

J. L. DENNIS & J. HUNTINGTON.
VALVE.

APPLICATION FILED MAY 8, 1911.

1,004,751.

Patented Oct. 3, 1911.

Fig. 1.

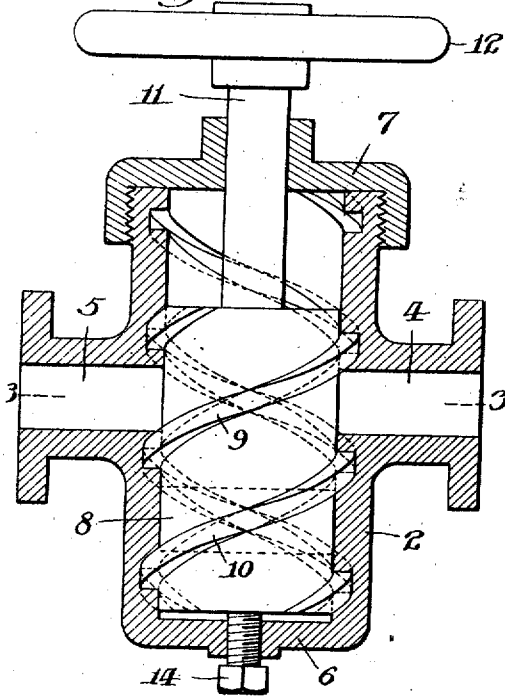


Fig. 2.

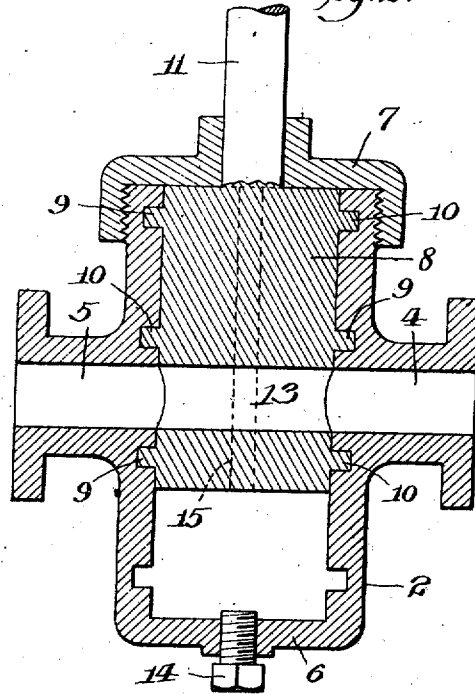


Fig. 4.

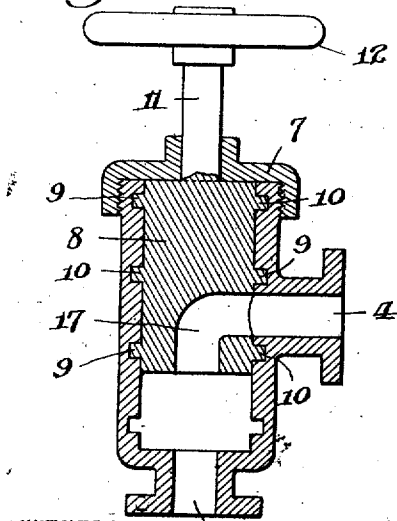
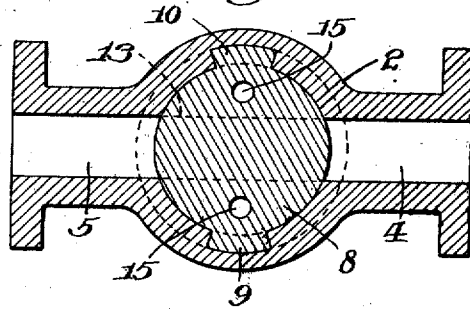


Fig. 3.



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JOHN L. DENNIS AND JOSEPH HUNTINGTON, OF PHILADELPHIA, PENNSYLVANIA.

VALVE.

1,004,751.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, JOHN L. DENNIS and JOSEPH HUNTINGTON, citizens of the United States, residing at the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Valves, of which the following is a specification.

The object of our invention is to provide a valve of novel, simple and efficient construction in which a plug provided with screw threads is employed in a casing provided with an inlet opening and an outlet opening, and in which the screw threads are so related to said openings that the plug may be operated to open and close the valve and to effect a tight joint closing the inlet opening.

With this object in view, the invention consists in the novel construction and combinations of parts which will be hereinafter fully described and claimed.

In the drawings: Figure 1 is a vertical section of our improved valve in the closed position and showing the plug in elevation. Fig. 2 is a similar view of the valve in the open position, showing the plug in section, and the operating handle broken away. Fig. 3 is a horizontal section, on line 3-3 of Fig. 1. Fig. 4 is a vertical section, showing a modified form of the invention.

Referring to Figs. 1, 2 and 3, 2 designates a cylindrical casing having a lateral inlet opening 4 and a lateral outlet opening 5 therein, as shown. The lower end of the casing 2 is closed by a bottom wall 6, and the upper end of the casing is closed by a cap 7 screwed on to the casing.

Fitted to the interior of the casing 2 is a cylindrical plug 8 which is provided with two screw-threads 9 and 10. These screw-threads 9 and 10 are fitted to corresponding screw-threads formed in the casing 2, whereby when the plug 8 is turned it may be moved from the closed position, shown in Fig. 1, to the open position, shown in Fig. 2, and back again. As a means whereby the plug 8 may be turned to open and close the valve, we provide the plug 8 with a stem 11 which extends out through the cap 7 and is provided on its outer end with a suitable hand wheel 12.

The screw-threads 9 and 10 extend around the plug 8 in parallel relation to each other, and the distance between the screw-threads 9 and 10 is greater than the diameter of the

inlet opening 4 so that one screw-thread will extend around one side of the plug 8 from a position above the inlet opening to a position below the inlet opening, while the other screw-thread extends around the other side of the plug 8 from a position above the inlet opening to a position below the same, thus not only closing the inlet opening by the body of the plug 8, when it is in the position, shown in Fig. 1, but also closing the inlet opening by the engagement of the screw-threads 9 and 10 with the screw threads formed in the casing 2. The plug 8 is provided with a transverse opening or passage way 13, which, when the plug 8 is raised to the position shown in Fig. 2, is adapted to register with the openings 4 and 5 to afford communication between the same when the valve is open. The cap 7 forms a stop limiting the upward movement of the plug 8, and the downward movement of the plug 8 is limited by the upper or inner end of the screw 14 screwed into the central portion of the bottom wall 6 of the casing.

When the valve is closed the plug 8 is screwed hard against the screw 14 thereby forcing the upper faces of both screw-threads 9 and 10 into close engagement with the opposing faces of the screw-threads formed in the casing 2. This, with the arrangement of the screw-threads 9 and 10 with relation to the inlet opening 4, as previously explained, forms a means of effectually closing the inlet opening. In order to balance the plug 8 against any pressure fluid that may enter the top or the bottom of the casing 2, we provide the plug 8 with vertical openings 15, laterally of the opening 13.

In the modification, shown in Fig. 4, the casing 2 is provided with an outlet opening 16, in lieu of the outlet opening 5, shown in Figs. 1, 2 and 3. The outlet opening 16 extends from the bottom of the casing 2 and at right angles to the inlet opening 4. The plug 8 in the modification, shown in Fig. 4, is provided with a right angle passageway 17 which is adapted to register with the inlet opening 4 when the plug 8 is raised, to afford communication between the inlet opening 4 and the outlet opening 16. When the plug 8 is lowered, it and the screw-threads thereon close the inlet opening 4, as previously described. When the plug 8, of the modification, is lowered to close the valve, the hub of the hand wheel 12 en-

gages the cap 7 and limits the downward movement of the plug.

We claim:

1. In a valve, the combination of a cylindrical casing having an outlet opening and a lateral inlet opening therein, a cylindrical plug within the casing and having an opening therein affording communication between said inlet opening and said outlet opening when the opening in the plug is in registry with said inlet opening, said casing being provided with means for limiting the longitudinal movement of said plug, two parallel screw-threads surrounding the plug and engaged with corresponding screw-threads in the casing on each side of said inlet opening, the distance between said screw-threads being greater than the diameter of said inlet opening, and means operative to turn said plug.

2. In a valve, the combination of a cylindrical casing having closed ends and a lateral outlet opening and a lateral inlet open-

ing therein, a cylindrical plug within the casing and having an opening therein affording communication between said inlet opening and said outlet opening when the opening in the plug is in registry with said inlet opening, said casing being provided with means for limiting the longitudinal movement of said plug, two parallel screw-threads surrounding the plug and engaged with corresponding screw-threads in the casing on each side of said inlet opening, the distance between said screw-threads being greater than the diameter of said inlet opening, said plug having a passageway therein communicating with both ends of the casing, and means operative to turn said plug. In testimony whereof we affix our signatures in the presence of two witnesses.

JOHN L. DENNIS.

JOSEPH HUNTINGTON.

Witnesses:

S. I. HARPER,

A. V. GROUPE.