Oct. 25, 1955 M. LOEB 2,721,754

STRIKE

Filed Jan. 17, 1955

Fig.1.

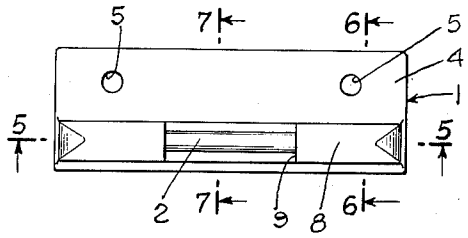


Fig.2.

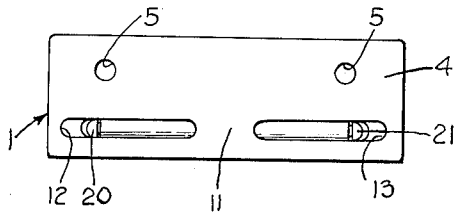


Fig.3.

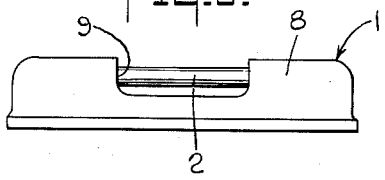


Fig.4.

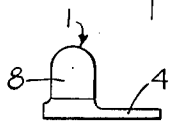


Fig.5.

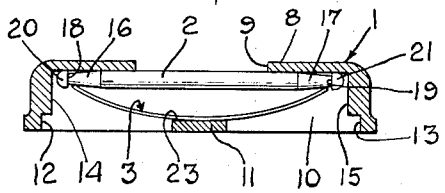


Fig.6.

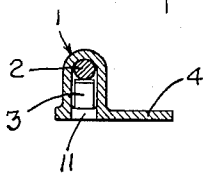


Fig.8.



Fig.7.

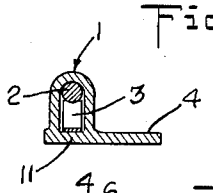


Fig.9.



Fig.10.

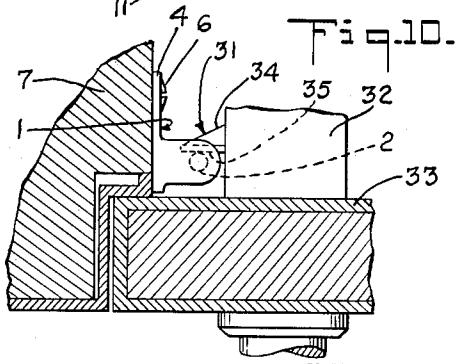


Fig.11.

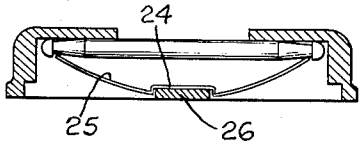
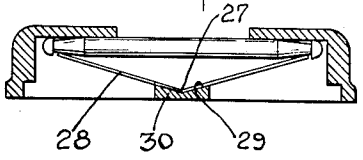


Fig.12.



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STRIKE

Morris Loeb, New York, N. Y.

Application January 17, 1955, Serial No. 482,093

4 Claims. (Cl. 292—341.15)

This invention relates to strikes for cooperation with the bolt or nose of a lock having a cam face and a locking face, such as disclosed in my co-pending applications for Patent Serial Nos. 479,733 and 479,734 filed on January 4, 1955.

Among the objects of the present invention it is aimed to provide an improved strike bar for cooperation with the bolt or nose of a lock for a door or the like, which lock has a cam face and a locking face and which strike bar is provided with resilient means for yieldably maintaining the strike bar in anchoring or locking position but enabling the strike bar to be deflected when engaged by the cam face of a bolt to clear the bolt and in turn to express or extend the strike bar to cooperate with the locking face of the bolt in locking or anchoring position of the door after the bolt has been cleared.

These and other features, capabilities and advantages of the invention will appear from the subjoined detailed description of specific embodiments thereof illustrated in the accompanying drawings, in which

Figs. 1 to 10, inclusive, are illustrative of one embodiment in which Fig. 1 is a top plan, Fig. 2 a bottom plan, Fig. 3 a front elevation, Fig. 4 an end elevation, Fig. 5 a longitudinal section on the line 5—5 of Fig. 1, Fig. 6 a cross section on the line 6—6 of Fig. 1, and Fig. 7 a cross section on the line 7—7 of Fig. 1.

Fig. 8 is a detached side elevation of the strike bar, Fig. 9 is a perspective of the flat spring, the movable parts of the strike, and Fig. 10 is a fragmental section showing the strike in operative relation relative to the lock on a door.

Fig, 11 is a longitudinal section similar to Fig. 5 of a second embodiment, and Fig. 12 is a longitudinal section similar to Fig. 5 of a third embodiment.

In the embodiment shown in Figs. 1 to 10, inclusive, there is illustrated a casing 1, a cylindrical rod constituting a strike bar 2, and a flat spring 3, the sole three parts constituting this embodiment of the invention, the bar 2 and flat spring 3 being floatingly mounted in said casing 1. The casing 1 has a flange 4 having screw openings 5, 5 therein to receive screws such as the screw 6 shown in Fig. 10 for securing the casing 1 to the frame 7 of a doorway. Adjacent the flange 4 there is formed the chambered boss 8 having a slot or opening 9 therein receding from the outer face of the casing 1 forming substantially two chambered bosses with the opening 9 therebetween. This chambered boss 8 has a chamber 10 in communication with the opening 9 and open at the bottom of the casing 1 with a bridge 11 across the bottom of the chamber 10. The chamber 10 in turn has two recesses or clearances 12 and 13 at the ends thereof adjacent the bottom of the casing 1 receding from the end walls or faces 14 and 15 of the chamber 10. The chamber 10 and recesses 12 and 13 are comparatively narrow in width, just large enough to clear the diameter of the strike bar 2 and the lateral edges of the flat spring 3. The strike bar 2 is preferably cylindrical or composed of round stock having annular notches 16 and 17 adjacent the ends thereof to form the annular shoulders 18 and 19 and thereby defining the heads 20 and 21, respectively, which are preferably rounded to facilitate turning the bar 2 in the chamber 10. The length of the rod 2 conforms substantially to the length of the chamber 10 from end wall 14 to end wall 15.

The flat spring 3, or third element or member of the strike, is preferably arcuate or bowed as shown, and of a length when in position in the chamber 10 to have its free ends enter the recesses 16 and 17 and slightly clear the shoulders 18 and 19 and thus enable the rod or bar 2 to be deflected against the tension of the springs 3 when assembled as shown in Fig. 5, but long enough at all times, whether deflected or not, to remain in the recesses 16 and 17 whether the bar 2 is deflected or depressed or not. The bow or curve of the flat spring 3 in cross section is wider than the width of the chamber in the casing 1 and the width of the spring 3 is slightly less than the width of the chamber in the casing 1 so that, see Fig. 5, when the rod 2 is positioned against the inner face of the bosses 8 and the spring 3 is tensed between the rod 2 and the bridge 11, the rod 2 and spring 3 will be effectively captured in the casing 1.

When assembling the three main parts, to wit, the casing 1, bar 2 and flat spring 3, it is only necessary first to introduce the bar 2 endwise into the chamber 10 between the bridge 11 and one of the recesses 12 or 13, and after the bar 2 has been positioned as shown in Fig. 5, then to introduce the flat spring 3 endwise into the chamber 10 between the bridge 11 and one of the recesses 12 and 13 until the free ends of the flat spring 3 enter one of the recesses 16 or 17 with the bulge or bow engaging or resting on the inner face of the bridge 11. In this embodiment the inner face 23 of the bridge 11 is preferably plane as shown.

The embodiment shown in Fig. 11 differs from the embodiment shown in Figs. 1 to 10, inclusive, primarily in the formation of the U-shaped indent or bend 24 in the flat spring 25 to receive the bridge 26, thereby to assist in anchoring the flat spring 25 against accidental displacement after having once been assembled.

The embodiment shown in Fig. 12 in turn differs from the embodiment shown in Figs. 1 to 10, inclusive, primarily in the formation of the angle or bend at 27 in the spring 28 to produce a flattened out V-shape as shown, and in the formation of the depression 29 in the bridge 30 to receive the bend 27 of the spring 28 thereby to assist in anchoring the flat spring 28 against accidental displacement after having once been assembled.

In use the casing 1 is attached to the frame 7 to receive the spring-pressed nose or bolt 31 of the lock 32 mounted on the door 33. The bolt 31 has a cam face 34 and a locking face 35 such as disclosed in my co-pending applications aforesaid, Serial Nos. 479,733 and 479,734, filed on January 4, 1955. When the door 33 is being closed, the cam face 34 of the nose 31 is brought into engagement with the strike bar 2 and then by the yieldability of the strike bar 2 provided by the spring 3, and the yieldability of the nose 31 brought about by the springs (not shown) in the lock 32, such as disclosed in the aforesaid co-pending applications, Serial Nos. 479,733 and 479,734, filed on January 4, 1955, the strike bar 2 and nose 31 are deflected until the strike bar 2 clears the nose 31 and allows the springs of the lock 32 to return the nose 31 into extended position where now the locking face 35 of the nose 31 will engage the strike bar 2 as shown in the dotted line position of Fig. 10. In turn, when it is desired then to open the door 33, it will only be necessary to turn either of the conventional handles (not shown) to retract the nose 31 to clear the strike bar 2.

It is obvious that various changes and modifications may be made in the details of construction without de-

parting from the general spirit of the invention as set forth in the appended claims.

I claim:

1. A strike for cooperation with a lock bolt having a cam face and a locking face, said strike comprising a one-piece casing having a bottom side and a chamber extending inwardly from said bottom side and a top wall having an opening therein in communication with said chamber, and forming two chambered alined bosses with said chamber and said opening disposed between said bosses, and a bridge across said chamber at said bottom side; a strike bar floatingly disposed in said chamber and extending from one boss to the other and exposed at said opening; and a flat spring having a bow and two free ends with its bow engaging said bridge and said free ends engaging said bar, said spring tensed between said bridge and said strike bar maintaining said strike bar in extended position but yieldable to permit said strike bar to be deflected inwardly when engaged by the cam face of said bolt and in turn to return said strike bar to extended position for clearing said bolt and thereupon to engage the locking face of said bolt.

2. The combination as set forth in claim 1 in which said strike bar is composed of round stock and recesses forming shoulders adjacent the ends of said strike bar, and the ends of said spring entering said recesses and engaging said strike bar, and the diameter of said strike bar and the width of said flat spring conforming to the width of said chamber to anchor said strike bar and said spring in operative position.

3. The combination as set forth in claim 1 in which said strike bar is composed of round stock and recesses forming shoulders adjacent the ends of said strike bar, and the ends of said spring entering said recesses and engaging said strike bar, the diameter of said strike bar and the width of said flat spring conforming to the width of said chamber and the length of said strike bar conforming to the length of said chamber to anchor said strike bar and said spring in operative position against accidental displacement, and clearances in the ends of said chamber to either side of said bridge to enable said strike bar to be inserted into such chamber.

4. A strike for cooperation with a lock bolt having a cam face and a locking face, said strike comprising a casing having a bottom side and a recess extending inwardly from said bottom side and a top wall having an opening therein in communication with said recess, and forming two chambered alined bosses with said recess and said opening disposed between said bosses, an abutment adjacent said bottom side, a strike bar floatingly disposed in said recess and extending from one boss to the other and exposed at said opening, and a flat spring having a bow and two free ends with its bow engaging said abutment and said free ends engaging said bar, said spring tensed between said abutment and said strike bar maintaining said strike bar in extended position but yieldable to permit said strike bar to be deflected inwardly when engaged by the cam face of said bolt and in turn to return said strike bar to extended position for clearing said bolt and thereupon to engage the locking face of said bolt, the diameter of said strike bar and the width of said flat spring conforming to the width of said chamber and the length of said strike bar conforming to the length of said chamber to anchor said strike bar and said spring in operative position against accidental displacement.

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