

N. S. BACH.

AUTOMATIC FIRE-EXTINGUISHER.

No. 173,434.

Patented Feb. 15, 1876.

Fig. 1.

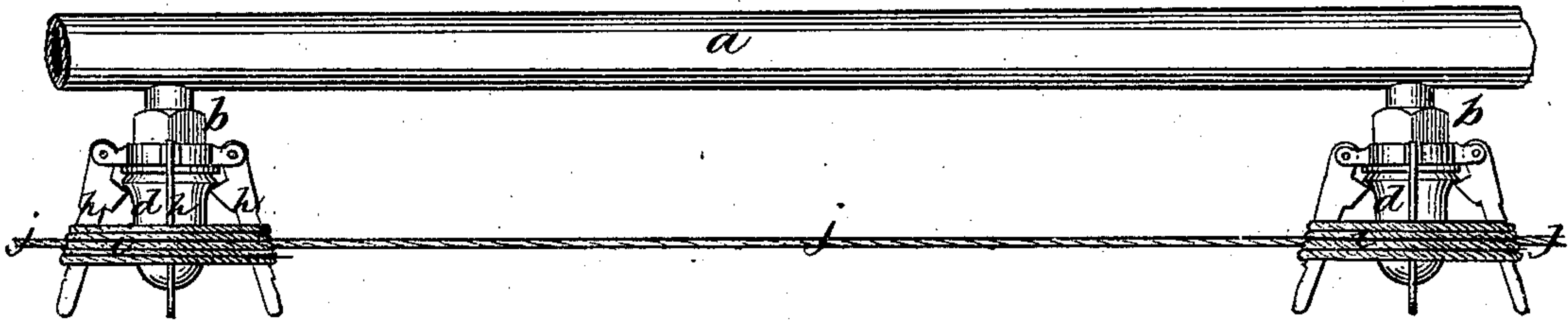
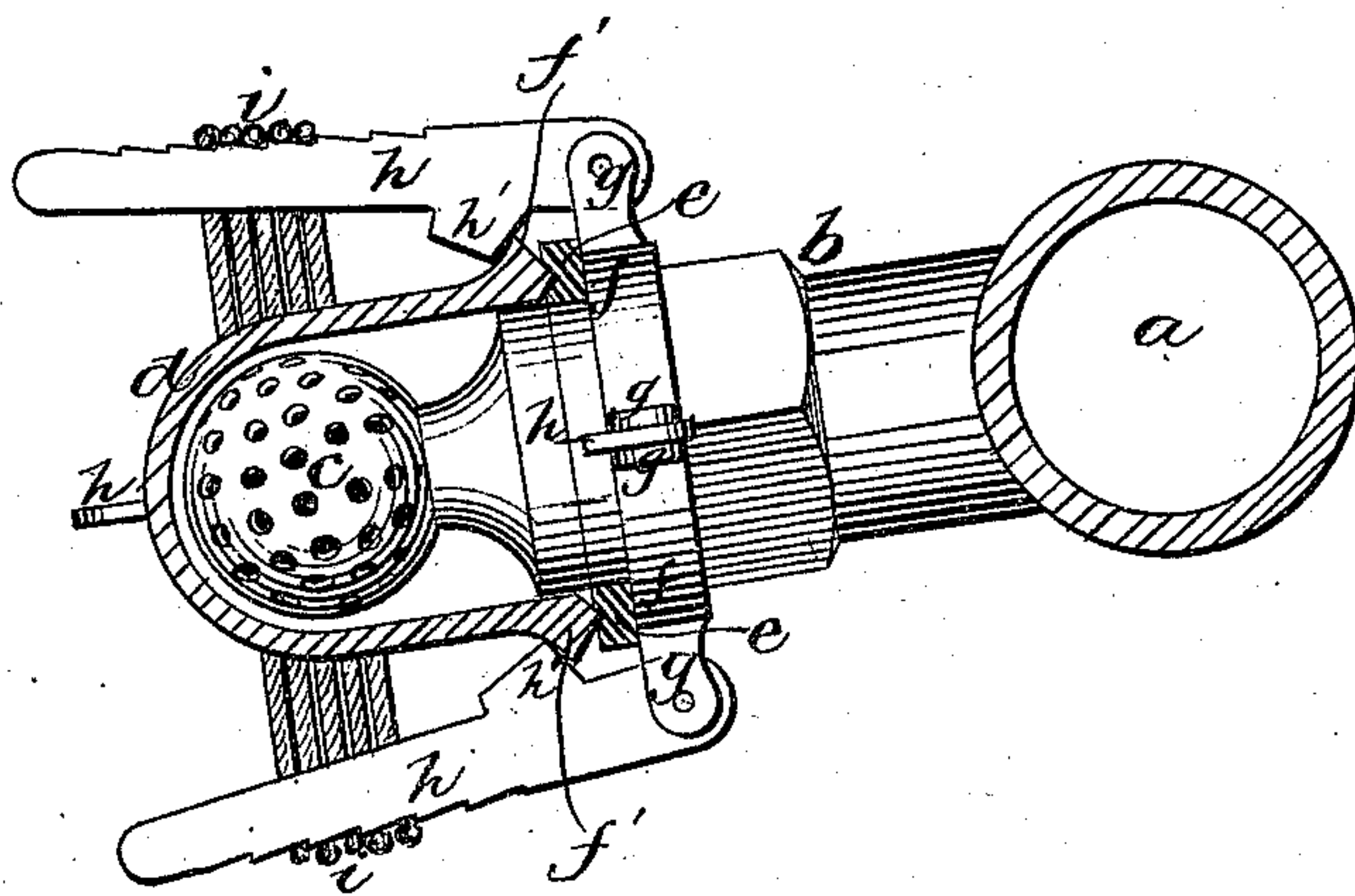


Fig. 2.



Witnesses.

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IMPROVEMENT IN AUTOMATIC FIRE-EXTINGUISHERS.

Specification forming part of Letters Patent No. **173,434**, dated February 15, 1876; application filed January 17, 1876.

To all whom it may concern :

Be it known that I, NICOLAS S. BACH, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain improvements in Automatic Fire-Extinguishers, of which the following is a specification:

In the accompanying drawing, forming a part of this specification, Figure 1 represents a plan view of my invention, and Fig. 2 is a sectional view of the same.

This invention relates to that class of fire-extinguishing apparatus employing a system of stationary pipes adapted to discharge water into an apartment or building when certain checks which usually prevent the escape of the water are removed by fire existing in the apartment or building. My invention has for its object to provide a simple and effective automatic apparatus for extinguishing fires; and to this end, it consists, first in a novel combination of parts, whereby caps are held over nozzles or openings in a stationary water-pipe (located in the upper part of an apartment) only by means of a material which is combustible, so that, in case of fire in the apartment, the combustible fastenings are ignited and consumed, and the caps either drop from the nozzles or openings of their own weight or are forced off by the pressure of the water, which finds exit and speedily extinguishes the fire. My invention consists, secondly, in the combination of a combustible cord or connecting medium with the combustible fastenings of the caps, said cord extending entirely around the room and including in its circuit all the points where the caps are held on the nozzles or openings, so that a fire in any part of the room near the walls will be likely to effect the uncovering of all the openings of the water-pipe; all of which I will now proceed to describe.

In the drawing, *a* represents a portion of a stationary pipe, which is supposed to extend around the upper portion of an apartment and to be connected with a reservoir of water. At suitable points along the pipe *A* I provide short branches *b*, which are preferably inclined

downwardly, and are provided with nozzles or openings, *c*, of any desired shape, a spherical perforated nozzle being preferred. *d d* represent caps adapted to fit over the nozzles *c*, each cap bearing at its inner end against a flexible washer or packing-ring, *e*, placed against a shoulder, *f*, on the branch *b*. The inner ends of the caps *d* are provided with outwardly-projecting beads or flanges *f'*. *g g* represent radial lugs located on the branches *b*, between the shoulders *f* and the main pipe, and to these lugs are pivoted arms *h*, of which I prefer to employ from two to four for each of the branches *b*. The arms *h* are adapted to turn freely on their pivots, and each is provided with a projection, *h'*, near its inner end. When the caps *d* are placed over the nozzles, the arms *h* are turned outwardly until the projections *h'* bear upon the beads or flanges *f'*, as shown in Figs. 1 and 2, in which position they are held by fastenings, *i*, of any suitable combustible fibrous material, wound upon the apparatus in such manner as to bear upon the outer edges of the arms *h*, which are preferably serrated to prevent the fastenings from slipping off. The projections *h'* of the arms *h* hold the caps *d* securely in place over the nozzles as long as the arms are held in the position shown in Fig. 2. When the arms *h* are released, however, those on the lower side swing downwardly, and the caps either drop from the nozzles or are forced off by the pressure of the water. It will be seen, therefore, that when the combustible fastenings *i* are consumed by fire, the caps will be released and the water rush into the apartment and be widely diffused by the spherical nozzles. I prefer to make the fastenings *i* of thread saturated with collodion and coated with gun-cotton. I connect all the fastenings of the series by a cord, *j*, composed of materials similar to those of the fastenings, and extending entirely around the room, so that fire near the wall in any part of the room will be imparted immediately to the fastenings of all the caps, and the latter will be released in rapid succession.

I claim as my invention—

1. The combination of the branches *b*, having the nozzles *c* and pivoted arms *h*,

the caps *d*, having the beads or flanges *f'* and the combustible fastenings *i*, all arranged and operating substantially as described.

2. The combustible cord *j*, combined with the combustible fastenings *i*, substantially as described, for the purpose specified.

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

NICOLAS S. BACH.

Witnesses:

SAML. M. BARTON,
C. F. BROWN.