

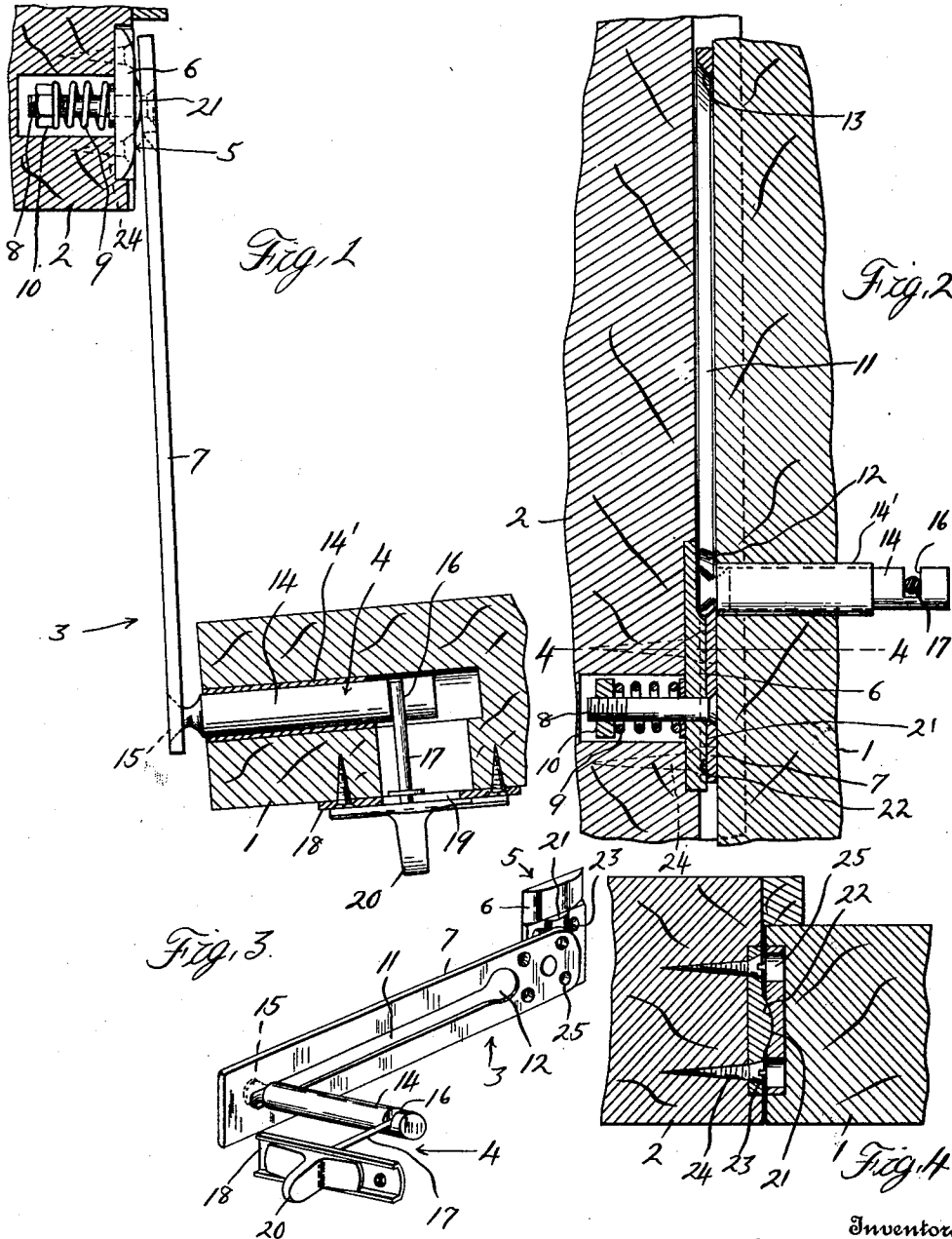
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CLOSURE FASTENER

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CLOSURE FASTENER.

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This invention relates generally to closure fasteners and refers more particularly to fasteners for doors wherein a partial opening of the door is permitted after the fastener has been placed in operative position.

One of the essential objects of the present invention is the provision of a closure fastener which is entirely concealed from view when the door is in closed position.

Another object is the provision of a fastener so constructed and arranged that the removal of all of the screws securing one of the fastener elements to the door jamb, is prevented when the fastener is in operative position.

With these and other objects in view, the invention resides in the novel features of construction and combination and arrangement of parts as more fully hereinafter set forth.

In the drawings:

Figure 1 is a plan view of the fastener applied to a door and door jamb;

Figure 2 is a horizontal section taken through the fastener;

Figure 3 is a perspective view of the fastener;

Figure 4 is a section taken on line 4—4 of Figure 2.

In the accompanying drawings, wherein like characters of reference indicate like parts, the numeral 1 designates a door, 2 a door jamb, and 3 a fastener having cooperating members 4 and 5 carried by the door and jamb respectively and cooperating to retain the door in substantially closed position. As shown the member 5 consists of a flat supporting plate 6 carried by the door jamb, and a swinging arm 7 pivotally secured to the supporting plate by means of the bolt 8.

Preferably a coil spring 9 surrounds the bolt and is interposed between the nut 10 and the rear face of the plate 6 for resiliently urging the plate into contacting relation with the swinging arm.

As shown, the swinging arm is provided with a longitudinally extending slot 11 having the enlarged portion 12 at its inner end and being provided with the bevelled surface 13 on the rear face of the arm.

The member 4 consists of the bolt 14 slidably mounted in the door and having a head 15 at its outer end adapted to align with the enlarged portion 12 of the slot 11 when the door is in closed position. For moving the

bolt into and out of engagement with the swinging arm, the inner end of the bolt is provided with a transverse groove 16 receiving a pin 17. Secured to the inner face of the door is a guide member 18 provided with a slot 19 through which an end of the pin extends. A handle 20 fastened to the end of the pin is adapted to slide in the guide member 18 for operating the bolt. If desired a sleeve or bushing 14' may be provided for facilitating the movement of the bolt in the door.

In operation, assuming that the door is in closed position and that it is desired to lock the same, the bolt is thrown so that the head 15 projects through the enlarged portion of the slot 11. If an attempt is now made to move the door to open position the bolt will slide in the slot 11, which action will move the swinging arm about its pivot from a vertical toward a horizontal position. This movement will continue until the bolt reaches the outer end of the slot 11 whereupon a further opening movement of the door is prevented. Upon moving the door to closed position, the swinging arm will be returned to its vertical inoperative position whereupon the bolt may be withdrawn to allow the door to be freely opened and closed.

As will be noted the under portion of the head 15 is bevelled to conform to the bevelled portion of the slot thus insuring the smooth and even movement of the bolt in the slot. It will be also noted that the supporting plate 6 is provided with a ridge or raised portion 21, while the swinging arm is provided with a recessed portion 22, the arrangement being such that upon the final movement of the arm to its vertical position, the action of the spring 9 will cause the portion 21 to snap into the recess 22 and thus insure the complete return of the arm to its closed position.

It should be noted that the ridge 21 further functions as a fulcrum about which the arm 7 is adapted to rock when moving from one position to another. In the present construction, it is highly desirable that such an arrangement be provided due to the fact that the arm does not describe a true arc when moving about its pivot. Therefore if the surfaces of the supporting plate and arm were perfectly flat there would be a tendency for the inner end of the arm to bind on the plate and thereby preventing a smooth and

even movement of the arm during its swinging movement from one position to another. It will be apparent that the present arrangement entirely eliminates such an objectionable feature.

Any suitable means may be provided for securing the supporting plate to the door jamb. In the present instance the plate is provided with a plurality of holes 23 for receiving the screws 24. The swinging arm is also provided with a plurality of openings 25 corresponding in number to and registering with the holes 23 when the arm is in its closed vertical position, these openings being of a size to allow the heads of the screws to pass therethrough. With this arrangement it will be apparent that when the arm is moved about its pivot the openings 25 will be moved out of register with the screw holes and thus prevent the removal of the screws.

From the foregoing, it will be apparent that we have provided a novel door fastener for allowing a partial opening of the door and which is entirely concealed from view when the door is in closed position. Our fastener is also simple in construction, cheaply manufactured and easily installed.

While it is believed that from the foregoing description, the nature and advantage of my invention will be readily understood, I desire to have it understood that I do not limit myself to the specific construction shown and described and that such changes may be resorted to when desired as fall within the scope of the claims.

What we claim as our invention is:

1. The combination with a door and door jamb, of fastening means for said door including a plate secured to said jamb having a centrally disposed ridge thereon, a swinging arm pivotally mounted on said plate and provided with a recess therein, a bolt carried by said door engageable with said arm for limiting the opening of the door, and means for resiliently clamping said plate and arm together, the arrangement being such that the aforesaid ridge and recess are in engagement when the door is in closed position.

2. The combination with a door and door jamb, of fastening means for said door including a plate secured to said jamb having a centrally disposed ridge thereon constituting a fulcrum, a swinging arm pivotally mounted on said plate, a bolt carried by said door engageable with said arm for limiting the opening of the door, and means for resiliently clamping said plate and arm together, the arrangement being such that the arm will rock upon its fulcrum during the movement thereof to its different positions of adjustment.

3. In a fastener of the class described, a swinging arm, a supporting plate therefor,

and a connection between said plate and arm including a member projecting from the arm and extending through the plate, and spring means associated with said member for yieldably holding said arm against said plate.

4. In a fastener of the class described, a swinging arm having a recess therein, a supporting plate therefor having a fulcrum for the arm normally in the recess, a member projecting from the arm and extending through the plate, an element on said member, and yieldable means between said element and plate and associated with said member for maintaining said fulcrum in the recess in said arm.

5. In a fastener of the class described, a swinging arm, a supporting plate therefor, a fulcrum for the arm on the plate, and means extending at substantially right angles to the plate for yieldably maintaining said arm upon said fulcrum.

6. In a fastener of the class described, the combination with a swinging arm having a slot therein, and a bolt engageable with said slot and having a transverse groove therein, of a pin engaging said slot and a member movable in a plane parallel to the bolt for actuating said pin.

7. In a fastener of the class described, a swinging arm, a supporting plate therefor, a part carried by the arm and extending through the plate, an element adjustably mounted on said part and yieldable means sleeved on the part between the plate and element and urging the arm against said plate.

8. In a fastener of the class described, a plate having openings for receiving a securing element such as screws and the like, and an arm having openings normally registering with the openings aforesaid and of sizes to permit securing elements such as screws to be passed completely therethrough into engagement with the openings in the plate, and a connection between said plate and arm permitting said arm to swing relative to said plate and thereby cause the openings in the arm to move out of registration with the openings in the plate, so that the securing elements in the plate cannot be removed therefrom.

9. The combination with a door and door jamb, of fastening means for said door including a plate secured to said jamb, a swinging arm pivotally mounted on said plate, means carried by said door engageable with said arm for limiting the opening of the door, and means for resiliently clamping said plate and arm together.

10. The combination with a door and door jamb, of fastening means for said door including a plate secured to said jamb, an arm swingable relative to said plate, means for pivotally mounting and resiliently

clamping said arm to said plate including a bolt extending through said plate and arm and having its head engaging said arm, a nut on said bolt and a spring interposed between said nut and plate, and means carried by said door engageable with said arm for limiting the opening of the door.

11. The combination with a door and door jamb, of fastening means for said door including a plate secured to said jamb, an arm engageable with the outer face of said plate, means for pivotally mounting and resiliently clamping said arm to said plate including a bolt extending through said plate and arm and having its head lying flush with the outer face of said arm, a nut on said bolt and a coil spring interposed on said nut be-

tween said nut and plate, and means carried by said door engageable with said arm for limiting the opening of the door.

12. In a fastener of the class described, a swinging arm, a stationary supporting plate therefor, a fulcrum for the arm on one side of said plate, means upon the opposite side of said plate for yieldably maintaining said arm upon said fulcrum, and a connection between said yieldable means and arm extending transversely of said plate.

In testimony whereof we affix our signatures.

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