

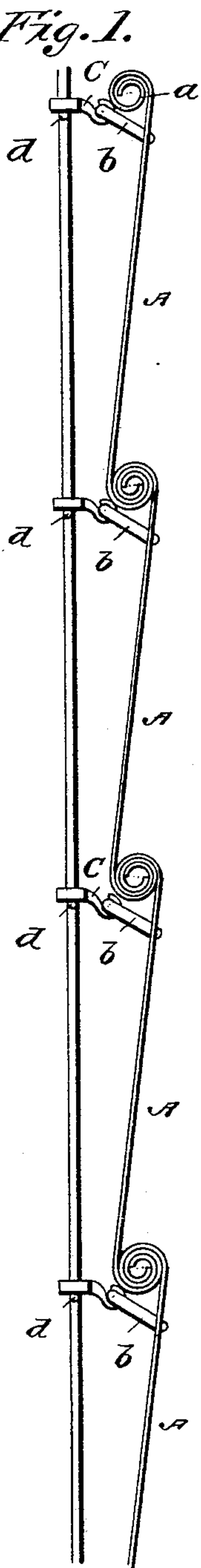
(No Model.)

H. G. MILLER.  
FIRE CURTAIN.

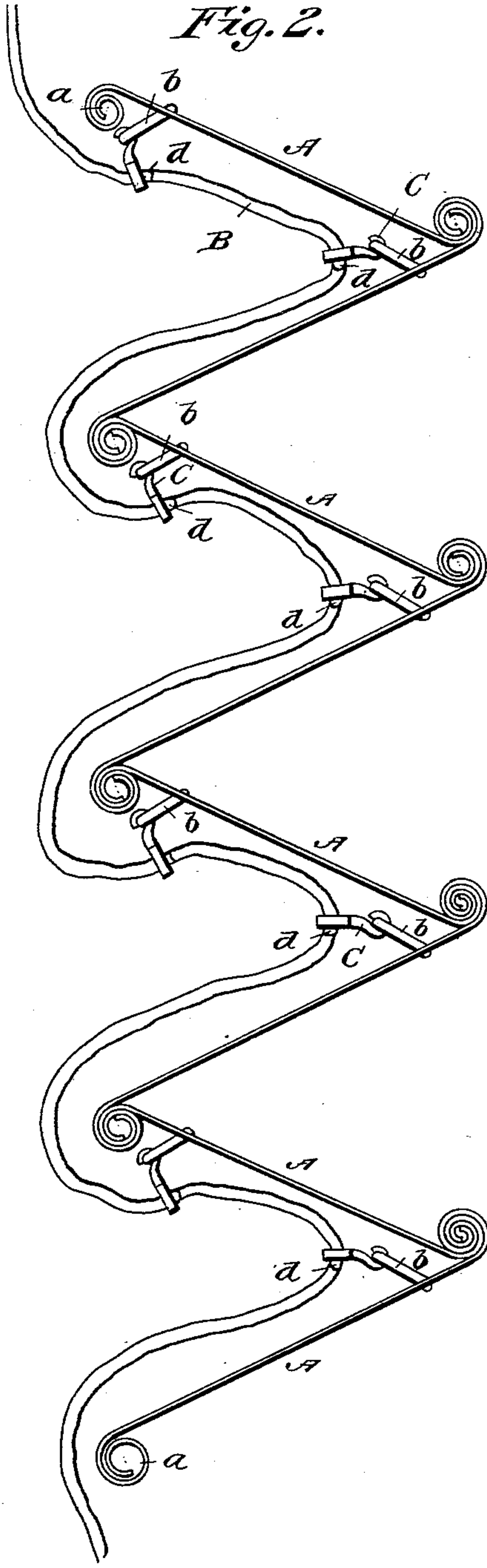
No. 411,163.

Patented Sept. 17, 1889.

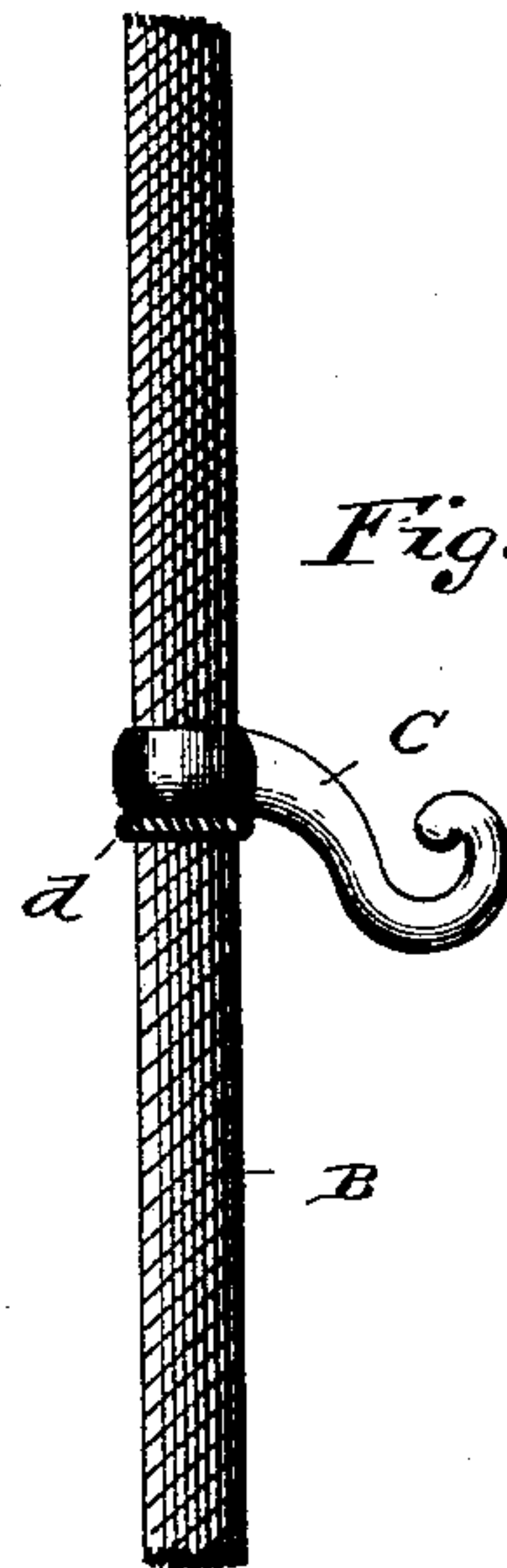
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses

*E. F. Ashell*  
*J. E. Dupin*

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*H. G. Miller.*  
By *his* Attorney *James Shuchy*

# UNITED STATES PATENT OFFICE.

HARRY G. MILLER, OF WINONA, MINNESOTA.

## FIRE-CURTAIN.

SPECIFICATION forming part of Letters Patent No. 411,163, dated September 17, 1889.

Application filed June 24, 1889. Serial No. 315,374. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY G. MILLER, a citizen of the United States, residing at Winona, in the county of Winona and State of Minnesota, have invented certain new and useful Improvements in Fire-Curtains; and I do 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.

This invention has relation to a device which I shall denominate a "fire curtain" or "shield;" and it has for its object the provision of means whereby a structure may be protected from fire of an adjoining structure or adjacent one.

The invention will be fully understood from the following description and claims, when taken in connection with the annexed drawings, in which—

Figure 1 is an edge view of my improved curtain, showing the same in an open position attached to the sustaining wire or rope and ready to be placed in front of a structure to be protected. Fig. 2 is a similar view with the sections partly folded; and Fig. 3 is a view of a portion of the wire or cable for sustaining the curtain, showing a hook and eye in position.

In carrying out my invention I take a sufficient number of plates A, of metal or other suitable material rendered non-combustible, and form a hinge-joint at their parallel horizontal edges. This joint is preferably formed by giving the opposite edge of each plate one and one-half turn, as shown at *a*, in a spiral form, so that the pieces or plates may be connected by sliding one of the coiled edges within the other. By this form of joint the plates will always remain closed at the points of connection and exclude fire therefrom.

Each plate is provided on its inner side near its upper edge and at a suitable point with an eye *b*, whereby the same may be attached to a hook or the like carried by the wire or cable B. This cable B, which may be composed of wire or any suitable material rendered fire-proof, should be sufficiently long to extend the combined height of the plates A when in an open or closed position,

so that the said cable may fold with the plates in a compact form when the curtain is not in use.

The wire or cable B is provided with a sufficient number of hooks *C*, there being one for each eye secured to the plates, and the hooks may be allowed a play on the cable and be stopped by downward movement by a stop or enlargement *d* thereon. It is obvious that the hooks may be secured sufficiently firm to the cable to dispense with the use of these balls or projections to form stops. The plates A may be of any suitable length and width, and any number of cables may be employed, according to the length of the plates.

In operation, when it is desirable to protect a building, lumber-pile, or the like from an adjoining fire, it is simply necessary for a person to take hold of one end of the cable and secure it to the top of the place to be protected, allowing the plates to drop or unfold so as to form a curtain between the structure to be protected and the fire. Water may then be kept playing on the curtain, or if the curtain is rendered thoroughly fire-proof it is not necessary that any water should be used.

This device is very simple in construction. It may be manufactured at a very small expense, requiring but little experience to use it, and a large curtain may be folded into a parcel for flat and small contour for transportation.

From the construction illustrated it will be seen that the action of the fire upon the joints is resisted by the lodgment of water upon them and by the water finding its way inside thereof, the joints serving as a seal against fire.

Each plate of the shield or curtain is secured independently to the several cables at the proper point so as to sustain the same in an operative position.

Having described my invention, what I claim is—

1. A fire shield or curtain composed of plates of non-combustible or fire-proof material, the said plates being hinged together, and wire or cable connected to the rear sides of the plates and adapted to fold with the plates



and unfold to sustain the plates in an open position, substantially as specified.

2. A fire-proof curtain composed of a series of plates of non-combustible or fire-proof material, a wire or cable secured to the upper portion of each plate, and suitable means for connecting the said cable to the plates, substantially as specified.

3. In a fire-proof curtain, the combination of plates of fire-proof or non-combustible material hinged together by a close joint, eyes

secured to the upper portion of each plate, a wire or cable, and hooks carried by the said wire or cable and adapted to engage the eyes in the plates, substantially as specified.

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

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HARRY G. MILLER.

Witnesses:

C. M. GOSNELL,

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