2 Sheets--Sheet 1.

E. HARRIS.

Apparatus for Extinguishing Fires.

No. 166,003. Patented July 27, 1875.

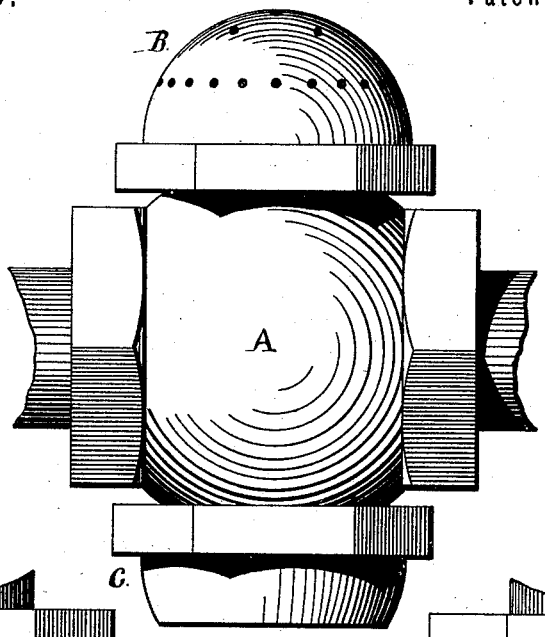

FIG. 1.

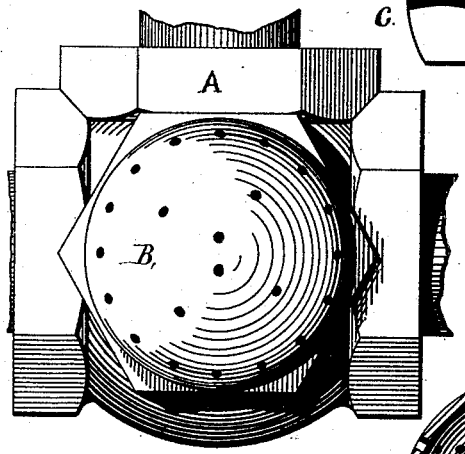

FIG. 2.

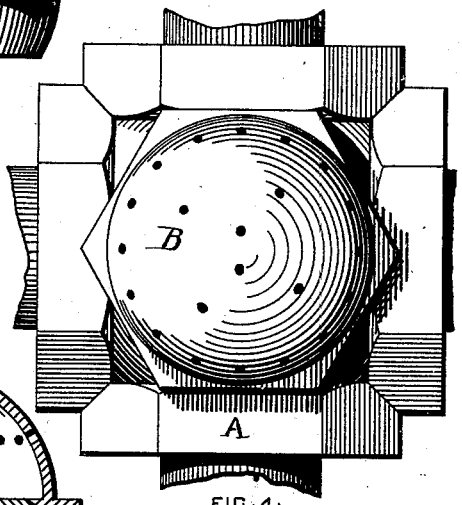

FIG. 4.

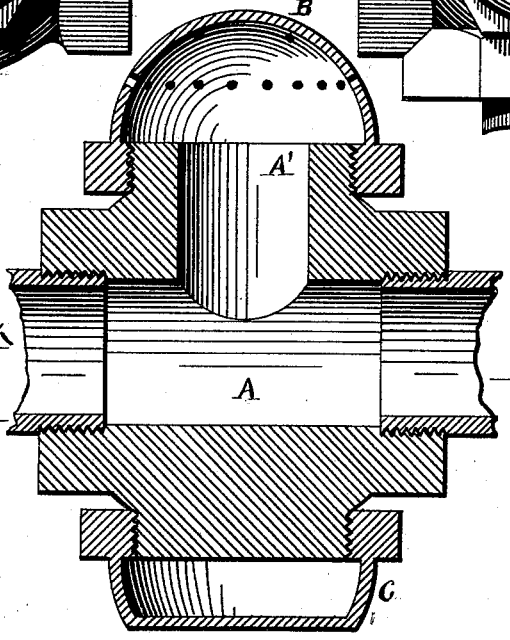

FIG. 3.

WITNESSES.

Walter B. Vincent

J. T. Rich

INVENTOR.

Elisha Harris

2 Sheets--Sheet 2.

E. HARRIS.
Apparatus for Extinguishing Fires.

No. 166,003. Patented July 27, 1875.

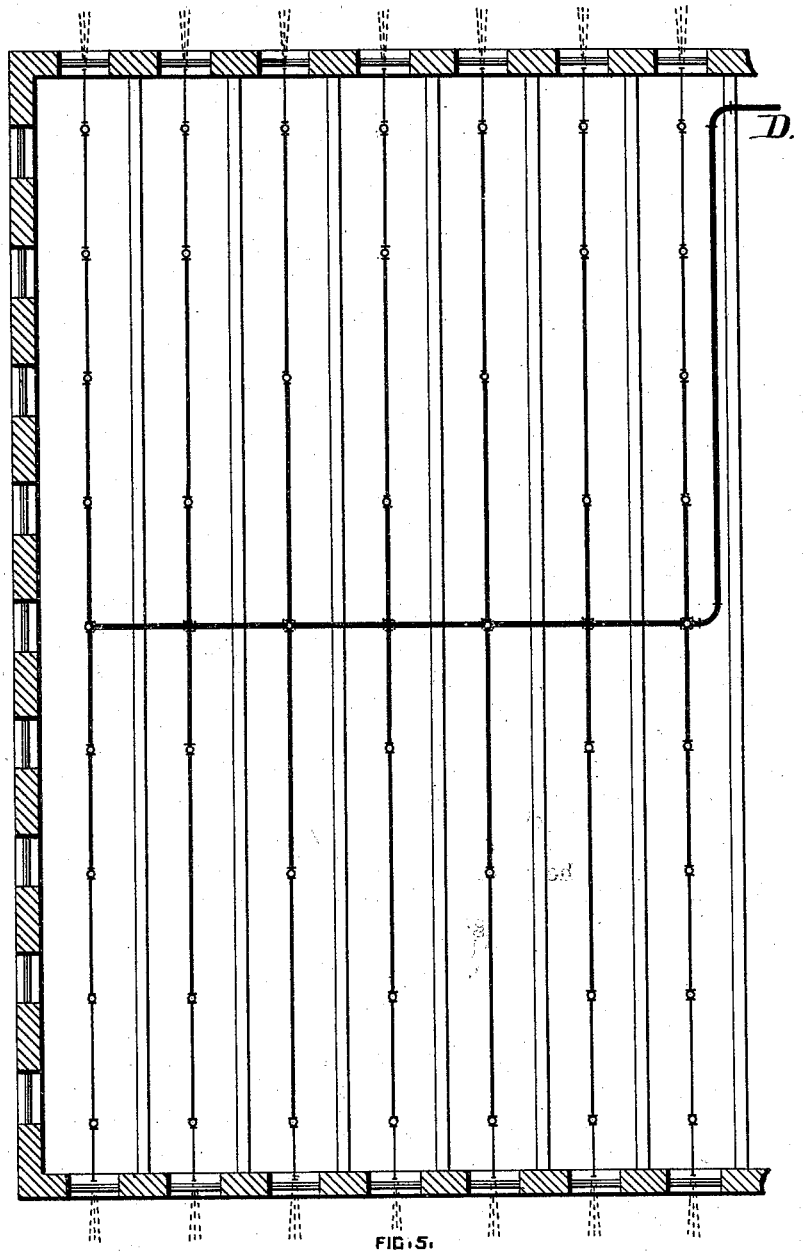

FIG. 5.

WITNESSES.

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UNITED STATES PATENT OFFICE.

ELISHA HARRIS, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN APPARATUS FOR EXTINGUISHING FIRES.

Specification forming part of Letters Patent No. **166,003**, dated July 27, 1875; application filed February 6, 1875.

To all whom it may concern:

Be it known that I, ELISHA HARRIS, of Providence, in the State of Rhode Island, have invented a new and useful Apparatus for Extinguishing Fires; and I do hereby declare that the following specification, taken in connection with the drawing making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a side view of coupling. Fig. 2 is a section of same. Fig. 3 is a top view of T-coupling. Fig. 4 is a top view of +-coupling. Fig. 5 is a plan of room.

My invention is more especially designed for the protection of mills and other manufacturing establishments from fire; and consists in the plan for sprinkling the same and the improved coupling for connecting the sections of piping, hereinafter described.

I provide each room with a series of pipes hung from the ceiling or beams, a plan of which is shown in Fig. 5, the size of the pipe, as well as the distance of the lines of piping from each other, being a matter within the judgment of the parties, having in view the character of the building and the nature of the work to be done therein. The sections of piping composing each line are joined together at regular intervals by couplings A, which are shown in Figs. 1 and 2, the different lines being also in like manner connected by a line of piping extending crosswise, as shown in Fig. 5, which establishes a free circulation of water throughout the whole. The couplings which connect the sections of piping, whether straight, cross, or T shaped, have an outlet, A′, at the top, over which is screwed a perforated metal cap, B, shown in Figs. 1, 2, 3, and 4, the perforations radiating from the center. Upon the under side of each coupling is a projecting screw-thread, which receives and secures the solid cap C in a place convenient for use, as hereinafter set forth, and also prevents from getting mislaid or lost. The lines of piping being connected by couplings made and capped as described, the whole is connected with a common supply-pipe, D.

The operation of my invention is as follows: Upon the breaking out of a fire the water is let on and forced into the pipes by such pressure as may be most conveniently used, and through the sprinklers or caps B. As the holes radiate from the center the escaping water will be thrown off toward or against the ceiling and fall upon the floor, covering a space larger or smaller, according to the size of the holes and the amount of pressure, the distance of the caps from each other, the size of the holes, and the amount of pressure being so regulated with reference to each other that the entire floor-space will be covered with water.

In order to effect the equal and thorough distribution of the water, I so arrange the couplings that those in one line of piping will be opposite a point equidistant from those in the other or next.

The size of the pipe may diminish as the distance from the cross or supply pipe increases.

In my invention I also so arrange the lines of piping that the ends thereof will be on a line with and slightly below the tops of the windows, as shown in Fig. 5, and nearly in contact therewith, the extremes being closed with a solid cap.

Inventions of this character and for this purpose being seldom put into operation, are liable to become clogged and unfit for immediate use, should occasion require it.

I avoid any chance of a failure in the operation of my invention by an occasional trial, which may be had in the following manner: The perforated caps are removed and the solid caps substituted throughout the room or building, the tops of the windows lowered, and the solid caps removed from the extreme ends of the pipes, when the water is turned on and all dirt or obstructions removed from the pipes, the water going out of the windows and leaving the room and machinery perfectly dry.

If the lines of piping cannot be conveniently placed on a line with the windows, sections of pipe of such form as may be required may be attached.

While the perforated caps are off they may be examined and the holes cleaned out, if found necessary, when the water is shut off, the perforated caps replaced, and the windows closed.

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

1. In combination with coupling A, having port A′, perforated cap B, and non-perforated cap C, both removable, substantially as and for the purpose specified.

2. The apparatus for extinguishing fire, consisting of sections of piping connected by couplings, as herein described, and forming a series of pipes, as shown in Fig. 5, so arranged, with reference to the windows or other convenient outlet, that the same may be tested and cleared by removing the perforated caps from the said couplings and closing the outlets in the same, all in the manner substantially as described.

ELISHA HARRIS.

Witnesses:
J. T. RICH,
WALTER B. VINCENT.