June 8, 1937. A. H. DAVIET 2,083,319

FIRE HYDRANT

Filed Oct. 17, 1936

Fig. 1.

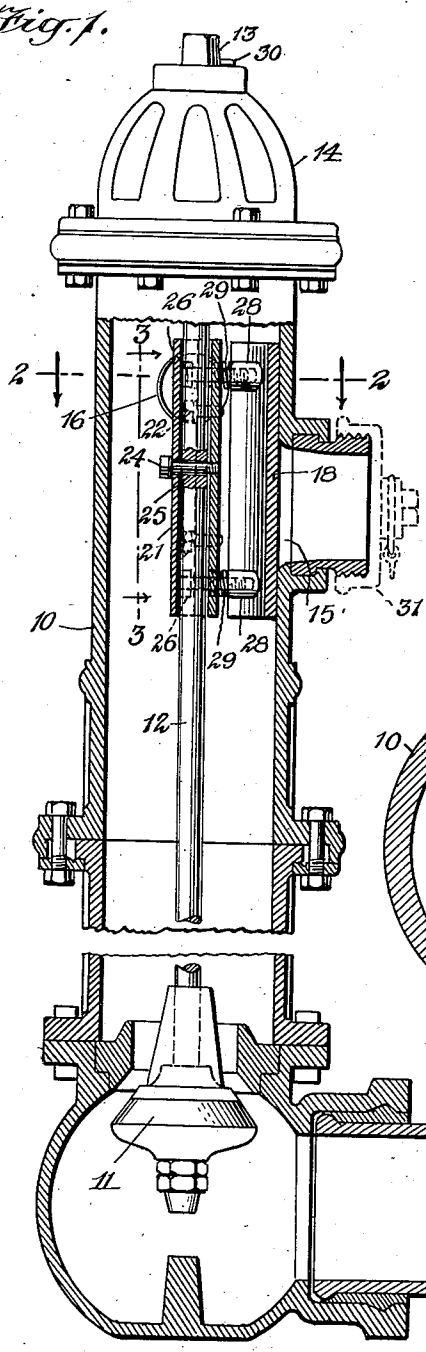


Fig. 3.

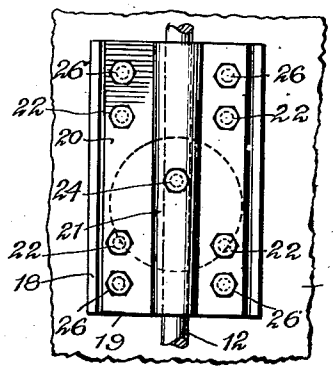
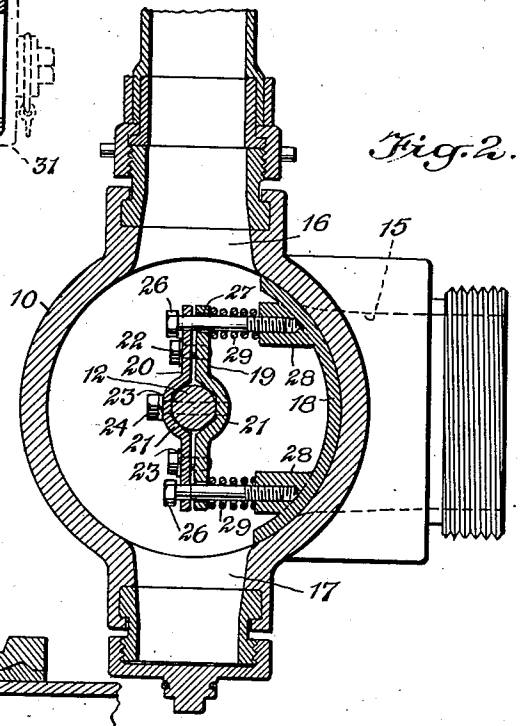


Fig. 2.



WITNESSES

George Naylor

S. W. Foster

INVENTOR

August H. Daviet

BY

Munn, Anderson & Liddy.

ATTORNEYS

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FIRE HYDRANT

August H. Daviet, Hillside, N. J.

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5 Claims. (Cl. 137—13)

This invention relates to fire hydrants and more specifically to an improved outlet cut-off valve which may be secured to the rotary stem of an ordinary hydrant and which will operate to cut off and close any outlet desired.

Standard fire hydrants are provided with a main supply valve and with a suction outlet adapted to be coupled by a line to a fire engine, and with other outlets, usually of smaller diameter, for coupling engagement with other lines. With the present hydrant in general use it is necessary to first close the main supply valve whenever it is desired to couple additional line to the hydrant. This results in a loss of time and a loss of efficiency, and it is the broad purpose of my invention to provide an improved cut-off valve for the outlets which enables a line or lines to be coupled to the hydrant without the necessity of closing the main valve.

A further object is to provide an outlet cut-off valve which may be attached to the valve stem of any standard type of hydrant and constitutes, in effect, an attachment or auxiliary device which may be installed with practically no change in the general construction of the hydrant.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, all of which will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawing—

Fig. 1 is a broken view mainly in section but partly in elevation, illustrating my improved outlet cut-off valve in operative position on a standard type of hydrant;

Fig. 2 is an enlarged view in horizontal section on the line 2—2 of Fig. 1; and

Fig. 3 is a fragmentary view in elevation on the line 3—3 of Fig. 1.

10 represents the cylindrical barrel or casing of the hydrant, which is provided with a main supply valve 11 fixed to a rotary stem 12, and this rotary stem is operatively connected to an angular nut 13 which is exposed above the ordinary hood 14 fixed to the upper end of the barrel 10. The barrel 10 is provided with a suction outlet 15 and with smaller outlets 16 and 17. The suction outlet 15 is ordinarily of greater diameter than the outlets 16 and 17, and in many types of hydrant the outlet 15 is in a different plane from the outlets 16 and 17, although, of course, my invention is not limited to this particular form of hydrant as it is just as well adapted for hydrants with all of the outlets in the same plane.

18 represents my improved cut-off valve, which is in the form of a shoe of the desired longitudinal dimension and curved transversely concentric with the internal curvature of the barrel 10 and rides against said inner surface and operates to open or cut off the outlets 15, 16 and 17. This valve 18 is secured to the stem 12 by means of a pair of plates 19 and 20, which have curved offset portions 21 receiving the stem 12 and headed screws 22 are projected through the plate 20 and screwed into the plate 19 to clamp the stem 12 between said plates. These screws 22 may have suitable lock washers 23 thereon to prevent accidental loosening of the screws, and as an additional means for securing the valve to the stem, I may provide a headed screw 24, which is projected through the plate 20 and through an opening 25 provided in the stem 12 and screwed into the plate 19, and this screw may also be provided with a lock washer 23. Headed screws 26 are positioned in openings 27 in the plates 19 and 20 and are screwed into internally threaded studs 28 on the back of valve 18, and between these studs 28 and the plate 19, coiled springs 29 are located and positioned around the screws 26, exerting a continuous pressure on the valve 18 to hold it snugly against the inner surface of the barrel 10, but this pressure is not sufficient to materially affect the turning movement of the stem. To indicate the position of the valve 18, I may provide, of course, any suitable means but I have shown in Fig. 1 a pointer 30, which is fixed to the nut 13 above the hood 14.

In the ordinary operation of a hydrant of this character, when the fire apparatus arrives at the hydrant a hose or line is quickly coupled to one of the outlets, 16 or 17, to direct water on to the fire. If the use of the engine is desired, a second hose or line is connected to the suction outlet 15 and with the ordinary hydrant in order to permit this to be done the main valve 11 must be first closed. When the hydrant is equipped with my improved cut-off valve, this is not necessary as the cut-off valve 18 can be turned to a position to close the outlet 15 and then the ordinary cap 31, indicated in dotted lines in Fig. 1, can be removed and the line coupled to the outlet. The stem 12 can then be turned to move the cut-off valve 18 away from the suction outlet and permit a flow of water through the line, this whole operation being carried out without the necessity of closing the main valve. Thus it will be seen that any or all of the outlets can be utilized by coupling lines thereto, without the necessity of first closing the main valve 11.

While I have illustrated and described what I believe to be the preferred embodiment of my invention, it is obvious that various slight changes may be made with regard to the form and arrangement of parts without departing from my invention, and hence I do not limit myself to the precise details set forth but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the claims.

I claim:

1. The combination with a fire hydrant having a plurality of outlets, a main supply valve in the lower portion of said hydrant, and a rotary stem operatively connected to said main supply valve, of an outlet cut-off valve secured to the stem and conforming in transverse shape to the internal shape of the barrel of the hydrant and adapted when the stem is turned to cut off and open the several outlets, and resilient means pressing the cut-off valve against the inner face of the barrel.

2. The combination with a hydrant having a cylindrical barrel, a main valve at the lower portion of the barrel controlling the flow of water into the barrel, a rotary stem secured to said valve and a device outside of the barrel to turn the same and open and close the main valve, said barrel having a plurality of outlets; of a valve clamped to the stem and conforming in transverse shape to the interior shape of the cylindrical barrel and of a length to cut off any of the outlets when moved to cover the same, and springs behind said cut-off valve holding the same frictionally engaged with the barrel.

3. The combination with a fire hydrant having a plurality of outlets, of a clamp secured to the stem of the valve of said hydrant, a cut-off valve curved transversely conforming to the curvature of the interior of the barrel of the hydrant, headed screws projected through the clamp and screwed into the cut-off valve, and springs interposed between the clamp and the cut-off valve.

4. The combination with a fire hydrant having a plurality of outlets, of a clamp secured to the stem of the valve of said hydrant, a cut-off valve curved transversely conforming to the curvature of the interior of the barrel of the hydrant, headed screws projected through the clamp and screwed into the cut-off valve, springs interposed between the clamp and the cut-off valve, a screw projected through the clamp and through the stem, and means outside of the barrel indicating the position of the cut-off valve.

5. A valve attachment for fire hydrants, comprising a cut-off valve curved transversely, a pair of clamping plates adapted to clamp opposite sides of the valve stem of the hydrant, screws connecting said plates, other screws projected through both of said plates, threaded studs on the back of the cut-off valve receiving said screws, and springs interposed between the clamping plates and said studs.

AUGUST H. DAVIET.