Aug. 27, 1940. V. J. GIARDINA 2,212,771

SAFETY LOCK

Filed Aug. 19, 1939

Fig. 1

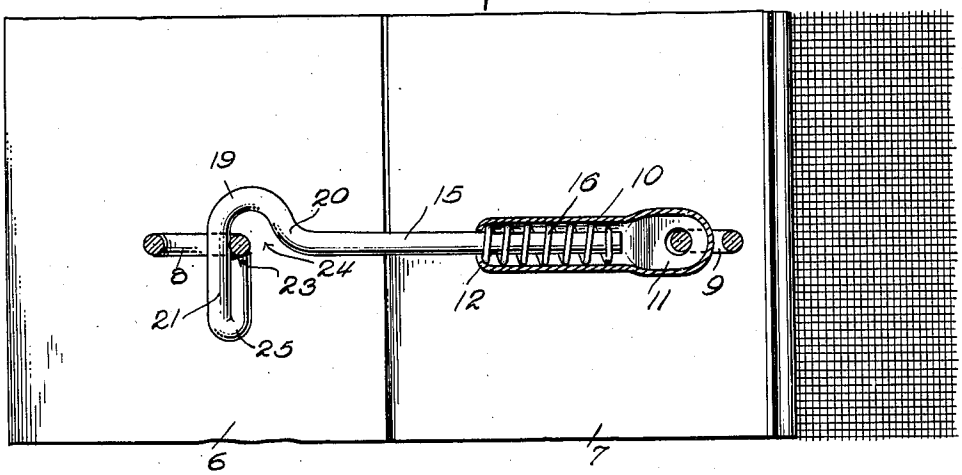


Fig. 2

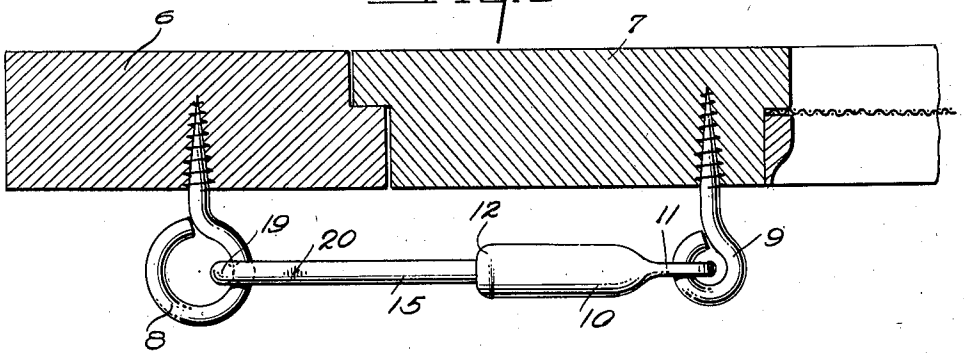


Fig. 5

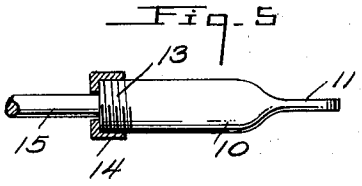


Fig. 4

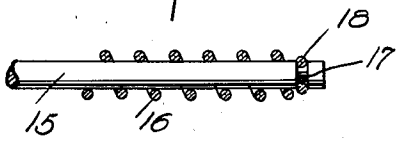
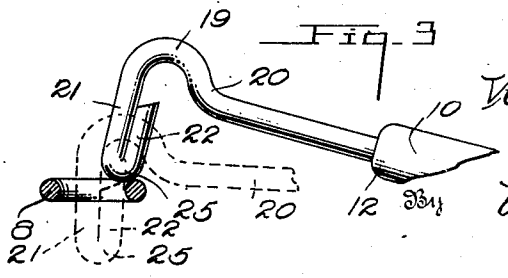


Fig. 3



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SAFETY LOCK

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Application August 19, 1939, Serial No. 291,092

1 Claim. (Cl. 292—129)

The present invention relates to improvements in safety locks, and has for an object to provide a burglar proof hook and keeper to be attached to door frames and to either screen or solid doors which will offer a maximum of safety against the insertion of any tool or jimmy used to lift the hook from the keeper eye.

It is another object of the invention to provide an improved safety lock in which the device is intended and calculated to hold the hook firmly in the keeper eye unless released from within the house by an intended retraction of the hook and its confining spring.

A further object of the invention is to improve the construction of the hook and its bill whereby a novel cooperation takes place between the hook and its keeper contributed to by the spring which maintains a tension upon the hook and whereby the hook will interlock with the keeper in such a manner that it will be difficult to dislodge the same except by a conscious effort in two predetermined directions which can be expeditiously executed only within the building or room guarded by the improved safety lock.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claim appended hereto.

In the drawing, wherein like symbols refer to like or corresponding parts throughout the several views,

Figure 1 is a fragmentary front elevation of a door and door frame showing the improved safety lock in locked position and with parts thereof broken away and parts shown in section.

Figure 2 is a top plan view of the same.

Figure 3 is a fragmentary side view of the hook raised out of the keeper shown in section and with dotted lines showing the hook as moved down into the keeper.

Figure 4 is a side view of the hook shank partially broken away and with the cooperating coil spring shown in section, and

Figure 5 is a side view of the casing and a part of the hook shank showing in section a modified form of device.

Referring more particularly to the drawing 6 designates a door and 7 a door frame. Upon one or other of these parts is mounted the keeper eye 8 and upon the other cooperating part is the screw eye 9 upon which is swivelly mounted a casing or sleeve 10. At one end such casing or sleeve 10 is formed with a perforated flattened part 11; while at its other end the casing 10 is turned in for a purpose later described. In Figure 5 a modification is shown in which the turned in end 12 is replaced by the screw threads 13 and the nut 14.

Either the inturned end 12 or the nut 14 extends closely about the shank 15 of the hook whereby the shank 15 may have a longitudinally sliding fit at one end in the casing 10. At this confined end the shank 15 is enveloped by a coil spring 16, one end of which abuts against and is confined by the inturned casing end 12 or the end of the nut 14 of Figure 5.

The opposite end of the coil spring 16 may be affixed to the shank 15 in any appropriate manner, for instance as shown in Figure 4, where the end or terminal convolution or helix 18 of spring 16 is wound tightly within the groove 17 formed near the inner end of the shank 15.

The thrust of the coil spring 16 reacting against the inturned end 12 or nut 14 and developed through end helix 18 and groove 17 tends to move the shank 15 inwardly of the casing yet enables the shank 15 to be drawn out through a compressive action of the spring.

At its outer free end the shank 15 is formed into a hook, the component parts of which are a goose neck 19 and the bill 21 with its reversely curved part 22. A curved portion lies between the shank 15 and the goose neck 19, this curved portion being a part of the one piece metallic rod with the shank 15 and the hook. It will of course be understood that these parts may be made separately if desired. The reversely curved part 22 is formed with an inclined shoulder 23, the shoulder terminating adjacent the constricted throat 24 through which the keeper 8 rather narrowly passes.

The higher end of the inclined shelf or shoulder 23 is formed opposite the curved portion 20. Therefore this higher end and the portion 20 approach one another and form a narrow throat.

In the use of the device, the reversely curved wall 22 produces a rounded extremity 25 which encounters the keeper 8 when the hook descends, it being understood that the spring 16 is so selected as to strength and its distended position as to draw the hook and its shank to the right so that the normal position of the hook will be as indicated in Figure 3 when it is freed from the keeper and when it is brought down upon the keeper. The hook will be held by spring 16 in this position of tension. However when the rounded extremity 25 engages the rounded portion of the keeper eye 8 and the hook is forced further down, the right hand edge of part 22 will ride down upon the rounded keeper part

8 and shift the bill and the shank over to the left, thus compressing the spring 16. The rounded portion 20 will tend to guide the keeper 8 into the narrow throat 24 and into the confined space within goose neck 19. As soon as the hook is forced down sufficiently so that the keeper 8 clears the shoulder 23, the coil spring 16 will snap the hook back to the right thus causing the bill 21 to be brought against the keeper 8 in alinement with the reversely curved part 22, and will cause the keeper to lie upon shoulder 23. The inclined shoulder will ride up on the lower part of the keeper as the spring 16 pulls the shank and hook in the right hand direction. The higher part of the inclined shoulder 23 being toward the right that is toward the free edge of the shoulder, will prevent the keeper from riding off such shoulder; or rather will prevent the shoulder from backing off the keeper. The high end of shoulder 23 performs a further function of extending toward the curved portion 20 and serving to narrow down the throat 24.

The coil spring 16 contributes to hold the keeper upon the inclined shoulder 23 and within the confined space within the goose neck 19 and from escaping through throat 24, while the inclination of the shoulder 23 makes it difficult for the hook to back off or raise up from the keeper.

It is obvious that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claim.

What is claimed is:

In combination with a keeper, a spring pressed hook comprising a bill having a gooseneck portion for confining an enclosed space to receive said keeper with an open throat portion, a bill on said hook forming a thickened portion across said throat for narrowing the throat and also providing a shelf inwardly of the throat and within said enclosed space, said shelf being inclined with its upper portion lying next to the throat.

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