

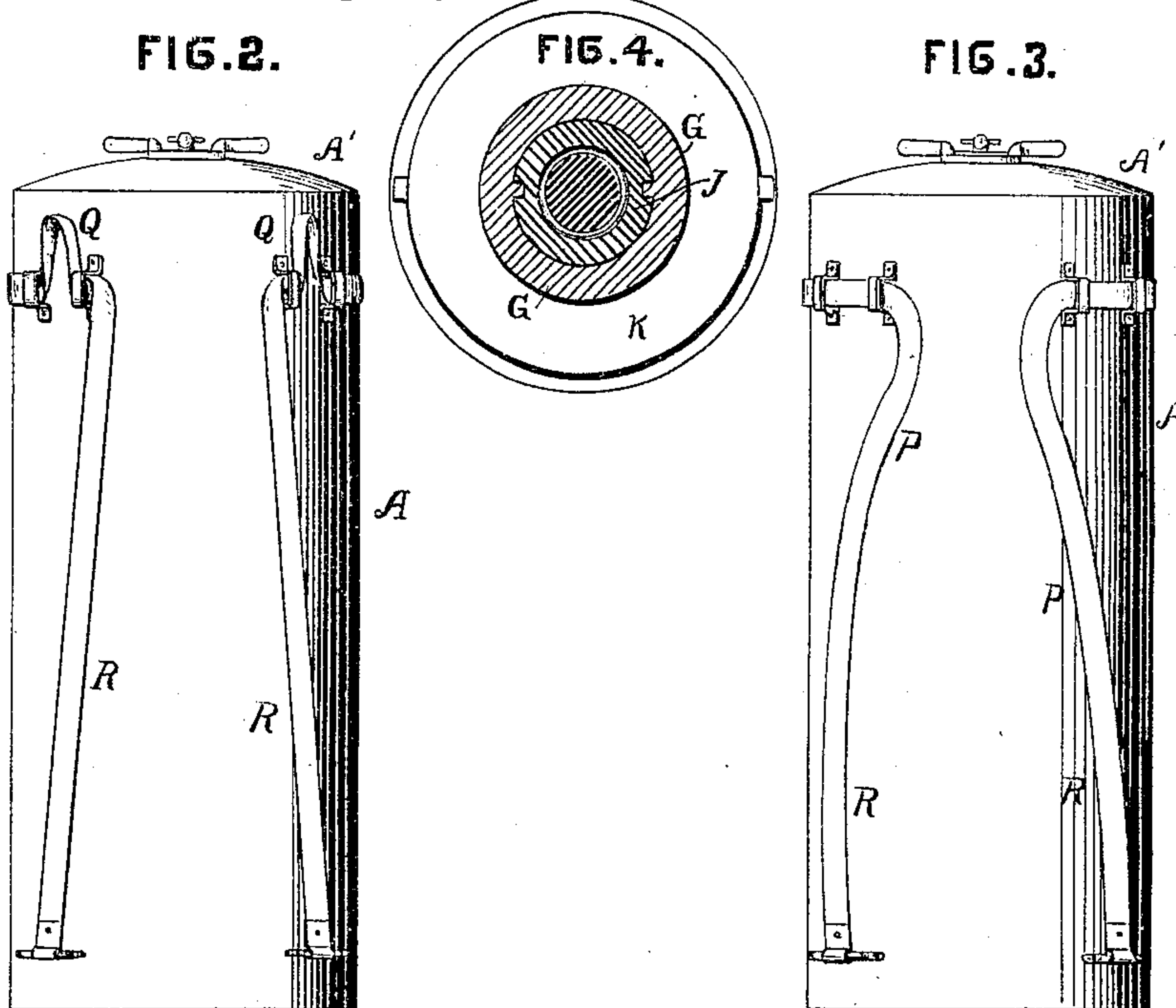
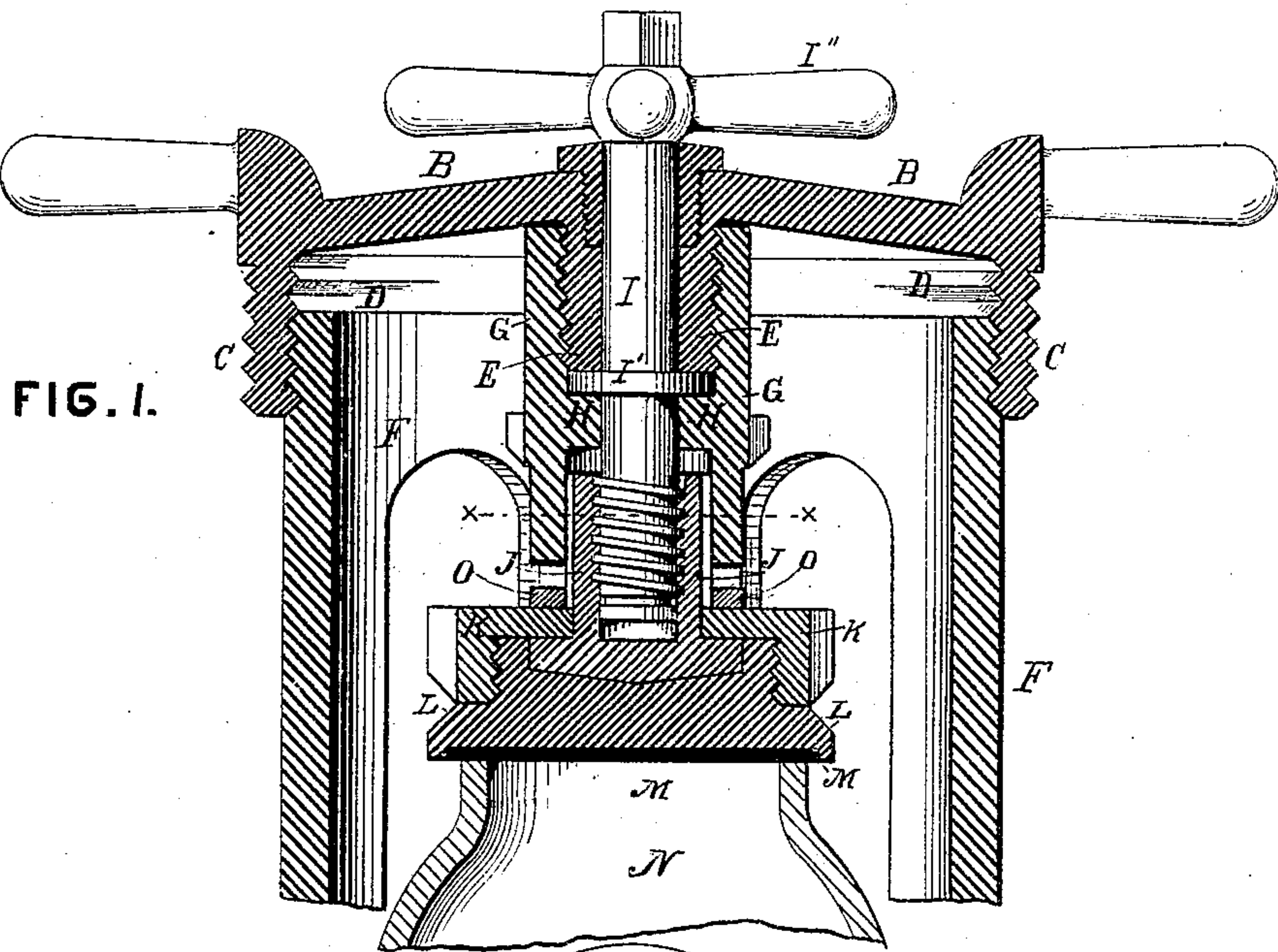
(No Model.)

W. K. PLATT.

FIRE EXTINGUISHER APPARATUS.

No. 270,332.

Patented Jan. 9, 1883.



WITNESSES:

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FIRE-EXTINGUISHER APPARATUS.

SPECIFICATION forming part of Letters Patent No. 270,332, dated January 9, 1883.

Application filed October 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM K. PLATT, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Fire-Extinguisher Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making part hereof.

The nature of my invention will fully appear from the following specification and claims.

It has for its object the saving and protection of the fine and more delicate working parts against injury and destruction from the fumes of the acid, and the acid itself, which is used in fire-extinguishing apparatus. If these parts are injured and corroded by the acid, the machine becomes useless.

In the drawings, Figure 1 is a vertical sectional view of that portion of my apparatus to which my improvement is applied. Figs. 2 and 3 are elevations of portable fire apparatus, showing my method of applying the straps to the outside thereof for carrying the same; Fig. 4, a horizontal sectional view on the line X X of Fig. 1.

A, Figs. 2 and 3, is the outer casing of the apparatus. Figs. 1 and 4 represent the parts there shown in about full size.

B, Fig. 1, is the top of the central plug of the apparatus, having integral therewith a screw-threaded flange, C. This flange C, in addition to being screw-threaded upon the outside, has an inner female screw-thread, D. A small central screw-plug, E, projects downward from the top B, and is pierced to receive the stem I, and sets down against the upper side of the annular flange I', which is set rigidly upon said stem.

A tube or box, G, is furnished with an inner flange, H, and is secured upon the small plug E. The inner flange or shoulder, H, extends around the interior of this box G, closely fitting the stem E, and sets up against the lower surface of the flange I'. The stem I is turned in operating to open and close my device, and since the flange I' is held down above by the plug E, and is supported beneath by the flange or shoulder H, it will be seen that the flange I', and consequently the stem I, is secure against vertical motion, either upward or downward.

J is a small box or thimble, fitting by an inner female screw-thread upon the male screw-thread upon the lower end of stem I. It sets up into the lower hollow part of tube G, between the inner wall of the lower part of said tube and the stem I around the latter.

K is a cap having a lower flange with a female screw-thread, into which is secured the stopper L. The stopper L is provided upon its lower face with a lead packing, M, which sets down upon the upper rim of the bottle N and closes the latter.

F is an open support, which screws into the top B by means of a screw-thread, D, and projects downward to support the bottle N in the manner in common use with the Champion and other fire-extinguishing apparatus. It is intended to support the bottle against the pressure of the stopper M.

O is a lead packing-ring set around the thimble J upon the top of cap A. The thimble J is guided in its vertical motions in the tube G by means of lugs in the interior of the latter, which fit into grooves in the outer vertical surface of said thimble. (See Fig. 4.)

R R, Figs. 2 and 3, are straps for carrying the apparatus. When two persons carry the apparatus each one takes hold of a strap, R, at a point, Q, between two metallic loops, (see Fig. 2,) two of which are set upon each side of the apparatus. Loops Q Q are thus formed by the weight of the device, and the latter is carried with ease by two persons. If it is desired that one person should carry the device, the carrier slips one of the straps R R over each shoulder at about the points P P, and is thus enabled to carry the device.

The operation is as follows: It is supposed that the bottle N is first charged with the chemical from which it is desired to generate the gas in the extinguisher. The stopper L is then set down upon it in the manner shown in Fig. 1, which represents the bottle and apparatus as closed. Now, when it is desired to use the machine the stem I is turned by means of the handle I', and the screw-thread upon its bottom so revolves as to raise the box J, cap K, and stopper L. This turning of the stem is continued until the lead packing O is jammed up against the lower or bottom face of tube or box G. The machine is then inverted, and the

acid contents of the bottle are allowed to run out and unite with alkaline solution in the body of the extinguisher. When the machine is inverted the acid will flow out and around the working parts of the device, already described, and if it were not that the entrance to the interior of said working parts is hermetically sealed by the packing O jamming up against the enveloping-tube G these working parts would be injured or destroyed by the action of the acid, as will be seen by an inspection of the drawings, Fig. 1. The raising of cap K, stopper L, and packing O would have the effect described. It may happen through carelessness that the bottle N may be left slightly open, and yet the packing O not be raised sufficiently to form a close joint. In such case the fumes of the acid are prevented from injuring the stem I and its thread by means of the thimble J, which fits closely in the bottom of tube G, thus forming a close joint. (See Figs. 1 and 4.)

It will be readily seen that in case excessive care is presumed it will not be necessary to protect the lower end of the stem and screw-thread from the fumes arising from the acid, as such presumption will suppose the stopper to be always well closed down upon the upper rim of the bottle. Therefore the box J might be dispensed with and the screw-thread of the stem be made to engage with a fixed part of the device in the interior of the box or tube G. The lower part of the stem in such case could, through the skill of any ordinary mechanic, be attached directly to the stopper of the bottle. The stem in such event, instead of being devoid of vertical motion, as in the device described by me, would require to have vertical motion upward or downward, in order to allow its thread to operate and to raise and lower the stopper of the bottle. In the event of the bottle being always carefully closed, as above presumed, it would only be necessary to create a joint between the top of the stopper and the lower rim of the tube or box G to save the inner mechanism of the stem against damage by the acid before the apparatus was upset. Of course between the opening of the bottle in such case and the closing of the joint between the top of the stopper and the bottom of the tube G there would be some escape of the fumes of the acid; but the time for it to operate would be so slight that the damage resulting to the inner work-

ing parts of the opening mechanism would be infinitesimal.

The device which I have described roughly in the paragraph of my specification immediately preceding this I purpose to cover in another and subsequent application for a patent.

The lead packing O, I simply use as an adjunct to form a packing-joint with the bottom of tube G; but, as will be plainly seen, a true joint may be formed as well between the ground upper surface of cap K and the lower edge or surface of the tube G, space of course being allowed between the top of box J and the lower surfaces of shoulders H to permit cap K and tube G being brought into contact when the stopper L is raised and the apparatus fully opened, so that I shall omit in my claims to invention the lead packing O. I shall also speak in my claims of the stopper L, which comes in direct contact with the top of the bottle, and the cap K as forming one part—namely, the cover K L.

What I claim as new is—

1. In a fire-extinguishing device, the combination of top B, stem I, box or tube G, partially surrounding said stem, thimble or box J, enveloping the thread and lower part of said stem, stopper L, with suitable means of attaching the stem I to said stopper, and the bottle N to contain the acid, whereby the stem is protected from injury from acid fumes if the stopper is partially opened, and a tight joint is effected between the top of bottle-cover K L when the apparatus is wholly opened, substantially as described.

2. In a fire-extinguishing device, the combination of top B, screw-threaded stem I, box or tube G, partially enveloping said stem, box J, closely enveloping the lower part of said stem and secured to the bottle-cover K L, and the bottle N, whereby the stem, with its working parts, is protected from the fumes of the acid contained in the bottle or from the acid itself, substantially as described.

3. In a fire-extinguishing device, the combination of top B, screw-threaded stem I, box or tube G, partially enveloping said stem, box J, closely enveloping the lower part of said stem, with the bottle-cover K L, covering the bottle, and the bottle N, substantially as described.

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