

G. C. RAMSEY.
HOUSING FOR SPRINKLER HEADS.
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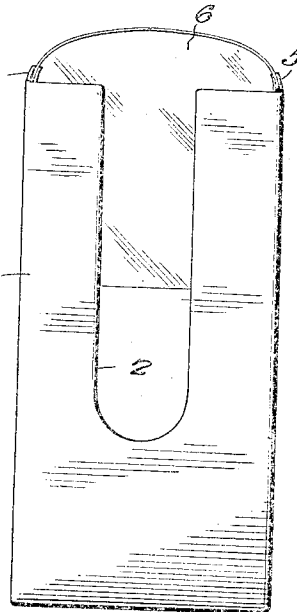
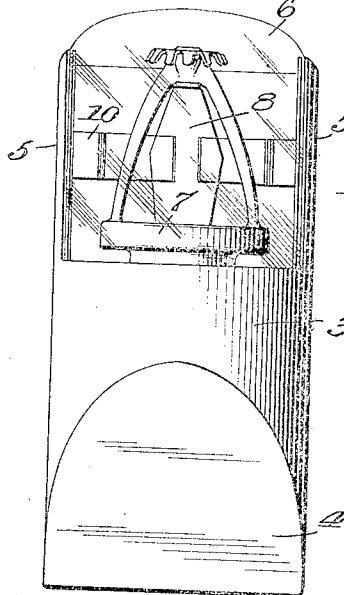
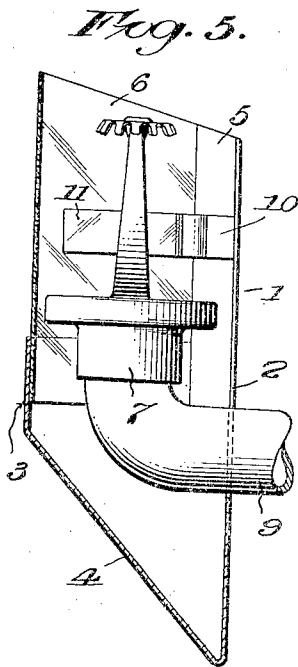
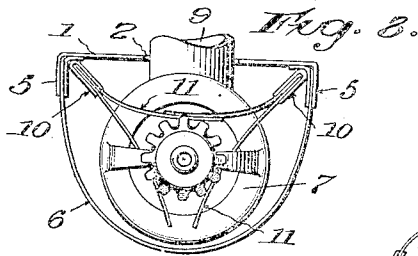
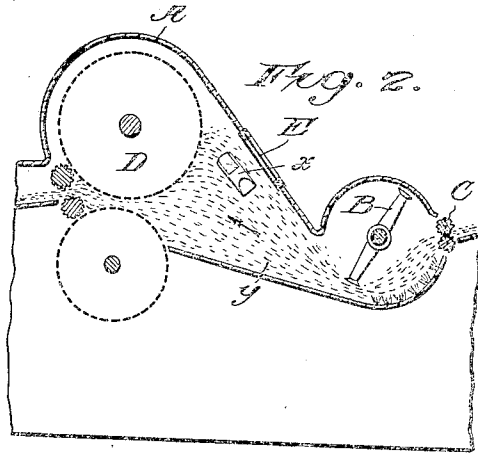
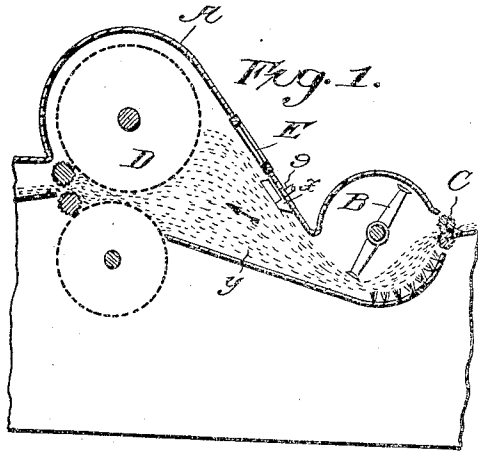


Fig. 4.

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HOUSING FOR SPRINKLER-HEADS.

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To all whom it may concern:

Be it known that I, GROVER C. RAMSEY, a citizen of the United States, residing at Gastonia, in the county of Gaston and State of North Carolina, have invented certain new and useful Improvements in Housings for Sprinkler-Heads, of which the following is a specification.

This invention relates to fire extinguishing devices, and more particularly to automatic sprinkler heads.

While in many of its aspects the invention is highly useful in other relations, it is especially designed for the protection of cotton spinning machinery of the picker room type, such as openers, breakers, pickers, and the like.

It frequently happens that the cotton passing through such machines takes fire, either as a result of a spark struck by the beater, due to the presence of foreign material in the cotton, or from some other cause, and it is therefore highly desirable to install automatic sprinkler heads in the machines themselves. However, attempts to introduce a sprinkler head into the chamber of the machines have resulted in the clogging or lodgment of the cotton fibers on the head to such an extent as to produce an objectionable thin streak in the bat being formed.

One object of the present invention, therefore, is to provide a housing so shaped as to inclose or shield the sprinkler head, and thus prevent lodgment of the cotton thereagainst, while at the same time permitting the effective escape of water in case of fire.

Another object is to shorten the time between the breaking out of the fire and the opening of the sprinkler head, and to this end I propose to construct the housing partly of highly inflammable semi-explosive material. The burning of this material serves to quickly melt the fusible link of the sprinkler head, while at the same time, the destruction of that part of the housing formed of such material permits the free escape of water.

In order that the invention may be readily understood, reference is had to the accompanying drawing forming part of this specification, and in which:—

Figures 1 and 2 are fragmentary conventional sectional views of a cotton breaker showing my invention applied thereto;

Fig. 3 is an end elevation of my improved

housing showing a sprinkler head in position therein;

Fig. 4 is a front elevation thereof;

Fig. 5 is a longitudinal section through the housing, the sprinkler head and pipe being shown in elevation; and

Fig. 6 is a rear elevation of the housing alone.

Referring to the drawings in detail, A designates the chamber or casing of a cotton opener, breaker, picker, or similar machine, through which a stream of cotton fiber is caused to flow by means of air currents. B designates the beater and C the feed rolls for delivering cotton to the beater. D designates the rotary screens on which the cotton is deposited and through which air is caused to flow by means of an exhaust fan (not shown). The loose cotton fiber, broken up by the beater, is carried by the air currents in the direction of the arrow, and substantially fills the casing, as indicated at y.

A sprinkler head inclosed in my improved housing may advantageously be placed in any one of several different positions within the casing A. It may be located on the under side of the upper wall adjacent the window E, as indicated in Fig. 1 at x, or it may be mounted directly on the frame of this window. Instead of locating the sprinkler head on the upper wall it may be mounted on one of the side walls, as shown in Fig. 2.

My improved housing, forming the subject matter of the present invention, comprises a flat rear wall 1, slotted at 2 so as to fit over the water pipe to which the sprinkler head is connected. The housing is provided with a semi-cylindrical or curved front wall 3, and with a beveled or inclined end wall 4, disposed at an acute angle to the back wall 1, and intersecting the front wall at an angle as shown in Figs. 4 and 5. The end of the housing opposite the wall 4 is left open.

At the side edges of the rear wall 1 are provided grooves formed by pairs of spaced offstanding flanges 5 and within these grooves are removably held the edges of a sheet 6 of celluloid or similar inflammable impervious material. This sheet is bowed, as shown in Fig. 3, to conform to the shape of the curved wall 3, and its end preferably fits within and under such wall, as illustrated in Fig. 5. The walls 1, 3 and 4 are preferably formed of sheet metal, and these,

together with the celluloid sheet 6 form a housing completely closed except at one end, and this housing entirely incloses the sprinkler head. This is designated by the reference numeral 7 and may be of any well-known or desired construction. It embodies a fusible link 8 and is secured to the end of a water pipe 9 which extends through the slot 2.

10 In order to hasten the melting of the fusible link 8 in case of fire, I preferably provide clips 10, in which are mounted one or more strips 11 of inflammable material, such as celluloid, these strips being disposed adjacent and preferably in contact with the fusible link. These strips, being of a highly inflammable nature, become quickly ignited and thus melt the fusible link and release the sprinkler valve.

20 In whatever part of the casing A the sprinkler head is mounted, it is essential that the inclined or beveled end 4 of the housing be disposed in the direction from which the cotton laden air currents flow, and that the semi-cylindrical body of the housing extend in a direction substantially parallel with such flow. When mounted in this way it will be apparent that the stream of cotton fibers can readily glide over the beveled or inclined end 4, and thus pass by and around the housing without clogging, the open end of the housing being directed away from such stream.

Upon the occurrence of fire within the casing 1 the inflammable sheet 6 of celluloid or the like becomes immediately ignited, and the heat from this burning celluloid, either alone or assisted by the heat from the burning strips 11, very quickly melts the fusible link 8 and releases the sprinkler valve. The sheet 6, serving as it does to form a part of the housing, would normally act as a barrier to prevent the free escape of water from the sprinkler head; the burning of this sheet, however, destroys such barrier and permits water from the sprinkler head to be freely sprayed to all parts of the casing. Thus the ignition of the celluloid sheet serves the double purpose of melting the fusible link and simultaneously removing a portion of the housing.

It will be understood that the rear wall 1 lies flat against the wall of the casing A, and that the slot 2 therein is thereby closed.

55 It will thus be seen that I have provided a device which will make it possible to effectively mount sprinkler heads within the casings of cotton machinery, and directly in

the path of the cotton laden air streams without interfering with the flow of the cotton, and have provided means for greatly reducing the time interval between the outbreak of the fire and the release of the sprinkler valve, and it is thought that the many advantages of my invention will be readily appreciated without further discussion.

What I claim is:—

1. The combination with a sprinkler head having a fusible element, of a housing permanently inclosing said head and fusible element, said housing comprising a sheet of combustible material adapted to be consumed by the occurrence of fire, prior to the melting of said fusible element.

2. The combination with a sprinkler head, having a fusible element, of an impervious housing inclosing the same, said housing being composed partly of semi-explosive material.

3. The combination with a sprinkler head, of an impervious housing inclosing the same, said housing being composed in part of a sheet of celluloid.

4. The combination with a sprinkler head, of an impervious housing surrounding the same, said housing being formed partly of sheet metal and partly of celluloid.

5. The combination with a chamber containing combustible particles in suspension, of a sprinkler head in said chamber, and a housing for said sprinkler head having an inclosing wall formed of material more highly inflammable than said particles.

6. The combination with a sprinkler head, of an impervious housing surrounding the same, said housing having grooves, and a sheet of inflammable material removably held in said grooves.

7. The combination with a sprinkler head, of a housing therefor comprising a sheet of highly inflammable material bent to form a semi-cylindrical shield held at its longitudinal edges.

8. The combination with a sprinkler head, of a semi-cylindrical housing inclosing the same, the curved wall of said housing being formed partly of a sheet of celluloid.

9. The combination with a sprinkler head, of a housing therefor having a flat back wall, a semi-cylindrical front wall, and a flat inclined end wall extending from said back wall across said cylindrical front wall at an angle thereto.

In testimony whereof I affix my signature. 115
GROVER C. RAMSEY.