E. H. McCLOUD.

FIRE RESISTING SHUTTER.

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1,257,273.

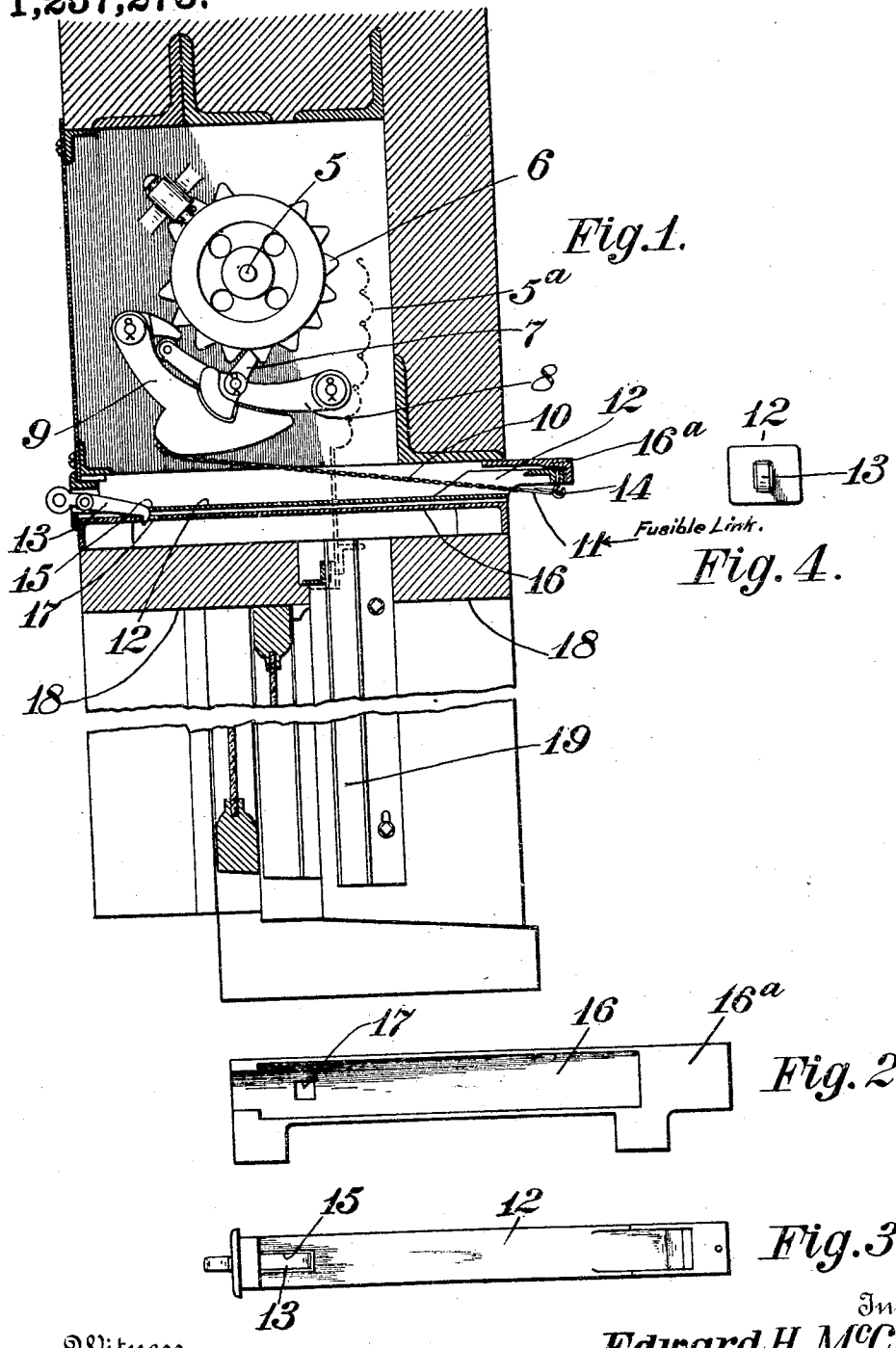


Fig. 1.

Fig. 4.

Fig. 2.

Fig. 3.

Witness

Benjamin Finckel

Inventor

Edward H. McCloud

By Finckel & Finckel

his Attorneys

UNITED STATES PATENT OFFICE.

EDWARD H. McCLOUD, OF COLUMBUS, OHIO.

FIRE-RESISTING SHUTTER.

1,257,273. Specification of Letters Patent. **Patented Feb. 19, 1918.**

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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 Fire-Resisting Shutters, of which the following is a specification.

Flexible rolling fire shutters or doors that are designed to automatically close in case of fire sometimes become inoperative by reason of rust or lack of use, hence it is important that they be occasionally tested and oiled or otherwise treated to insure their operation at the critical time. Such shutters include a latch for holding the shutter winding drum or a spring thereof and a chain containing a fusible link for holding the latch in drum holding position. To test such shutters as at present installed it is necessary for the workman to get upon the outside of the building and oftentimes in a high and dangerous position.

The object of this invention is to provide simple and easily operated means whereby the testing of such a shutter can be effected from the interior of the building.

The invention is embodied in the construction herein shown and described, the feature of novelty being pointed out in the claims appended to the description.

Figure 1 is a vertical section illustrating my invention applied to a shutter for a window, said view being broken out horizontally.

Fig. 2 is a plan view of the permanent frame for receiving the slidable member for holding the chain and fusible link.

Fig. 3 is a plan view of the slidable member.

Fig. 4 is a view of the left hand end of the slidable member as shown in Fig. 3.

In the views 5 designates one end of a shaft of the winding drum upon which the shutter 5^a is wound, said shaft containing a star wheel 6 adapted to be engaged by a pivoted latch or pawl 7 on a lever 8 to prevent the star wheel from turning in one direction. 9 designates a lever arranged to support the lever 8 in position to cause the latch or pawl 7 to engage the star wheel as stated. To said lever 9 is attached one end of a chain 10 containing at its other end a fusible link 11. The parts thus far described are not of the present invention except in so far as they might be construed to be a part of a combination.

12 designates a slide or movable member, said slide being shown to be of a length greater than the thickness of the window frame and provided at one end with a pivoted hook 13 projecting as a finger piece beyond the end of the slide and at the other end with a plain hook 14. The slide is provided with an opening 15 through which the end of the hook 13 passes.

The slide works in a permanently installed box or frame 16 open at its upper side and having a hooded end 16^a to project beyond the wall of the building to protect the fusible link 11 and form a pocket to gather heat. The bottom of the box has an opening 17 into which the latch drops by gravity to engage the box and thereby secure the slide in position to hold the chain taut and the shutter winding drum or spring thereof as in Fig. 1.

18 designates the window opening which may be equipped with the channels 19 to receive the shutter 5^a from the roller as usual in such structures.

In practice that end of the chain 10 carrying the fusible link 11 is attached to the plain hook 14 and the slide shoved into the box until the chain 10 is made taut and while the latch holding lever 9 is supporting the lever 8 and the pawl 7 in engagement with the star wheel, as shown in Fig. 1. The chain 10 is made of such length that the fusible link, when the chain is made taut, is carried to the exterior of the building and there held in exposed position to be melted by heat in case of nearby fire. In the event of such fire the chain is released thereby liberating the levers 9 and 8 and the pawl 7. In this event the shutter falls and presents an iron front to obstruct the passage of sparks &c. into the interior of the building. When it becomes desirable to test the mechanism of the shutter, as after long disuse, the slide is manually released by depressing the finger piece of the pivoted hook 13 thereby removing the hook from the opening 17 after which the box can be withdrawn toward the interior of the building. The slacking of the chain 10 releases the shutter winding drum in substantially the same way as when the fusible link is melted by fire, hence in this manual operation, if the apparatus be in good or satisfactory working order the curtain

will descend and close the opening as though released by fire.

The forms of the parts can be changed without departing from the gist of the invention as claimed.

What I claim is:

1. In combination with an automatic fire shutter, and a building wall having an opening near said shutter, a movable structure to normally rest in said opening, a thermally actuated shutter-releasing member carried by said movable structure, said movable structure adapted to be operated from the interior of the building to project the thermally actuated member through said opening from one side of the wall to the opposite side, and a latch to hold the said movable structure with said thermally actuated member exposed at said opposite side of the wall.

2. In combination with an automatically closing fire resisting shutter or door, means for releasing the same including a thermally operated member, a slide to receive the thermally operated member, and means for latching said slide in position with reference to the shutter to expose the thermally operated member at the side of the shutter opposite that to be protected from fire.

3. In combination with an automatically closing fire resisting shutter or door, means for releasing the same including a thermally operated member, a slide to receive the thermally operated member, a frame in which said slide works, and means for latching said slide in position with reference to the shutter to expose the thermally operated member at the side of the shutter opposite that to be protected from fire.

4. In combination with an automatically closing fire resisting shutter or door, means for latching the shutter from automatic action including a flexible member containing a fusible member, a slide to receive the flexible member, and means for latching said slide in position with reference to the shutter to expose the fusible member at the side of the shutter opposite that to be protected from fire.

5. In combination with an automatically closing fire resisting shutter or door, means for releasing the same including a thermally operated member, a slide to receive the thermally operated member, a frame in which said slide works, and the manually operative latch on said slide to engage said frame to secure the thermally operated member in shutter holding position.

EDWARD H. McCLOUD.

Witnesses:
ELIZABETH M. WEISZ,
ALBERT KURL.

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