March 26, 1957 P. R. FERGUSON 2,786,226

DOOR CHECK WITH HOLD-OPEN LATCH

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FIG. 1

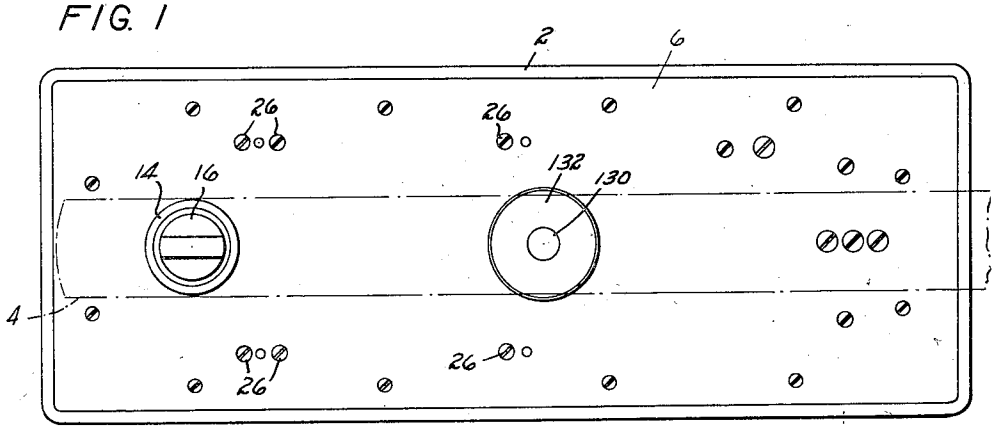


FIG. 2

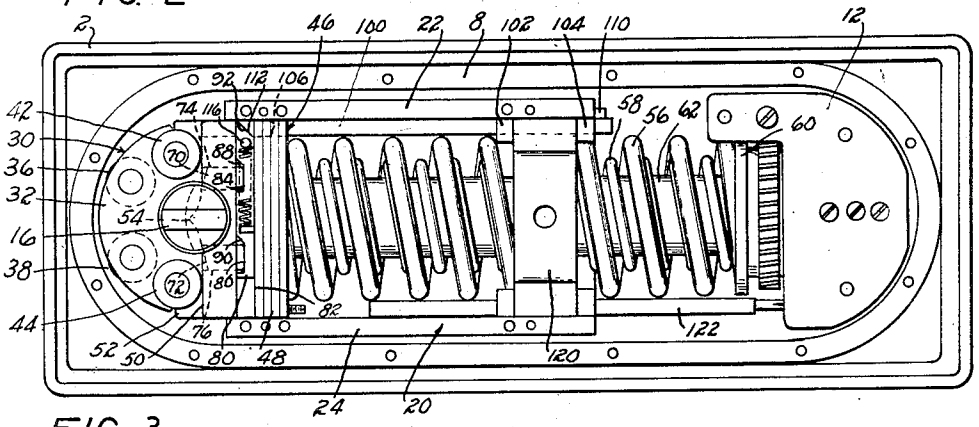
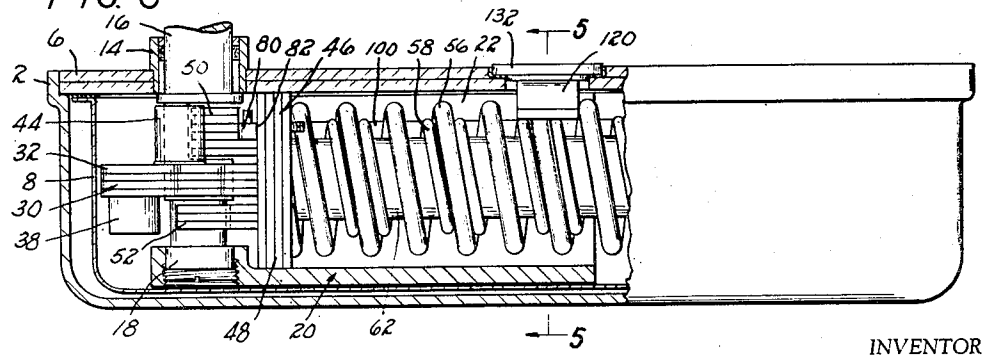


FIG. 3



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DOOR CHECK WITH HOLD-OPEN LATCH

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FIG. 4

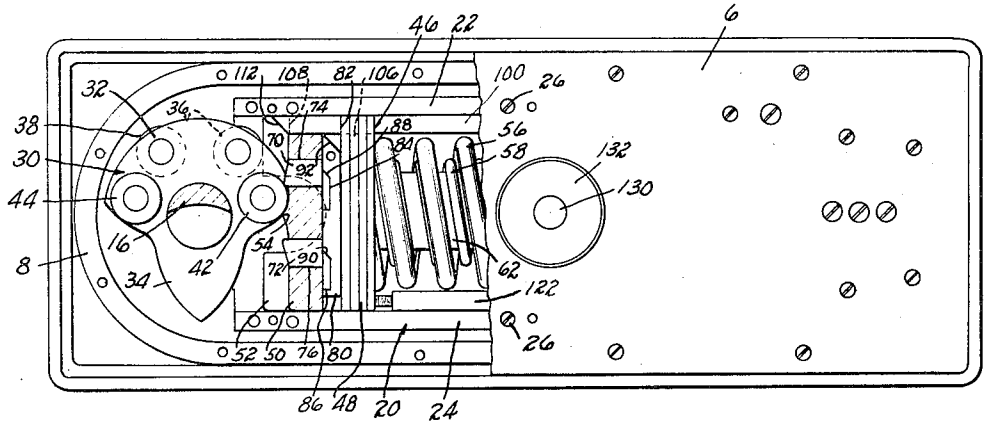
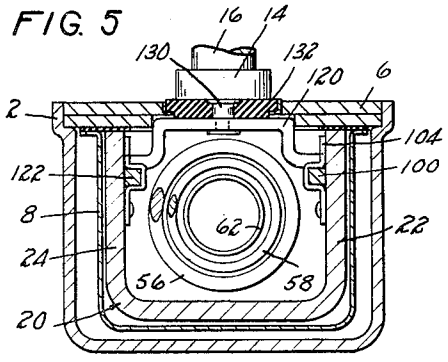


FIG. 5



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DOOR CHECK WITH HOLD-OPEN LATCH

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Application November 3, 1954, Serial No. 466,511

19 Claims. (Cl. 16—55)

The present invention relates to floor door checks, and more particularly to an improved latching arrangement for use in a floor door check to hold a door in its open position.

One object of the invention is to provide an improved hold-open latch for a floor door check which is operable selectively to hold the door open whenever desired.

Another object is to provide a hold-open latching arrangement for a floor door check which is extremely compact in size and adapted to be entirely enclosed within the casing provided for the door check itself without requiring any increase in the size thereof, yet is so constructed as to develop ample leverage to hold a door securely in the open position.

Another object is to provide a hold-open latch of the character described which is constructed and arranged for selective initiation of its operation in a substantially foolproof manner by means of a conveniently located foot button.

Another object is to provide a latching arrangement for a floor door check which operates selectively in response to the application of a moderate force by the operator through actuation of a manual control, and is powered automatically by the operation of the door check itself, so that when once initiated it requires no additional external force to engage the latch.

Another object is to provide a hold-open latch for a floor door check which is so constructed and arranged that its operation may be initiated by mere momentary actuation of a control means as the door is opened, after which the latch mechanism will be automatically driven into latching engagement at the open position of the door and will hold the door open securely until released.

Another object is to provide a latch mechanism for floor door checks which is simplified in construction and relatively inexpensive to fabricate, yet is sturdy and rugged in design and capable of operating dependably for long periods without requiring repair or attention.

Other objects will be in part obvious and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereafter set forth and the scope of the application of which will be indicated in the appended claims.

In the drawings:

Figure 1 is a plan view of a floor check provided with a latch mechanism constructed in accrdance with the present invention;

Figure 2 is a plan view of the door check of Figure 1 with the cover plate removed;

Figure 3 is a side elevation view partially in cross section of the structure shown in Figure 2;

Figure 4 is a partially cutaway plan view of the structure of the door check illustrating the position of the parts when the door is latched in open position; and

Figure 5 is a transverse sectional view of the structure shown in Figure 3 taken on the line 5—5 thereof.

Referring to the drawings, a latching arrangement constructed in accordance with the present invention is illustrated in connection with a floor door check suitable for use with a door which opens in both directions, such as a swinging door. As will be apparent hereinafter, however, the present invention is equally suitable for use with door checks controlling one-way doors. The door check shown in the drawings includes an elongate rectangular box 2 adapted to be recessed in the floor beneath a door 4 and closed by a cover 6 level with the floor. Supported by the cover within the box is an elongate casing 8. The casing is filled with oil which lubricates the device and serves as a reservoir of fluid for a hydraulic checking cylinder which is located beneath plate 12 at one end of the casing. The cover 6 has an opening provided with a collar 14 in which is journaled a vertically extending spindle 16 which is adapted to be secured to the bottom of the door 4 and serves as a pivot for one end of the door.

The spindle 16 is supported at its lower end on a thrust bearing 18 provided in the bottom of a longitudinally extending channel-shaped frame 20 disposed within the casing and having side walls 22, 24 supported from cover 6 by screws 26. Fixed to the spindle 16 for rotation therewith is a cam 30 having a relatively broad base portion 32 and a pointed lobe 34. Mounted on pins depending from the underside of cam 30 is a pair of limit rollers 36, 38 transversely spaced in symmetrical relation with lobe 34. A pair of push rollers 42, 44 is mounted on pins projecting from the top of the cam 30 and transversely spaced at opposite ends of the base portion 32 in symmetrical relation with lobe 34.

Situated in the frame 20 opposite the cam 30 is a longitudinally movable slide 46 having a bearing portion 48 slidably supported by the walls and bottom of the frame and a forwardly extending portion 50 against the front of which one or the other of the cam rollers 42, 44 engages to cause longitudinal displacement of the slide as the cam 30 is rotated. The slide also includes a cam stop 52 which projects forwardly from the bearing portion 48 in straddling relation with the lower end of the spindle, and against which the limit rollers 36, 38 are adapted to engage when the door has been opened to a desired degree, thus tending to limit rotation of the cam 40 beyond that point in either direction. The front face of follower 50 is curved forwardly at its center to form a ridge or lobe 54 which is normally located in a transverse slot of shaft 16 and cooperates with the cam rollers 42, 44 to maintain the rate of displacement of the slide during the latter portion of its travel to a rate substantially equal to its rate of displacement during the initial portion of its travel. The cam 30 and slide 46 are shown in the specific embodiment by way of example but not by way of limitation as of laminar construction to facilitate manufacture.

The slide is urged toward the cam 30 by compression springs 56, 58 which bear against the slide portion 48 at one end and are supported at their other end by a spring retainer 60. Inside the springs is a guide tube 62 secured at one end to slide 46 and slidably supported at its other end in the spring retainer 60. For completeness, it may be pointed out that the cam lobe 34 is utilized to actuate a hydraulic check mechanism (not shown), forming no part of the present invention.

Turning now to the details of the latching arrangement for holding the door open, according to the invention a pair of relatively stubby latches 70, 72 is slidably mounted in longitudinal passages 74, 76 in the slide 46. Latch 70 is slidable longitudinally in the passage 74 between a retracted position in which the forward end of the latch is enclosed within the passage, as shown in Figure 2, and an extended position in which the forward end of the latch protrudes in front of follower 50 sufficiently to engage

roller 42 at the extreme clockwise rotated position of cam 30, as shown in Figure 4, and thus prevent return rotation of cam 30. The forward end of latch 70 is inclined forwardly and inwardly, and registers at its rearward edge with the front face of follower 50 in the extended position of the latch so that roller 42 can roll smoothly over the latch as the cam 30 is rotated. Latch 72 is similarly shaped and when extended is engageable with roller 44 in a similar manner in the extreme counterclockwise position of cam 30.

To move the latches 70, 72 between their retracted and extended positions, a latch-actuating bar 80 is mounted for transverse sliding movement in a slot 82 on the slide 46. In the forward face of the latch actuator 80 is a pair of forwardly facing pockets 84, 86 which receive the rearward ends of the latches in their retracted position. Each of the pockets has an inclined side wall 88, 90 which engages the end of the latch therein and cams the latch forward to its extended position when the latch actuator is moved transversely in a direction away from side wall 22 of frame 20. The end of latch actuator 80 adjacent wall 22 has a rearwardly facing oblique surface 92.

For the purpose of controlling the position of the latch actuator, an operating member in the form of a longitudinally extending bar 100 is mounted for longitudinally sliding movement along side wall 22 of the frame. The operating bar or cam 100 is slidably supported at one end by a pair of spaced clips 102, 104 secured to the wall 22, and is slidably received at its other end in a longitudinal slot 106 in the side of the slide 46. The bar 100 has arearwardly facing shoulder 108 which is engaged by the slide to move the bar in a forward direction with the slide, and fixed to the rearward end of the bar 100 is a pin 110 which engages the rear end of frame 20 to limit forward movement of cam 100. The forward end of the bar 100 has an oblique cam face 112 complementary to surface 92 on the latch actuator, and in registry therewith when the slide is engaged with shoulder 108 on the cam. A compression spring 114 acting against a pin 116 on the latch actuator 80 serves to bias the latch actuator against the bar 100, so as to maintain surface 92 in contact with face 112.

Straddling the tube 62 and springs 56, 58 is a yoke-shaped plate 120 supported at one end of a bar 122 secured to the side 24 of frame 20, and supported at its other end on operating bar 100 between clips 102, 104. The bar 122 which as shown in Fig. 4 is engageable by a contact pin on the slide 46 during the final closing movement of the door forms a part of the hydraulic check mechanism, and its function and operation are fully described in my copending application Serial No. 469,584, filed November 18, 1954. Inasmuch as the bar 122, in itself, forms no part of the invention, further details thereof will be omitted. Connected to the top of the plate by a fastener 130 is a foot button 132 consisting of a flexible diaphragm of rubber or the like disposed in an opening in the cover 6 with its upper surface slightly above the top of the cover 6.

In the operation of the apparatus, when the door is closed, the parts are in the position shown in Figures 1, 2 and 3 of the drawings, The lobe 34 of cam 30 is aligned with tube 62, and the follower portion 50 of the slide 46 is engaged at both sides by the push rollers 42, 44. The operating bar 100 is in its extreme forward position, oblique face 92 of the latch actuator 80 is in contact with the oblique face 112, and the rearward ends of the latches 70, 72 are disposed in the pockets 84, 86 in the latch actuator.

When the door is opened, rotation of the spindle 16 with the door rotates the cam 30 about the spindle axis in the same direction as the door is opened. Since the cam 30 is symmetrical, operation of the mechanism will be the same regardless of which way the cam is rotated. Hence the door check is suitable for use with a door which may be opened in either direction. Depending on which way the door is opened, either push roller 42 or push roller 44 pushes against follower 50 and displaces slide 46 rearwardly against the compression of springs 56, 58. If the door is opened in a clockwise direction as viewed in Figure 1, for example, push roller 42 acts against the follower and displaces the slide 46. Simultaneously, movement of the lobe 34 of cam 30 initiates actuation of the hydraulic check mechanism, which together with springs 56, 58 retards the movement of the door in the desired manner.

Since the operating bar 100 normally slides easily in the clips 102, 104, the engagement of surface 92 of latch actuator 80 with the face 112 of bar 100 serves to push the bar rearwardly with the slide. If nothing else is done, rearward displacement of the slide continues until the cam 30 has rotated to one of its extreme positions corresponding to one of the fully open positions of the door, the extreme clockwise position being shown, for example, in Figure 4. At the fully opened position of the door, roller 36, or roller 38 if the door is opened counterclockwise, will engage the limit stop 52 and impede further rotation of the cam 30. In this position of the cam, the push roller 42 has traveled across the face of follower 50 to engagement with the side of lobe 54. When the door is released, the springs 56, 58 return the slide 46 to its forward position. This movement of the slide rotates the cam 30, and with it the spindle 16, back to its initial position and closes the door, the rotation of cam 30 and displacement of slide 46 back to initial position being controlled by the hydraulic check mechanism to regulate the closing of the door in the desired manner. Slide 46 engages shoulder 108 on bar 100 and returns the bar to its initial position in company with the slide.

When it is desired to retain the door in its open position, however, the flexible button 132 is depressed by stepping on it as the door is opened. This presses the plate 120 downwardly, and the end of the plate resting on the bar 100 is thereby clamped against the bar and prevents the bar from moving longitudinally with the slide 46 as the door is opened. Clamping of the bar 100 causes relative longitudinal movement of the bar and slide 46 as the slide is displaced, and this in turn causes the oblique face 112 to cam the latch actuator 80 transversely in the slot 82 in a direction away from wall 22 as the slide is displaced. This transverse movement of latch actuator 80 causes the inclined sides 88, 90 of the pockets 84, 86 to cam the latches 70, 72 forwardly in the passages 74, 76 sufficiently so that the forward end of each latch projects in front of the follower 50 as shown in Figure 4. As the door is moved to its fully opened position the roller 42 rides across the inclined end of latch 70 and drops into the pocket formed between this latch and lobe 54. Thereupon, when the door is released, the roller 42 is retained by latch 70 and prevents return rotation of the cam 30, so that the door is held open.

With this arrangement, it will be observed that only the moderate force necessary to depress button 132 is required to extend the latches, and when once extended the latches are supported in extended position by the latch actuator so long as the latch actuator remains transversely displaced. In turn the latch actuator is supported in its transversely displaced position by engagement with operating bar 100 so long as cam face 112 and surface 92 are longitudinally spaced. This prevents the latch 70 from being cammed back into the passage 74 by the roller 42, so that the latching arrangement is effectively self-sustaining, and develops ample leverage to support the door in its open position in a secure and stable manner. Moreover, since the latches are extended by developing merely enough relative longitudinal movement between slide 46 and operating bar 100 to slide surface 92 off cam face 112, the pressure on foot button 132 need be only momentarily applied during opening of the door, and the latches will remain extended after button 132 is released and will properly engage a cam roller 42, 44 as the door is opened.

When it is desired to close the door, the door may be closed simply by pushing it in a closing direction. The additional force thus applied to the door is transmitted through roller **42** to latch **70** and cams the slide **46** rearwardly a slight additional distance against the force of springs **56, 58**, thus enabling the roller **42** to ride over the end of latch **70** in the reverse direction. Once this happens the cam **30** is no longer impeded from rotating, and the springs **56, 58** return the slide **46** to its forward position. The rate of rotation of cam **30** back to its initial position and the closing of the door is regulated in the desired manner by the hydraulic check mechanism. When the slide has returned forwardly far enough for the end surface **92** of latch actuator **70** to re-register with the cam face **112** of bar **100**, spring **114** slides actuator **80** transversely and re-registers pockets **84, 86** with passages **74, 76** so that the latches **70, 72** may be retracted into the pockets **84, 86** upon engagement by the rollers **42** or **44**, respectively, upon subsequent operation of the door.

Thus it may be seen that the present invention provides a door check latching mechanism which is sufficiently small and compact to fit entirely within the enclosure provided for the door check itself, yet is so constructed and arranged as to be self-locking when engaged and to develop sufficient leverage to hold a door securely in latched position. Since the extension of the latches is automatically carried out by door movement once the foot button **132** is momentarily depressed, the latching arrangement is particularly convenient, safe, and substantially foolproof to operate.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim:

1. In a door check, a rotatable member for attachment to a door, a slide operatively connected to the rotatable member for movement responsive to rotation thereof, a latch carried by the slide for impeding rotation of the rotatable member, an operating member mounted for movement in the same direction as the slide in response to movement of the slide, said slide being movable relative to said operating member, means for actuating the latch when the slide is moved relative to the operating member, and manually operable means for holding the operating member against movement with the slide.

2. In a door check, a rotatable member for attachment to the door, a slide operatively connected to the rotatable member for longitudinal movement in response to rotation of said rotatable member, a latch on the slide engageable with the rotatable member to impede rotation thereof, a longitudinally movable operating member, a latch actuator on said slide engageable with said latch and with said operating member for moving said latch to its latching position responsive to relative movement between said slide and operating member, and control means engageable with the operating member for establishing relative movement of the operating member and slide.

3. In a door check, a control member rotatable by door movement, a longitudinally movable slide driven by the member, a latch on the slide engageable with the member to impede rotation thereof, a longitudinally movable operating member for the latch, a latch actuator engageable with the latch and with said operating member for moving the latch to position engaging the control member responsive to relative longitudinal movement between said latch actuator and operating member, and selectively operable control means engageable with said operating member for establishing relative longitudinal movement of the operating member and the slide.

4. In a door check, a pivoted member actuated by door movement, a longitudinally movable slide driven by the pivoted member, a latch carried by the slide movable to and from a position engaging the pivoted member, an operating member movable with the slide, a latch actuator carried by the slide engageable with said latch and said operating member for moving said latch to engaging position responsive to relative longitudinal movement of said operating member and latch actuator, and a manually operable control engageable with said operating member for impeding movement of said operating member during movement of said slide.

5. In a door check for a door which can be opened in either direction, a pivoted member actuated by the door, a longitudinally movable slide driven by the pivoted member, a pair of latches movable between retracted positions and extended positions engageable with the pivoted member in the respective open door positions of said pivoted member, a longitudinally movable operating member, a latch actuator carried by the slide engageable with said latches and said operating member and operable to move said latches to engaging position responsive to relative longitudinal movement of said operating member and latch actuator, and a selectively operable brake engageable with said operating member for establishing relative longitudinal movement of said operating member and said slide during movement of said slide.

6. In a door check a rotatable control member driven by movement of the door, a longitudinally movable slide driven by the control member, a latch on the slide movable between a retracted position and an extended position engageable with said control member to impede rotation thereof, a longitudinally movable operating cam, a latch actuator on the slide engageable with said operating cam and with said latch for moving the latch to its extended position responsive to relative movement of said actuator and operating cam, and a selectively operable brake engageable with said operating cam for holding said operating cam stationary during movement of said slide.

7. In a door check, a rotatable control member driven by movement of the door, a longitudinally movable slide driven by the control member, a latch on the slide movable between a retracted position and an extended position engageable with said control member at a selected rotated position of the control member, an operating member longitudinally movable with the slide, a latch actuator on the slide engageable with said latch and said operating member for moving the latch to extend position responsive to relative movement of the slide and operating member, a brake engageable with said operating member for holding said operating member stationary during movement of said slide, and a foot button for selectively operating said brake.

8. In a door check, a rotatable control member driven by the door, a longitudinally movable slide driven by the rotatable control member, a latch on the slide movable between a retracted position and an extended position engageable with the control member to prevent rotation thereof, an actuator on the slide movable transversely of the slide and engageable with the latch for moving the latch to extended position responsive to transverse movement of the actuator, a longitudinally movable operating member, means forming a driving connection between the actuator and the operating member for transversely moving the actuator responsive to relative longitudinal movement of the operating member and slide, and a selectively operable brake engageable with said operating member to prevent movement thereof during movement of said slide.

9. In a door check, a pivoted member actuated by door movement, said pivoted member having a cam roller thereon, a longitudinally movable slide driven by the cam roller, a longitudinal slot in said slide communicating at one end with the path of said cam roller, a latch in said slot slidable between a retracted position with its forward end enclosed in the slot and an extended position with its forward end protruding from said one end of the slot, a latch actuator movable transversely of the slide and having a forwardly facing inclined surface engageable with said latch for camming the latch to extended position responsive to transverse movement of the latch actuator, a rearwardly facing inclined surface on the latch actuator, an operating member longitudinally slidable relative to said slide, an inclined surface on said operating member complementary to said inclined latch actuator surface and engageable therewith, and selectively operable control means engageable with said operating member for establishing relative longitudinal movement between said slide and operating member.

10. In a door check, a rotatable member driven by the door, a longitudinally movable slide driven by the rotatable member, a latch on the slide movable between a retracted position and an extended position engageable with the control member to impede rotation thereof, an actuator on the slide movable transversely of the slide and engageable with the latch for moving the latch to extended position responsive to transverse movement of the actuator, a longitudinally movable operating member, means forming a driving connection between the actuator and the operating member for transversely moving the actuator responsive to relative longitudinal movement of the operating member and slide, a clamp for holding said operating member stationary during movement of said slide, and a selectively operable foot button for engaging said clamp with said control member.

11. In a door check, a drive roller actuated by door movement, a longitudinally movable slide driven in one direction by the drive roller, springs urging the slide in the other direction, a latch on the slide longitudinally movable between a retracted position and an extended position engageable with the drive roller, a longitudinally slidable operating member having an oblique cam face, an actuator slidably mounted on the slide and engageable with said cam face, said actuator being movable transversely of the slide in one direction responsive to relative movement of said slide and operating member, an inclined surface on the actuator engageable with said latch to slide the latch to its extended position responsive to longitudinal movement of the actuator in said one transverse direction, a transverse surface on the actuator engageable with the latch to support the latch in its extended position, a spring for biasing the actuator in the other transverse direction, and a selectively operable brake engageable with said operating member for holding said operating member stationary during movement of said slide.

12. In a door check, a rotatable member for attachment to a door, a slide operatively connected to the rotatable member for longitudinal movement responsive to rotation of said member, a latch on the slide movable into position for impeding rotation of the rotatable member, a bar on the slide for actuating the latch and mounted for sliding movement transversely of the slide, an operating bar mounted for sliding movement longitudinally of the slide, said bars having interengaging end faces, and manually operable control means for selectively holding the operating bar against longitudinal movement whereby during longitudinal movement of the slide, the operating bar will cam the first-named bar transversely of the slide and actuate the latch.

13. In a door check having a rotatable member driven by the door and a slide operatively connected to the rotatable member for longitudinal movement thereby, a latch on the slide movable between a retracted position and an extended position for engaging the rotatable member, a latch-actuating bar slidably mounted on the slide for movement transversely of the slide and having an oblique face on one end and a pocket for receiving said latch in its retracted position, a longitudinally slidable operating bar having a complementarily inclined cam face engageable with said oblique actuating bar face to slide the actuating bar in one direction transversely of the slide responsive to relative longitudinal movement of said slide and operating bar, a transversely inclined side wall in the pocket of the actuating bar engageable with the end of the latch to cam the latch out of the pocket to extended position responsive to movement of the actuating bar in said one transverse direction, and control means engageable with the operating bar for establishing relative movement of the operating bar and said slide.

14. In a door check, a longitudinally movable slide, a roller mounted for movement with the door for moving the slide in one direction when the door is opened, springs urging the slide in the other direction, a latch on the slide longitudinally slidable between a retracted position and an extended roller-engaging position, a longitudinally slidable operating member having an oblique cam face, an actuator slidably mounted on the slide for movement transversely of the slide and having a complementary oblique face engageable with said oblique cam face for moving said actuator in one direction transversely of the slide responsive to relative movement of said slide and operating member, means forming a pocket in the actuator for receiving the latch in retracted position, said pocket having an inclined side wall engageable with said latch to cam the latch to extended position responsive to movement of the actuator in said one transverse direction, a spring for biasing the actuator in the other transverse direction, and a selectively operable brake for holding said operating member stationary during movement of said slide.

15. In a door check, a cam roller mounted for movement by the door, a longitudinally movable slide driven by the cam roller, a latching mechanism for holding the door in open position comprising a pair of longitudinal passages in said slide communicating at one end with the path of said cam roller, a latch actuator slidably mounted on the slide for movement transversely of the slide and having a pair of forwardly facing pockets registrable with said passages, latches in said passages slidable between a retracted position with their rearward ends in the pockets and an extended position with their forward ends protruding from said one end of the passages into engagement with the cam roller, each of said pockets having an inclined wall engageable with a latch therein for camming the latch to its extended position responsive to transverse movement of the latch actuator, a rearwardly inclined surface on the latch actuator, an operating member longitudinally slidable relative to said slide, a cam surface on said operating member complementary to said inclined latch actuator surface and engageable therewith, a brake engageable with the operating member for controlling relative longitudinal movement between said slide and operating member, and a foot button for selectively operating the brake.

16. In a door check for a door which can be opened in either direction, a spindle rotated by door movement, a longitudinally movable slide, a cam roller mounted on the spindle engageable with the slide for moving the slide in one direction when the door is opened, springs urging the slide in the other direction, a pair of latches on the slide respectively longitudinally slidable between a retracted position and an extended position engageable with the cam roller at the spindle positions corresponding to the open positions of the door in each respective direction, a longitudinally slidable operating member having an oblique cam face, an actuator slidably mounted on the slide for movement transversely of the slide and having a complementary oblique face engageable with said cam

face for moving said actuator in one direction transversely of the slide responsive to relative movement of said slide and operating member, means forming a pair of pockets on the actuator for receiving the latches in retracted position, each of said pockets having an inclined side wall engageable with a latch to cam the latches to extended position responsive to movement of the actuator in said one transverse direction, a spring for biasing the actuator in the other transverse direction, and a selectively operable brake for holding said operating member stationary during movement of said slide.

17. In a door check, a frame, a spindle journaled in the frame and rotated by door movement, a slide longitudinally movable in the frame, a cam roller on the spindle engageable with the slide for moving the slide in one direction when the door is opened, springs urging the slide in the other direction, a latch on the slide longitudinally slidable between a retracted position and extended position engageable with the cam roller at the spindle position corresponding to the open position of the door, a longitudinally slidable operating bar on the frame having an oblique cam face, latch-actuating bar slidably mounted on the slide for movement transversely of the slide and having a complementary oblique face engageable with said cam face for moving said operating bar with the slide and for moving said actuating bar in one direction transversely of the slide responsive to relative movement of said slide and operating bar, means forming a pocket on the actuating bar for receiving the latch in retracted position, said pocket having an inclined side wall engageable with said latch to cam the latch to extended position responsive to movement of the actuating bar in said one transverse direction, a spring for biasing the actuating bar in the other transverse direction, a brake member for clamping said operating bar against the frame during movement of said slide, and a foot button for selectively operating said brake member.

18. In a door check for a door which can be opened in either direction, a frame, a spindle journaled in the frame and rotated by door movement, a slide longitudinally movable in the frame, a cam roller on the spindle engageable with the slide for moving the slide in one direction when the door is opened, springs urging the slide in the other direction, a pair of latches on the slide respectively longitudinally slidable between retracted positions and extended positions engageable with the cam roller at the spindle positions corresponding to the respective open positions of the door, a longitudinally slidable operating member on the frame having an oblique cam face, an actuator slidably mounted on the slide for movement transversely of the slide and having a complementary oblique face engageable with said cam face for moving said actuator in one direction transversely of the slide responsive to relative movement of said slide and operating member, means forming a pair of pockets in the actuator for receiving the latches in retracted position, each of said pockets having an inclined side wall engageable with a latch to cam the latches to extended position responsive to movement of the actuator in said one transverse direction, a spring for biasing the actuator in the other transverse direction, a brake member for clamping said operating member against the frame during movement of said slide, and a foot button for operating said brake member.

19. In a door check, a casing, a slide longitudinally movable in the casing and having a transverse slot and a longitudinal slot connected thereto, a rotatable spindle in the casing driven by the door, a cam roller on the spindle engaged with the slide for moving the slide in one direction as the spindle rotates, springs biasing the slide in the other direction, a latch slidable in said longitudinal slot between a position retracted therein and a position extending therefrom engageable with said cam roller in the position of said spindle corresponding to the open position of the door, an actuator slidable in said transverse slot and having a pocket for receiving said latch in its retracted position, said pocket having an inclined side wall engageable with said latch to cam the latch to its extended position responsive to transverse movement of said actuator in one direction, a spring biasing said actuator in the other direction, a longitudinally slidable operating bar in the casing having an oblique face engageable with said actuator for moving the actuator in said one direction responsive to relative longitudinal movement of said slide and operating bar, a brake in the casing engageable with said operating bar to prevent movement thereof during movement of said slide, a cover for the casing, and a foot button mounted on the cover for selectively operating said brake.

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