T. LEAVITT.

STOP-COCK.

No. 181,789. Patented Sept. 5, 1876.

FIG. 1

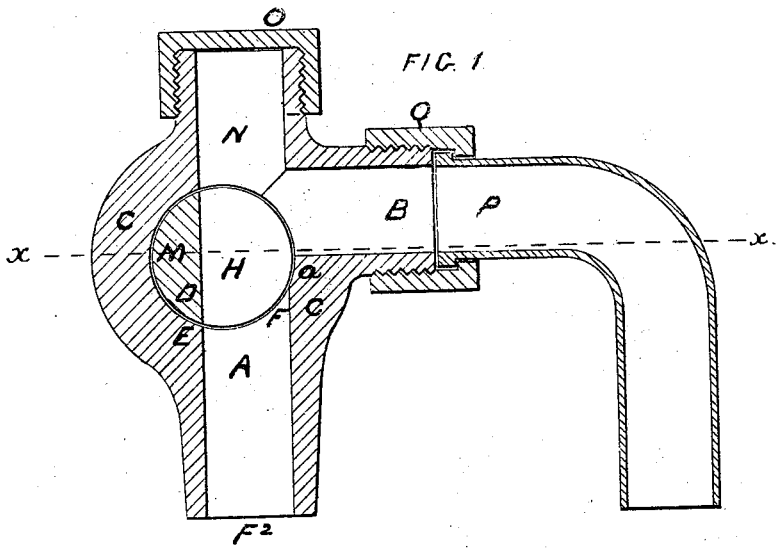


FIG. 2.

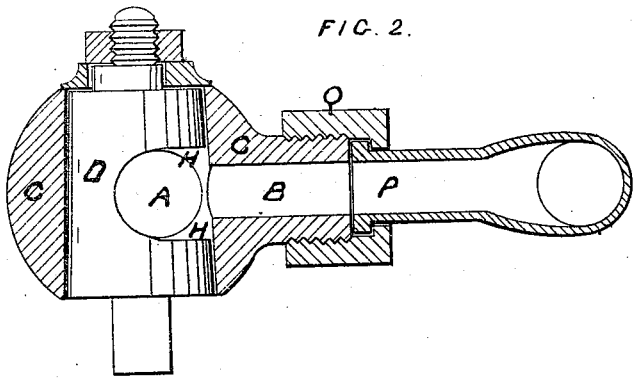
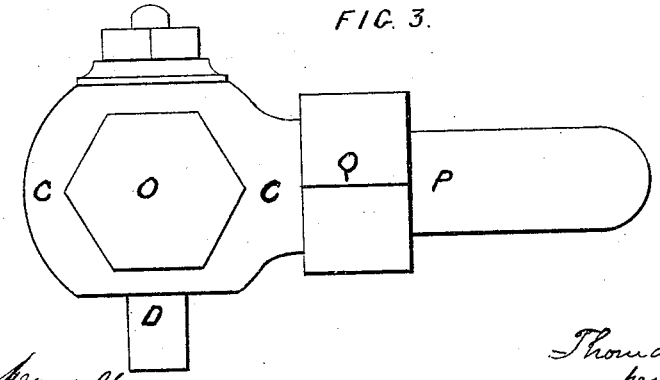


FIG. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

THOMAS LEAVITT, OF EVERETT, MASSACHUSETTS.

IMPROVEMENT IN STOP-COCKS.

Specification forming part of Letters Patent No. **181,789**, dated September 5, 1876; application filed June 3, 1875.

To all whom it may concern:

Be it known that I, THOMAS LEAVITT, of Everett, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Stop-Cocks, of which the following is a specification:

My invention relates to the construction of stop-cocks to be attached to street "mains" of city or town water-works, as a means of opening or closing communication between said mains and the service-pipes leading to the building where the water is to be used; and has for its object a reduction in the length of the service-pipe leading from the main to the building, the location of said service-pipe at a greater depth below the surface of the ground, and as a consequence greater protection against freezing, and also to make it practical to open communication between the service-pipe and the main, by drilling through the latter by means of a drill passed down through the cock after the connection has been made between said two pipes, by securing the cock to the main and the service-pipe to the cock.

Heretofore, so far as my knowledge extends, all corporation-stops used for making connections of service-pipes to mains already laid, and constructed to admit of drilling the main after the cock has been secured thereto, have consisted of a casing having a straight cylindrical passage extending through the same, with a plug intersecting said passage at right angles, and having a passage through its center corresponding in size and shape to the passage through the casing, all so arranged that when the plug is so turned that the passage through it and the passage through the casing coincides a drill may be inserted through said passages, and operated to drill an opening through the wall of the main to open communication therewith.

With such a construction it is obvious that the service-pipe must be connected to the top end of the cock-casing, and, as in most, if not all, cases, where such a cock is used, viz., in making connections of service-pipes to mains already laid, the cock is of necessity secured to the top side of the main, it follows that the service-pipe is brought very much nearer the surface of the ground than the main, and often so near as to be in danger of freezing, and, owing to the bend which has to be made in the service-pipe to bring the main portion to a sufficient depth below the surface of the ground, it is impossible to thaw out the pipe in case of freezing, except by uncovering it and applying hot water or other appliances directly to the portion of the pipe which is frozen.

My invention is designed to obviate these objections; and it consists in the combination, in a corporation-stop, of a casing, provided with an inlet and an outlet passage arranged at right angles to each other, or nearly so; a third passage opposite to and in line with the inlet-passage, and a plug-valve arranged with its axis at right angles to, but to one side of, the axis of the inlet-passage, and having a water-passage cut through one side thereof of a diameter and shaped at its bottom to correspond with the inlet-passage, all so arranged that a drill may be passed through the casing and plug to drill a passage into the main to which the cock is secured, and when the drill is removed the plug is turned to cut off the flow of the water by bringing the solid metal of the side of the plug not cut away across the end of the inlet-passage. It shall have a good broad bearing upon either side of said passage without the necessity of making the plug larger in proportion to the diameter of the passage than in an ordinary plug-cock.

My invention further consists in the combination, in a plug-cock, of a casing provided with a passage extending entirely through the same, closed at one end by means of a removable screw-cap and suitable packing, an outlet-passage open therefrom at right angles, or nearly so, to the first-named passage, and plug-valve, arranged with its axis at right angles to, but to one side of, the axis of the inlet-passage, all so arranged that said cock may be securely attached to the street-main, and the service-pipe may be connected in any suitable manner to the outlet-passage of the cock, and then by removing the screw-cap from the upper end of the vertical passage a drill may be inserted into said vertical passage, passing through the cut in the side of the plug, and a hole may be drilled into the main.

In the drawing, Figure 1 is a central vertical section of my improved stop-cock. Fig. 2 is a horizontal section on line *x x* on Fig. 1; and Fig. 3 is a plan of the same.

A is the inlet water-passage, and B the outlet water-passage, arranged at right angles, or nearly so, to each other, and both communicating with the chamber which receives the plug-valve D, as shown in Fig. 1. The chamber in the casing C, which receives the plug D, is so located relatively to the inlet-passage A that the axis of the plug D instead of intersecting the axis of said passage is removed considerably to one side thereof, as shown in Fig. 1. N is a continuation of the passage A beyond the plug D, and opening through the top of the casing C, said opening being closed when not required for the purpose of drilling the main by the screw-cap O and any suitable packing. The plug D has cut across one side thereof a slot, H, the bottom of which is semicircular, and of a diameter corresponding to the passages A N. The solid portion M of the plug D, when turned so as to lie across the inlet-passage A, has a good bearing upon the seat E *a*, by virtue of the increased width of the portion M, due to the position of the plug, relative to the vertical passages A N. P is a nipple, secured to the end of casing C at passage B by means of the coupling-nut Q.

Instead of the nipple P and nut Q the service-pipe may be screwed directly to the casing C at passage B in an obvious manner.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, in a stop-cock, of the casing C, provided with inlet-passage A, outlet-passage B, arranged at right angles, or nearly so, to A, and the drill-passage N, in line with, and forming an extension of, the passage A, and a plug-valve, D, having passage H corresponding to passage A, cut in one side thereof, and located with its axis at right angles to, but to one side of, the axis of the inlet-passage A, as and for the purposes described.

2. The combination, in a stop-cock, of the casing C, provided with inlet-passage A, outlet-passage B, arranged at right angles, or nearly so, to A, and the drill-passage N, in line with the passage A, the plug-valve D, having passage H corresponding to passage A, cut in one side thereof, and located with its axis at right angles to the axis of the passage A, but in a different plane, and the cap O, for closing passage N, all arranged and adapted to operate as and for the purposes described.

THOMAS LEAVITT.

Witnesses:
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