

(No Model.)

2 Sheets—Sheet 1.

G. H. FOX.

APPARATUS FOR PREVENTING THE SPREAD OF FIRES.

No. 461,913.

Patented Oct. 27, 1891.

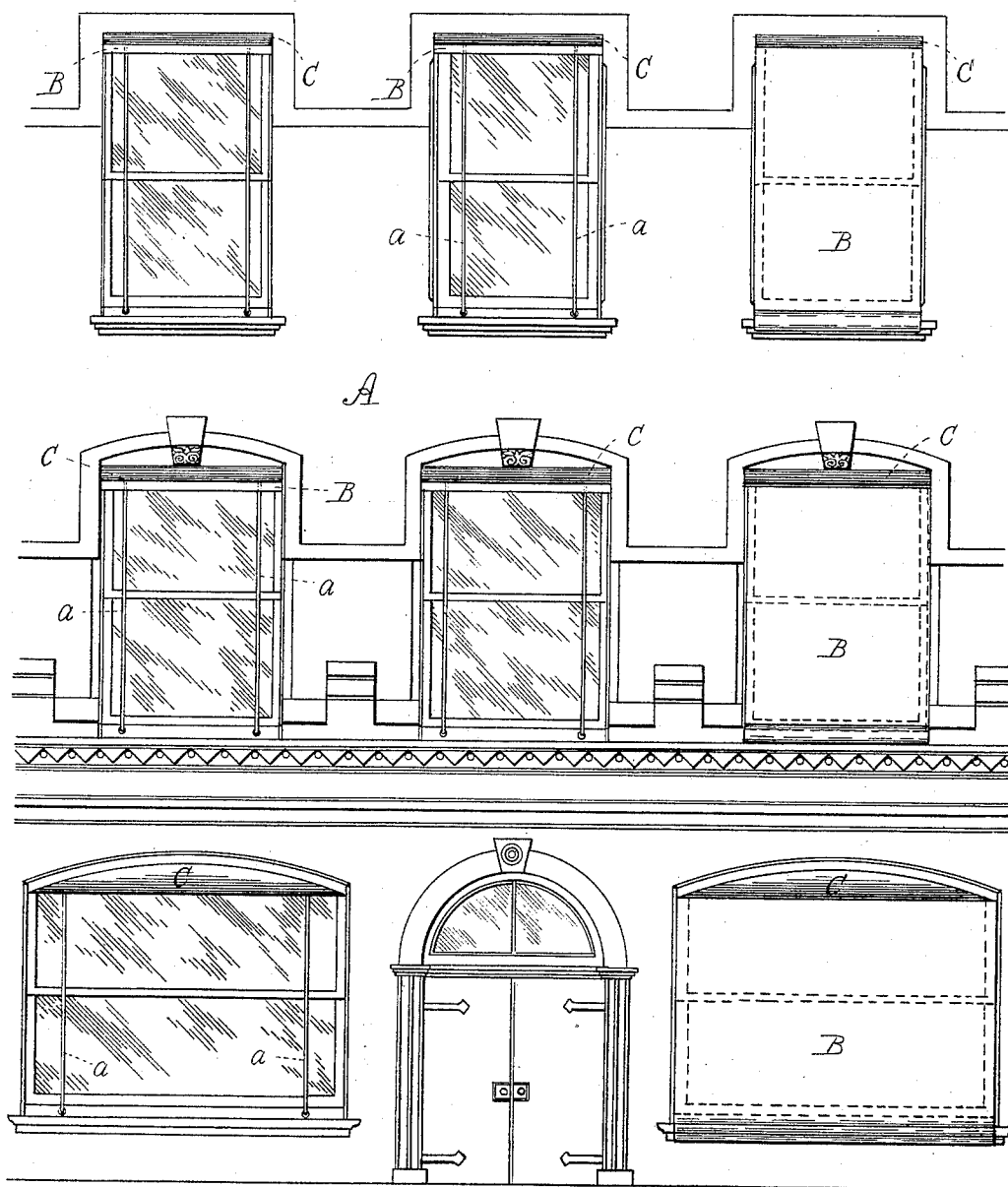


Fig. 1.

Witnesses.

Frederic C. Stanwood

William Foster

Inventor.

George H. Fox.

by H. C. Lodge Atty.

(No Model.)

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Fig. 3.

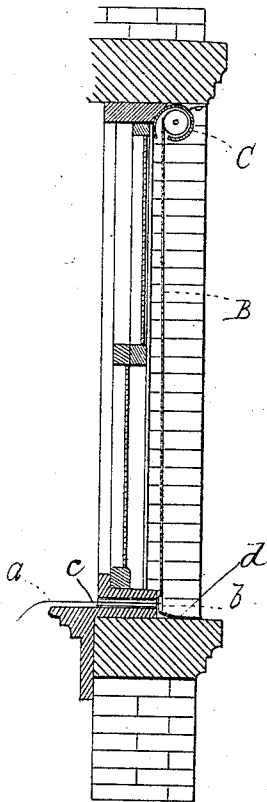
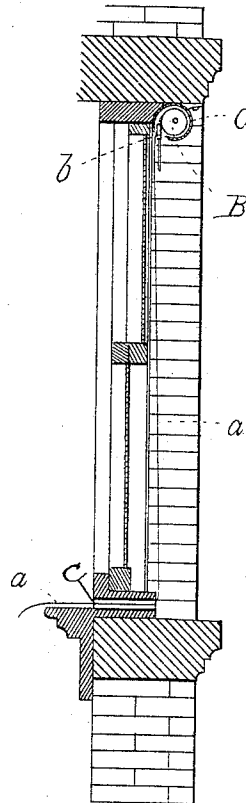


Fig. 2.



Witnesses.

Francis C. Hammond
William Foster

Inventor.

George H. Fox.
by H. L. Lodge Atty.

UNITED STATES PATENT OFFICE.

GEORGE H. FOX, OF BOSTON, MASSACHUSETTS.

APPARATUS FOR PREVENTING THE SPREAD OF FIRES.

SPECIFICATION forming part of Letters Patent No. 461,913, dated October 27, 1891.

Application filed December 19, 1889. Serial No. 334,251. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. FOX, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Apparatus for Preventing the Spread of Fires; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The purpose of this invention is to prevent the spread of fires in cities, where high buildings in narrow streets permit the flames to enter through the windows in buildings opposite where the fire exists, and incidentally occasioned by the breaking of the glass then subjected to intense heat.

My invention is intended to cover the glass exteriorly; and it consists in the employment of a non-combustible or fire-proof curtain arranged exteriorly of the building at each window, and further adapted to be operated within the building, and likewise avoids the necessity of opening said windows.

Moreover, my invention is embodied in a shield, by which the curtain is protected from the effects of rain or snow, as likewise in the arrangement by which the curtain may be brought in contact with and overlaps the lower sill of the window.

The drawings represent in Figure 1 a façade of a building equipped with an arrangement under my invention. Fig. 2 is a vertical section of a window provided with a fire-proof curtain, the latter being rolled up. Fig. 3 is a similar view showing the curtain unrolled in its active position.

In consequence of the disastrous conflagrations arising from the spread of fires from the buildings burning across the street to the buildings opposite, such spread being chiefly due to the breaking of the glass in the windows of the buildings threatened, as likewise the inability of the fire apparatus to protect the exterior of the said buildings, due to the intense heat, I propose to adopt a shield or curtain of fire-proof material applied to each window. Hence, when danger arises such

curtains are to be operated from within, and thereby protect the glass from heat and prevent its cracking, followed by breaking, which permits entrance of the flames.

In the present instance the façade of a portion of a building is shown at A, provided with curtains B, for carrying out my invention. The said curtains, preferably non-metallic, to be made of any good non-combustible or fire-proof material, such as asbestos, are to be flexible and to be located exteriorly of the window at the top of the latter. This non-combustible material may be matted or felted after the style of asbestos sheets for covering steam-pipes, or it may be interwoven or intermeshed with a flexible coarse-mesh wire-cloth, the non-combustible material to completely cover the latter. In this way the strength of the curtain is increased, while its flexibility and non-combustible properties are not affected. Such curtains, as before premised, being flexible, are adapted to roll or unroll, as occasion requires, while to protect them from the weather and enable them to be operated at all times I have inclosed them within a shield C, whereby water or snow is prevented from entering, while the curtain is always in readiness to be operated. I prefer to have the curtain exteriorly of the windows, since the glass in the latter can be fully protected from the effects of heat, while the window remains tightly closed and no inward draft can be produced to draw hot cinders or flame within the building threatened, or which is exposed to a burning building just opposite or in proximity thereto.

The protecting shield before mentioned is preferably of metal and is a volute in cross-section, such shield to extend across the full width of the window and to be permanently secured to the building. For convenience of equipping a building the curtain is properly mounted within the shield, and the only requirement is that the shield shall be made a fixture upon the building in its designated place. To operate the curtain, wires *a a* extend from each side of the curtain and pass within the building through the window-sills. The latter may be fitted with a metallic tube or tubes *c c*, in order that the wires may be passed more readily therethrough and operated in controlling the curtain.

In order to avoid defacing or cutting the building and to enable the curtain to fit snugly down upon window-sill and protect the latter, I have furnished the curtain with the usual "stick" or "curtain-bar," so called, at *b*. This bar is to be placed at some distance above the lower edge of the curtain. Thus the latter can be drawn down into place by means of the operating-wires, which may pass through the window-sill, while that part of the curtain or loose flap *d* below the bar will rest upon and conceal the sill proper and prevent it from becoming heated.

In the application of a curtain to a window semicircular at the top I propose to change the form of the shield, and make the latter of such form as to fit the semicircular portion. Such surface of the shield may then be ornamented to produce a good architectural effect.

By aid of protecting curtains, as above described, every window in a building can be easily guarded, while the said curtains can be operated from within, even when the conditions are such as to prevent their being operated from without. Furthermore, in almost every instance rigid swinging shutters exteriorly of a building mar the appearance, while projections on the building prevent their shutting back properly. On the other hand, if said shutters are applied interiorly, they do not prevent the window-glass from breaking. In my method the glass is not only shielded from falling obstacles, but is protected from the heat, which is the usual cause of breakage.

I do not claim a curtain of non-combustible material; nor do I claim the manner of rolling up or unrolling, as I am aware such fea-

tures are old; but, so far as my knowledge goes, it is new to provide a fire-proof curtain of the construction which I have described in order to prevent the heat of a burning building from destroying the glass in another building in immediate proximity thereto.

What I desire to claim is—

1. The improvements in means for protecting from intense heat window-glass in the façade or front walls of a building, consisting of a non-combustible continuous matted sheet or curtain having a loose flap at the bottom to overlap the window-sill, said flap being an integral part of the curtain and formed by the curtain-stick arranged transversely of the curtain at some distance from its lower edge, said curtain arranged exteriorly of the window and operated from within the building to roll or unroll, substantially as herein described.

2. In combination with a window-frame, an imperforate flexible matted incombustible sheet or curtain exteriorly thereof, a shield to inclose said curtain when in a coiled condition, operating-wires which pass interiorly of the building to roll or unroll said curtain, and a curtain-bar some distance from the bottom edge of the curtain adapted to rest upon the sill and allow that part of the curtain below said bar to extend beyond and conceal the window-sill, substantially as and for purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEO. H. FOX.

Witnesses:

H. E. LODGE,
FRANCIS C. STANWOOD.