

L. CHAPMAN.
Rotary-Pump.

No. 220,520.

Patented Oct. 14, 1879.

fig.1.

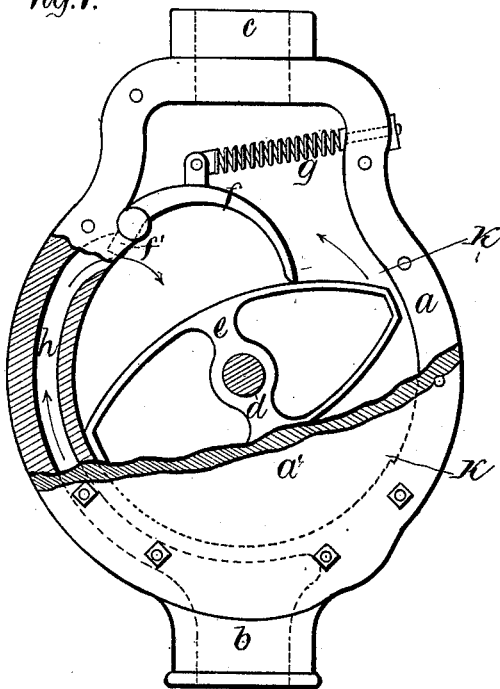


fig.2.

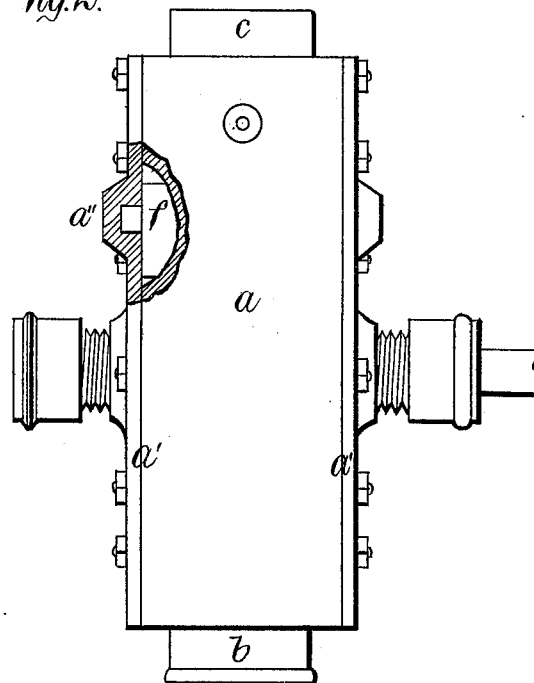
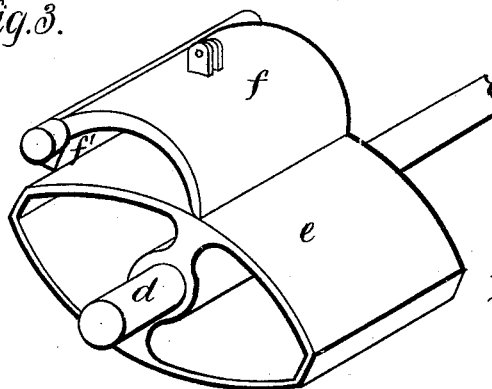


fig.3.



Witnesses:
R. Grayford
Lewis Sperry

Inventor:
L. Chapman,
By Wm. E. Simonds
Atty

UNITED STATES PATENT OFFICE.

LUKE CHAPMAN, OF COLLINSVILLE, CONNECTICUT.

IMPROVEMENT IN ROTARY PUMPS.

Specification forming part of Letters Patent No. **220,520**, dated October 14, 1879; application filed March 7, 1879.

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 pertaining to Rotary Pumps, of which the following is a specification, the accompanying drawings being referred to, and in which—

Figure 1 is a side view of my pump, with one of the covering-plates broken away to show the interior. A portion of the shell is also broken away to expose the water-way contained therein. Fig. 2 is a side view of the pump, a small portion of the shell being broken away to show the bearing of the valve. Fig. 3 represents the plunger and valve in their relative positions, the body of the pump being omitted.

The letter *a* denotes the body of the pump, covered by the plates *a'*, which have cast on them the valve-bearings *a''*. The induction-pipe I represent by the letter *b*, and the eduction-pipe by *c*. The central shaft is designated by letter *d*. On this shaft is fixed a single rotating plunger, *e*, extending from side to side of the pump and of a somewhat elliptical form.

The dog-valve *f* is pivoted by bearings on its ends in the side plates, *a'*, and just above the rotating plunger. Its forward vibrating side bears on the rotating plunger, which revolves toward it, and it is more effectually held to its contact with the plunger by the spring *g*. In any case, where this spring would not be strong enough to force the valve back to position after it had once been raised, it will be

found that the wing *f'*, projecting inward, as it would then do, will be struck by the plunger, and thereby cause the valve to fall back to its position of contact with the plunger.

The fluid that is being pumped finds its way through the induction-pipe *b* to the water-way *h*, from which it is emptied into the body of the pump, and finally is forced out through the eduction-pipe *c*.

It will be seen from the drawings, Fig. 1, that the ends of the plunger are substantially in contact with the circular wall of the pump-chamber from the mouth of the water-way *h* to the point substantially opposite such mouth, at which point the cut-away *k* commences, and extends to the point *k'*. This cut-away allows the water to commence to escape around the end of the plunger the moment the plunger end reaches it, with the resulting tendency of preventing what is called "hammering," and lessening the power required to operate the plunger; and

I claim as my invention—

In combination, in a rotary pump, the body and side plates *a a'*, the water-way *h*, the rotating plunger *e*, the valve *f*, and the cut-away *k k'* in the circular wall of the pump-chamber, commencing at a point substantially opposite the mouth of the induction water-way, all substantially as described, and for the purpose set forth.

LUKE CHAPMAN.

Witnesses:

OLIVER F. PERRY,
R. F. GAYLORD.