J. W. STEVENSON.

HYDRANT.

APPLICATION FILED JUNE 1, 1909.

968,711. Patented Aug. 30, 1910.

Fig. 1.

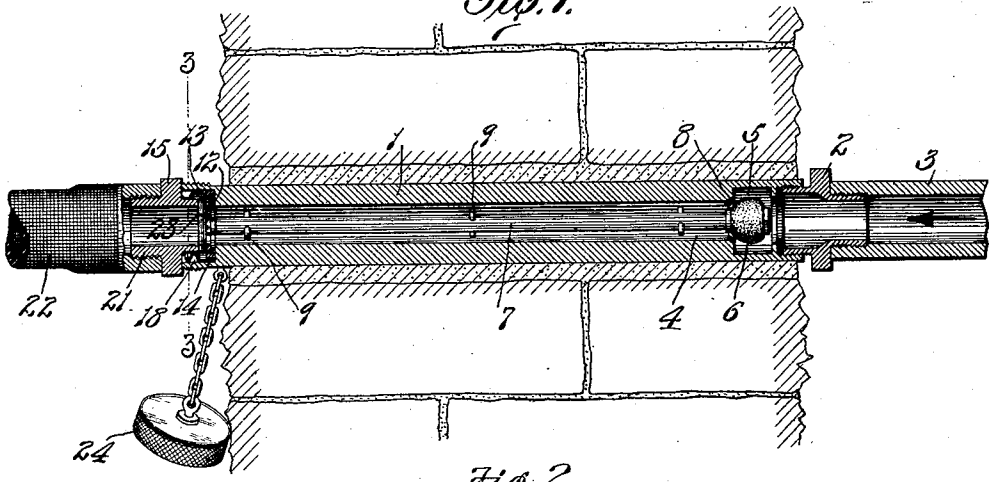


Fig. 2.

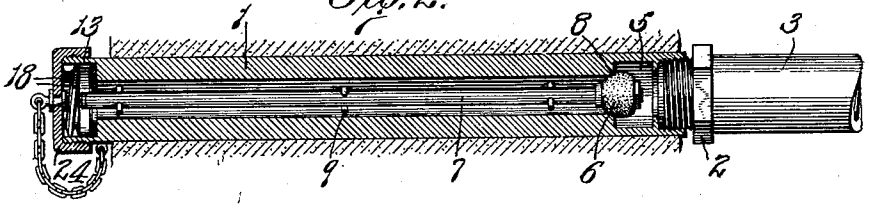


Fig. 3.

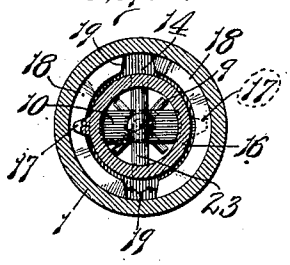


Fig. 4.

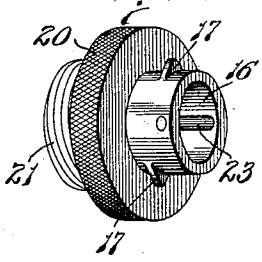


Fig. 5.

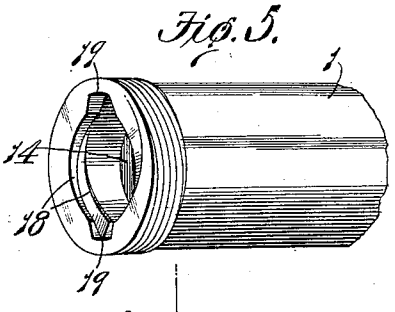


Fig. 6.

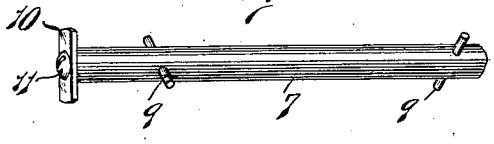
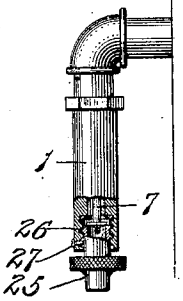


Fig. 7.



Witnesses:
Chas. P. Kadson
Shepard R. Evans

Inventor:
John W. Stevenson.
by Ralph Kalish. Atty.

UNITED STATES PATENT OFFICE.

JOHN W. STEVENSON, OF ST. LOUIS, MISSOURI, ASSIGNOR TO PERLEY A. GRISWOLD, OF ST. LOUIS, MISSOURI.

HYDRANT.

968,711. Specification of Letters Patent. **Patented Aug. 30, 1910.**

Application filed June 1, 1909. Serial No. 499,348.

To all whom it may concern:

Be it known that I, JOHN W. STEVENSON, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Hydrants, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a longitudinal sectional view through a hydrant embodying my invention, the same being passed horizontally through the wall of a building or the like, a hose being shown coupled to the hydrant and the valve of the hydrant being open; Fig. 2 is a longitudinal sectional view through the hydrant, showing the valve closed and a cap on the outer end of the hydrant; Fig. 3 is an enlarged sectional view taken approximately on the line 3—3, Fig. 1; Fig. 4 is a perspective view of the coupling and valve-opening member; Fig. 5 is a perspective view of the outer end portion of the hydrant tube; Fig. 6 is a perspective view of the outer portion of the valve-stem; and Fig. 7 is a view, partly in elevation and partly in section, showing a slightly modified form of my hydrant.

This invention relates to a new and useful improvement in hydrants, the object being to provide a simple, durable and inexpensive hydrant which is easily operated and which may be put to many advantageous uses.

With this object in view, my invention consists in the novel construction of the several parts of my hydrant and in the novel arrangement and combination of the same, all as will hereinafter be described and afterward pointed out in the claims.

As shown in the drawings, my hydrant comprises a tubular member 1, which is adapted to be connected at one end by a coupling-member 2 to a water-pressure and supply-pipe 3. At the inlet end of said tubular member 1, the bore 4 thereof is slightly enlarged, as at 5, to accommodate a valve 6 preferably of rubber or other suitable material. This valve 6 is mounted on a rod or stem 7 and is adapted to coöperate with a seat 8 at the inlet end of bore 4, as shown clearly in Figs. 1 and 2. The rod 7, which extends through bore 4 of member 1, is adapted to be held centered therein by cross-pins 9 arranged diametrically through said rod substantially at right angles to one another. By this arrangement, by means of the pressure of the water entering the inlet end of member 1, the valve 6 will be held to its seat, thereby closing bore 4. At the outer end of stem 7 is a cross-piece 10 secured thereon by a screw 11, the ends of this cross-piece 10 being adapted to bear against a shoulder 12 formed by counter-boring the outlet-end of member 1, as at 13, see particularly Figs. 1 and 2, to limit the inward movement of stem 7 when the valve is being opened, as more fully hereinafter appearing, the outer end of the stem 7 normally projecting a slight distance beyond the shoulder 12 when the valve is closed.

Fitting in the counter-bore 13 of member 1 and resting against said shoulder 12 is a washer 14, which is adapted to coöperate with the inner end of a coupling and valve-opening member 15 to make a water-tight joint when said member 15 is inserted into said member 1 to open said valve. This member 15 is provided with a tubular nipple portion 16, which is provided with oppositely-disposed lugs 17 adapted to coöperate with screw-threads 18 provided therefor in said counter-bored portion 13 of the tubular member 1. At diametrically opposite points the screw-threads 18 are cut away, as at 19, to permit of the insertion of the lugs 17 endwise of the member 1 before the same are turned into the said threads. The lugs 17 on nipple 16 are preferably staggered to correspond with the pitch of threads 18; if desired, however, said lugs may be arranged diametrically opposite and the threads 18 may be oppositely-disposed half-threads to coöperate therewith. The intermediate outer periphery of member 15 is enlarged and preferably knurled or otherwise suitably roughened, as at 20, see particularly Fig. 4, to provide for the easy turning of the said member, and the periphery of the outer end portion of said member 15 may be suitably threaded, as at 21, or otherwise arranged or formed to receive the end of a hose or other pipe 22.

Extending diametrically across the end of the bore of nipple 16 is a bar 23, which is adapted to bear against the end of the valve-stem 7 when the member 15 is screwed into position in the member 1 and thereby move the valve-stem 7 inwardly and unseat the

valve 6 against the pressure of the water. At the same time, that is to say, on the opening of valve 6, the inner end of member 15 impinges tightly against the washer 14, thereby making a water-tight joint simultaneously with the opening of the valve. When the member 15 is disengaged from the member 1, the valve 6 will automatically seat itself, due to the pressure of the water behind it.

It will thus be seen that my hydrant is easily operated, is positive, has few parts, and will not readily get out of order.

A suitable cap 24, adapted to be screwed or otherwise fastened on the end of the member 1, may be provided to close the outlet-end of the hydrant when the same is not in use.

In Fig. 7 I have shown a slightly modified form of my hydrant. In this modification, the tubular member 1 is shown vertically disposed instead of horizontally disposed, as shown in Figs. 1 and 2, but the internal arrangement of parts is the same in all respects as heretofore described, except that, instead of having a detachable valve-opening and coupling-member 15, as before described, a nozzle-member 25 having its inner end screw-threaded, as at 26, is shown, which nozzle-member is adapted to be held against withdrawal from said tubular member 1 by a set-screw 27. Thus, when the nozzle-member 25 is screwed inwardly, the valve 6 will be opened, as hereinbefore described; when the nozzle-member 25 is unscrewed outwardly, contact with valve-stem 7 is removed and the valve closes. If desired, the outer end of the nozzle-member 25 may be screw-threaded or otherwise arranged for the attachment of a hose or other pipe.

It will be understood that my hydrant and its several parts may be made of any size desired, depending upon the use to which the hydrant is to be put, and that minor changes in the arrangement, construction, and combination of the several parts of my hydrant may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a hydrant, the combination with a tubular member having a valve-seat at one end of the bore thereof and the opposite end of said bore being enlarged and threaded, of a valve adapted to coöperate with said valve-seat, said valve being adapted to be normally kept seated by fluid-pressure, a valve-stem connected at one end to said valve and extending through said tubular member into said enlarged bore thereof, pins on said valve-stem adapted to center the same in said tubular-member, a tubular coupling member adapted to have threaded engagement with said tubular member, said coupling member having a bar across the bore thereof adapted to bear against said valve-stem to open said valve against said fluid-pressure when said coupling-member is screwed inwardly, and a cross-piece on said valve-stem adapted to limit the opening movement of said valve; substantially as described.

2. In a hydrant, the combination with a tubular member having a valve-seat at one end and an enlarged threaded bore at the other end, of a valve arranged in said tubular member and adapted to coöperate with said valve-seat, said valve being adapted to be normally kept seated by water-pressure, a valve-stem connected to said valve and extending longitudinally through said tubular member and into said enlarged bore thereof, a tubular coupling-member having a nipple portion adapted to coöperate with said tubular member, said nipple portion having oppositely disposed projections adapted to have threaded engagement with said enlarged bore, and a bar across the bore of said nipple portion adapted to bear against the said valve-stem to open said valve against said water-pressure when said coupling-member is screwed inwardly; substantially as described.

3. In a hydrant, the combination with a tubular member having a valve-seat at one end and an enlarged threaded bore at the other end, of a valve arranged in said tubular member and adapted to coöperate with said valve-seat, said valve being adapted to be normally kept seated by water-pressure, a valve-stem connected to said valve and extending longitudinally through said tubular member and into said enlarged bore thereof, a coupling member having a nipple portion adapted to be inserted into and to coöperate with said tubular member, oppositely-disposed projections on said nipple portion adapted to have engagement with the threads of said enlarged bore of said tubular member, the threads of said enlarged bore of said tubular member being cut-away to permit said projections to be inserted endwise of said tubular member, and a bar across the bore of said nipple portion adapted to bear against said valve-stem to open said valve against said water-pressure when said coupling member is screwed inwardly; substantially as described.

4. In a hydrant, the combination with a tubular member having an enlarged bore at both ends, providing a valve-seat at one end of said tubular member and a shoulder at the other end, of a valve arranged in the enlarged bore at one end of said tubular member and adapted to coöperate with said valve-seat, said valve being adapted to be normally kept seated by water-pressure, a

valve-stem connected to said valve and extending longitudinally through said tubular member and slightly beyond said shoulder, pins on said valve-stem adapted to center the same in said tubular member, a coupling-member having a nipple portion adapted to be inserted into and to have threaded engagement with said tubular member, a bar across the bore of said nipple portion adapted to bear against said valve-stem to open said valve against said water-pressure when said coupling-member is inserted into said tubular-member, and a cross-piece on said valve-stem adapted to bear against said shoulder when said valve is in open position; substantially as described.

5. In a hydrant, the combination with a tubular member having a valve-seat at one end and an enlarged threaded bore at the other end, of a valve arranged in said tubular member and adapted to coöperate with said valve-seat, said valve being adapted to be normally kept seated by water-pressure, a valve-stem connected to said valve and extending longitudinally through said tubular member and into said enlarged bore, a coupling member adapted to have engagement with said tubular member and to cooperate with said valve-stem to open said valve against said water-pressure, and means in said enlarged bore against which said coupling member is adapted to contact when said valve is in open position, whereby a water-tight joint is provided; substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN W. STEVENSON.

Witnesses:

JOHN BOYLE,

SHEPARD R. EVANS.