

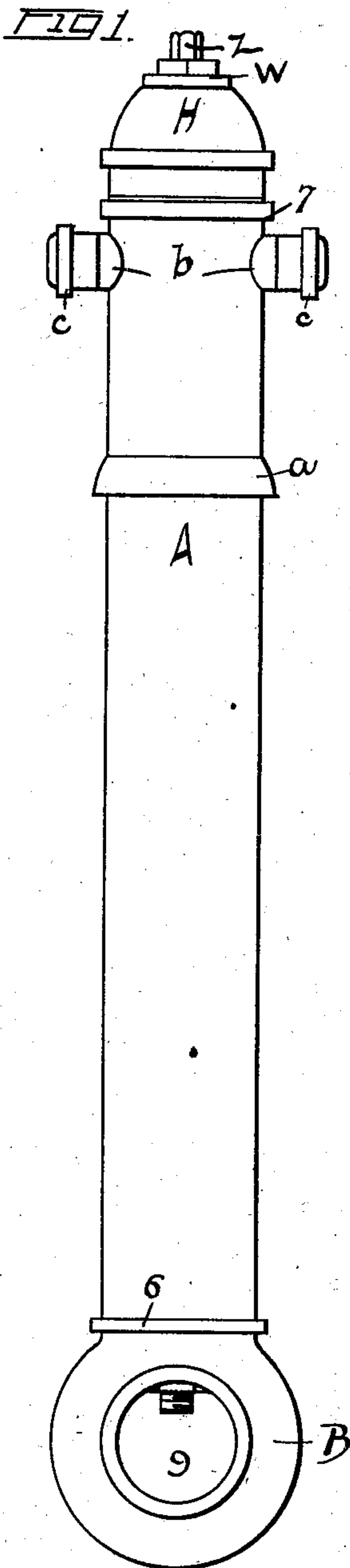
No. 724,741.

PATENTED APR. 7, 1903.

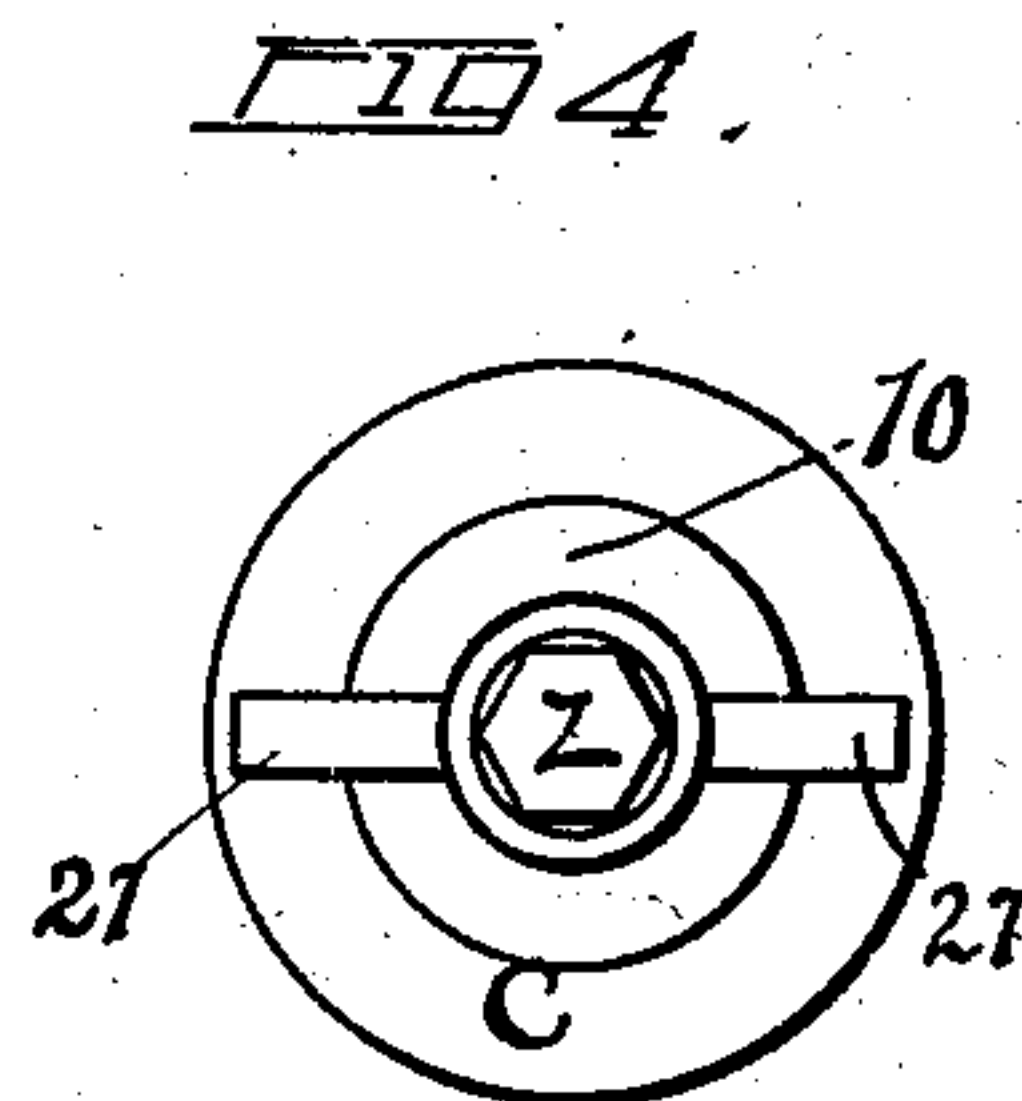
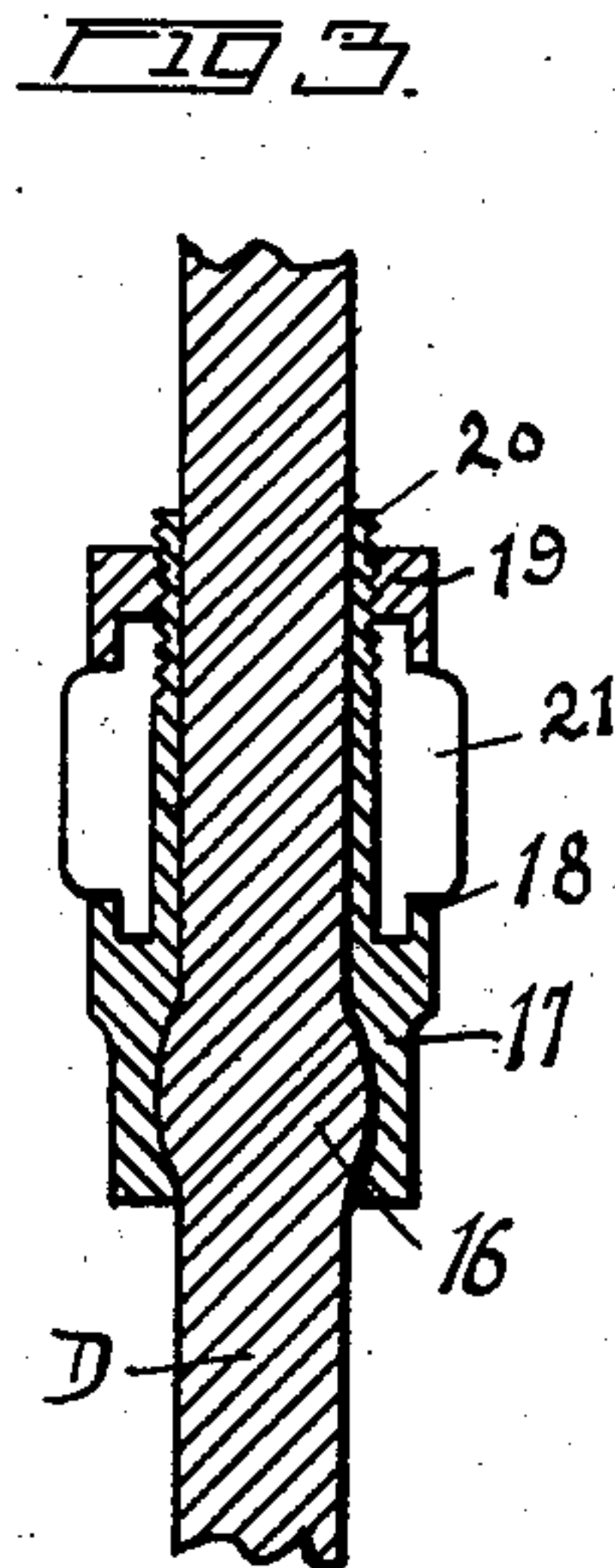
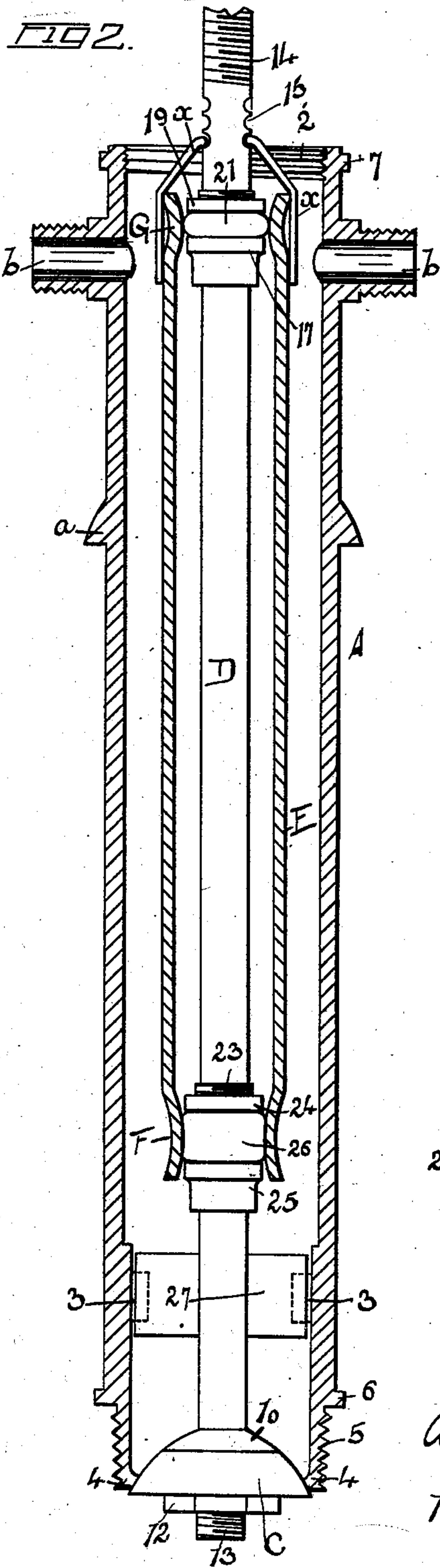
A. I. SANDBO.  
HYDRANT.

APPLICATION FILED MAR. 8, 1902.

NO MODEL.



Witnesses:  
*E. Larson*  
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Inventor:  
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Atty.



# UNITED STATES PATENT OFFICE.

ANTON I. SANDBO, OF WAUKON, IOWA, ASSIGNOR OF TWO-THIRDS TO  
SAMUEL H. EDDY AND EMIL SCHUKEI, OF WAUKON, IOWA.

## HYDRANT.

SPECIFICATION forming part of Letters Patent No. 724,741, dated April 7, 1903.

Application filed March 8, 1902. Serial No. 97,309. (No model.)

*To all whom it may concern:*

Be it known that I, ANTON I. SANDBO, residing at Waukon, in the county of Allamakee and State of Iowa, have invented certain useful Improvements in Hydrants; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to a new and novel improvement in fire-plugs and hydrants.

The object of my invention is to provide a means whereby the freezing of the fire-plug will be prevented.

In the accompanying drawings I have shown, in Figure 1, an elevation of a fire-plug. Fig. 2 shows a central sectional view with portions broken away. Fig. 3 shows a broken sectional detail of one of the valve-collars as used in my invention, while Fig. 4 shows a top view of the operating-valve.

My invention embodies, essentially, a suitable housing A of any suitable conformation and length, which is provided with the usual collar *a*, determining the depth to which the plug or hydrant is to be set. Below I provide the collar 6, terminating in an exteriorly-threaded end 5 and the interior valve-seating 4, while extending inwardly near the lower end are the ears 3 3. Near the upper end the fire-plug or hydrant is interiorly threaded, as is shown at 2, and provided with the exterior rim 7. From this hydrant-housing or fire-plug extend the usual branches *b*, as shown. Below, this housing is secured to the union B of any suitable service-pipe. Vertically positioned within this hydrant-housing A is the operating-stem D, which above is provided with an angular end *z*, by means of which a wrench is secured to the operating-stem D in turning the same. This stem D threads within the collar W, the upper end of this operating-stem being threaded, as is shown at 14 in Fig. 2. The collar W rotates freely within the upper end of the cap H, as is usual in the art. Secured to the lower threaded end 13 of this operating-stem D are the nuts 10 and 12, between which is held the valve C, adapted to work within the

seating 4, as shown in Fig. 2, so that as the operating-stem D is raised and lowered the water will be cut off or permitted free entry into the hydrant. At two points this operating-stem D is provided with suitable enlargements 16, as is shown more clearly in Fig. 3, and surrounding these enlargements are the preferable two-part sleeve 17, provided with a seating, so that these sleeves will lock upon the enlargements of the stem. These sleeves 17 are provided with the inwardly-extending lips 18 and are threaded at the upper end, as shown at 20, to receive the lipped nut 19, which works upon the threaded end 20, and between these lips 18 and the lip-washer 19 is held a suitable expansible packing 21, as shown. This operating-stem is provided with an upper packing 21 and a lower packing 26, the packing 26, however, being approximately twice the length of the upper packing 21, being held by the counterpart lipped nut 24, threading upon the counterpart sleeve 23, which below is provided with the sleeve 25, as is clearly disclosed in Fig. 2. Near the upper end this operating-stem D is provided with a series of collars 15. Surrounding this stem D and of a length to project between the packing 21 and 26 is a pipe E, which pipe is provided above with the inwardly-extending portion G and below with the inwardly-extending portion F, the lower portion being approximately twice the length of the upper portion G, the lower portion coming in contact with the lower packing 26, as shown. Extending from this tube E are a number of arms *x*, which are adapted to work into the collars 15, as shown in Fig. 2, so that this tube E is adjustably held about the operating-stem D.

In exceeding cold weather the water freezing within the hydrant would have a tendency to lock the stem D within the ice, so that the same could not be easily turned. This ice would, however, extend downward but a short distance and would never reach as low into the ground as the lower packing 26, which is placed below the lowest frost-line. Now in anticipation of exceeding cold weather in order to prevent the freezing of this fire-plug and make the same inoperative the operator would raise the tube E until the



arms  $\alpha$  were within the intermediate seating 15, in which condition the upper portion G would be free of the packing 21. Kerosene or some other suitable non-freezing liquid 5 would then be poured into the tube E, and as the lower packing 26 is deeper than the distance from the lower ring 15 to the intermediate ring 15 the packing 26 would form a liquid-seating below and prevent the oil from 10 flowing out. After having filled this tube or pipe R the operator would carry the same downward, so that the arms  $\alpha$  were within the lowermost notch 15 to close this oil-filled chamber formed by the pipe E, this making 15 a practically air-tight compartment. Now if the water should freeze within the plug and surrounding the tube or pipe E the operating-stem D would not be affected and could be easily turned to operate the valve C.

20 Whenever the tube E is to be raised to permit the water flowing through the same, the arms  $\alpha$  would be carried into the uppermost collar 15. It will be noticed that the upper packing 21 stands above the branches  $b$ , so 25 that there would be no water within the hydrant upon the lowermost point of these exit-openings  $b$ . This tube E can be readily removed from the fire-plug or hydrant.

Having thus described my said invention, 30 what I claim as new, and desire to secure by United States Letters Patent, is—

1. In a hydrant, the combination with the valve-operating stem having shoulders adjacent to its upper and lower ends, of a tube 35 surrounding the stem and arranged to have a sliding contact at its respective ends with said shoulders, said shoulders being of such relative longitudinal extent that the tube may

be moved to disengage the upper shoulder without disengaging the lower one so as to 40 open the upper end of the tube, and means to hold said tube with its upper end either open or closed.

2. In a hydrant, the combination with an operating valve-stem, a lower packing se- 45 cured to said valve-stem, an upper packing of a length less than said lower packing, a tube surrounding said valve-stem provided with an inwardly-extending portion below en- 50 gaging said first-mentioned packing, and an inwardly-extending portion above engaging said uppermost packing, so arranged that said tube may be slid upon said lower pack- 55 ing to disengage the upper packing as and for the purpose set forth.

3. In a hydrant, the combination with an operating valve-stem, a lower packing se- 60 cured to said valve-stem, of an upper packing of a length less than said lower packing, a tube surrounding said valve-stem provided with an inwardly-extending portion below en- 65 gaging said first-mentioned packing, an inwardly-extending portion above engaging said uppermost packing, so arranged that said tube may be slid upon said lower pack- 70 ing to disengage the upper packing, collars upon said operating valve-stem, and arms extending from said tube to engage said collars, as and for the purpose set forth.

In testimony whereof I affix my signature 70 in presence of two witnesses.

ANTON I. SANDBO.

Witnesses:

W. O. BOCK,  
J. J. MCGUINNESS.