J. EWART.

HYDRANT.

APPLICATION FILED JULY 18, 1907.

915,422. Patented Mar. 16, 1909.

Fig. 1.

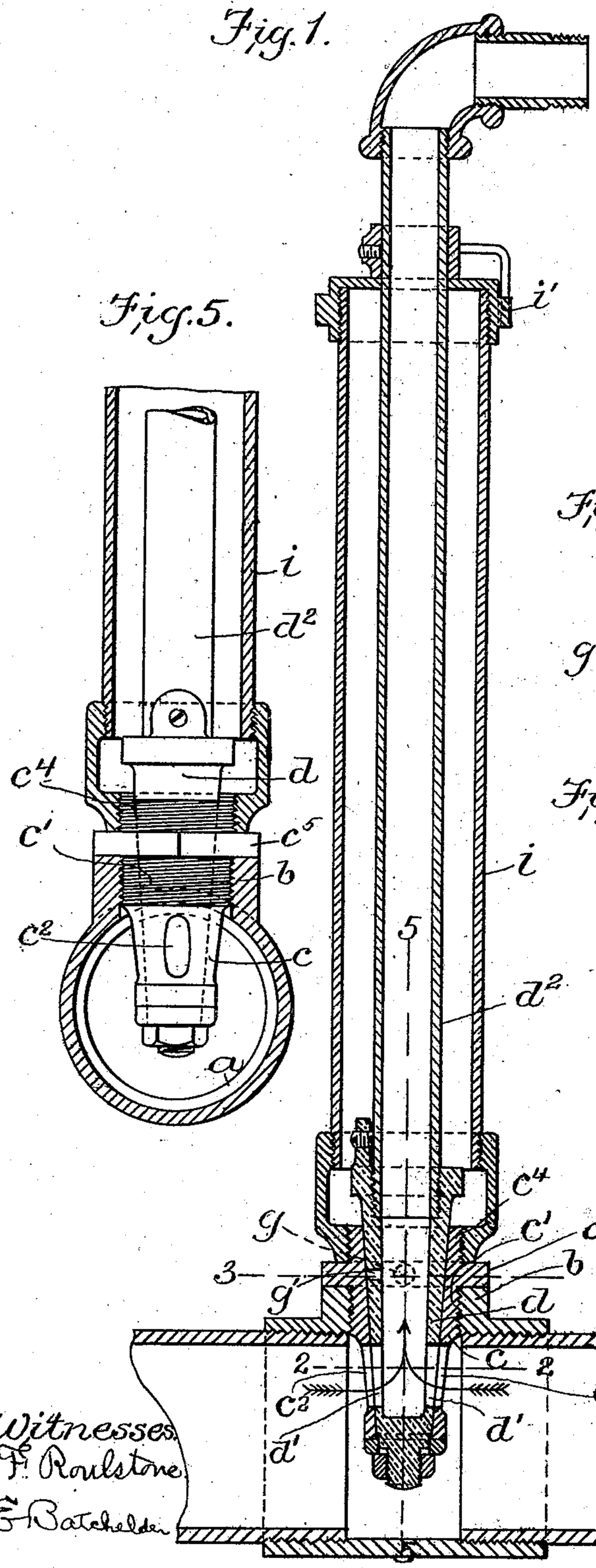


Fig. 2.

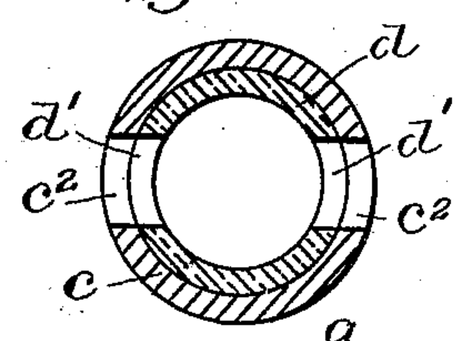


Fig. 3.

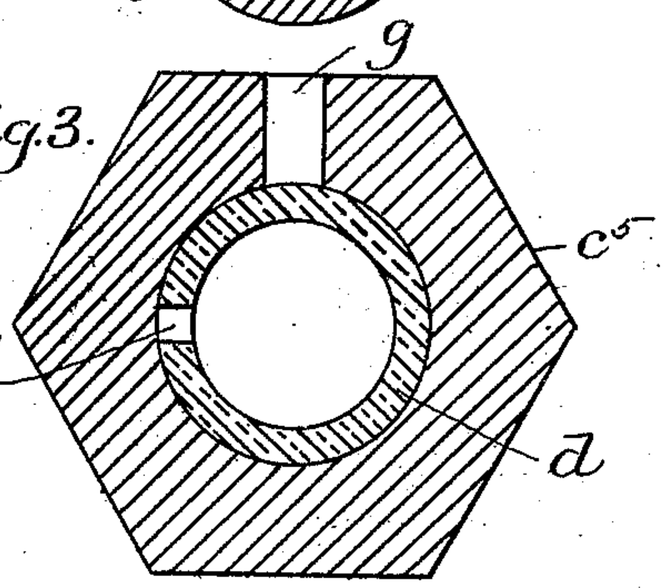
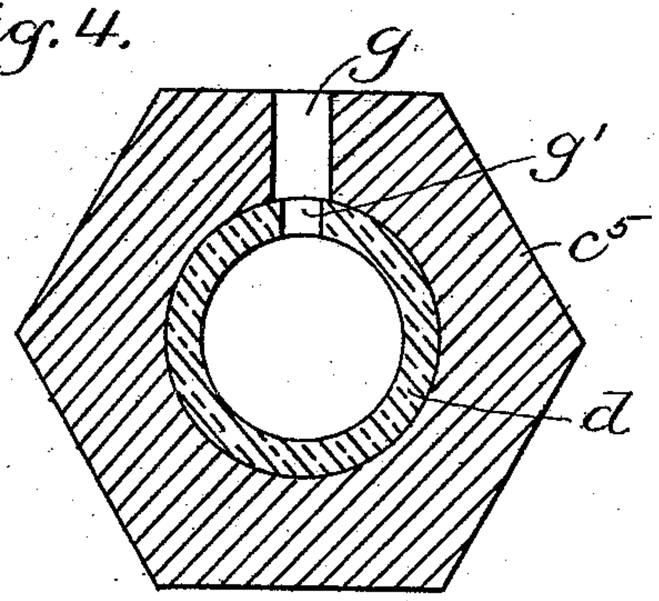


Fig. 4.



Witnesses:
F. Roulstone
E. Batchelder

Inventor
John Ewart
by Wright Brown Quinby & May
Attys.

UNITED STATES PATENT OFFICE.

JOHN EWART, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO MILTON P. McLAUGHLIN, OF WAKEFIELD, MASSACHUSETTS.

HYDRANT.

No. 915,422. Specification of Letters Patent. Patented March 16, 1909.

Application filed July 18, 1907. Serial No. 384,323.

To all whom it may concern:

Be it known that I, JOHN EWART, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Hydrants, of which the following is a specification.

This invention relates to hydrants which are employed for drawing water from water-pipes or mains at frequent intervals, the invention having especial reference to hydrants such as are used in yards adjacent railway stations for drawing water for car washing and other purposes.

The invention has for its object to provide a hydrant of simple construction and free from liability to be rendered inoperative by freezing of the water contained therein.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification,—Figure 1 represents a sectional view of a hydrant embodying my invention engaged with a water-main, a portion of the latter being shown in longitudinal section. Fig. 2 represents a section on the line 2—2 of Fig. 1. Fig. 3 represents a section on the line 3—3 of Fig. 1. Fig. 4 represents a view similar to Fig. 3, showing the hydrant cock in a different position. Fig. 5 represents a section on the line 5—5 of Fig. 1, the plug and casing being shown in elevation.

The same letters of reference indicate the same parts in all the figures.

In the drawings,— *a* represents a water main provided with a lateral opening, the wall of which is an internally screw-threaded sleeve *b* having a flat upper end and which constitutes a coupling member for the engagement with the main of my improved hydrant next described. The said hydrant includes a cock casing *c* having a flange c^5 and formed below said flange with an external screw-thread *c'*, constituting a coupling member adapted to engage the coupling member *b*, the arrangement being such that, when the thread *c'* of the cock is engaged with the internal thread of the sleeve *b*, and the flange c^5 is in contact with the upper end of the sleeve *b*, the inner portion of the casing *c* will be within the main *a* and immersed in the liquid therein. The portion of the casing *c* within the main is provided with one or more inlet ports c^2, two of these ports being preferably provided as shown in Figs. 1 and 2.

d represents a tubular plug adapted to turn in the casing *c* and having a close working fit therein, the plug being provided with ports *d'*, adapted to register with the ports c^2 of the casing and permit water to flow from the main outwardly through the bore of the tubular plug, as indicated by the arrows in Fig. 1.

d^2 represents a service pipe which is rigidly attached to the plug *d* and constitutes a continuation of the bore of the latter, the said pipe d^2 extending laterally from the main and having an outlet at its outer end, which outlet is preferably extended laterally from the body of the pipe, as shown in Fig. 1. The service pipe d^2 constitutes a stem by which the plug *d* may be turned to connect its ports *d'* with the ports c^2 of the casing, or to disconnect said ports. The plug *d* is provided with a drainage port *g'* and the flange c^5 of the coupling *c* is formed with a straight radial port *g*, said ports *g g'* being arranged to coöperate in releasing water from the service pipe when the plug *d* is turned to close the cock. The said ports *g* and *g'* are located outside the coupling member *c'* of the cock casing, so that, when they register with each other as shown in Fig. 4, water will flow from the service pipe and will be discharged outside the main *a*. The relative arrangement of the inlet and outlet ports is clearly shown in Figs. 1, 3 and 4 and is such that, when the inlet ports c^2 and *d'* are connected, the outlet ports *g* and *g'* are disconnected as shown in Figs. 1 and 3. When the inlet ports c^2 and *d'* are disconnected, the outlet ports *g* and *g'* are connected as shown in Fig. 4. It will be seen, therefore, that, when the plug *d* is turned to open the cock, the drainage ports are closed and water from the main flows through the service pipe and escapes at the outlet thereof. When the service pipe and plug are turned to close the cock, the drainage ports are connected, and all the water remaining in the service pipe and in the plug above the outlet ports is drained off so that it cannot occasion damage by freezing.

In Fig. 1, I have shown the cock casing *c* provided at its outer end with an external screw-thread or coupling member c^4, to which I have hereinbefore referred as the

outer coupling member, the screw threads c' being referred to as the inner coupling member. The said outer coupling member engages an internal thread at the inner end of a projecting tube i, which surrounds the main portion of the service pipe, and is provided at its outer end with a cap i' which closely fits the outer portion of the service pipe and constitutes a bearing for the latter. The protecting tube is employed when the main a is located under ground, said pipe extending above the surface of the ground, and preserving a clear space around the service pipe so that the latter may be turned freely. In case the main a is located above the surface, as is frequently the case on railway bridges and elsewhere in railroad yards, the protecting pipe i may be omitted.

The drainage port g as stated is formed in a flange c^5 on the casing c, said flange being of hexagonal or other form adapted to be engaged by a wrench. This furnishes a simple means for providing for drainage, without requiring a tube or pipe to provide for it. The said flange also enables the parts to be screwed up tight, and without risk of damaging the provisions for drainage.

I claim:—

The combination with the sleeve b having internally threaded portions to couple together two sections of a water main and having a flat topped internally threaded lateral projection, of an internally tapered tubular cock casing having a lower end formed with ports and having a flange formed to be engaged by a wrench and externally threaded below said flange whereby said casing is adapted to be screwed down with the flange bearing on the flat top of the threaded projection of the sleeve, said cock casing being also externally threaded above its flange to coact with the internally threaded portion of an outer protecting tube, a plug fitting within the tapered cock casing and having ports to register with the ports of said casing, and a rotatable service pipe within the protecting tube and connected with said plug, the said plug having a lateral drainage port and the flange of the cock casing being formed with a straight radial port to coact with said drainage port of the plug to discharge drainage below the lower end of the outer protecting tube.

In testimony whereof I have affixed my signature, in presence of two witnesses.

JOHN EWART.

Witnesses:
C. F. BROWN,
E. BATCHELDER.