(No Model.)

J. H. GIBSON.

FOOT VALVE FOR PUMPS.

No. 493,378. Patented Mar. 14, 1893.

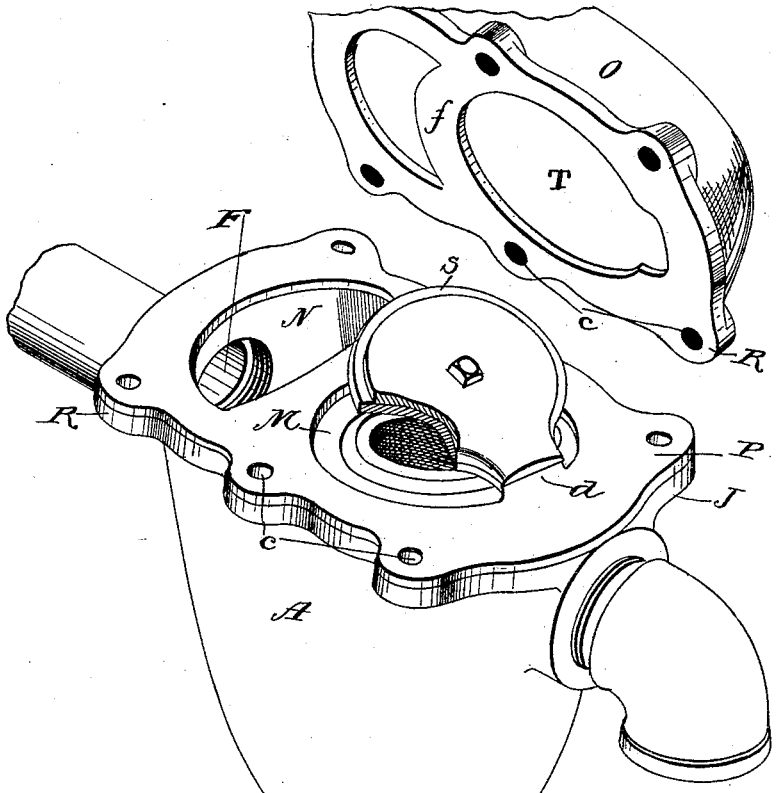

Fig. 1.

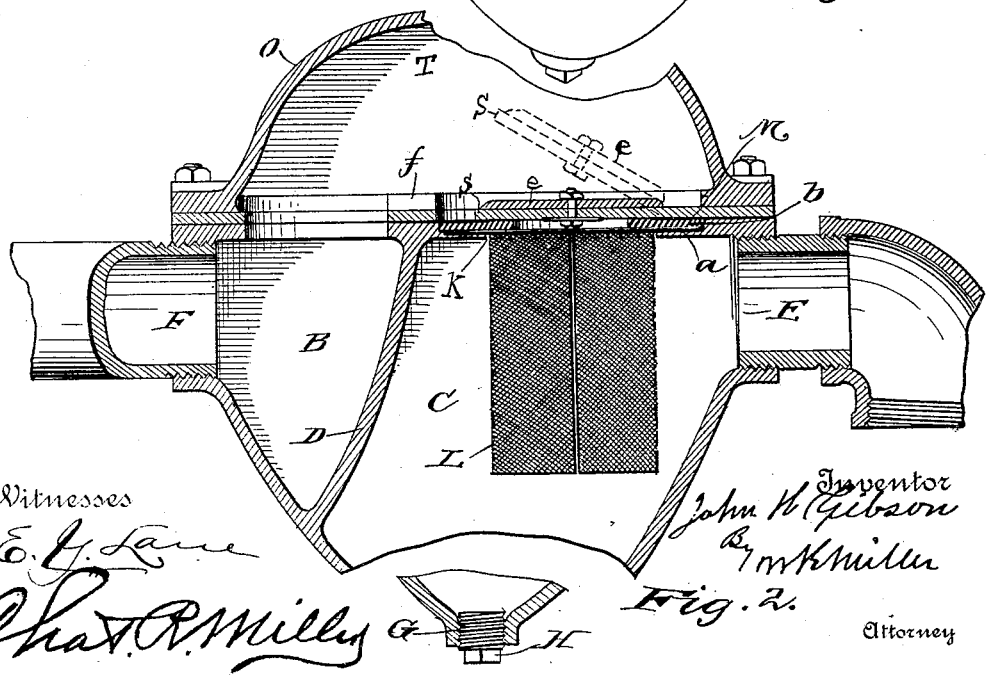

Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN H. GIBSON, OF CANTON, OHIO.

FOOT-VALVE FOR PUMPS.

SPECIFICATION forming part of Letters Patent No. 493,378, dated March 14, 1893.

Application filed June 20, 1892. Serial No. 437,264. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. GIBSON, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have invented a new and useful Improvement in Foot-Valves for Pumps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to an improvement in foot valves and chambers for pumps the object of which is to provide means for protecting the valve from obstructions and to strain impurities from the water or other liquid to be pumped, and for the discharge of such impurities out of the straining or filtering chamber.

With these ends in view my invention relates to certain features of construction and combination of parts as will be hereinafter decribed and pointed out in the claim.

Figure 1 of the accompanying drawings is a view in perspective illustrating my invention, with the cap or cover turned up and back. Fig. 2 is a vertical section.

Referring to Fig. 1, A represents the body or supporting frame which is of the form shown an inverted cone, or substantially so, which is divided into two compartments B, and C, by the partition D, and is further provided with an entrance port E, and an exit port F, through which the fluid may be drawn from the source of supply by the operation of a pump. At the bottom portion of the conical chamber C, there is provided an aperture G, through which impurities that have been strained from the fluid, may be discharged; for the purpose of this application, I have shown the aperture closed by a threaded plug H, turned into a corresponding thread in the aperture, but other devices may be provided for closing and opening the discharge aperture.

In the upper part or face J, is provided an aperture K, in which is placed a strainer L, having a flange *a* that rests in the recess *b* from which depends the strainer into the chamber C. The strainer may be constructed either of wire gauze or of perforated sheet metal, the lower end of the strainer is closed with the same material as that used to form the cylinder portion. On the flange *a* and in the recess *b* is placed a flat ring valve seat M. An aperture N, is also provided in the face J, through which the fluid passes from under the cap O, to the exit port F.

P, is a leather plate packing, having an aperture to correspond with the aperture N, in the plate J, and perforations *c* to correspond with the bolt holes in the flanges R, of the body and the cap O. From the leather packing P, is formed a leather valve S, secured to the packing by the neck portion *d*, a metal weight *e* is secured to the back of the valve portion S. Other forms of valve may be used when preferred. The cap O is raised in form of a hood to provide room for the valve to operate; it is also provided with a flange portion R, and a cross portion *f* by which the packing is held in position between the valve and the aperture N.

The prime object of the invention is to provide an inexpensive means by which the liquid to be pumped may be freed from sand or other impurities that interfere with the operation of the valve.

In operation the port F, is connected with the pump pipe, and the port E, with suction or supply pipe, water or other fluid raised by the operation of the pump will flow into the chamber C, thence through the strainer L, through the valve aperture into the chamber T, under the cap O, and out through the aperture N, and port F, the sand, clay and other substance falling to the bottom of the chamber C, which may be removed or discharged by opening the aperture G at the bottom of the chamber. If the chamber and strainer shall have become so fouled that they cannot be so cleaned, the cap O may be removed, and the valve seat M removed and the strainer lifted out, after which both the strainer and the chamber may be cleaned.

The suction pipe may be attached to the port F, so as to cause the chamber C to be constantly filled with the fluid thus forming an ever present primer to start with.

Having thus fully described the nature and object of my invention, what I claim, and desire to secure by Letters Patent, is—

In combination, a valve casing consisting of a conical body having inlet and outlet openings, a partition D, and openings K and N, a tubular strainer located in said casing and

provided with a flange which rests upon the casing around said opening K, a valve-seat ring M, seated upon said flange, a leather packing P, seated upon the entire upper end of said casing and provided with openings coincident with the openings N, and K, a valve seated within the opening in the packing cover the opening K, and upon the ring M, and a hollow cap seated upon said packing P, and provided with openings coincident with the openings in the said packing, substantially as set forth.

In testimony whereof I have hereunto set my hand this 17th day of June, A. D. 1892.

JOHN H. GIBSON.

Witnesses:
W. K. MILLER,
CHAS. R. MILLER.