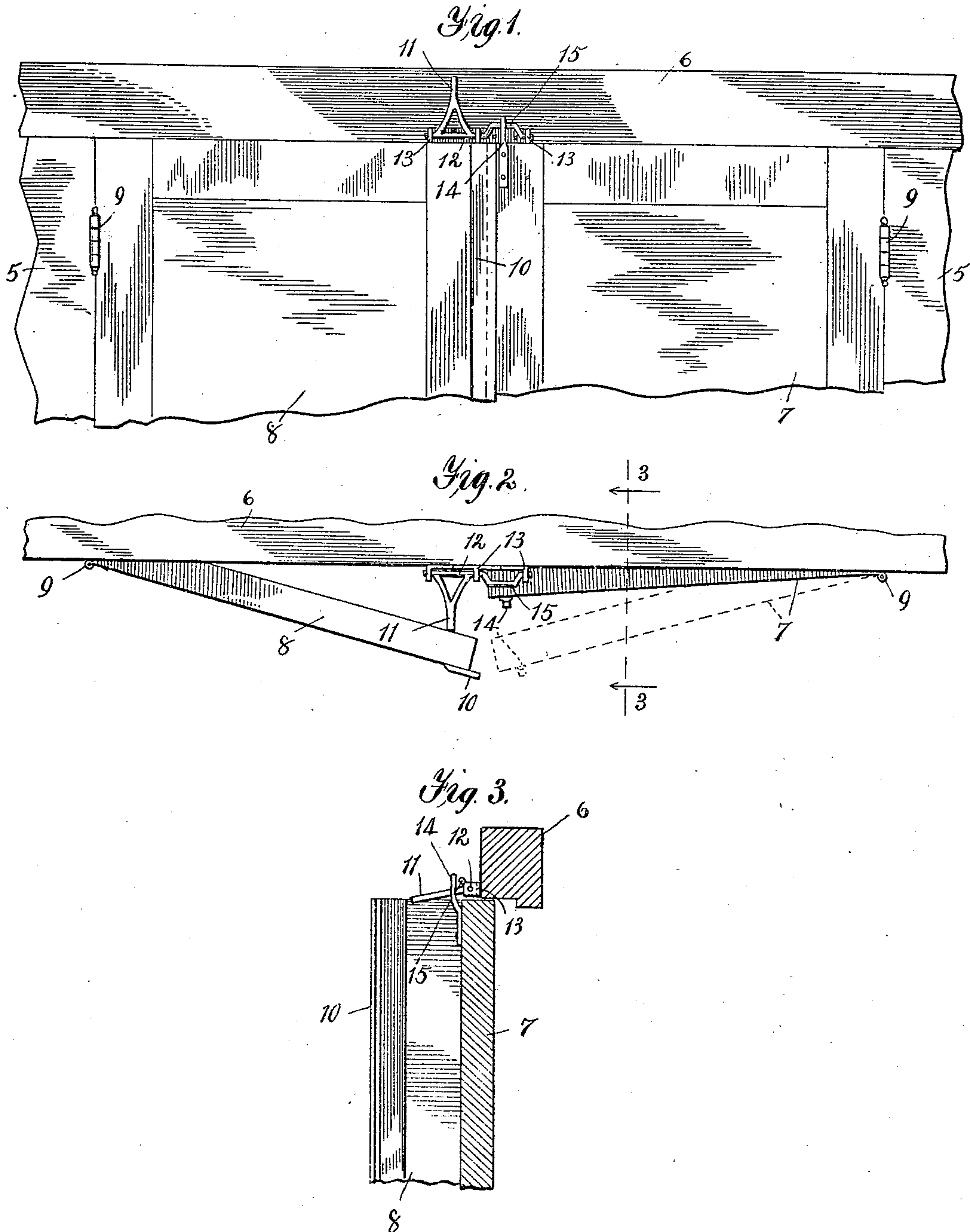


T. P. SHEAN.
DOOR STOP AND RELEASING DEVICE.
APPLICATION FILED NOV. 29, 1909.

951,261.

Patented Mar. 8, 1910.



Witnesses:

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UNITED STATES PATENT OFFICE.

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DOOR STOP AND RELEASING DEVICE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS P. SHEAN, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Door Stop and Releasing Devices, of which the following is a specification.

My invention relates to doors and particularly to double doors used in partition walls and which are especially designed to afford protection in case of fire, the device being especially applicable to hinged double doors.

The main object of the improvements which constitute the subject matter of this application for patent is to provide an automatic safety device which will insure that the closing of the cooperating doors to which it is applied will take place in proper sequence. When a double door is used to close an opening in a partition or fire wall it is a common practice to provide one of the doors with a flange or astragal which overlaps the margin of the companion door, thus forming a tight joint for the purpose of preventing the passage of hot air or flames from one side of the door to the other in case of fire, and if the door bearing this projection is closed first it will prevent the other from being tightly closed, and the opening thus left will defeat the purpose for which the specially constructed doors are intended.

I accomplish the desired result by means of a pivotal stop arranged to automatically fall into the path of the door which bears the astragal, and thus requires it to be checked and shut last, and hold said door sufficiently ajar to permit the other door to swing shut, the latter carrying an arm which engages a projection on the pivot of the stop, and swings the latter out of the way thus permitting the checked door to be completely closed in proper sequence.

The preferred form of my improved safety device is illustrated in the accompanying drawing, which forms a part of this application, the important details of the construction being disclosed in the following views:—

Figure 1 is a front elevation of the upper portion of cooperating hinged doors to which my invention is applied, only so much of the doors and adjacent structures being shown as will suffice for a clear understand-

ing of the invention; Fig. 2 is a top plan view of the parts shown in Fig. 1, and Fig. 3 is a sectional view, taken on the line 3—3 of Fig. 2.

Referring to the details of the drawing, the numeral 5 indicates the side members or posts and 6 the lintel of a door frame within which is hung a double door consisting of the right and left hand leaves or doors 7 and 8, respectively, the upper hinges or butts being indicated at 9. The left-hand door 8 bears the usual molding or astragal 10 overlapping the companion door when closed, and as the door 8 for that reason must always be closed last, as hereinbefore explained, I place above the said door 8 a stop or check consisting of an arm 11, attached to or integral with a rock-shaft 12, supported in brackets 13, secured to the lintel 6 in any convenient manner. The arm 11 is free to swing to the inclined position shown in Fig. 3, slightly below the horizontal, and when so positioned its extremity will lie in the path of the corresponding door and engage the latter when it is swung to, as shown in Fig. 2 of the drawing, thus holding it slightly ajar and sufficiently open to permit the companion door to clear the astragal 10. The door 7 is provided with a vertical lug or finger 14, secured to the front or outer face of the door near the free margin and projecting above the top edge so that when the door 7 is nearly closed it will engage the crank arm portion 15 of the said shaft 12, and throw the stop arm 11 back to its vertical position.

The manner of operating my improved safety device for double doors will be readily understood. The left hand door 8, may be opened and closed without affecting the position of the stop 11, so long as the door 7 remains closed. The overlapping molding or astragal prevents the latter door from being opened first, but as soon as the opposite door is swung upon its hinges to a sufficient extent, the door 7 is then opened and this releases the portion 15 of the arm 11 so that the latter falls by gravity into the path of the door 8. While in this position, that is, so long as the right hand door 7 remains open, any attempt to close the opposite door 8 will be resisted by the engagement of the arm 11. If the right hand door is now swung shut, the vertical fixed arm 14 will by striking the crank-portion 15, rock the said

stop arm 11 to the vertical position where it will be held so long as the door 8 remains closed.

Having thus described my invention, what I claim as new, is:—

1. In an automatic door stop, the combination with a plurality of cooperating doors, of a stop arm arranged adjacent one of said doors and adapted to move into the path of said door, and means on the other door for restoring said arm to its initial inoperative position when the last mentioned door is closed.

2. In an automatic door stop, the combination with a pair of cooperating doors, of a stop arm pivoted on the door lintel above one of said doors and adapted to be moved into the path of said door, and an arm fixed on the other door and adapted to restore said stop arm to its inoperative position when the second door is closed.

3. In an automatic door stop, the combination with a pair of cooperating doors, of a rock shaft arranged adjacent said doors, a

stop arm on said shaft adapted to move into the path of one of said doors by the action of gravity, an arm fixed on the other door and adapted to rock said shaft to its initial position when the second door is closed.

4. In an automatic door stop, the combination with a pair of cooperating doors, of a gravity operated stop adapted to move into the path of one of said doors, and means on the other door for restoring said stop to its inoperative position.

5. In an automatic door-stop, the combination with a pair of cooperating doors, of a stop for preventing the closure of one of the doors while the other door is open, and means controlled by the movement of the latter door for rendering the said stop inoperative.

In testimony whereof I affix my signature in the presence of two witnesses.

THOMAS P. SHEAN.

Witnesses:

M. A. MILORD,

H. DE LOS HIGMAN.