

(No Model.)

A. M. GRANGER.

BOTTLE BREAKING FIRE EXTINGUISHER.

No. 248,733.

Patented Oct. 25, 1881.

Fig. 1.

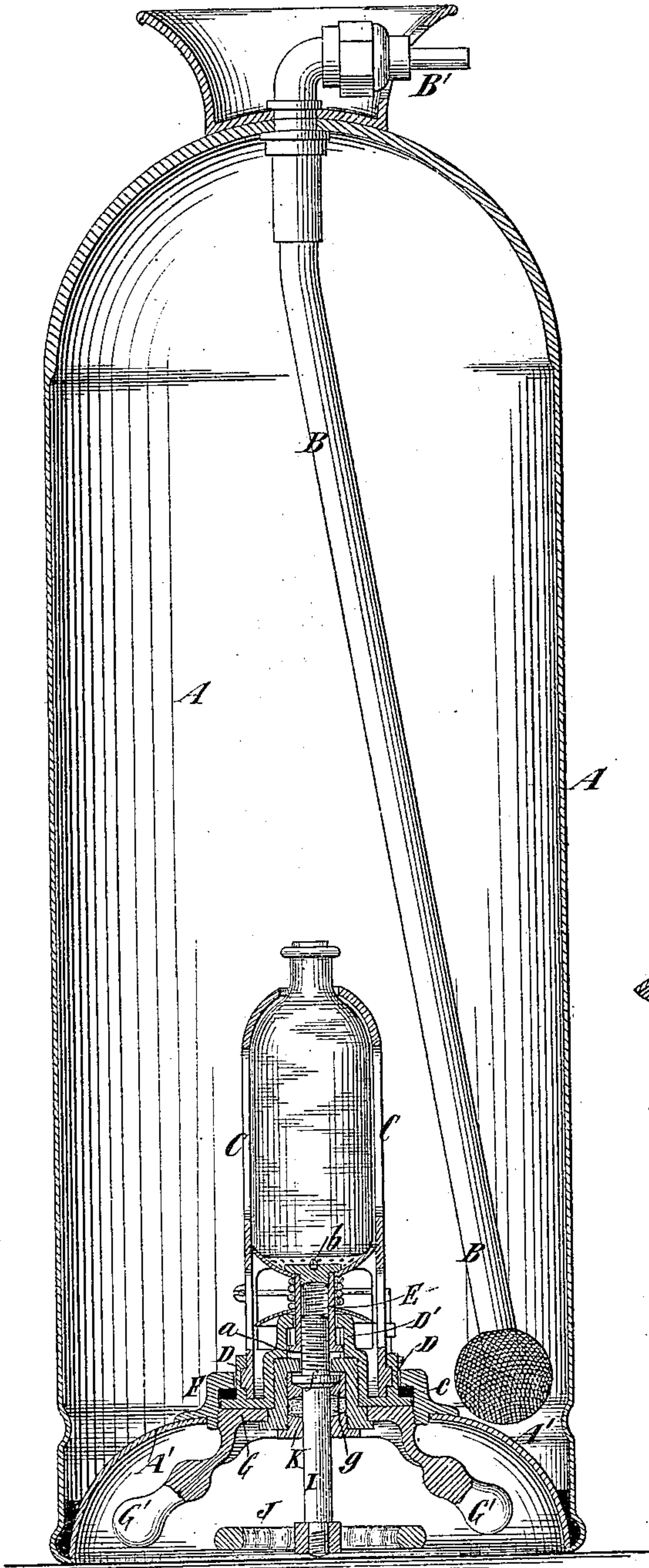


Fig. 2.

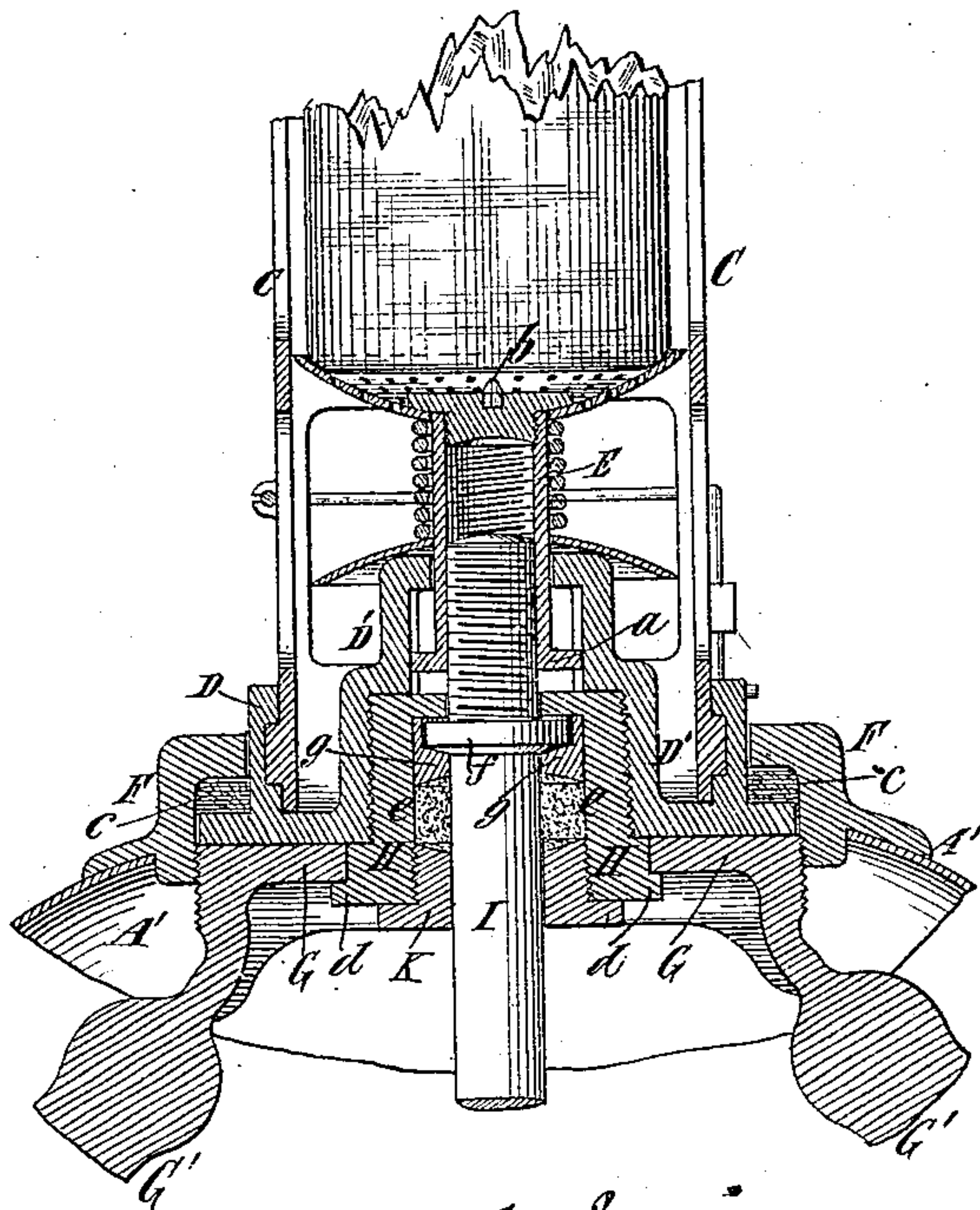
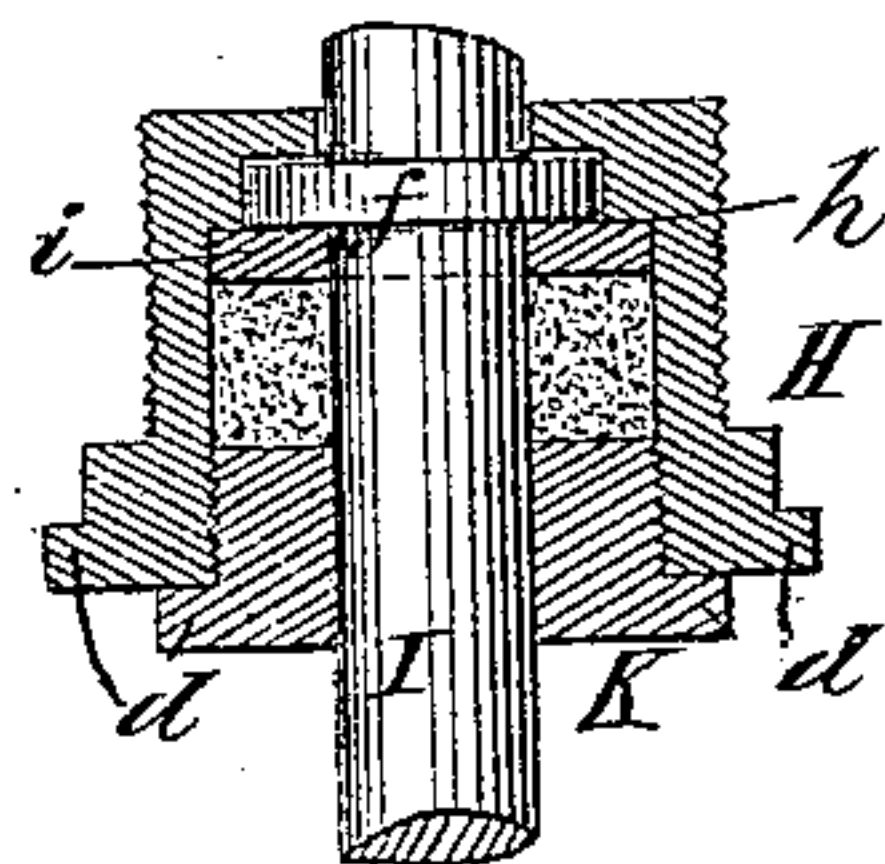


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALMON M. GRANGER, OF BOSTON, MASSACHUSETTS.

BOTTLE-BREAKING FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 248,733, dated October 25, 1881.

Application filed February 17, 1881. (No model.)

To all whom it may concern:

Be it known that I, ALMON M. GRANGER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and
5 useful Improvement in Bottle-Breaking Fire-Extinguishers, of which the following is a specification.

My invention relates to the extinguisher for which was granted to me Letters Patent No.
10 233,235, dated October 12, 1880. In that extinguisher the bottle-breaking device is actuated by a screw-spindle projecting through the bottom of the extinguisher and passing through a stuffing-box; and to reach the stuffing-box for
15 repacking it the spindle and the plug in which the stuffing-box is formed must be removed from the extinguisher.

The object of this invention is to provide for removing the old packing and repacking the
20 stuffing-box by simply unscrewing the gland of the stuffing-box and taking out the spindle and gland, leaving the plug, in which is the stuffing-box, in its place; and the invention consists in a novel construction and arrangement
25 of parts whereby this is rendered possible.

In the accompanying drawings, Figure 1 represents a vertical section of an extinguisher embodying my invention; Fig. 2 represents a similar section of the lower portion thereof upon a
30 larger scale; and Fig. 3 is a detail view, illustrating a modification of the invention.

Similar letters of reference designate corresponding parts in all the figures.

A designates the body of the extinguisher,
35 composed of copper or other suitable material, and having a dome-shaped or convex head or top, and a concave bottom, A'.

B designates the discharge-pipe, and B' a hose-connection, to which a flexible discharge-
40 hose is to be attached.

C designates the bottle-holder, and D a bottom piece, in which the holder is detachably secured so that the parts may be readily separated to remove the fragments of a broken bot-
45 tle and to insert a new one.

The bottle-breaking device here shown consists of a nut, E, internally screw-threaded and working in the top of a socket, D', formed in the bottom piece, D, and at the lower end of
50 the nut is a flange, a, of square, polygonal, or other shape, fitting the socket D', whereby the

nut is prevented from turning. At the top of the nut E is a point or spur, b, which is adapted to impinge against the bottom of the bottle C when the nut is advanced. 55

The bottom A' of the extinguisher has soldered to it, or otherwise secured in it, a ring, F, and the bottom piece, D, fits in said ring and is secured therein by a cap-plate, G, which is
60 screwed into said ring, and is provided with handles G', whereby it may be turned. A packing, c, is inserted between the bottom piece, D, and ring F, so as to form a tight joint.

H designates a plug which is screwed into the bottom piece, D, and is provided with a lip, 65 d, which overlaps the edge of the hole in the cap-plate G. In the plug H is formed a stuffing-box, e, which is open at the bottom and terminates a little below the top of the plug, and through this stuffing-box passes a spindle or
70 stem, I, which is screw-threaded to engage with the nut E, and is provided with a hand-wheel, J, whereby it may be turned. Upon the spindle I is a fixed collar, f, which bears against the end of the stuffing-box e, and thereby prevents any longitudinal inward movement of the
75 spindle I. The packing in the stuffing-box e is compressed by a gland, K, screwed into the stuffing-box, and is by said gland forced against a cup-shaped washer, g, which receives the collar f within it, and has its edge bearing upon the end of the stuffing-box, as shown most clearly in Fig. 2. The washer g is stationary, and is recessed in its upper side sufficiently to allow the collar f to turn freely within it. By
85 this construction the fibrous packing is prevented from crowding down around the collar and creating friction, and as by the washer the spindle is prevented from moving longitudinally, the turning of the spindle will advance
90 or draw back the nut E, which constitutes the bottle-breaking device.

In order to repack the stuffing-box the gland K is unscrewed, and the spindle I unscrewed from the nut E and drawn out, removing the
95 washer g and drawing the old packing all out of the stuffing-box. The spindle and washer are then reinserted, and after the packing is placed around the spindle the gland K is screwed down to compress the packing. This, 100
it is obvious, may all be done without taking out or loosening the plug H.

In lieu of the cup-shaped washer *g* the top portion of the stuffing-box *e*, in which fits the collar *f*, might be somewhat smaller in diameter than the remainder of the stuffing-box, as shown in Fig. 3, thus forming a shoulder, *h*, upon which a flat washer, *i*, may rest.

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

1. In a bottle-breaking fire-extinguisher, the combination of the bottom piece, *D*, of the bottle-holder, the movable nut *E*, the plug *H*, screwed into said bottom piece and having a stuffing-box extending through its lower end, the spindle *I*, for actuating said nut, provided with a collar, *f*, a washer in said stuffing-box

below said collar, and a gland, *K*, between which and said washer the packing is inserted, and which is screwed into the plug *H*, all substantially as herein described, and for the purpose set forth.

2. In a bottle-breaking fire-extinguisher, the combination of the plug *H*, the spindle *I*, having a collar, *f*, the cup-shaped washer *g*, receiving said collar, and the gland *K*, all arranged and operating substantially as and for the purpose specified.

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Witnesses:

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