

J. G. WILSON.
 BAFFLE FOR FIREPROOF SHUTTERS.
 APPLICATION FILED JUNE 4, 1909.

983,104.

Patented Jan. 31, 1911.

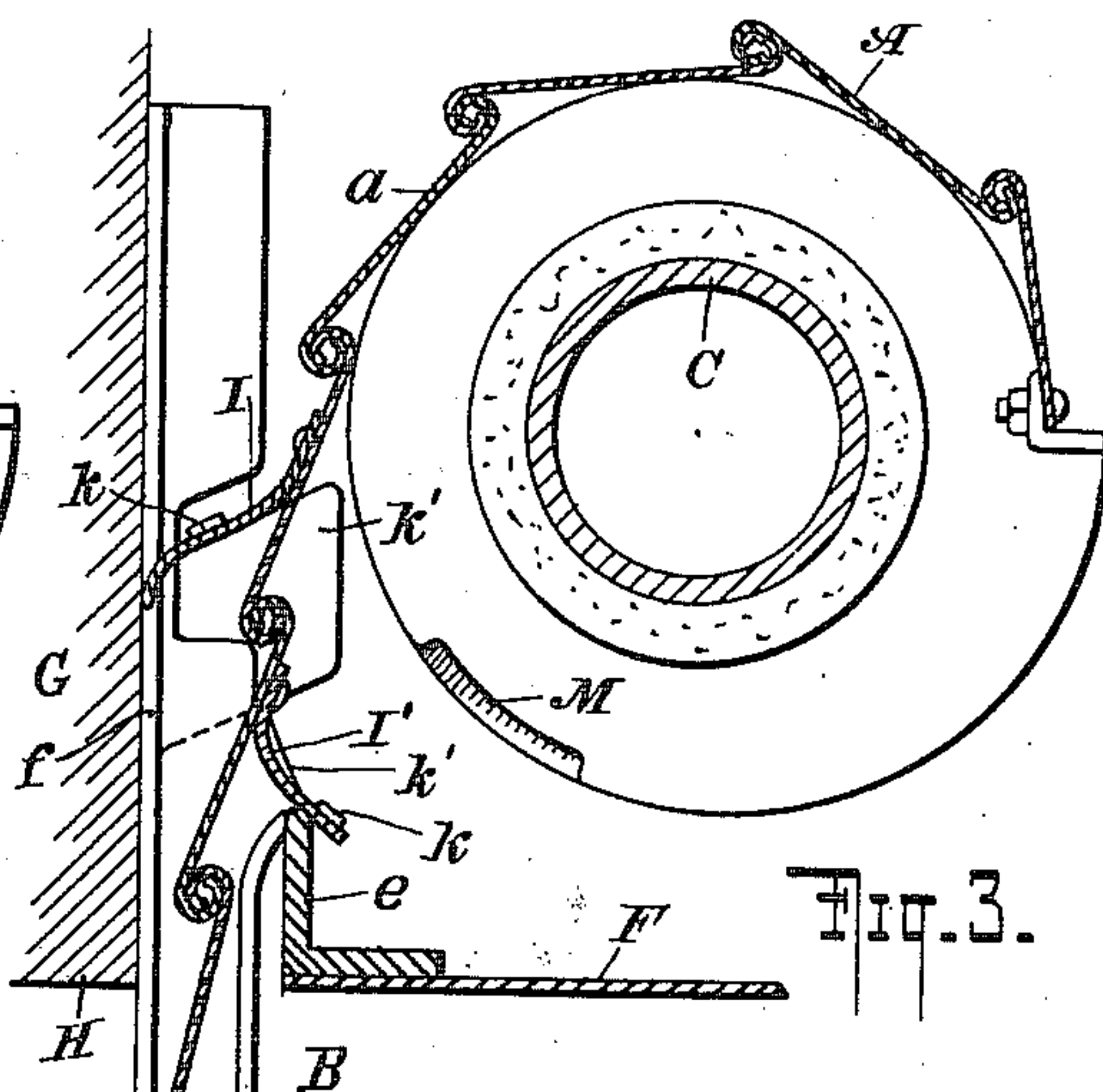
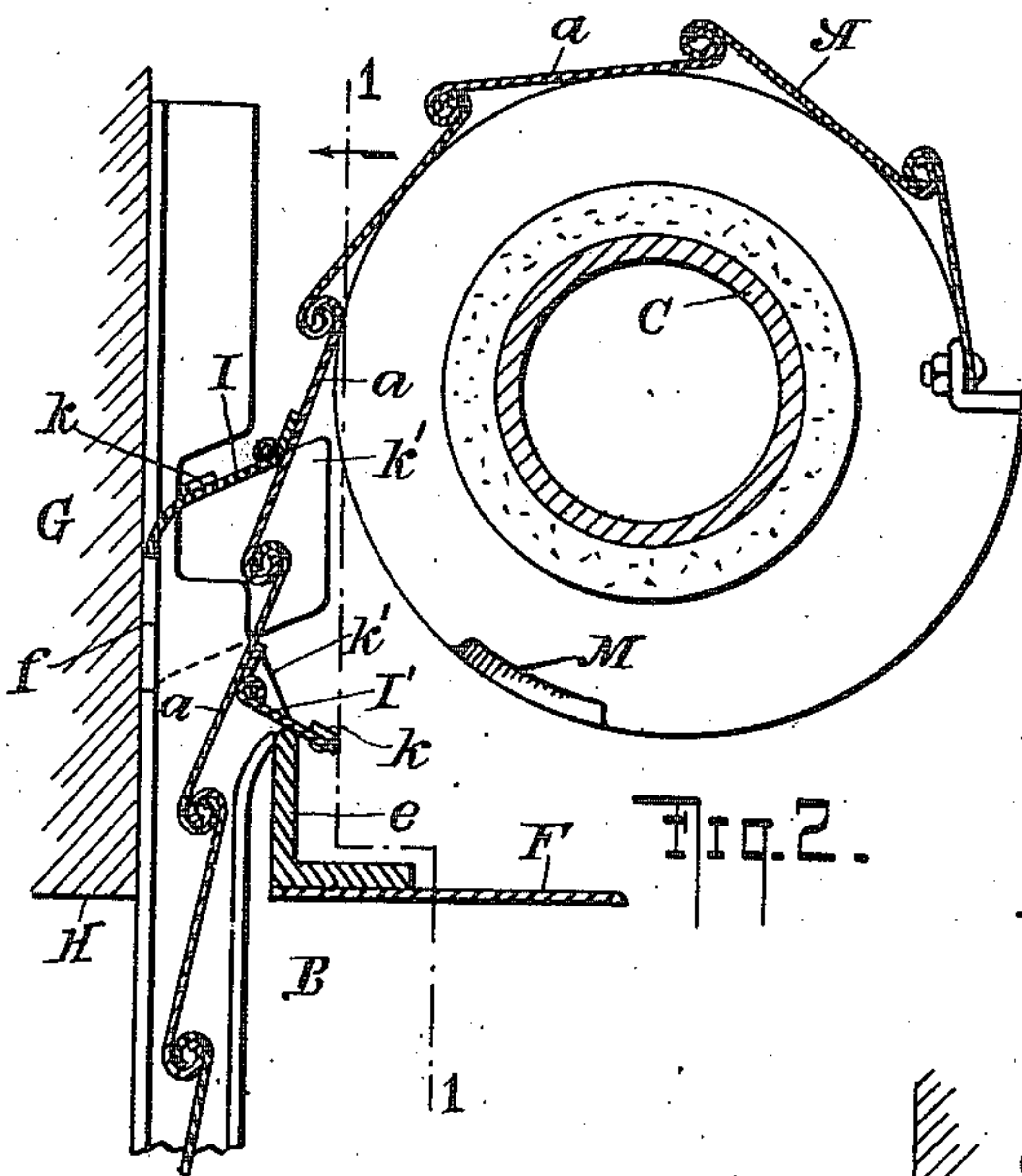
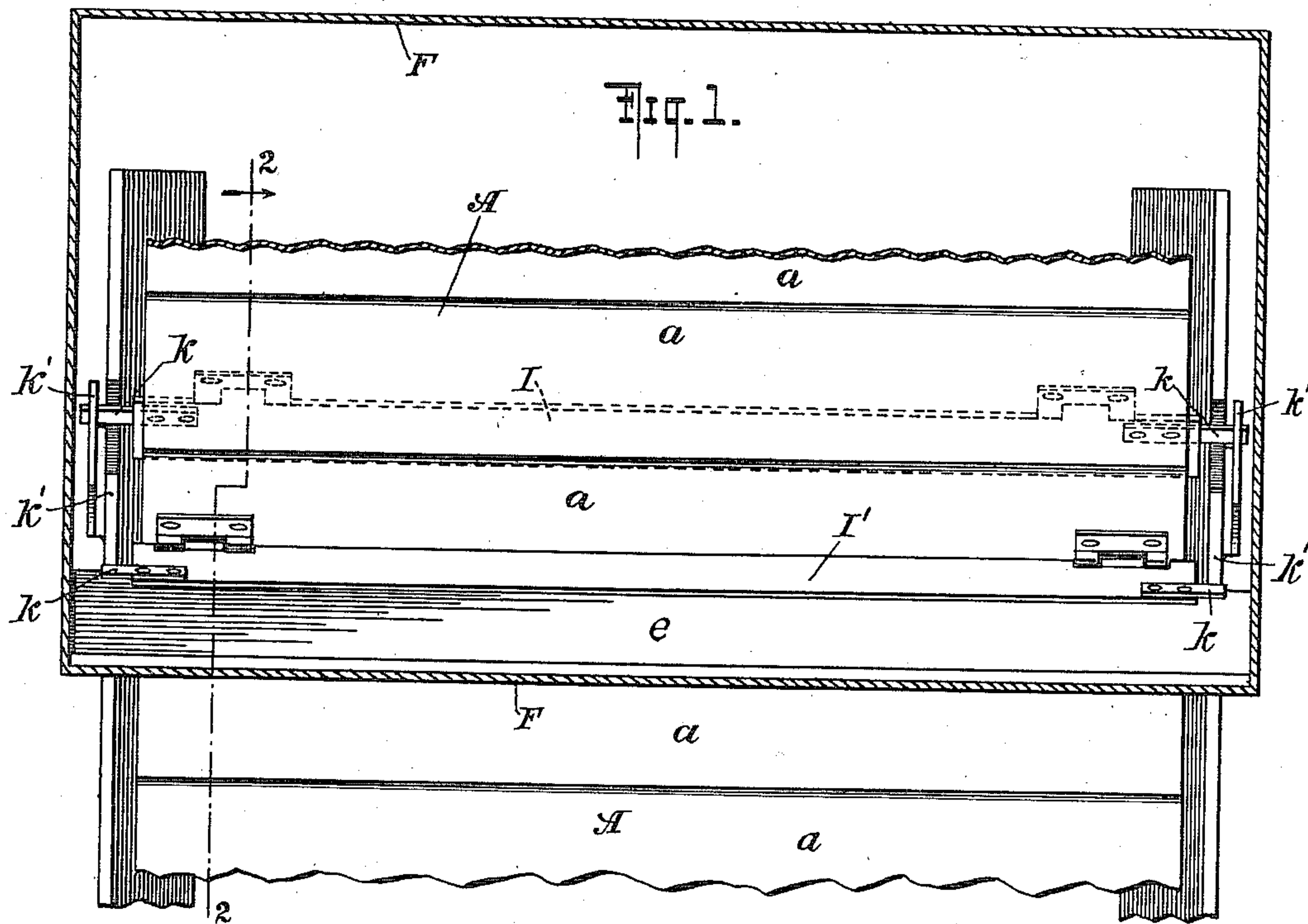
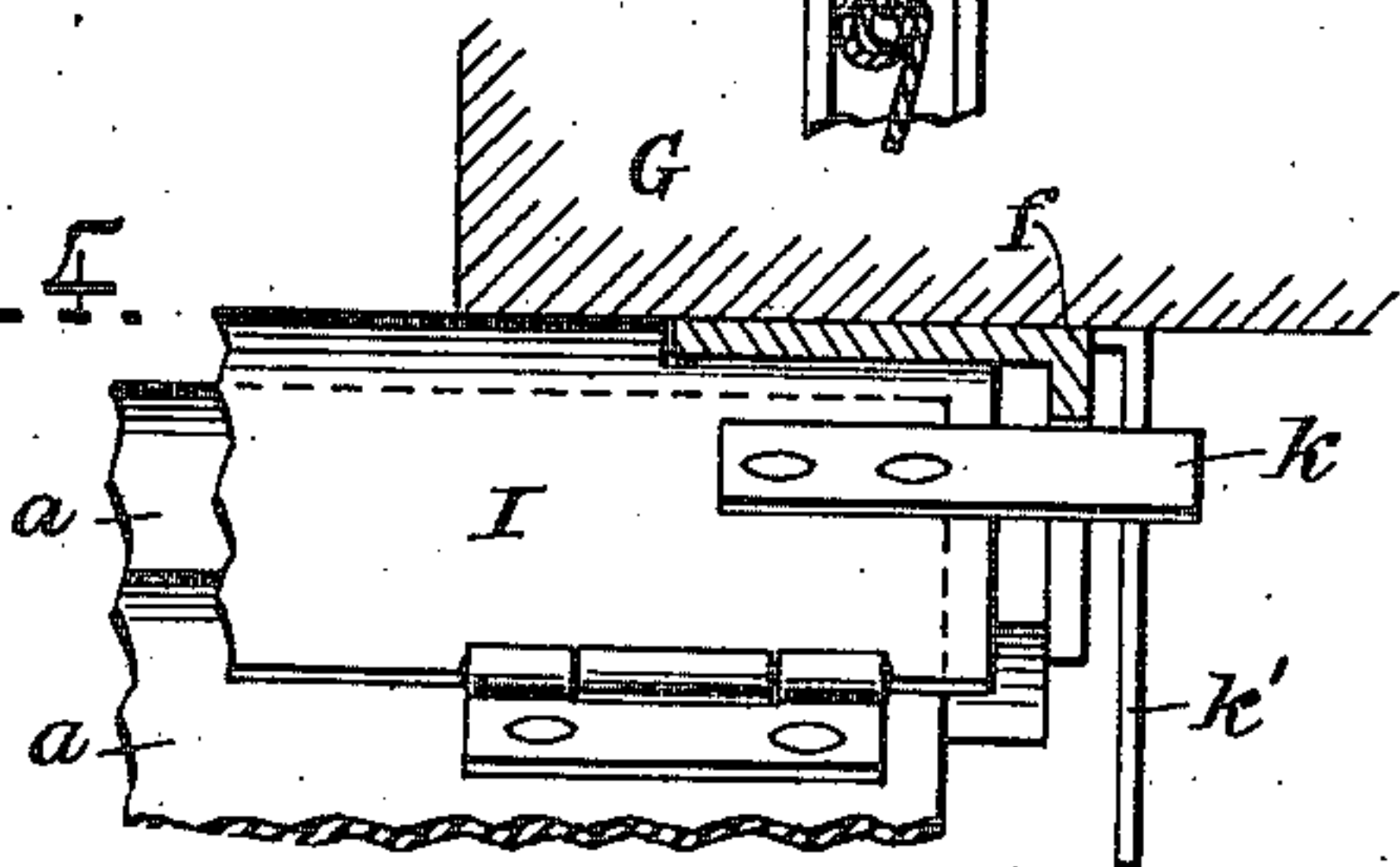


Fig. 4.



WITNESSES.

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BAFFLE FOR FIREPROOF SHUTTERS.

983,104.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Original application filed January 9, 1909, Serial No. 471,391. Divided and this application filed June 4, 1909. Serial No. 500,075.

To all whom it may concern:

Be it known that I, JAMES G. WILSON, a subject of the King of Great Britain, residing at Larchmont, Westchester county, State of New York, have invented a new and useful Improvement in Baffles for Fireproof Shutters, of which the following is a specification.

My invention relates to sliding or rolling shutters made of fire proof material and is particularly applicable to the well known type of such shutter constituted of interlocking metallic slats.

The object of my invention is to provide a means by which, when the shutter is closed, any transit of hot air, gas, noxious vapors and flames is prevented from taking place across or around the interior end or edge of the shutter.

By the interior edge or end I mean, in the case of a rolling shutter, that edge or end which is adjacent to the barrel or shaft upon which the shutter rolls. In the case of a straight sliding shutter, I mean that edge or end which is most remote from the opening to be protected when the shutter is fully open.

My invention is more particularly intended for shutters of the rolling type as above mentioned and may be used in such type of shutters, not only to prevent the passage of gases, vapors, flames, etc., as aforesaid, from one side of the shutter to the other, but also to completely cut off such gases, vapors, flames, etc., from access to the shutter coil and the casing surrounding the same, thereby in many, if not in most instances avoiding injury to the mechanism proper of the shutter so that the same will, except in the case of the most severe conflagrations, be uninjured by fire and capable of being re-used with but slight repair and adjustment.

In my application Serial No. 471,391 filed January 9, 1909 I have shown and described various modifications of the device herein claimed, all of which accomplish the same end but some of which are arranged to operate by means fusible at a predetermined temperature and others of which are arranged to operate by hand; still others are attached to the shutter proper and operate automatically when said shutters close. This appli-

cation is a division of No. 471,391 aforesaid and has particular reference to the modification last mentioned.

Referring to the drawings, Figure 1 is a sectional elevation (looking from the rear and taken along the line 1—1 of Fig. 2) of a preferred embodiment of my invention (lower part of the shutter absent) as applied to a rolling slat shutter. Fig. 2 is a vertical section along the line 2—2 of Fig. 1. Fig. 3 is a similar vertical section of a modified form of my invention; and Fig. 4 is an enlarged plan detail showing the lugs k , k^1 , of Figs. 2 and 3.

Referring to the drawings, A is a rolling metallic shutter composed of interlocked slats a , and arranged to protect a door opening B. This shutter is attached to and coils upon a center roller C in a manner generally well known in the art. A casing F of fire proof material is affixed to the wall G above the shutter opening and surrounds the shutter coil as shown, the wall G itself closing the casing on its open side.

The shutter being closed there is, in the constructions usually employed, a space necessarily existing between the lower inner edge of the casing F and the shutter on one side and the lower edge of the lintel H and the shutter on the other side. In the case of severe fire, drafts are apt to be established by which the flame is sucked up through these spaces into the casing on the one side or the other according to the side upon which the fire starts, which flame may pass clear around the shutter coil and issue therefrom on the other side thus becoming a means of communicating fire from one side of the protective shutter to the other; even should the fire not be so severe as to pass flames from one side of the shutter to the other, there will still be danger of smoke and noxious fumes being so transferred and becoming a source of damage through tainting of the goods or the room which the shutter is designed to protect. The shutter coil C, whether a simple tubular shaft, a tube or equivalent series of barrels connected by springs to a central shaft, or made in some other preferred fashion is also liable to be severely damaged and rendered worthless for any future purposes if flame or hot air gains access to the casing.

My invention provides against any and all of the above risks. It consists of two slats or baffle plates I, I', of fire proof material extending the whole width of and attached to adjacent slats *a, a*. Each baffle is preferably rectangular in form, though not necessarily so, and is riveted or otherwise suitably attached to opposite sides of the two slats as shown. When the shutter is coiled these flaps are forced down on each side against the slats by the weight of the superimposed shutter layers, or fit as to the inner flap in a recess M provided in the roller, as the shutter rolls upon the coil and do not add to the diameter of said coil. When the shutter is lowered, these plates are freed as the slat which carries them approaches the opening in the casing and are guided by end lugs *k* fixed to the baffle plates and coöperating with lugs *k'* fixed to the casing, the one over the reinforcing angle iron *e* of the casing and the other against the wall at *f*, thereby forming a complete closure to the interior of the casing on either side of the shutter (see Fig. 4 for details of the guiding lugs *k* and *k'*—used with the modified form of Fig. 2.)

Fig. 3 shows baffle plates attached to the shutter as in Fig. 2 but riveted instead of hinged; the former are preferably of heavy stiff material, whereas the plates of Fig. 3 are preferably relatively thin and resilient.

In the various modifications shown I have provided baffle plates and, therefore, protection on each side of the shutter. In many cases, however, the risk of fire attaches only to one side of the shutter as, for example, where an engine room is to be shut off from a warehouse or mill room in which there is neither inflammable material nor means capable of easily starting a fire. In such case, it may be preferred to omit the device from that side of the shutter which is considered reasonably safe, and it is obvious that such omission does not lie outside of the limits of my invention nor dispense with the advantages which I have set forth.

For the purposes of my invention a door and a shutter may be considered as the same structures and I wish the terms so to be understood.

I do not desire to limit myself to the specific forms of a device as shown in the drawings, since it is clear that many other arrangements may be utilized without departing from the spirit of the invention, and I therefore claim:

1. In a sliding fire proof shutter, means comprising slats movably attached to said shutter and adapted when said shutter is closed to substantially close the gap between said shutter and its framing at that side of said framing where said shutter enters the opening to be protected, whereby the passage of flame or gases across the curtain at

the aforesaid side of the framing is prevented.

2. In a sliding fire proof shutter, means comprising hinged slats attached to said shutter and adapted when said shutter is closed to substantially close the gap between said shutter and its framing at that side of said framing where said shutter enters the opening to be protected, whereby the passage of flame or gases across the curtain at the aforesaid side of the framing is prevented.

3. In a sliding fire proof shutter, means comprising hinged slats attached to opposite sides of said shutter and adapted when said shutter is closed to substantially close the gap between said shutter and its framing at that side of said framing where said shutter enters the opening to be protected, whereby the passage of flame or gases across the curtain at the aforesaid side of the framing is prevented.

4. In a sliding fire proof shutter comprising interhinging slats, means comprising hinged slats attached to opposite sides of adjacent slats and adapted when said shutter is closed to substantially close the gap between said shutter and its framing at that side of said framing where said shutter enters the opening to be protected, whereby the passage of flame or gases across the curtain at the aforesaid side of the framing is prevented.

5. In combination, in a sliding fire proof shutter, a slat attached to said shutter and slat engaging means supported adjacent to said shutter, said slat and said engaging means being adapted when said shutter is closed to substantially close the gap between said shutter and its framing at that side of said framing where said shutter enters the opening to be protected, as and for the purpose described.

6. In combination, in a sliding fire proof shutter; a slat running crosswise of the shutter and having movable attachment as to one edge thereof to said shutter, and means supported adjacent to said shutter arranged to engage the outer edge of said slat, substantially as and for the purpose described.

7. In combination, in a sliding fire proof shutter; a slat running crosswise of the shutter and hingeably attached as to one edge thereof to said shutter, and means supported adjacent to said shutter arranged to engage the outer edge of said slat, substantially as and for the purpose described.

8. In means of the character set forth, the combination of a housing, a roller mounted therein, a fire-curtain carried by said roller, said housing having an opening through which said curtain extends, and a shield carried by said curtain and adapted to obstruct the passage about said roller when said curtain is in the lowered position.

9. In means of the character set forth, the combination with a housing provided at its lower portion with a longitudinal opening, a roller mounted in said housing, and a fire-
5 curtain mounted on said roller and extending through said opening, of a shield attached to said curtain, at the front side thereof, within said housing and adapted to obstruct the passage about said roller when
10 said curtain is in its lowered position.

10. In means of the character set forth, the combination with a housing having a longitudinal opening at its lower portion, a roller mounted in said housing, a fire-
15 curtain mounted on said roller and extending through said opening, of a shield attached to the front side of the upper portion of said fire-curtain, said shield adapted to bear upon the wall of said housing in front of said

opening when said curtain is in its lowered position. 20

11. In means of the character set forth, the combination of a housing provided at its lower portion with a longitudinal opening, a roller mounted in said housing, a fire-
25 curtain mounted on said roller and extending through said opening, and a curved sheet-metal member attached to said fire-curtain and adapted to bear on a wall of said housing adjacent said opening when said curtain
30 is in its lowered position.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES G. WILSON.

Witnesses:

ELMER G. WILLYOUNG,
JOHN A. KEHLENBECK.