No. 726,200. PATENTED APR. 21, 1903.

G. B. STOVER.

FIRE EXTINGUISHER FOR CARD OR PICKER MACHINES.

APPLICATION FILED FEB. 9, 1903.

NO MODEL.

Fig. 1.

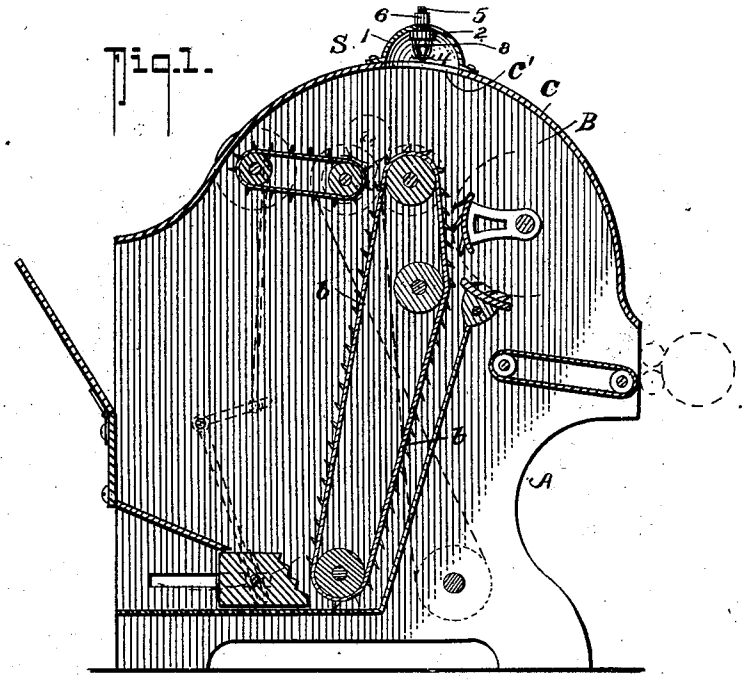


Fig. 3.

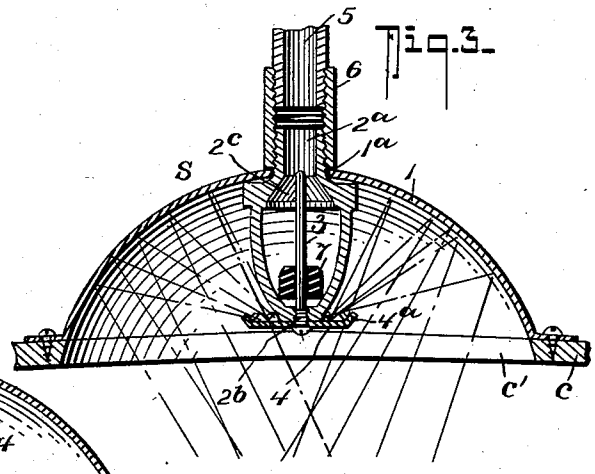


Fig. 2.

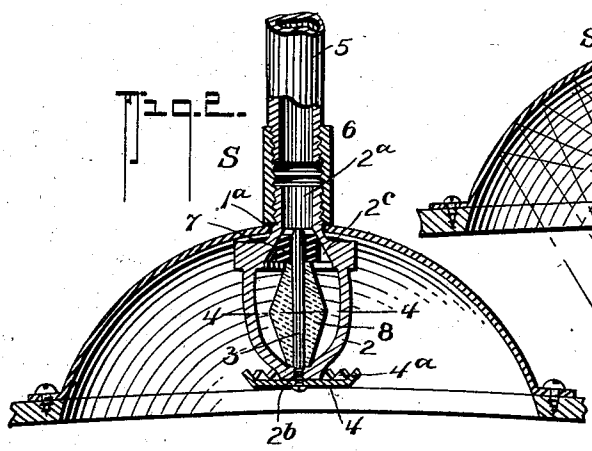
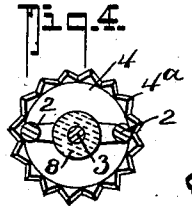


Fig. 4.



WITNESSES:

John T. Schrott

Louis Dieterich

INVENTOR

George B. Stover

BY

Fred G. Dieterich & Co.

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE B. STOVER, OF AMSTERDAM, NEW YORK.

FIRE-EXTINGUISHER FOR CARD OR PICKER MACHINES.

SPECIFICATION forming part of Letters Patent No. 726,200, dated April 21, 1903.

Application filed February 9, 1903. Serial No. 142,495. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. STOVER, residing at Amsterdam, in the county of Montgomery and State of New York, have invented certain new and useful Improvements in Fire-Extinguishers for Card or Picker Machines, of which the following is a specification.

In the present systems for protecting self-feed for cards, pickers, or other textile machinery by the use of automatically-operating sprinklers it is usual to locate the sprinklers outside of the feed at variable distances therefrom. Such methods of arranging the automatically-operating sprinkler devices with respect to the feeds for cards or picker-machines experience demonstrates are not reliable and do not meet with desirable results, for the reason that on account of their external disposition in case of fire within the feeds valuable time elapses before the fire starts off the sprinkler, and by reason thereof the fire usually gains such headway that frequently a number of sprinklers are set off, thereby causing great loss by fire and water, particularly the latter, as experience shows that seventy-five per cent. to ninety per cent. of the losses by partial fire in textile-mills is due to water.

My invention seeks to provide a new and improved arrangement of the feeds and the application of automatically-operating fire-extinguishing means therewith whereby the said extinguishing means can be conveniently and economically adjusted directly at the danger-point and within the feeds in a manner so as not to interfere with the proper operation thereof and the passage of the stock therethrough and which, furthermore, is so designed as to act directly on the fire without unnecessary delay and to automatically extinguish the fire with a minimum loss from either fire or water.

My invention in its more complete nature comprehends a certain improved arrangement of sprinkler, including a peculiar construction of distributing-cap which forms a heat collecting or concentrating space designed to support the sprinkler directly over the carrying-apron and in a plane above the upper end of the feedway and also to serve as a deflector means for distributing water over a large area of the apron and the feed-chamber, as well as forming a continuation of the cover of the feed; and in its still more subordinate features my invention embodies certain details of construction and peculiar combination of parts, all of which will hereinafter be fully explained, and specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of a feeder mechanism for card and picker machines with my invention applied. Fig. 2 is a vertical section of a portion of the feeder-cover with its heat-concentrated space and the sprinkler, the latter having its parts in their normal position. Fig. 3 is a similar view illustrating the fusible member of the sprinkler removed and the fluid-discharge open. Fig. 4 is a detail section on the line 4 4 of Fig. 2.

In the accompanying illustration of my invention, A designates a feeder for machines of any approved construction, and B the feed therefor, which comprises an endless apron *b*, which usually takes the stock from a feed-hopper and conveys it into the picker, card, or other textile machine to which it may be connected. Feeds as now usually arranged have the apron *b* run within a chamber closed by a cover-plate *c*, which renders the operation thereof uniform and without danger of accumulating extraneous substances.

Practical experience has demonstrated that the greatest danger-point from fire in machines of the kind stated lies within the feeds, and it is manifest that when the automatic sprinkler is arranged outside of the feeds a considerable heat is required to set off the first or nearest automatic sprinkler, and hence the fire burns such length of time that sufficient headway is then gained to set in operation a number of the sprinklers.

In the application of my invention the cover *c* is provided with a single opening *c'* at a point over the apron about midway the entrant and discharge ends of the feeder. This opening is covered by an inverted metal hood 1, which acts as a distributing-cap for properly deflecting the water-sprays back onto the apron and into the interior of the feed-chamber, and at the same time it serves as a continuation of the cover, and thereby prevents the ingress or egress of the air or other

substances at that point of the cover, and it more particularly provides, as it were, a supplemental space in a plane above the cover *c* in which the heat generated within the feedway is concentrated or collected whereby to act upon the sprinkler, which is contained within the said space, in a minimum amount of time after the fire breaks out within the feeder.

The cap 1 may be in the nature of an inverted hood, as shown, or of any other desired shape which will meet the requirements before stated, and the sprinkler devices (designated by S) are supported upon the hood and wholly within the space formed thereby and with the lower end thereof in a plane above the cover of the feed, whereby the said sprinkler devices will in no way interfere with a proper passing of the stock conveyed by the belt through the feed-chamber.

The sprinkler devices S include a threaded pipe-section 2^a, formed with a hanger-frame 2, the lower end of which has a bridge portion for sustaining a central rod 3, the lower end of which is threaded to engage the threaded aperture 2^b in the bridge-piece, and to the lower extremity of the rod is connected the small baffle disk or plate 4, which has the usual upturned serrated edges 4^a, whereby to deflect the stream-flow from the service-pipe 5 against the inner face of the hood or cap 1, as clearly illustrated in Fig. 3. The service-pipe 5 is joined with the pipe-section 2^a of the hanger 2 by a union-coupling 6, and the member 2^a has a valve-seat 2^c, with which engages a valve-plug 7, slidable on the rod 3 and normally held against the valve-seat 2^c by the fusible plug 8, mounted on the rod 3 and the hanger 2, as shown.

From the foregoing it will be apparent that by reason of the manner in which the sprinkler device is combined with the feed and the application thereof at the greatest danger-point within the feed, that in the event of fire breaking out within the said feed, the heat will be at once concentrated within the space beneath the distributing-cap and the fusible plug be acted on almost immediately, at any event, before the fire can gain such headway as to extend outside of the feed and the machine connected therewith, and hence the automatic discharge of the water will be with a minimum delay at the greatest danger-point and the fire confined entirely within the feed, and danger of setting off other sprinklers outside of the feed and the machines without cause therefrom is practically overcome.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. As an improvement in feeds for card, picker and like machines; in combination with the feed, including the apron and the cover above it, the latter having an opening; of a metalic hood mounted over said opening, and an automatically-operating sprinkler sustained in the said hood in a plane above the top of the feedway, as set forth.

2. In combination with the feed-cover having an opening; a metal hood over the said opening, said hood forming a heat-collecting space which communicates with the interior of the feedway, a hanger having a threaded pipe extending through the center of the head, said extension having a valve-seat, a valve for coöperating with the valve-seat, a fusible member mounted on the hanger for holding the valve normally against the seat, said hanger and its sustained parts being disposed wholly within the hood, a service-pipe and a coupling joining the latter with the hanger-frame pipe extension, all being arranged as set forth.

3. An improved means for automatically extinguishing fires within feeds for cards, pickers, and other textile machinery; comprising a cover member for the feed having an outwardly-extending hollow body which forms a heat collecting and concentrating space, at a point over the carrying-apron, the side walls of which body taper upward, an automatic sprinkler sustained from the center of the top of said hollow member, said sprinkler including a baffle or disk plate, at its lower end disposed in a plane above the top of the feedway and having its outer rim constructed to deflect the fluid upwardly and outwardly against the upwardly-tapering walls of the hollow member above it, all being arranged substantially as shown and for the purposes described.

GEORGE B. STOVER.

Witnesses:
EDWARD J. STOVER,
CHAS. C. WASHBURN.