No. 869,447 PATENTED OCT. 29, 1907.

E. H. McCLOUD.

FIRE RESISTING CURTAIN AND CHANNEL THEREFOR.

APPLICATION FILED FEB. 2, 1906.

2 SHEETS—SHEET 1.

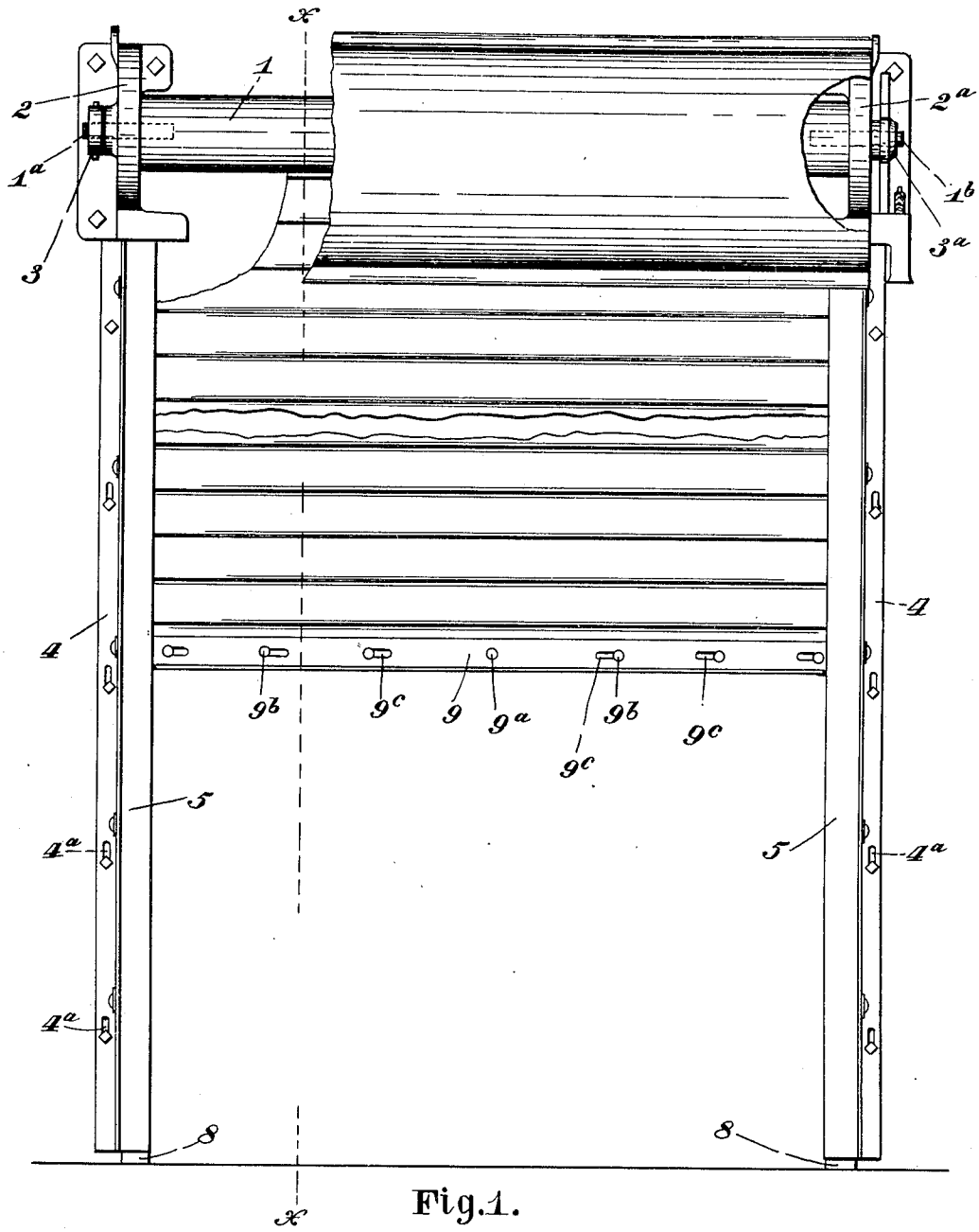



Fig. 1.

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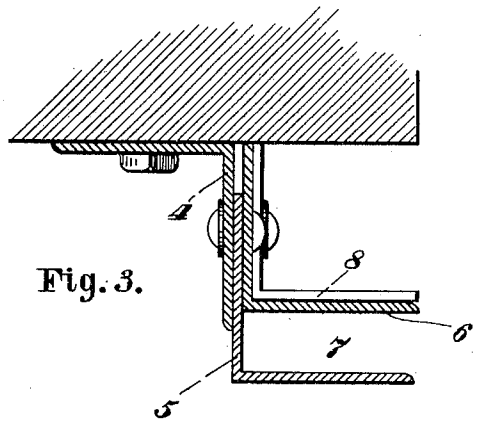



Fig. 3.

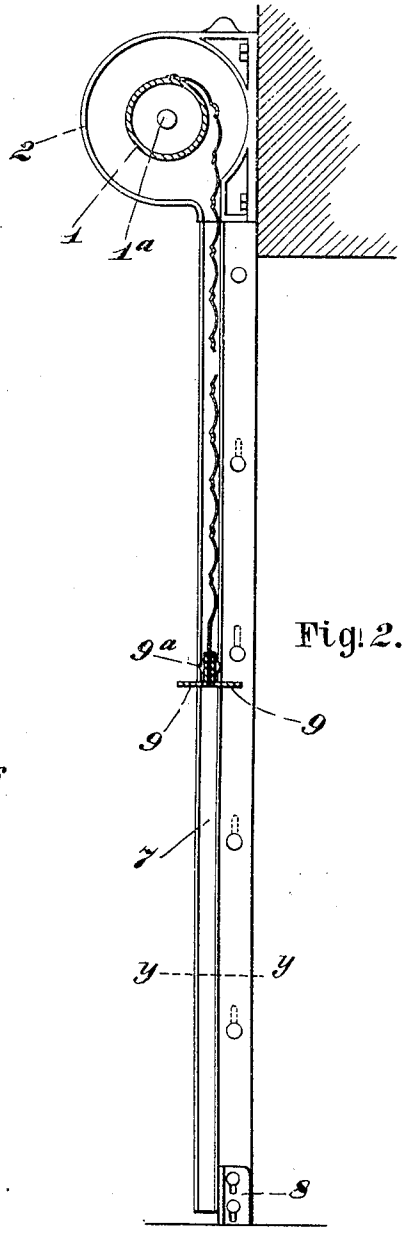



Fig. 2.

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# UNITED STATES PATENT OFFICE.

EDWARD H. McCLOUD, OF COLUMBUS, OHIO, ASSIGNOR TO THE KINNEAR MANUFACTURING COMPANY, OF COLUMBUS, OHIO, A CORPORATION OF WEST VIRGINIA.

## FIRE-RESISTING CURTAIN AND CHANNEL THEREFOR.

No. 869,447. Specification of Letters Patent. Patented Oct. 29, 1907.

Application filed February 2, 1906. Serial No. 299,218.

*To all whom it may concern:*

Be it known that I, EDWARD H. McCLOUD, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Fire-Resisting Curtains and Channels Therefor; 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.

When a metallic fire resisting curtain roller weighted with a curtain becomes very hot there may be a tendency in it to sag and pull out at its bearings.

One of the objects of the present invention is to prevent this.

Another object of the invention is to provide an improved construction of curtain channel or frame to prevent buckling thereof and formation of openings around which flame and sparks might pass. An advantage incident to this feature of improvement also is that the channels are kept straight and true so that the curtain will run freely.

A third object of the invention is to provide for expansion of the angle irons or other bars attached to the lower end of such a curtain so that the curtain or bar or bars at that place shall not warp or buckle when subjected to abnormal heat.

The invention consists in the construction hereinafter described and claimed.

In the accompanying drawings—Figure 1 is a side elevation with parts broken out looking at the hood side of the curtain; Fig. 2 is a vertical section on the line *x—x* Fig. 1, looking to the left; Fig. 3 is a horizontal section on the line *y—y* Fig. 2 but on a magnified scale and looking down.

In the views 1 designates the curtain roller which is provided with the usual stud shafts $1^a$ and $1^b$. These stud shafts are journaled, as usual, in end brackets 2 and $2^a$, but at its outer end the stud shaft $1^a$ is furnished with a collar 3 secured thereto to prevent that shaft from pulling out should the roller sag when it becomes hot and soft. The stud shaft $1^b$ is held from pulling out by a similar collar or by the hub $3^a$ of a latching device that is used in connection with such rollers. The channels are alike except that they are symmetrically arranged to receive the opposite edges of the curtain and a description of the construction of one will suffice for both. Referring to the channel 4 designates an angle bar that is attached fixedly at its upper end to lie or hang along the side of the opening in which the curtain is installed so as to have one flange projecting outward. This angle bar is further bolted at intervals to the wall by means of additional bolts passed through the lower portions of slots $4^a$.

To the outwardly standing flange of the bar 4 are attached two angle bars 5 and 6 having flanges standing parallel to the wall to form the channel 7 in which the edge of the curtain travels. The angle bar 5, the inwardly standing flange of which is located between the flanges of the bars 4 and 6, is made with slotted bolt holes while the contiguous flanges of the bars 4 and 6 are made with round holes, and bolts or rivets are passed through all said holes to secure the bars together thus permitting greater expansion and contraction of the bar 5 with respect to the bars 4 and 6. Because the outer portion of the bar 5 is exposed and likely to be subjected to great heat it will usually expand earlier. Space is left between the lower end of the channel and the bottom of the window or door opening to permit the expansion of the channel and this space is closed by means of a small piece of angle bar 8 fitting against the flanges of the bar 6 and this piece 8 is provided with slotted bolt holes through which bolts or rivets are passed to secure it in place but so as to permit the channel bars proper to expand downward. All the bars may, of course, expand, but because the intermediate flange of the bar 5 is provided with slotted holes the difference in the rate of expansion is provided for. This intermediate bar can be rigidly attached at its upper end to the bar 4. If rigidly attached at its upper end the expansion would be mainly downward but if not so attached and merely resting on the connecting bolts the expansion would take place mainly upward. I prefer, however, to rigidly attach the bar 5 at its upper end.

9 designates the bar or bars attached to the lower end of the curtain. This bar or these bars are secured to the curtain by means of a bolt or rivet $9^a$ passed through a round hole at the middle and by bolts or rivets $9^b$ passed through slotted holes $9^c$ at each side of the middle bolt or rivet so that the bar or bars are held at the middle and permitted to expand in each direction from the middle.

What I claim and desire to secure by Letters Patent is:

1. A channel for fire resisting curtains comprising angle bars, and means for binding said bars together, the said binding means adapted to permit the relative movement of the bars due to expansion when subjected to abnormal heat.

2. A channel for fire resisting curtains comprising an angle bar to be secured to the wall at its upper end, and two other angle bars secured to the first mentioned bar placed to form the channel, one of said bars being provided with slots and fastening devices passed through said slots and the other bars.

3. A channel for fire resisting curtains comprising an angle bar to be secured on one flange at its upper end to the wall and provided with slotted holes for the passage of fastening devices below the point where it is to be secured, and two other angle bars each having one of their flanges lapped together and placed upon the other flange of the first mentioned bar to form the channel, the inter-

mediate of the said three flanges being slotted, and fastening devices secured to and passing through the outer of the said three flanges and through the slots of the intermediate flange.

4. A channel for fire resisting curtains comprising angle bars secured together and expansible independently of each other there being a supplemental space closing angle bar at the end of the channel in respect to which the channel bars can expand.

5. In combination with the lower end of a fire resisting curtain, an integral bar of metal having a connection with said curtain intermediate its ends whereby the bar is adapted to expand independently of the curtain and in opposite directions from said connection.

6. In combination with a fire resisting curtain, a bar at the lower end thereof, means for securing said bar rigidly to said curtain near its middle and means securing it to the curtain expansibly at each side of the middle.

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

EDWARD H. McCLOUD.

Witnesses:
ULYSSES R. PETERS,
BENJ. FINCKEL.