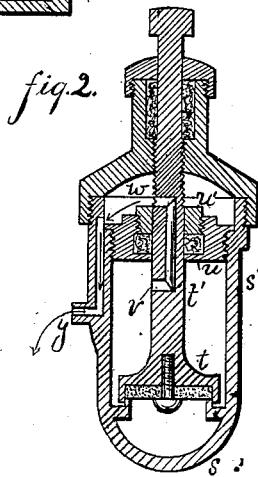
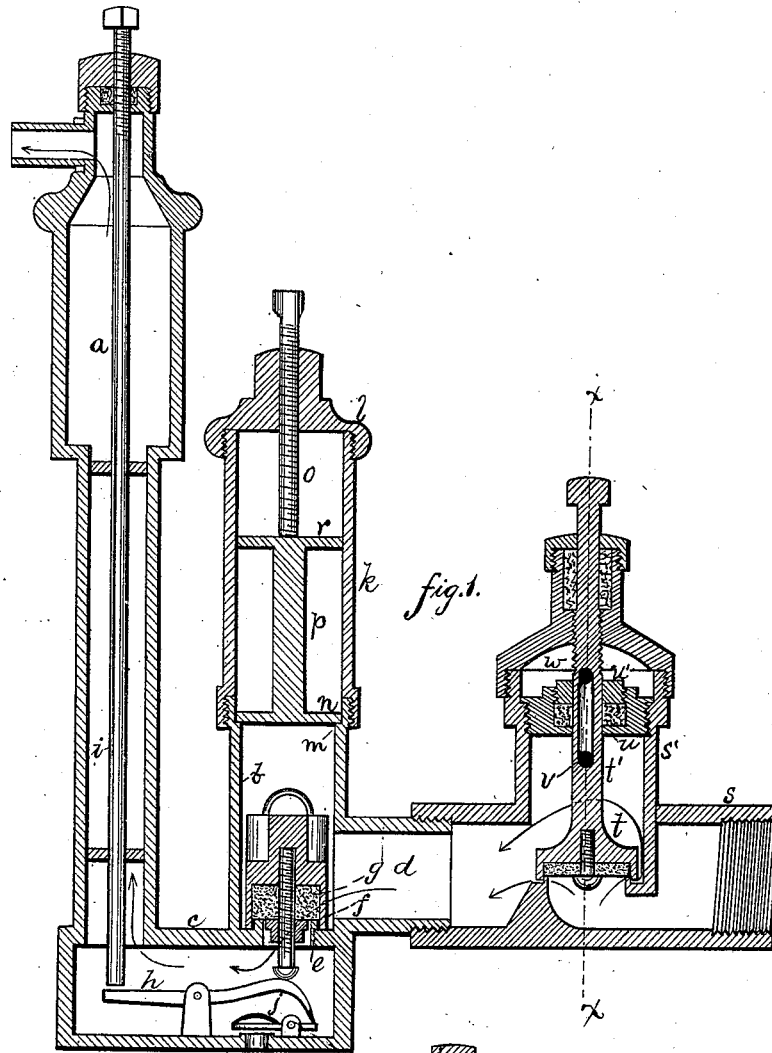


M. HOGAN.
Water-Plug or Hydrant.

No. 204,822.

Patented June 11, 1878.



Witnesses:
Robt J. Gaylord
John Ward

Inventor:
M. Hogan
By W. E. Simonds
Atty.

UNITED STATES PATENT OFFICE.

MATTHEW HOGAN, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN WATER-PLUGS OR HYDRANTS.

Specification forming part of Letters Patent No. **204,822**, dated June 11, 1878; application filed March 7, 1878.

To all whom it may concern:

Be it known that I, MATTHEW HOGAN, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements pertaining to a Water-Plug or Hydrant, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a view in central vertical section. Fig. 2 is a view in cross-section on the plane denoted by the dotted line *x x*.

The letter *a* denotes a stand-pipe, from the top or side of which the water is delivered. *b* denotes a shorter stand-pipe, in which the valve is located. *c* denotes a water-way leading from beneath the valve, and connecting the two stand-pipes. *d* denotes a water-way through which the water finds access to the valve.

I will first describe the valve.

The letter *e* denotes the valve-seat, which rises like a pipe end from the bottom of the stand-pipe *b*, or from a diaphragm therein. The letter *f* denotes the body or casing of the valve, shutting down over the valve-seat, so as to partially and gently shut off the water in closing, before the packing *g*, which is within the body *f*, comes squarely down on the valve-seat, and thus prevent that knocking which results when a flowing current of water is shut off by a sudden impulse.

This valve is operated through the agency of the lever *h*, which is located in the water-way *c*; and the rod *i*, which passes out at the upper end of the stand-pipe *a*, its necessary longitudinal motion being given by having the rod *i* screw-threaded and taking into a female thread; or a lever or other customary means of giving longitudinal movement may be utilized for the purpose.

So far as the combination of the two stand-pipes, the connecting water-way, the valve, and the means for operating the valve through the stand-pipe *a* and the water-way *c* is concerned, I suggest as a modification, and as an equivalent for the lever *h* and rod *i*, that a lateral arm may be fixed rigidly to the lower end of the rod *i*, and take the place of the lever *h*.

I will now describe a means for emptying the stand-pipe *a* and water-way *c* of water after the valve is closed.

On the bottom of the water-way *c* is fixed a lever-valve, *j*, which, through weight or gravity, remains closed when the main valve is open. When the main valve is closed, the end of lever *h* comes down and strikes valve *j* in such fashion as to open it.

I will now describe my means for getting at the main valve.

On the top of the shorter stand-pipe *b*—practically a part of it—is fixed the removable cap-pipe *k*, intended to reach, when this apparatus is used for hydrant purposes, to the surface of the ground. It has a removable cap, *l*. On the shoulder *m* rests the disk *n*, shutting off water from above it. It is held to place by the adjusting-screw *o*, which may reach down to disk *n*; or, more conveniently, the short pillar *p* and its radial support *r* may be interposed.

I will now describe a gate for shutting off the water from this hydrant, so that it can be repaired, or the like.

The letter *s* denotes the casing of the water-gate; *t*, the valve or gate proper, and *t'* the valve-stem. Into the upright part *s'* of the gate-casing screws the disk *u*, with the valve-stem passing through it, bearing the packing-box *u'*, with packing beneath it.

The valve-stem is provided with the conduit *v*. When the valve is closed, as shown in the drawing, back-water escapes through this conduit to the chamber *w* above the disk *u*, from which it finds escape to the outside of the casing through the escape-orifice *y*.

This hydrant being nothing more than a large water-cock, its principles of construction are applicable to smaller cocks.

I claim as my invention—

1. In combination, water-way *d*, valve *f*, water-way *c*, lever *h*, and rod *i*, all substantially as described.

2. In combination, stand-pipe *b*, removable cap-pipe *k*, removable cap *l*, disk *n*, and screw *o*.

3. In combination, casing *s'*, valve *t* upon stem *t'*, provided with conduit *v*, the disk *u*, chamber *w*, and escape-orifice *y*.

In witness whereof I hereto set my hand.

MATTHEW HOGAN.

Witnesses:

ROBT. F. GAYLORD,
WM. E. SIMONDS.

M. S. words.