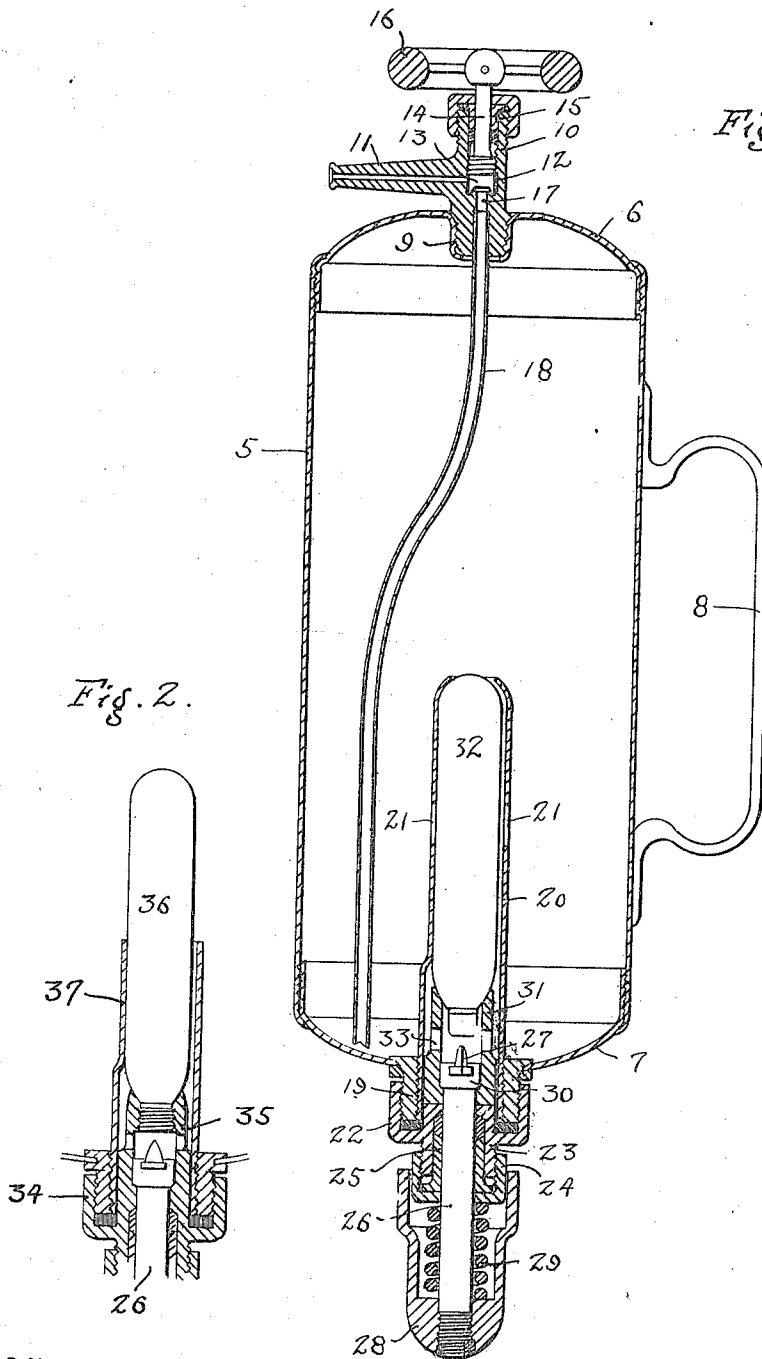


H. V. R. READ.
FIRE EXTINGUISHER.
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1,145,796.

Patented July 6, 1915.



Witnesses:
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UNITED STATES PATENT OFFICE.

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OF NEW YORK.

FIRE-EXTINGUISHER.

1,145,796.

Specification of Letters Patent.

Patented July 6, 1915.

Application filed December 15, 1913. Serial No. 806,843.

To all whom it may concern:

Be it known that I, HARRY VAUGHAN RUDSTON READ, a subject of the King of Great Britain and Ireland, residing at 5 Craig's Court House, Charing Cross, in the county of London, England, have invented certain new and useful Improvements in Fire-Extinguishers, of which the following is a specification.

10 My invention relates to fire extinguishers, and particularly to hand extinguishers, the object of my invention being to provide an extinguisher of novel and improved construction.

15 In the accompanying drawing, Figure 1 shows the present extinguisher in vertical section; and Fig. 2 is a similar view of a portion of a modified construction.

In the form here shown, the present extinguisher comprises a cylindrical metal casing 5 provided with heads 6 and 7, and a handle 8 secured in any suitable fashion to the body of the casing. The head 6 has a central inwardly extending boss 9 internally threaded to receive the threaded stem of the outlet casting 10, although the latter may be permanently fastened in position since it is not intended to be removed after having been once assembled. The passage 30 through the lateral discharge nozzle 11 communicates with the valve chamber 12 in the casting 10 and the valve 13, screwed into this chamber, has an upwardly extending stem 14 which passes out through the stuffing box 15 and carries the hand wheel 16, or other means, for actuating the valve. From the valve seat a passage 17 opens to the upper end of a bent tube 18, the lower end of which extends downward to a point 40 adjacent the lower head of the casing.

An externally-threaded neck piece 19 is secured in any suitable manner to the lower head of the casing and carries an inwardly extending capsule housing 20 apertured at 45 21 for a purpose hereinafter mentioned. The cap 22 screwed on the neck 19, has a threaded nipple 23 to receive the flanged ring 24 of the stuffing box 25 surrounding the stem 26 of the piercer 27. A cup-shaped 50 head 28 on the outer end of the piercer stem surrounds the spring 29 coiled on the stem 26 and extends down over the stuffing box, protecting the spring and preventing the entry of any body between the cap and the stuffing box which might impede the action of

the piercer. The inner end of the stem is shouldered at 30 and rests upon a seat formed within the tubular support 31 for the head of the inverted capsule 32. Holes 33 in this tubular support open into the interior of the capsule housing 20, so that the liquefied or heavily compressed carbonic acid gas within the capsule readily escapes through the apertures 21 in the housing after the capsule has been punctured. 60

To fill the extinguisher, the cap 22 and associated parts are removed, and the extinguisher inverted. The fire extinguishing fluid is then poured in through the neck piece 19 and rises to the level of the apertures 21, leaving an air space of considerable volume. This air space is practically essential since the carbonic acid gas issues from the capsule at a very heavy pressure. After the capsule has been placed in position and the cap screwed down, the extinguisher may be hung up by means of the handle 8 in any convenient place. 65

To use the extinguisher, it is grasped by the handle and pounded down on the head 28 of the piercer. The spring 29 yielding, the piercer enters and opens the capsule, whereupon the carbonic acid gas escapes through the holes 33 and 21 to the interior of the casing. Having been brought to the fire, the valve 13 is opened and the liquid discharges through the nozzle. The horizontal arrangement of the latter and the lateral position of the handle 8 insures the maintenance of the extinguisher in proper position for discharge, and any tilting which is apt to occur will be in a downward direction of the nozzle so that the lower end of the tube 18, which lies on the side of the casing opposite the handle, will remain in the liquid. After discharge, the extinguisher may be readily refilled and a fresh capsule adjusted for reuse. 75 80 85 90 95

Various modifications in detail of construction will readily suggest themselves. 100 Thus in Fig. 2, I have shown a cap 34 having an inwardly extending tubular stem 35 internally threaded to receive the capsule 36 having a threaded neck which screws into the stem 35. The housing 37 for the capsule in this case need not extend to the upper end of the capsule, since the thrust of the piercer 26 is taken up by the threaded engagement between the capsule and cap, and the housing serves merely to give lateral sup- 105 110

port to the capsule and to limit the extent of the liquid fill. Other modifications will readily suggest themselves.

I claim as my invention:

- 5 1. A portable fire extinguisher comprising a casing having at one end a head with inwardly extending threaded socket, an outlet piece having a stem threaded into said socket and provided with a passage opening
10 at one end to the interior of the casing and at the other to a valve chamber in said outlet piece, a valve controlling said opening into the valve chamber, and a discharge nozzle opening from said valve chamber at an
15 angle to the axis of the casing, a bent tube extending from said outlet piece to the opposite end of the casing, means on said opposite end for supporting a capsule of compressed gas and means for opening said capsule to liberate its contained gas within said
20 casing, substantially as described.

2. In a portable fire extinguisher, a cylindrical container having at one end a head, an inwardly-extending, centrally-apertured,
25 internally-threaded socket integral with said head, an outlet piece comprising a hollow stem threaded into said socket and having a pipe extending through the aperture of the latter into the interior of the casing,
30 a valve chamber in said stem, a positively-controlled valve carried by said stem to open

or close the passage through said stem, and a lateral nozzle integral with the stem and having a discharge passage opening to said passage in the stem. 35

3. In a fire extinguisher, a cylindrical casing having at one end a head, an independent, externally and internally threaded neck piece centrally secured thereto, a tubular
40 side support for a capsule extending into said casing and screwed at its outer end into said neck piece, a cap piece screwed upon the exterior of said neck piece and having an end support for the head of the capsule
45 extending within said neck piece, said end support being laterally apertured to permit the escape of the gas into the casing on the discharge of the capsule, a stem passing axially through said head piece and carrying
50 a piercer at its inner end, a bumping cap to which the outer end of said stem is secured, a spring normally maintaining said stem in out position and a protective skirt on said cap inclosing said spring, substantially as described. 55

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

HARRY VAUGHAN RUDSTON READ.

Witnesses:

WALTER ABBE,
L. H. GROTE.