

Sept. 2, 1958

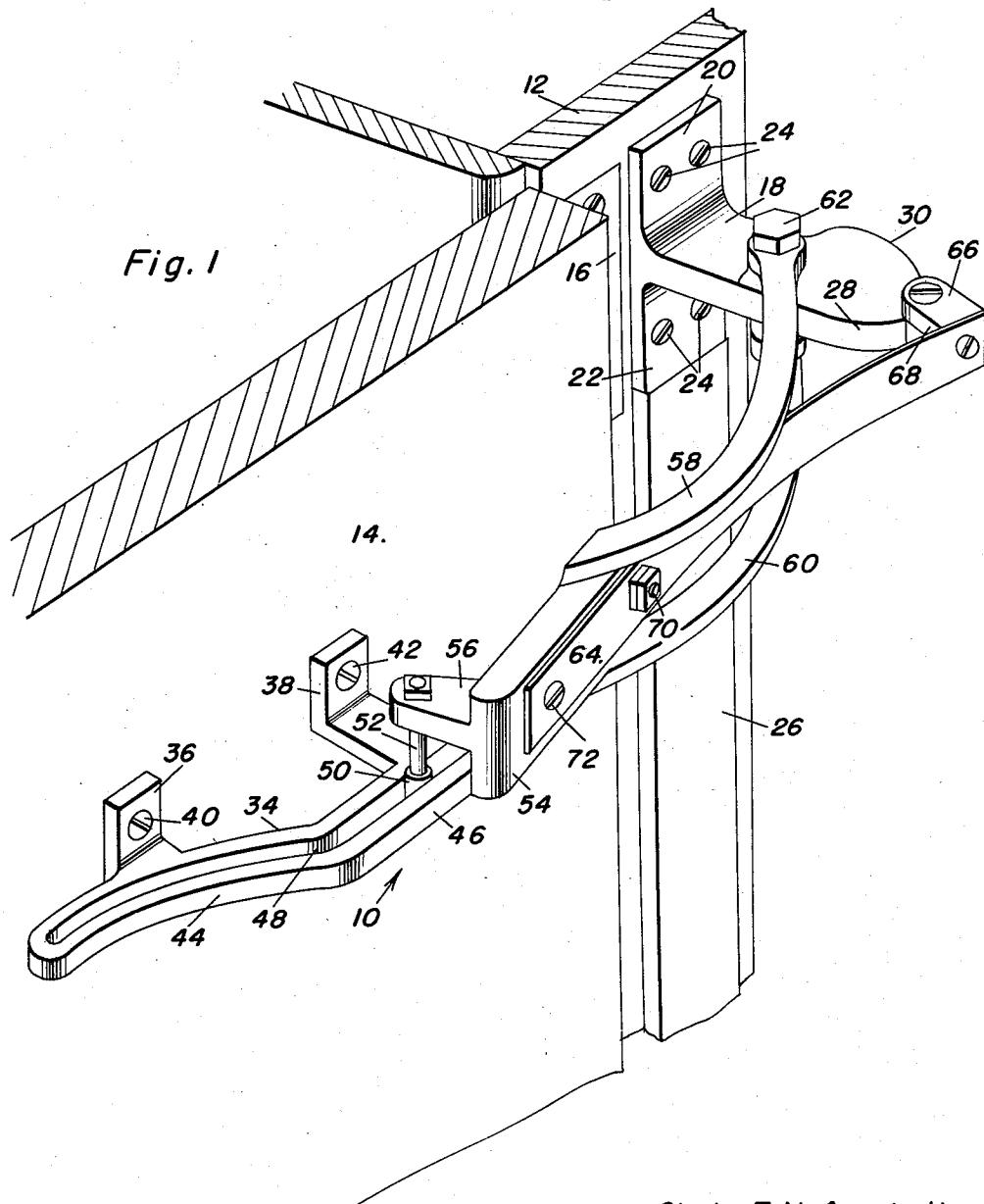
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2,849,748

DOOR CHECK

Filed Aug. 23, 1954

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 2

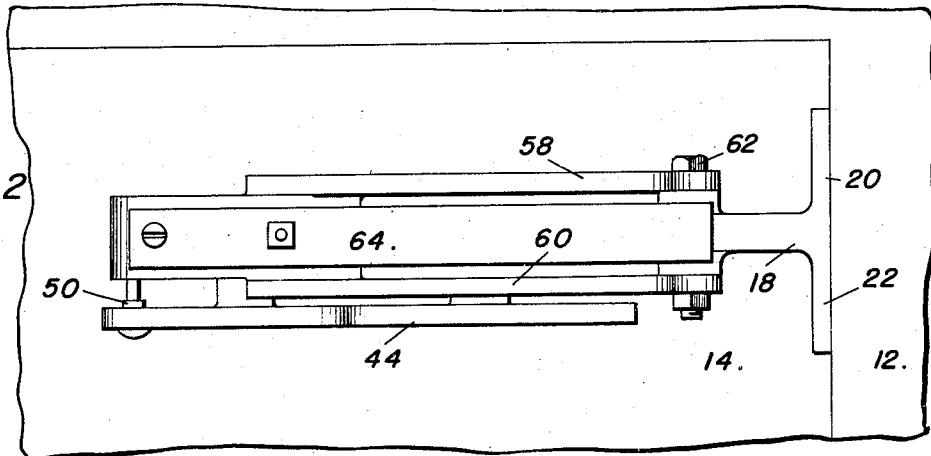


Fig. 3

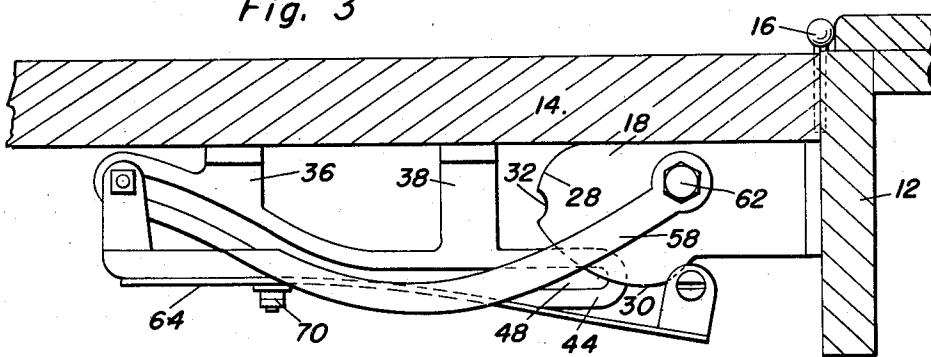
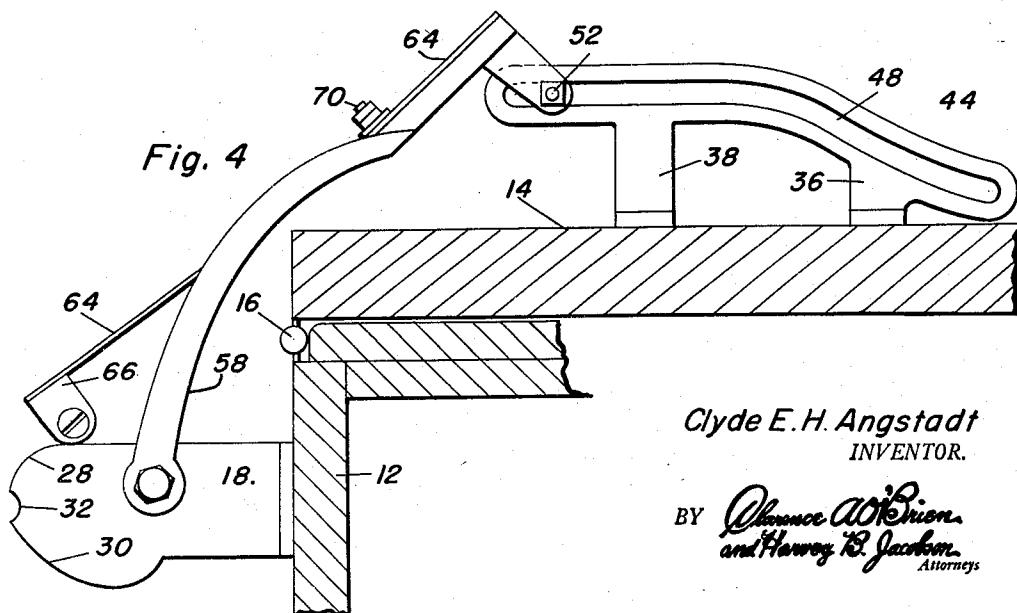


Fig. 4



United States Patent Office

2,849,748

Patented Sept. 2, 1958

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2,849,748

DOOR CHECK

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Application August 23, 1954, Serial No. 451,400

2 Claims. (Cl. 16—85)

This invention relates to a door check and closer adapted to be utilized in conjunction with doors, windows or other suitable closure elements.

The primary object of the present invention resides in the provision of a door check which is adapted to permit 180° movement of a door relative to a door frame and which is adapted to resiliently yieldingly hold the door in one of three selected positions wherein the door is either closed, opened normal to the door frame or opened and extended 180° relative to the door frame.

The construction of this invention features a novel door check and closer which includes a cam element adapted to be mounted on the door frame. A bracket is adapted to be mounted on the door and has a slot therein through which a roller carried by a support member operates. The support member carries a spring which carries a further roller which engages the cam member. The cam which is resiliently engaged by the spring pressed roller therefore controls the position of the door.

Still further objects of the invention reside in the provision of a door check and closer that is strong and durable, simple in construction and operation, which can be easily installed, and which can be inexpensively constructed from various readily available materials, thereby permitting wide distribution and utilization.

These, together with the various ancillary objects and features of the invention which will become apparent as the following description proceeds, are attained by this door check, a preferred embodiment of which has been illustrated in the accompanying drawings, by way of example only, wherein:

Figure 1 is a perspective view illustrating the invention comprising the present invention as operatively installed on a door and door frame with the door partially open, the door frame being partially shown in section;

Figure 2 is a side elevational view of the invention;

Figure 3 is a plan view of the door check and closer with the door and door frame being illustrated in section;

Figure 4 is a view similar to that of Figure 3, but showing the door held by the door check and closer in a position 180° from the closed position.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, reference numeral 10 generally designates the door check comprising the present invention which is adapted to be mounted on a door frame 12 and a door 14 or other suitable closure element. The door 14 is hingedly attached, as by hinges 16 or the like, to the door frame 12, and the door check and closer includes a cam member 18 which extends outwardly normal to the frame 12 and which has flanges 20 and 22 secured, as by screws 24, to the door frame 12 with the flanges 20 and 22 positioned in alignment with a molding 26 attached to the frame 12 for providing a seat for the door when the door is in a closed position.

The cam member 18 includes a pair of convex surfaces 28 and 30 as well as a concave surface 32, the purpose of which will be hereinafter disclosed.

2

Attached to the door 14 is a bracket 34 having flange support portions 36 and 38 which are attached by screws, as at 40 and 42, to the door 14. Obviously, the supports 36 and 38 can be attached by any other suitable means to the doors 14. The bracket 34 has an arcuate portion 44 as well as a substantially linear portion 46 and an elongated eccentric slot 48 is formed therein. Riding in the slot 48 is a roller 50 depending from a pin or shaft 52 carried by a support member 54. The support member 54 has a flange portion 56 to which the pin 52 is attached. The support member 54 further includes a pair of arcuate arms or furcations 58 and 60 which are pivotally attached to the cam member 18 by means of a bolt 62. Attached to the support member 54 is a resilient bar 64 forming a spring which carries a fitting 66 of generally U-shape for rotatably mounting a roller 68. The roller 68 is adapted to engage the convex surfaces 28 and 30 as well as the concave surface 32 on the cam member 18. The spring 64 is secured by means of a bolt, as at 70, and a screw 72 and is sufficiently strong to control the operation of the door 14.

With a door in a closed position, such as is shown in Figure 3, the door is opened against the force exerted by the spring 64 which carries the roller 68 along the surface 30. When the roller reaches the surface 32, the stored energy in the spring 64 forces it into the concave surface 32 thereby holding the door normal to the door frame 12. To further flex the spring, the door may be opened further to carry roller 68 along the surface 28 which will then cause the door to be held in the position as is shown in Figure 4.

If the door were to be opened to some intermediate portion on the surfaces 28 and 30, it would be urged to a position of 180° to its closed position, or to its closed position, respectively, due to the action of the spring 64.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A door check for attachment to a door and door frame for movement of the door to a selected position and for holding the door in a selected position comprising a cam member adapted to be attached to the door frame, a bracket having an eccentric slot therein adapted to be secured to the door, a support member carrying a roller with the roller engaged in said slot, said support member being pivotally attached to said cam member, said support member being bifurcated and having arcuate spaced furcations, said cam member being received between said furcations, and a spring bar having one end thereof attached to said support member, said spring bar having a roller on the other end thereof resiliently engaging said cam member, said spring bar having portions thereof extending between said furcations.

2. A door check for attachment to a door and door frame for movement of the door to a selected position and for holding the door in a selected position comprising a cam member adapted to be attached to the door frame, a bracket having an eccentric slot therein adapted to be secured to the door, a support member carrying a roller with the roller engaged in said slot, said support member being pivotally attached to said cam member, said support member being bifurcated and having arcuate spaced furcations, said cam member being received between said furcations, and a spring bar having

one end thereof attached to said support member, said spring bar having a roller on the other end thereof resiliently engaging said cam member, said spring bar having portions thereof extending between said furcations, said cam having arcuate convex portions and a 5 concave portion forming a seat for said roller on said spring bar.

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