W. K. HENRY.

SAFETY DOOR HOLDER.

APPLICATION FILED FEB. 21, 1913.

1,181,663.

Patented May 2, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

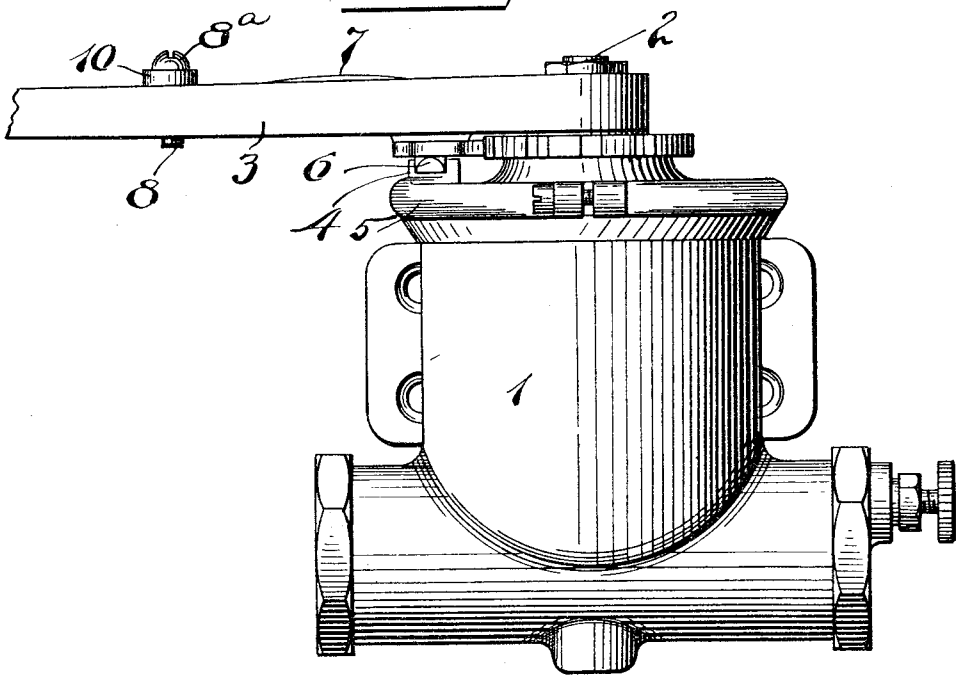
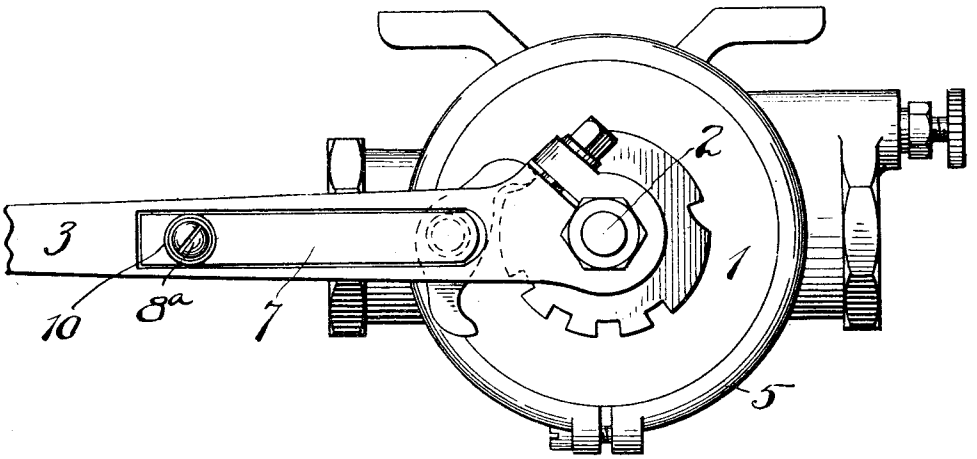


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

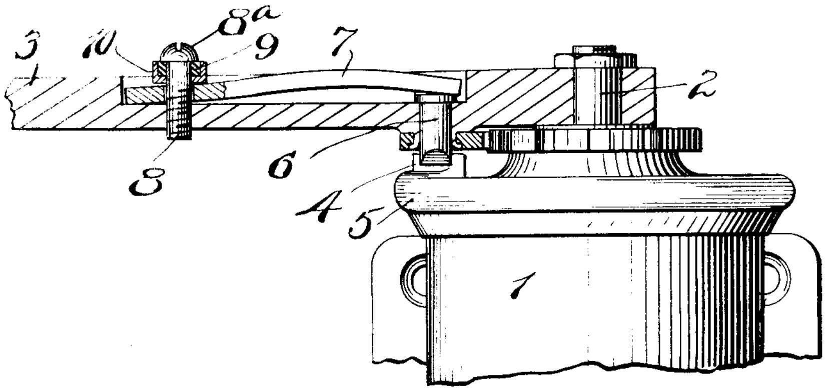


Fig. 4.

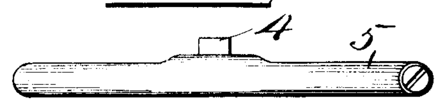


Fig. 7. Fig. 5. Fig. 8.

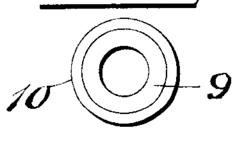
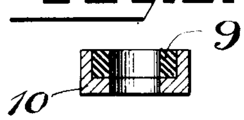


Fig. 6.



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UNITED STATES PATENT OFFICE.

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SAFETY DOOR-HOLDER.

1,181,663. Specification of Letters Patent. Patented May 2, 1916.

Application filed February 21, 1913. Serial No. 749,843.

To all whom it may concern:

Be it known that I, WILLIAM K. HENRY, a citizen of the United States, residing at New Britain, Hartford county, State of Connecticut, have invented certain new and useful Improvements in Safety Door-Holders, of which the following is a full, clear, and exact description.

My invention relates to a safety door holder, the same being of particular utility when employed in connection with suitable door closer mechanism.

The object of the invention is to provide a holder construction whereby the door with which said holder is associated may be held open at the desired angle against the closing influence of the closer mechanism, but which is also so constructed that in the event of a fire in the neighborhood of said door, the holder will be automatically released so that the door closer may close the door to confine the fire to the apartment protected by the door.

In the accompanying drawings: Figure 1 is a side elevation of my invention as applied directly to a door closer. Fig. 2 is a plan view thereof. Fig. 3 is a view of certain parts, as shown in Fig. 1, said view being partly in section. Fig. 4 is a detail view. Fig. 5 is a plan view, on a relatively enlarged scale, of another detail. Fig. 6 is a cross section of the parts shown in Fig. 5. Fig. 7 is a section of one of the parts shown in Fig. 6. Fig. 8 is a section of another of the parts shown in Fig. 6.

It should be understood that I have shown herein and shall describe my invention in only a preferred form, but that various modifications may be readily made without departure from the spirit and scope thereof.

1 represents a case or housing of what is conventionally known as a door closer, the particular construction of which is immaterial.

2 is a spring-controlled spindle which carries a closer arm 3. The parts 1 and 3 may be suitably connected with the door and door casing respectively in such a way as to cause the door to close automatically. In many instances it is desirable to provide a holder whereby the door may be held ajar against the closing tendency of the closer mechanism. For example, in communicating doors between offices or apartments, it is frequently desirable to have the doors held open. To that end spring holder devices have been employed in the past in connection with door closing mechanism so that when the door has been opened beyond a certain predetermined point, the holder device engages and holds the door at that angle against the closing tendency of the closer mechanism until manual pressure is applied sufficient to overcome the resistance of the stop mechanism. One simple and common form of such mechanism comprises an abutment 4 carried by a ring 5 adjustable on the head of the casing 1 so as to position the abutment 4 at any desired angle.

6 is a yielding detent carried by the arm 3 and provided with a beveled nose so that it may be pressed back by a sufficiently forceful contact with the abutment 4. The detent 6 is held projected by a spring 7 usually mounted on the top side of the arm 3, the spring being put under suitable tension in any desired manner; for example, by means of a screw 8.

In the present instance, I employ means associated with the holder mechanism in the form of a readily fusible metal, which operates in a sense as a coupling or link at some convenient place between the various operative parts of the holder mechanism so that in the event of fire in the neighborhood of the door, the fusible material will soften and thus free the holder and allow the closer to close the door with which it is associated. In one simple embodiment of this idea, I make said coupler in the form of a washer 9, this washer 9 being formed of metal which melts at a relatively low temperature. This washer I locate between the under side of the head 8^a of the screw 8 and the upper side of the spring 7 so that by turning down on the screw 8, the spring 7 may be put under the desired tension against the detent 6. It is obvious that so long as the washer 9 retains its shape, this tension in the spring 7 will be continued. If, however, the washer becomes heated above a certain temperature, it will at once soften, whereupon the strain of the spring 7 on the detent 6 being removed, the closer arm 3 will be swung in a direction to close the door.

From the foregoing it will readily be seen that a very substantial factor of safety is added to buildings by the employment of devices of this character, for, as will be ap-

parent, if a fire should occur in one apartment of a building, the door or doors of the apartment in which the fire occurs would close automatically and very quickly, thereby at least hindering, if not entirely preventing, the spread of the fire to an adjacent apartment.

When I employ a washer 9, I prefer to employ a cupped washer 10 providing a confining wall of relatively non-fusible material about the edge and base thereof and in which the fusible washer 9 may be seated, as shown in Fig. 6. This construction affords this advantage: In the event a fire occurs and the washer 9 melts so as to release the tension on the spring 7, the spring 7 will rise only slightly in the vicinity of the screw 8 so that the head 8^a of the screw will sink only partially into the fused metal in the cupped washer 10, displacing only a portion thereof. As soon as this cools off, it will be found that sufficient fusible metal is retained in the cupped washer to permit the screw 8 to be again turned down so as to restore the tension on the spring 7. In actual practice the coupler shown in the drawings may work two or three times without requiring the replacement of a new fusible washer.

What I claim is:

1. A safety door stop for swinging doors comprising, a spindle, a mounting therefor, an arm carried by said spindle and projecting laterally therefrom, an abutment carried by one of said parts, a yielding detent carried by another part and arranged to cooperate with said abutment, a spring operating against said detent, and means to put said spring under tension, said means having a shank and a headed portion and a fusible member around said shank and arranged between said headed portion and said spring, whereby tension on the spring will be relieved in the event of extreme heat.

2. A safety door stop for swinging doors comprising, a spindle, a mounting therefor, an arm carried by said spindle and projecting laterally therefrom, an abutment carried by one of said parts, a yielding detent carried by another part and arranged to cooperate with said abutment, a spring operating against said detent, and means to put said spring under tension, said means having a shank and a headed portion and a fusible member around said shank, and arranged between said headed portion and said spring, whereby tension on the spring will be relieved in the event of extreme heat, and a reinforcing wall around said fusible member, said reinforcement being of relatively non-fusible material.

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