

T. E. COLLINS.
FIRE DOOR.
APPLICATION FILED AUG. 1, 1910.

1,029,912.

Patented June 18, 1912.

Fig. 1.

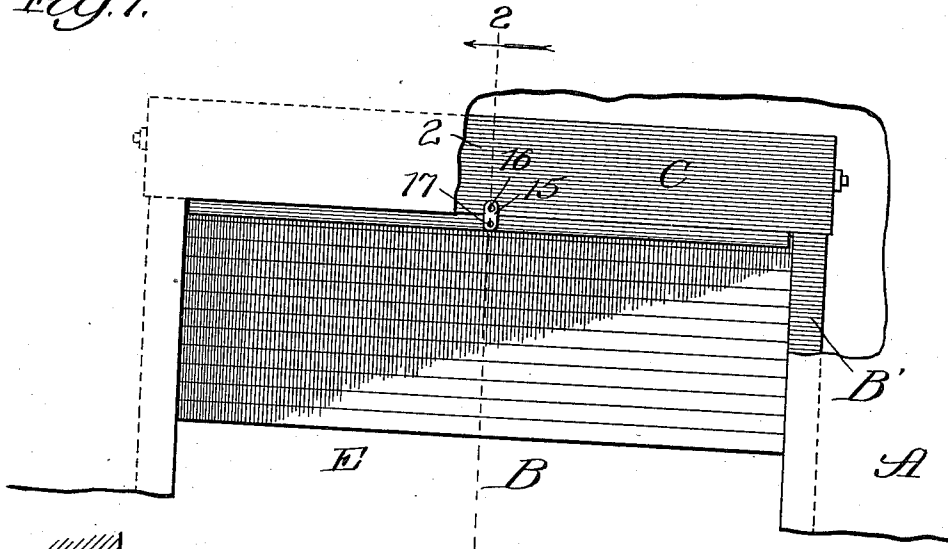


Fig. 2.

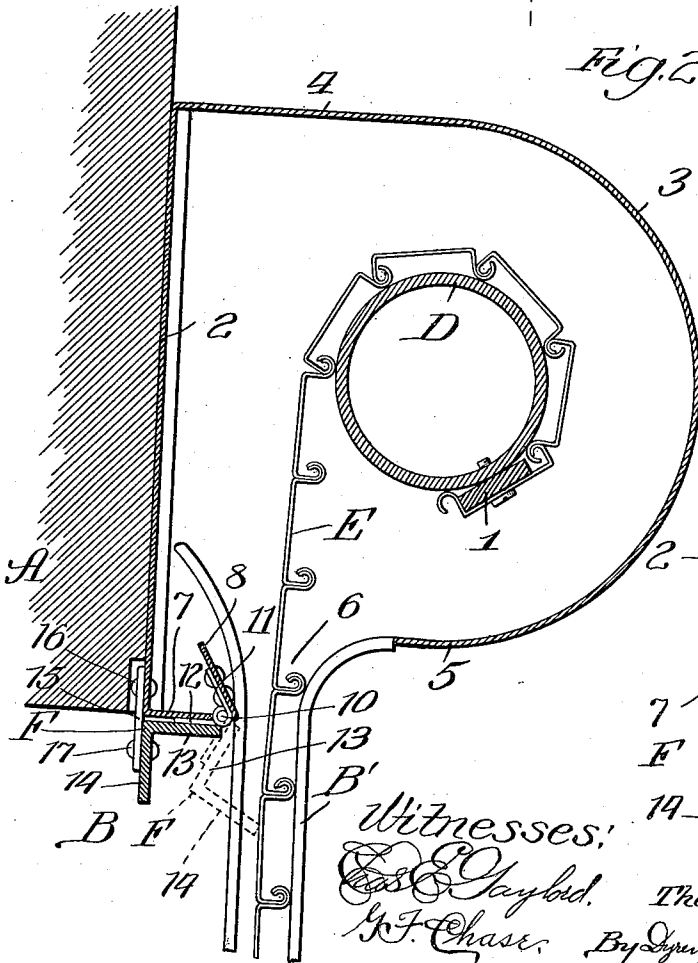
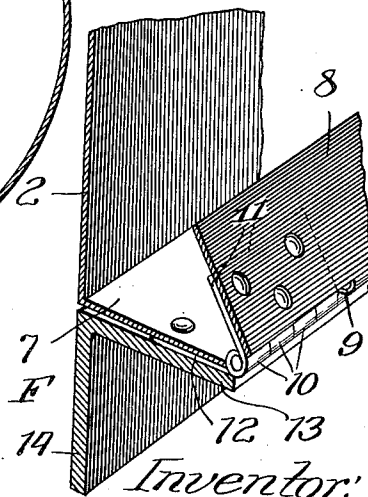


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS E. COLLINS, OF CHICAGO, ILLINOIS.

FIRE-DOOR.

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Specification of Letters Patent.

Patented June 18, 1912.

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To all whom it may concern:

Be it known that I, THOMAS E. COLLINS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Fire-Doors, of which the following is a specification.

My invention relates particularly to rolling shutters employed as fire-shutters; and my primary object is to provide means for use in connection with rolling shutters or fire-resisting curtains, to prevent the passage of sparks and flames through or around the hood or housing, which contains the roller or drum.

The invention is illustrated in the preferred embodiment in the accompanying drawing, in which—

Figure 1 represents a broken view of a wall provided with a door-opening equipped with a fire curtain and housing therefor having my improvement applied thereto; Fig. 2, a broken section taken as indicated at line 2 of Fig. 1; and Fig. 3, a broken perspective view illustrating the manner in which an auxiliary shutter or damper employed is connected with the lower portion of said housing adjacent the curtain-passage thereof.

In the illustrated construction, A represents a fire-wall; B, a door-opening provided with lateral guides B'; C, a drum-housing, or hood, surmounting the door-opening; D, a drum, or roller, journaled in the ends of said housing; E, a rolling shutter, or fire-resisting curtain, suitably secured, as at 1, to said drum; and F, an improved shield, damper, or auxiliary shutter, connected with the lower portion of said housing and adapted to be moved to the passage-closing position upon a dangerous rise in temperature.

The guides B' bounding the door-opening B of the fire-wall A may be of any suitable construction adapted to receive the edges of the fire-curtain.

The housing C has the plain rear wall 2 and the curved front wall 3, which is extended to form the top wall 4 and lower wall 5. The whole housing may be of integral formation, being usually constructed of sheet metal. The housing is provided at its bottom or lower wall with a curtain-passage 6 which extends longitudinally of the housing. The metal forming the rear wall 2 of the housing is extended forwardly at its lower portion, as indicated at 7, and then bent

upwardly and rearwardly, as indicated at 8. The portion 7 affords a bracket or wall which extends forwardly from the fire-wall substantially flush with the upper end of the door-opening B. At the junction of the rearwardly and upwardly inclined flange 8 and the horizontal portion 7, the metal is cut away or provided with slots 9 (one shown), adapted to accommodate hinges 10 (one shown). One leaf 11 of each hinge is secured to the member 8, and the other leaf 12 is secured to the auxiliary shutter, or damper, F. As shown, the shutter F comprises an angle-bar having a forwardly projecting flange 13 which is secured to the hinges 10 and having a downwardly projecting flange 14 which normally is disposed substantially in the plane of the rear wall 2 of the housing. As thus described, the member F is potentially movable and adapted to move by its own weight to the position shown in dotted lines in Fig. 2, in which position it bears against one surface of the fire-curtain and closes the fire-curtain passage. The device F is normally held in the position shown in full lines in Fig. 2 by means of a fusible link 15 which has its upper end secured to a stationary part, as to the rear wall 2 of the housing and has its lower end secured to the flange 14 of the member F. As shown, the link is connected by means of rivets 16 and 17.

The fire-curtain is normally held in the elevated position by any suitable means (not shown) adapted to be affected by a dangerous rise in temperature to permit or compel the fire-curtain to move to the opening-closing position. The link 15 is likewise adapted to be affected by a dangerous rise in temperature, and when the link 15 is fused, will permit the auxiliary shutter F to swing about the hinges 10, thereby carrying the lower edge of the flange 14 into engagement with the rear surface of the fire-curtain E. It is obvious that when this operation occurs, the curtain-passage is effectually closed against the passage of flame through the housing about the drum.

The construction described is exceedingly simple, is very durable, and subject to very small danger of getting out of order. Moreover, the device is externally located with reference to the housing, and is in position to be viewed daily, so that in case of its being out of order, the defect would be likely to be noticed. In addition to this, it may be

sometimes advisable to remove one of the rivets connected with the fuse-link 15 and work the member F on its hinges in order to make sure that the action of the device is in no wise impeded by rust or from other cause.

The foregoing detailed description has been given for clearness of understanding only, and no undue limitation should be understood therefrom, but the appended claims should be construed as broadly as permissible in view of the prior art.

What I regard as new, and desire to secure by Letters Patent, is—

1. In means of the character set forth, the combination with a fire-wall provided with an opening, of a housing mounted at one side of said wall above said opening, said housing having its rear wall provided at its lower portion with an inwardly projecting flange and said housing having a fire-curtain passage in front of said flange, an angle-form shutter having a downwardly turned flange and having also a forwardly projecting flange pivotally connected with said first-named flange adjacent the curtain-passage, a fusible link attached at one end to the downwardly extending flange of the shutter and at the other end to the rear wall of the housing, whereby said shutter is normally restrained from moving to the closing

position, a roll mounted in said housing, and a fire-curtain connected with said roll and extending through said curtain-passage.

2. In means of the character set forth, the combination with a fire-wall provided with an opening, of a housing mounted at one side of said wall above said opening, said housing having its rear wall provided at its lower portion with an inwardly projecting flange and having an upwardly and rearwardly inclined flange carried thereby, and said housing having a fire-curtain passage in front of said flanges, an angle-form shutter having a downwardly projecting flange and having also a forwardly projecting flange, hinges connected with the last-named flange of said housing and with the forwardly projecting flange of said shutter, a fusible link attached at one end to the downwardly extending flange of the shutter and at the other end to the rear wall of the housing, whereby said shutter is normally restrained from moving to the closing position, a roll mounted in said housing, and a fire-curtain connected with said roll and extending through said curtain-passage.

THOMAS E. COLLINS.

In presence of—

L. HEISLAR,

J. G. ANDERSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."