(No Model.)

# E. T. COPELAND.

## AUTOMATIC SPRINKLER VALVE.

No. 369,840. Patented Sept. 13, 1887.

Fig. 1.

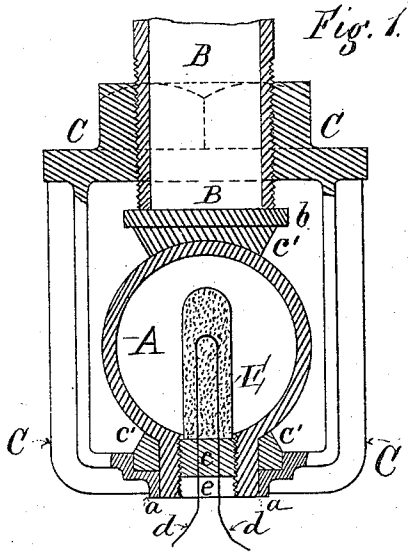
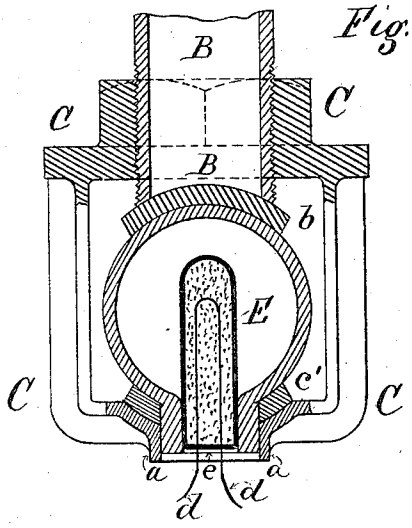



Fig. 2.




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# UNITED STATES PATENT OFFICE.

EDWIN T. COPELAND, OF BROOKLYN, NEW YORK.

## AUTOMATIC SPRINKLER-VALVE.

SPECIFICATION forming part of Letters Patent No. 369,840, dated September 13, 1887.

Application filed February 5, 1887. Serial No. 226,647. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN T. COPELAND, a citizen of the United States, residing in the city of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Automatic Sprinkler-Valves for Fire-Extinguishing Purposes, of which the following is a specification, reference being had to the accompanying drawings.

My improvements relate specially to the construction of automatic sprinkler-valves in which pressure is relied upon to keep the valve closed or seated, such pressure being hastily released by heat or explosion through the weakening or destruction of the supporting elements.

The object of my improvements is to provide surety of action as well as certainty of operation through reliance upon a variety of means or chances; also to attain simplicity and cheapness of construction as well as ease of access and application.

My improvements consist in the construction of a yoke and a cartridge-inclosing support for holding the valve in place in such manner that a charge or cartridge of burning or explosive material may be inserted without disturbing the valve or its support.

Other improvements consist in the combination of the several portions collectively or with each other, as may hereinafter be shown and described.

In the drawings, Figures 1 and 2 represent sprinkler-valves embodying my improvements.

Similar letters of reference designate like parts in both the figures.

Fig. 1 represents a sprinkler-valve in which the bottom or end of pipe-nozzle B is kept flat and a flat valve, *b*, is held to its seat by the cartridge-inclosing support A. Fig. 2 represents a sprinkler-valve in which the bottom or end of pipe-nozzle B is made concave and the valve *b* so shaped or made of such material as to freely conform to such concavity. In either figure the bottom or outer portion of the yoke C at *a a* and the neck of the cartridge-inclosing support A at *e* are made open to permit of the easy insertion of a charge or cartridge of burning or explosive material without disturbing the seating or closing of the valve *b*. As represented, the yoke C screws upon the pipe-nozzle B, retaining within its grasp the cartridge-inclosing support A and the valve *b*.

The yoke C here shown, as well as the method of retaining the valve *b* and its support A, is already shown in my application Serial No. 205,532.

Any method of holding the valve and cartridge-inclosing support may be used, the special feature of these improvements being the means provided for inserting an explosive charge or cartridge without disturbing the sprinkler-valve *b* on its seat.

The cartridge or charge may be inserted and the neck closed, as shown at *c*, Fig. 1; or the opening or neck may be closed by the cartridge itself, as shown in Fig. 2. In any case the wires *d d* are inserted to provide electric incandescence and the burning or explosion of the contained cartridge.

*c c* are cushions for taking the thrust upon the chamber A to spread it about when such chamber is constructed of brittle material.

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

1. In an automatic sprinkler-valve, a yoke and a cartridge-inclosing support for the valve upon its seat, each having an opening or hole at the outer or bottom end, through which a cartridge may be inserted or withdrawn without disturbing the seating of the valve.

2. In an automatic sprinkler-valve, the combination of a nozzle-closing valve, *b*, a yoke having an opening at the outer or bottom end, and a cartridge-inclosing support having an outer or bottom opening, through which holes an explosive or cartridge may be inserted or withdrawn without disturbing the closing of the valve, substantially as set forth.

3. In an automatic sprinkler-valve, the combination, with a pipe branch or connection, B, of valve *b*, a cartridge-inclosing sup-

port, and a supporting-yoke, C, each having an opening through which an explosive or cartridge may be inserted, and electric wires *d d*, substantially as set forth.

4. In an automatic sprinkler-valve, the combination of the pipe-nozzle B, the valve *b*, cartridge-inclosing support A, yoke C, open at bottom or outer end, cushions *c'*, cartridge E, and electric wires *d d*, substantially as and for purposes specified.

EDWIN T. COPELAND.

Witnesses:
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M. E. ROBERTS.