

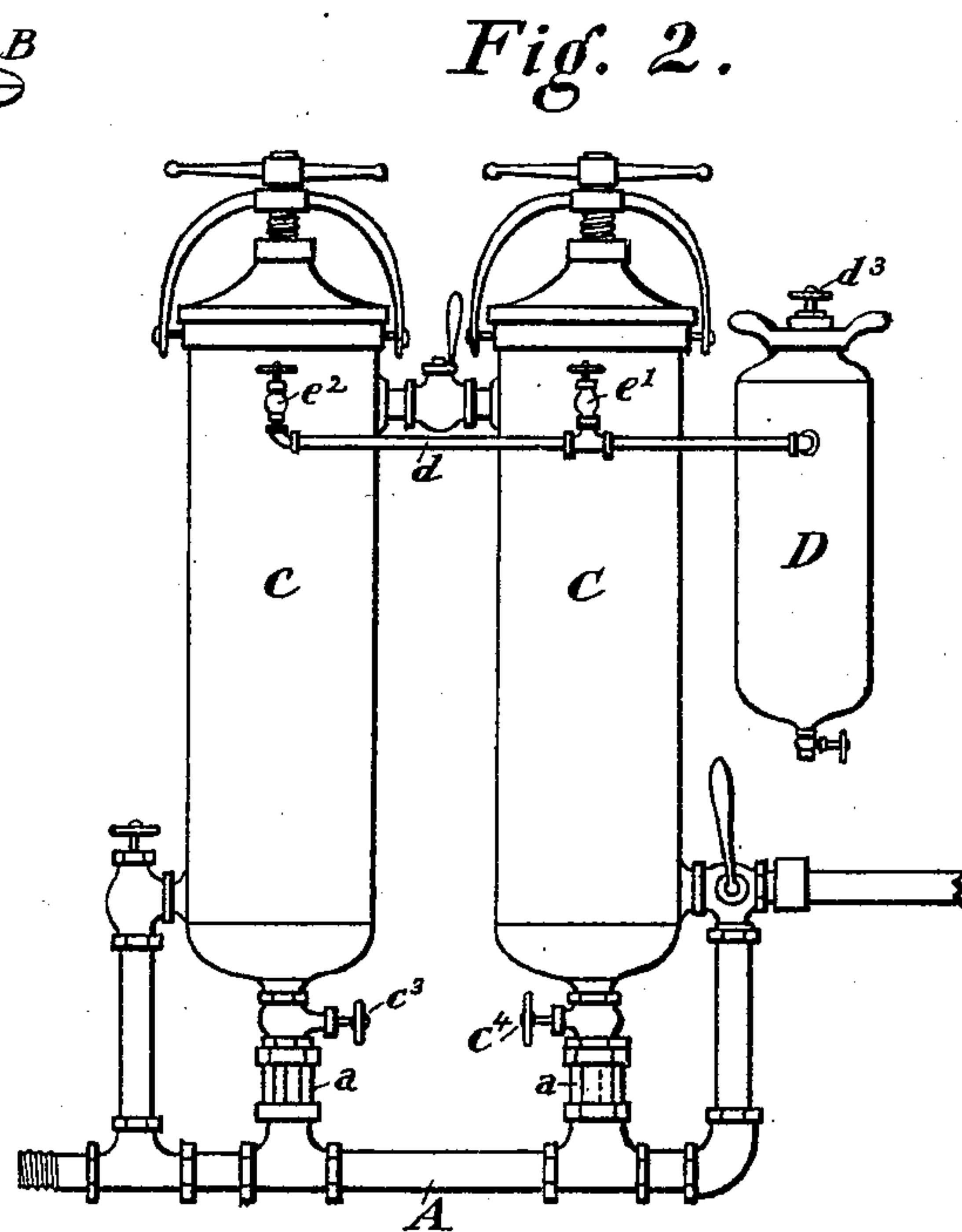
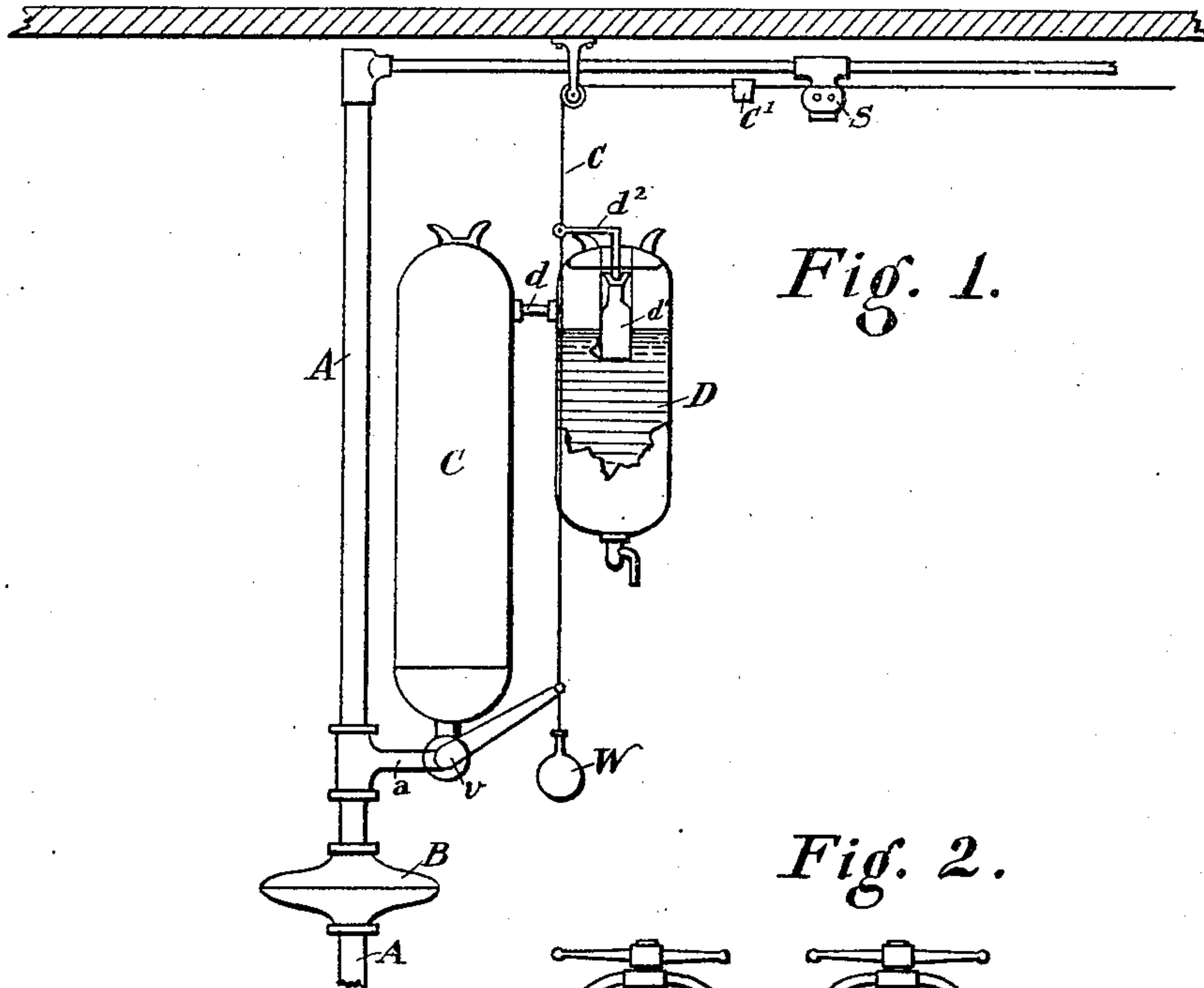
No. 680,291.

Patented Aug. 13, 1901.

W. M. THOMPSON & C. NUHRING.
FIRE EXTINGUISHING APPARATUS.

(Application filed July 5, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

WALTER M. THOMPSON AND CHARLES NUHRING, OF CINCINNATI, OHIO.

FIRE-EXTINGUISHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 680,291, dated August 13, 1901.

Application filed July 5, 1900. Serial No. 22,596. (No model.)

To all whom it may concern:

Be it known that we, WALTER M. THOMPSON and CHARLES NUHRING, citizens of the United States, residing at Cincinnati, Hamilton county, and State of Ohio, (whose post-office addresses, respectively, are Norwood, Ohio, and No. 1345 Walnut street, Cincinnati, Ohio,) have invented certain new and useful Improvements in Fire-Extinguishing Apparatus, of which the following is a specification.

Our invention relates to fire-extinguishing apparatus, and more particularly of the class employed in extinguishing incipient fires, its object being to improve the efficiency of such apparatus by providing a means of charging the stream of water to a greater or less extent with a chemical agent in solution, whereby its extinguishing effect is increased.

Mechanism embodying our invention is illustrated in the accompanying drawings, in which—

Figure 1 is a simple form of our improvement applied to a fire-extinguishing apparatus employing a "sprinkler" and adapted to automatic action, and Fig. 2 is a slightly-modified form of the device embodying duplicate charging-tanks adapted to be used together or alternately.

Referring now to the drawings, A designates the water-supply service-pipe of a building or similar structure; B, a controlling-valve, (in this case the ordinary diaphragm-valve used in connection with the automatic sprinkler device and held by air-pressure;) C, a tank containing a chemical solution, and D an auxiliary tank for generating gas-pressure, whereby the chemical liquid is forced into the discharging stream of water.

The supply-pipe A is continued onto a sprinkler device s, (one or more,) fitted with a fusible cap in the usual manner of such constructions. This portion of the device is constructed and operates in the usual manner, whereby the heat fuses the cap of the sprinkler, relieves the counter-pressure of air, and opens the controlling-valve B to the flow of water to and through the sprinkler.

The tank C contains a solution of chemical agents—such as salt, sal-ammoniac, &c.—and is connected below with the supply-pipe A at the discharge side of the valve B by a pipe con-

nection a, fitted with a controlling-valve v. At the top the tank C is connected with the pressure-tank D by a connection d and contains a quantity of liquid having an alkaline gas-producing element in solution and a bottle d', of acid, held in a suitable cage or support adapting it to be released and its contents discharged upon occasion by the action of a tripping device d².

The operating-handles of the valve v and of the tripping device d² are normally held in closed position by a wire or cord c, attached to both and held to a point of support by a fusible link c', located in the immediate vicinity of the sprinkling device s and its fusible cap. At the lower end of the cord is attached a weight w, which is thus upheld by the fusible link c'.

The operation in the case of the apparatus just described is as follows: The link c' and the sprinkler s, with its fusible cap, being located close together, are both fused or softened by heat. The latter releases the air-pressure and opens the valve B to the flow of water in the supply-pipe A. The former releases the weight w, which being similarly attached to the valve v and the tripping device d² acts to release the weight, and thus break the bottle d', of acid, in the alkaline liquid of auxiliary tank D and also to open the connection a between the tank C and the pipe A. The mingling of acid with the liquid contents of the auxiliary tank D generates or releases a gas, which at once flows over into the tank C and by its pressure forces the chemical solution therein contained into the pipe A and charges the water issuing from the sprinklers.

In the form of the device shown in Fig. 2 the automatic features are omitted. The tank C and connection a are shown duplicated, and in lieu of the sprinkler s a hose connection s' is employed. The bottle-breaking device d³ is operated by hand, and suitable valves e' e² allow the gas to be thrown into one or both of the tanks, as desired, or allow one to be refilled while the other is in use. Though the contents of the bottle d' are released by breaking the latter, it is apparent that this function can be otherwise secured.

We claim as our invention and desire to secure by Letters Patent of the United States—

The combination with a water-service pipe,
supplying a distributing device such as a
sprinkler or hose, &c., of a tank connected to
said supply-pipe and adapted to contain a
5 chemical solution, an auxiliary tank and de-
vices for generating therein a gas, connec-
tions between said tanks for transferring said
gas-pressure, and suitable controlling-valves
to govern the conjoint action and inject said
10 chemical solution by means of said gas-pres-

sure into the water-supply, substantially as
set forth.

In testimony whereof we have hereunto set
our hands in presence of two subscribing wit-
nesses.

WALTER M. THOMPSON.
CHARLES NUHRING.

Witnesses:

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