

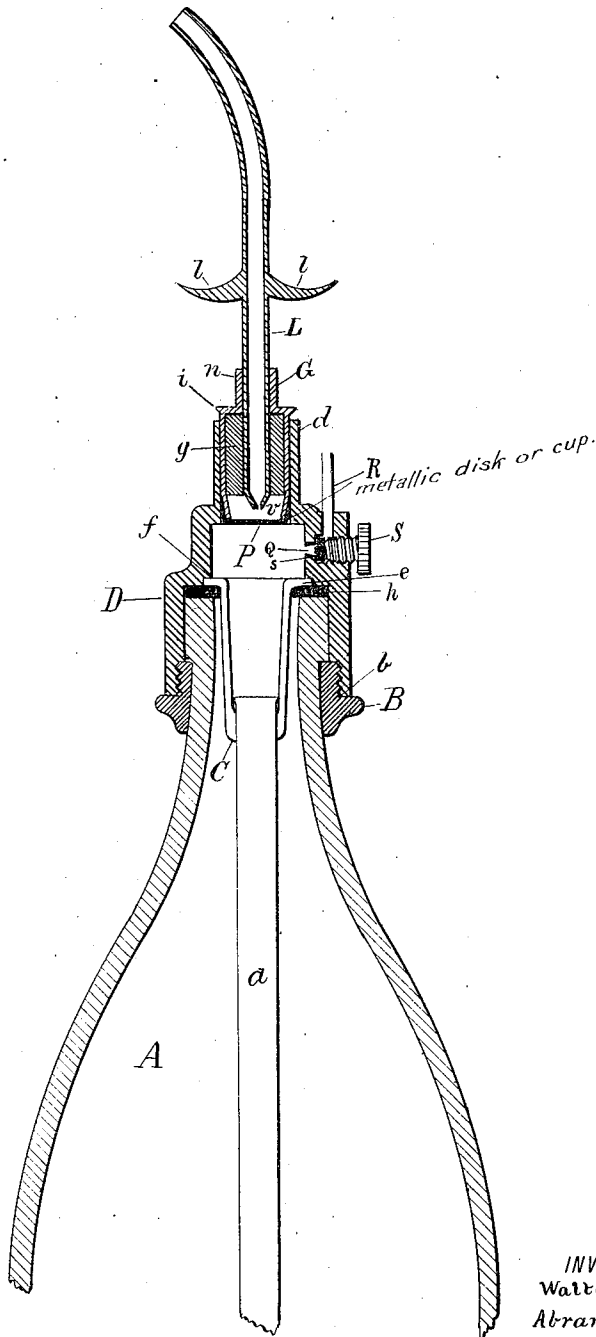
(No Model.)

W. N. KIP & A. H. VAN RIPER.

HAND GRENADE FIRE EXTINGUISHER.

No. 344,319.

Patented June 22, 1886.



WITNESSES:
Geo Naylor.
 Jas. S. Cudbank

INVENTORS
Walter N. Kip.
Abram H. Van Riper.
BY *Francis C. Bowen.*

ATTORNEY

UNITED STATES PATENT OFFICE.

WALTER N. KIP, OF PASSAIC, AND ABRAM H. VAN RIPER, OF ORANGE, N. J.

HAND-GRENADE FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 344,319, dated June 22, 1886.

Application filed September 19, 1885. Serial No. 177,569. (No model.)

To all whom it may concern:

Be it known that we, WALTER N. KIP, of Passaic, county of Passaic, State of New Jersey, and ABRAM H. VAN RIPER, of Orange, county of Essex, State of New Jersey, citizens of the United States, have invented certain new and useful Improvements in Hand-Grenades, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to a hand-grenade to be used for extinguishing fires.

The object of this invention is to provide a "hand-grenade," so-called, to be used for extinguishing fires, which may be readily charged with and discharged of its contents; and it consists of the novel features of construction hereinafter described, whereby we obtain a device which is adapted to effect this purpose in a simple and efficient manner.

The accompanying drawing represents a side view of an apparatus embodying our improvements.

A represents a glass or other vessel of any suitable shape and size, and *a* is a glass tube, such as those used in siphon-bottles containing carbonated liquids.

B is a metallic collar fitting around the neck of the bottle or vessel A, below the ring. It is made in two halves, to enable it to be placed in position on the neck. On its outside is a screw-thread, below which is a flange, *b*.

C is a cup or inverted thimble, made of metal or other suitable material, having in its bottom a hole in which is secured the upper end of the glass tube *a*, and at its top is an outwardly-extending flange. This cup is inserted in the neck of the bottle with the flange resting on the top of the neck, with a rubber washer or packing, *h*, between the flange and the neck.

D is a metal cap or shell, the lower part of which is large enough to pass over the neck, and is provided with a screw-thread for engagement with the thread on the collar B. The portion of the shell D near the top of the neck of the bottle is smaller, and is provided with a shoulder, *e*, which rests on the packing *h*, and another shoulder, *f*, which rests on the flange of the cup or thimble C. By this means a perfectly tight joint is secured.

The upper portion of the shell D is elongated above the top of the neck of the vessel for a distance of about one inch, more or less, and in this elongated or extended portion *d* the metal is thinner than the main portion of the shell. In this extension or neck *d* is fitted a hollow metal plug, G, having a cork, rubber, or other elastic filling, *g*. The length of the hollow plug G is equal to the length of the neck or extension *d* of the cap D, and at the top of the plug is a beveled or chamfered lateral peripheral extension or flange, *i*, above which is a short neck, *n*. Fitting in this neck and passing through the elastic filling *g* is a metal tube, L, provided with two lateral arms, *l*, of suitable form and length for engagement by two fingers of a person holding the vessel A in the hand. The upper portion of the tube L is curved somewhat from a right line, and the lower end of the tube is sharp-pointed, as shown at *v*.

In the lower portion of the neck *d*, below the pointed lower end of the tube L, is fitted a cylindrical cup or pan, P, which is formed by placing a disk of ductile metal at the upper end of a cylindrical tube, and then, by means of a cylindrical plug, forcing it into the tube so as to form the pan. This may be done either before placing it in the neck or it may be done by placing the disk at the top of the neck *d* and forcing it down in the neck so as to form the pan, leaving it in place in the neck. The cup or pan thus formed and placed constitutes a hermetical seal for the contents of the bottle or vessel A, and thereby avoids the necessity for soldering the parts.

When the contents of the bottle or vessel A are to be released and discharged, the bottle or vessel A is grasped in the hand, and two fingers are pressed on the two arms *l*, so as to force the tube L downward and cause its pointed lower end to puncture the metal pan P, and allow the liquid to pass through the tube. By means of the curved tube the liquid may be discharged in any desired direction and made to strike any desired point.

In the upper part of the cap D, between the neck of the bottle or vessel A and the bottom of the cup or pan P, is a tube, R, connected with a channel, Q, extending outward from the cup. The vessel A is charged with the car-

bonated liquid through the tube R and channel Q, and when it is full the channel is closed by screwing a screw, S, into it, which screw is provided on its inner end with a washer, s, to close the channel, after which the tube R is cut off close to the cap D, and which is soldered or hermetically sealed at that point.

What we claim as new, and desire to secure by Letters Patent, is—

1. A hand fire-extinguisher having a supply-tube, R, provided with a suitable valve for charging it with liquid under pressure, a sealing-disk, P, and a discharge-tube, L, adapted to puncture said disk, for permitting the escape of the liquid, substantially as herein shown and described.

2. A hand-grenade or fire extinguisher provided with a hermetically-sealing disk, cup, or pan, and tube L, for puncturing said sealing-disk, said tube having its upper end curved and its lower end sharpened, and being provided with means for forcing it downward to puncture said sealing-disk, substantially as herein described.

3. As an attachment for bottle or other suitable vessel, the apparatus herein described, consisting of the collar B, cup or thimble C, cap D, having the neck or extension *d*, and the hollow plug G, provided with the elastic filling *g*, substantially as shown and described.

4. The combination, with the plug G, fitted in the neck *d*, and having the elastic filling *g*, of the tube L, having its upper end curved and its lower end pointed, and provided with the lateral arms *l l* and the cup or pan P, substantially as herein described.

5. The cylindrical cup or pan P, in combination with the plug G, the cap D, and neck *d*, when placed in position, substantially as and for the purpose herein described.

6. The combination, with the plug G, the cap D, and the cylindrical cup or pan P, of the tube L, having its lower end pointed, substantially as herein described.

7. The combination, with the bottle or vessel A, of the cap D, provided with the tube R, hermetically-sealing disk, cup, or pan P, of the tube L, having its lower end pointed for puncturing said disk or pan, and the screw S, for closing said tube of the cap, substantially as herein described.

In testimony whereof we affix our signatures in presence of two witnesses.

WALTER N. KIP.
ABRAM H. VAN RIPER.

Witnesses:

FRANCIS C. BOWEN,
JAS. S. EWBANK.