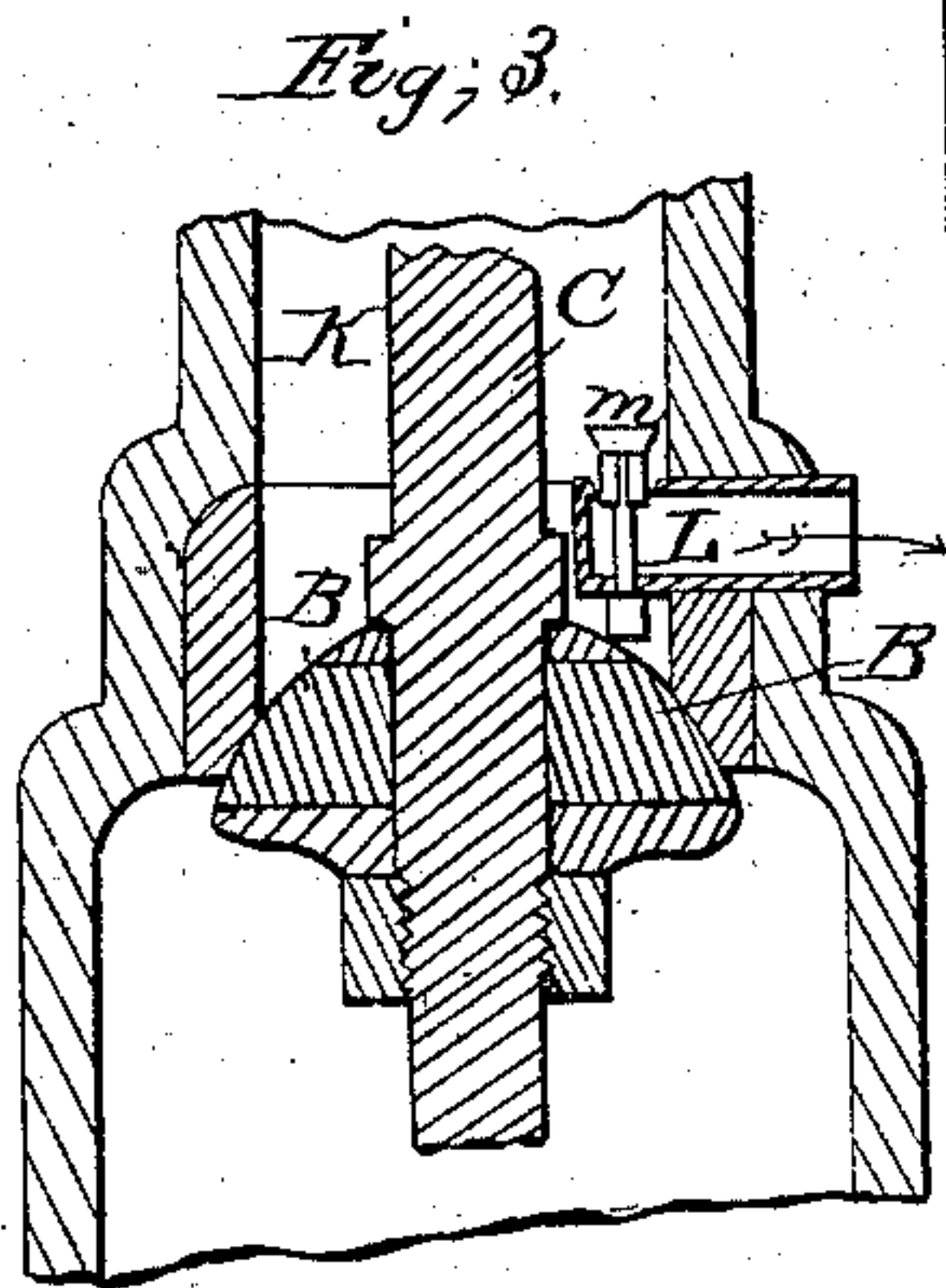
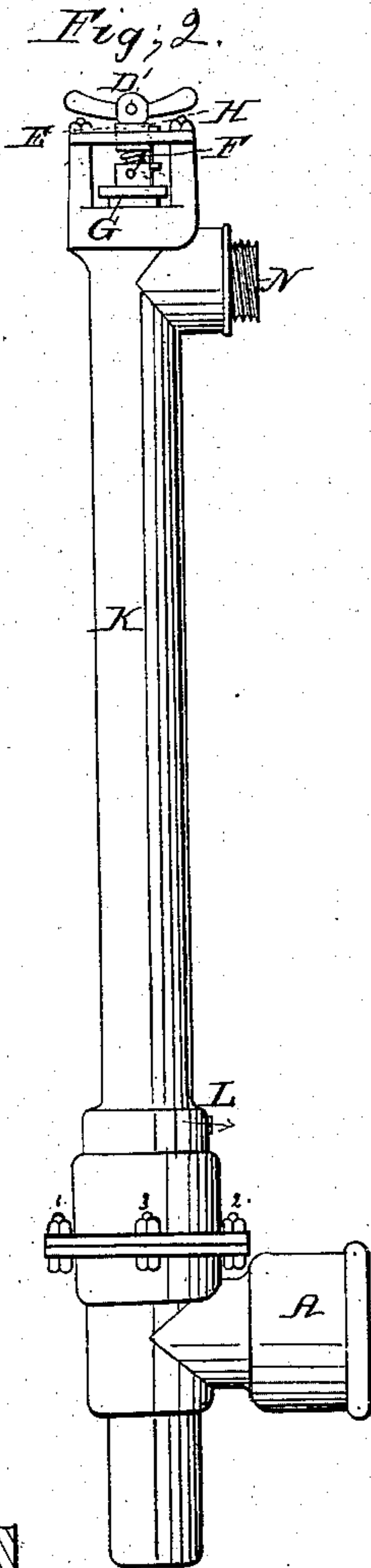
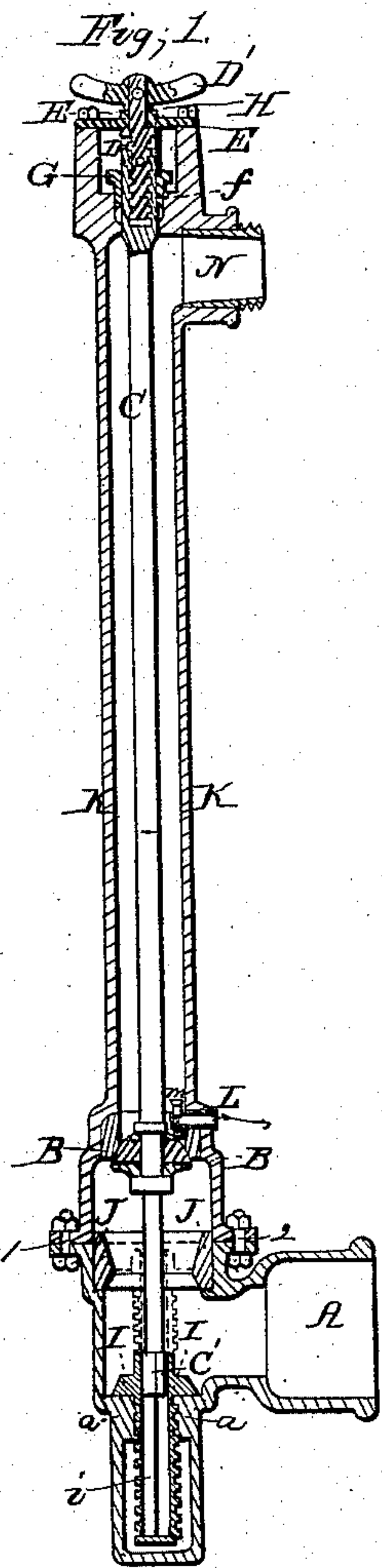


D.C. Cregier

Hydrant,

No 33,239,

Patented Sept. 10, 1861.



Witnesses;
B. F. Walker

J. Wells

Inventor;
Levitt Cregier

UNITED STATES PATENT OFFICE.

DEWITT C. CREGIER, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. 33,239, dated September 10, 1861.

To all whom it may concern:

Be it known that I, DEWITT C. CREGIER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Hydrants; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

Figure 1 is a vertical section through the hydrant. Fig. 2 is a side elevation, and Fig. 3 is a section of a portion on a larger scale.

Similar letters of reference indicate like parts in all the figures.

The nature of my invention consists in the arrangement of a supplementary valve below the main valve, and operated independently thereof by a positive mechanism both in opening and closing in such a manner that the supplementary valve may be made to shut off the water while the main valve or the whole hydrant is being repaired, and whether the pressure of the water be sufficiently great to support the weight of the valve or not; also in the arrangement of parts for operating the said supplementary valve.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation by the aid of the drawings.

A is the receptacle for the branch from the street-main in the usual form.

K is the case of the hydrant, and N the nozzle for the application of the fire-hose.

B is a valve opening downward and operated by the stem C, which passes through a stuffing-box G in the top of the hydrant. The upper end of C is hollow and contains a female screw, as represented. Within this a screw D is fitted, which screw may be rotated by the handle D', and is prevented from having any end motion by the bridge E, through which it passes. The rod C is prevented from revolving with D by a guide-pin H, passing through an ear thereon, as represented. By rotating the screw D, therefore, the valve B is lowered or raised and the water let on or shut off at pleasure. All these parts perform the functions of similar parts in ordinary hydrants.

In the recess represented at the base of the

hydrant I mount a valve I, upon a hollow stem *i*, the exterior of which stem carries a screw-thread fitting a female screw *a* in the metal of the hydrant. A square hole *i'* extends through the valve I and nearly the whole length of *i*. The end of the rod C is squared, as shown by C', and extends into the hole *i'*, as represented, so that if C is turned on its axis it will also turn I; but C is free to move up and down to the required extent without affecting I, and vice versa. Above the opening into A, I place a valve-seat J, which is made to accurately fit I when the latter is in the position shown in the red outline.

Immediately over the seat of the valve B, I place a small tube L, opening outward and communicating with the interior of K by a valve *m*. The stem of this valve projects below the tube L, and is pressed downward by a rubber spring, as represented. The length of this stem is such that when the valve B is raised to its seat it strikes the end of the stem and opens the valve *m*, thus allowing the water remaining above B to waste. When, however, the valve B is opened the valve *m* is shut by the spring on its stem and kept closed by the pressure of the water.

The object of the valve I is to afford a means of shutting off the water when it is necessary from any cause to repair the hydrant or the valve B. To effect this the valve B is first depressed slightly by turning D'. Then the pin H is removed and inserted in the holes F *f* provided for that purpose. On again turning the handle D' the valve B is now no longer raised or lowered by such action, but revolves with D and C around the axis of C. This, by the action of C' within *i'*, causes I also to revolve, and by the action of the screw on the stem *i* to be elevated into the position shown in red lines, shutting off all communication with the opening A. Now by simply loosening the bolts 1 2 3 the hydrant K, with the valve B, rod C C', and all the other appendages, may be removed and repaired. In replacing it, the end C' of C is inserted in the hole *i'* in I, the bolts 1 2 3 replaced, and the valve I screwed back to its former position. The pin H is then replaced and the hydrant is in order for working.

In case of an emergency, or in very cold weather, when there is danger of the water

becoming frozen at a point as high as the valve B, the valve I may be used in place of valve B with equal facility by adding a waste nearer the valve I; but its chief use is when the hydrant requires repairs, which may be done without breaking ground, provided it is inclosed in a box of sufficient size to allow the bolts 1 2 3 to be operated.

The usual mode of shutting off the water to remove or repair a hydrant is to close stop-valves in the street-main, which are often at a considerable distance on each side of the defective hydrant. This excludes the water from a considerable section of the city and occasions great inconvenience. To obviate this evil, in some cities stop-cocks are placed in the main or branch near each hydrant, which occasions much extra expense. An invention has been patented in which a stop-cock in the branch pipe may be operated by a rod at the side of the hydrant; but this involves an addition to or enlargement of the hydrant-box, and is objectionable on this account, as also on the account of the difficulty of preventing such extra cock from being deranged or shut by an incendiary or other mischievous person. My invention avoids all these difficulties. It allows the hydrant to present its ordinary appearance, covers the access to the supplementary valve by the same protection which covers the access to the ordinary or main valve.

The opening of the waste-valve *m* is positive, not depending on springs or the weight of the water, so that the valve B cannot be

shut without allowing all the water above it to waste. This is important as a safeguard against freezing up in winter.

I am aware that a supplemental valve has heretofore been used in hydrants operated simultaneously with the main valve and held in position by the pressure of the water when the main valve is removed, and I therefore do not claim such arrangement; but, so far as I am aware, no such valve has been arranged to be operated independently of the action of the main valve or of the pressure of the water in the main, as herein described. Therefore,

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. The arrangement of the supplementary valve I immediately below and operated in both directions by a positive motion independently of the main valve B, substantially as and for the purpose herein described.

2. The combination and arrangement of the female screw *a*, fixed to or cut in the portion A, the valves B and I, rod C, end C', corresponding hole *i'*, screw-thread *i*, and removable pin H, substantially as and for the purpose herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

DEWITT C. CREGIER.

Witnesses:

B. F. WALKER,
F. WELLS.