

No. 766,390.

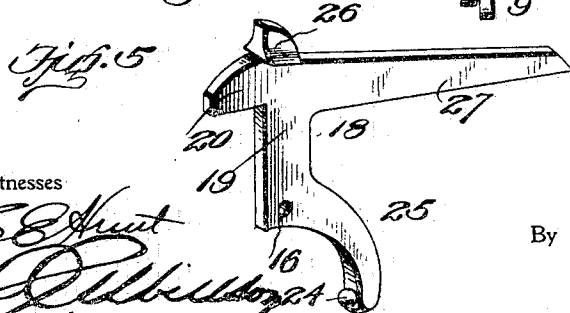
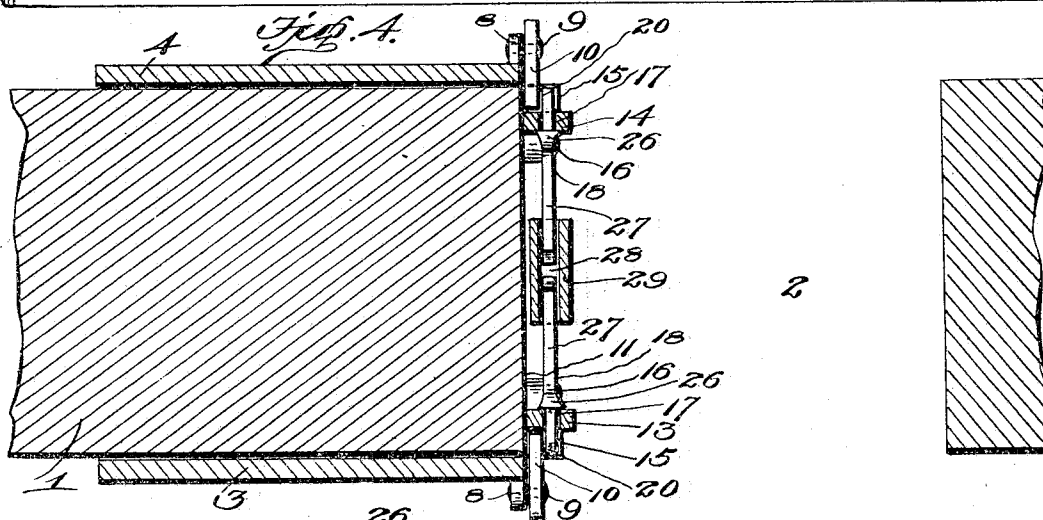
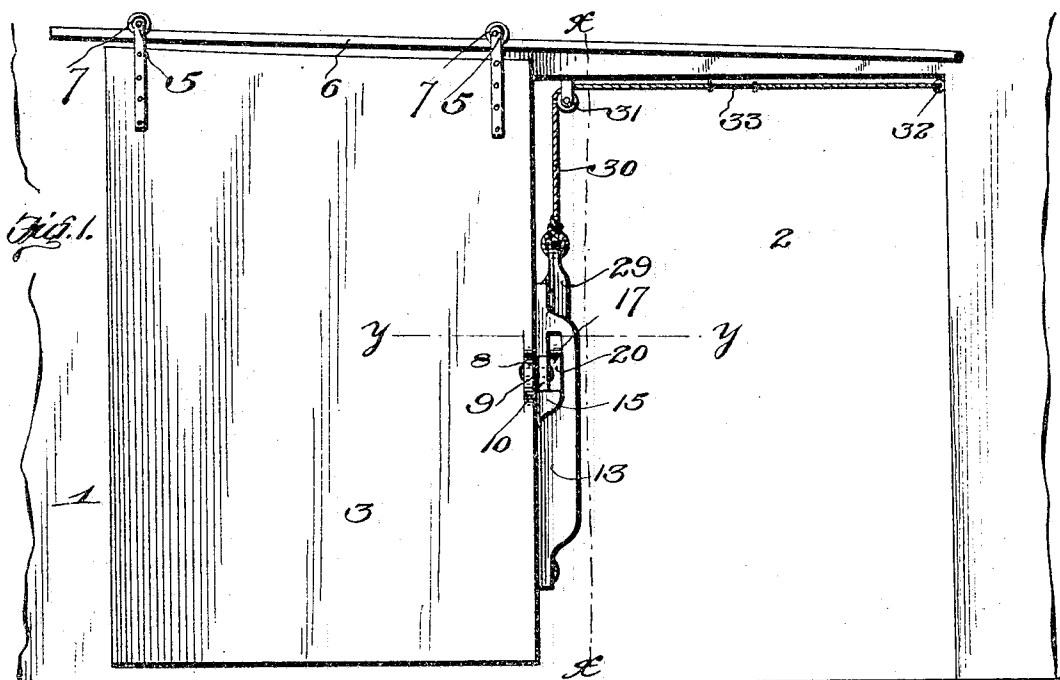
PATENTED AUG. 2, 1904.

F. L. SAINO.
FIRE DOOR.

APPLICATION FILED FEB. 18, 1904.

NO MODEL.

2 SHEETS--SHEET 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

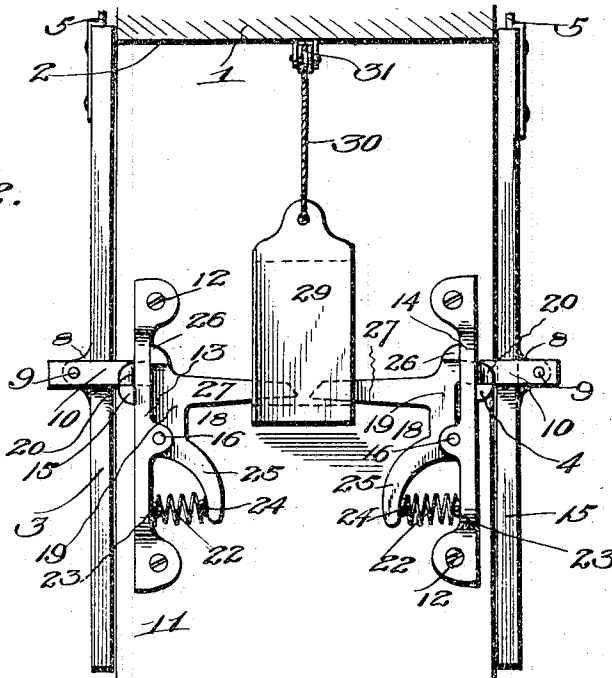


Fig. 3.

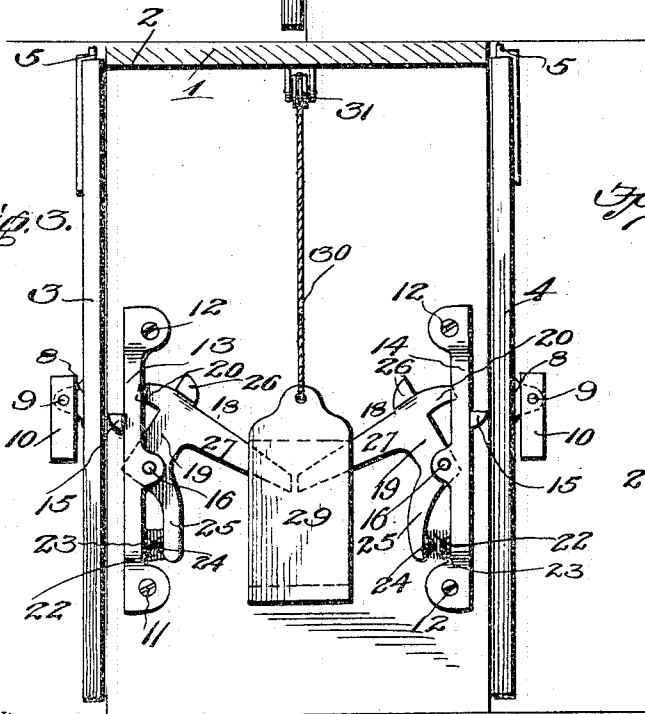
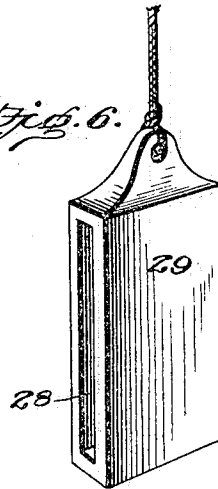


Fig. 6.



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UNITED STATES PATENT OFFICE.

FELIX LAVERNICE SAINO, OF MEMPHIS, TENNESSEE.

FIRE-DOOR.

SPECIFICATION forming part of Letters Patent No. 766,390, dated August 2, 1904.

Application filed February 18, 1904. Serial No. 194,254. (No model.)

To all whom it may concern:

Be it known that I, FELIX LAVERNICE SAINO, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Fire-Doors; 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.

My invention relates to improvements in fire-doors of that class designed to be automatically self-closing at a predetermined temperature.

The object of my invention is to provide a simple, durable, comparatively inexpensive, and highly-efficient fire-door which will close automatically when a predetermined degree of temperature is reached.

With this and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a wall having a door-opening formed therein and a fire-door for said opening constructed and controlled in accordance with my invention. Fig. 2 is a vertical transverse sectional view through Fig. 1, taken on the plane indicated by the line *xx*. Fig. 3 is a view similar to Fig. 2 with the parts in their released positions. Fig. 4 is a horizontal sectional view taken on the line *yy* of Fig. 1. Fig. 5 is a detail view of one of the door-releasing devices. Fig. 6 is a detail view of the drop-weight.

In the embodiment of my invention illustrated in the drawings, 1 denotes a fireproof party-wall, of brick, stone, or the like, formed with a door-opening 2, which is adapted to be closed upon opposite sides of the wall by sliding doors 3 and 4, of metal or other fireproof material. Said doors are suspended, by means of hangers 5, from inclined tracks 6, so that they will slide transversely and close by gravity. Said tracks 6 are secured upon opposite sides or faces of the wall 1 above the door-opening 2, as shown, and the

hangers 5 are provided with rollers 7, which run upon said tracks to permit the doors to close easily.

The doors 3 and 4 are held in an open position and are released simultaneously in the following manner: Projecting outwardly from the front edge of each of the doors is a bracket 8, upon which is pivoted at 9 a weighted latch 10, adapted to swing in a vertical plane at right angles to the door or across the front edge or end of the door and to lie against the jamb 11 of the door-opening 2, as clearly shown in Figs. 2 and 4 of the drawings. Secured, by means of bolts, screws, nails, or the like, to the said jamb 11 adjacent to the doors are brackets 13 and 14, formed on their outer sides with projections or ledges 15, upon which the latches 10 are adapted to rest. Pivoted upon a pin 16 in a slot 17 in each of the brackets 13 and 14 is a holding and releasing device 18, which is in the form of a lever, as shown. One arm, 19, of said lever is formed with a trigger or projection 20, which is adapted to swing in front of the latch 10 to hold the same upon the projecting ledge 15 of the bracket, and hence hold the door back in its opened position. Said trigger or portion 20 of the lever 18 is held normally in engagement with the latch 10 by a coil-spring 22, which is confined between a projection 23 upon the bracket and a similar projection 24 upon the other arm, 25, of the lever 18. The upper end of the arm 19 of said lever is formed with a stop projection 26, which is adapted to engage the top wall of the slot 17 of the bracket and limit the movement of the lever under the action of said spring 22. In order to simultaneously release the doors, the arms 19 of said levers are formed with right-angulantly-extending portions or arms 27, which project toward each other and into opposite ends of a slot 28, formed in a drop-weight 29, which is suspended adjacent to the jamb 11 between the two doors 3 and 4. When the levers 18 are in their normal positions, their arms or portions 27 are disposed in an approximately horizontal position and project into the lower end of the slot 28 of the weight 29, which is suspended by a cord or other flexible connection 30, secured at one of

its ends to the top of said weight, passing upwardly over a pulley 31, secured in the top of the door-opening, and extending across the top of said opening, with its opposite end secured at 32 to the jamb of the door-opening. Interposed between the ends of said cord 30, preferably over the center of the door-opening, is a fuse-link 33, adapted to melt at a predetermined degree of temperature to break the cord or connection 30, and thereby release the weight 29, which in falling will swing the levers 18 to the position shown in Fig. 3. When the levers are moved to this position, the trigger projections 20 will be moved out of the way of the latches 10, so that the doors may roll down by gravity to their closed position. The latches 10 being pushed off of the projecting ledges 15 by the sliding movement of the doors will drop down, as shown, to clear the opposite jamb of the door-opening. The slot 28 in the weight 29 is long, so that the weight in dropping will exert a strong striking blow on the arms 27 to insure the release of the levers 18, and to insure the closing of the doors the tracks 6 may be inclined to any suitable extent.

The operation and advantages of my invention will be readily understood from the foregoing detailed description, taken in connection with the accompanying drawings. It will be seen that when the link 33 is fused by heat the weight 29 will drop and release the doors, which will simultaneously and automatically close by gravity. It will also be noticed that the device is simple and comparatively inexpensive and that it will be positive and efficient in operation.

While I have shown and described my invention as applied to release two doors simultaneously, it will be understood that it may be used to release but one.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what

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

1. The combination with a wall having an opening and a self-closing door for said opening, of a swinging latch upon said door, a bracket secured to the jamb of said door-opening and having a projecting ledge adapted to be engaged by said latch, a holding and releasing lever pivotally mounted in said bracket and adapted to hold said latch upon said projecting ledge, and a weight suspended above said lever and adapted to drop at a predetermined temperature to operate said lever and release said latch, substantially as described.

2. The combination with a wall having an opening and a slidable, gravity-closing door for said opening, of a swinging latch carried by said door, a bracket secured to the jamb of said opening and having a projecting ledge adapted to support said latch, a spring-actuated lever pivotally mounted in said bracket and adapted to hold said latch upon said projecting ledge, a suspended weight adapted to actuate said lever when dropped, a suspending connection for said weight, and a fuse-link in said suspending connection adapted to release said weight when fused, substantially as described.

3. The combination of a wall having a door-opening, slidably mounted, gravity-closing doors upon each side of said wall, latches upon said doors, brackets secured to the jamb of said door-opening, levers pivoted in said brackets and adapted to engage said latches, a slotted weight having portions of said levers projecting into its slot, a suspending connection for said weight, and a fusible link in said suspending connection adapted to be fused at a predetermined degree of temperature, substantially as described.

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

FELIX LAWERNICE SAINO.

Witnesses:

WM. CREAGAN,
JAS. W. RICHENS.