

(No Model.)

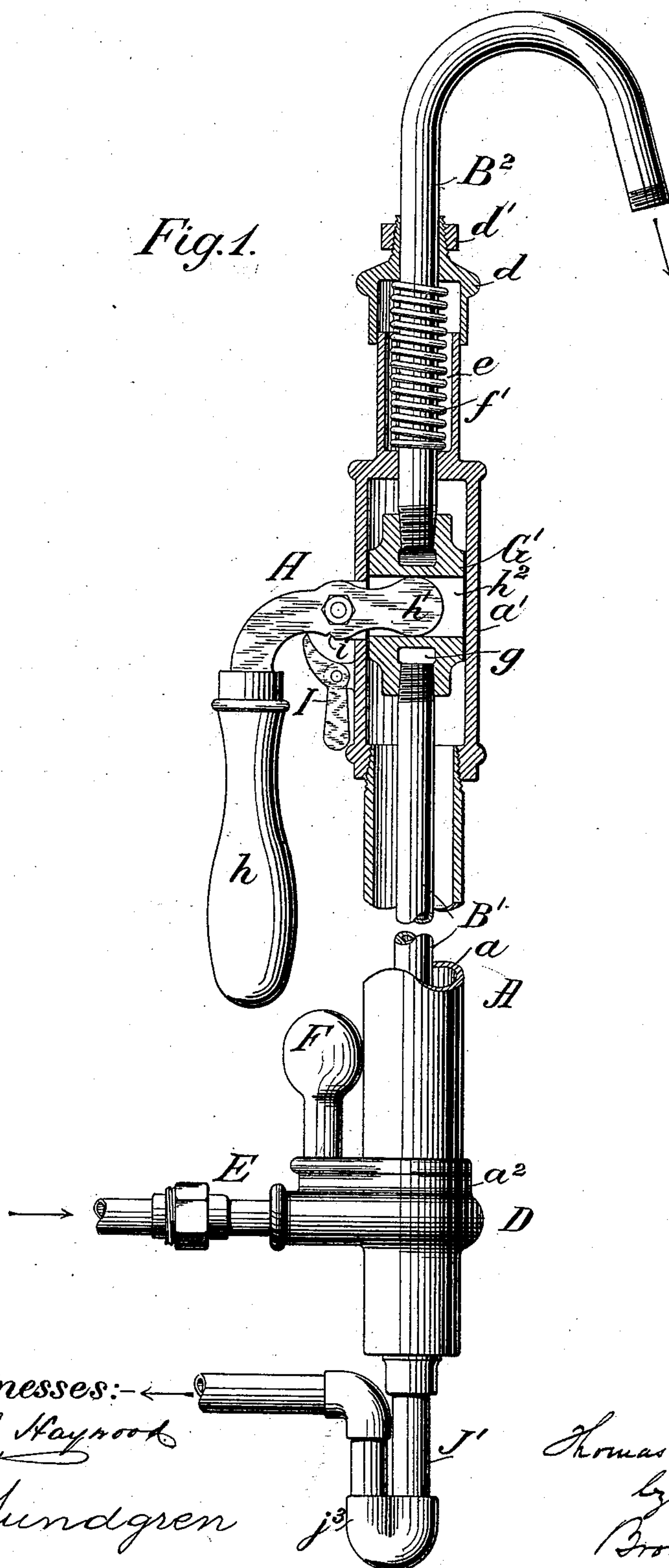
2 Sheets—Sheet 1.

T. S. McELHOSE.
HYDRANT.

No. 415,119.

Patented Nov. 12, 1889.

Fig. 1.



Witnesses:

D. H. Haybrook

O. Sundgren

Inventor:

Thomas S. McElhose
by his Attorneys
Brown & Griswold

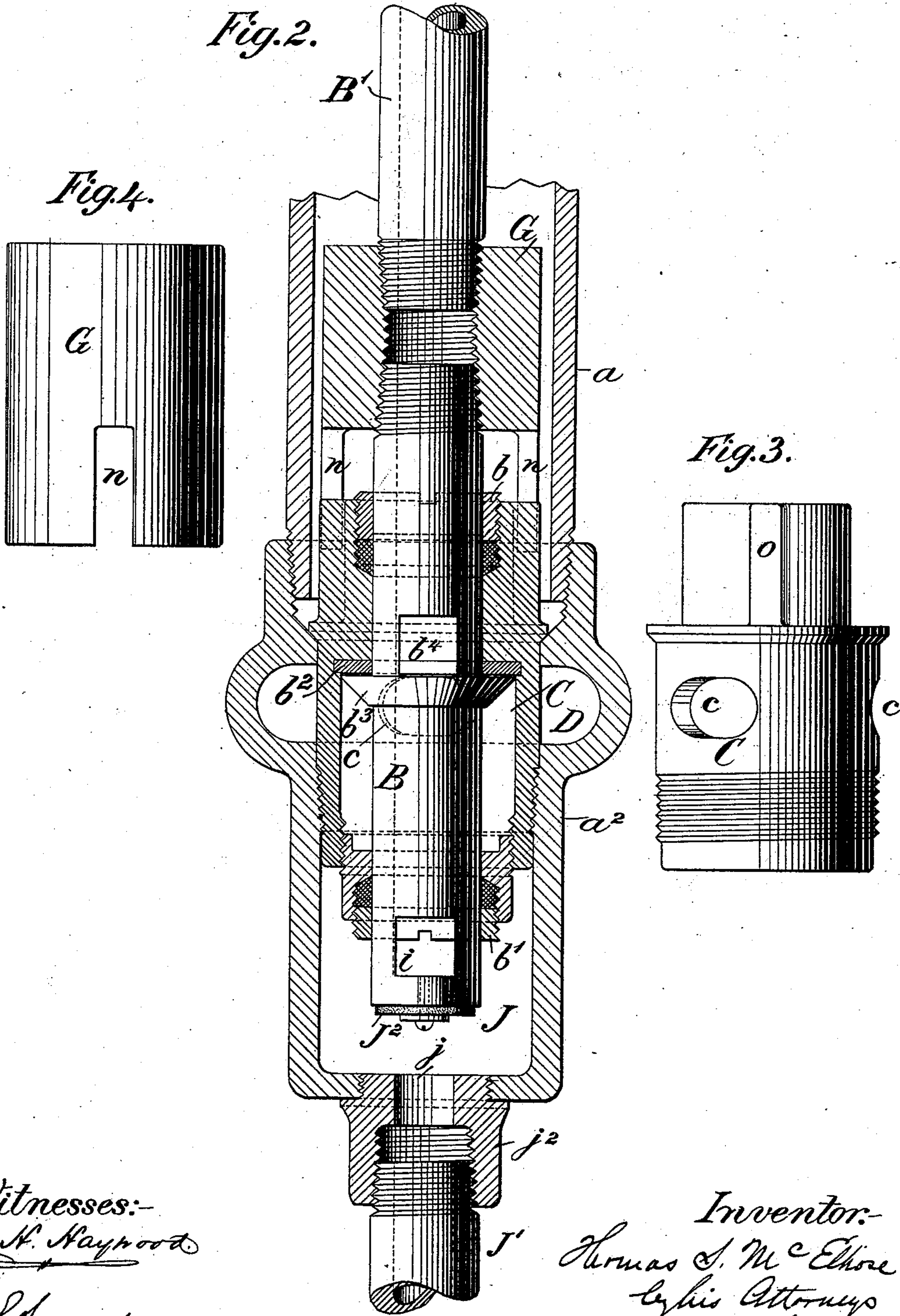
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T. S. McELHOSE.
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Witnesses:-
D. H. Haywood
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Inventor:
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UNITED STATES PATENT OFFICE.

THOMAS S. McELHOSE, OF PATERSON, NEW JERSEY, ASSIGNOR OF ONE-HALF
TO CHRISTIAN KOHLHAAS, OF SAME PLACE.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 415,119, dated November 12, 1889.

Application filed June 20, 1889. Serial No. 314,982. (No model.)

To all whom it may concern:

Be it known that I, THOMAS S. McELHOSE, of Paterson, in the county of Passaic and State of New Jersey, have invented a certain
5 new and useful Improvement in Hydrants, of which the following is a specification.

My improvement consists in so constructing a hydrant that it will be practically non-freezing.

10 I will describe in detail a hydrant embodying my improvement, and then point out the novel features in the claim.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a hydrant embodying my improvement. Fig. 2 is a vertical section, on an enlarged scale, of the lower portion of the hydrant. Fig. 3 is a detail view of a valve-chamber. Fig. 4 is a detail view of a coupling-piece, constituting a
20 wrench, acting in conjunction with said valve-chamber.

Similar letters of reference designate corresponding parts in all the figures.

A designates a barrel composed, as here
25 shown, of sections a a' a^2 , having a screw-threaded connection with each other. Extending centrally through the barrel A is a movable pipe or series of pipes and couplings, through which the water is to be discharged.
30 This pipe comprises a section B, which section extends centrally through a valve-chamber C. The valve-chamber C is rigidly secured to the section a^2 , near the lower end of said valve-chamber, as here shown, by means of screw-
35 threads. The section B, as it is moved up and down in conjunction with the rest of the pipe, with which it forms a part, is provided with suitable stuffing-boxes b b' , arranged at the upper and lower ends of said valve-chamber respectively. Between said stuffing-boxes
40 the valve-chamber is hollow, and is provided with a valve-seat b^2 for a valve b^3 , arranged upon the section B of the movable pipe. Above the valve b^3 there are arranged in the
45 section B openings b^4 . When the valve is upon its seat b^2 , these openings will be closed to the admission of any water which may be within the valve-chamber C. When, however, the section B has been moved downwardly so
50 as to uncover said openings b^4 , water which

may be in the valve-chamber C will pass through said openings into the section B, and thence upwardly through the pipe of which it forms a part. Water is admitted to the valve-chamber C through suitable openings c ,
55 formed in the wall of the valve-chamber, which openings afford communication with an annular passage D, formed or cast in the section a^2 of the barrel A. Water is admitted freely to the annular space D from a pipe E,
60 communicating therewith. I have shown a compressed-air chamber F, of ordinary construction, upon the section a^2 and communicating with the passage D.

B' designates another section of the movable pipe, which section has a screw-threaded connection near its lower end with a coupling-piece G, with which coupling-piece the upper end of the section B of the pipe also has a screw-threaded connection. A passage is thus
65 afforded through the coupling-piece G, whereby communication is established between the sections B B'. At its upper end the section B' has a screw-threaded connection with a coupling-piece G'. The coupling-piece G' has
75 cast or otherwise formed in it an annular passage g , with which the upper end of the section B' of the pipe communicates. Water passing upwardly through the section B' will pass freely around through said annular pas-
80 sage. To the upper portion of the coupling-piece G' is connected a section B² of the movable pipe, which section also communicates with the annular passage g . The section B² extends upwardly through the section a' of
85 the barrel and through a chamber e upon the upper end of the section a' , in which is arranged a coil-spring f . The coil-spring f surrounds the section B² of the pipe and bears at one end against the upper end of the sec-
90 tion a' of the barrel and at its other end against an abutment d , secured upon the section B² of the pipe. The abutment d in this instance consists of a hollow cap which extends over the chamber e , and may slide
95 freely up and down thereon during the movements of the movable pipe. The upper end of the cap d , which surrounds the section B² of the pipe, is externally screw-threaded, and is preferably conical in shape and split verti- 100

cally. A nut d , when screwed down upon said screw-thread, operates to clamp the cap d tightly upon the section B^2 .

H designates a lever fulcrumed upon the section a' of the barrel A. A portion h of the lever H constitutes a handle. A portion h' extends through a suitable opening in the section a' of the barrel and into a transversely-extending passage-way h^2 , formed in the coupling-piece G' . The portion h' of the lever H is rounded at its end. If the handle h of the lever H be grasped and swung upwardly, the movable pipe will be moved downwardly against the resistance of the spring F, and will cause the valve b^3 to be moved from its seat. Water will then flow in through the openings b^4 up through the section B, the coupling-piece G, the section B' , the coupling-piece G^2 , and thence out through the section B^2 . I have shown upon the section a' of the barrel a catch I, pivoted upon said section and adapted, when the lever H has been swung, as described, to engage a notch i in the lever and maintain such lever in an elevated position and the valve b^3 off from its seat, until it has been released from engagement with said notch. As soon as released from such engagement or the hand is removed from the lever H, the spring f will operate to move the movable pipe upwardly, and thus reseat the valve b^3 upon its seat, shutting off the flow of water through the pipe.

In the lower portion of the section a^2 of the barrel A is a waste-water chamber J. The section B of the movable pipe extends into this waste-water chamber. Said chamber at its lower end is provided with an outlet j , shown as formed in a union j^2 . To the union j^2 is connected a waste-water pipe J' . I prefer that the waste-water pipe J' should be provided with a U-shaped trap j^3 , which may be of ordinary construction. Upon the lower end of the section B is a valve J^2 . When the movable pipe is moved downwardly, as has been described, the valve J^2 will seat itself upon the inner end of the union j^2 , which thus acts as a valve-seat and will close the outlet-openings j . Water can then flow from the waste-water chamber J out through the waste-pipe. When, however, the movable pipe is moved upwardly, so as to seat the valve b^3 again upon

its seat, any water which may remain will flow out through openings l in the lower portion of the section B into the waste-water chamber J, and thence out through the waste-pipe J' and to waste. Thus it will be seen that no water will be left standing in the movable pipe, which in cold weather may freeze and prevent the flow of water.

Of course it is to be understood that the section a^2 of the barrel will be arranged sufficiently below ground to prevent freezing at that point, and also at the waste-pipe, the only danger from freezing being with the upper or outlet portion of the hydrant, which by my improvement is obviated.

In order when desired to freely remove the valve-chamber C and the movable pipe, if for any reason it should become necessary, I have provided the coupling-piece G with vertically-extending slots n , into which slots extend lips o upon the upper portion of the valve-chamber C. By this means, if the movable pipe be rotated from its upper end portion, the valve-chamber C may be unscrewed from the section a^2 of the barrel, and the whole may be thus withdrawn. By the same means it may be again inserted and secured to the barrel.

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

In a hydrant, the combination, with a valve-chamber, of a longitudinally-movable pipe extending through said valve-chamber, an inlet for water communicating with said valve-chamber, a valve on said movable pipe arranged within said valve-chamber and adapted to open and close communication between said valve-chamber and said movable pipe, a second valve also on said movable pipe and below the valve-chamber, a waste-water chamber below the valve-chamber, into which said movable pipe extends, and an outlet-passage for the waste water below said movable pipe, closed by said second-named valve when the first-named valve is opened, and opened when said first-named valve is closed, substantially as and for the purpose specified.

THOMAS S. McELHOSE.

Witnesses:

FREDK. HAYNES,
GEO. BARRY.