

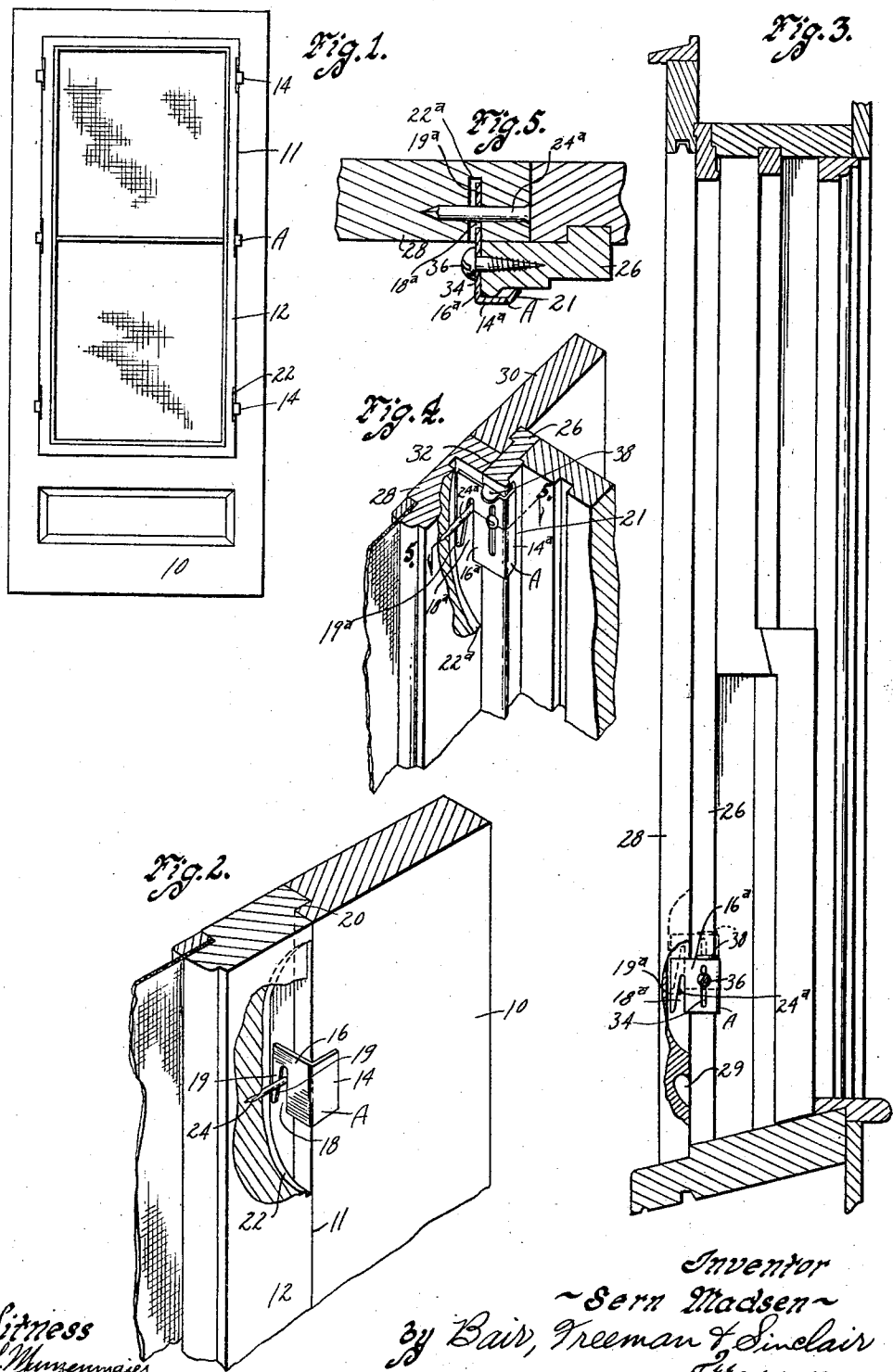
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CLOSURE FASTENER

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CLOSURE FASTENER

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An object of my present invention is to provide a fastener for closures or for fastening any two members together, the fastener being comparatively simple and inexpensive to manufacture.

More particularly it is my object to provide a fastener for holding two members together which engages a surface of one of the members and has an inclined hook-like slot engaging a pin or other abutment of the other member so that upon sliding movement in one direction, the pin is urged toward the surface slidably engaged by the fastener and thus the two members are held together.

A further object is to provide a fastener in the form of an angle shaped member, one leg of which is adapted to engage a surface of one of the members and the other leg of which is provided with an inclined slot for engaging a pin of the other member.

Still a further object is to provide a saw cut or other suitably formed slot for the second leg of the fastener to project into with the pin engaged by the hook driven into the edge of the member and transversely across the slot.

With these and other objects in view my invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawing, in which:—

Figure 1 is an inside elevation of a combination screen and storm door, showing one form of my invention applied thereto.

Figure 2 is an enlarged sectional perspective view of the door and fastener.

Figure 3 is a vertical sectional view through a window frame showing how my invention can be applied thereto.

Figure 4 is an enlarged sectional perspective view of the fastener in Figure 3; and

Figure 5 is a sectional view on the line 5—5 of Figure 4.

On the accompanying drawing I have used the reference numeral 10 to indicate a door, the stiles and rails thereof forming an opening 11. The door 10 has removably positioned in the opening 11 thereof an auxiliary frame 12 which may be covered with either screen or storm glass. The frame 12 is removable relative to the door 10 and a device of this kind is ordinarily referred to as a combined screen and storm door.

I provide a fastener A, several of which are preferably used as illustrated in Figure 1, for holding the frame 12 in the door 10. The fastener A comprises a formed angle, the legs of which are indicated at 14 and 16, Figure 2. The leg 14 is adapted to engage the inner surface of the door 10. The leg 16 has an inclined slot 18 formed therein, the inclined surface of the slot being indicated at 19.

An auxiliary frame 12 of the kind shown in Figure 1 is ordinarily rabbeted to fit against the rabbeted edge of the opening provided for the frame 12 in the door 10. This provides engaging surfaces indicated at 20 which act as stops for limiting the insertion of the frame 12 in the door 10.

The fastener A is preferably positioned adjacent the edge of the opening in the door 10 and extends between the edges of the frames 10 and 12. To make room for it a sawcut or rabbet may be formed in the edge of the frame 12 as indicated at 22. This clearance for the leg 16 of the fastener A may be provided in the door 10 if desired, or the edges of the door 10 and frame 12 may have clearance enough between them for the thickness of the flange 16.

A headless nail or pin 24 is driven into the edge of the frame 12 across the slot or rabbet 22 for engagement with the inclined surface 18 of the fastener A. In manipulating the device when it is desired to remove the aux-

iliary frame 12 each fastener A is slid upwardly, thus releasing the inclined surfaces 19 from the pins 24, whereupon the fasteners A may be entirely removed.

5 When installing the auxiliary frame 12 in the door 10 after the common plane of contact or engaging surfaces 20 are brought into contact, the flanges 16 of the fasteners A may be inserted in the slots 22 above the pins 24 and then pushed downwardly, which causes engagement of the inclined surfaces 19 and the pins 24 with engagement at 20 being tightened by such downward movement. The movement is preferably downward although not necessarily so, the purpose for this being that gravity will aid in keeping the fasteners A tight.

10 In Figures 1 and 2 the fasteners A are separable from the door 10. In Figure 3 I have shown an installation in which they are not separable. In this figure I have shown the fastener A used in connection with a blind stop 26 and a storm sash or screen 28. In window construction the blind stop 26 is usually offset from the edge of an outer side casing 30 as shown in Figure 4, whereby engagement for the sash 28 is provided at 32 to correspond to the engagement 20 in Figure 2. The parts in Figures 3, 4 and 5 corresponding to the parts in Figure 2 are given the same reference numerals with the addition of the distinguishing character *a*.

15 The saw cut or slot 22*a* preferably has two side walls so that the pin 24*a* is supported at both ends, as best shown in Figure 5. To prevent disengagement of the fastener A I provide a slot 34 in the flange 16*a* with a screw 36 extending through and into the blind stop 26. The screw is preferably loose enough to not interfere with the sliding movement of the fastener A, but if desired can be tightened with a screw driver if it is required that the fastener A remain permanently in a desired position until the screw is loosened.

20 The surface 14 or 14*a* as the case may be, may be straight or have a reverse bend 21 on its outer end to fit a blind stop of other than ordinary shape as illustrated. Other variations of the fastener may consist of bending out a lip 38 for convenience in imparting sliding movement to the fastener. The lip may be engaged by the finger of the operator for this purpose. A fastener of this character may be used on many different members which are to be fastened together.

25 I have shown only two types of installations, but wish it to be understood that I am not limited to use of the fastener on these. The fastener can be used in connection with lids or covers for packing cases, boxes, hatchway doors, wall panels which conceal plumbing and the like, etc.

30 In the illustrations shown, the fastener is inserted in the face opposite that from which

the closure enters. By reversing the rabbets or contacting surfaces it will be understood that the fastener may be used on the same face from which the closure is inserted. This is a preferred arrangement for holding panels in walls, etc.

Changes may be made in the formation of the fastener to adapt it to other types of installations and for different arrangements of parts to be fastened together without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:—

1. For use with a frame member and a closure member coacting therewith, a fastener for holding said members fixed relative to each other, said fastener having a pair of legs at right angles relative to each other, one of said members having a slit cut into the face thereof and a permanently mounted pin across said slit, one leg of said fastener having a formed hook detachably engaging with said pin of said member and the other leg thereof in direct engagement with a surface of the other member with a force opposed to the pull of said hook and against said surface.

2. Means for fastening together two members having a common plane of contact, one of said members having a fastener engaging surface substantially parallel with and spaced from said common plane of contact, the other of said members having a slot with the depth thereof at right angles to said common plane of contact and a stationary pin bridging said slot with its axis parallel with said common plane of contact, said means comprising a two portion fastener having an inclined hook on one portion thereof to enter said slot and engage said pin and the other portion thereof arranged at right angles to the first portion to engage said fastener engaging surface with a force opposed to the pull of said hook whereby said fastener holds the two members in fixed relationship.

3. For use with a pair of separable members having faces normally engaged at a common plane of contact, one of said members having an abutment, a fastener having a surface to slidably engage a face of the other member opposite the face thereof at said plane of contact and a surface inclined relative to the plane of such slidable engagement and adapted to engage with said abutment and slide relative thereto in the same direction as said surface of said fastener to constrain said separable members toward engagement.

4. For use with a member having a rabbeted edge and a second member having an

edge engaging said rabbeted edge, a fastener
for securing said members together having
a flange engaging a surface of the first mem-
ber opposite the intermediate surface of said
rabbeted edge thereof, and a second flange,
5 said second member having an abutment,
said second flange having an inclined surface
engaged therewith, both of said flanges being
slidable in a direction parallel with the bend
between them.

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