(No Model.)

H. E. MARCHAND.

VALVE.

No. 490,878. Patented Jan. 31, 1893.

Fig. 1.

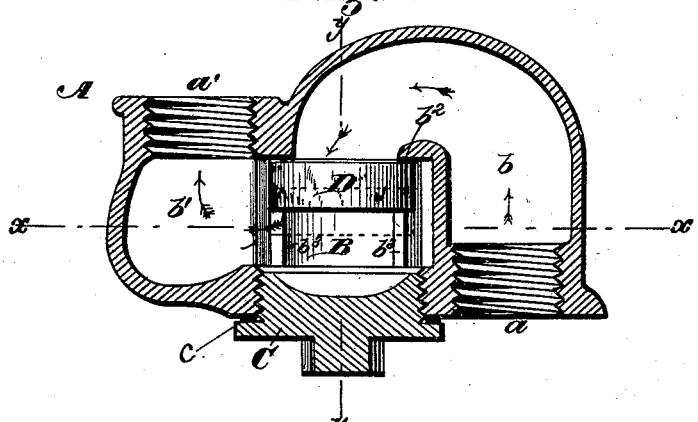


Fig. 2.

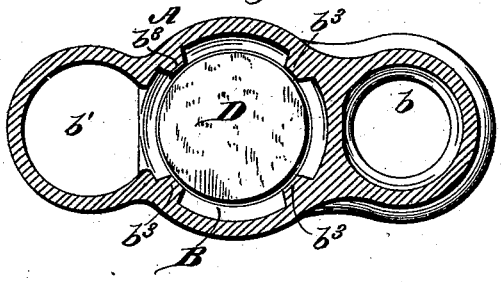


Fig. 3.

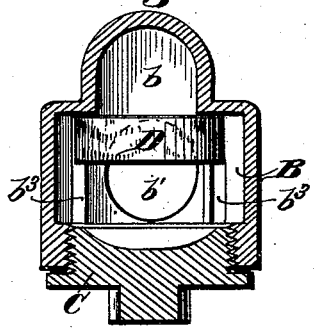
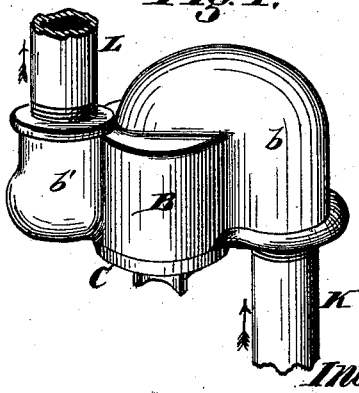


Fig. 4.



Witnesses.
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by William R. Baird
Atty.

UNITED STATES PATENT OFFICE.

HENRY E. MARCHAND, OF BAYONNE, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THOMAS P. RYAN, OF NEW YORK, N. Y.

VALVE.

SPECIFICATION forming part of Letters Patent No. 490,878, dated January 31, 1893.

Application filed March 22, 1890. Renewed August 3, 1892. Serial No. 442,027. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. MARCHAND, a citizen of the United States, residing at Bayonne, Hudson county, New Jersey, have invented certain new and useful Improvements in Valves; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters marked thereon, which form part of this specification.

My invention relates to stop valves, more particularly to that class of valves designed to automatically stop the backward flow of a column of liquid which is being forced upward from a source of supply, and its novelty consists in the arrangement and adaptation of the parts as will be more specifically pointed out hereinafter in the claims.

In the drawings, Figure 1 is a central vertical section of the device, Fig. 2 is a horizontal section of the same on the plane of the line x—x in Fig. 1, Fig. 3 is a vertical section of the same on the plane of the line y—y in Fig. 1 and Fig. 4 is a perspective view.

In the drawings, in which the same letters refer to the same parts in all the figures, B denotes the valve chamber, preferably made cylindrical in form and having three apertures, one, an upper one, into the inlet chamber b and provided with a projecting valve seat b^2, another a side opening into the outlet chamber b' and a third and preferably a bottom opening c by which access is had to the interior of the chamber and which is closed with a plug, C. The chamber B is also provided with suitable vertical projections or guides b^3 which serve to confine and control the motion of the float D. This float D is made of such size that it can not escape through the apertures into the chambers b and b', it is made light enough to float upon the surface of the liquid designed to pass through the device and of such material that it is practically impervious to said liquid. It fits snugly within the guides b^3 and plays against the valve seat b^2. The inlet chamber b is in form of a goose neck and terminates in a threaded aperture opening downward and adapted to receive the inlet pipe K; the outlet chamber b' curves upward and terminates in an upward aperture adapted to receive the outlet pipe L.

The operation of the device is as follows;—The pipe K is connected with the source of supply of the liquid and it is forced to flow through the chambers b, B and b' in the direction indicated by arrows, the pressure of the liquid forces the float D down to the bottom of the chamber B and a continuous flow into the chamber b' is kept up; when this action is discontinued and the pump or other source of power is stopped, the column of liquid in the pipe K and chamber b sinks at once into the reservoir or other source of supply and below the level of the device, that portion of the liquid vertically above the float D and that in the chamber b' and pipe L drops into the chamber B, fills it and the float D rising upon its surface plays against the valve seat b^2 and closes the aperture into the chamber b preventing the liquid from flowing back into the pipe K.

The valve is cheaply made of cast metal, it requires little finishing and is efficient in practice. It will be noticed that the three chambers, b, B and b' are all cast integral and that the only portion of the device proper which is not formed in one part is the plug C. This forms a compact arrangement and insures economy in construction.

What I claim as new is,

The combination with the inlet chamber, b, having a downward opening aperture, and provided with a valve-seat, b^2, of the valve chamber B having guides as b^3, an aperture closed with a plug as C, a third aperture into the outlet chamber b', the float D adapted to serve against said valve-seat b^2, and a plug, as C, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

H. E. MARCHAND.

Witnesses:

J. S. WILLIAMS,

S. PARKER, Jr.