H. W. TROTH.

PILOT FOR SLIDING DOORS.

APPLICATION FILED FEB. 5, 1913.

1,146,673. Patented July 13, 1915.

Fig. 1.

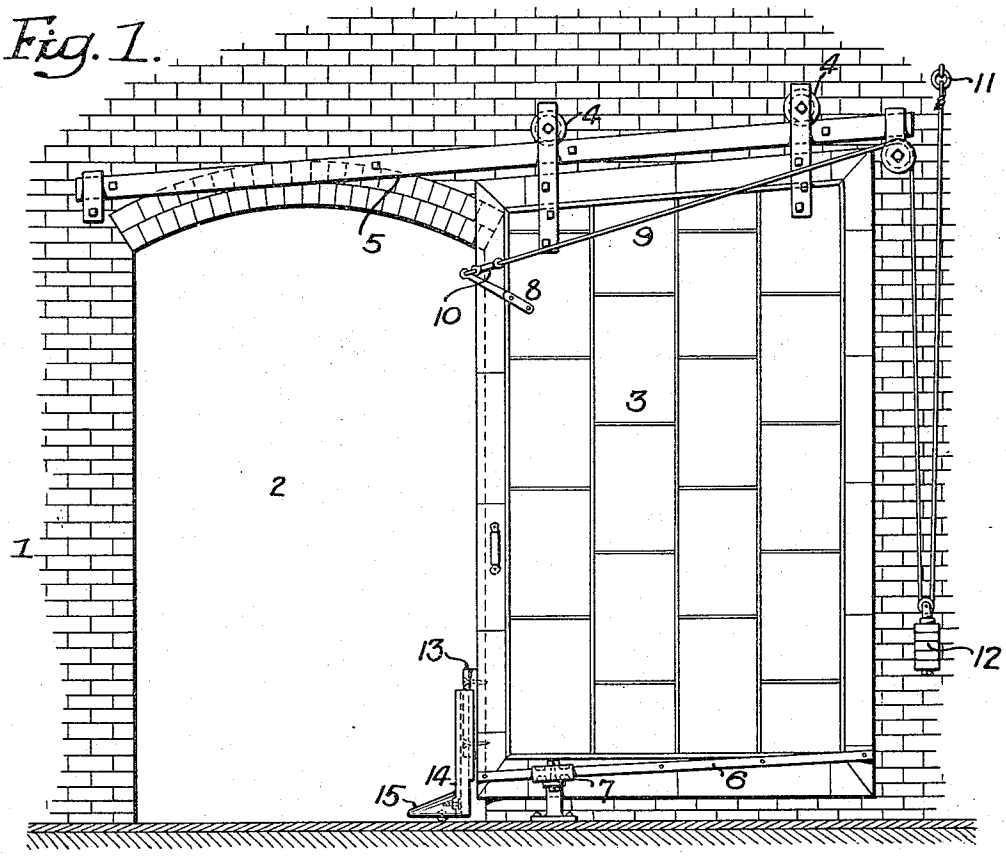


Fig. 2.

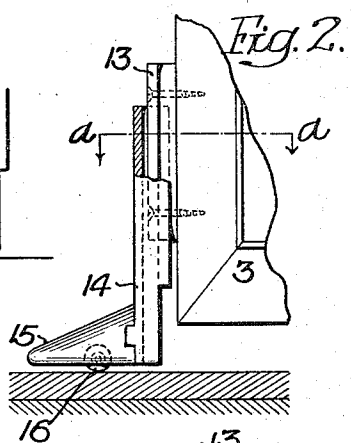


Fig. 3.

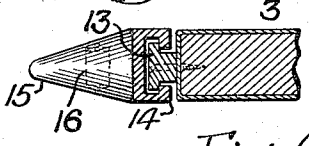


Fig. 4.

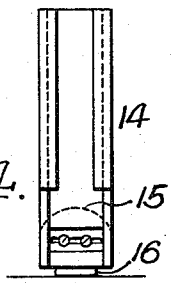


Fig. 5

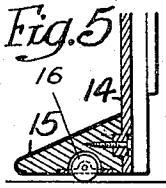


Fig. 6.

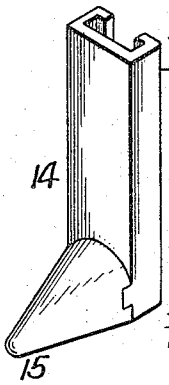


Fig. 8.

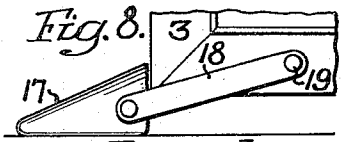


Fig. 9.

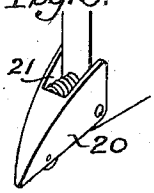
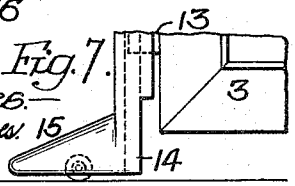


Fig. 7.



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PILOT FOR SLIDING DOORS.

1,146,673. Specification of Letters Patent. Patented July 13, 1915.

Application filed February 5, 1913. Serial No. 746,346.

To all whom it may concern:

Be it known that I, HARRY W. TROTH, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Pilots for Sliding Doors, of which the following is a specification.

The object of my invention is to provide a sliding door with a pilot which will remove obstacles out of the path of the door as it is being closed so that when the door is automatically released, it will close the passageway.

The invention is particularly adapted for use in connection with sliding fire doors, which are usually hung from inclined rails and which, when in their open position, are usually some distance from the floor.

The great objection to the use of doors of this type is that small obstacles may be accidentally placed in the passageway and as the door closes it will travel over and rest upon these obstacles and thus be prevented from closing. By my invention I provide a pilot which is attached to the forward edge of the door and which at all times travels on the floor. Consequently, as the door closes, the pilot will force any obstacle to one side of the path of the door, allowing the door to close the opening.

In the accompanying drawing, Figure 1 is a side view of a partition, showing a sliding fire door in the open position with the pilot attached; Fig. 2 is an enlarged sectional elevation of a portion of the door, with the pilot partly in section; Fig. 3 is a sectional plan view on the line *a*—*a*, Fig. 2; Fig. 4 is a rear view of the pilot; Fig. 5 is a vertical sectional view of a portion of the pilot, showing the detachable projection or nose; Fig. 6 is a detached perspective view of the pilot; and Figs. 7, 8, and 9, are views of modifications of the invention.

Referring to the drawing, 1 is the partition of a building, in the present instance, having a doorway 2, which is closed by a sliding door 3 having wheels 4 which travel on an overhead inclined rail 5. Secured to the bottom of the door is an inclined rail 6 and mounted on the floor and bearing against this rail is a guide roller 7.

8 is an arm near the upper end of the door connected to a rope 9 through a soft solder connection 10, which will melt under certain temperatures, disconnecting the door from the rope when a fire occurs in the room. The rope is attached at 11 to the wall and in the loop of the rope is a counterweight which tends to keep the door normally in the open position. The door can be closed by hand, but in the event of a fire the solder joint will melt and will release the door from the control of the weight and as the door is supported on the inclined rail, it will automatically close. This is one of the ordinary fire door constructions and other means may be used for releasing the door, if found desirable, as the invention relates wholly to the pilot which is attached to the door.

Secured to the edge of the door, in the present instance, is an under-cut plate 13 forming a vertical guide-way for the pilot 14. This pilot has a flange at each edge which travels in ways in the plate 13. At the lower edge of the pilot is a round projection or nose 15. This nose, as illustrated in Fig. 5, is preferably detachably secured to the body portion of the pilot by screws or other fastenings and on the body portion is a transverse rib, which extends into a transverse groove in the nose. The body portion is slotted for the reception of the screws which fasten the nose to the body portion so that the nose can be moved laterally to overlap a joint in the floor, as these fire doors must have a certain amount of lateral freedom.

Mounted in suitable bearings on the under side of the nose or projection 15 is a roller 16 which travels on the floor. The pilot rests as close to the floor as possible. The pilot can be made of any suitable material and its weight is sufficient to keep it on the floor. I preferably make both the nose and the body portion of wood and sheathe the projection or nose 15 with metal, as illustrated in Fig. 5, or the device may be made of metal, if so desired. When the door is closed and if there should be a stick or other obstacle in the path of the door, the pilot will move this obstruction to one side, allowing the door to close and as the pilot travels on the floor it will remove any obstacle in the path of the door, which, if allowed to remain in its path, would prevent it from closing.

In Fig. 7, I have illustrated the body portion and the projecting nose in one piece.

In Fig. 8, I have illustrated a modification of the pilot in which 17 is the pilot connected by links 18 to a pivot 19 on the door

some distance from its edge. The weight of the pilot will be sufficient to hold it on the floor while the links will allow the door to move in a vertical plane.

In Fig. 9, I have illustrated another modification in which the pilot 20 is pivoted to the door and is pressed onto the floor by a spring 21. The pilot, in this case, is preferably made of sheet metal bent into shape with wings extending on each side of the door to hold it in position and to strengthen it.

I claim:

The combination of a sliding door; an inclined rail upon which the door travels from the open to the closed position so that the door will rest upon the floor in the closed position, and be raised from the floor in the open position; a pilot located at the lower front edge of the door and having a tapered projection; and a vertical undercut plate secured to the lower portion of the front edge of the door, said pilot having a stem with flanges arranged to slidably engage the plate so that, as the door moves from the open to the closed position, the stem of the pilot will slide vertically in the plate.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

HARRY W. TROTH.

Witnesses:

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JOS. H. KLEIN.

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