No. 886,968. PATENTED MAY 5, 1908.

A. M. FULLER.

FIRE CURTAIN.

APPLICATION FILED JULY 21, 1906.

Fig. 1.

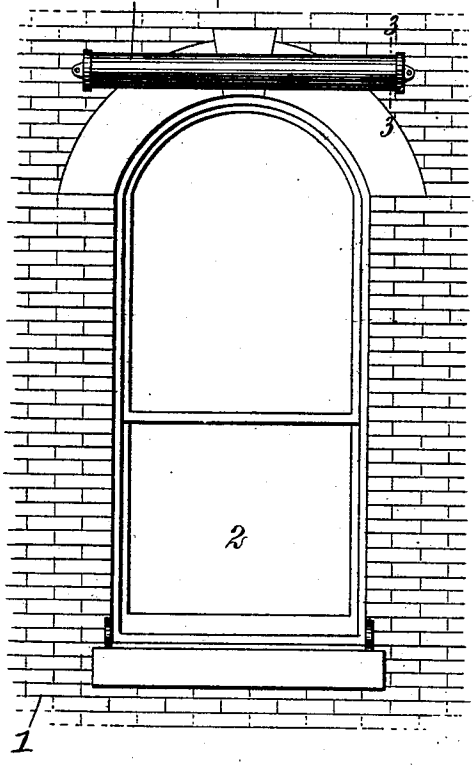


Fig. 2.

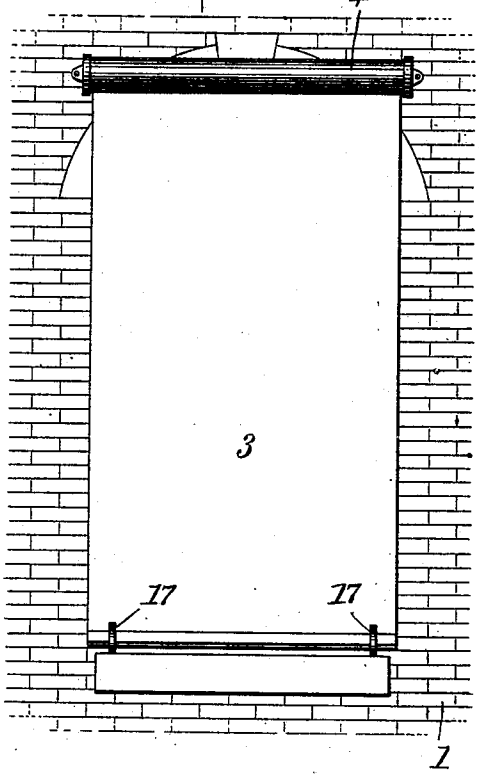


Fig. 4.

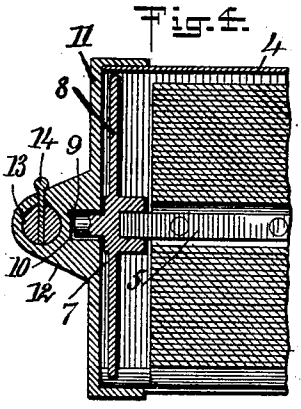


Fig. 3.

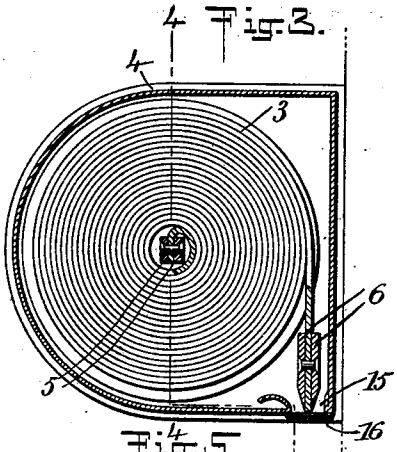


Fig. 5.

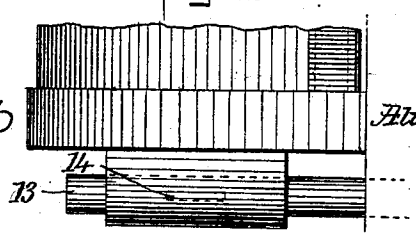


Fig. 6.



WITNESSES

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ALVARADO MORTIMER FULLER, OF THE UNITED STATES ARMY.

FIRE-CURTAIN.

No. 886,968. Specification of Letters Patent. Patented May 5, 1908.

Application filed July 21, 1906. Serial No. 327,171.

To all whom it may concern:

Be it known that I, ALVARADO MORTIMER FULLER, of the U. S. Army, a citizen of the United States, and a resident of St. Louis, Jefferson Barracks, in the State of Missouri, have invented a new and Improved Fire-Curtain, of which the following is a full, clear, and exact description.

My invention relates to the automatic fire-proof protection of openings in buildings, and comprises a fire-proof curtain of asbestos or other suitable material, arranged to automatically cover doors, windows and other openings, upon the temperature in proximity thereto reaching a predetermined degree.

The objects of my invention are to construct a curtain of the character described, which shall be more easily and readily attached to buildings, more simply constructed, and more perfectly protected from the destructive influences of the elements, than has heretofore been produced. I attain these objects by certain novel arrangements of parts, all of which will be hereinafter more fully described and specifically defined by the claims.

The preferred form of my invention is illustrated in the accompanying drawings, which form a part of this specification, and in which:

Figure 1 illustrates the window of a building with my invention applied thereto, the curtain being rolled; Fig. 2 is a view of the same window shown in Fig. 1 with the curtain in its lowered position; Fig. 3 is a sectional view of the curtain taken on the line 3—3 of Fig. 1; Fig. 4 is a broken longitudinal section taken on the line 4—4 of Fig. 3; Fig. 5 is a plan view of a portion of the curtain showing the means of securing the same to the wall of the building; and Fig. 6 is a side view of one of the pinch clips which are attached to the base of the window.

1 represents the wall of a building having a window 2 therein, 3 is the curtain of asbestos, and 4 the casing therefor, preferably made of heavy sheet steel and normally containing the curtain therein in a hermetically sealed state. This casing is circular at the front, conforming to the general shape of the curtain when rolled up, horizontal at the top and bottom and perpendicular at the back. When bent into shape the two edges of the case are turned, as shown, one back upon itself and the other into a position to engage the curtain during its latter convolutions. The casing is of slightly larger diameter than any part of the curtain roller.

One end of the curtain is fastened between steel strips 5, 5 of suitable size, which are slightly longer than the curtain, and are riveted together in countersunk holes, as shown in Fig. 3. The other end of the curtain is similarly secured between two steel strips 6, somewhat larger in dimensions than those before described and of a length equal to the width of the curtain. These strips form a weight for unrolling the curtain and are beveled at their lower edge, as shown in Fig. 3.

The curtain is wound around the steel strips 5, the projecting ends of which are received in squared sockets 7 formed in shield wheels 8, one at each end of the curtain, and one of which is shown in Fig. 4. On the side of each shield wheel opposite to the socket 7 therein is a projecting axle 9, which fits into a bearing 10 in a cap-piece 11 secured hermetically by a suitable soldering material over the end of the case 4. The outer end of this cap piece carries a hollow boss 12, which receives a steel wall pin 13 of suitable length and diameter upon which the curtain is supported when said pin is firmly driven into the wall. A linch pin 14 passes through slots in both the boss 12 and the wall pin 13, thus firmly locking these parts together.

The parts above described are assembled as follows. The case is bent into the shape stated, there being left a slight opening 15 through which the curtain may be rolled or unrolled, which opening, as will be seen from Fig. 3, is somewhat to one side of the axis of the curtain. A cap piece is then soldered to one end of the case, holding the same together. The curtain rolled, with its shield wheel on one end thereof is inserted in the case, the axle 9 of the shield wheel fitting into the bearing in the cap piece described. A second shield wheel is now placed on the other end of the curtain roll and the second cap piece soldered to the case. The case is now turned over and a strip of thin metallic alloy 16, fusible at any desired temperature, *e.g.* 175° F., is laid over the opening 15. This strip is soldered along its edges with a solder of similar low fusibility, and is only of sufficient strength when so soldered to support the curtain weight, which normally rests thereon and which consists of the securing strips 6. The case is thus hermetically sealed with the curtain therein.

On the base of the window casing, or to the

wall, are secured two steel pinch clips 17, 17. Each clip is secured at one end, and is bent into such a shape that the other end will be spaced from the casing or wall a distance somewhat greater than the width of the curtain weight, while its intermediate portion is held in contact with the wall or window casing at at least one point. As the curtain unrolls, the lower and weighted portion thereof engages the clip and being guided by the curved form of its free end forces itself between the intermediate portion of the clip and the wall or window casing. The clip thus serves to check the fall of the curtain and to secure it firmly in position against the wall or window casing.

When the curtain has been unrolled, it may be again rolled up, upon raising the weight 6, by any well known spring means, or one of the cap pieces may be unsoldered, and the curtain removed and rewound by hand and then replaced in the casing as described.

I do not desire to be limited to the specific form of invention disclosed, and intend that my claims shall cover such modifications of my device as shall fall within the scope of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In an automatic fire protector, a casing having an opening in the rear portion of its bottom, an easily fusible closing means for said opening, a roller mounted to turn in said casing, a curtain wound on said roller and having a weight at its end for unrolling the curtain, the said weight being beveled at its lower edge and normally resting on the said fusible closing means, and means for checking the motion of the curtain and securing the same in position when unrolled, the said means comprising a spring device secured in proximity to the base of the curtain when unrolled, the said device having a portion normally in engagement with the supporting surface and between which and the said supporting surface the beveled weight at the end of the curtain is adapted to force itself.

2. In an automatic fire protector, a casing having an opening in its bottom, a curtain in said casing and adapted to pass through said opening, an easily fusible closing means for said opening, a weight on the lower end of the curtain for unrolling the same, the weight having its lower edge beveled, and pinch clips secured to a support and located in proximity to the base of the curtain when the latter is unrolled, the said clips having a portion normally in contact with said support and between which portion and the support the beveled weight at the lower end of the curtain is adapted to pass.

3. The combination with a wall having an opening therein, of a curtain for said opening having a weight at its lower end, the weight being beveled at its lower edge, and a clip located at the base of said opening, the said clip being secured at its lower end to a support and having its upper end bent out of contact with said support, a portion of the clip between its ends being normally in contact with the support, the said weight, when the curtain unrolls, being adapted to engage the clip and force itself between the said intermediate portion of the clip and the support, whereby said curtain is secured in the unrolled position over said opening.

4. In a window, a window casing, a curtain secured at one end thereof, the said curtain having strips at its lower end forming a weight for unrolling the curtain, the said weight being beveled at its lower edge, and a pair of pinch clips secured at the opposite end of the window casing, said clips being respectively secured at one end to the casing, the free end being bent out of contact with the casing, the portions of each clip between its ends being bent in such a manner as to be held in contact with the casing at at least one point, the said weight when the curtain is unrolled being adapted to pass between the outward bent ends of the clips and the casing and force itself between the said intermediate portions of the clips and the casing, whereby the fall of said curtain is checked and the curtain is secured in position over said window.

5. In a fire protector, a curtain clamped at each end between two metallic strips, the strips at the lower end of the curtain being beveled at their lower edge, and forming a weight for unrolling the curtain, and spring clips secured at their lower ends to a support and located in proximity to the base of the curtain when the latter is unrolled, each clip having a portion between its ends normally held in contact with the support and between which and the support the weight is adapted to force itself, the upper or free ends of said clips being curved outwardly to guide the said weight.

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

ALVARADO MORTIMER FULLER.

Witnesses:
J. U. HYNIK,
E. L. COX.