C. T. HOLLOWAY.

FIRE-EXTINGUISHERS.

No. 193,955. Patented Aug. 7, 1877.

Fig. 1.

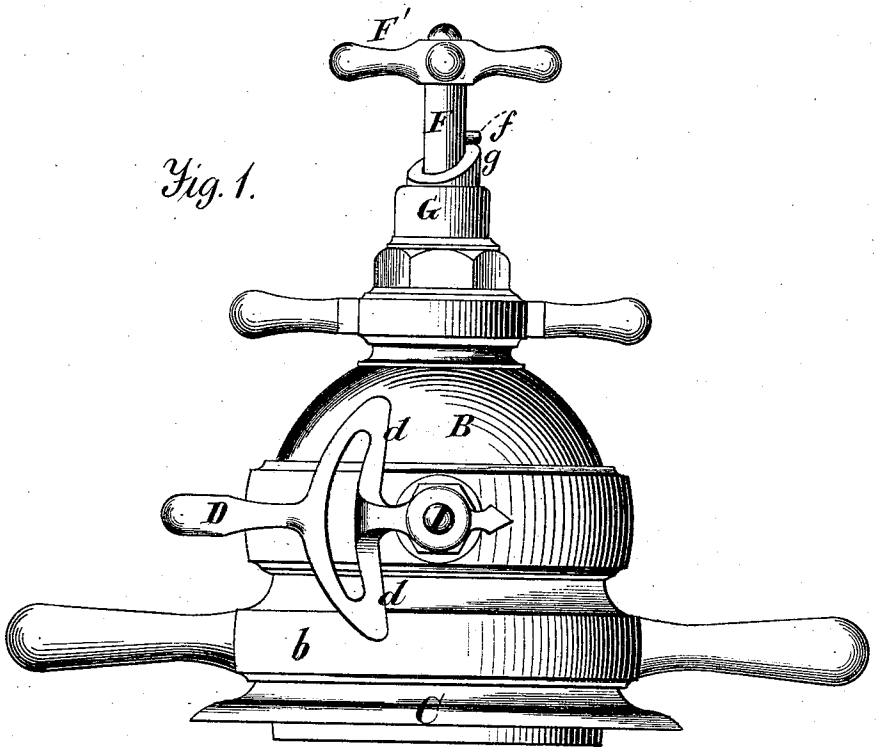
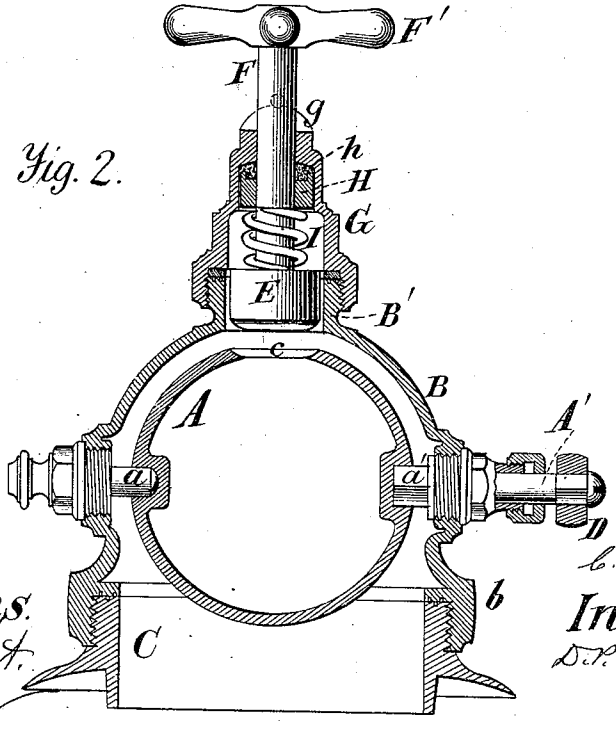


Fig. 2.



Witnesses.

A. Ruppert.

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UNITED STATES PATENT OFFICE.

CHARLES T. HOLLOWAY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN FIRE-EXTINGUISHERS.

Specification forming part of Letters Patent No. **193,955**, dated August 7, 1877; application filed January 26, 1877.

To all whom it may concern:

Be it known that I, CHARLES T. HOLLOWAY, of Baltimore, in the county of Baltimore and State of Maryland, have invented a certain Improvement in Fire-Extinguishers, of which the following is a specification:

This invention relates to fire-extinguishers such as described in United States Letters Patent granted to me on the 11th day of June, 1872, and the 20th day of August, 1872.

My improvement consists in the use of a metallic stopper for the neck or mouth of the revolving acid-chamber, and certain means for operating such stopper or valve, which causes it to act also in the manner of a lock to positively prevent the rotating of the said acid-chamber until the stopper or valve has been withdrawn so as to open its mouth.

In the annexed drawings, Figure 1 is an elevation of the dome of a fire-extinguisher in which the acid-chamber is suspended. Fig. 2 is a vertical section thereof.

The same letters of reference are used in both figures in the designation of identical parts.

The acid-chamber A, having, in this instance, the form of a hollow sphere, is suspended within the dome B, which is to be connected by means of a flanged neck, C, to the vessel containing the solution of soda and water.

On one side the acid-chamber is supported and turns on a stud, *a*, while it is at the opposite side engaged by the square end *a'* of a stem, A', which turns in a stuffing-box in the wall of the dome B, and is provided with a handle, D, for convenience of turning it to rotate the acid-chamber. This handle has arms *d d*, which have each an inwardly-projecting stud to strike the off-set *b* on the dome and stop further rotation of the acid-chamber when it has been turned the required extent in one direction or the other, one of these stops checking the motion when the mouth *c* of the acid-chamber is on top, the other when it is at the bottom.

The mouth *c* of the acid-chamber, being of circular form, has a beveled edge, on which the correspondingly-ground face of the stopper or plug-valve E snugly fits. This stopper or valve is attached to the lower end of a stem, F, which passes through a cap, G, covering the neck B' of the dome.

Within the cavity of the cap G the stem F is encircled by a packing, *h*, and a gland, H, between which and the stopper E the stem F is also encircled by a spiral spring, I.

The tension of the spiral spring tends to force the stopper down on its seat, the mouth of the acid-chamber. At the same time it acts on the gland H so as to press the packing *h* firmly around the stem, and this pressure is increased to the greatest extent when the valve or stopper is lifted preparatory to the upturning of the acid-chamber to discharge its contents into the vessel below, to generate the carbonic-acid gas therein, so that the joint at that time will be perfectly tight.

The upper end of cap G is cut off obliquely, as clearly shown in Fig. 1, and the stem F is provided with a laterally-projecting stud, *f*, which rides on this oblique surface. Thus, on turning the stem by means of hand-wheel F', it also rises, lifting the valve or stopper. A slight notch is formed in this oblique surface *g* of the cap, at the highest point, into which the stud *f* can sink so as to lock the valve or stopper when it has been lifted to the highest point.

The valve or stopper is preferably made of lead. At all events it should be an unyielding substance, to the end that when it is seated on the mouth of the acid-chamber it may in a measure interlock therewith, and thus guard against any accidental upturning of the same.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the pivoted acid-chamber A *c* with the metallic valve or stopper E and spring I, substantially as and for the purpose specified.

2. The combination of the pivoted acid-chamber A *c* with the metallic valve or stopper E, stem F, spring I, stud *f*, and notched incline *g*, substantially as and for the purpose specified.

3. The combination of the valve E, stem F, and cap G with the spring I, gland H, and packing *h*, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHAS. T. HOLLOWAY.

Witnesses:

R. ROSS HOLLOWAY,

DANL. LUPER.