T. GALVIN.

VALVE.

APPLICATION FILED FEB. 18, 1909.

955,859.

Patented Apr. 26, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

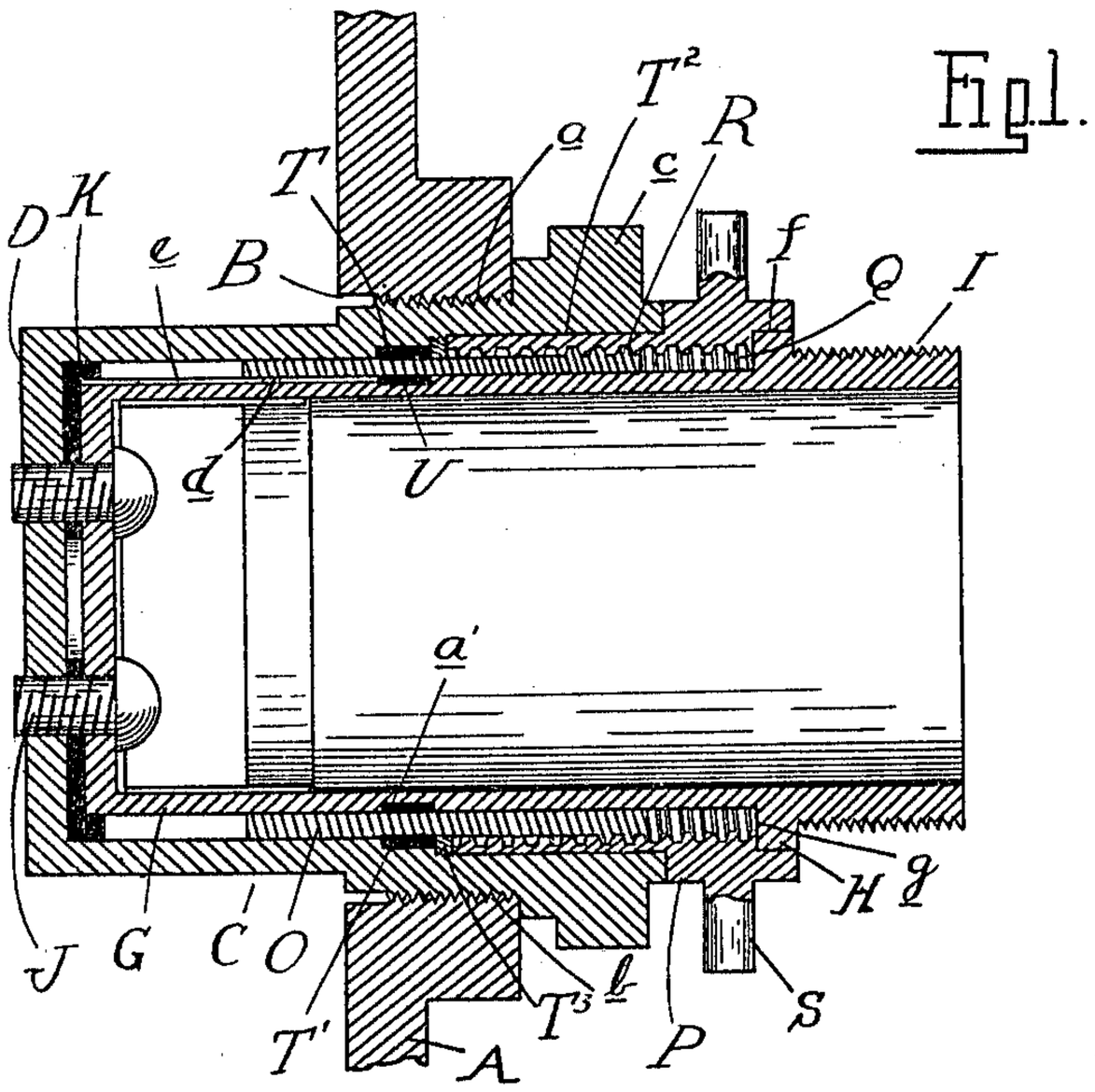


Fig. 2.

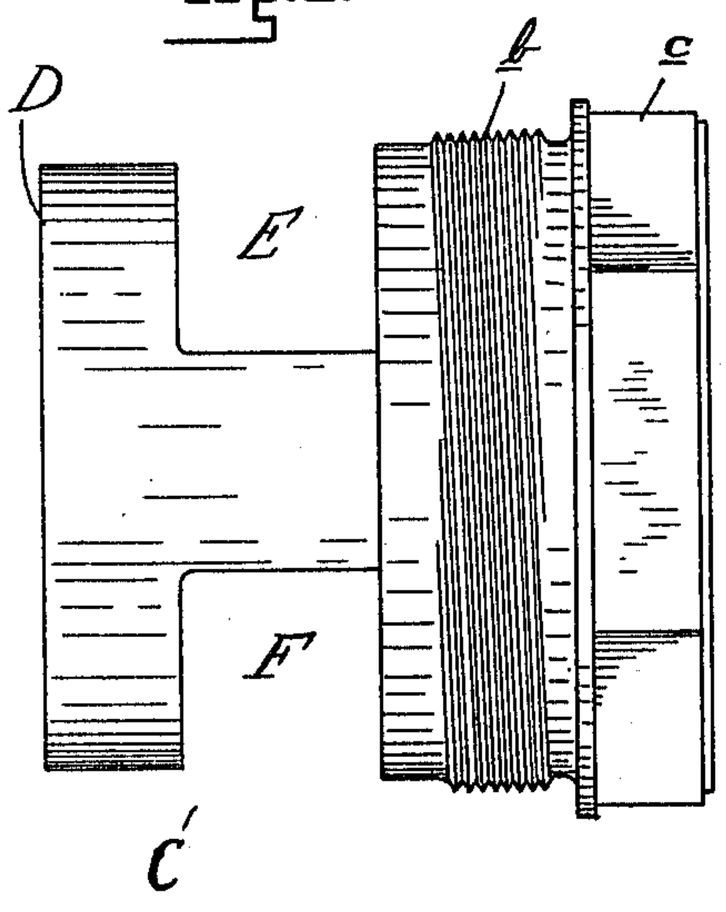
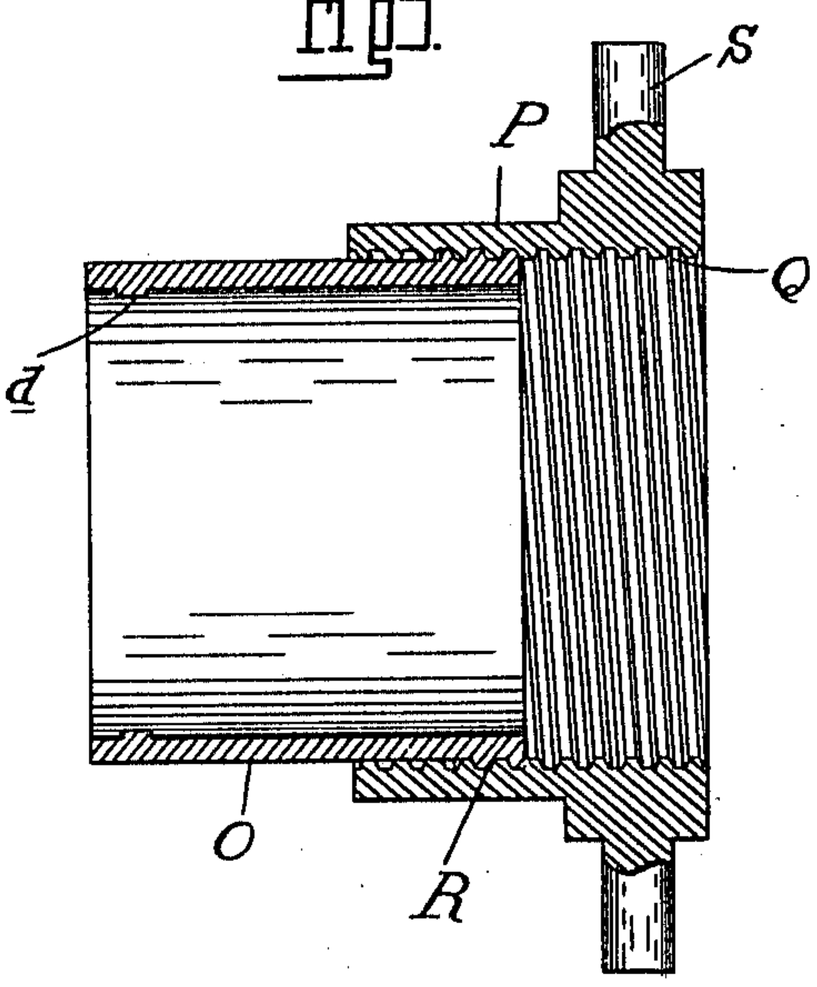


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

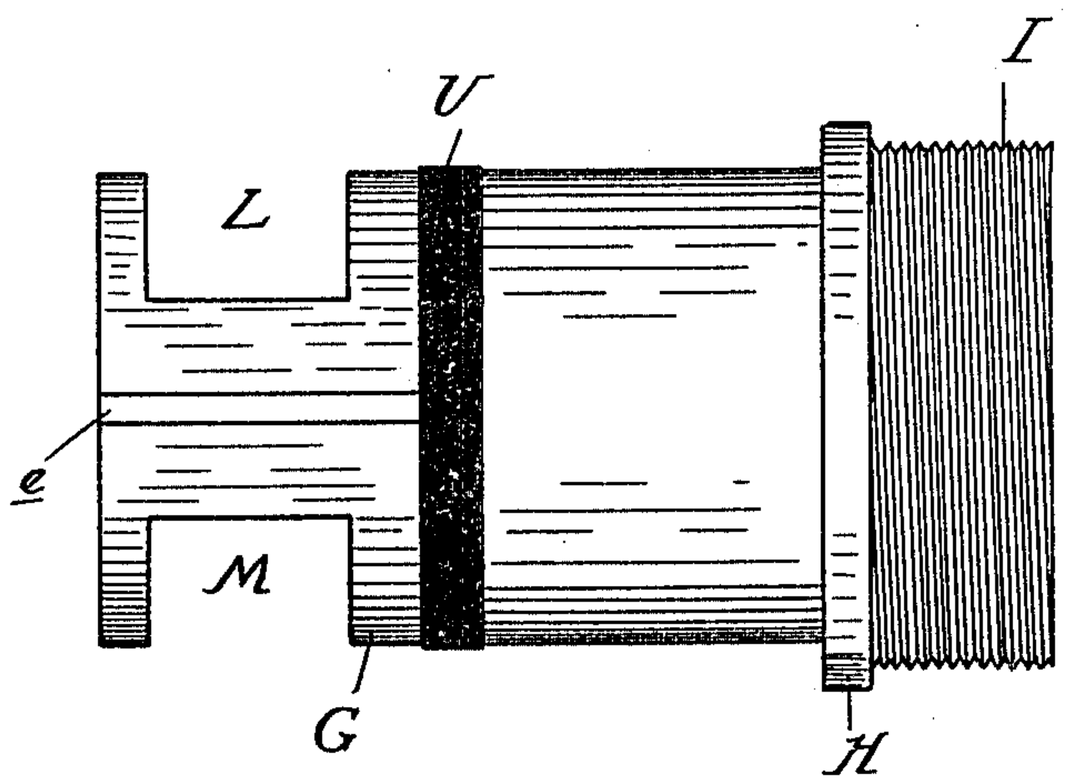
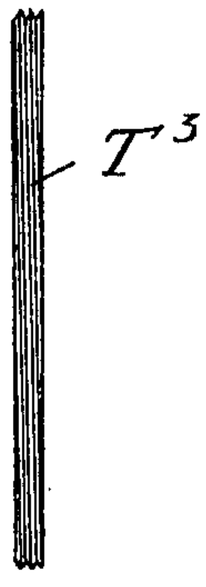


Fig 5.



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UNITED STATES PATENT OFFICE.

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VALVE.

955,859. Specification of Letters Patent. **Patented Apr. 26, 1910.**

Application filed February 18, 1909. Serial No. 478,653.

To all whom it may concern:

Be it known that I, THADDEUS GALVIN, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Valves, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to a valve capable of being applied to the discharge opening or openings of the ordinary city hydrant to which the fire hose is connected, the object being to provide an independent shut-off for each discharge port whereby a number of ports may be coupled to without the necessity of operating the main valve controlling the supply of water to the hydrant.

The invention consists in the novel construction of the valve, in its peculiar formation whereby it may be mounted within the discharge opening of the hydrant, in the arrangement and combination of parts, and in various details of construction as will be more fully hereinafter set forth.

In the drawings,—Figure 1 is a vertical central section through my improved valve, showing its application to the hydrant; Fig. 2 is an elevation of the valve casing; Fig. 3 is a vertical central section through the valve proper and its operating mechanism; Fig. 4 is a view similar to Fig. 2 of the part of the valve mechanism carrying the means of attachment to the hose; and Fig. 5 is a detached view in elevation of the packing retainer.

In the drawings thus briefly described, A designates the barrel of a hydrant of ordinary construction, and B the discharge port or opening therein, there being usually a number of these openings or hose connections for each hydrant. The discharge opening as shown in Fig. 1 is provided with an internal screw-thread *a* to engage a corresponding thread hereinafter described upon the valve mechanism.

C represents the valve casing, which is of tubular form, of a length to be inserted within the discharge opening and to project within the barrel a considerable distance, and provided with an external thread *b* to engage the hydrant thread, and an annular section *c* forming a wrench-hold whereby the casing may be screwed within the hydrant in the manner indicated.

The casing terminates at its outer end at the wrench-hold, and this end of the casing is open so as to permit of the free discharge of the water. The rear end D is closed as indicated, while two openings E F are formed in the wall of the casing near its rear end, constituting inlet ports for the water supply from the hydrant barrel.

G represents a central tubular section of greater length than the casing, and arranged concentrically therein. It carries at its outer end beyond the casing a collar H, constituting an abutment for the valve operating member, as will be hereinafter explained, and a threaded section I beyond the collar constituting the means of attachment for the ordinary hose. At its inner end it is preferably rigidly connected to the end D of the casing by suitable screws, as J. The member described is provided with ports L M that are adapted to register when the parts are connected with the ports E F of the casing, as shown in Fig. 1.

O designates the controlling valve for the inlet port, in the form of a shell interposed between the member G and the casing, and adapted to slide longitudinally in the latter to close and open respectively the inlet ports.

P designates an operating member for the valve of tubular construction, internally screw-threaded as at Q to engage an external thread R upon the valve, and having at its outer end a suitable wrench-hold formed thereon, in this instance in the form of complementary pins or studs S.

The valve O is provided with a lug *d* adapted to travel in a groove *e* formed in the member G, whereby as the valve is shifted longitudinally within the casing relative rotary movement will be prevented.

The member P has formed in its outer end an annular recess *f* that receives, as indicated in Fig. 1 when the parts are assembled, the collar H of the member G, a portion *g* of the operating device extending below the collar, as indicated in Fig. 1, so as to be held by said collar against outward movement.

To prevent leakage, a packing is provided for the valve to seat upon, a similar packing is interposed between the valve and its casing, and a third packing between the valve and the central stem section G.

The letter K designates the packing

against which the valve seats, which for the purpose of being properly held in place is interposed between the central section G and the inner casing end, and is held by the screws J which pass through the packing as shown. The seat portion of the packing extends as indicated between the section G and the valve casing, and longitudinally of the casing to a point in proximity to the casing port, the proportion of the parts being such that the valve in closing will pass slightly beyond the port before it seats.

The packing between the valve and its casing, designated by the reference-letter T, is arranged in an annular recess T′ formed in the interior of the casing, as plainly shown in Fig. 1. The casing is also counterbored, as at T^2, and a ring T^3 is screwed therein to abut against the packing, the ring preventing the packing from being displaced by the valve.

U represents the packing interposed between the valve and the central tubular section G, and is preferably located in a recess *a′* formed in the central section.

In assembling the valve parts, the member G is inserted within the valve, and these two parts subsequently positioned within the valve casing, the member G being then connected to the casing by the screws described. When thus assembled, the valve is screwed within the discharge opening of the hydrant in the manner indicated, the casing projecting a sufficient distance within the hydrant barrel to permit of the free discharge of the water through the inlet ports of the valve mechanism. The flow of water from the discharge opening is controlled by the shell or gate valve by rotation only of the operating member P, and the hose-engaging section I is held in a fixed position to receive the hose.

What I claim as my invention is,—

1. In a valve mechanism, the combination with an elongated tubular valve casing having its ends respectively open and closed, and an inlet formed in the cylindrical wall near the closed end, of a tubular member concentrically arranged within the casing and connected to the closed end of the latter, a shell valve interposed between the tubular member and casing and slidable longitudinally of the latter, a cup-shaped packing positioned within the closed end of the casing serving as a seat for the valve and held to the casing by the concentrically arranged member, and means for operating the valve.

2. In a valve mechanism, the combination with a tubular valve casing provided with an inlet near one end thereof, of a shell valve slidable longitudinally within the casing and controlling its inlet, an annular packing between the valve and casing, a rotatable tubular operating member for the valve extending within the casing in proximity to the packing, and an annular retainer intermediate the packing and valve-operating member for holding the packing in place.

3. In a valve mechanism, the combination with a tubular valve casing, of a tubular concentrically arranged member extending within the casing and connected thereto, a shell valve interposed between the casing and member controlling the casing inlet, an annular packing between the valve and casing, and a similar packing between the valve and concentrically arranged member.

4. In a valve mechanism, the combination with a tubular valve casing, of a tubular concentrically arranged member extending within the casing and connected thereto, a shell valve interposed between the casing and member controlling the casing inlet, and a packing between the valve and concentrically arranged member.

5. In a valve mechanism, the combination with a casing having an inlet and an outlet opening, of a hose-engaging section extending within the casing and connected thereto, a shell valve interposed between the casing and hose-engaging section, an annular packing between the valve and casing, an internal shoulder preventing endwise movement of the packing in one direction, and a ring screwed within the casing holding the packing against movement in the opposite direction.

6. In a valve mechanism, the combination with a tubular casing having its ends respectively open and closed and having an inlet opening in the wall thereof, of a tubular member concentrically arranged within the casing and connected to the closed end of the latter, a shell valve interposed between the tubular member and casing and slidable longitudinally of the latter, means for operating the valve, and a padding against which the valve seats interposed between the closed end of the casing and the concentrically arranged member, and held to the casing by the latter.

7. In a valve mechanism, the combination with a tubular casing having its ends respectively open and closed, and having an inlet opening in the wall thereof, of a tubular member concentrically arranged within the casing and connected to the closed end of the latter, a packing against which the valve seats, positioned between the closed end of the casing and the concentrically arranged member and held to the latter by the casing, a shell valve interposed between the concentrically arranged member and the casing, and slidable longitudinally of the latter, means for operating the valve, an annular packing between the valve and casing and a similar packing between the valve and concentrically arranged member.

8. In a valve mechanism, the combination with a casing, having an inlet and an outlet opening; of a hose engaging section extending within the casing and connected thereto, a shell valve interposed between the casing and hose engaging section, an annular packing between the valve and casing, and means for positively preventing displacement of the packing in either direction longitudinally of the casing.

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

THADDEUS GALVIN.

Witnesses:

NELLIE KINSELLA,

JAMES P. BARRY.