

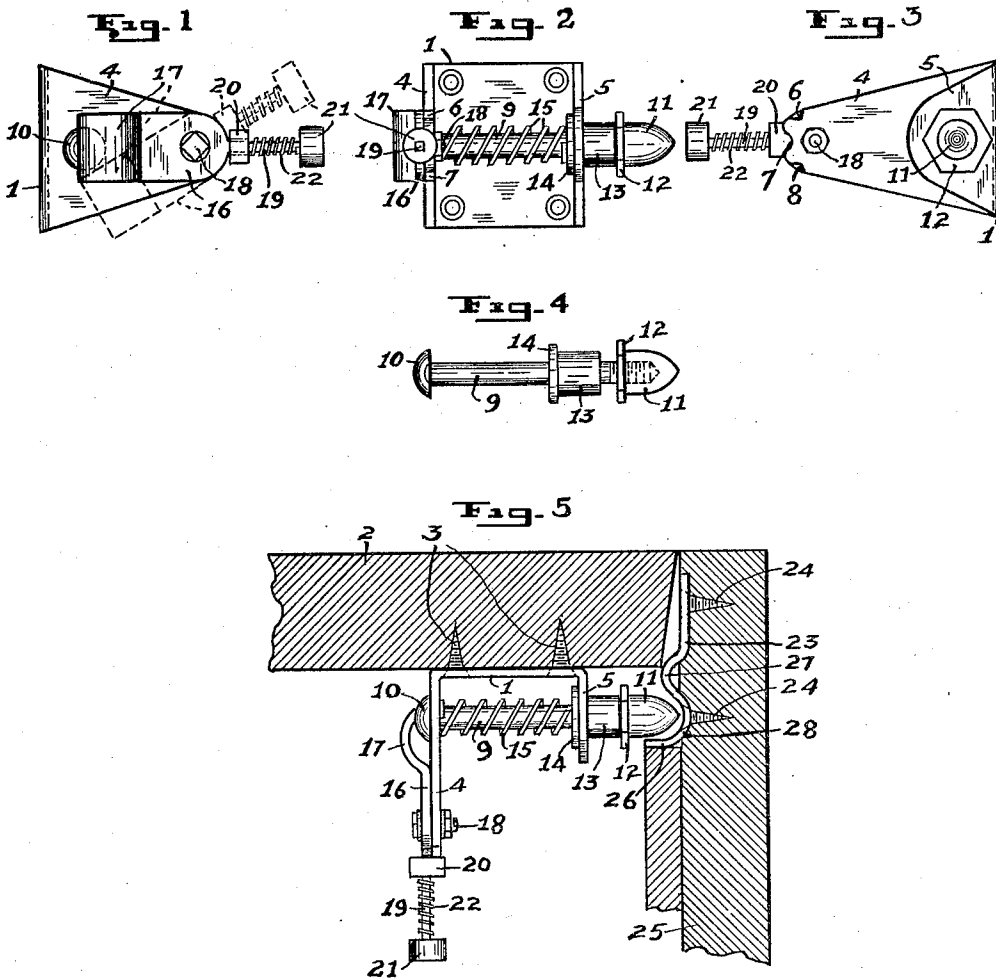
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DOOR FASTENER

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DOOR FASTENER

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My invention relates to certain new and useful improvements in door fasteners, and while primarily intended for screen doors, it will be obvious that the device may be employed for fastening any type of hinged doors, hinged windows and window screens, or for any other purposes wherein it is found to be applicable.

Important objects of the invention are to provide a screen door fastener of the character described, which may be readily installed to any type of screen doors, and which embodies novel means, operable from the inside of the door only, for securing the device in the latched position, whereby the door is secured against entrance of unauthorized persons.

Further objects of the invention are to provide a device of the class stated which is simple in its construction, and arrangement, strong, durable and efficient in its use, conveniently operable, and comparatively inexpensive to manufacture and install.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention hereinafter disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings wherein like numerals of reference designate corresponding parts throughout the several views:—

Figure 1 is an inner end view of a window screen door fastener constructed in accordance with the invention.

Figures 2 and 3, respectively, rear side and outer end views thereof.

Figure 4 is a side view of the latching bolt.

Figure 5 is a top plan view of the fastener, illustrating its adaptation to door elements, the latter being shown in cross section.

Referring in detail to the drawings 1 denotes a supporting bracket, which is permanently fixed, at a suitable height, to the inner margin of the free side edge of the door 2, by means of screws 3.

The supporting bracket 1 includes a pair of integrally formed, rearwardly extending arms, respectively indicated at 4 and 5. The arms 4 and 5 extend parallel to each other and are disposed at respective ends of the supporting bracket 1.

The arm 4 is comparatively long and carried at the inner end of the supporting bracket 1. The rearward free end of the inner long arm 4 is formed with three indentations, respectively indicated at 6, 7 and 8, which are provided for the purpose hereinafter set forth. The arm 5 is relatively short and carried at the outer end of the supporting bracket 1.

A latching bolt 9 is horizontally mounted in the arms 4 and 5, extending through suitable apertures provided therefor in the latter. The latching bolt 9 is provided with a rounded head 10, which abuts against the outer face of the inner long arm 4. A latching tip 11, comprising an ordinary acorn nut, is threadedly secured to the threaded outer end of the latching bolt 9, and projects outwardly from the outer short arm 5. The inner end of the latching tip 11 is provided with a hexagon flange 12 to facilitate the attachment of the latching tip 11 and to limit the distance of retraction of the latter in the arms 4 and 5.

A sleeve 13, having a flanged inner end 14, is slidably mounted on the latching bolt 9 and extends through the outer short arm 5. A spiral spring 15 is mounted on the latching bolt 9. The inner end of the spring 15 abuts against the inner face of the inner long arm 4, and the outer end thereof abuts against the flanged sleeve end 14. The latter is disposed inwardly of the outer short arm 5, while the outer end of the sleeve 9 abuts against the latching tip flange 12, outwardly of the outer short arm 5. The normal action of the spring 15 forces the latching bolt 9 outwardly to position and maintain the latching tip 11 in the latched position.

A securing bar 16, having a transversely curved forward end 17, is pivotally connected, by means of a bolt 18, against the outer face of the inner long arm 4 adjacent to the rearward free end of the latter. The

securing bar 16 carries a rearwardly projecting, integrally formed rod 19, which is square in transverse cross section. A detent 20, having a correspondingly squared aperture, is slidably mounted on the square rod 19, and cannot rotate on the latter. The rod 19 further carries an operating head 21, which is permanently fixed to the free rearward end thereof.

The detent 20 seats against the indented rearward end of the inner long arm 4. A spiral spring 22 is mounted on the rod 19. One end of the spring 22 abuts against the operating head 21, and the other end thereof abuts against the detent 20. The action of the spring 22 maintains the detent 20 under tensional pressure against the indented rearward end of the inner long arm 4.

The arrangement of the indents 6, 7 and 8, formed in rearward end of the inner long arm 4, and the pivotal connection of the securing bar 16 with the latter, are relatively such that the detent 20 is capable of seating in any of said indents 6, 7 or 8 for the purpose of maintaining the securing bar 16 in the position desired.

By shifting the securing bar 16 to seat the detent 20 in the centrally disposed indent 7, the securing bar curved end 17 will engage the rounded head 10, of the latching bolt 9, and prevent the retraction of the latter from the latched position, as clearly shown in Figures 1 and 5.

By shifting the securing bar to seat the detent 20 in either of the indents 6 or 8, the securing bar curved end 17 will shift to clear the rounded head 10, of the latching bolt 9, as shown in dash lines in Figure 1, and permit the movement of the latching bolt 9 to and from the latched position.

A stop member 23, adapted for engagement by the latching tip 11, is fixed in suitable position, by screws 24, to the door frame 25. The stop member 23 is formed with a back 26 and a curved projecting portion 27, providing a recess 28 therebetween.

When the securing bar 16 is in the released position, the door 2 may be swung to the closed position, as the action of the spring 15 allows the automatic retraction of the latching bolt 9 while its tip 11 is traveling over the curved projecting portion 27, and subsequently forces the latching tip 11 outwardly to engage in the recess 28 after the tip 11 clears the projecting portion 27. Such engagement of the latching tip 11 in the recess 28 will maintain the door 2 in the latched position, but will permit the latter to be opened by simply shoving outwardly on the same to effect the disengagement of the latching tip 11 from the stop member 23.

When the securing bar 16 is set to engage the rounded head 10, of the latching bolt 9, the latter cannot be retracted, and in consequence, the door 2 cannot be opened until the

securing bar 16 is shifted to the released position to clear the bolt head 10.

As the fastener is positioned on the inner side of the door 2, the latter, when secured, cannot be opened from the outside thereof, and in consequence, will prevent entrance therethrough until the securing bar 16 is shifted to the released position by a person on the inner side of the door 2.

The present invention provides a most efficient device of its kind, which is particularly adapted for securing screen doors against unauthorized entrance, and which may be set to permit the usual unimpeded operation of ordinary screen doors except that the device will automatically latch the same when in the closed position.

What I claim is:

1. In combination, a door fastener comprising a supporting bracket provided with a pair of spaced rearwardly extending arms, a sleeve mounted and longitudinally shiftable in the outer of said pair of arms and provided with a flange disposed on the inner side of said outer arm, a latching bolt shiftable extending through the inner of said pair of arms and through said sleeve, a latching tip removably connected to the outer end of said latching bolt and abutting against the outer end of said sleeve, a head formed at the inner end of said latching bolt and abutting against said inner arm for limiting the outward movement of said latching bolt, a spring mounted on said latching bolt intermediate of said pair of arms and engaging said sleeve flange for normally forcing said latching bolt outwardly to the latching position, and means carried by said inner arm and operable for engaging said head to secure said latching bolt in the latching position.

2. In combination, a door fastener comprising a pair of spaced rearwardly extending arms, a sleeve mounted and longitudinally shiftable in the outer of said pair of arms and provided with a flange disposed on the inner side of said outer arm, a latching bolt shiftable extending through the inner of said pair of arms and through said sleeve, a latching tip threadedly connected to the outer end of said latching bolt and abutting against the outer end of said sleeve, a rounded head being formed at the inner end of said latching bolt and abutting against said inner arm, a spring mounted on said latching bolt intermediate of said pair of arms and engaging said sleeve flange for normally forcing said latching bolt outwardly to the latching position, and a spring controlled securing bar pivotally connected to the free end of said inner arm and operable for engaging said rounded head to secure said latching bar in the latching position.

In testimony whereof I affix my signature.

FREDERICK KUMBER.