

J. Mc. Clelland,
Stop Cock,
Nº 46,571, Patented Feb. 28, 1865.

Fig. 1

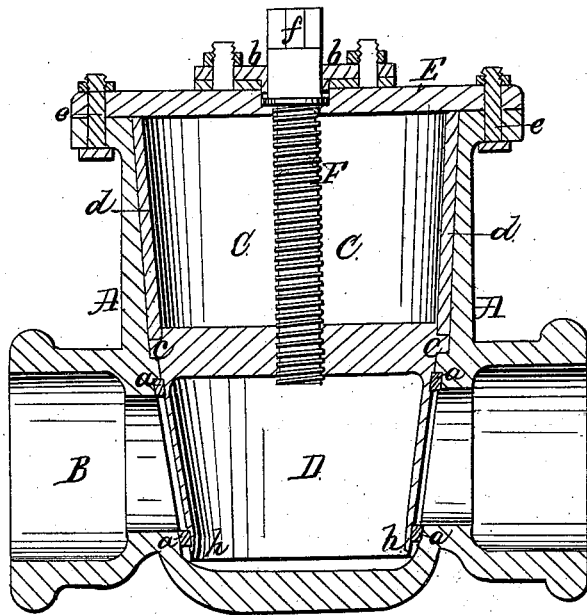
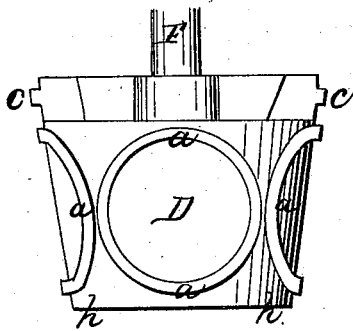


Fig. 2.



Witnesses:
G. B. Woodruff.
Thos. Humphreys.

Inventor:
J. Mc. Clelland

UNITED STATES PATENT OFFICE.

JOHN McCLELLAND, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN STOP-VALVES.

Specification forming part of Letters Patent No. **46,571**, dated February 28, 1865.

To all whom it may concern:

Be it known that I, JOHN McCLELLAND, of the city and county of Washington, in the District of Columbia, have invented certain new and useful Improvements in Stop-Valves for Branch and Main Pipes and the Mode of Constructing the Same; and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a vertical section with the valve closed cut through the center. Fig. 2 shows the cone valve with gun-metal rings for bearings, detached.

The object of my invention is to supply a stop-valve or cut-off for branch or water mains that will not choke with stones or gravel, so as to prevent it being easily closed, and one that will entirely shut off the flow of water.

My invention consists in making a hollow cone-valve, the inverted cup or hollow being of larger dimensions than the bore of the pipes, so that it will inclose in or under the valve any substance that can pass into it through an orifice; also in the mode of inserting and securing gun metal rings in the valve for bearings.

To enable others skilled in the art to make and use my invention, I will describe it more fully, referring to the drawings, and to the letters of reference marked thereon.

The casting A A, of which the outer portion of the stop-valve is formed, may have four (more or less) sockets, B B, for branch pipes. The cavity C C, in which the cone-shaped valve D is placed, is closed at the top by a head, E, with bolts and nuts e e. Through the center of the head E is suspended the screw F which operates the cone valve D to open and close the same, it having its nut or female screw in the top of the valve, by which it is raised to open the passage in the mains to all of the branches, and can be forced into its seat by reversing the screw F to cut off the flow. The head F of the screw is fitted to be turned by a wrench or key, and is prevented from leakage where it comes up through the head E by a stuffing-box, b b. The cone-shaped valve D is kept from turning and guided centrally in its movements by ears c c, fitting in vertical grooves d d.

I make my improved stop-valve for the purposes herein described of cast-iron and com-

position or gun metal in the following manner: I first cast the rings a a a a, they being so shaped as to fit the curve of the valve D. The portion of them which is within the circumference of the valve is made dovetailing, the mold being made for casting the cup or body of the valve D of iron. The bronze rings a a a a are placed in the mold and the iron is cast onto them, thus securing them firmly in their places on the periphery of the valve, where they may be hammered to give them solidity and close up the pores of the metal before they are turned off and ground in to fit their seat. The casting for the valve D need not be of great thickness to give them sufficient strength, as they are strengthened by the gun-metal rings a a a a, and are supported on all sides when screwed down to their bearings. I make them open at the bottom h h, they having a large cavity underneath, into which any stone, gravel, or hard substance may be admitted which could possibly get into the valves through the pipes B B, so as to prevent the valve from being screwed down so as to close up the branch mains.

It is believed that it is from this cause in very many instances that stop-valves (as they have been heretofore made) have failed to operate to shut off the water, and violence being used, or more force applied to the screw than it could bear, they often became so much damaged that they have to be taken up for repairs or new ones put in their places. It will readily be seen that by my mode of constructing the valves, as above described, all difficulties of that kind will be effectually remedied.

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

1. The hollow sliding stop-valve, open at the bottom, the same being constructed and operating in the manner described, for the purposes herein set forth.

2. In combination therewith, the rings a, constructed substantially as described.

3. In combination with the invention claimed in the first clause, the rings a, applied substantially as described.

JOHN McCLELLAND.

Witnesses:

J. B. WOODRUFF,
JOHN S. HOLLINGSHEAD.