This invention relates to sliding door fasteners, and its general object is to provide a fastener that is automatic in its latching action, but must be manually unlatched, yet can be held against separation to latched position, with the result, it will be seen, that a door equipped with my fastener can be moved to closed position, with or without the fastener arranged to operate to latched position.

A further object of the invention is to provide a sliding door fastener of the automatic type that can be locked or sealed in latched position.

Another object of the invention is to provide a sliding door fastener, that is simple in construction, inexpensive to manufacture, easy to apply and extremely efficient in operation, use and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a fragmentary front elevation showing my fastener applied to a door and the frame thereof.

Figure 2 is a view showing the fastener in latched position and with the cover plate of the latch casing removed.

Figure 3 is a longitudinal sectional view taken through Figure 2, with parts in elevation, and the cover plate applied.

Figure 4 is a sectional view taken approximately on line 4—4 of Figure 2, looking in the direction of the arrows.

Figure 5 is a fragmentary view illustrating a slightly modified form of latch lever or rod guide and lock receiving means for the rod handle.

Referring to the drawing in detail, the reference numeral 1 indicates the keeper which as shown includes a hollow body, so as to be light in weight and has an attaching ear as well as openings through the body to receive bolt and nut connections for securing the keeper in position for use such as to a door frame, as shown.

Extending from the inner face of the keeper and centrally arranged thereon is a catch member or keeper lug 2 that is curved inwardly from its connection with the body and terminates at its outer end in a substantially spear shaped head 3 to provide shoulders on the inner face thereof for a purpose which will be later described.

The other part of my fastener includes a casing 4 having an inner wall 5, upper and lower walls 6 and an end wall 7. The casing as shown is secured to the door to be aligned with the keeper, by bolt and nut connections, and the bolts thereof secure the cover plate 8 in position, as clearly shown in Figure 3.

The end of the casing confronting the keeper has inwardly directed projections formed on the upper and lower walls thereof and which terminate in spaced relation with respect to each other to provide an opening to receive the catch member 2, for disposal within the casing, and the outer faces of the projections 9 are curved to follow the curvature of the corresponding faces of the catch member as clearly shown in Figure 2, with the result it will be seen that the catch member will be guided within the casing, in the event the casing and the keeper should be disposed slightly out of alignment with respect to each other, due to expansion and contraction of the door and its frame.

Mounted within the casing and having one of their ends pivotally secured adjacent the end wall 5, are latch arms 10 having hooked free ends disposed adjacent to the projections 9 to receive the spear shaped head 3 of the catch member 2, for holding the parts in latched position, and the latch arms are urged toward each other by leaf springs 11 that have one of their ends fixed adjacent to the pivots of the latch arms and upon opposite sides thereof as shown, so that the free portions of the springs contact the arms adjacent the free ends of the latter. The upper and lower walls of the casing are enlarged to provide inwardly directed projections that contact the springs and hold them against the latch arms.

Extending from the end wall 7 of the casing is a sleeve 12 that communicates with the casing and has mounted for slidable movement therein to extend outwardly therefrom, as well as within the casing a handle and plunger rod 13 which is guided by the sleeve, as well as by an ear 14 extending from the inner wall 5. The inner end of the rod 13 is reduced for a portion of its length and the reduced portion is swiveled or mounted for rotation in a head 15, as best shown in Figure 3. The head is provided with curved portions providing cam faces disposed in contacting engagement with the inner curved faces of the latch arms 10, for moving the latter on their pivots and against the action of the springs 11.
to release the hooked ends of the arms from the catch member 2, and the inner faces of the latch arms are provided with shoulders 16 to act as stops for the head 15 when the latter is in its normal position, as shown in Figure 2.

The sleeve terminates in a reduced outer end that is provided with what may be termed a double bayonet slot in that the outer surface of the reduced outer end is slotted longitudinally as at 17, and transverse slots 18 and 19 are disposed at the ends of the slot 17 to intersect the same, the slot 19 being at the outer end of the reduced portion and therefore is in the form of a recess. Extending laterally from the rod 13 is a pin 20 receivable in either of the slots 18 and 19 to contact the shoulders thereof, and is movable through the slots 17 for travel to either of the other slots. The outer end of the rod 13 is bent at right angles upon itself and thence disposed in looped formation to provide a handle 21. Secured to the inner portion of the rod 13 is a socket member 22 for one end convolution of a coil spring 23 that surrounds the rod and has its opposite end convolution contacting the ear 14, consequently it will be seen that the rod is normally urged outwardly from the casing, with the head 15 arranged as shown in Figure 2, and the pin within the slot or recess 19. However, the rod can be rotated by its handle 21 to align the pin 20 with the slot 17 and thence moved inwardly for moving the head 15 accordingly, thereby releasing the latch arms 10 from the catch member 2, due to the cammed faces of the head sliding against the confronting faces of the arms, and the rod can be held in its innermost position by rotating the same for disposing the pin 20 against either shoulder provided by the slot 18. The head 15 is shown as being secured to the reduced inner portion of the rod 13 by a cotter pin, but any means may be employed for that purpose, providing the rod is swivelly mounted therein.

In order to seal the fastener in latched position, it will be noted that the outer reduced portion thereof is further provided with opposed slots 24 in its sides, and the rod has a longitudinally arranged slot 29 therein to register with the slots 24 when the parts are in latched position, as shown in Figures 2 and 3, to receive a strap seal or the like, and of course rounded openings may be provided in plane of the slots so as to receive the hasp or the like, of a lock.

Referring to Figure 5, it will be noted that I have illustrated a modified form of rod guiding and lock receiving means for my fastener, and instead of the sleeve 12 and its associated parts, I provide a plate 25 that is separate from the casing 4, to be secured to the door in alignment therewith, as shown, and the plate 25 has formed thereon a slotted barrel 26 to slidably receive the rod 13 which in this form is provided with a slotted handle 27 formed thereon and extending at right angles therefrom. Secured to and extending outwardly from the plate 25 is a slotted lug 28 to receive the slot of the handle, whereby a pad lock or the like can be used for holding the handle against movement, and the fastener in operative position. The rod 13 is otherwise similar to that shown in the other form and the same is true with respect to the other parts, as well as the operation thereof. However, it might be mentioned that the barrel is provided with opposed slots to register with a longitudinally disposed slot in the rod 13 as shown, to receive a strap seal or the like, to seal the parts in latched position.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:

1. A fastener for sliding doors, comprising pivotedly mounted spring pressed latch arms co-operating to receive a keeper means, spring pressed handled means mounted for longitudinal movement between the arms to separate the latter to release the keeper means therefrom, and means for holding the releasing means in either operative or inoperative positions.

2. A fastener for sliding doors, comprising a casing having an inlet opening therein to receive a keeper lug, pivotally mounted spring pressed latch arms disposed within the casing and cooperating to receive and hold the lug between the same, spring pressed means mounted for longitudinal movement between the arms to separate the latter for releasing the lug therefrom, a handle for the releasing means, and pin and slot means for holding the releasing means in either operative or inoperative positions.

3. A fastener for sliding doors comprising a casing having an opening in one end thereof to receive a keeper lug, a pair of spring pressed arms pivotally mounted within the casing and including hooked ends cooperating to receive and hold the lug within the casing, a handled rod mounted for movement through the opposite end of the casing, cam means carried by the rod and engageable with the arms to release the latter from the head, spring means normally urging the cam means rearwardly to permit said arms to swing to operative position, guide means for the rod, and pin and slot means included in the guide means and rod respectively to hold the cam means in either operative or inoperative positions.

4. A fastener for sliding doors, comprising a casing having an opening in one end thereof and provided by opposed projections having curved outer faces for the passage of a rod lug between the same for disposal in the casing, a pair of arms having one of their ends pivotally mounted within the casing and provided with hooked free ends to receive the head for holding the lug within the casing, spring means for urging the arms to holding position, a rod mounted for movement through the opposite end of the casing, cam means disposed between the arms and swivelly receiving the inner end of the rod, said cam means engageable with the arms for moving the latter to release the headed lug, spring means surrounding the rod for holding the cam means in normal inoperative position, a sleeve secured to the opposite end of the casing to receive the rod therein for slidable movement therethrough, pin and slot means on the rod and sleeve respectively for holding the cam means in either operative or inoperative positions, a handle for said sleeve and rod having means therein to receive means for securing the rod against movement.

5. A fastener for sliding doors, comprising a casing having an opening in one end thereof and provided by inwardly directed projections having curved outer faces to provide guides for a keeper.
lug, arms pivotally mounted in the casing and having hooked free ends cooperating to receive the head of the lug and to hold the same within the casing, leaf springs engageable with the arms for urging and retaining them in holding position, handled means extending through the opposite end of the casing, cam means on the handled means and disposed within the casing between the arms for slidable movement thereon to separate the arms for releasing the lug, spring means for the handled means for normally holding the cam means inoperative, and pin and slot means for the handled means for holding the cam means in either operative or inoperative positions.

6. A fastener for sliding doors comprising a casing having an opening in one end thereof to receive the lug, a pair of spring pressed arms pivotally mounted within the casing and including hooked means cooperating to receive and hold a keeper lug within the casing, a handled rod mounted for movement through the opposite end of the casing, cam means carried by the rod and engageable with the arms to release the latter from the head, spring means normally holding the cam means in releasing position, a plate to be secured in alignment with the casing, means on the plate to receive and guide the rod in its movement and being slotted, a pin on the rod and cooperating with the slotted guide means for holding the cam means in either operative or inoperative positions, a handle on the rod, and means on the plate receiving the handle to hold the rod against movement and adapted to receive locking means for securing the rod accordingly. JAMES E. HOGAN.