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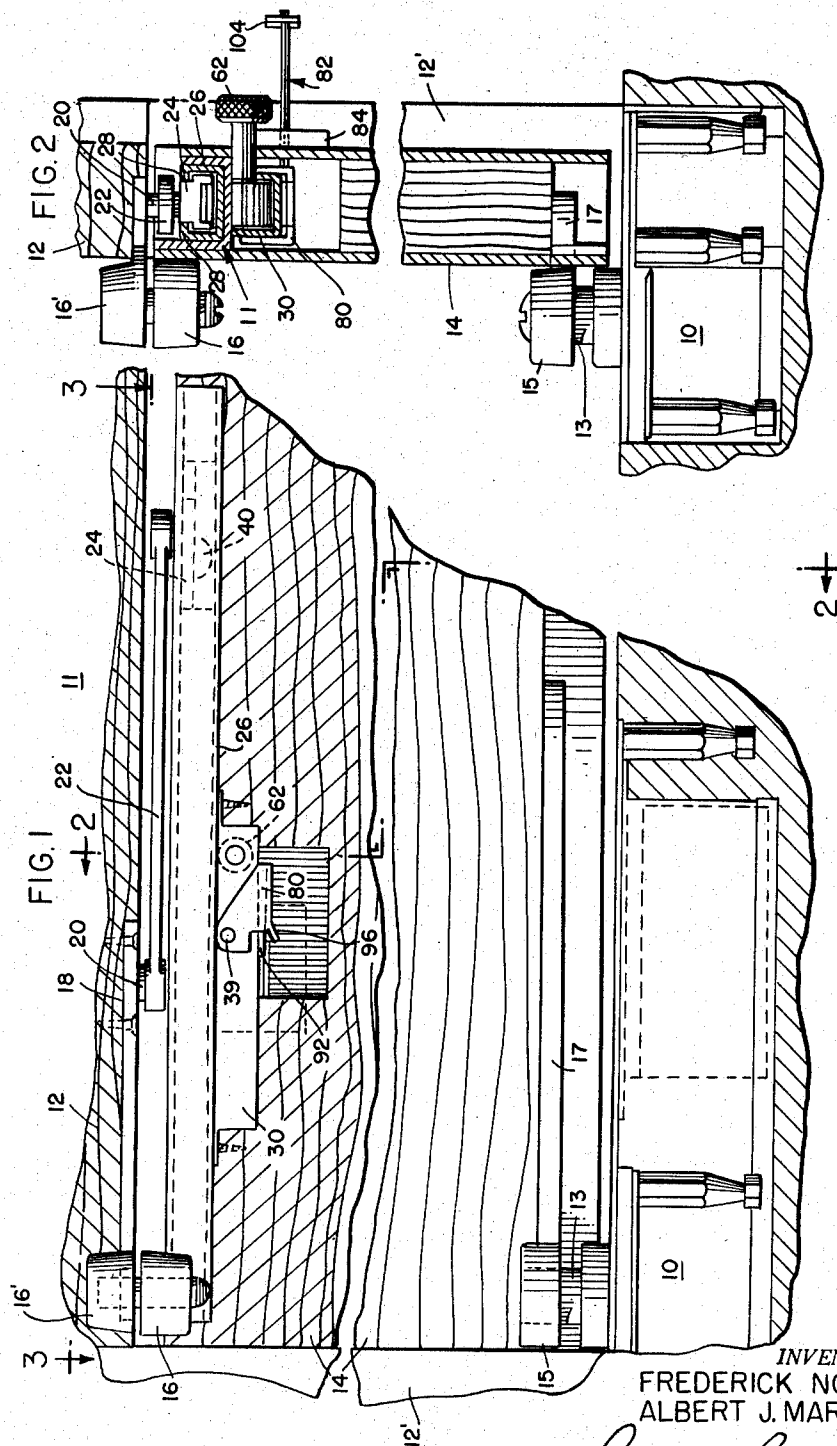
F. NOLTIN ET AL

2,887,194

HOLD-OPEN MEANS FOR AUTOMATIC DOOR CLOSING APPARATUS

Filed Feb. 27, 1957

3 Sheets-Sheet 1



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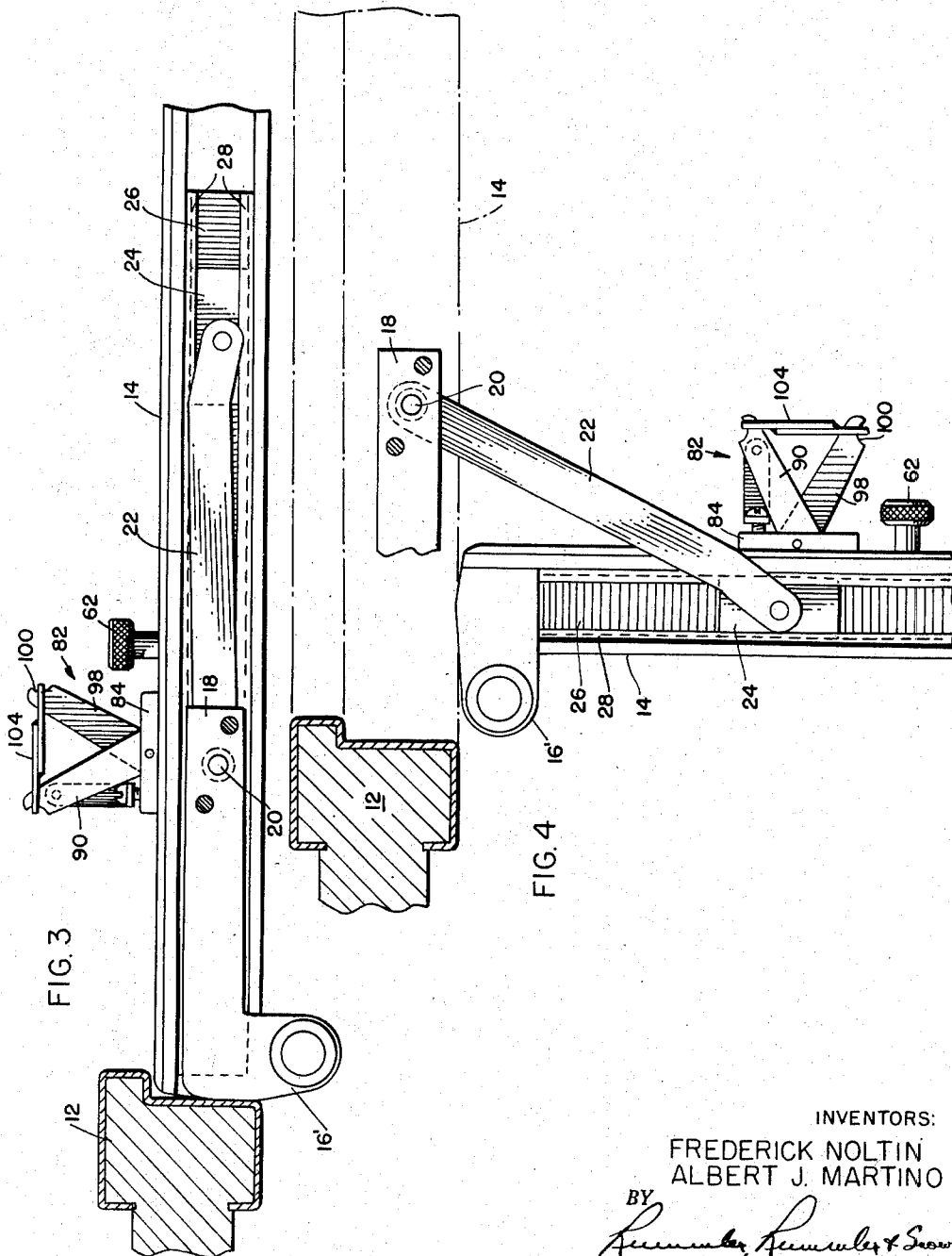
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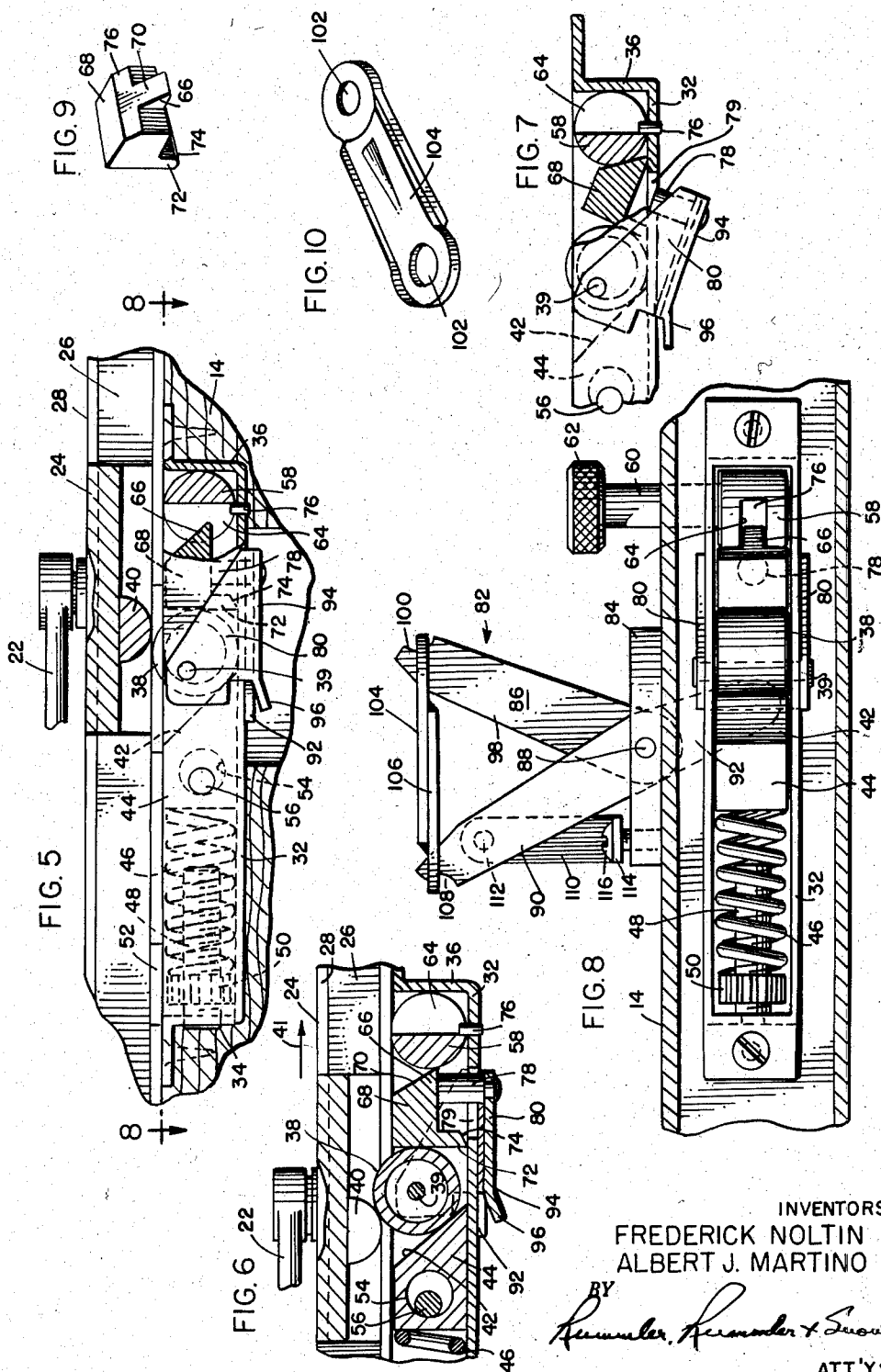
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HOLD-OPEN MEANS FOR AUTOMATIC DOOR CLOSING APPARATUS

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13 Claims. (Cl. 189—49)

This invention relates to automatic door closing apparatus and more particularly to an improved hold-open mechanism therefor having a heat responsive release means to permit closing a door automatically in event of fire.

Heretofore, interior fire doors in hotels, office buildings, factories and the like have had to be kept normally closed because of the danger that a fire starting in one part of the building would spread swiftly through the passages and stairwells. Thus the fire regulations of most communities require that automatic closing devices be provided for these fire doors and that such devices be fully operative at all times. However it is often desirable to have these doors stand open to promote circulation of air and in industrial buildings it is extremely inconvenient to have doors closing off the various parts of a plant particularly where mobile materials handling equipment makes frequent trips to the several parts of the building.

Accordingly, it is a primary object of the present invention to provide a completely safe automatically releasable hold-open mechanism for use in connection with automatic door closure apparatus which mechanism is responsive to release the door for closing when the temperature of the ambient air reaches a predetermined level.

Another object of the invention is to provide an automatic hold-open mechanism of the type described which is efficient and effective in use and which is characterized by reliability of operation.

Further objects of the invention are to provide an automatic door hold-open device of the type mentioned which may readily be adjusted manually so that the door hold-open function is inoperative; to provide such a device that will permit easy manual closing of the door at all times that the hold-open function is operative; and to provide such a device that can be used in connection with substantially any automatic door closing apparatus of the no-hold-open type.

Other and further objects, advantages and features of the present invention will be apparent to those skilled in the art from the following description, taken in conjunction with the accompanying drawings in which similar reference characters relate to similar parts and in which:

Figure 1 is an elevational view, partly broken away, of closure and hold-open apparatus embodying the present invention, showing the relation of the parts as installed with a door;

Fig. 2 is a vertical sectional view taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a plan view of the improved hold-open device, taken substantially on line 3—3 of Fig. 1 and showing the door in closed position;

Fig. 4 is a view similar to Fig. 3 but showing the hold-open device with door in open position;

Fig. 5 is an enlarged fragmentary sectional elevational view of the hold-open device of Fig. 1 showing the automatic holding mechanism with elements thereof in inoperative or "off" position;

Fig. 6 is a fragmentary sectional elevational view simi-

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lar to Fig. 5 but showing the holding mechanism elements in their operative or locking position;

Fig. 7 is a fragmentary view similar to Fig. 6 but showing the holding mechanism elements in the position they assume when automatically released from operative position in response to a predetermined maximum temperature condition;

Fig. 8 is an enlarged plan view of the holding mechanism, as taken on line 8—8 of Fig. 5, showing its operative relation to the temperature responsive release means;

Fig. 9 is a view in perspective of the manually adjustable backing block which shifts the latch roller into and out of operative position; and

Fig. 10 is a view in perspective of a fusible link used in conjunction with the temperature responsive release means of the present invention.

Referring now to the drawings and more particularly to Figs. 1 and 2, the automatic door hold-open and closing apparatus of the present invention comprises a door closer, indicated generally by reference numeral 10, and a hold-open device, indicated generally by numeral 11, which are shown in operative relation to a door jamb and head rail indicated generally by reference numerals 12 and 12', and a door 14 which is mounted for pivotal movement on pintle-type hinge units 15 and 16. Secured to the undersurface of the head rail in spaced relation to the axis of the hinges 16 is a fixed pivot plate 18 which may be formed integrally with the upper half of the upper hinge unit 16'. A pin 20, journaled in the plate 18, forms one pivot axis of an operating arm or link arm 22, the other end of which is pivotally mounted on a slide block 24. The slide block 24 is mounted for sliding movement within a guideway or track member 26 which is recessed into the top edge of the door 14 and is provided with inwardly directed flanges 28 to prevent upward escape of the slide block 24 from the guideway 26 as it slides back and forth upon operation of the door between the closed position of Fig. 3 and the open position shown in Fig. 4. The door 14 normally tends to return to the closed position and for that purpose is actuated by the door closer 10 which drives a spindle 13 received in driving relation in the lower hinge unit 15. An arm 17 from the hinge element 15 is attached to the bottom of the door 14 to transmit the driving force of the closer 10 to the door.

For selective retention of the door in the opened position, shown in Fig. 4, a retainer assembly 30 is recessed within the door 14 immediately below the guideway 26. Referring now to Fig. 5, which shows the slide block 24 positioned as when the door is open, the retainer assembly 30 includes a channel-shaped frame member 32 having end walls 34 and 36. A latch means 38, of hollow cylindrical construction, is disposed transversely within the frame 32 in surrounding relation to a pin 39 which serves an additional function hereafter described. As shown in Fig. 5, the latch 38 is in its inoperative position. However, the latch 38 may be moved manually to the locking position shown in Fig. 6, in which position it is engaged by a protuberance 40 depending from the undersurface of the sliding block 24, and the block 24 is held against movement, in the direction of the arrow 41, for closing the door. The protuberance 40 is desirably rounded to effect a camming action so as to override the latch 38 when the retainer assembly is in the operative or locking position of Fig. 6 and the door 14 is to be manually closed, as will be apparent. As shown in Fig. 6, the latch 38 in its operative position rests on an inclined face 42 of a cam means or wedge block 44 which is mounted for limited sliding movement within the frame 32 and is urged into the position shown by means of a compression spring 46. In this position the latch 38 is held against the wedge block 44 by a normally stationary

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backing member or abutment block 68 as will be further described. The spring 46 is disposed in surrounding relation to a stud 48 which is threaded for reception of a manually rotatable cog wheel or nut 50 against which the rear end of the spring 46 bears. The stud 48 is suitably secured to the end wall 34 of the frame 32 to prevent rotation of the stud and thus the cog wheel 50 may be rotated to shift its position along the stud and vary the compression on the spring 46 as desired. For this purpose an opening 52 is formed in the bottom wall of the guideway 26, as shown in Fig. 5.

When the latch 38 is in the operative position shown in Fig. 6 and the door is manually opened or closed the protuberance 40 on the slide block 24 must override the latch, in whatever direction the block 24 is moving, and in doing so the latch 38 is forced downwardly against the sloping surface 42 of the wedge block 44 causing it to shift against the spring 46. As soon as the protuberance 40 passes over the latch 38, however, the spring 46 immediately returns the wedge block to its normal position as shown. Only a relatively small movement of the wedge block 44 is needed to drop the latch 38 so as to clear the protuberance 40 or to return the latch 38 to operative position and to provide for such limited sliding movement of the wedge block 44, a transverse bore or slot 54 is formed in the wedge block and a stop pin 56, which is secured in the side walls of the frame 32, is extended through the bore 54. After the protuberance 40 has passed over the latch 38, upon opening of the door, the latch 38 is raised by the wedge block into the path of the protuberance 40 and normally prevents return movement of the slide block 24 and consequently unwanted closing of the door. Even with the latch 38 in the locking position, however, it will be understood that the door may be manually closed by pushing on the door thereby forcing the slide block 24 to pass the latch 38 by camming it downwardly against the compression of the spring 46.

According to the present invention means are provided for releasing the latch 38 both manually and automatically. As shown, the latch 38 is held in operative or locking position by the coaction of the wedge block 44 and the abutment block 68 and the member 68 is arranged to be releasable so as to shift away from the latch 38 and allow it to drop into inoperative position. Manual operation of the abutment block is had by a positioning means comprising a cylinder 58 rotatably mounted within the frame 32 and operatively connected to a shaft 60 on the outer end of which is a knurled knob 62. The cylinder 58 functions as a rotary cam and is formed with a transverse centrally located recess or slot 64 opening peripherally on one side of the cylinder axis and in which is received, when the retainer assembly is in non-locking position, a forwardly projecting tongue 66 of the abutment block 68. The tongue 66 has a sloping face 70 and the block 68 has a normally vertical downwardly projecting leg 72 at its rearward end. The forward edge of the leg 72 is beveled at 74 for a purpose to be hereafter described. Also the upper edge of the forward face of the block 68 confronting the cylinder 58 is provided with a bevel 76, see Fig. 9, coplanar with the sloping face 70 of the tongue 66. Thus as the cylinder 58 is rotated in a counterclockwise direction from the position shown in Fig. 5, by means of the knob 62, the sloping face 70 of the tongue 66 is engaged by the solid cam-like periphery of the cylinder 58 and the block is pushed to the left, as viewed in Fig. 5, and the latch 38 is forced upwardly on the sloping face 42 of the wedge block 44 until it assumes the operative or locking position shown in Fig. 6.

Rotation of the cylinder 58 in the clockwise direction from the locking position of Fig. 6, removes the camming surface of the cylinder and positions the slot 64 to receive the tongue 66 of the backing block 68 thus permitting the block 68 to shift to the right so that the latch 38 can drop gravitationally to the inoperative position of Fig. 5. As shown, the slot 64 extends beyond the axis of

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the cylinder 58 and a stop pin 76 is mounted in the bottom of the frame 32 to extend into the slot and provide a limit means for rotation of the cylinder 58 so that the operator can tell by feel whether the cylinder has been turned to its full operative or inoperative position.

According to the present invention, the backing block 68 is maintained in one or the other of the positions shown in Figs. 5 and 6 and the block normally slides on a supporting post 78, in a direction parallel to the frame 32, when the cylinder 58 is rotated to render the hold-open function of the apparatus operative or inoperative. However, for automatic release of the hold-open function, to close the door in case of fire, means are provided for shifting the backing block 68 so that the latch 38 may drop to the released position even though the cylinder 58 is in the locking position shown in Fig. 6.

As shown, this automatic release means comprises a rocker member 80 which is substantially U-shaped in conformation and straddles the bottom side of the frame 32. The side arms of this rocker member extend upwardly along the sides of the frame and are pivoted at their rearward ends on the pin 39 the ends of which extend through the side walls of the frame 32, as seen best in Fig. 1. The post 78, which normally serves as a guide to maintain the backing block 68 in a plane parallel to the plane of the bottom wall of the frame 32, is mounted on and projects upwardly from the forward end of the rocker member through an opening 79 in the bottom wall of the frame 32 and since the rocker assembly 80 is pivoted at its rearward end on the pin 39 it will tend to drop to the position shown in Fig. 7, unless otherwise restrained, thus removing the post 78 from its normal function of supporting the backing block 68 and permitting the block to tip forward about the beveled edge 74 of the leg 72 so that the latch 38 will drop to an inoperative position.

The rocker member 80 is normally retained in the holding position shown in Figs. 5 and 6 by means of a link assembly 82 which, as shown in Fig. 8, includes a base plate 84 secured to one surface of the door 14 by any suitable means such as screws, not shown. A longitudinally extending slot (not shown) is formed in the base plate 84 and in this slot is received a bell crank 86 which is pivoted about the axis of a pin 88 passing through the base plate and the slot. Also mounted for pivotal movement about the pin 88 is a lever 90. The bell crank 86 has a short arm 92 which, as shown in Fig. 8 and in Figs. 5 and 6, rests in abutment with the left edge of the base of the U-shaped rocker member 80. To maintain this abutting relation, a plate 94 is secured to the undersurface of the base of the rocker member 80 and has an angularly downwardly extending tongue 96 which normally projects beneath and bears upwardly on the end of the arm 92. The longer arm 98 of the bell crank 86 is provided at its outer end with a notch 100 in which is received one of the loops 102 of a fusible link 104 which includes two similar sections welded each to the other at 106 by a solder fusible at approximately 160° F. The other loop 102 is received in a notch 108 formed in the outer end of the lever 90. The link 104 may be positioned in the notches 100 and 108 and secured in this position by means of a draw bar 110 which is pivoted to the lever 90 by means of a pin 112. At the lower end of the draw bar 110 is formed a flange 114 which is apertured for reception of a screw 116 threadably received in the base plate 84. As the screw 116 is tightened, the lever 90 is moved in a counter-clockwise direction, as seen in Fig. 8, to exert tension on the link 104 and at the same time, by pulling on the arm 98 of the bell crank 86, urge the arm 92 of the bell crank into engagement with the rocker member 80. Thus, tightening of the screw 116 tensions the fusible link 104 and pulls the bell crank so that its short arm 92 is held firmly against the rear end of the rocker member 80 to hold it in its normal position, shown in Figs. 5 and 6, with the post

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78 providing a firm slide base for the backing block 68 which supports the latch 38.

When the latch 38 is operating in its door-hold-open function, as in Fig. 6, and the solder of the link 104 melts, the two parts of the link separate releasing the bell crank 86 so that the weight of the rocker member 80 and its associated parts effect clockwise rotation of the bell crank 86, as viewed in Fig. 8, permitting the rocker member 80 to pivot to the position shown in Fig. 7, wherein the camming block 68 drops forward, tilting about the beveled end of the leg 72, to the position shown in that figure. In that position, it will be seen that the sloping face 70 and the bevel 76 of the backing block 68 permits the block 68 to drop below the solid periphery of the cylinder 58 and fall away from the latch 38. This allows the latch 38 to drop out of the path of the protuberance 40 so that the sliding block 24 of the door holding arm 22 is free to slide in the door closing direction indicated by the arrow 41 in Fig. 6. The pressure normally exerted by the protuberance 40 on the latch 38, due to the force of the door closer 10 tending to swing the door to the closed position, which forces the latch against the backing block 68, serves also to cause falling away of the rocker member 80, when the bell crank 86 is released by melting of the solder in the link 104, so that the backing block 68 can drop from the position of Fig. 5 to the position of Fig. 7 when the hold-open mechanism is automatically released.

The post 78 carried by the rocker member 80 serves, in effect, as a guide and holding means for the backing block 68. As long as the link assembly 82 is intact, it will retain the rocker member 80 in a position in which the post 78 fulfills its normal guiding and holding function. Upon melting of the link 104, however, the rocker member 80 pivots about the axis of the pin 39 and drops to permit the camming block 68 to assume the release position shown in Fig. 7. In this operation the angular tongue 96 serves to cam the arm 92 away from the rocker member 80 so that under the pressure applied by the slide 24 and the latch 38 the rocker member can drop to its fullest extent.

In the device of the present invention, the door may be arranged to close automatically under the normal operation of the door closer mechanism 10 each time it is opened by merely turning the knob 62 to the "off" position wherein the hold-open mechanism is in the inoperative position shown in Fig. 5. When the hold-open mechanism is set in the "on" or operative position, as shown in Fig. 6, it is automatically released in the event of fire by the fusing of the link 104, the dropping away of the rocker member 80, and the dropping of the latch 38 out of the path of the protuberance 40 as shown in Fig. 7.

The main advantages of this invention reside in the relatively simple construction of the improved hold-open mechanism and the extremely simple arrangement whereby the mechanism may be readily set for "on" or "off" operation; and in the positive automatic release from "on" position in case of fire whereby the mechanism can be safely used for interior fire doors. Other advantages reside in the construction of the improved hold-open mechanism whereby the hold-open function can be easily overcome by manual operation of the door, to close the same, without in any way affecting the automatic release mechanism for its proper operation whenever the emergency situation may arise.

Although but one specific embodiment of this invention is herein shown and described it will be understood that numerous details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

We claim:

1. A door hold-open mechanism comprising a track member adapted to be mounted on and extend along the top edge of a door, a slide block mounted for longitudinal reciprocating movement along said track member, a link

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arm having one end pivotally connected to said slide block and the other end adapted to be pivotally connected to the head rail of a door opening, a latch means movable into and out of the path of said slide block in a lateral direction substantially normal to the path of the slide block, said latch means being also mounted for limited movement parallel with the path of the slide block, a movable backing member normally blocking movement of the latch means in one direction parallel with the path of the slide block, yieldable means normally holding said latch means in the path of the slide block and urging said latch means parallel with said path against said backing member, and releasable means for holding said backing member in position blocking said parallel movement of the latch means.

2. A door hold-open mechanism comprising a track member adapted to be mounted on and extend along the top edge of a door, a slide block mounted for longitudinal reciprocating movement along said track member, a link arm having one end pivotally connected to said slide block and the other end adapted to be pivotally connected to the head rail of a door opening, a latch means movable into and out of the path of said slide block in a direction substantially normal to the path of the slide block, said latch means being also mounted for limited movement parallel with the path of the slide block, a movable backing member normally blocking movement of the latch means in one direction parallel with the path of the slide block, yieldable means normally holding said latch means in the path of the slide block and simultaneously urging said latch means in said one direction against said backing member, means normally supporting said backing member for sliding movement toward and away from the latch means, and a shiftable cam means operable into and out of position to hold said backing member against sliding movement away from said latch means.

3. A door hold-open mechanism comprising a track member adapted to be mounted on and extend along the top edge of a door, a slide block mounted for longitudinal reciprocating movement along said track member, a link arm having one end pivotally connected to said slide block and the other end adapted to be pivotally connected to the head rail of a door opening, a latch means movable into and out of the path of said slide block in a direction substantially normal to the path of the slide block, said latch means being also mounted for limited movement parallel with the path of the slide block, a movable backing member normally blocking movement of the latch means in one direction parallel with the path of the slide block, resiliently yieldable cam means normally holding said latch means against said backing member and having a cam surface on which said latch means is supported in position to extend laterally into the path of said slide block, means for limiting the movement of said cam means toward said latch means, and means for shifting said backing member into and out of holding engagement with said latch means.

4. A door hold-open mechanism comprising a track member adapted to be mounted on and extend along the top edge of a door, a slide block mounted for longitudinal reciprocating movement along said track member, a link arm having one end pivotally connected to said slide block and the other end adapted to be pivotally connected to the head rail of a door opening, a latch means movable into and out of the path of said slide block in a direction substantially normal to the path of the slide block, said latch means being also mounted for limited movement parallel with the path of the slide block, a movable backing member normally blocking movement of the latch means in one direction parallel with the path of the slide block, resiliently yieldable cam means normally holding said latch means against said backing member and simultaneously camming said latch means laterally into the path of said slide block, a shiftable means operable into and out of position to hold said backing

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member against movement away from said latch means, and releasable means normally supporting said backing member between said latch means and said shiftable means for sliding movement parallel with the path of said slide block, said releasable means being operable independently of the said shiftable means to cause lateral movement of the backing member away from its normal position blocking movement of the latch means in said one direction.

5. In a door hold-open apparatus comprising a link arm having one end adapted to be mounted on the head rail of a door frame for pivotal movement of the arm in a horizontal plane, said arm being pivotally attached to a block member slidably mounted in a track member extending along the top edge of a door, the improvement comprising a retainer assembly mounted below said track member, said retainer assembly including a resiliently yieldable cam means, a movable backing member normally held in predetermined spaced relation to said cam means, a latch means normally resting on said cam means and bearing against said backing member so as to extend into the path of said block member, said backing member being releasable to move away from said cam means and retract said latch means from said path, and manually operable means for selectively holding and releasing said backing member.

6. In a door hold-open apparatus comprising a link arm having one end adapted to be mounted on the head rail of a door frame for pivotal movement of the arm in a horizontal plane, said arm being pivotally attached to a block member slidably mounted in a track member extending along the top edge of a door, the improvement comprising a retainer assembly mounted below said track member, said retainer assembly including a resiliently yieldable cam means shiftable in a direction parallel with said track member, a slidable backing member normally held in predetermined spaced relation to said cam means and movable parallel with the track member away from the cam means, a latch means normally resting on said cam means and bearing against said backing member with its body extending into the path of said block member, said latch means being adapted to retract from the path of said block member upon release of said backing member to move away from the cam means, and manually operable means for selectively holding and releasing said backing member.

7. A door hold-open mechanism comprising a link arm having one end adapted to be mounted on the head rail of a door frame for pivotal movement in a horizontal plane, said link arm being pivotally attached to a block member slidably mounted in a track extending along the top edge of a door, said block member being movable along said track towards one end thereof when the door is opened, a retainer assembly mounted below the path of said block member, said retainer assembly including a cylindrical latch means disposed with its axis normal to the path of the block member and in a plane spaced laterally from and parallel therewith, a movable backing member on one side of said latch means, resiliently yieldable cam means on the opposite side of said latch means normally holding the latch means against said backing member and with its cylindrical surface projecting laterally into the path of travel of said block member to resist passage of the block member along said path, said yieldable cam means being normally stationary and adapted to yield in the direction away from said backing member under a predetermined force against the latch means by the block member to permit lateral movement of the latch means and passage of said block member along said path, and manually operable means for selectively holding and releasing said backing member and rendering said latch means operative and inoperative to engage said block member.

8. A door hold-open mechanism comprising a track member adapted to be mounted on the top edge of a

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door, a slide block mounted on said track member, an operating arm for connecting said slide block to the head rail of a door opening and causing reciprocating movement of the slide block along said track as the door is opened and closed, a retainer assembly mounted below said track member and including a resiliently yieldable latch normally projecting into the path of the slide block and resisting movement of the slide block along said track, said latch being yieldable under a predetermined force from said slide block, and manually operable means for selectively causing said latch to move into operative and inoperative positions with respect to the path of the slide block, said manually operable means including a camming cylinder rotatably mounted in spaced relation to said latch, a shiftable backing block disposed between said latch and said cylinder and normally holding the latch in operative position by peripheral engagement with the cylinder, said cylinder having a transverse recess opening peripherally to one side of its axis and said backing block having a projecting tongue portion normally engaging the periphery of said cylinder and receivable in said recess, and said camming cylinder being operable upon rotation to position the said recess to receive the backing block tongue and thereby release the backing block to move away from holding engagement with the latch.

9. A door hold-open mechanism comprising a track member adapted to be mounted on the top edge of a door, a slide block mounted on said track member, an operating arm for connecting said slide block to the head rail of a door opening and causing reciprocating movement of the slide block along said track as the door is opened and closed, a retainer assembly mounted below said track member and including a resiliently yieldable latch normally projecting into the path of the slide block and resisting movement of the slide block along said track, said latch being yieldable under a predetermined force from said slide block, and manually operable means for selectively causing said latch to move into operative and inoperative positions with respect to the path of the slide block, said manually operable means including a camming cylinder rotatably mounted in spaced relation to said latch, a backing block slidably disposed between said latch and said cylinder and normally holding the latch in operative position by peripheral engagement with the cylinder, said cylinder having a transverse recess opening peripherally to one side of its axis and said backing block having a projecting tongue portion normally engaging the periphery of said cylinder and receivable in said recess upon manual rotation of said cylinder, and heat responsive means for releasing said latch from its operative position in the event of fire, said heat responsive means including a fusible link and lever assembly normally supporting said backing block between the latch and camming cylinder and operable upon fusing of the link to cause the backing block to fall away from its latch holding position between said latch and camming cylinder.

10. A door hold-open mechanism comprising an operating arm having one end adapted to be pivotally mounted on the head rail of a door frame, an elongated guideway adapted to be recessed in the top edge of the door, a slide block mounted in said guideway for reciprocating movement therealong, the other end of said operating arm being pivotally mounted on said slide block so that as the door is operated said slide block travels along said guideway, and selectively operable means for holding said slide block at a predetermined position along said guideway, said means comprising a channel-shaped frame member mounted below and parallel with said guideway, said guideway having a bottom opening leading into said frame member, a cylindrical latch member arranged transversely of said frame member in a plane parallel with and spaced from the plane of said guideway and movable laterally through the opening of said guideway for peripheral engagement by said slide block, a manually rotatable cam-

ming cylinder disposed transversely of said channel member on one side of said latch member in axially parallel spaced relation therewith, said camming cylinder having a transverse slot opening peripherally on one side of its axis, a slidable backing block disposed between and normally engaging said latch member and said camming cylinder, said backing block having a tongue projecting toward and receivable in the slot of said camming cylinder, said tongue being engageable by the periphery of said camming cylinder opposite said slot to hold said backing block in rigid engagement with said latch member, a resiliently yieldable wedge block positioned within said frame member on the opposite of said latch member, said wedge block having a downwardly sloping confronting face on which said latch member normally rests while held by said backing block, said backing block being shiftable away from the latch member when said camming cylinder is rotated to receive said tongue in said slot whereby said latch member is permitted to move downward on the sloping face of the wedge block to a position retracted from the guideway path of said slide block.

11. In a door hold-open mechanism comprising a track member adapted to be mounted on the top edge of a door, a slide block mounted for reciprocating movement along said track member, and an operating arm pivotally connected at one end to said slide block and adapted at the other end for pivotal connection with a door frame head rail, a retainer means for releasably holding said slide block at a predetermined position along said track member and comprising a channel-like frame mounted below said track member parallel therewith and opening to the bottom thereof, a cylindrical latch member mounted in said frame transversely thereof for shifting movement laterally of its axis into and out of the path of said slide block along said track member, a resiliently yieldable wedge block on one side of said latch member adapted to cam said latch member laterally into the path of said slide block, a backing member on the opposite side of said latch member normally holding said latch member in elevated position on and against said wedge block, said backing member being slidable toward and away from said wedge block, and a manually operable means for selectively driving said backing member toward said wedge block and releasing said backing member for sliding movement away from said wedge block.

12. In a door hold-open mechanism comprising a track member adapted to be mounted on the top edge of a door, a slide block mounted for reciprocating movement along said track member, and an operating arm pivotally connected at one end to said slide block and adapted at the other end for pivotal connection with a door frame head rail, a retainer means for releasably holding said slide block at a predetermined position along said track member and comprising a channel-like frame mounted below said track member parallel therewith and opening to the bottom thereof, a cylindrical latch member mounted in said frame transversely thereof for shifting movement laterally of its axis into and

out of the path of said slide block along said track member, a resiliently yieldable wedge block on one side of said latch member adapted to cam said latch member laterally into the path of said slide block, a backing member on the opposite side of said latch member normally holding said latch member in elevated position on and against said wedge block, said backing member being slidable toward and away from said wedge block, a manually operable means for selectively driving said backing member toward said wedge block and releasing said backing member for sliding movement away from said wedge block, and releasable means slidably supporting said backing member above the bottom of said frame and in operative position between the latch member and the said manually operable means, said backing member being adapted to drop to an inoperative position upon release of said releasable means.

13. In a door hold-open mechanism comprising a track member adapted to be mounted on the top edge of a door, a slide block mounted for reciprocating movement along said track member, and an operating arm pivotally connected at one end to said slide block and adapted at the other end for pivotal connection with a door frame head rail, a retainer means for releasably holding said slide block at a predetermined position along said track member and comprising a channel-like frame mounted below said track member parallel therewith and opening to the bottom thereof, a cylindrical latch member mounted in said frame transversely thereof for shifting movement laterally of its axis into and out of the path of said slide block along said track member, a resiliently yieldable wedge block on one side of said latch member acting parallel with said track member to cam said latch member laterally into the path of said slide block, a backing member on the opposite side of said latch member normally holding said latch member in elevated position on and against said wedge block, said backing member being slidable parallel with the track member toward and away from said wedge block, a manually operable means for selectively driving said backing member toward said wedge block and releasing said backing member for sliding movement away from said wedge block, a vertical leg at one end of said backing member resting endwise on the bottom of said frame and slidable therealong, said backing member being unbalanced on said leg for rocking movement thereon to an inoperative position, and releasable means slidably supporting the unbalanced portion of said backing member in operative position between said latch member and the manually operable means.

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