No. 758,053. PATENTED APR. 26, 1904.

J. A. DESMARTEAU.

VALVE.

APPLICATION FILED MAY 23, 1903.

NO MODEL.

FIG. 1.

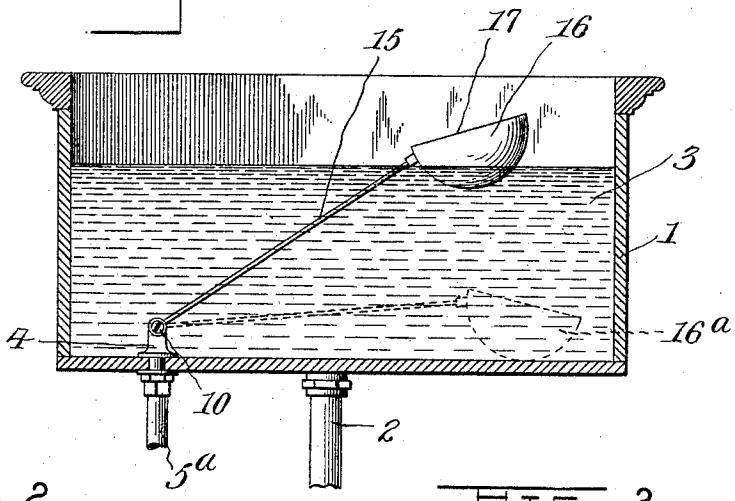


FIG. 2.

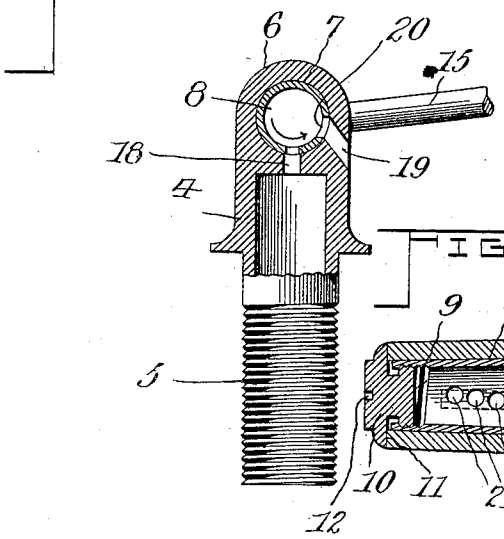


FIG. 3.

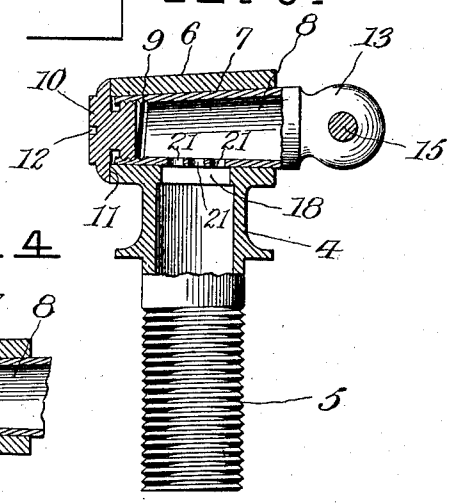
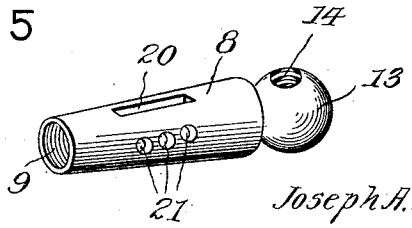


FIG. 4.

FIG. 5.



Witnesses:

J. Ed. Page.

F. D. Ammen

Joseph A. Desmarteau, Inventor

By Marion & Marion

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 758,053. Patented April 26, 1904.

UNITED STATES PATENT OFFICE.

JOSEPH ADOLPHE DESMARTEAU, OF GRANBY, CANADA.

VALVE.

SPECIFICATION forming part of Letters Patent No. 758,053, dated April 26, 1904.

Application filed May 23, 1903. Serial No. 158,554. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ADOLPHE DESMARTEAU, a subject of the King of Great Britain, residing at Granby, county of Shefford, Province of Quebec, Canada, have invented certain new and useful Improvements in Valves; and I do hereby declare that the following is 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.

My invention relates to automatic valves or cocks, and is especially adapted for use in connection with flush-tanks used in closets and similar situations.

The object of the invention is to produce a device adapted to control the inflow of a supply of water to the tank in such a manner as to render the operation substantially noiseless.

The invention consists in the construction and combination of parts, to be more fully described hereinafter and definitely set forth in the claims.

In the drawings, which fully illustrate my invention, Figure 1 is a longitudinal section supposed to have been taken through a flush-tank which is provided with my invention. Fig. 2 is a vertical cross-section through the cock, the lower portion of the body being shown in elevation. Fig. 3 is substantially a longitudinal vertical section through the cock, a portion of the body being shown in elevation, as in Fig. 2. Fig. 4 is a horizontal longitudinal section showing a portion of the plug broken away. Fig. 5 is a perspective of the plug.

Throughout the drawings and specification the same numerals of reference denote like parts.

Referring more particularly to the parts, 1 represents the flush-tank, from which leads a suitable flush-pipe 2, as indicated, the said tank being normally filled or substantially filled with water 3. Preferably located near one extremity of the said tank there is provided a pipe connection or fitting 4, the lower portion whereof is threaded, as indicated at 5, for the purpose of attaching to the same a suitable supply-pipe 5^a, adapted to conduct water to the flush-tank. The upper portion 6 of this fitting 4 is provided with a transverse conical bore 7, so that this portion 6 constitutes the body of a cock. In this bore 7 there is mounted a hollow plug 8, which plug is of conical shape, as indicated, so as to conform to the interior of the bore 7, as shown. The said plug is provided with internal threads 9 at its extremity, which afford means for the attachment of a keeper or nut 10, which comprises a laterally-disposed annular face 11, which abuts the body adjacent to the extremity of the bore in the manner shown, maintaining the plug in position in a manner well understood. This nut may be provided with a slot 12, whereby it may be turned by a screw-driver or similar device. The opposite extremity is provided with an integral head 13, which effectually closes the interior of the plug at this point, as will be readily understood, and this head is provided with a transverse threaded opening 14, in which there is mounted a rod or arm 15, which arm has attached thereto at its extremity a float 16. This float, as shown, consists of an air-tight body formed of light sheet metal. I prefer to give it substantially the form shown, which, it should appear, is substantially that of a hemisphere, the flat face 17 of the hemisphere being uppermost, as shown.

Through the lower portion of the wall of the body 6 there is provided an opening or port 18, which is preferably substantially rectangular in form and disposed longitudinally with respect to the axis of the plug, as shown. This port opens communication between the supply-pipe 5^a and the interior of the bore 7. At the side of the body 6 there is provided an outlet-port 19, which is preferably inclined downwardly, as shown, and which is of a form substantially similar to the aforesaid port 18. The plug 8 aforesaid is provided with an opening 20, which may aline with the said port 19, so as to open communication with the interior of the plug, as indicated most clearly in Fig. 2. There are also provided in the lower side of the said plug a plurality of openings 21, preferably of circular form, as shown, and disposed upon a line inclined with respect to an

element of the conical face of the plug. When the openings 19 and 20 are in alinement in the manner indicated in Fig. 2, these openings 21 are substantially in alinement with the aforesaid port 18. It should be understood that this position of the plug corresponds to the empty position of the flush-tank, and when the plug is in this position the float 16 would occupy substantially the position in which it is shown in dotted outline at 16^a. When the plug is in this position, water from the supply-pipe will of course flow through the same to fill the flush-tank, and as the flush-tank fills evidently the float 16 will rise with the water-level and will operate the arm 15 in such a manner as to gradually rotate the plug in the direction of the arrow indicated thereupon in Fig. 2. It should be understood, however, that even when the cock is in its open position the flow through the same is restricted by reason of the form and arrangement of the aforesaid openings 21, which are, by the way, preferably three in number, as shown. In this manner while the filling of the tank is effected the violence of flow of the water is impeded to a certain extent, so as to render the operation substantially noiseless, and as the filling process proceeds through its different stages the rotation of the plug brings the openings 21 successively into their most effective position, eventually bringing the last of the three openings to such a point as to cut off admission of water through the port 18, and when this occurs of course the flow of water into the tank ceases.

While I have shown in the accompanying drawings the preferred form of my invention, it will be understood that I do not limit myself to the precise form shown, for many of the details may be changed in form or position without affecting the operativeness or utility of my invention, and I therefore reserve the right to make all such modifications as are included within the scope of the following claims or of mechanical equivalents to the structures set forth.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination, a body having inlet and outlet ports, and a plug rotatably mounted within said body, said plug having an inlet, and a single row of outlets disposed progressively with respect to an element of its periphery, and so situated that all of the said outlets may register with said body outlet-port, when the body and plug inlets are in registry, and be closed one by one as the plug is rotated.

2. In combination, a body having a bore, transverse inlet and outlet ports communicating therewith, and a hollow plug rotatably mounted in said bore, said plug having a transverse inlet, and a plurality of transverse outlets disposed progressively with respect to an element of its periphery, and so situated that all of said outlets may register with said body outlet-port when the body and plug inlets are in registry, and be closed one by one as the plug is rotated.

3. In combination, a body having a conical bore, transverse inlet and outlet ports communicating therewith, a hollow plug rotatably mounted in said bore, a float rigidly attached to said plug, and a tank in which said float lies, said plug having a transverse inlet, and a plurality of transverse outlets disposed progressively with respect to an element of its periphery, and so situated that all of said outlets may register with said body outlet-port when the body and plug inlets are in registry, and be closed one by one as the plug is rotated.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOSEPH ADOLPHE DESMARTEAU.

Witnesses:
J. A. MARION,
F. MYNARD.