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LOCK ALARM SWITCH WITH KEYWAY ADAPTED TO RECEIVE TWO KEYS OF DIFFERENT LENGTHS

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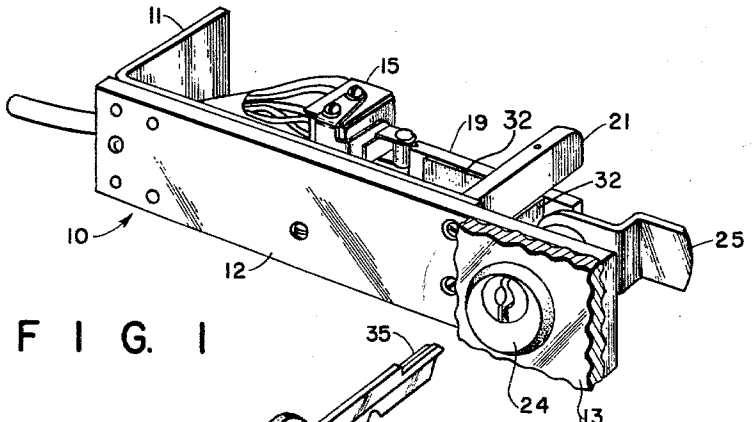

FIG. 1

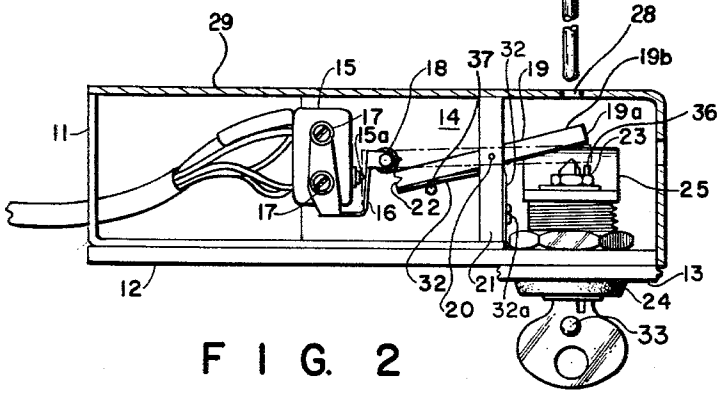

FIG. 2

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LOCK ALARM SWITCH WITH KEYWAY ADAPTED TO RECEIVE TWO KEYS OF DIFFERENT LENGTHS

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1 Claim. (Cl. 200—44)

This invention relates to alarm switches and more particularly to a lock alarm switch.

To best describe the operation of my invention a normal opening procedure for a business establishment must be described.

The particular establishment in which my lock finds a most desirable use is one which is protected by and connected into a central station burglar alarm system.

Once the establishment is switched into the burglar alarm system and the place locked up, any entry, even an authorized one, will initiate an alarm that is noted at the central station. This occurs every morning when the proprietor or other properly designated person opens a protected business. To enable the central station to distinguish between an authorized and unauthorized entry each business is provided with facilities to transmit a coded signal to the central station to indicate that everything is all right. This is done immediately after opening and before the alarm system is disconnected for the day. It is at this time that a final signal for help can be transmitted to the central station.

Many criminals realize this and some, taking advantage of the fact that few stores have customers at opening time, will wait at the store entrance. As the proprietor or other authorized person opens the door the criminal will force his way in at gunpoint and threaten physical violence unless the person opening the store transmits a proper signal to the central station. Most people in this situation will do as they are told with little desire to do anything unusual unless it is outside the knowledge of the gunman.

Prior attempts have been made to make available to the store keeper an inconspicuous way of signalling the central station for help. To date these have not been too readily received or used because either the apparatus in some manner gave away the fact that a signal had been transmitted, for example, by noise, or, the person transmitting the signal had to do something which was not part of the normal, routine process of opening and therefore likely to be noticed by the gunman. My invention overcomes these problems. It is relatively noiseless and requires no extraordinary actions on the part of the proprietor or other authorized person.

A better understanding of my invention will accrue from a perusal of the following description and drawing in which:

FIGURE 1 is a perspective view of my novel lock with its casing removed, showing the actuating key about to be inserted.

FIGURE 2 is a cross-sectional view of my device as seen from above.

Referring more particularly to the drawing the frame, designated by the numeral 10 is composed of a mounting angle 11 and a base plate 12. The frame is fastened to a door of a box containing the subscriber's set from which a coded signal is transmitted to the central alarm station. This door is diagrammatically illustrated in part by the plate 13. Fastened to the frame via a plate 14 is a switch 15. A spring actuator 16 is fastened by two screws 17 to the casing of the switch. At the end of the spring actuator 17 is a roller 18.

Spaced from the switch is a lever arm 19 pivoted at a point 20. This pivot is fastened between the plate 14 and a rod 21 joined to the base plate 12. At one end of the lever arm, nearest the roller, is a V-shaped notch 22 which will retain the roller 18 and thereby keep spring actuator 16 in a ready position against switch button 15*a* when the lever arm is in a ready position. The other end 19*a* of the lever arm 19 is spaced slightly from the back end 23 of a lock 24 fastened through the door 13 and base plate 12. With the roller being retained in the V-notch by the force of the spring actuator, the alarm possesses exceedingly good stable properties, making it very unlikely that an unintentional alarm will be transmitted when the box door is slammed shut.

In FIGURE 1 are shown two keys 30 and 31 which are capable of fitting lock 24 and turning latch 25. It will be noted that key 30 has an extension 35 at its outer end which is shaped to fit through an appropriately shaped slot in the back end 23 of the lock 24. When this key 30 is inserted in the lock the extension 35 will extend through the back end 23 of the lock and push against the end 19*a* of the lever arm 19 releasing the notched end 22 of the lever arm from the roller 18 and thus permitting the spring actuator 16 to release the button 15*a* and thereby transmit an alarm signal. Resisting the movement of lever arm 19 is a snubbing leaf spring 32 adjacent the lever arm and fastened to the frame at 32*a*. This snubbing spring prevents a quick snapping movement of the lever arm with possible resulting noise and also makes easier a return of the lever to its ready position. However, the spring is not strong enough to reset the lever. This return to operating position requires a positive resetting by an authorized person and is usually accomplished by pushing a pin 34 against the end surface 19*b* of the lever arm, through a hole 28 in the casing 29. Normally the lock is placed so that the back end 23 of the lock will prevent overtravel of the lever arm end 19*a* when the arm is reset. However, should the end 23 be too far from the lever arm in its set position a filler block 36 may be fastened to the end 23 to prevent overtravel of the arm upon resetting. Likewise, to prevent overstressing of the snubbing spring 32 a stop pin 37 may be appropriately placed to prevent the notched end of the lever arm 19 from moving too far in the actuating position.

With this lock it is now possible for a proprietor to open his store and his subscriber's set with a regular key such as 31 if everything is all right. Should something be wrong and an alarm signal desired, the proprietor can unobstrusively select the alarm key 30 and the alarm will be transmitted upon its insertion unbeknown to any watching thief. To make selection of this alarm key simpler, an identifying knob 33 is shown on the head of the key. However, other common identifying means may be used.

I claim:

A key actuator for an alarm switch comprising a casing having a frame, a lock fastened to said frame having a keyway extending from the front of said lock to the back of said lock, an opening in the back of said lock in alignment with said keyway, a key insertable in said keyway having a projection at its front end for extending through said opening upon insertion of said key in said keyway, a lever arm pivotally fastened approximately at its center to said casing, one end of said arm being adjacent and across said opening, the other end of said lever arm having a V-shaped notch therein, resilient means abutting said lever arm to urge said arm to a set position and to restrain snapping noise of said arm upon its release, a switch fastened to said casing adjacent said other end of said lever arm, said switch having a spring actuator arm with one end fastened to said switch, a roller at the

other end of said spring actuator adapted to fit within said notch to hold said lever arm in a fixed position and to place said alarm switch in a ready position, whereby, upon insertion of said one key into said keyway said projection extends through said opening and pushes against said one end of said lever arm to upset said lever arm about said pivotal fastening and thus remove said V-shaped notch from said roller thereby permitting said spring actuator to release said switch and transmit a signal, and an access opening in said casing convenient to said lever arm for permitting the insertion of a reset pin to restore said lever arm to said fixed position wherein the alarm switch is in a ready position, after said switch has been actuated.

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