(No Model.)

J. MOSS.

COCK FOR HOUSE SERVICE AND STREET WASHER CONNECTIONS.

No. 353,423. Patented Nov. 30, 1886.

Fig. 1.

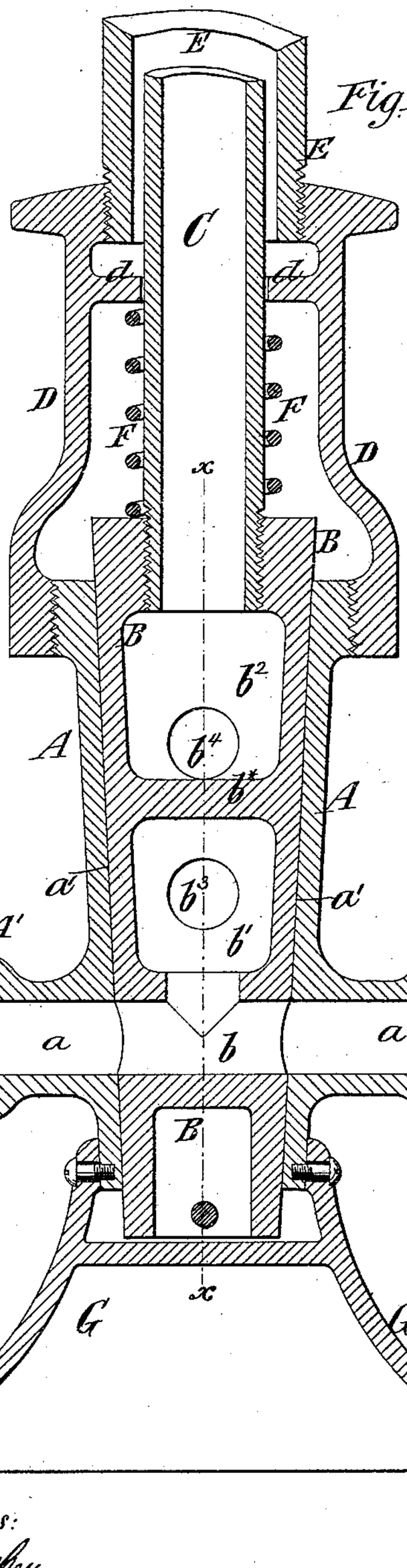


Fig. 3.

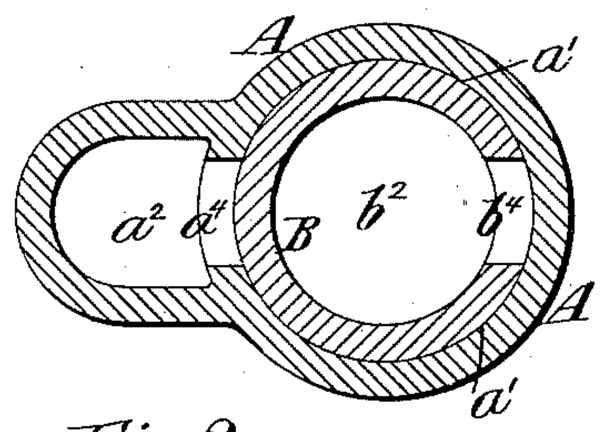
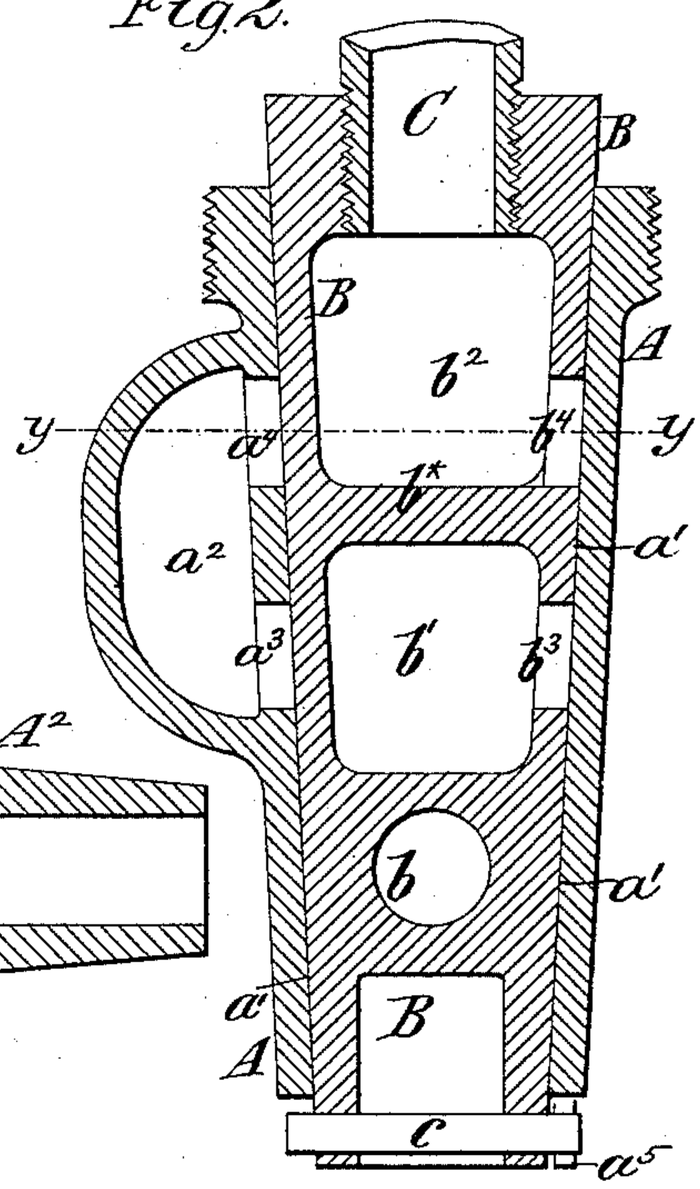


Fig. 2.



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UNITED STATES PATENT OFFICE.

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COCK FOR HOUSE-SERVICE AND STREET-WASHER CONNECTIONS.

SPECIFICATION forming part of Letters Patent No. 353,423, dated November 30, 1886.

Application filed April 6, 1886. Serial No. 198,032. (No model.)

To all whom it may concern:

Be it known that I, JOHN MOSS, of the city of Brooklyn and county of Kings, in the State of New York, have invented a new and useful Improvement in Cocks for House-Service and Street-Washer Connections, of which the following is a specification.

My invention relates to cocks which comprise a shell and plug so constructed that by turning the plug into different positions water may be supplied to the house only, or to both house and street-washer connection, or sidewalk-box, or may be entirely shut off from both the house and street-washer connection.

The invention consists in a cock for house-service and street-washer connection, comprising a shell having a plug-seat and a plug fitted thereto, the shell and plug being constructed with a novel arrangement of ports and openings, hereinafter particularly described, which enable the plug, when turned into different positions, to admit water to the house only, or to both the house and street-washer connection, or to shut off the flow of water entirely to both the house and street-washer connection, these three results being accomplished by a plug which has only a half-turn as its whole range of movement.

In the accompanying drawings, Figure 1 represents a sectional elevation of a cock for house-service and street-washer connection embodying my invention, the plug being turned to a position to admit water to the house without admitting water to the street-washer connection. Fig. 2 is a vertical section of the shell and plug only on the dotted line x, x, Fig. 1; and Fig. 3 is a horizontal section on the plane of the dotted line y y, Fig. 2.

A designates a cock shell or body, which may be of brass, and which is provided on opposite sides with branches A' A^2. The service-pipe from the street-main is to be connected with the branch A', and the pipe leading to the house is to be connected with the branch A^2. These two branches have in them a direct water-way, a.

B designates the plug, which is fitted to the taper plug-seat a' in the shell, and may also be of brass. The plug B has a direct water-way, b, ranging horizontally with the water-way a in the shell, and communicating with a cavity, b', formed in the plug above the water-way b. The plug also has in its head a cavity, b^2, separated from the cavity b' by a partition, b^*, and the plug has openings b^3 b^4, arranged vertically one above another, and extending from the cavities b' b^2 to the periphery of the plug.

The cock body or shell has at one side a by-pass or external passage, a^2, which communicates by openings a^3 a^4 with the plug-seat a'. The openings a^3 a^4 are arranged vertically one above another, and they range horizontally with the openings b^3 b^4 in the plug B.

In the drawings, the plug is represented as turned to a position which brings the transverse water-way b in line with the water-way a, and hence it will be seen that water may flow freely through the water-ways a b from the street to the house. It will, however, be seen from Fig. 2 that the openings b^3 b^4 are turned so that they are opposite a solid portion of the shell, and hence, although the cavity b' is filled with water from the passage b, water cannot escape from said cavity.

If the plug were turned one-half round, the openings b^3 b^4 would be brought opposite the openings a^3 a^4, and hence water could flow not only through the passages a b, but also upward through the cavity b', openings b^3 a^3, passage a^2, openings a^4 b^4, and thence upward through the hollow head b^2 of the plug. In the head of the plug is inserted a pipe, C, which constitutes a stem whereby the plug may be turned, and which serves to conduct water from the cavity or hollow head b^2 upward to the street-washer. It will therefore be seen that when turned to the position just described the plug admits water both to the house-service and to the street-washer connection.

If the plug B were turned one quarter-turn from the position shown in Figs. 1 and 2, then the transverse water-way b in the plug would be closed, and the openings b^3 b^4 would also be opposite the imperforate parts of the plug-seat, and hence water could not flow through them, and would be shut off from both house and street-washer. It will therefore be seen that by turning the plug one quarter-turn from the position shown in Fig. 2 in either direction the water will be shut off entirely from both the house-service and street-washer, and by turning the plug one half-turn in either di-

rection from the position shown in Fig. 2 water will be admitted to the street-washer connection as well as to the house-service.

In order to limit the turning movement of the plug B, I have represented it as provided at its smaller end with a transverse pin, *c*, which is adapted to strike against the projection a^5 on the shell, and forms a check limiting the turning movement of the plug. This pin does not, however, bear against the lower end of the shell, and does not prevent the plug from being slightly raised or lifted from its seat in the shell.

D designates a cap or bonnet, which may be of cast-iron, and which is firmly secured upon the top of the shell A around the plug-seat *a'*. As here represented, the shell is provided with a male screw-thread, and the cap D has at the lower end a nut or female screw-thread, whereby it may be connected with the shell. In the upper end of the cap D is screwed or inserted a stand pipe or tube, E, which receives the pipe or stem C loosely through it, and which extends upward to the sidewalk-box. As before stated, the pipe C constitutes a stem whereby the plug may be turned, and also serves to conduct the water upward to the street-washer, and, as here represented, this pipe C is screwed into the head of the plug B.

The cap D is provided with an internal shoulder or flange, *d*, near its upper end, and around the stem C, and between the head of the plug B and the shoulder *d*, is placed a spiral spring, F, bearing at its one end against the shoulder *d*, and at its other end against the head of the plug. This spring tends to force the plug into its taper seat, and while it exerts sufficient pressure to maintain a tight fit of the plug in the seat, it admits of the plug being slightly raised to loosen it in case it becomes stuck in the plug-seat.

I have here represented the cock as provided with a foot or base, G, which may be of cast-iron, and upon which it stands.

I am aware that it is not new to provide cocks for house-service and street-washer connections in which the shell or body and the plug are constructed with such an arrangement and combination of passages and ports as provide for turning the plug so as to shut off water entirely from both the house-service and street-washer, or so as to admit water for house-service without admitting it to the street-washer, or for admitting water both to the house-service and street-washer, and therefore I do not claim such a cock, broadly, and only seek to include in my invention the special construction and combination of passages and ports which I have above described.

It will be observed that in my cock the shell or body has a plain straight water-way, *a*, destitute of any side passages communicating therewith, and the only passage formed in the shell or body additional to the straight water-way *a* is the side passage, a^2, which is entirely above the straight water-way, and does not communicate therewith through the shell or body. It will also be observed that the openings b^3 b^4, which lead from cavities b' b^2 in the plug, are presented at right angles to the line of the transverse water-way *b* in the plug, and hence no matter whether the plug is turned to the position shown in Fig. 2, so as to prevent the passage of water through the openings b^3 b^4, and thence to the street-connection, or whether the plug is turned to the opposite position, so that the openings b^3 b^4 will register with the openings a^3 a^4 and permit water to flow to the street-connection, in either case the shell and the plug present a plain straight water-way, *a b*, and the water does not have to flow circuitously to reach the house-service. This construction has the additional advantage that the shell or body is made of a simple casting, and few will therefore be lost in casting a quantity.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with a cock shell or body constructed with a plain straight transverse water-way, *a*, destitute of passages communicating therewith, and a side passage, a^2, communicating with the plug-seat by openings a^3 a^4, arranged one above another, of the plug B, constructed with a transverse water-way, *b*, and with internal cavities, b' b^2, one above another, and from which extend at right angles to the water-way *b* openings or ports b^3 b^4, ranging horizontally with the openings a^3 a^4 in the shell, the lower cavity, b', being in constant communication with the transverse water-way *b*, and a pipe or hollow stem, C, extending upward from the upper cavity, b^2, of the plug, substantially as and for the purpose herein described.

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