(No Model.)

2 Sheets—Sheet 1.

F. M. FARWELL.

HYDRANT.

No. 587,364. Patented Aug. 3, 1897.

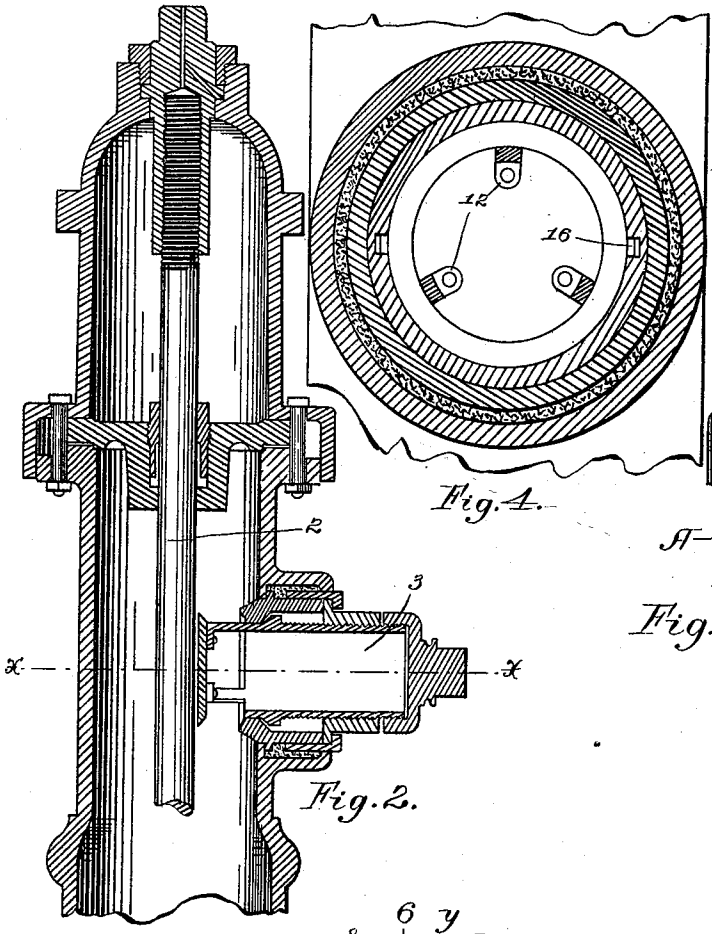

Fig. 4.

Fig. 2.

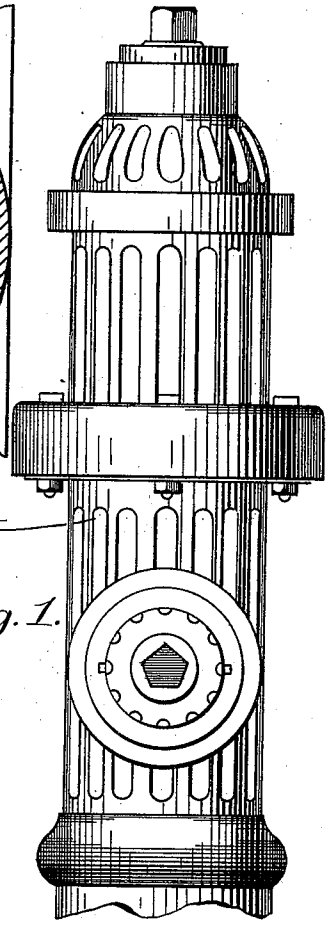

Fig. 1.

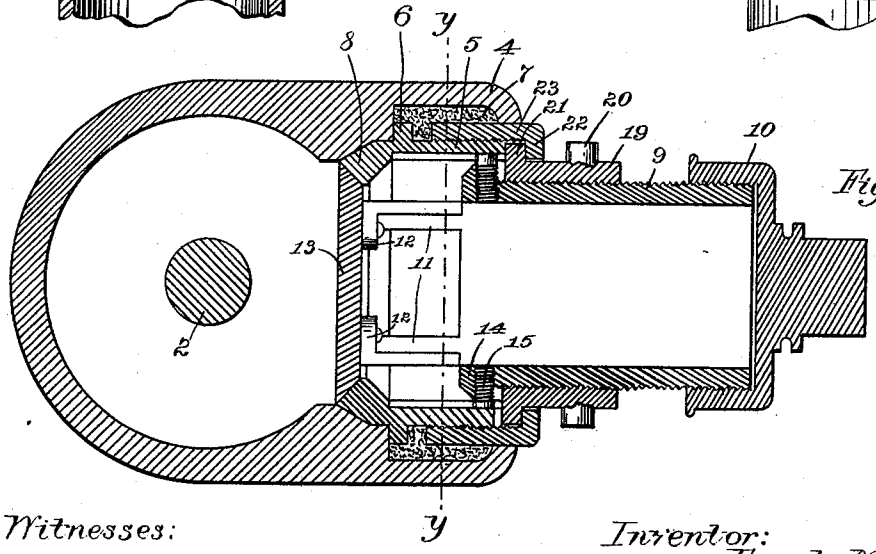

Fig. 3.

Witnesses:
F. G. Bradbury.
A. S. Johnson.

Inventor:
Frank M. Farwell
per: F. D. Merwin
Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

F. M. FARWELL.

HYDRANT.

No. 587,364. Patented Aug. 3, 1897.

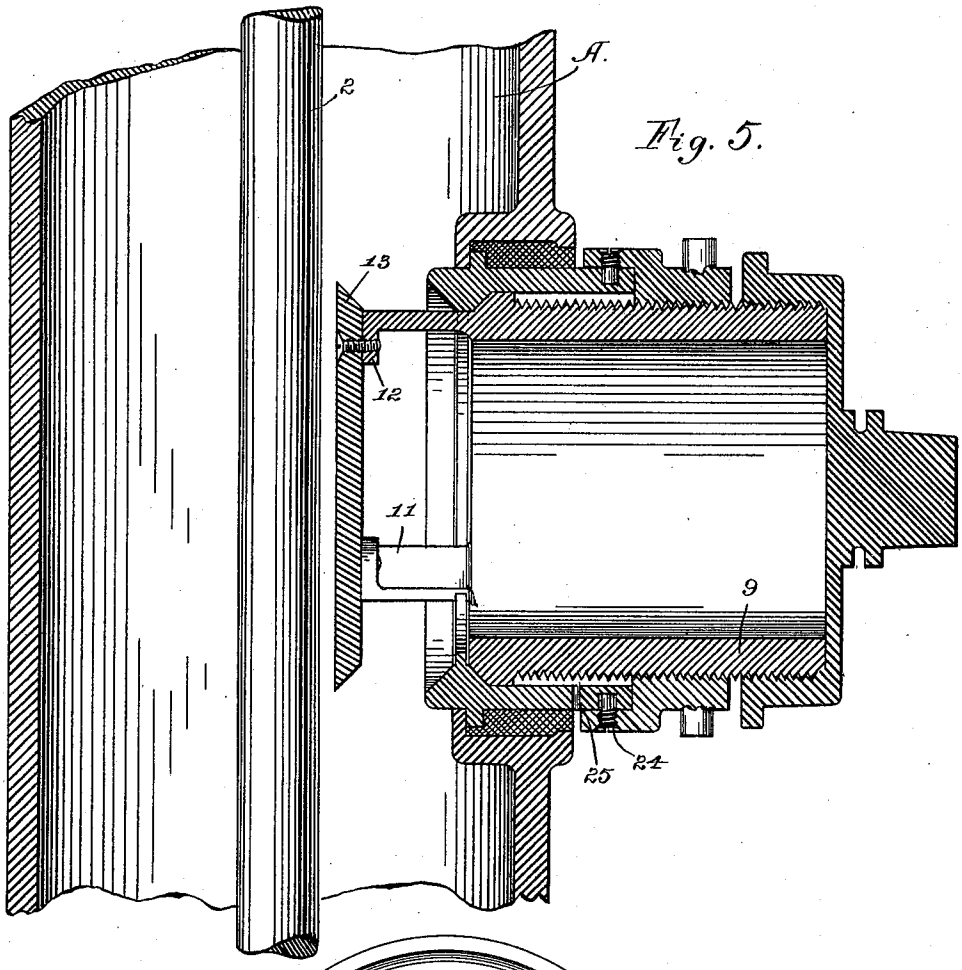

Fig. 5.

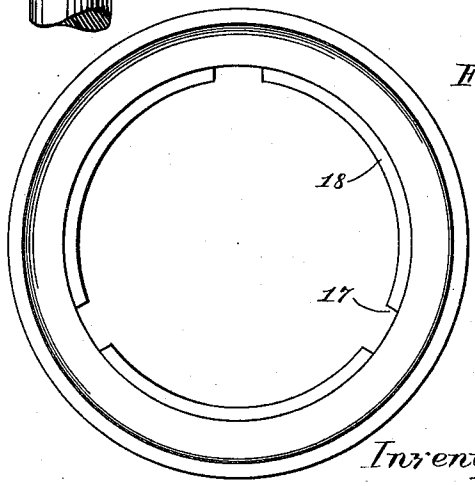

Fig. 6.

Witnesses:

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UNITED STATES PATENT OFFICE.

FRANK M. FARWELL, OF ST. PAUL, MINNESOTA.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 587,364, dated August 3, 1897.

Application filed April 15, 1895. Serial No. 545,686. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. FARWELL, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Hydrants, of which the following is a specification.

My invention relates to improvements in hydrants, its object being to provide independent plug or nozzle cut-offs by means of which water may be drawn from the hydrant through one plug-opening independently of the main valve and of the other plug.

To this end my invention consists in providing for each plug-opening an interior sleeve or collar, preferably provided with a double valve-seat, which sleeve is anchored in the opening by means of soft-metal filling, so as to be fixed rigidly in place. I also provide a second sleeve slidably arranged within the first or fixed sleeve and carrying a double valve fitted to the seat in the fixed sleeve, whereby the plug may be opened and closed and the water shut off from around the sleeve when the plug is opened. The slidable sleeve is operated by means of a collar-nut threaded thereon and having a groove-and-flange connection with the plug or fixed sleeve. The hose is connected directly to the slidable sleeve beyond the nut, and the turning of the nut drives the sleeve to open or close the plug.

My invention further consists in the construction and combination hereinafter particularly described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a front elevation of a hydrant fitted with my improved attachment. Fig. 2 is a vertical central section of the hydrant through the plug, showing the valve construction, the valve being open. Fig. 3 is an enlarged sectional detail of the plug and cut-off valves, taken on line *x x* of Fig. 2 and showing the valve closed. Fig. 4 is a cross-section of the same, taken on line *y y* of Fig. 3. Fig. 5 is a sectional detail corresponding to Fig. 3 of a modified construction, and Fig. 6 is a detail of a modified form of guide for the valve-carrying arms.

In the drawings, A represents a hydrant of ordinary type, provided with the rod 2 for operating the main cut-off valve (not shown) and having one or more plugs 3.

Arranged within the plug-flange 4 is the sleeve 5, provided with a circumferential rib 6, by means of which it is anchored within the plug-flange by the soft-metal filling or packing 7. The inner end of this sleeve is provided with a double valve-seat 8. Slidable within the sleeve 5 is the sleeve 9, exteriorly screw-threaded to receive upon its projecting outer end the cap 10 or the hose-coupling. The inner end of this sleeve is provided with standards or arms 11, preferably three in number, having inturned ends 12, to which is secured the valve 13, fitted to the inner face of the double valve-seat 8. It will thus be seen that when the valve is thrust inward or into open position the water from the hydrant will pass through the space between the standards or arms carrying the valve and thence through the sleeve to the connected hose. The sleeve 9 is also fitted with the valve 14, which is adapted when the sleeve is driven inward to fit to the outer face of the valve-seat. This prevents the flow of water into the space between the two sleeves.

In order to prevent the sleeve 9 from rotating, I provide it with studs or screws 15, which travel in grooves 16 in the inner wall of the sleeve 5, as shown in Figs. 3 and 4, or, as shown in Figs. 5 and 6, the standards or arms 11 may be fitted to notches 17 in the flange 18 between the two faces of the double valve-seat. In order to operate the sleeve 9 so as to open and close the valve 13, I provide the collar-nut 19, having outwardly-projecting studs 20, threaded upon the sleeve, and held in engagement with the plug of the hydrant by means of the flange 21, engaging a similar flange 22 upon the collar 23, threaded or otherwise secured upon the exterior of the sleeve 5, whereby the nut is free to turn, but is held from outward or inward movement, and consequently in its rotation will drive the sleeve.

In the construction shown in Fig. 5 the collar-nut embraces the outer end of the sleeve 5 and is held in place thereon by the screws 24, entering a corresponding circumferential groove in the sleeve.

Any suitable means for draining off the water in the space between the two sleeves may be employed, such as a narrow vent 25 through the wall of the sleeve 5, as shown in Fig. 5.

The valve 13 stands normally open, the water being cut off from the hydrant by the clos-

ing of the main valve, and the plug being closed by the cap 10. When required for use, the cap is removed and the hose coupled onto the projecting end of the inner sleeve, and the opening of the main valve permits the water to flow out through the hose, the valve 14 preventing the flow of water between the sleeves. While the main valve remains open, to supply a second nozzle or for any other reason the valve 13 may be closed by screwing the collar-nut to drive the sleeve outward, so as to shut off the flow of water through the plug.

I claim—

1. In a hydrant, the combination with its lateral plug, of the sleeve or collar slidable in said plug, and the double valve and valve-seat connection between said sleeve and the fixed parts of said plug whereby leakage around said sleeve is prevented in both open and closed positions thereof.

2. In combination with a hydrant plug or nozzle, the sleeve arranged therein, means for slidably adjusting its position, and the double valve and valve-seat connection between said sleeve and plug whereby leakage around said sleeve is prevented in its different adjusted positions.

3. In a hydrant, the combination with its lateral plug, of the sleeve or collar fixed in said plug, the slidable sleeve arranged within said fixed sleeve, and the double valve and valve-seat connection between the fixed and slidable sleeves.

4. In combination with a hydrant plug or nozzle, the sleeve fitted to said plug, the soft-metal filling anchoring the same therein, the slidable sleeve adjustably arranged in said first sleeve, the valve and valve-seat, one carried by said slidable sleeve and the other upon the fixed sleeve, and the collar having a circumferential groove and flange connection with said fixed sleeve and threaded upon said slidable sleeve.

5. In a hydrant, the combination with its lateral plug, of the fixed double valve-seat arranged therein, the sliding sleeve, the valve carried by said sleeve and fitted to the inner valve-seat so as to close the plug, and the second valve carried by said sleeve and adapted to be seated upon the outer valve-seat when the inner valve is open, so as to prevent leakage around the sleeve.

6. In a hydrant, the combination with the lateral plug, of the valve-seat arranged therein, the sleeve slidable in said plug, the valve carried by inwardly-projecting arms upon said sleeve, and fitted to said seat to close said plug, the oppositely-arranged valve-seat in said plug, and the second valve carried by said sleeve fitted to said second seat and adapted to cut off the flow of water from the hydrant around said sleeve when the first valve is open.

7. In a hydrant, the combination with its lateral plug, of the sleeve or collar fixed within the plug-flange and provided with a double valve-seat, the sleeve slidable within said fixed sleeve and carrying valves, and fitted to said seats, the one to close the plug and the other to cut off the flow of water between said sleeves when the other valve is open.

8. In a hydrant, the combination with its lateral plug, of the sleeve fixed within the flange of the plug, the double valve-seat within said sleeve, the second sleeve slidable within said first sleeve, the pair of valves carried by said second sleeve and adapted to be seated by its movement the one to close the plug and the other to cut off the flow of water between the sleeves when the plug is open, and the collar having journal connection with the plug, and threaded upon said inner sleeve so as to drive the same inward or outward.

9. In a hydrant, the combination with its lateral plug, of the sleeve fixed in said plug and provided with a double valve-seat, the exteriorly-threaded sleeve slidable within said first sleeve, the valves carried thereby adapted to be closed against their respective seats, the collar-nut threaded upon said second sleeve and having freely-turning engagement with the plug, whereby when operated it serves to drive the sleeve inward or outward according to the direction of its rotation.

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

FRANK M. FARWELL.

Witnesses:
T. D. MERWIN,
H. S. JOHNSON.