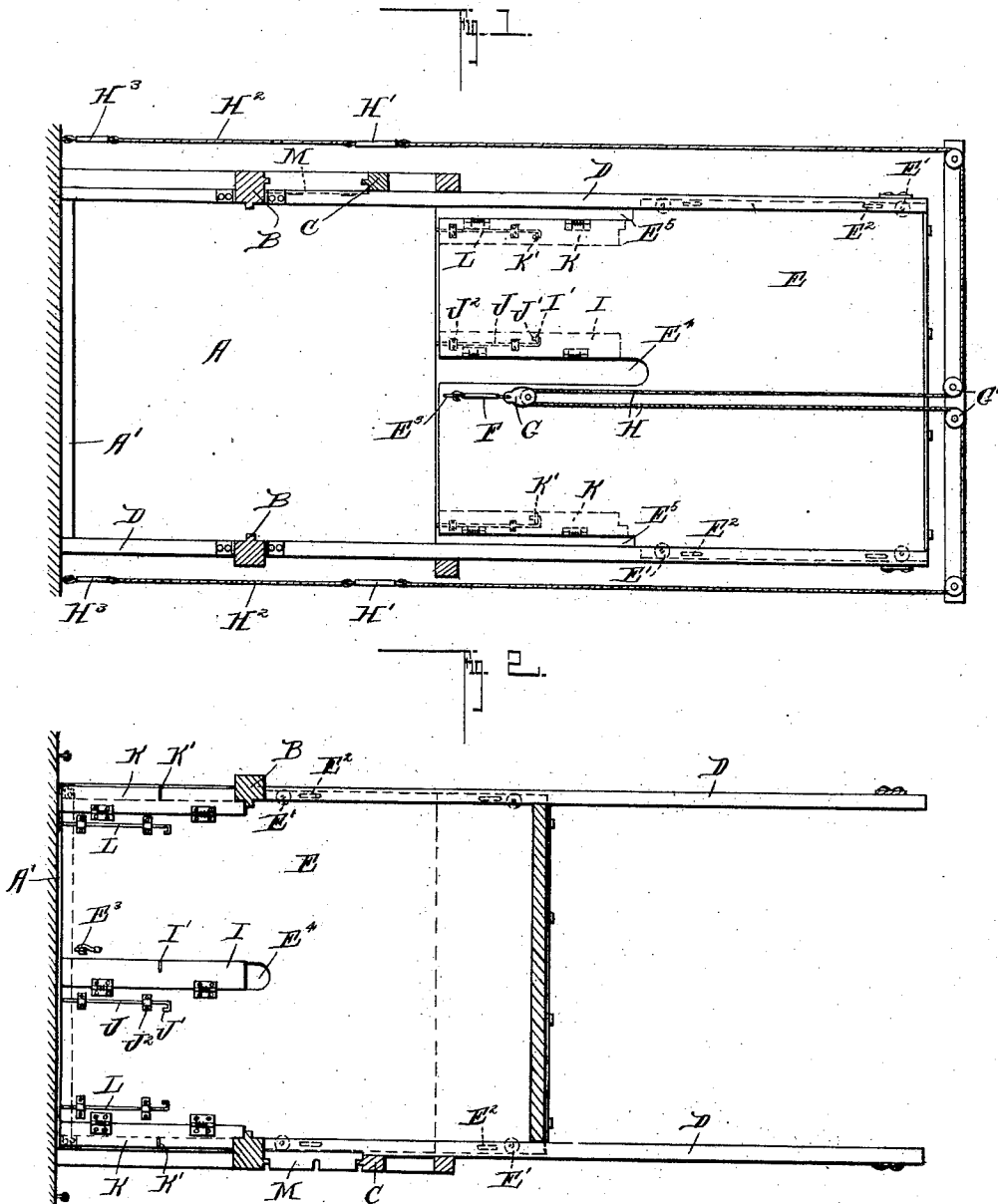


G. & S. WALKER.
 SELF OPERATED HATCH COVER.
 APPLICATION FILED DEC. 24, 1909.

987,197.

Patented Mar. 21, 1911.

2 SHEETS—SHEET 1.



Witnesses

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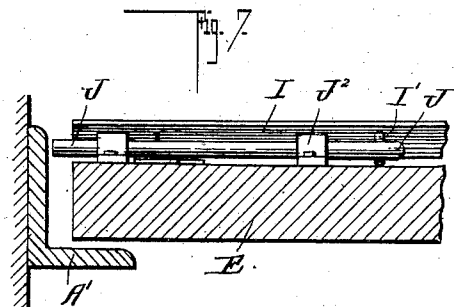
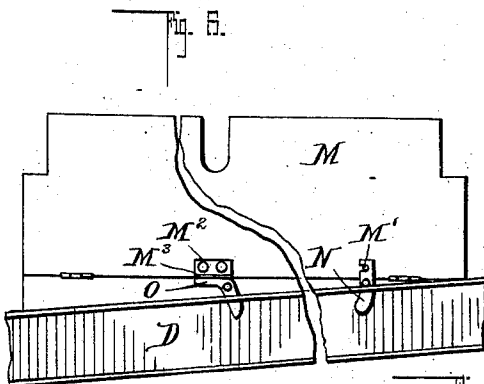
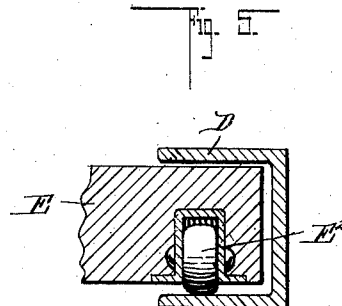
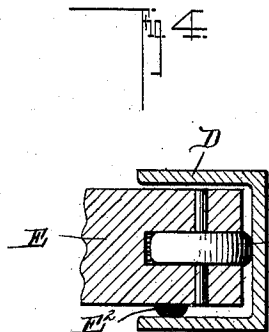
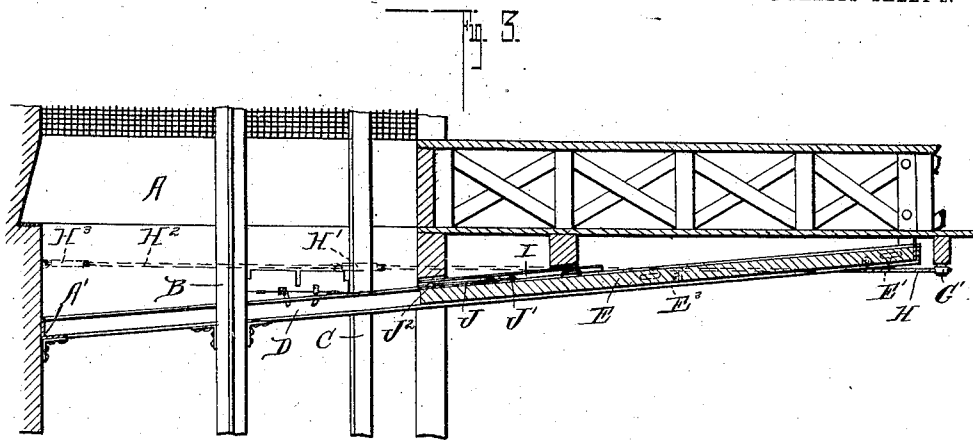
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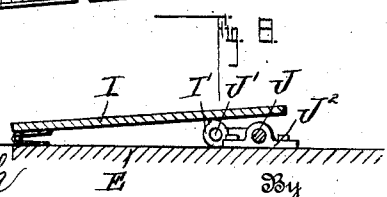
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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SELF-OPERATED HATCH-COVER.

987,197.

Specification of Letters Patent.

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Application filed December 24, 1909. Serial No. 534,886.

To all whom it may concern:

Be it known that we, GEORGE WALKER and SIDNEY WALKER, citizens of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented a new and useful Improvement in Self-Operated Hatch-Covers, of which the following is a specification.

This invention relates to certain new and useful improvements in self-operated covers or doors for elevator shafts or hatches, the object being to provide a cover which is so constructed that in case of fire the same will completely close the shaft or hatch.

Another object of our invention is to provide a cover which is provided with spring actuated sections which are adapted to be operated automatically so as to close the space between the walls of the shaft and the guides and the space around the cable opening.

A further object of our invention is to provide the shaft with a cover for closing the weight pocket which is automatically operated by the door when the same is moved into a closed position.

A still further object of the invention is to provide a door which is so mounted in an inclined track that when the same is released it will slide down and completely close the hatch or shaft, said door being held in an open position by cables which are provided with fusible links so that in case of a fire said links will melt, and the cover will be released.

With these various objects in view, our invention consists in the novel features of construction, arrangement and combination of parts, all of which will be hereinafter fully described and pointed out in the claims.

In the drawings forming a part of this specification: Figure 1 is an inverted plan view of our improved cover showing the same in an open position arranged in a building adjacent the elevator shaft. Fig. 2 is a top plan view of the same showing the cover in a closed position. Fig. 3 is a vertical section through the cover in an opened position. Figs. 4 and 5 are detail sections of the cover and track showing the manner of mounting the same. Fig. 6 is a detail view of the weight pocket cover. Fig. 7 is a detail section through a portion of the cover showing the flaps for closing the space be-

tween the guides and walls of the shaft. Fig. 8 is a section taken on the line 8—8 of Fig. 7.

Referring to the drawing A indicates an elevator shaft or hatch which is provided with the usual oppositely disposed vertical guides B and a guide C which in connection with the adjacent guides B forms a weight pocket in which the counterbalance weights of the elevator are adapted to travel, the above description being given so that the application of our improved cover can be readily understood.

Extending transversely through the hatch and out to one side is an inclined trackway D, the track portions of which are formed of channel bars as clearly shown in which is slidably mounted a cover E provided with casters E', E² adapted to engage the respective walls of the channel shaped tracks so as to allow the cover to move freely therein and it will be seen by this arrangement that the cover will slide down across the elevator shaft or hatch by its own weight when released and for supporting the end of the cover in a closed position, we provide an angled iron A' which extends across the shaft in such a position with respect to the trackway that when the cover is in a closed position the edge of the same will rest upon the angled iron A' and form a tight joint.

For supporting the cover in an open position so as to allow the elevator car to move freely up and down the shaft, we provide the cover with an eye E³ to which is connected the hook of a fusible link F which is connected to a block G through which passes a cable H which passes over pulleys G' suitably arranged in the framework of the building as clearly shown, the ends of said cable extending parallel alongside of the tracks of the trackway and have fusible links H' connected thereto, said fusible links being connected to cable sections H² which are connected to fusible links H³ having hook members adapted to be connected in eyes secured in the wall of the shaft of the elevator, it of course being understood that fusible links can be arranged in the cable at any desirable point, the above positions being given as the most desirable in case of fire where the greatest amount of heat would most likely be. By this arrangement when the fusible links give away the cable is released so as to release the cover,

and by its own weight the cover will slide across the hatch or shaft as clearly shown in Fig. 2.

The cover E is provided with a central slot E⁴ to receive the supporting cable of the elevator car when the same is moved across the path of the elevator shaft and for closing this slot after the cover or door has been moved into a closed position, we provide a spring actuated cover I which is provided with an eye I' which is adapted to receive the hook J' of a sliding rod J which is mounted in suitable guideways J² on the door E so as to hold the cover I in an opened position, said cover being preferably mounted upon the cover E by spring actuated hinges, and the end of the rod J extends out beyond the end of the door so that when the door is moved into engagement with the wall of the shaft the projecting end of the rod J will be engaged so as to slide the rod in its guideways out of the eye of the cover I which will release the same and allow the same to close as clearly shown in Fig. 2.

In order to provide means for closing the space between the wall of the shaft and the guides B the edges of the door E are cut away as shown at E⁵ which are closed by similarly shaped covers K which are also mounted upon the door E by spring actuated hinges and are provided with eyes K' which are engaged by the hook portions of rods L similar to the rod J which are also mounted in guideways and project out beyond the end of the door so that when brought into engagement with the wall of the shaft these covers will also be released so that they will close the space tightly between the guides and wall of the shaft as clearly shown in Fig. 2 and by this manner of constructing a door, the spaces which are now left open by doors now employed for closing shafts will be closed tightly so that practically an air-tight shaft will be formed.

In order to close the weight pocket of the elevator shaft, we provide a hinged cover M which is provided with a projecting pin M' which is engaged by a pivoted catch N which extends into the adjacent track of the trackway and is adapted to be engaged by the door on its downward movement so as to throw the catch out of engagement with the pin M' and release the same and for closing the flap, we provide the same with a projection M² having an outwardly projecting portion M³ having a cam edge which is adapted to be engaged by a pivoted dog O which also extends into the adjacent track and is engaged by the door so as to cause the same to ride over the cam edge of the projecting member M³ and swing the cover into a closed position as clearly shown. This cover is also provided with a notch to receive the cables for sup-

porting the weights so that the same will fit snugly around the cables and close the weight pocket as tightly as possible.

From the foregoing description, it will be seen that we have provided a cover for closing an elevator hatch or shaft which is so constructed that the same will move into a closed position by its own weight, said cover being provided with hinged spring actuated covers for closing the space between the guides and wall of the shaft and for closing the slot of the cover to receive the supporting cables in such a manner that when the door is moved into a closed position the shaft will be practically air tight, thereby providing a door which will have many advantages over doors of this character now in use.

While we have shown and described the particular manner of mounting the door and the covers, it is of course understood that various other means for accomplishing this result could be used without departing from the spirit of our invention.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent, is:

1. The combination with an elevator shaft, of a trackway arranged transversely in said shaft, a door mounted in said trackway, spring actuated covers carried by said door and means for holding and releasing said covers.

2. In a self-operating door for elevator shafts, the combination with a shaft having the usual guides and weight pocket, of an inclined track extending transversely through said shaft, a door slidably mounted in said trackway, covers carried by said door for closing the space between said guides and wall of the shaft, and means for holding said covers open when the door is in an open position and for closing said covers when in a closed position.

3. The combination with an elevator shaft provided with a weight pocket, of an inclined trackway extending transversely through said shaft, a cover arranged adjacent said weight pocket for closing the same, means for holding said cover in an open position, means for closing said cover and a door slidably mounted within said trackway adapted to first engage said means for holding the cover open and then said means for closing said cover when said door moves into a closed position.

4. The combination with an elevator shaft, of an inclined track extending transversely through said shaft, a door slidably mounted in said trackway provided with a slot to receive the cables of the elevator car, said door being provided with notches to receive said guides, spring actuated covers for closing said notches and slot and slidably mounted rods for holding said covers in an

open position, said rods being operated when said door is moved into a closed position so as to release said covers.

5 5. The combination with an elevator shaft provided with the usual guides and weight pocket, of an inclined track extending transversely through said shaft, a door provided with casters slidably mounted within said track, a cable connected to said door by a
10 fusible link for holding said door in an open position, said door being provided with notched edges and a central slot to receive the guides and the supporting cable, and spring actuated covers for closing said slot
15 and notch, said covers being released automatically when said door is moved into a closed position.

6. The combination with an elevator shaft provided with the usual guides and weight
20 pocket, of an inclined track extending transversely through said shaft, a door slidably mounted within said track, a cable connected to said door by a fusible link for holding the same open, a cover arranged
25 adjacent the weight pocket for closing the same, said door being provided with a central slot and notched edges, spring actuated covers for closing said slot and notched edges, and means for operating said spring
30 actuated covers together with means for closing the weight pocket cover when said door is moved into a closed position.

7. The combination with an elevator shaft,
35 of an inclined trackway arranged transversely in said shaft and extending out to one side, a door slidably mounted in said trackway, a cable connected to said door by a fusible link for normally holding the same
40 out of the shaft, said door being provided with notches and a central slot to receive the guides and supporting cable of the ele-

vator shaft, spring actuated covers for closing said slot and notches, slidably mounted rods for holding said covers in an open position having outwardly projecting ends
45 adapted to be operated when said door is moved into a closed position so as to release said covers.

8. The combination with an elevator shaft provided with a weight pocket, of a hinged
50 cover for closing said pocket provided with a pin and a projection having a cam edge, a pivoted catch for engaging said pin, a pivoted dog for engaging the cam edge of said projection, and a door adapted to oper-
55 ate the said pivoted catch and dog when moved across said elevator shaft.

9. The combination with an elevator shaft provided with a weight pocket and oppositely disposed guides, of a trackway extend-
60 ing transversely through said shaft, an angled iron arranged against the wall of said shaft between said track, a door slidably mounted in said track provided with a central slot and notched edges, a cable con-
65 nected to said door by a fusible link for holding the said door in an open position, spring actuated covers mounted upon said door for closing said slot and notched, slidably mounted rods for holding said covers
70 in an open position, a cover for closing said weight pocket, means operated by said door for closing said cover, said rods being adapted to engage said angled iron when
75 said door moves into a closed position so as to release said spring actuated covers.

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