

W. Butterfield,

Rotary Pump.

No 60,995.

Patented Jan. 8, 1867.

Fig. 3

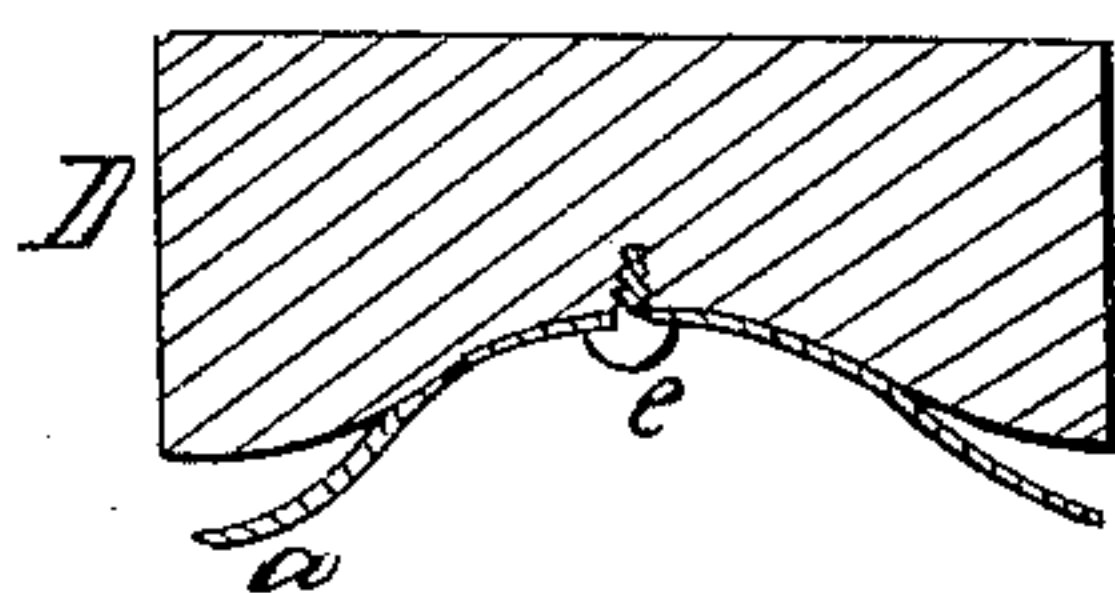


Fig. 1

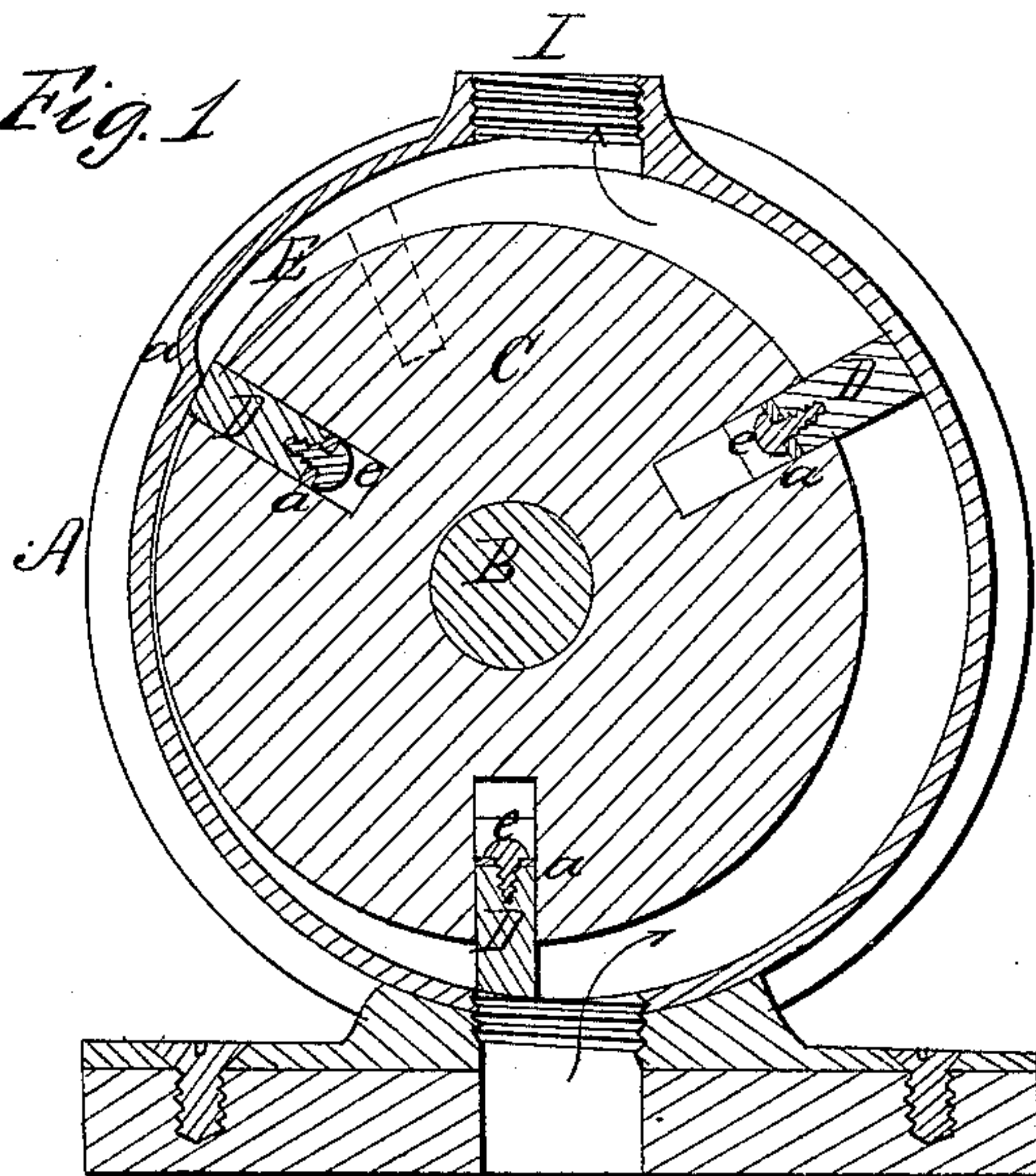
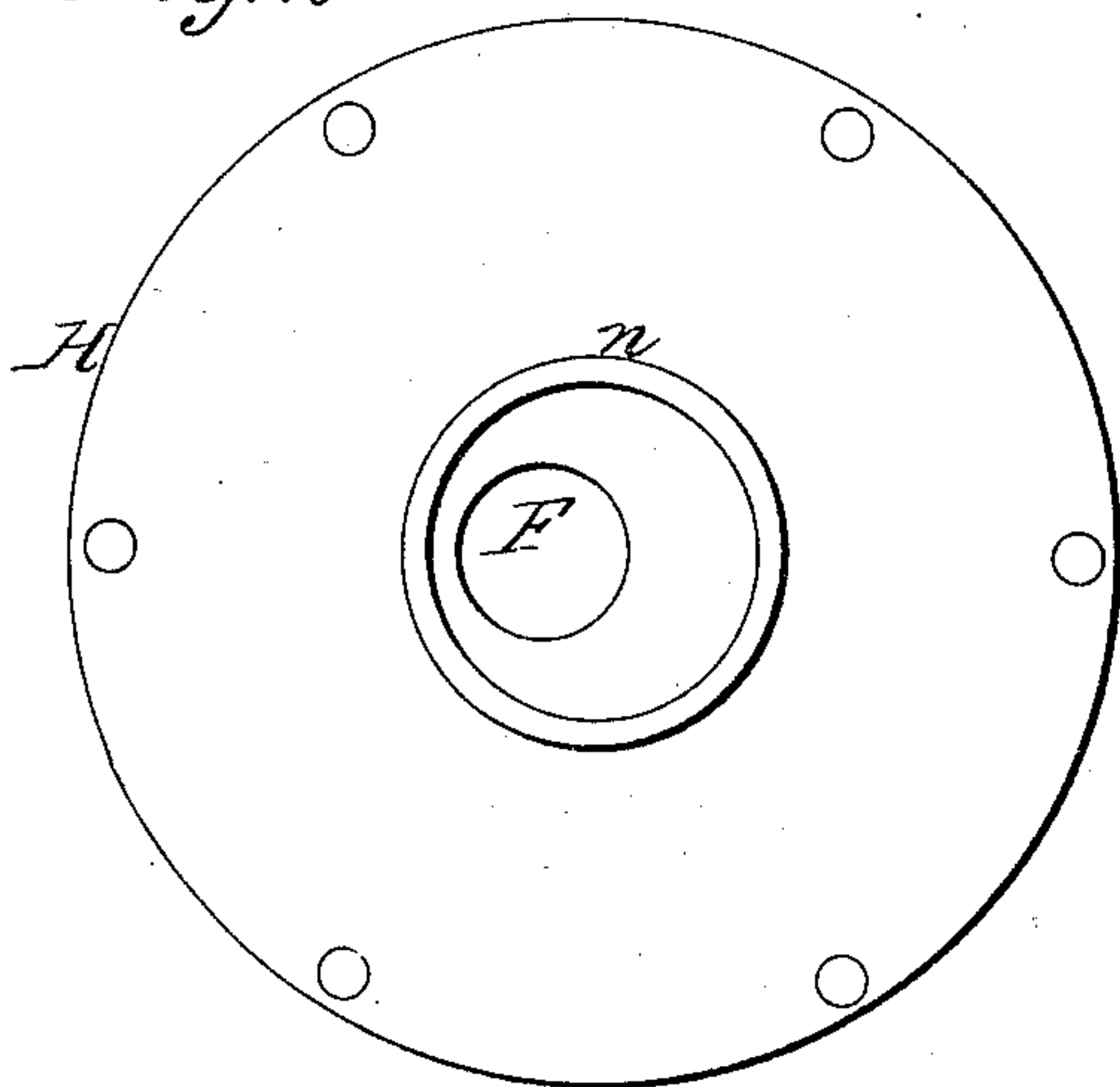


Fig. 2



Witnesses;

P. T. Dodge
P. Wilson

Inventor;
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By W. C. Dodge
att.

United States Patent Office.

W. BUTTERFIELD, OF MADISON, WISCONSIN.

Letters Patent No. 60,995, dated January 8, 1867.

IMPROVEMENT IN ROTARY PUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, W. BUTTERFIELD, of Madison, in the county of Dane, and State of Wisconsin, have invented certain new and useful improvements in Rotary Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use the invention, I will proceed to describe it.

My invention consists in constructing a rotary pump with a chamber formed on the interior surface of the casing, as a reservoir, from which the water is forced in a direction opposite to that in which the cylinder rotates, for the purpose of producing a more uniform flow of the water from the discharge pipe. It further consists in a novel method of arranging and operating the valves or buckets.

Figure 1 is a longitudinal vertical section of the pump complete.

Figure 2 is an inside face view of one of the end plates of the case; and

Figure 3 is a view of one of the buckets detached.

I construct my pump with a circular casing, A, and two end plates, H, which, being bolted together, constitute the case of the pump. C represents a cylinder, equal in thickness to the width of the casing A, which is mounted on a shaft, B, which shaft has its bearings in the holes F of the end plates H. It will be observed that the hole F is located eccentrically, and that the cylinder C is of such a diameter that when thus located its periphery on one side shall just touch, or nearly touch, the surface of the case A, and leave a space on the opposite side, as shown in fig. 1. Three transverse slots are cut in the periphery of the cylinder C, into which are fitted the buckets or valves D, as shown in fig. 1, the form of the buckets being shown in fig. 3. A spring, *a*, is secured to the under edge of the bucket D, the ends of which rest upon the outer surface of the projecting rings *n*, formed concentrically on the inside surface of each of the end plates H, thus serving to keep the buckets pushed out against the casing A, as represented in fig. 1. Upon the upper left-hand side of the casing A, a projection is formed, constituting a chamber, E, internally, as represented in fig. 1. This chamber, E, is slightly narrower than the casing A, so that the casing on each side of the chamber forms a bearing for the outer edge of the bucket, so that while the bucket is passing the chamber E it will occupy the position indicated in red in fig. 1, thereby leaving a space outside of the bucket, through which the water that fills the space between the outlet pipe I and the shoulder *a*, at the end of chamber E, will pass out toward the outlet I, as indicated by the arrow. By these means I construct a pump that is simple and efficient, and from which the flow of water is more uniform than from the ordinary rotary pumps.

Having thus described my invention, what I claim, is—

1. A rotary pump, having a circular cylinder and the chamber E in the casing so arranged that the valves, in passing under the chamber, shall force the water out in the opposite direction, as described.
2. I claim constructing the end plates H with the concentric rings *n*, forming a bearing for the springs *a*, substantially as set forth.
3. The combination of the cylinder C, provided with the buckets or valves D, and set eccentrically in the case A, in combination with the chamber E and the side plates H, provided with the rings *n*, when arranged and operating as set forth.

W. BUTTERFIELD.

Witnesses:

J. C. SCHETTSE,
T. R. HABEL.