No. 784,461. PATENTED MAR. 7, 1905.

J. D. WILLIAMS.

AUTOMATIC FIRE EXTINGUISHER.

APPLICATION FILED SEPT. 6, 1904.

Fig. 1.

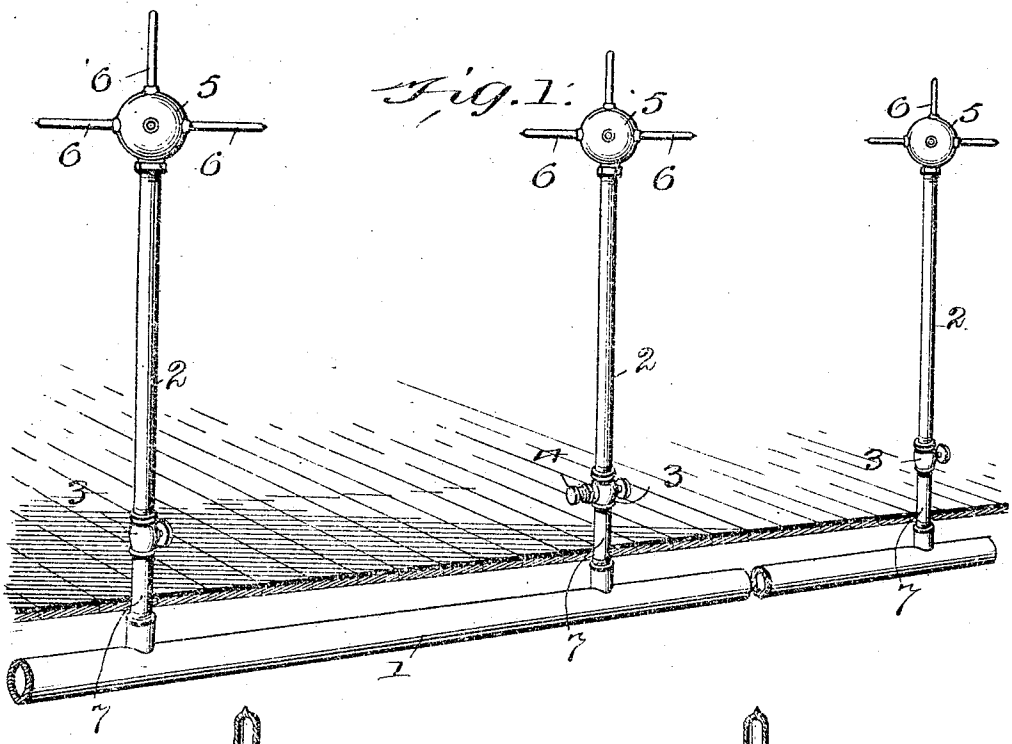


Fig. 2.

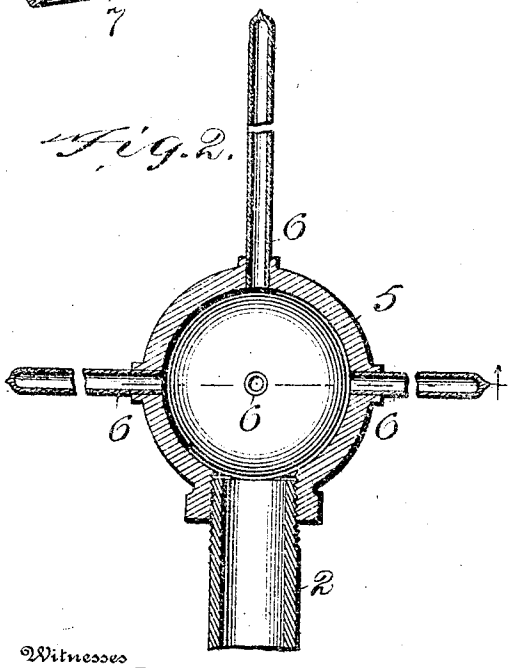
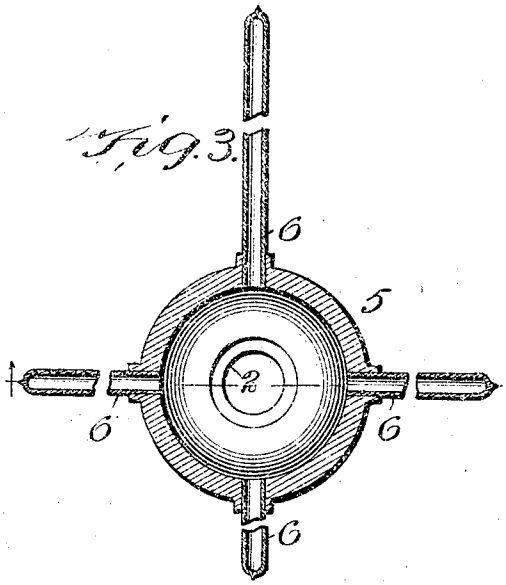


Fig. 3.



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UNITED STATES PATENT OFFICE.

JESSE D. WILLIAMS, OF PLYMOUTH, INDIANA.

AUTOMATIC FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 784,461, dated March 7, 1905.

Application filed September 6, 1904. Serial No. 223,508.

To all whom it may concern:

Be it known that I, JESSE D. WILLIAMS, a citizen of the United States, residing at Plymouth, in the county of Marshall and State of Indiana, have invented certain new and useful Improvements in Automatic Fire-Extinguishers; 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.

My invention relates to automatic fire-extinguishers; and it consists of certain novel features of combination and construction of parts, the preferred form whereof will be hereinafter clearly set forth, and pointed out in the claims.

The main object of my invention is to provide a safety appliance which will be very desirable and efficient for use in various situations and places and which when once installed will always be ready for instant use, the discharge of the water being automatically effected as a result of the heat from an incipient fire, causing the breakage of a fragile part or parts of my invention, said fragile parts being formed of glass or other substance equally responsive to expanding effects of heat suddenly applied thereto.

Other objects and advantages will be hereinafter made clearly apparent, reference being had to the accompanying drawings, which are made a part of this application, and in which—

Figure 1 shows a perspective view of one way of installing my automatic fire-extinguisher. Fig. 2 is a vertical central section of one of the extinguishers, while Fig. 3 shows a horizontal section of the globe and the horizontally-disposed arms or fragile extensions carried thereby.

For convenience of reference to the various parts of my invention and coöperating accessories numerals will be employed, the same numeral applying to a similar part throughout the several views, and, referring to the numerals on the drawings, 1 indicates a water-main or supply-pipe of proper size extending through a portion of the building to be supplied with water, and at intervals along said water-main or supply-pipe 1 connect a plurality of branches, preferably in the form of uprights, as indicated by the numeral 2, said uprights or branches being provided at a proper point, preferably near their point of union with the main, with a two-way or three-way valve 3, a threaded nozzle 4 of the valve being very useful for attaching a hose therewith, whereby at times a hose may be brought into service, if desired.

Upon the ends of the stand-pipe or branches 2 I secure the preferably spherical hollow members 5, provided upon the sides thereof with a plurality of openings in which are anchored fragile tubular extensions 6, which are completely closed at their outer ends, it being understood that any number of said fragile extensions 6 may be provided, so as to stand out radially around the spherical body 5 and, if desired, may reach directly upward therefrom, as shown in the drawings, and it is therefore obvious that the first effect of the flames of an incipient or newly-started fire will be to cause the breaking of the fragile extensions 6 and as a consequence start the flow of the water through the openings thus caused, and since all of the tubes will respond very quickly and become broken by the sudden expansion incident to the effect of heat a large number of streams will at once automatically begin to play upon the fire and cause the extinguishment thereof.

If deemed desirable, the base member or lower portion 7 of the stand-pipe may be made of flexible material, as a section of stiff rubber hose, of sufficient rigidity to hold the stand-pipe normally vertical, but which may be moved from side to side, so as to enable the operator to more accurately direct the flowing streams in any desired portion of the building. It is thought, however, that in most cases the section 7 may be made entirely rigid, the same as the remaining portion of the stand-pipe, and that desirable and satisfactory results will follow. By providing the form of valve illustrated a flexible hose, if desired, may be readily connected to the threaded nozzle 4 to insure a more efficient disposition and discharge of the stream of water.

It will be understood that the size of the various pipes and parts may be varied accord-

ing to the requirements in any case, the stand-pipes being of sufficient height to reach the dangerous places or point where fires might likely originate. It is furthermore obvious that suitable means may be provided for leaving the pipes and spherical bodies entirely filled with water or left empty in cases of cold weather, when damage might possibly result from freezing. The spherical bodies or hollow balls 5 may be attached to the stand-pipe by threaded unions or in any preferred way, and the same may be said with respect to the mounting of the fragile tubular extensions 6, coöperating with said hollow balls, and as the said fragile extensions may be arranged to reach out in any desired direction or directions it is obvious that a reliable means of protection against fires started through spontaneous combustion or other causes will be extinguished before any great amount of damage can possibly result, the water beginning at once to play upon the fire as soon as the tube of glass or other material employed becomes broken by sudden expansion thereof.

The size of the stream of water caused to play upon the fire will of course be determined by the size of the fragile tubular extensions, the object being to regulate the size of the parts so that only sufficient water will be released to put out the fire, with a minimum amount of damage from water.

It will thus be seen that I have provided reliably-efficient means for automatically extinguishing a fire at any point in close proximity to my appliance, and while I have described the preferred combination and construction of parts deemed necessary in materializing my invention I desire to comprehend in this application all substantial equivalents and substitutes that may be considered as fairly falling within the scope and purview thereof.

Believing that the construction and manner of using my invention have thus been made clearly apparent, further reference to the details is deemed unnecessary.

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

1. The herein-described automatic fire-extinguisher comprising the combination with the water-main, or source of supply, of a plurality of stand-pipes or extensions connected to said supply-pipe, each of said stand-pipes being provided with an enlarged terminal having a plurality of fragile extensions whereby said fragile extensions will be broken by a sudden rise of temperature and therefore release a stream or streams of water to be directed upon the fire, substantially as specified.

2. In an automatic fire-extinguishing apparatus, the combination with a supply-pipe, of a plurality of stand-pipes connected to said supply-pipe, a spherical, hollow terminal at the upper ends of said stand-pipes, a plurality of fragile extensions carried by said terminal, the outer ends of which are closed, the inner ends being open and in position to receive water from said terminal whereby when said extensions are broken, the water will be released and directed upon the fire, substantially as set forth.

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

JESSE D. WILLIAMS.

Witnesses:
ACHILLES NORTH,
JOHN BLAIN.