Dec. 1, 1959 D. K. CAMPBELL, JR 2,914,792

DOOR CHECK

Filed April 19, 1957

FIG. 1.

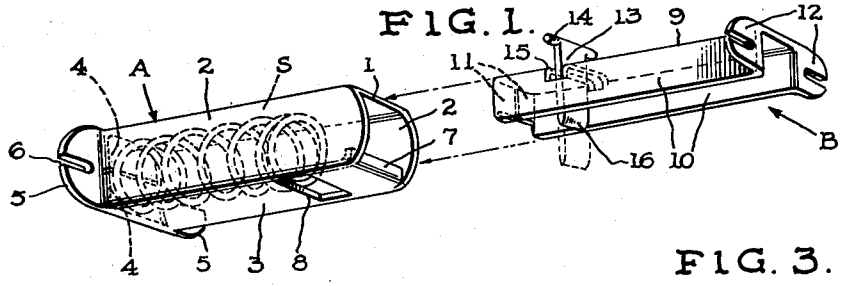


FIG. 3.

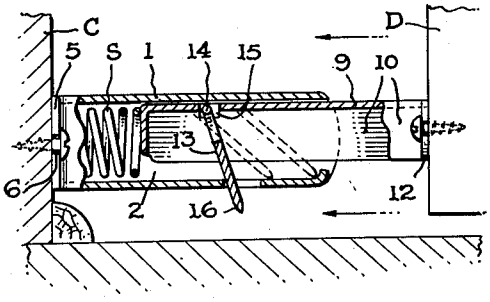


FIG. 2.

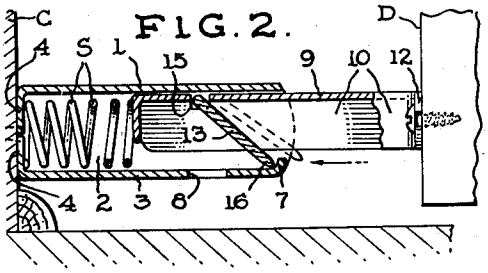


FIG. 4.

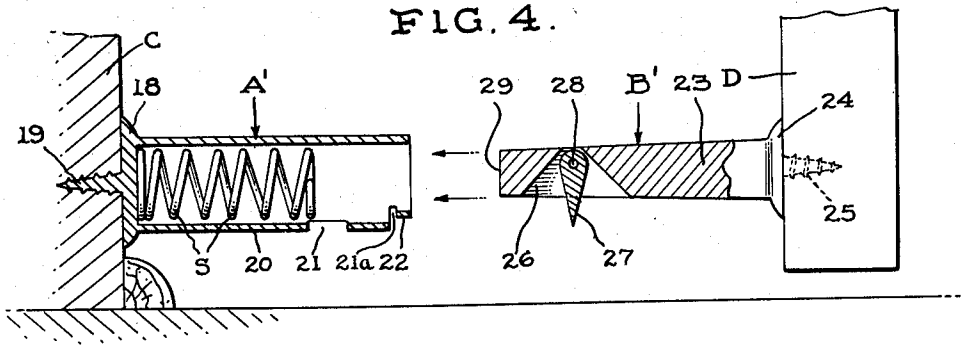


FIG. 5.

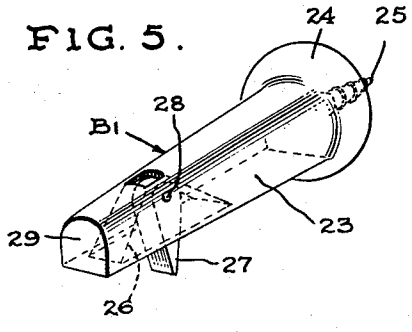
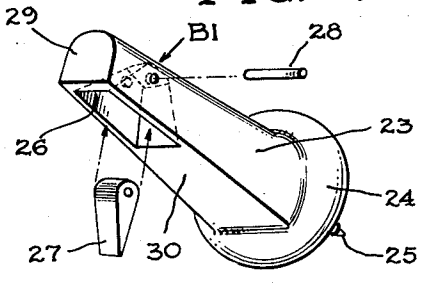


FIG. 6.



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DOOR CHECK

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6 Claims. (Cl. 16—82)

This invention relates to a door check intended to hold a door in open position regardless of whether or not it is provided with a spring or other automatic closing device or whether it is merely hinged or desired to be held open to avoid undesired closing by drafts or wind.

One of the objects of the invention is to provide a door check consisting of a minimum number of parts which lends itself to manufacture by standard procedures by the utilization of readily available stock parts which may be fabricated in accordance with standard manufacturing procedures to provide a low cost yet efficient device.

Another object of the invention is to provide a door check comprising telescopically related parts which may be readily pre-formed for telescopic engagement, and which also include a novel pawl and keeper arrangement which is reliable and effective in use merely by manipulating that part of the door check carried by the door itself.

Another object of the invention is to provide a door check which affords a positive lock to retain the door in open position, and also permits release of the door from locked open position by a slight inward pressure on said door.

Another object of the invention is to provide the respective parts with slotted attaching formations which enable relative adjustment during installation which insures accurate registry and fitting together.

With the above and other objects in view which will appear as the nature of the invention is better understood, the invention consists in the novel construction, combination, and arrangement of parts, hereinafter more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawing, in which:

Figure 1 is a perspective view of the component parts of the preferred form of door check, the parts being shown as they appear separated and about to become engaged.

Figure 2 is a vertical cross-sectional view of the component parts of the check engaged to hold the door locked to the baseboard.

Figure 3 is a view similar to Figure 2 but with the spring compressed to a greater degree than in Figure 2 to permit the pawl suspended from the member carried by the door to drop into the slot and thereby to be able to trail over the keeper shoulder when it is desired to open the door.

Figure 4 is a vertical cross- section of a modified form of the invention with the parts about to be engaged, in a manner similar to that shown in Figures 2 and 3.

Figure 5 is a top perspective view of the part of the door check carried by the door.

Figure 6 is an exploded bottom perspective view of the part shown in Figure 5.

Similar reference characters designate corresponding parts throughout the several figures of the drawing.

Referring to the drawing, the door check essentially consists of a receiver A carried by a baseboard C and a plunger B carried by a door D adapted for sliding telescopic engagement when respectively mounted on the baseboard and the door.

As will be apparent from the drawing, the respective parts A and B can conveniently be made of tubing or by means of a die casting operation.

Referring to the receiver A, it will be observed that it comprises a substantially box-like body having a top wall 1, side walls 2, bottom wall 3 and a rear wall 4. The rear wall is formed by bending together the ends of the top and bottom walls 1 and 3 while the side walls 2—2 are bent outwardly to form attaching ears 5 provided with slots 6 to enable a screw or similar fastening to be utilized to secure the receiver to the baseboard C and at the same time permit shifting of the receiver laterally to make it more readily register with the door-carried plunger B.

Referring further to the receiver A, it will be observed that it houses a spring S which is confined between the top, side and the bottom walls and the back wall 4.

The open front end of the receiver has its bottom wall turned upwardly forming a keeper 7, and between said keeper and the spring, the bottom wall 3 is provided with a slot 8 to receive the locking pawl under certain conditions as will presently appear.

The plunger member B is of channel formation including a top wall 9 and side walls 10. The front ends of the side walls 10 are bent inwardly as at 11 to provide a plunger head for abutting engagement with the spring S. The rear ends of the side walls 10 are provided with slotted attaching ears 12 which are intended to receive fastenings for securing the plunger element to the door D.

A distinctive feature of the invention resides in providing the plunger B with a pawl 13. This pawl is of substantially T-shaped formation including a depending shank and a cross-head portion 14 which fits in a slot 15 provided in the top wall 9 and side walls 10 of the plunger B. The pawl 13 may merely be loosely placed in the slot and because of its T-shaped formation, the head will rest on opposite sides of the slot and the latter is wide enough to enable the pawl to swing freely forwardly and backwardly at its free end 16.

When the receiver or pocket member is attached to the baseboard C and the plunger B is attached to the door D and it is desired to hold the door in open position, the door is swung so that the plunger element B enters the receiver or pocket member A. As the telescopic movement proceeds the first thing that happens is that the plunger head 11 abuts spring S and starts compressing the same. Then, the end 16 of the pawl 1 rides over the upstanding keeper 7, drops behind said keeper and thereby holds the door in open position.

When it is desired to close the door, it is merely necessary to push it towards the baseboard C thus carrying the plunger B with it and subjecting the spring S to further compression. As a result of such movement, the pawl 13 travels away from the keeper 7, and will eventually fall into the slot 8 and momentarily swing free of its cross-head 14. The falling of the pawl 13 into the slot sets it for trailing engagement over the keeper 7 as the plunger is forced outwardly under the pressure of the spring S to release and close the door. As soon as the end 16 of the pawl leaves the keeper 17 it again swings free in the plunger and the entire device is ready for re-use.

A modification of the invention is shown in Figures 4, 5 and 6 where all of the essential elements of the form shown in Figures 1–3 are preserved. The receiver A' is a tubular member whose rear wall 18 carries a screw fastening 19. This form lends itself to a cast-type of receiver. The receiver A' houses a spring S and the bottom wall 20 and the side walls of the receiver are cut away to provide a release slot 21. A keeper 22 is formed

by first cutting a slot 21*a* in the bottom and side walls of the receiver a slight distance rearwardly of the front edge thereof, and then that portion of the receiver lying between slot 21*a* and the front edge is flattened upwardly out of the plane of the remainder of the bottom wall of the receiver.

The plunger B' includes a body 23 having a rear wall 24 carrying a screw-threaded element 25 for attachment to a door. The bottom wall 30 of the body 23 is provided with a recess 26 for receiving a pawl 27 which is pivotally suspended in said recess by a pin 28. The pawl 27 is thereby free to swing in either direction and, as the plunger moves into the receiver, the lower end of the pawl 27 will engage with the keeper 22 while the leading end 29 of the plunger compresses the spring S. When it is desired to open the door, the latter is pushed towards the wall so that the plunger B' compresses the spring S until the lower end of the pawl 27 moves into the slot 21 and hangs free. As the door to which the plunger is attached is moved outwardly under expansion of spring S, the pawl 27 will freely slide over the keeper 22.

From the foregoing it will be seen that both forms of the invention have the same general characteristics and it is believed that the operation and function of the several parts will be clear without further description. It will, of course, be understood that changes may be made within the scope of the appended claims.

I claim:

1. A door check comprising, a receiver having a closed end and an open end and top, bottom and side walls, attaching means adjacent the closed end thereof, keeper means adjacent the open end of said receiver in the bottom wall thereof, said bottom wall also having a slot inwardly of said keeper means, a spring housed within said receiver, a plunger member adapted for telescopic engagement with said receiver and having a front wall for engaging said spring and compressing the same under pressure and a rear wall having attaching means adjacent thereto, a pawl pivotally supported by said plunger member and adapted to ride over and drop behind said keeper means for locking engagement therewith when said plunger member enters said receiver and abuts said spring, said pawl being released from its locking position by further inward movement of said plunger against the tension of said spring, thereby causing said pawl to drop into said slot for free swinging movement and trailing engagement over said keeper means as release of pressure on said spring ejects said plunger from said receiver.

2. A door check according to claim 1, wherein said attaching means each comprises a plurality of slotted ears for adjustably securing said receiver and plunger to respective supporting surfaces.

3. A door check according to claim 1, wherein said keeper means comprises an upwardly turned front edge of said bottom wall.

4. A door check according to claim 1, wherein said plunger member is of channel formation and includes slotted top and side walls adapted to receive and pivotally support said pawl member.

5. A door check according to claim 1, wherein said plunger member comprises a solid body having a recess in the bottom thereof wherein said pawl member is received and pivotally supported.

6. A door check, comprising, first and second telescopically related members, said first member having a slotted bottom wall, a keeper, and a spring arranged rearwardly of said slot, said second member having a pendulous pawl adapted to engage said keeper upon partial entry of said second member into said first member and thereby retain said first and second members in locked relationship to each other, said pawl being released from engagement with said keeper when said second member is urged further into said first member against the tension of said spring, whereby, said pawl falls into said slot to swing freely for trailing engagement over said keeper upon release of pressure exerted on said second member, thereby causing said second member to be forcibly ejected from said first member.

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