

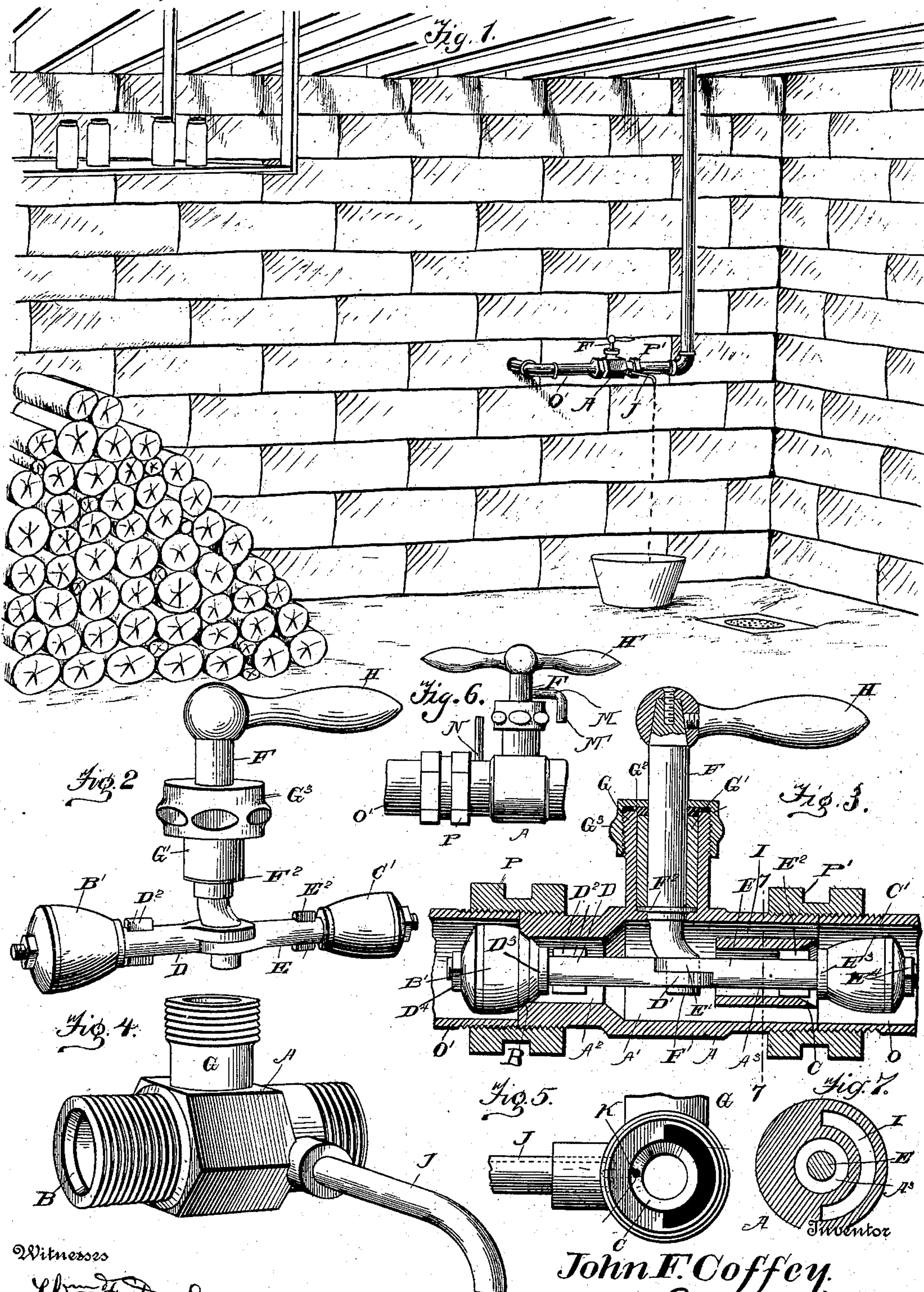
No. 608,179.

Patented Aug. 2, 1898.

J. F. COFFEY.  
STOP COCK AND WASTE.

(Application filed Sept. 21, 1897.)

(No Model.)



Witnesses

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# UNITED STATES PATENT OFFICE.

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## STOP-COCK AND WASTE.

SPECIFICATION forming part of Letters Patent No. 608,179, dated August 2, 1898.

Application filed September 21, 1897. Serial No. 652,438. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN F. COFFEY, a citizen of the United States of America, residing at Omaha, in the county of Douglas and State of Nebraska, have invented a new and useful Stop-Cock and Waste, of which the following is a specification.

My invention relates generally to stop-cocks, and more particularly to the stop-cock known as the "Fuller."

The object of my invention is to provide improved means whereby stop-cocks are turned after the pressure has been cut off.

With this object in view my invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described, and afterward specifically pointed out in the appended claims.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective interior view of part of a house, showing my invention in actual operation. Fig. 2 is a perspective view of the valves with their stems, rod, and handle removed from the casing. Fig. 3 is a longitudinal sectional view of the stop-cock having my improvements connected up in a pipe. Fig. 4 is a detail perspective view of the valve-casing and waste-spout. Fig. 5 is a detail end elevation of the parts shown in Fig. 4, parts thereof being broken away. Fig. 6 is a detail view, in side elevation, illustrating a stop mechanism to limit the movement of the valves. Fig. 7 is a detail sectional view on the line 7 7 of Fig. 3.

Like letters of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by letters, A is the casing of the valve, which is provided with a central chamber A<sup>2</sup> and two end chambers A<sup>3</sup> of somewhat reduced diameter, in which the valve-stem operates.

B and C are valve-seats in the ends of the valve-casing A, in which valves B' and C' are alternately seated and unseated as the valve is operated.

D and E are valve-stems provided at their inner ends with collars D' and E' to receive a crank-like offset F' in the handle F. The valve-stems D and E, as before stated, move longitudinally in the reduced chambers A<sup>2</sup> and A<sup>3</sup>, and to guide them in their movement they are provided with flanges D<sup>2</sup> and E<sup>2</sup>. They are also provided with collars D<sup>3</sup> and E<sup>3</sup>, against which the inner ends of the valves B' and C' rest when in position on the stem, said valves being secured in position by means of nuts D<sup>4</sup> and E<sup>4</sup> engaging the threaded ends of the stem.

The valve-rod F passes through an opening in one side of the valve-casing and is provided with a flange F<sup>2</sup> to prevent its entry too far into the casing.

G is a lateral branch of the casing, which receives a sleeve G', in which the rod F turns, said sleeve resting at its inner end upon the flange F<sup>2</sup>. The valve-rod F also passes through a cap G<sup>3</sup>, which screws down upon the outside of the branch G and with said branch and sleeve and a packing-ring G<sup>2</sup> forms a stuffing-box for the valve-rod to prevent leakage.

The valve-rod may be provided either with a lever-handle H, as shown in Figs. 1, 2, and 3, or with a T-handle H', as shown in Fig. 6.

I is a circular channel, which may extend half way, more or less, around the casing, the extent being governed by the amount of pressure upon the water passing through or the amount of water which it may be desired to pass through. This channel I is located between the outside of the casing and the reduced chamber A<sup>3</sup>.

J is a waste-spout leading from the casing, and K is a waste-duct leading from the valve-seat C to the inner end of said waste-spout.

M is a horizontal stop-arm secured in the rod F and projecting laterally therefrom, having a downwardly-bent end M', which in the movement of the rod F comes in contact with a stop N, projecting from the casing.

O and O' indicate the water-pipe in which the stop-cock is located, the connection between the stop-cock and the water-pipe being made by any approved form of coupling, screw-threaded sleeves P and P' being shown in this instance to accomplish this purpose.



The operation of my invention may be described as follows: The cock being in position, coupled up in the pipe, as shown in Fig. 1, when the parts are in position, as shown in Figs. 1 and 3, the flow of water from the seat through the pipe O' is cut off, the valve B' being in its seat B. In this position the waste water in the pipe O' and its connections through the house will pass through the waste-duct K and out of the spout J. When, however, it is desired to permit the flow of water through the valve and the pipe O and its connections, the valve-handle is turned half a revolution, which, through the medium of the crank-off-set F', throws both valves and stems to the left, looking at Fig. 3. This action will unseat the valve B' and seat the valve C'. The valve B' being unseated, the water will pass through the reduced chamber A<sup>2</sup>, the main chamber A', and the curved or circular channel I to and through the pipe O and its connections through the house. The valve C' being pressed into its seat C, as soon as the pressure is turned on the waste duct or channel K will be closed and will remain closed until the position of the valves is again reversed and they are brought into the position shown most plainly in Fig. 3, when the house-pipes will again be emptied through the waste-duct and the spout J.

While I have illustrated but one waste-duct K, the number of such ducts may be varied at will and as many used as are found to be necessary.

The advantages attending the use of my invention will be obvious from the foregoing description. By it I have provided the well-known reliable Fuller stop-cock with a waste, which combination will be found to be exceedingly durable and reliable in operation. In this construction it is impossible to cut off the flow of water from the seat without emptying the house-pipes, thereby preventing the

too frequent damage incurred through the freezing of the dead water in the pipes throughout the house.

While I have illustrated and described what I believe to be the best means for carrying out my invention, I do not wish to be understood as limiting myself to the exact construction and arrangement shown and described, but hold that such slight changes and variations as might suggest themselves to the ordinary mechanic would properly fall within the limit and scope of my invention.

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

1. The combination of the valve-casing provided with a central chamber and two reduced chambers on opposite sides and in line therewith, a valve-seat in the outer end of each reduced chamber, two valves connected together to move simultaneously and alternately engage the respective valve-seats, and a channel surrounding the outlet-valve seat and chamber and leading outward from the central chamber of the casing, substantially as described.

2. The combination of the valve-casing provided with a central chamber and two reduced chambers on opposite sides and in line therewith, a valve-seat in the outer end of each reduced chamber, two valves connected together to move simultaneously and alternately engage the respective valve-seats, a channel surrounding the outlet-valve seat and chamber and leading outward from the central chamber of the casing, a waste-spout leading from the casing, and a waste-duct leading from the outlet-valve seat to the spout, substantially as described.

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