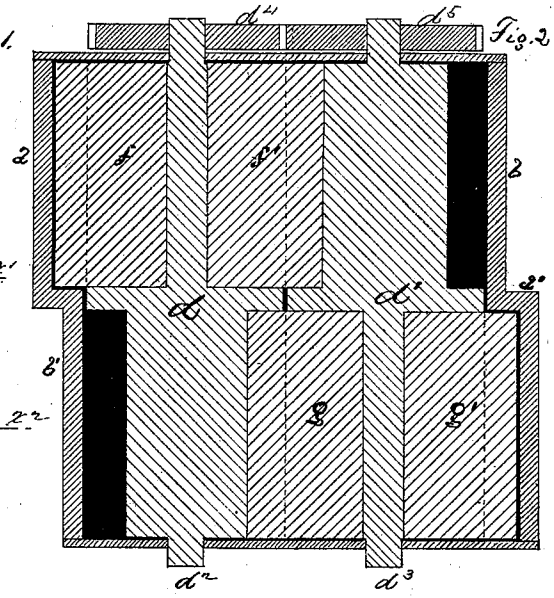


Fig. 4.

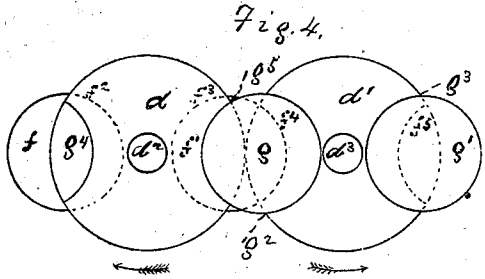
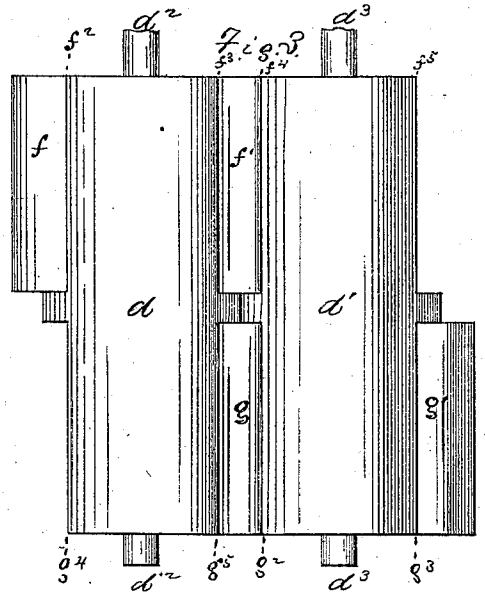


Fig. 3.



WITNESSES.

S. S. Simmons

John Pollitt

INVENTOR.

Luke Chapman

By W. E. Simmons

Atty

2 Sheets--Sheet 2

L. CHAPMAN.

Rotary-Pumps.

No. 137,058. Patented March 25, 1873

Fig 5.

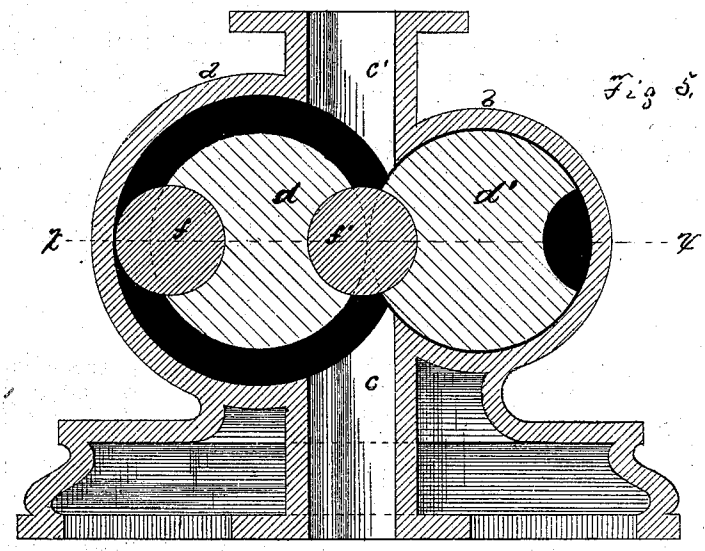
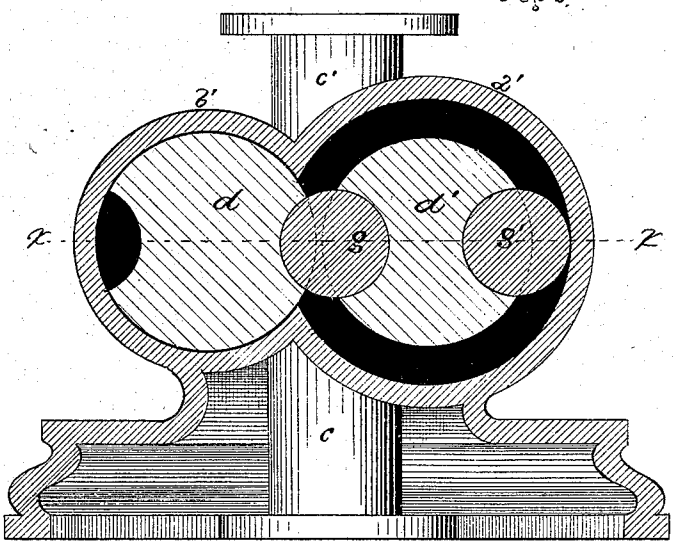


Fig 6.



WITNESSES.

F. G. Simonds

John Pollitt

INVENTOR.

Luke Chapman

By W. E. Simonds
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. **137,058**, dated March 25, 1873.

E.

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, which are 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 top view of the complete pump. Fig. 2 is a view of the same in central horizontal section through the plane, indicated by the dotted lines $x\ x$ in Figs. 5 and 6. Fig. 3 is a top view of the interior mechanism of the pump, consisting of the duplicate rotary pistons and the valves with which they are equipped. Fig. 4 is an end view of the parts shown in Fig. 3. Fig. 5 is a view of the complete pump in vertical section through the plane, indicated by the dotted line $x^1\ x^1$ in Fig. 1. Fig. 6 is a view of the complete pump in vertical section through the plane indicated by the dotted line $x^2\ x^2$ in Fig. 1.

The outer shell or case is composed of two duplicate parts. One of these duplicate parts is composed of the two hollow intersecting cylinders a and b, and the other of the two duplicate parts is composed of the two hollow intersecting cylinders a' and b'. The cylinders a and a' are duplicates, and the cylinders b and b' are duplicates. The whole is, however, cast in one piece. The letter c indicates the ingress-pipe for the fluid, and c' the egress-pipe. The pump has two duplicate rotating pistons, d and d^1, hung on axes d^2 and d^3, and made to rotate synchronously by means of the gears $d^4\ d^5$. The piston d just fills the cylinder b', but there is a water-space around it in the cylinder a. In similar manner the piston d^1 just fills the cylinder b, but there is a water-space around it in the cylinder a'. These two pistons rotate in the direction indicated by the arrows in Fig. 4. The piston d has two round buckets or valves, $f\ f^1$, resting in appropriate valve-seats $f^2\ f^3$ in the piston, and always revolving with it. They just fill out to the shell. The piston d^1 has corresponding valve-seats $f^4\ f^5$, which are temporarily filled by the valves $f\ f^1$ as the two pistons rotate. The piston d^1 has, in like manner, two cylindrical valves, $g\ g^1$, fitting in suitable valve-seats $g^2\ g^3$. The piston d has corresponding valve-seats $g^4\ g^5$, which are temporarily filled by the valves $g\ g^1$ as the two pistons revolve. The valve-seats $f^2\ f^3\ g^2\ g^3$ each take in more than half the valve that rests in it so as to keep the valves to the proper piston.

It will be seen that the arrangement described forms a double pump, so to speak.

I claim as my invention—

The combination of the two duplicate parts $a\ b$ and $a'\ b'$, and the two duplicate rotary pistons $d\ d^1$, each equipped with one or more cylindrical valves, $f\ f^1\ g\ g^1$, and each having a valve seat or seats for the reception of the valve or valves carried by the other piston, the whole constructed and designed to operate substantially as described.

LUKE CHAPMAN.

Witnesses:

OLIVER F. PERRY.

ALBERT L. THAYER.