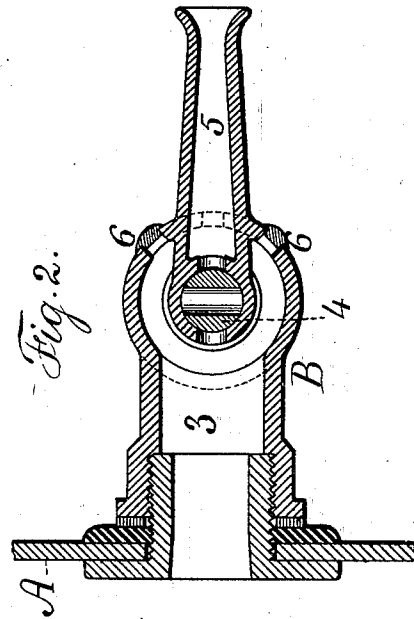
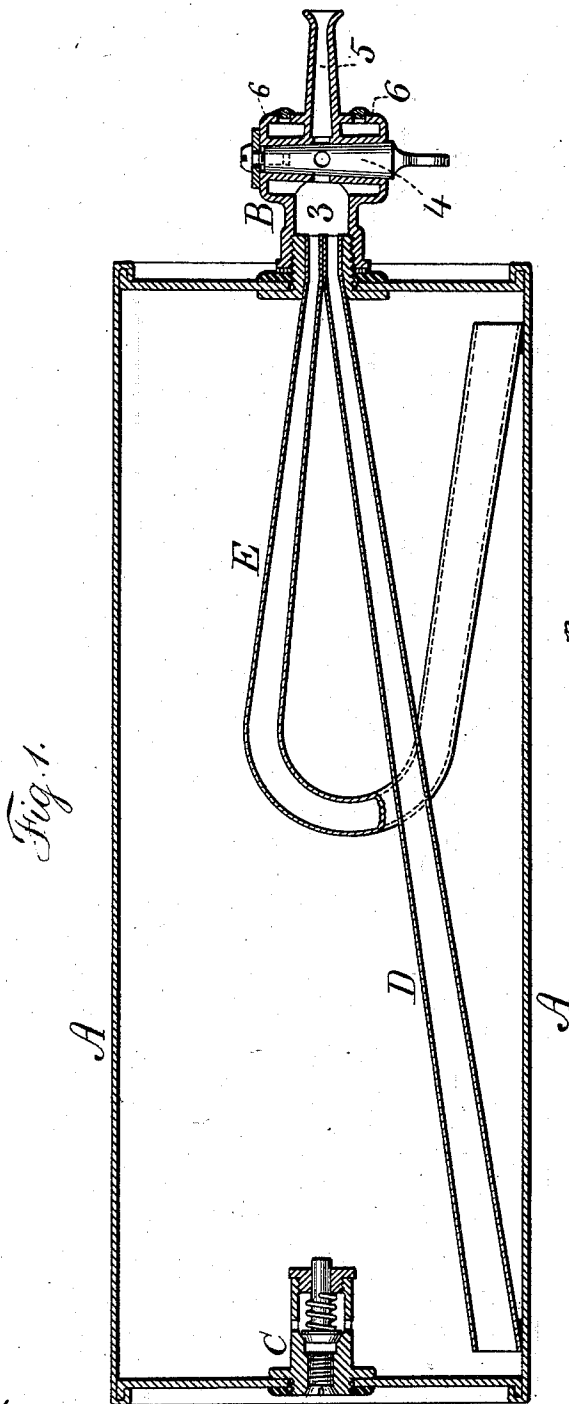


(No Model.)

E. M. PARKER & W. H. COULSON.
FIRE EXTINGUISHER.

No. 578,703.

Patented Mar. 9, 1897.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDWARD M. PARKER AND WILLIAM H. COULSON, OF JERSEY CITY,
NEW JERSEY.

FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 578,703, dated March 9, 1897.

Application filed April 27, 1896. Serial No. 589,197. (No model.)

To all whom it may concern:

Be it known that we, EDWARD M. PARKER and WILLIAM H. COULSON, citizens of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented an Improvement in Fire-Extinguishers, of which the following is a specification.

Portable fire-extinguishers have heretofore been constructed of a vessel, usually cylindrical and of sufficient strength to withstand considerable pressure, and a liquid, such as salt and water, has been introduced into such vessel together with a gas under pressure, such as carbonic acid, so that liquid is projected with force from the discharge-nozzle, and in some instances fire-extinguishers of this character have had chemical substances introduced with the liquid, the combination of which causes the development of gas for driving out the liquid contents; but difficulty has arisen in effecting the proper delivery of the liquid under the different conditions of use; that is to say, in some extinguishers when the jet is directed upward nothing but water charged with gas escapes, and when directed downward the gas escapes without the water. This of course is objectionable, because the character of the materials discharged cannot be depended upon.

The objects of the present invention are, first, to secure uniformity in the discharge of the gaseous and liquid materials from the extinguisher, and, second, to provide a discharge-head that can be operated by hand or that becomes automatic in case the temperature of the room or space in which the fire-extinguisher is located rises above the melting point of the fusible alloy.

By the aforesaid improvement we are enabled to construct an apparatus that can be used by hand and the liquid and gaseous materials discharged with uniformity and in any direction, and when the apparatus is placed or hung in a building for the protection of goods or the extinguishment of fire where the temperature is liable to reach a danger-point or where there may be an incipient conflagration the fusible material of the head becomes softened and the fire-extinguishing liquid and gas are discharged automatically.

In the drawings, Figure 1 is a section of the apparatus; and Fig. 2 is a cross-section at right angles to Fig. 1, showing the construction of the head in larger size.

The vessel A is of any desired size or shape, advantageously cylindrical, with suitable heads or ends, and at one end is the discharge-head B, and there is usually a supply-pipe C, containing a check-valve, so that the liquid or gas, or both, may be forced into the apparatus under pressure for charging the same, the valve closing automatically. This supply-pipe and valve may be of any desired character and may be placed upon any part of the apparatus.

Within the vessel A are the pipes D and E, which are brought together at one common tube or exit 3, which leads to the plug or valve 4 in the discharge-head B, which plug or valve is to be actuated by hand, so that the contents may be discharged by the jet-tube 5, which may be provided with one or numerous openings for the liquid and gases to pass to the fire.

The pipes D and E open near the opposite ends of the vessel A, that is to say, the pipe D may be substantially straight and the pipe E bent around, so that its open end is near its discharge end; and it will be apparent that if the extinguisher is held at a vertical or at an upward inclination the liquid will pass through the pipe D and the gas through the pipe E, and the two will meet together and the discharge of the gas will act as a suction to draw the liquid through the pipe D, and the two will pass through the discharge cock or valve 4, and if the apparatus is held at a downward inclination the water will pass through the pipe E and the gas through the pipe D, and the latter will aid in drawing the liquid through the pipe E, and hence the discharge will be substantially the same regardless of the position of the apparatus.

We surround the plug or cock 4 with a perforated casing 6, the space that is inclosed by the same being open to the exit-pipe 3, and the perforations in this casing are to be closed by fusible material, such as a fusible alloy, melting at the desired temperature, usually about 130° Fahrenheit, so that whenever the apparatus is exposed to an abnormal temper-

ature the fusible material in the perforations of the casing will be softened and the perforations blown open by the pressure of the fluid within the extinguisher, and the shape of the perforated casing and the positions of the openings in the same should vary according to the place where the fire-extinguisher is to be located and the direction in which the fluids are to issue in case of an incipient conflagration, so that this apparatus provided with the discharge-head constructed as aforesaid is adapted to use by hand and also as an automatic extinguisher in the presence of an excessive temperature.

15 It will be apparent that the tube E may be short and straight, so that the discharge may be direct, but usually it is preferable to make the tubes D and E substantially alike, so that the materials will travel a uniform or nearly uniform distance in reaching the outlet.

20 We claim as our invention—

1. The combination with the holding vessel in a fire-extinguisher of two pipes coming closely together at one end and opening into a common discharge, the other ends of such pipes opening within and near the respective ends of the vessel so that the discharge of gas by either pipe promotes the discharge of liquid by the other pipe, substantially as specified.

2. The combination with the fire-extinguishing vessel A to contain suitable fluids under pressure, of the exit-pipe 3 and a cock or valve, the pipe D substantially straight and reaching to near the distant end of the vessel A, the pipe E that is bent with its receiving end near the exit-pipe A so that the

apparatus is adapted to discharge the fluid contents with uniformity when held in any desired position, substantially as set forth. 40

3. The combination with the vessel holding fire-extinguishing material, of a discharge-head having at one end an opening leading into the vessel, a plug or cock with a surrounding barrel and a discharge or jet tube, a perforated casing around the cock, the space enclosed by the same being open to the pipe leading into the vessel holding fire-extinguishing material, there being fusible material within the perforations in the casing so that the contents of such fire-extinguishing vessel can discharge through the perforated casing when the temperature rises sufficiently and independently of the cock or valve, substantially as set forth. 50 35

4. The combination with the vessel for holding fluids under pressure, of a discharge-head having a valve or cock to be actuated by hand, and a perforated casing around the same and easily-fused material in the perforations, the interior of the casing opening into the pipe leading to the cock or valve, and pipes within the holding vessel that come together at one end in the pipe leading to the plug or cock and the other ends of such pipes open near the respective ends of the holding vessel, substantially as set forth. 60 65

Signed by us this 22d day of April, 1896.

EDWD. M. PARKER.
WILLIAM H. COULSON.

Witnesses:

GEO. T. PINCKNEY,
S. T. HAVILAND.