J. L. Fagan,

Rotary Pump,

No. 23,162. Patented Mar. 8 1859.

Fig. 1.

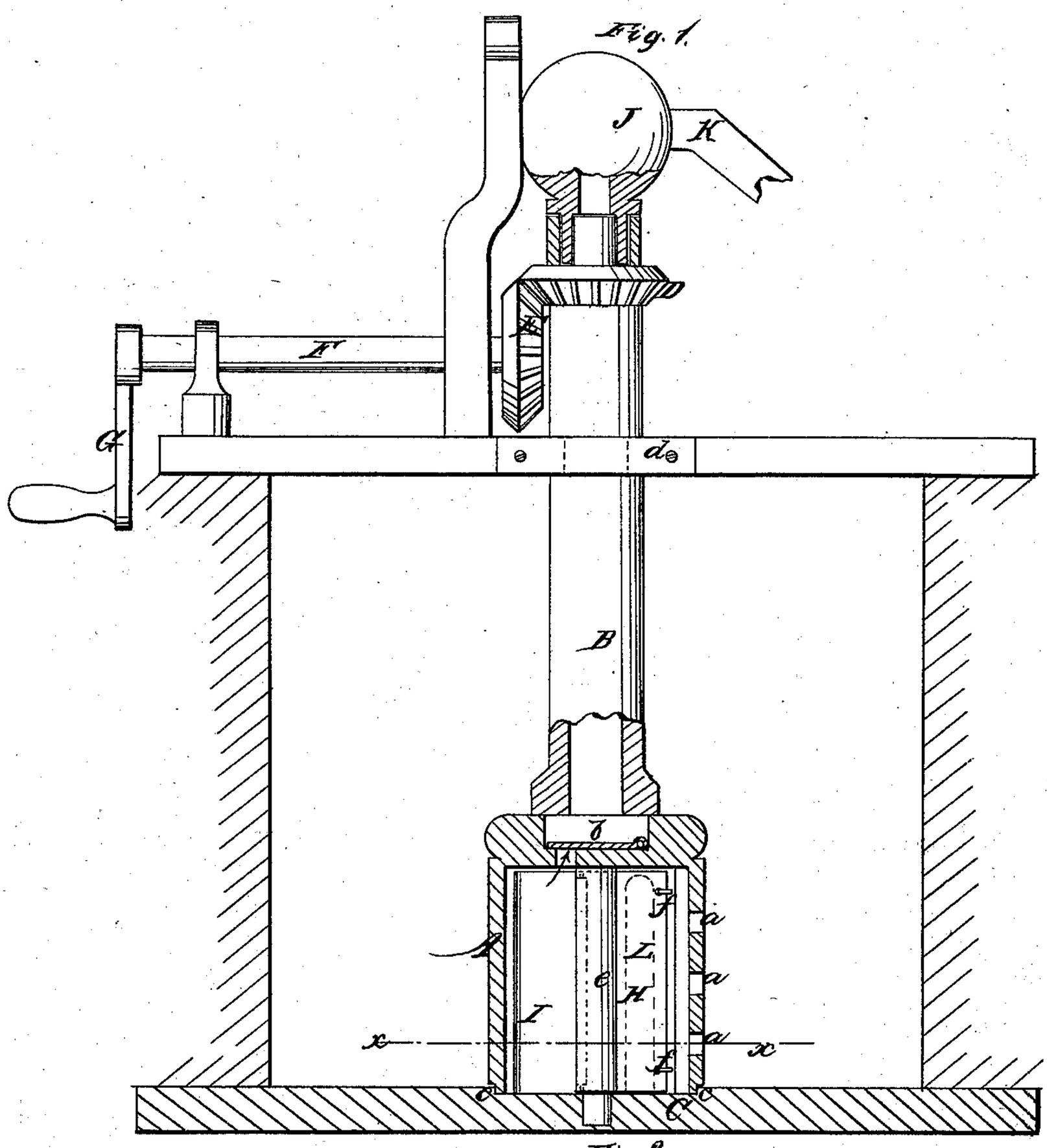
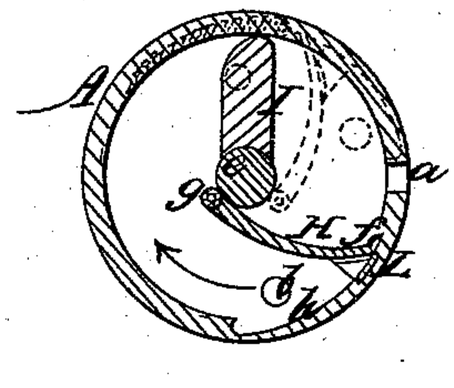


Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES L. FAGAN, OF ANAQUA, TEXAS.

ROTARY PUMP.

Specification of Letters Patent No. 23,162, dated March 8, 1859.

To all whom it may concern:

Be it known that I, JAMES L. FAGAN, of Anaqua, in the county of Victoria and State of Texas, have invented a new and Improved Rotary Pump; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1, is a vertical central section of my invention. Fig. 2, is a horizontal section of the same looking upward.

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to obtain a submerged pump of very simple construction, one to which the motive power may be readily applied, and one which will be efficient in its operation and not liable to get out of repair.

The invention consists in the employment or use of a rotating cylinder provided with a valve or piston and used in connection with a stationary stop or cut-off placed within the cylinder, the latter being attached to a tubular shaft and the whole arranged to operate as hereinafter described, whereby the desired ends are fully attained.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a hollow cylinder which is perforated at one point by holes *a*, placed one above the other as shown clearly in Fig. 1. The cylinder A, is attached to the lower end of a tubular shaft B, and the interior of cylinder A, communicates with the hollow shaft B, by a valve *b*, opening upward. The lower end of the cylinder A, is fitted water tight in a recess *c*, in a bed plate C, and the upper part of the shaft B, is fitted in a proper bearing *d*, in a suitable framing.

On the upper end of the shaft B, a bevel wheel D, is placed, and a corresponding wheel E, which is placed on the inner end of a horizontal shaft F, gears into the wheel D. On the outer end of shaft F, a driving wheel or crank G, is placed.

Centrally and vertically within the cylinder A, a shaft *e*, is attached, the lower end of said shaft being stepped at the center of the recess *c*, as shown clearly in Fig. 1.

Within the cylinder A, there is placed a valve or piston H. This valve or piston is of slightly curved form and extends the whole height of the cylinder A, and from the inner side of the cylinder to the shaft *e*, as shown clearly in Fig. 2. The outer edge of the valve or piston H, is hinged to the inner side of the cylinder as shown at *f*, and to its inner edge that bears against the shaft *e*, a friction roller *g*, is attached.

I, is a stop or cut-off, which is attached permanently to the bed plate C. This stop or cut-off is within the cylinder A, and extends from the shaft *e*, to the edge of the cylinder as shown clearly in Fig. 2.

The upper end of the shaft B, is fitted to a stationary hollow cap J, to which a nozzle K, is attached.

Within the cylinder A, a spring L, is attached. This spring bears against the valve or piston H, and has a tendency to keep the same thrown out toward the shaft *e*. In the inner side of the cylinder A, a recess *h*, is made to receive the valve or piston H, when the latter is forced toward the cylinder. The shaft, cylinder and working parts may be all of cast metal, the framing may be of wood.

The operation is as follows:—The cylinder A, is placed at the bottom of the reservoir or well, the bed plate C, being secured firmly in proper position. The shaft B, cylinder A, and valve or piston H, are rotated by means of the gearing D, E, and the water passes through the perforations *a*, into the cylinder A, and is forced up through the valve *b*, by the action of the valve or piston H, as said valve or piston passes from one side of the stop or cut-off to the other, the stop or cut-off closing the valve or piston or forcing it into its recess *h*, as shown in red Fig. 2, so that it may pass freely around the edge of the stop or cut-off, the spring L, throwing the valve or piston outward, to its original position as the latter passes the stop or cut-off, as shown by dotted lines Fig. 2. Thus it will be seen that the water is forced up through the hollow shaft B, and discharged from the nozzle K, and valve *b*, retaining the water in B, when the piston H, is in operation or when it is closed and is passing around the end of the stop or cut-off I.

I am aware that many forms of rotary pumps have been devised in which stationary and also movable cut offs have been employed and also rotary pistons connected to the cylinder or shell of the pump. I do not claim therefore separately or in the ab-

stract and irrespective of the peculiar adaptation herein shown and described, any of the parts specified, but having thus described my invention,

What I claim as new and desire to secure by Letters Patent, is,

The combination of the rotating hollow shaft B, provided with a valve *b*, the cylinder A, attached to said shaft, perforated at *a*, and having the adjustable or hinged valve or piston H, secured within it, and the stationary stop or cut-off I, attached to the bed plate C, and fitted within the cylinder A, the whole being arranged and applied for joint operation substantially as and for the purpose set forth.

JAMES L. FAGAN.

Witnesses:
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