

E. H. McCLOUD.
FLEXIBLE FIRE RESISTING SHUTTER AND SLAT THEREFOR.
APPLICATION FILED JAN. 27, 1908.

1,054,977.

Patented Mar. 4, 1913.

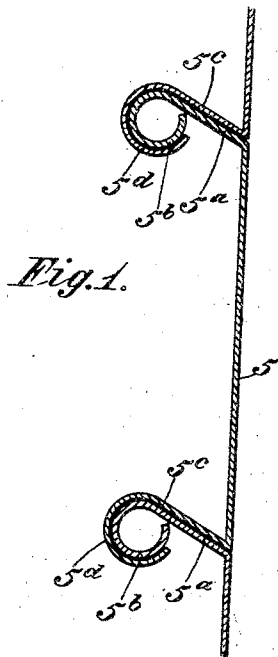


Fig. 1.

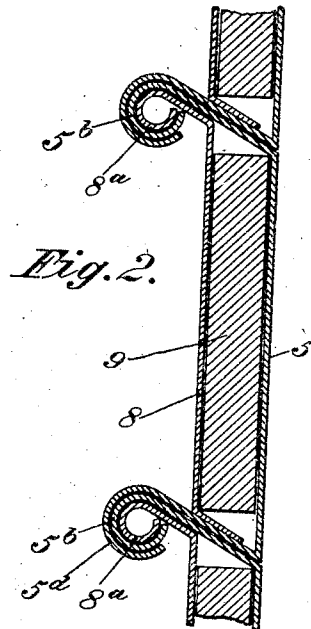


Fig. 2.

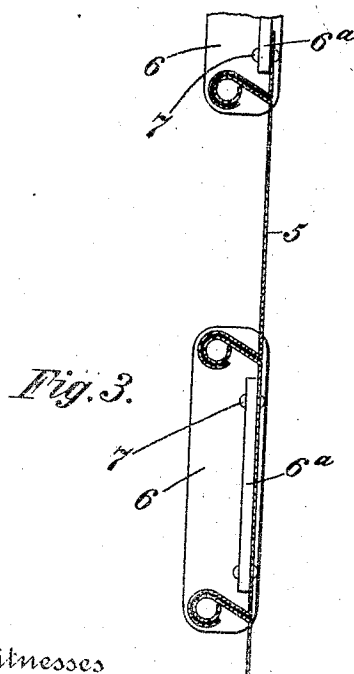


Fig. 3.

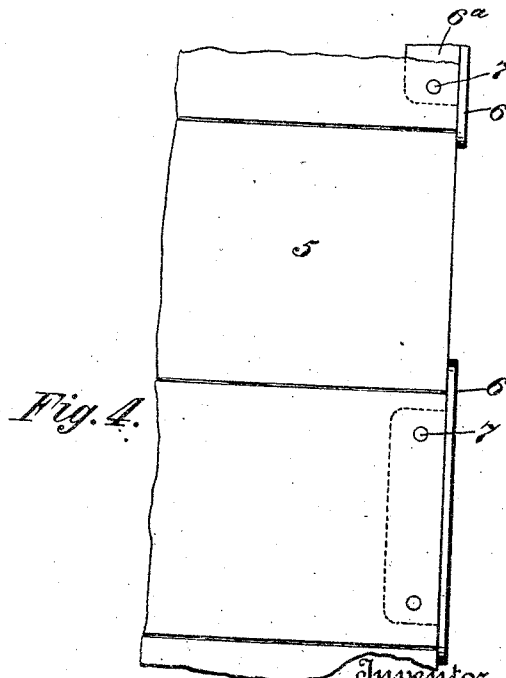


Fig. 4.

Witnesses
Benj. Finchel.
Alice B. Cook

Inventor
Edward H. McCloud
by Finchel Finchel
his Attorneys

UNITED STATES PATENT OFFICE.

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

FLEXIBLE FIRE-RESISTING SHUTTER AND SLAT THEREFOR.

1,054,977.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed January 27, 1908. Serial No. 412,776.

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 a certain new and useful Improvement in Flexible Fire-Resisting Shutters and Slats Therefor, of which the following is a specification.

The object of this invention is to provide an improved construction of slat for the manufacture of flexible shutters or curtains and a shutter or curtain that shall be strong and durable and shall resist fire and shed water.

The invention consists in the constructions hereinafter described and claimed.

In the accompanying drawings showing embodiments of the invention—Figure 1 is a vertical transverse section of a slat with the connected portions of two similar slats; Fig. 2 shows a slat made of tubular form with a similar joint connection and water-shedding construction; Fig. 3 is a view similar to Fig. 1 but on a smaller scale and showing end locks applied; Fig. 4 is a projection, in elevation, from Fig. 3, looking to the left at Fig. 3.

In Figs. 1, 3 and 4 the slat is indicated as formed out of a strip of sheet metal. The outer face of the body 5 of the slat is vertical and the upper edge or margin is bent in a direction somewhat inclined to the horizontal, as seen at 5^a, and formed with a substantially cylindrical roll 5^b constituting a hinge member. The lower edge or margin of the body of the strip is shown to be bent in a direction substantially parallel to that of the bent upper edge, as seen at 5^c, and with a roll 5^d of cylindrical contour constituting a hinge member, the latter being somewhat open at its inner side to permit flexing of the shutter or curtain at the joint. Both the inclined portions 5^a and 5^c project from the same side of the slat and the slats are joined by sliding one lengthwise into another, the roll 5^b fitting within the roll 5^d. When the slats are thus joined they can rock freely with reference to each other or to the extent permitted by the contact of the inclined portions 5^a and 5^c of connected slats. The said inclined portions constitute shoulders taking vertical thrust and because of the considerable extent of their projection they impart lateral strength to the slat and shutter or curtain and pre-

vent ready buckling. It will be understood, of course, that the hinge joints are on the inner side of the curtain or shutter and that the opposite side is the exposed side or that facing the weather. The inclination of the edges 5^a and 5^c therefore makes a water-shedding construction.

The end lock (shown more particularly in Figs. 3 and 4) comprises a head 6 having an outline that projects beyond the outline of a slat and the joints of two connected slats so as to form a bearing to prevent wear of the slats in running in guiding channels. The end lock also includes a shank 6^a for securing it to the body of the slat, rivets 7 being employed for the purpose. The end locks can be applied to the opposite ends of alternate slats when in the shutter or curtain and they will prevent undue longitudinal movement of the slats on each other.

To form the tubular slat shown in Fig. 2 I secure between the inclinedly-extending edges 5^a and 5^c of a strip bent in the manner shown in Fig. 1 a second strip of sheet metal 8 bent at its upper edge and provided with a roll 8^a fitting within the roll 5^b, and bent at its lower edge to engage the upper side of the inclined portion at the lower edge of the strip. In the tubular slat thus formed there can be inserted a strip or filling of wood 9 or other material preferably of light weight adapted to retard radiation and conduction of heat. The vertical walls forming the tubular slat are shown to be parallel but the construction in this particular can be modified as can other features within the scope of the invention.

The form of joint herein shown and described not only effectually sheds water, but with the same width of shoulder as compared with a horizontally standing joint the axis of the hinge is located nearer the plane of the face of the slat. The shutter or curtain, therefore, rolls more compactly on a roller.

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

1. A tubular slat for a flexible shutter or curtain constructed of a strip of metal having its main or body portion standing vertically and its edges bent upwardly and parallelly therefrom in a direction inclined to the horizontal, said edges being further bent to form rolls each constituting a hinging

member, combined with an added strip offset from the first mentioned strip and bent at its lower edge to fit in the acute angle at the lower portion of said strip and engaged
5 at its upper edge with the bent edge of the upper portion of the first mentioned strip, substantially as described.

2. A tubular slat for a flexible shutter or curtain constructed of a strip of metal having its main or body portion standing vertically and its edges bent upwardly and parallelly therefrom in a direction inclined to the horizontal, said edges being further bent to form rolls constituting, at the upper edge,
10 a portion of a hinging member and at its

lower edge a hinging member combined with an added strip offset from the first mentioned strip and bent at its lower edge toward the first mentioned strip to fit against the upper side of the bent portion 20 of that strip, and at its upper edge doubled with the roll at the upper edge of the first mentioned strip to complete the hinging member at that edge of the slat, substantially as described.

EDWARD H. McCLOUD.

Witnesses:

ALBERT RUSH,

ANNA TERESA KING.