

J. GALVIN.
AUTOMATIC FIRE EXTINGUISHING DEVICE.

APPLICATION FILED JUNE 21, 1904.

NO MODEL.

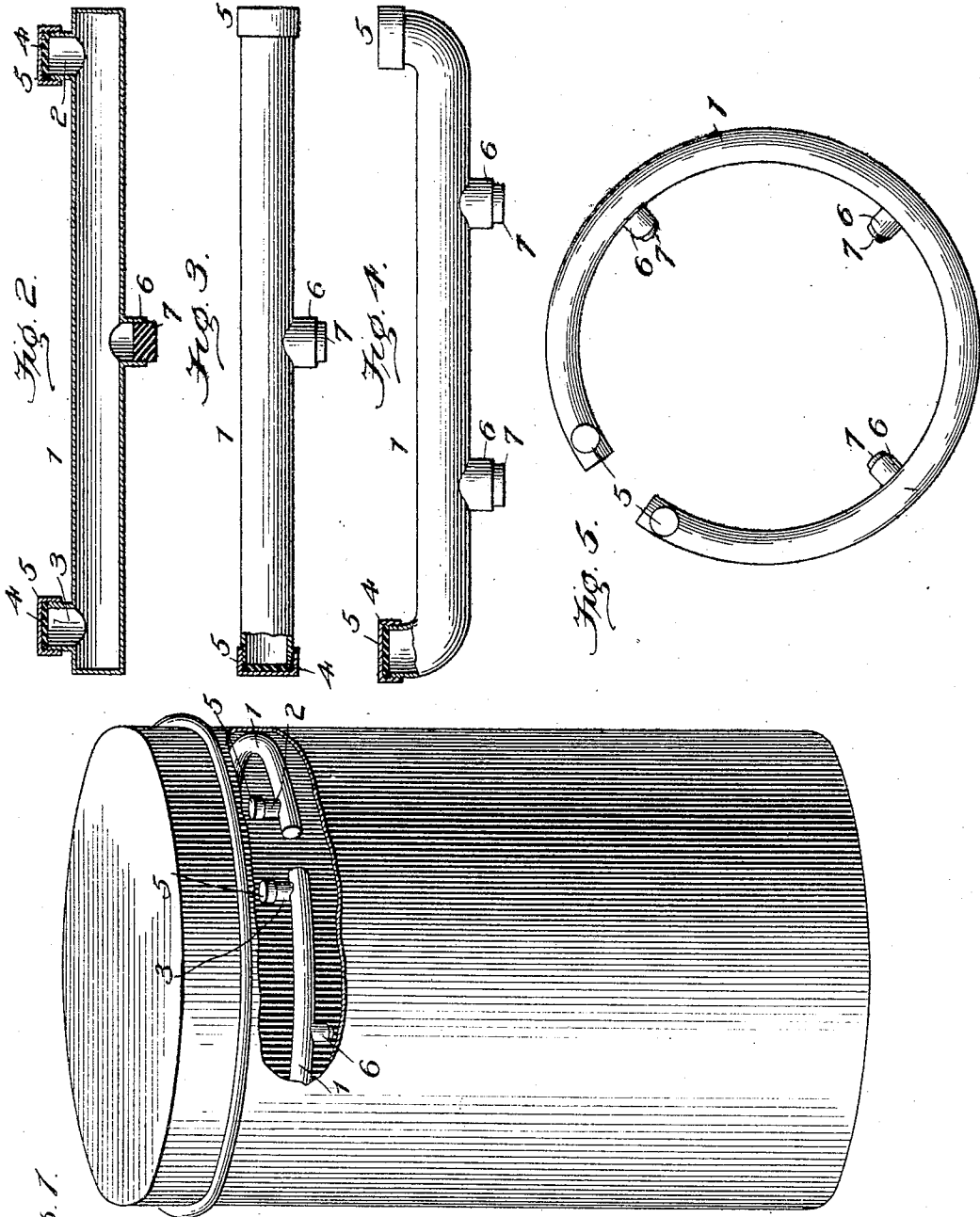


Fig. 1.

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN GALVIN, OF BRATTLEBORO, VERMONT.

AUTOMATIC FIRE-EXTINGUISHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 774,353, dated November 8, 1904.

Application filed June 21, 1904. Serial No. 213,484. (No model.)

To all whom it may concern:

Be it known that I, JOHN GALVIN, a citizen of the United States, residing at Brattleboro, in the county of Windham and State of Vermont, have invented certain new and useful Improvements in Automatic Fire-Extinguishing Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

For extinguishing fires I have produced a device consisting of a metallic tube charged with a fire-extinguishing fluid, which, under the action of heat upon the walls of the tube, is both expanded and converted into gas, the pressure of which within the tube is caused to expel one or more stoppers, and thereby cause the ejection in forced streams of the fire-extinguishing gas and fluid into the flames or fire. The tube has a filling-opening and an air-vent both sealed by gaskets and closed by screw-caps, and is provided with one or more short tubes closed with stoppers and as an article of manufacture may be used in any closure where fire is liable to develop—such, for instance, as a can for the storage of matches and in elevator-shafts, rooms, halls, &c. The heating of the tube by the fire will cause the tube thereby to become an automatic fire-extinguisher by converting the fluid into gas, which, with the expansion of the liquid confined within the tube, exerts an increasing pressure on the stoppers and expelling them causes the gas and the liquid to be ejected in forced streams upon the fire, putting it out.

The accompanying drawings represent in Figure 1 my automatic fire-extinguishing metallic tubular device charged with fire-extinguishing fluid or chemicals as applied to a can which is supposed to contain matches in storage and which in the event of fire originating from the matches will heat the charged tube, converting thereby the fluid therein into a fire-extinguishing gas, which is ejected in forced streams by the pressure expelling the stoppers. Fig. 2 is a longitudinal section of the sealed tube when filled with the fire-extinguishing fluid and ready for use as an article of manufacture. Fig. 3 is an elevation of the

same in a slightly-modified form. Fig. 4 is a like view of the same in a slightly-modified form. Fig. 5 is a like view of the same in a ring form.

A charging-opening 2 for the fire-extinguishing fluid is formed at one end of the tube and a vent-opening 3 for the air is formed in the other end of the tube. Each of these openings is sealed with a gasket 4 and closed with a screw-cap 5. One or more short discharge-tubes 6 connect with the chamber of the tube and are closed by stoppers 7, which I prefer to make of soft rubber, because it makes an air-tight joint and is more certain to be expelled by the pressure of the gas and liquid within the tube. I prefer to make the tubes of copper because of its capacity to quickly conduct the heat to the contained fluid. One end of the tube may form the charging-opening and the other end the air-vent; but however formed each is sealed with the gaskets and closed by a screw-cap, as seen in Fig. 2.

An important feature of my invention is the generation of a fire-extinguishing gas by heat upon the metallic walls of a tube containing a fire-extinguishing fluid and the automatic ejection of forced streams therefrom and in which the ejecting force is an element in the efficiency of the device in first expelling a stopper and then ejecting the gas in streams into the fire. Any suitable fire-extinguishing fluid or chemical may be used, such as aqua-ammonia, which will under the action of heat upon the walls of the tube be converted into gas, the pressure from which will expel a stopper or stoppers, and thereby automatically eject under force the gas or fluid. Obviously the automatic feature of the device is an important advantage.

In a concurrent application filed by me June 7, 1904, for automatic fire-extinguishing device, under Serial No. 211,488, I have shown described and claimed the invention set out in the following claim: "An automatic fire-extinguishing device consisting of a sealed tube of thin metallic walls charged with a fire-extinguishing fluid and including a filling and a discharging opening and stoppers therefor, said tube caused by heat penetrating its thin

walls to eject by internal pressure, a stopper or stoppers to effect thereby the automatic ejection from the tube the gas and fluid in forced streams to extinguish the fire" and therefore
5 I do not claim herein such invention.

I claim—

As a new article of manufacture the herein-described automatic fire-extinguishing device consisting of a metallic tube having a charging-opening at or near one end, an air-vent at
10 or near its other end, a sealing-gasket for each,

screw-caps reinforcing said gaskets, one or more discharge-openings, a sealing-stopper or stoppers therefor, and a charge of fire-extinguishing fluid.

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

JOHN GALVIN.

Witnesses:

EDNA H. LANTON,
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