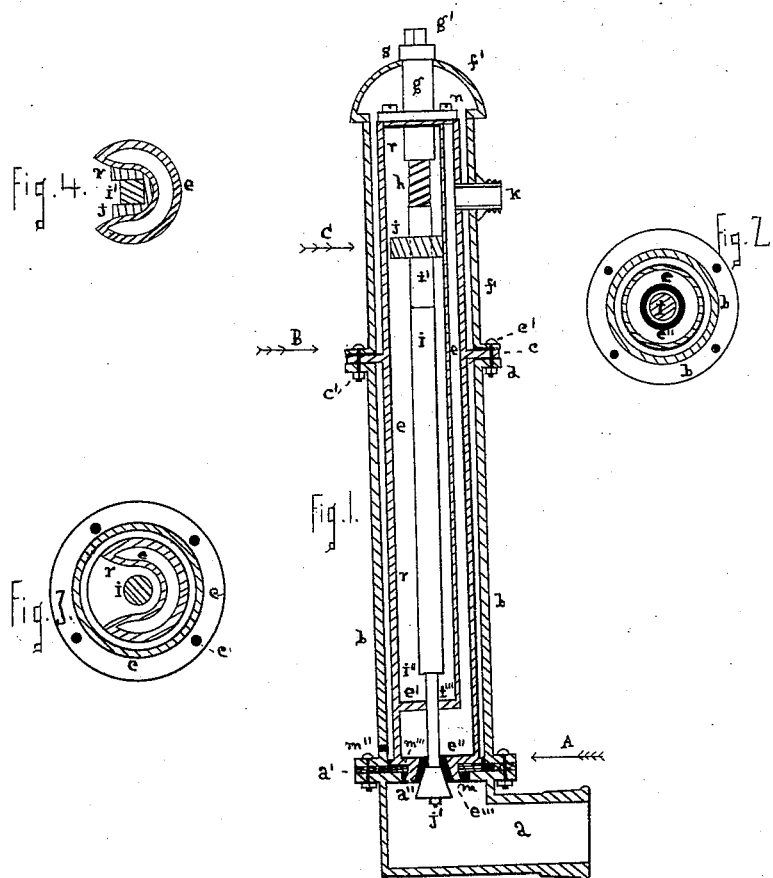


L. L. TREMAN.
HYDRANT.

No. 181,378.

Patented Aug. 22, 1876.



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UNITED STATES PATENT OFFICE.

LAFAYETTE L. TREMAN, OF ITHACA, NEW YORK.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent No. **181,378**, dated August 22, 1876; application filed May 8, 1876.

To all whom it may concern:

Be it known that I, LAFAYETTE L. TREMAN, of Ithaca, Tompkins county, New York, have invented an Improved Hydrant or Fire-Plug, of which the following is a specification, reference being had to the accompanying drawings.

Several objects are accomplished by my invention: first, the so making the internal tube that it shall contain all the working parts of the hydrant, and be removed, repaired, and replaced without disturbing any part of the outer or ground case; second, the fastening by bolts of the outer case to the branch of the street-main, so that they shall be in fact one, and not easily displaced; third, that the bolts that fasten the flange of the inner tube to the outer tube shall be at or near the surface of the ground, and that they shall tighten the packing between the elbow and inner tube by the draft through the outer case or tube; fourth, to the valvular draining of the water from the inner tube; fifth, the rod-recess in the inner tube, and to other like objects, as will be explained.

Figure 1 is a side elevation of my hydrant, showing most of the parts in section. Fig. 2 is a horizontal partially sectional view at the base of the inner tube, as by the arrow A. Fig. 3 is a section at the flange of the inner tube, as seen by arrow B; and Fig. 4 is a section of the square part of the valve-rod, showing the side bearings that prevent its revolving, as indicated by arrow C.

In Fig. 1, *a* is the elbow or source whence the water comes, which is bolted to the outer case *b*, as seen. It may be cast as part of the outer case *b*. The outer case reaches to *d*, which is a flange fast to it at or near the surface of the ground. Here is a bolting together of two parts—namely, the outer case *b* by its flange *d*, and the inner tube by its flange *c*; and, if thought best, the same bolts *c'* may hold a flange to the top case or fire-plug *f*, which projects above the ground to the cap *f'*. On the top of this cap is the burr or nut *g'* of the hollow nut *g*, which extends down to and receives the screw *h* of the valve-rod *i*. This rod is square at *i'*, where it slides in the side guides or clamps *j*, which prevent the valve-

rod *i* from revolving. The rest of the valve-rod below may be round. It has at *i''* a shoulder, and the valve-rod is smaller below, as it slides in the opening in the septum *e'* of that part of the inner tube *e* and continues on to the valve *j'*, which is fast on its lower end. This smaller part of the rod and shoulder acts as a valvular opening to drain the water out of the pipe *e* when the valve is closed. When the valve is open, the shoulder *i''* comes down on the septum *e'*, and prevents the flow of water about the rod. The drainage escapes at *m''* at the left through the outer case *b*. The valve-rod lies in a recess, *r*, made in the inner tube for this purpose, which is better seen by the vertical Figs. 3 and 4. When the valve *j'* is opened, the water rises in the inner tube in the space, whose shape is better seen in Figs. 3 and 4. The nut *g* is held by the clasp *n* on the top of the inner tube. At *m* is seen a flange or bearing cast as part of the elbow *a*, with a gasket or packing, *m'''*, which is held on the base *e''* of the inner tube by the projection *e'''*, made for the purpose, and which is or may be made beveling, the better to hold the gasket or packing on it. Another packing, *a'*, is seen between the outer case and the elbow.

The same letters indicate the same parts in the other figures.

It will be noticed that, the nut *s* being removed from the top of the cap *f'* of the hydrant, and the bolts *c'*, if used, through a flange on the plug or upper part of the hydrant-case *f*, the plug-case *f* is easily taken off, leaving the inner tube and the outer case *b* undisturbed. The bolts *c'* being taken out has relieved the strain or pressure made through the walls of the case *b* and tube *e* on the gasket *m'''*. And it is clear that the inner tube, with all the working parts of the hydrant, which are attached to this inner tube, can now be taken out, leaving the case *b* and its prolongation *a*, or elbow, undisturbed in the ground. It is now examined, repaired, a new inner tube put in its place, or anything else is done that is desired; and it is readily readjusted by being slid in the case *b*, the gasket *m'''* going to its place, and the bolts *c'* tightened, which closes the gasket on the seat *a''* of the joint at the base of the hydrant.

The other parts of my hydrant are believed by me to be sufficiently clear without further description.

The advantages and uses of my invention are apparent to those skilled in the art to which it appertains.

I claim—

1. The inner tube *e*, in combination with the outer case or tube *a b*, the inner tube being fitted to the outer tube by the adjustable packed joint at or near the junction of the parts *a b*, which joint is tightened by the bolts *c'* through the flanges *c* and *d*, as set forth.

2. The flange *c*, fast to the tube *e*, in combination with the outer case *b*, for the purpose of bolting the tubes *e* and *b* together, and for the purpose of tightening the joint at the base of the tube *e*, as set forth.

3. The recess or groove *r* in the tube *e*, holding the rod *i*, and providing for the valvular drain-opening about the part *i''* of the rod *i* at the base of the recess *r*, as set forth.

4. The inner tube *e*, having combined with it the rod *i*, revolving nut *g*, valvular-rod opening *i'''*, rod clamps or guides *j*, and with the recess *r* in it, substantially as set forth.

5. The projection *e'''* beneath the base *e''*, for the purposes of enlarging the valve-seat for the valve *j'*, and of holding the gasket *m'''* on the end of the tube, as set forth.

6. The outer case *b*, with a flange extending outward on its top at or near the surface of the ground, and base tube or pipe *a*, in combination with the inner tube *e* and its flange *c*, extending outward to and lying on the flange of the case *b*, thereby securing the inner tube *e* to the outer case *b*, and thus to the water-pipe beneath the hydrant, as set forth.

LAFAYETTE L. TREMAN.

Witnesses:

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