P. MAGNUS.
Service Valve.

No. 199,079. Patented Jan. 8, 1878.

Fig: 1.

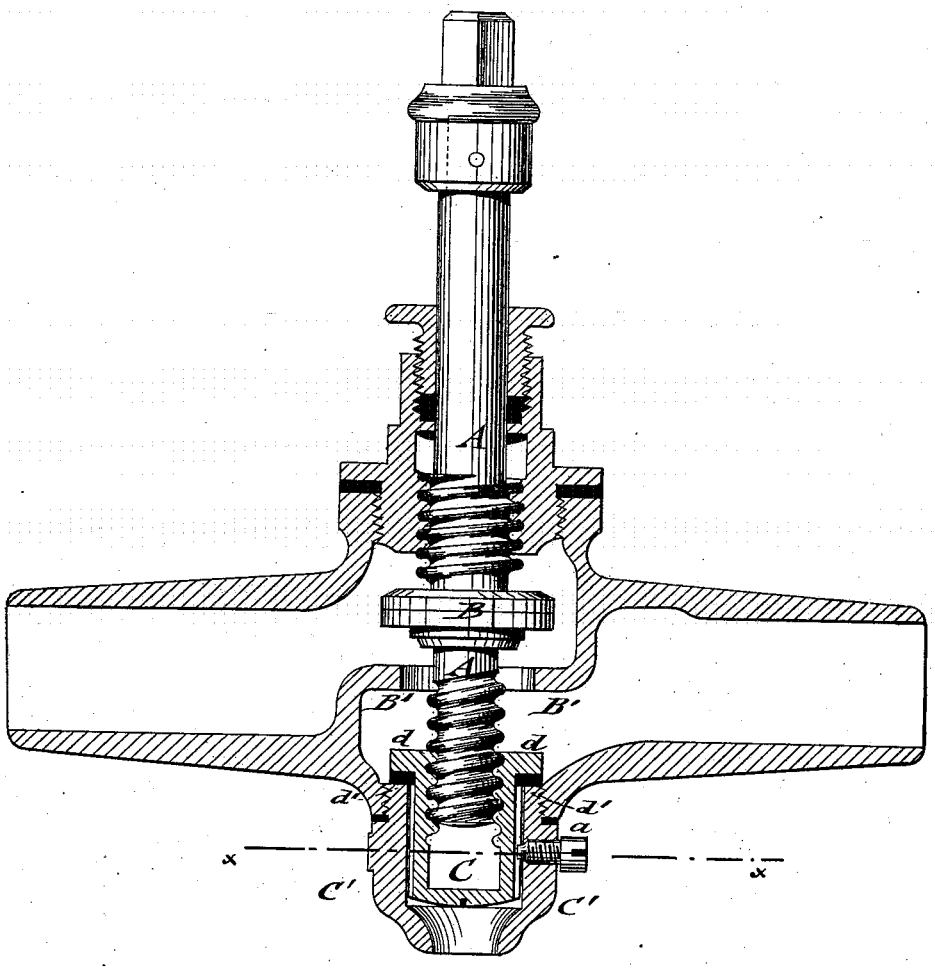
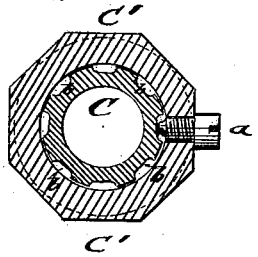


Fig: 2.



WITNESSES:

Chas. Nida
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INVENTOR:

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

PAUL MAGNUS, OF NEW YORK, N. Y.

IMPROVEMENT IN SERVICE-VALVES.

Specification forming part of Letters Patent No. **199,079**, dated January 8, 1878; application filed December 13, 1877.

To all whom it may concern:

Be it known that I, PAUL MAGNUS, of the city, county, and State of New York, have invented a new and Improved Service-Valve, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a sectional elevation of my improved service-valve; and Fig. 2, a horizontal section of the same on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention is intended to furnish for water-pipes of all kinds, and especially for such as are exposed to freezing, an improved valve, by which the water may be drained off as soon as the supply-valve proper is closed, and the water-escape instantly shut as soon as the valve is opened.

The invention consists of a screw-spindle having an upper and lower thread, of which the lower screw-thread is of greater pitch than the upper, so as to raise a sliding and guided drain-valve at the lowermost point of the valve-casing when the supply-valve reaches its seat, and close the lower drain-valve tightly by the raising of the water-supply valve.

In the drawing, A represents the screw-spindle of my improved valve for service and other water pipes. The spindle is kept tight in the valve-casing by a suitable screw-bushing, in the usual manner, and turned by a key, or in other suitable manner.

The screw-spindle A carries a fixed supply-valve, B, that closes tightly on a seat, B′, around the supply-opening when the spindle is screwed down. The screw-spindle A is extended downward through the supply-opening, and provided at the lower part with a second screw-thread, of greater pitch than the upper thread, the lower thread engaging a drain-valve, C, arranged at the lowermost point of the valve-casing, and guided in an open cylindrical portion, C′, of the same by a groove and set-screw. The set-screw *a* prevents the axial motion of the drain-valve. The drain-valve C has a number of side channels, *b*, for the exit of the water, as shown in Fig. 2, and a packing below a top flange, *d*, so as to close tightly on the seat *d′* of the exit-tube C when the exit-valve is screwed down. The turning of the screw-spindle for closing the supply-valve causes, by the quicker pitch of the lower thread, the raising of the drain-valve as soon as the upper valve bears on its seat.

The opening of the upper or supply valve causes, vice versa, the instant closing of the drain-valve, so as to prevent any loss of water when turning the same on. The water in the service-pipe is thus drained off at the lowermost part of the valve, and thereby the danger of freezing prevented. This is accomplished by the double screw-spindle in reliable manner, without the objectionable features of the cone-valves, that are, by their sudden closing, frequently the cause of the bursting of the pipes.

The automatic working of the drain-valve, in connection with the opening and closing of the supply-valve, prevents any waste of water, as the drain-valve is called into play after the supply-valve has been opened or closed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

As an improvement in screw-valves, the combination of a central screw-spindle, having a lower screw-thread of greater pitch than the upper thread, with a fixed supply-valve and a vertically sliding and guided drain-valve, that is opened or closed as the supply-valve is closed or opened, substantially as and for the purpose set forth.

PAUL MAGNUS.

Witnesses:
PAUL GOEPEL,
C. SEDGWICK.