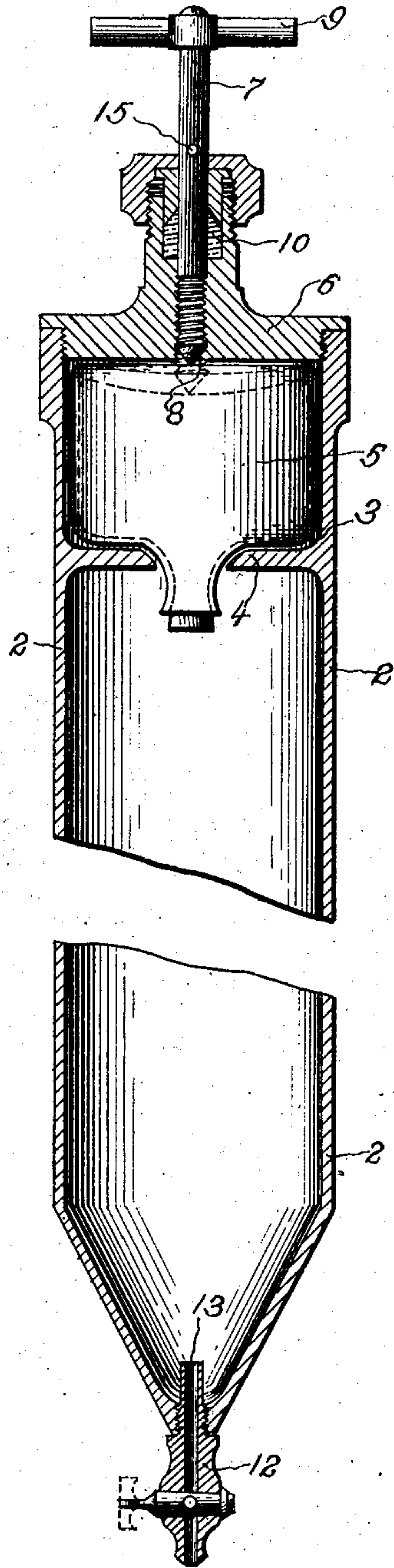


No. 780,898.

PATENTED JAN. 24, 1905.

H. W. MIX.
FIRE EXTINGUISHER.
APPLICATION FILED MAR. 9, 1904.



WITNESSES:

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HARVEY W. MIX, OF VANCOUVER, CANADA.

FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 780,898, dated January 24, 1905.

Application filed March 9, 1904. Serial No. 197,207.

To all whom it may concern:

Be it known that I, HARVEY W. MIX, a citizen of the Dominion of Canada, residing at the city of Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Improvement in Fire-Extinguishers, of which the following is a specification.

My invention relates to an improved fire-extinguisher of that class wherein carbonic-acid gas is generated when the apparatus is required by the admixture of an acid to a carbonated solution, and my effort has been to provide an extremely simple construction that will be certain in its action and to so reduce the weight of the apparatus and adapt its form that it may be used by women or children if occasion should so require.

The construction and operation of my device are fully explained in the following specification and illustrated in the drawing which accompanies it, which represents a longitudinal section of the device.

It consists of an elongated cylindrical vessel 2 of comparatively small diameter in proportion to its length. At one end of this vessel a section 3 is divided off by an inwardly-projecting annular partition 4. This divided section 3 is designed to receive a closed bottle of acid, (represented by 5,) and this extreme end of the vessel is closed with a cap or plug 6, removably attached to the body of the vessel by a screw-thread. Through the center of this plug 6 is screwed a stem 7, having a pointed inner end 8 and at the outer end a cross-handle 9, by which the stem may be turned and by virtue of the screw-thread may be inserted into or withdrawn from the section 3 of the vessel. The stem 7 passes through a packed gland 10 in the cap 6, by which leakage of the contents of the vessel past the stem is prevented, particularly when the gas-pressure is generated for use. At the extreme other end the vessel 2 is conically contracted and furnished with a small stop-cock 12, which is provided with an inwardly-projecting tube 13, designed to prevent any dirt or foreign matter lodging on the aperture and obstructing the flow through it.

The application of the device is extremely

simple. The stop-cock 12 being closed, the vessel is filled with a solution of a carbonate of soda or similar material, and the glass bottle 5, holding the acid, is inverted in the section 3, with its neck through the central aperture. The cap-plug 6 is screwed tightly in place, its central stem 7 being withdrawn, so that its tapered end is clear of the bottle 5.

If considered necessary, a lock-pin 15 may be inserted through the stem 7 exterior to the gland to prevent the stem being inadvertently screwed down on the bottle.

When desired to be used, the handle 9 is turned, and the point 8 of the screwed stem 7 is thereby forced against the bottle 5, which it readily fractures, and the carbonic-acid gas is immediately generated by the admixture of the acid of the solution of soda, the pressure of generation being itself sufficient to project a stream of carbonated water with considerable force when the stop-cock is opened for that purpose.

I am aware that prior to my invention fire-extinguishers have been provided in which carbonated water is generated when required by the admixture of suitable materials; but such admixture has depended either on the overturning of the vessel containing the acid or the breaking of a glass bottle of acid by a plunger from without or a weight within the vessel; but these devices form a cumbersome and comparatively heavy apparatus, and as the operation of the plunger or the weight frequently requires a considerable impact to cause the fracture of the bottle they are not adapted for general domestic use where a woman or child is frequently alone in the time of emergency.

In my device the pointed stem having a screw-thread affords an effective and convenient means of fracturing the acid-bottle and one which a child can readily understand and use when required, while the comparatively small diameter of the vessel enables it to be made of very light material, while sufficiently strong to stand the pressure of the generated gas, and the necessary volume being provided by extra length enables the jet to be more readily projected toward a fire.

I therefore claim as new and desire to be protected in by Letters Patent—

1. In a fire-extinguisher, an elongated cylindrical vessel having a conically-shaped end, said conically-shaped end having a threaded aperture at the apex, a stop-cock having a threaded shank for coöperating with the threaded aperture of the conical portion of the vessel, and the other end of the said vessel being internally screw-threaded, an integrally-formed apertured diaphragm formed near said internally-threaded end and adapted to receive a sealed vessel having a neck for projecting through the aperture of the diaphragm, a screw-threaded closure member for said internally-threaded end of the vessel, and means carried by said screw-threaded member for puncturing or breaking said sealed vessel when desired.

2. In a fire-extinguisher, an elongated cylindrical vessel having a conically-shaped end, said conically-shaped end having a threaded aperture at the apex, a stop-cock having a threaded shank for coöperating with the threaded aperture of the conical portion of the vessel, and the other end of the said vessel being internally screw-threaded, an integrally-formed apertured diaphragm formed near said internally-threaded end and adapted to receive a sealed vessel having a neck for projecting through the aperture of the diaphragm, a screw-threaded closure member for said internally-threaded end of the vessel, and means carried by said screw-threaded member for puncturing or breaking said sealed vessel when desired, said last-named means including a plunger having a threaded connection with said closure member and passing through an aperture therein, and terminating in a pointed end for the purposes specified.

3. In a fire-extinguisher, an elongated cylindrical vessel having a discharge-aperture at one end, a stop-cock held in said aperture, said vessel being formed near its opposite end with an integrally-formed apertured diaphragm, and said vessel at the diaphragm end being internally threaded, a screw-threaded closure member for coöperating with said internally-threaded end, said closure member having a threaded aperture and provided with a gland, a threaded stem passing through said gland and aperture to coöperate with the screw-threaded portion of the aperture and terminating in a pointed end, said internal diaphragm being so arranged as to form a chamber between it and the closure member, a sealed vessel having a neck held within said chamber with its neck projecting through the diaphragm-aperture, said vessel being so

formed as to closely fit said chamber, for the purposes specified.

4. In a fire-extinguisher, an elongated cylindrical vessel having a conically-shaped discharge end having a threaded aperture at the apex, a stop-cock having a threaded shank for coöperating with the threaded aperture of the conical portion of the vessel, said vessel including an inwardly-extending portion adapted to be extended into the vessel, the other end of said vessel being internally threaded, an integrally-formed apertured diaphragm located near said internally-threaded end to divide the elongated vessel into two compartments, said diaphragm having a central aperture, one of said vessel-compartments adapted to receive a sealed containing-vessel having a neck for projecting through the aperture of the diaphragm, a screw-threaded closure member for said internally-threaded end of the vessel and means carried by said screw-threaded member for puncturing or breaking said containing vessel when desired.

5. In a fire-extinguisher, an elongated cylindrical vessel having a discharge-aperture at one end, a stop-cock held in said aperture and having an extension projected within the vessel, said vessel being formed near its opposite end with an integrally-formed apertured diaphragm, said vessel at the diaphragm end being internally threaded, a screw-threaded closure member for coöperating with said internally-threaded end, said closure member having a screw-threaded aperture and a threaded extension, an apertured cap having a threaded portion for coöperating with said closure-member extension, said closure member being provided with a gland, a stem passing through said apertured cap, said gland and said threaded portion of the closure member, said stem having one end threaded and provided with a conical point, a handle connected with the other end of the stem, a stop-pin for regulating the movement of the stem, said internal diaphragm being so arranged as to form a chamber between it and the closure member, a sealed vessel having a neck held within said chamber with its neck projecting through the diaphragm-aperture, said sealed vessel being so arranged as to closely fit said chamber, for the purposes specified.

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

HARVEY W. MIX.

Witnesses:

ROWLAND BRITAIN,
ELLICE WEBBER.