W. LYON.

Rotary Pump.

No. 168,034. Patented Sept. 21, 1875.

Fig. 1.

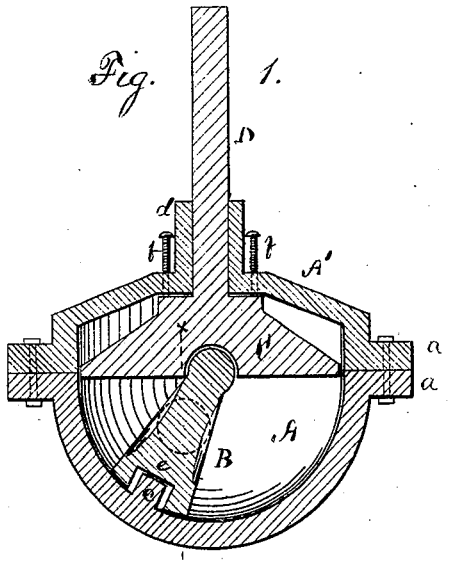


Fig. 2.

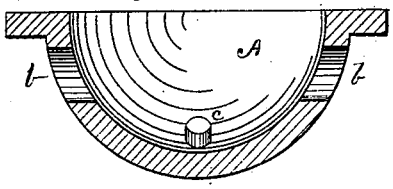


Fig. 3.

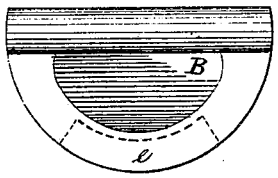
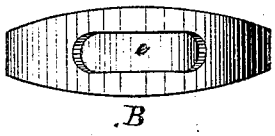


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM LYON, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN ROTARY PUMPS.

Specification forming part of Letters Patent No. **168,034**, dated September 21, 1875; application filed July 30, 1875.

To all whom it may concern:

Be it known that I, WILLIAM LYON, of the city of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Rotary Pumps; and I do hereby declare that the following is full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing and to the letters of reference marked thereon, which form a part of this specification:

The nature and object of this invention is to produce a pump which is susceptible of being packed without having to take it apart, and that is simple in construction and reliable and effective in its operation.

My invention consists in the construction, combination, and arrangement of the several parts constituting the pump, which will be hereinafter more fully set forth and described.

In the accompanying drawing, Figure 1 is a vertical sectional view of a pump combining my improvements. Fig. 2 is a sectional view of the semi-spherical case A, taken through the line *x*, and showing the location of the inlet and outlet ports *b*, which it will be observed are not diametrically opposite each other. Figs. 3 and 4 are detail views of the rotary partition B, showing its peculiar form, and the location of the groove in its periphery.

In carrying out my invention I construct a semi-spherical case, A, and cover A′, which are secured together by means of screws, rivets, or bolts through the flanges *a*, as shown in Fig. 1. Said case A is provided with inlet and outlet ports *b*, and also a hub or guide-pin, *c*, and the cover A′ with a packing-box, *d*, which will be hereinafter more fully explained. I also construct a partition, B, semicircular in form, and otherwise peculiarly shaped, and having a groove, *e*, in the bottom thereof for the reception of the hub or guide-pin *c*, all clearly shown and indicated in Figs. 1, 3, and 4. Said partition B is designed and caused to rotate within the semi-spherical chamber A by means of a grooved disk, C, which fits nicely into said chamber A, and is made to rotate by means of power applied to the shaft D, which passes through the packing-box *d*, all as shown and indicated in Fig. 1. A peculiar and important feature in the construction and operation of the partition B is that it is adjusted upon the hub or guide-pin *c*, located as shown in Fig. 1, which fits into the groove *e*, and as it (the partition B) is made to rotate around said hub or guide-pin *c*, imparts to it a peculiar oscillating motion, which divides the case A into two chambers of constantly varying capacities, thereby producing the suction and expulsion of the liquid through the ports *b* above referred to. As a matter of course it will be understood that the partition B is conformed to and fits nicely into the chamber A, (both being of the same diameter,) as indicated in the drawing. The cover A′ is provided with set-screws *f*, designed to be used, if necessary, as a packing upon the disk C to press the partition B more closely against the sides of the chamber A, if required.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

In a rotary pump, a semi-spherical case, A, provided with the ports *b* and hub or guide-pin *c*, the partition B, having the groove *e*, and the grooved disk C, constructed and arranged to operate substantially as set forth and shown.

In testimony that I claim the foregoing as my own invention I affix hereto my signature in presence of two witnesses.

WILLIAM LYON.

Witnesses:

OLIVER DRAKE,

J. C. TUNBRIDGE.