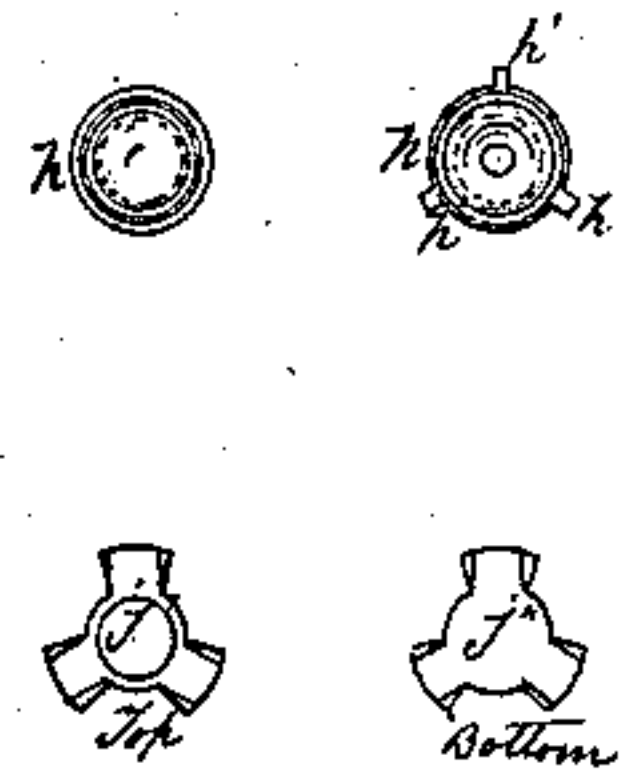
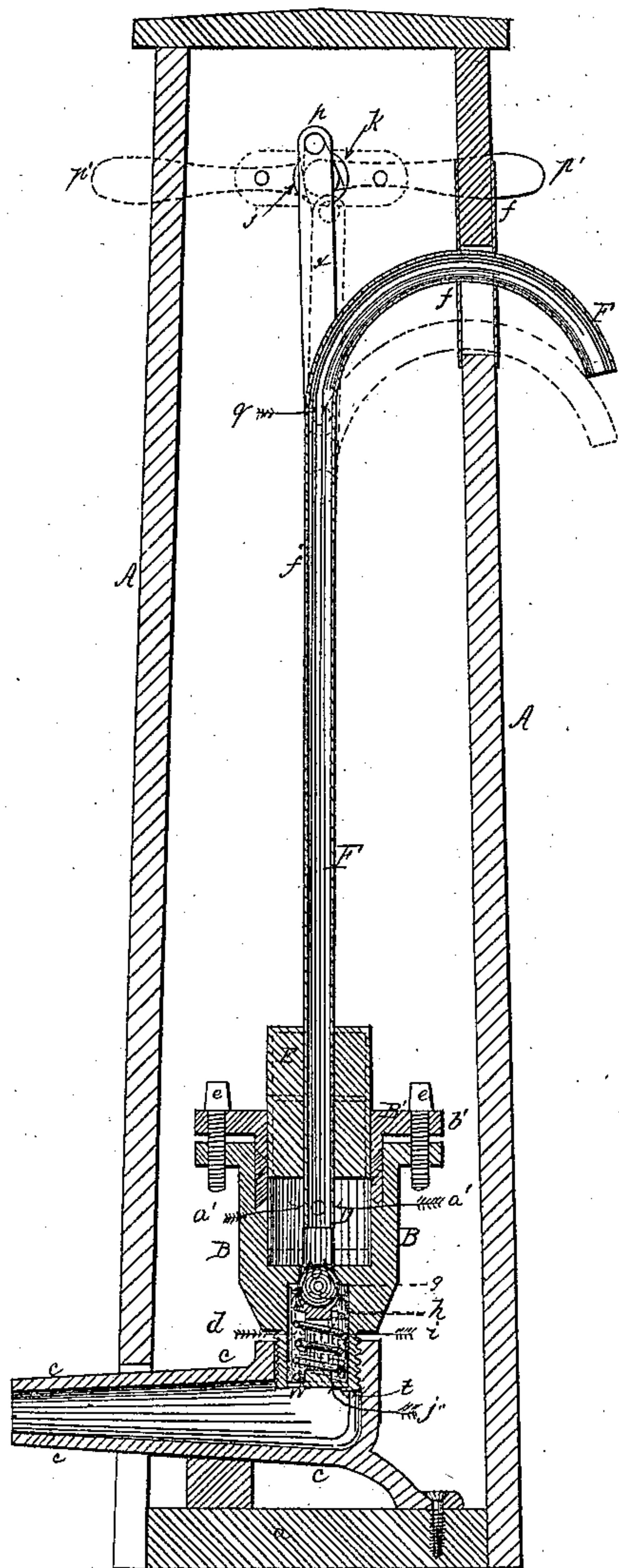


R. A. McCauley

Hydrant

N^o 55,136.

Patented May 29, 1866.



Witnesses:
J. D. Peyton
Geo. Johnson

Inventor:
Ruben A. McCauley
by his attorney
S. S. Farnsworth

UNITED STATES PATENT OFFICE.

REUBEN A. McCAULEY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. 55,136, dated May 29, 1866.

To all whom it may concern:

Be it known that I, REUBEN A. McCAULEY, of the city and county of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Hydrants; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, like letters representing like parts in the several figures.

The nature of my invention consists in constructing a simple, adjustable, economical, and non-freezing hydrant.

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

In the several figures like parts are represented by like letters, Figure 1 being a central vertical section of my hydrant.

A is the usual outside box, of wood or iron, to be sunk deep enough to prevent the water in the chamber near the bottom from freezing—say some three to four feet under ground. Connection with supply-pipe is made to elbow-seat C, at *c*. This elbow-seat can be secured in any suitable manner to bottom of the box *a*. Into this elbow-seat is screwed a double chamber, B, having an upper apartment, D, and lower one, *d*, the top one for piston, the lower one for valve and its supports, to be hereinafter described.

The chamber B has a flanged cap-piece, B', with projecting lugs or ears *b'*, corresponding to those on B, and these are secured by screw-bolts *e* passing through them. The top of this cap has a hole for the piston E to pass through, which forms a water-chamber, D, below it. This piston may be hollow, as shown in dotted outline. Inside of D there is a dove-tailed grooved recess for an elastic packing-ring, *r*, held in place best by beveled edges, as seen. The lower bearing may be a mere ring, the part of the chamber below becoming larger, or there may be a series of vertical lugs instead serving as guides to the piston.

To pack the chamber D or piston E working into it, and which is made very slightly tapering, all that is necessary is to remove the top cap of box A, put down a key-wrench to take hold of the top square heads of screws *e*. It is evident how, by such operation, the elastic packing may be distended or pressed

inward against surface of piston E or relieved by a reverse motion of key. This feature of having the packing-ring on the inside of chamber perfectly protected and capable of such easy adjustment from above without disturbing any of the parts, save lid of box A, I consider one of the most important features of my invention. The tapering of piston relieves it when hydrant is shut off. It is tighter when flowing.

The water-pipe F extends below piston sufficiently far as to press down the elastic ball-valve when hydrant is open and permit the flow of water into the pipe through holes *d'* in its lower end. When the hydrant is shut off or the piston is up the chamber D has sufficient capacity to let the pipe empty itself into said chamber, hence the less danger of freezing.

If it be desirable to take out the chamber B for any repairs, it is only necessary to put down a wrench, taking hold of ears *b'* and unscrew it from its seat in elbow C and raise it out. It can be put in place in a similar way.

Instead of having a hollow pipe, F, a solid piston-rod may be used to connect with piston E, and the water may flow through a side pipe entering the lower part of chamber D. Where pipe F passes through by A, I have two guide-flanges, *f'*, cast on it, one on each side, which insures a vertical movement of pipe and piston.

x is a link connecting crank *p* with the pipe by means of a lug, *q*, on said pipe. This link may be bifurcated and there may be two lugs, one on each side of pipe, or the connection may be made by a bolt passing through the two arms of link and the pipe. The curved part of pipe I propose casting and screwing upon the lower or straight part, *f''*.

p' is the outside handle, operating hydrant through a crank, *p*. This passes through a sleeve, *j*, having a lug, *k*, upon it. When the hydrant is open the crank bears against this lug, and, as it were, locks it—that is, the crank having passed the center, it will remain open until the handle is reversed by hand.

In the lower chamber, *d*, of B is arranged the ball-valve, which I prefer being elastic, as it breaks the sudden shock in closing, which often leads to a bursting of the feed-pipe. I prefer a ball-valve, as it centers itself more

readily. The ball-valve *g* is supported by a plate or cup, *h*, below it. If the chamber *d* be cylindrical, this cup or plate *h* should have small lugs *h'* on it to center it, the water passing between them when valve is pressed down, flowing into *E* through the holes *d* in it; or this lower chamber may have several vertical projections cast on it, between which the water will flow, and the cup referred to can then be circular or be without lugs.

The ball and cup are supported by a spiral spring, *i*, and it again supported by a bottom plate, *j''*, having portions cut out for the water to flow through. It can be secured in place in any suitable manner, put in, be turned so as to be held between lugs *t* on lower end of *d*, or it may be screwed into its seat. This bottom plate may be circular, and have holes cast

through it for the passage of the water. In either case sand or gravel will be prevented from getting up so as to interfere with the working of the valve.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

The combination, with the elbow-seat *C*, of the chamber *d*, the strainer and supporting-disk *j'*, spring *i*, holding-cup *h*, elastic ball *g*, and pipe *F*, arranged and operating substantially as described, and for the purpose set forth.

REUBEN A. McCAULEY.

Witnesses:

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