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BURGLAR ALARM SAFETY LOCK

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Fig. 1

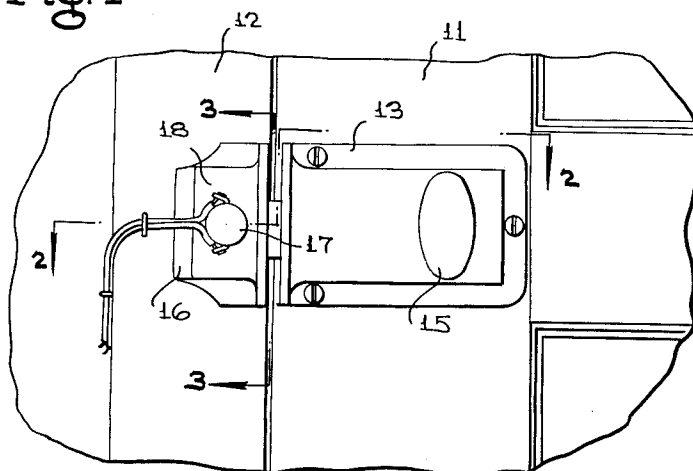


Fig. 2

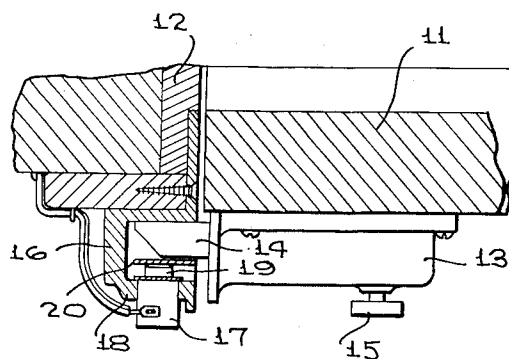


Fig. 3

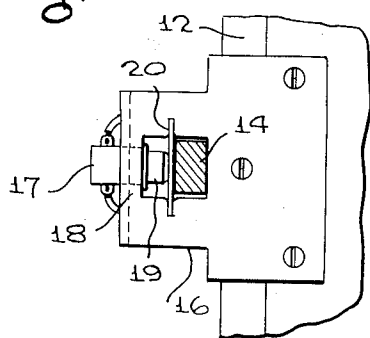
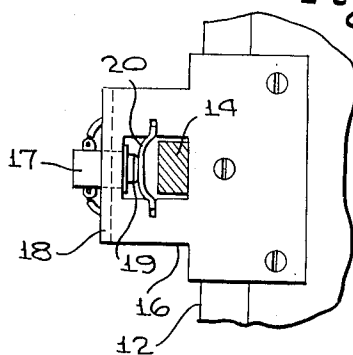


Fig. 4



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BURGLAR ALARM SAFETY LOCK

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2 Claims. (Cl. 200—61.64)

1

This invention relates to door locks, and more particularly to an improved door lock provided with an alarm switch.

The main object of the invention is to provide a novel and improved door lock incorporating therein an alarm switch which is adapted to be closed when unauthorized entry of a door on which the lock is mounted is attempted, the improved door lock being simple in construction, being reliable in operation, and being constructed of inexpensive parts.

A further object of the invention is to provide an improved door lock provided with an alarm switch arranged to be closed when an attempt is made to force the door on which the lock is mounted, the improved door lock being sturdy in construction, being easy to install, and providing protection against unauthorized entry for stores, residences, and other buildings.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is an inside elevational view of a portion of a door and the adjacent door framing showing an improved door lock according to the present invention mounted thereon.

Figure 2 is a horizontal cross sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a vertical cross sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a vertical cross sectional view similar to Figure 3 but showing the deformable alarm element of the door lock in switch-closing position, resulting from an attempt to force the door.

Referring to the drawings, 11 designates a door and 12 designates the door framing adjacent to the side margin of the door 11. Designated at 13 is a door lock of conventional construction which is provided with the retractable bolt member 14 and the knob 15 which is rotatable to retract bolt member 14, in the usual manner. Designated at 16 is a bolt housing which is mounted on the door framing portion 12 adjacent to and in alignment with the lock 13 and which is arranged to receive the end portion of the retractable bolt 14, whereby the door 11 is locked and cannot be opened except by retracting the bolt 14, as by rotating the knob 15.

Designated at 17 is a push button switch which is secured in the outer wall 18 of bolt housing 16, namely, the wall toward which the end portion of bolt member 14 is moved when the door 11 is moved when it is attempted to open said

2

door. The switch 17 has the actuating button 19 which closes the switch when moved toward outer wall 18. Designated at 20 is a separator member of thin malleable deformable sheet metal which is secured transversely in the cavity of the bolt housing 16 between the portion thereof receiving the retractable bolt 14 and the portion containing the push button 19, as is clearly shown in Figures 2 and 3. As shown in Figure 3, the side marginal portions of the deformable malleable metal separator plate 20 may be securely and rigidly clamped in the top and bottom walls of the bolt housing 16, whereby the intermediate portion of the deformable plate member 20 extends between bolt 14 and the push button 19. The switch 17 is connected in series with an alarm circuit of any suitable type, such as the energizing circuit of an alarm bell, and said energizing circuit is therefore arranged to be closed when the switch 17 is closed. This occurs when the push button 19 is moved inwardly toward the outer wall 18 of the bolt housing 16.

With the lock 13 and bolt housing 16 mounted as illustrated in the drawings, the bolt 14 will be received in the bolt housing 16 between the partition plate 20 and the inner wall of the bolt housing when the door 11 is locked, as is shown in Figures 1, 2 and 3. When an attempt is made by an unauthorized person to force the door 11 inwardly, the bolt 14 is forced against the deformable plate 20, distorting said plate to the shape thereof shown in Figure 4, wherein the push button 19 is locked in an inwardly moved position, thereby closing the switch 17 and maintaining said switch closed. Therefore, as soon as the unauthorized attempt is made to force the door 11, the alarm switch 17 will be closed, energizing the alarm circuit, and said alarm circuit will remain energized continuously thereafter until the malleable plate member 20 has been removed or straightened, whereby the push button 19 will be released and resume its normal position, shown in Figures 2 and 3. It will, of course, be understood that the lock 13 and bolt housing 16 will be installed on the inside of a door 11, whereby forcing of the door inwardly will cause the switch 17 to be closed and will thereby cause the alarm circuit to be energized.

While a specific embodiment of an improved door lock and burglar alarm device has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

3

What is claimed is:

1. In combination, a door lock having a retractable bolt member projecting therefrom, a bolt housing adapted to be mounted adjacent said door lock to receive said bolt member, a pressure-responsive alarm switch mounted in said bolt housing and arranged to be actuated by transverse movement of the bolt member in said bolt housing, and a separator member of malleable, permanently deformable material secured in said bolt housing between said pressure-responsive switch and the space in which the bolt member is receivable, said separator member being deformable by the bolt member into operating engagement with the switch responsive to said transverse movement of the bolt member in the bolt housing.

2. In combination, a door lock having a retractable bolt member projecting therefrom, a bolt housing adapted to be mounted adjacent

4

said door lock to receive said bolt member, a push button alarm switch mounted in the outer wall of said bolt housing and arranged to be actuated by transverse movement of the bolt member in said bolt housing, and a separator plate of thin, permanently deformable malleable metal secured in said bolt housing between said push button switch and the space in which the bolt member is receivable, said separator plate being deformable by the bolt member into operating engagement with the switch responsive to said transverse movement of the bolt member in the bolt housing.

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