(No Model.)

# R. A. BALLOU.

## CHEMICAL FIRE EXTINGUISHER.

No. 348,095. Patented Aug. 24, 1886.

Fig. 1.

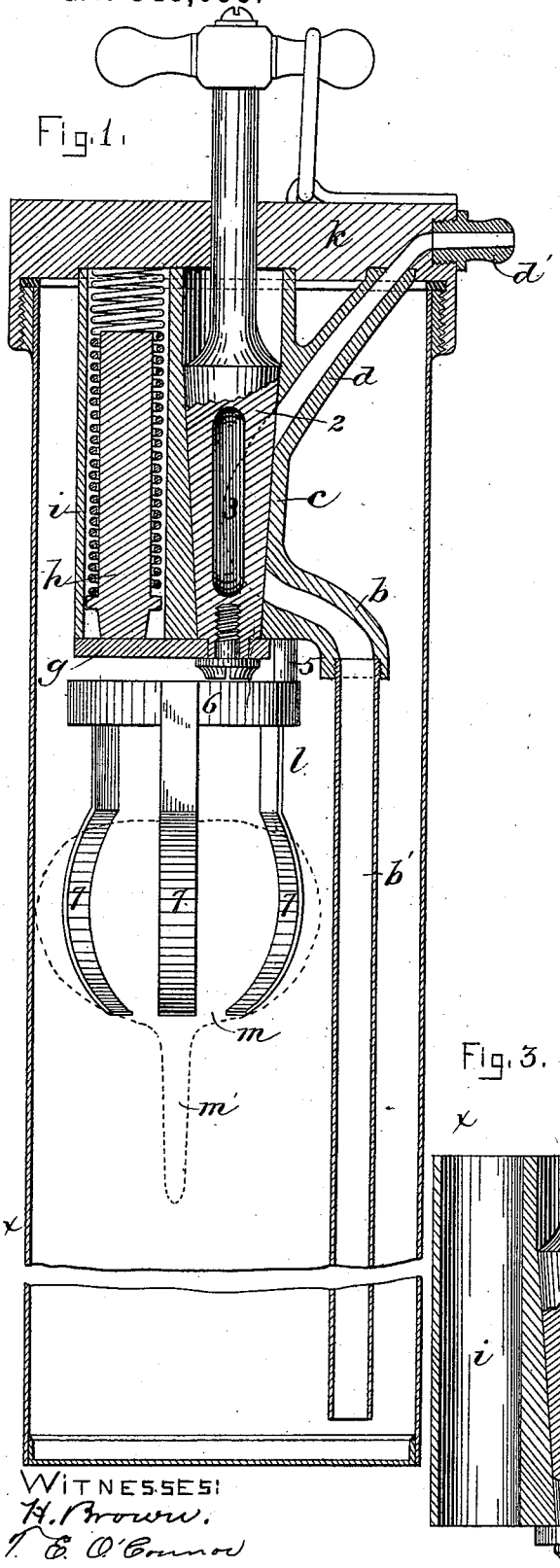



Fig. 4.

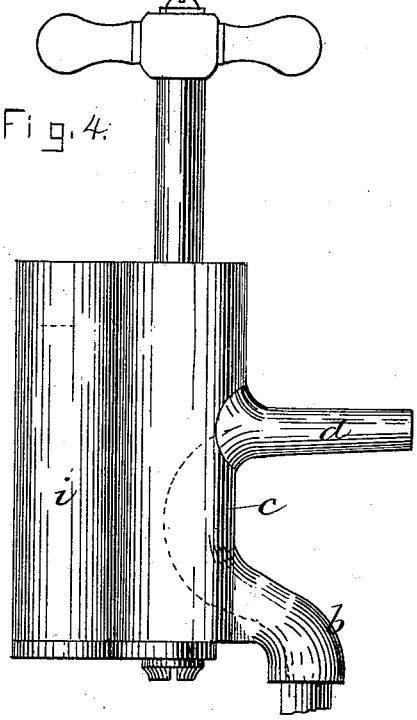



Fig. 2.

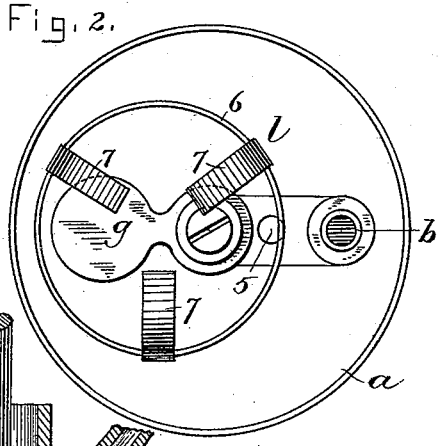
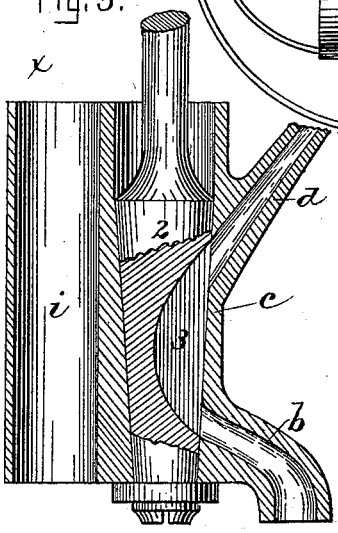



Fig. 3.




WITNESSES:
H. Brown.
T. E. O'Connor

INVENTOR:
R. A. Ballou
by Wright Brown
Attys

# UNITED STATES PATENT OFFICE.

RUSSELL A. BALLOU, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO THE CHEMICAL HAND FIRE EXTINGUISHER COMPANY, OF PORTLAND, ME.

## CHEMICAL FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 348,095, dated August 24, 1886.

Application filed September 28, 1885. Serial No. 178,317. (No model.)

*To all whom it may concern:*

Be it known that I, RUSSELL A. BALLOU, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Chemical Fire-Extinguishers, of which the following is a specification.

This invention relates to automatic fire extinguishers, in which a glass bottle containing a chemical is placed in a receptacle containing another chemical or chemicals, said receptacle having an outlet-pipe leading from its lower portion, and a faucet for said pipe. The apparatus is operated by breaking the bottle, and thus mixing the chemicals, which are of such nature as to generate a gas when mixed, and thereby cause a stream of liquid and gas to issue forcibly from the outlet-pipe, the bottle being broken by a spring-hammer released by the act of opening the faucet.

The invention has for its object to provide an improved construction of the apparatus, whereby it may be more conveniently prepared for use; also, to provide an improved bottle and holding devices therefor, and also to provide certain improvements in the construction of the faucet.

To these ends my invention consists in the improvements which I will now proceed to describe and claim.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a vertical section of a fire-extinguisher embodying my improvements. Fig. 2 represents a section on line *x x*, Fig. 1, looking upwardly. Fig. 3 represents a sectional view of the faucet opened. Fig. 4 represents a side view of the faucet, showing a different form of outlet.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the receptacle; *b'* a pipe leading from the lower part of the interior of the receptacle to the faucet *c*, where it is secured to a tubular branch, *b*, formed on the casing of the faucet. Said casing has another branch, *d*, leading to the cover of the receptacle, and there communicating with an escape-passage, *d'*, in the cover, as shown in Fig. 1, or, if preferred, the branch *d* may lead directly outward, as shown in Fig. 4, so as to pass through the side of the receptacle. The plug 2 of the faucet has a groove or way, 3, formed to connect the branches *b d* when turned to the position shown in Fig. 3, and to shut off communication between them when turned to the position shown in Fig. 1. In the lower end of the faucet-plug is attached an arm, *g*, which, when the faucet is closed, acts to support a spring-hammer, *h*, in a holder, *i*, over the glass bottle, as shown in my application for Letters Patent filed August 13, 1885, No. 174,241, said holder being attached to the faucet-casing.

The faucet-casing is rigidly attached, in any suitable manner, to a cap, *k*, which is screwed onto the body of the receptacle, and constitutes the cover thereof. To the lower end of the faucet-casing is attached a bottle-holder, *l*, consisting of a ring, 6, having a stud, 5, screwed into or otherwise affixed to the faucet-casing, and three or more spring-arms, 7, extending downwardly and formed to grasp a bottle, *m*, having substantially the form shown in dotted lines in Fig. 1. The spring-arms yield to permit the bottle to be readily inserted between them, and hold the bottle with sufficient firmness to prevent it from striking the sides of the receptacle, and to enable the spring-hammer to readily break it.

It will be seen that the bottle-holder is supported by the faucet-casing. Its pipes, branches *b d*, and the spring-hammer are all supported by the removable cover of the receptacle, so that the apparatus can be prepared for use by removing the cover, applying the bottle to the holder, inserting the chemicals in the receptacle, and applying the cover, the described construction enabling said operation to be very conveniently performed.

The bottle *m* is preferable hermetically closed by its own material, a neck, *m'*, being formed on it, the outer end of which can be melted and sealed by the methods commonly practiced by glass-workers.

In two pending applications, bearing the serial numbers 183,690 and 184,277, I have shown a construction resembling in certain particulars that shown in this application; but I do not herein claim the specific improvements described and claimed in said applications.

I claim—

1. The combination of a receptacle, a removable cover therefor, and a faucet attached to said cover, said faucet having a pipe or branch extending into the contents of the receptacle, and an outlet pipe or branch extending outwardly through the cover, the faucet and pipes being removable from the receptacle with the cover, as set forth.

2. The combination of the receptacle, the removable cover therefor, and the faucet, and the spring-hammer and its holder, all supported by and removable with said cover, as set forth.

3. The combination of the receptacle, the removable cover therefor, and the faucet, the spring-hammer and its holder, and the bottle-holder, all supported by and removable from the receptacle with the cover, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 25th day of September, 1885.

RUSSELL A. BALLOU.

Witnesses:
C. F. BROWN,
H. BROWN.