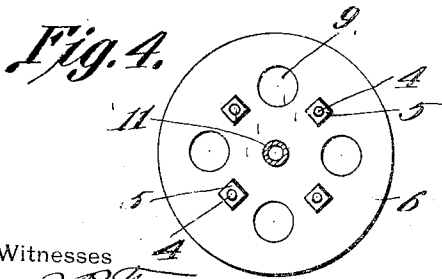
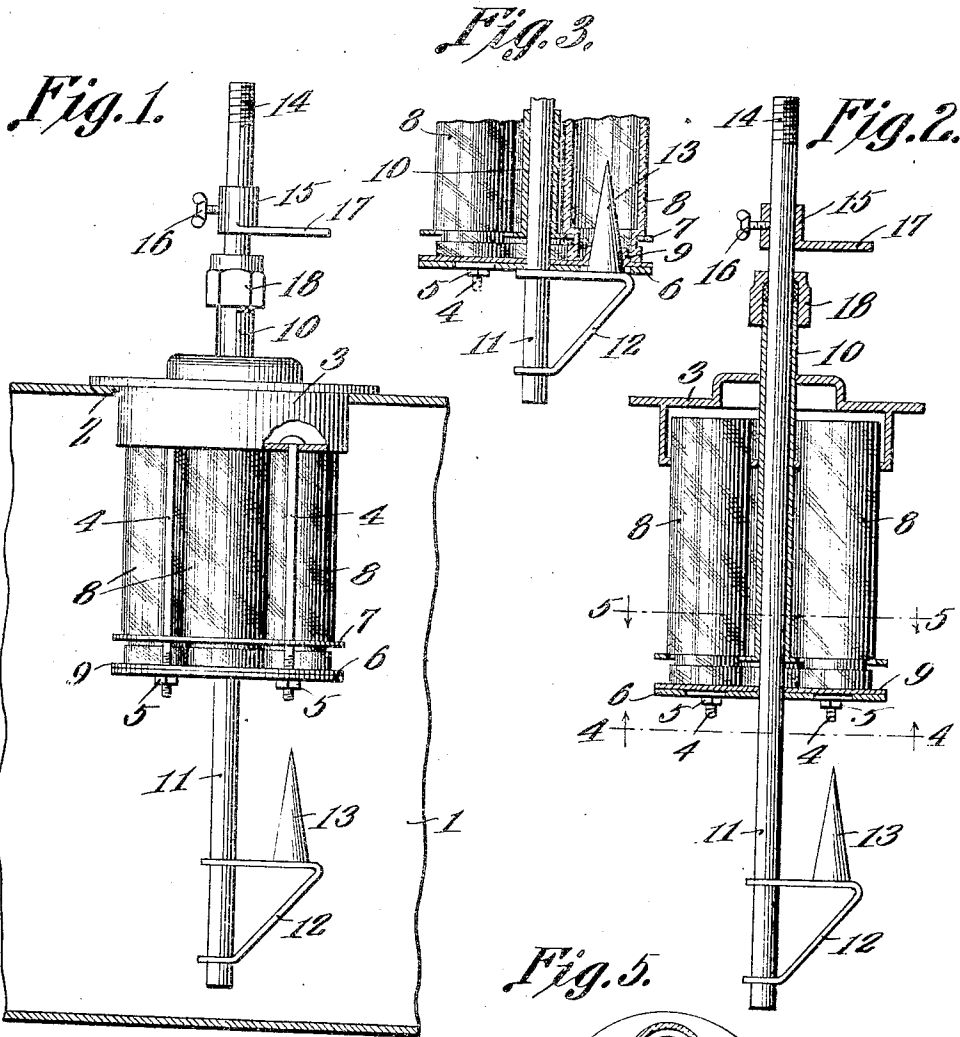


C. E. LOMBARD.
 CHEMICAL FIRE EXTINGUISHER.
 APPLICATION FILED MAY 16, 1912.

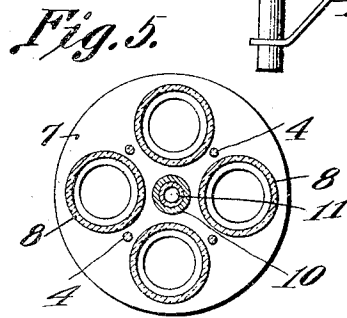
1,043,120.

Patented Nov. 5, 1912.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES ELMER LOMBARD, OF EAST WILTON, MAINE.

CHEMICAL FIRE-EXTINGUISHER.

1,043,120.

Specification of Letters Patent.

Patented Nov. 5, 1912.

Application filed May 16, 1912. Serial No. 687,720.

To all whom it may concern:

Be it known that I, CHARLES E. LOMBARD, a citizen of the United States, residing at East Wilton, in the county of Franklin and State of Maine, have invented a new and useful Chemical Fire-Extinguisher, of which the following is a specification.

The present invention relates to improvements in chemical fire extinguishers, the primary object of the present invention being the provision of a novel form of cartridge holding and emptying device adapted to be removably disposed within a tank, the cartridges being filled with acid while the tank contains water and bi-carbonate of soda, so that when the acid is released to flow into such water, pressure will be formed in the tank due to the release of the carbonic acid gas to assist in expelling the liquid from the tank to extinguish the fire and at the same time produce the gas which in itself is a fire extinguisher.

A further object of the present invention is the provision of a vial or cartridge holding device which carries a plurality of such vials or cartridges, the same being provided with a rotary means whereby the various vials or cartridges may be selected and emptied one at a time as is found necessary to extinguish the fire.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a sectional view through a container or tank, with the present invention disposed therein when in its normal position. Fig. 2 is a longitudinal cross section through the cartridge or vial containing member with the eduction pipe in elevation. Fig. 3 is an enlarged detail sectional view through the vial container, and one vial, the cap puncturing device being in the position it assumes when releasing the contents from one of the vials. Fig. 4 is a section taken on line 4—4 of Fig. 2. Fig. 5 is a section taken on line 5—5 of Fig. 2.

Referring to the drawings, the numeral 1

designates a tank or reservoir which is disposed in any position in the building and is adapted to contain water in which is dissolved bi-carbonate of soda, or in fact any chemical that when mixed with an acid will free carbon dioxid gas and at the same time produce the desired pressure within the tank 1 to force the water therefrom, as will presently appear. This tank is provided with an aperture 2 for the removable reception of the sealing cap 3 of the cartridge carrying device, while connected to the sealing cap 3 by means of the tie rods 4 and nuts 5 are the lower cartridge or vial supporting plates 6 and 7. By this means the vials or cartridges 8 are detachably supported within the retainer with their open ends directed downwardly and sealed by the disk 9, composed of a material such as lead that will be unaffected by the acid within the vials 8, but which will provide a gasket or cover to prevent the accidental spilling or leaking of the acid from the vials. The disk 9 has formed concentrically therewith and extending thereabove the tube or sleeve 10, which surrounds the eduction pipe or conduit 11 that extends above the supporting cap 3.

Connected to and carried by the pipe 11 below the container is a bracket 12 which has disposed upon the upper portion thereof a prong or piercing member 13. This member 13, when the bracket 12 is raised, as shown in Fig. 3, pierces the disk 9 to release the contents of a vial 8.

The upper end of the tube or conduit 11 is threaded or provided with a hose coupling so that the contents of the tank 1 may be directed through said conduit and to the desired fire location.

A sleeve 15 is adjustably connected upon the conduit 11 above the stuffing box 18 by means of a screw 16, said sleeve being provided with a handle 17, which when in operable relation is adjusted to aline with the bracket 12 and the piercing member 13, so that when the tube 11 is rotated manually, it is simply necessary that the handle 17 be disposed above the upper end of one of the containers or vials 8 to insure of the proper alignment of the piercing member with the mouth of the desired vial.

From the foregoing description taken in connection with the drawings, the operation of the present device is readily understood but briefly stated in a few words. Assuming

that the tank 1 is filled with or nearly filled with the mixture of water and preferably bi-carbonate of soda, and that the container is in the position as shown in Fig. 1, and it is desired to conduct the liquid of the tank to a fire location, the handle 17 is rotated so as to be above the desired indication upon the cap 3. The handle 17 is now raised until the piercing member 13 enters the gasket or sealing disk 9, as shown in Fig. 3, the handle 17 now being lowered to permit the fluid, preferably an acid that will free the carbon dioxid gas contained in the water and bi-carbonate of soda within the tank 1. This action will produce the pressure within the tank 1 and as the lower end of the pipe or conduit 11 is positioned near the bottom of the tank 1, the liquid within the tank, due to the pressure at the freeing of the carbonic acid gas, will be forced through the conduit 11 and out of the eduction end 14 to the desired fire location. As soon as the pressure has diminished to such an extent that it is desirable to empty another vial, the shaft 11 is rotated by the handle 17 as before stated, and until all of the vials 8 are emptied or as many of them as is deemed necessary.

What is claimed is:

1. The combination with a tank adapted to contain a liquid having mixed therewith a chemical which when acted upon by acid will free a gas, of a sealing container mounted in said tank, and provided with a concentrically disposed eduction conduit mounted for vertical movement within and without the tank, a plurality of chemical retaining cartridges carried by said container, means for raising and lowering said eduction conduit, and a piercing member carried by said conduit within the tank for piercing one cartridge at a time when the conduit is elevated.

2. A chemical container for a fire extinguisher, having a sealing cap, a plurality of cartridges carried by said cap and provided with a puncturable seal, a concentrically disposed eduction conduit rotatably and slidably mounted in said sealing cap, means for rotating and sliding the said eduction conduit, and a seal puncturing member carried by said conduit.

3. A chemical container for a fire extinguisher, having a sealing cap, a plurality of cartridges carried by said cap and provided with a puncturable seal, a concentrically disposed eduction pipe rotatably and slidably mounted in said sealing cap, means for rotating and sliding the said eduction pipe, a bracket connected to the lower end of said pipe, and a piercing member carried by said bracket and disposed for registration with the lower end of one of said cartridges at a time to, when lifted, break the sealing member.

4. A chemical containing member insertible within a reservoir, and forming a sealing

device therefor, said member having a frame, a plurality of chemical containing cartridges carried by said frame, a puncturable seal mounted in the frame and closing the lower ends of the cartridges, a vertically slidable and rotatable eduction pipe mounted in the sealing member and through the frame, a handle connected to the said pipe above the sealing member, and a seal puncturing member mounted upon said pipe below the frame and in vertical alinement with the handle, the position of the handle indicating the position of the piercing member.

5. A chemical containing member insertible within a reservoir, and forming a sealing device therefor, said member having a frame, a plurality of chemical containing cartridges carried by said frame and having their outer ends closed by the sealing member, a vertically slidable and rotatable eduction pipe mounted in the sealing member and through the frame, a handle connected to the said pipe above the sealing member, a bracket connected to and carried upon the lower end of the pipe, and a vertically disposed seal piercing member carried by said bracket, said bracket and piercing member being in vertical alinement with the handle, whereby the position of the handle indicates the position of the piercing member.

6. A chemical cartridge containing device, having a puncturable sealing disk, two circular apertured plates, one above and the other below the sealing disk, means for supporting the plates relatively to the sealing disk, a plurality of chemical holding cartridges retained by the upper apertured plate with their lower ends sealed by the sealing disk, a vertically slidable and rotatable eduction tube mounted concentrically of the plates and sealing disk, an operating and indicating handle connected to the tube and above the upper apertured plate, and a piercing member mounted upon the tube below the lower apertured plate and in alinement with the handle.

7. A chemical cartridge containing device, comprising a lower apertured plate, a circular apertured plate disposed thereabove and in spaced relation thereto, a supporting cap connected to and carrying both plates, a plurality of chemical retaining cartridges disposed between the sealing cap and within the second apertured plate, said cartridges having their lower ends open, a puncturable sealing disk mounted upon the upper surface of the first apertured plate to seal the lower open ends of the cartridges, a vertically movable and rotatable eduction tube mounted concentrically of the container, an operating and indicating handle connected to said tube above the container, a bracket connected to the tube below the lower apertured plate, and a piercing member carried

by said bracket and in vertical alinement
with the handle to, when elevated, puncture
the sealing plate through one aperture at a
time of the second perforated plate to per-
5 mit of the emptying of a single cartridge at
a time.

In testimony that I claim the foregoing as

my own, I have hereto affixed my signature
in the presence of two witnesses.

CHARLES ELMER LOMBARD.

Witnesses:

HARRY H. ADAMS,
CHAS. A. WHIBLEY.