May 13, 1930. E. WERNER 1,758,548

TREADLE SWITCH

Filed June 9, 1928

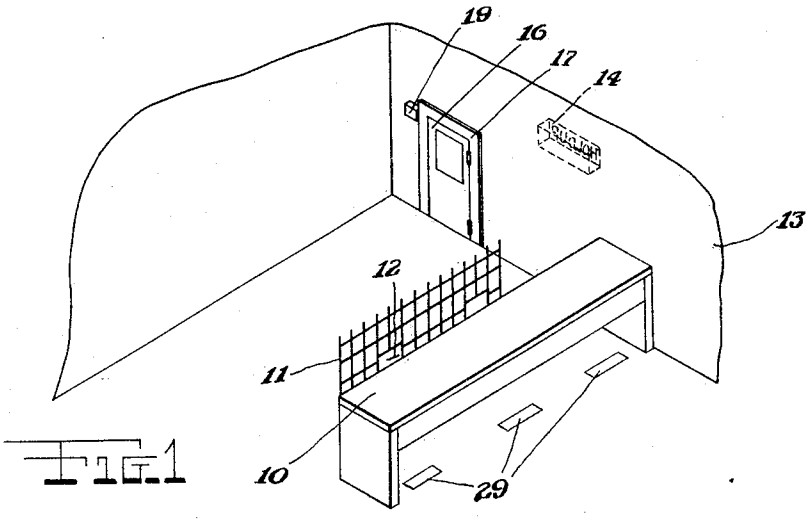


FIG. 1

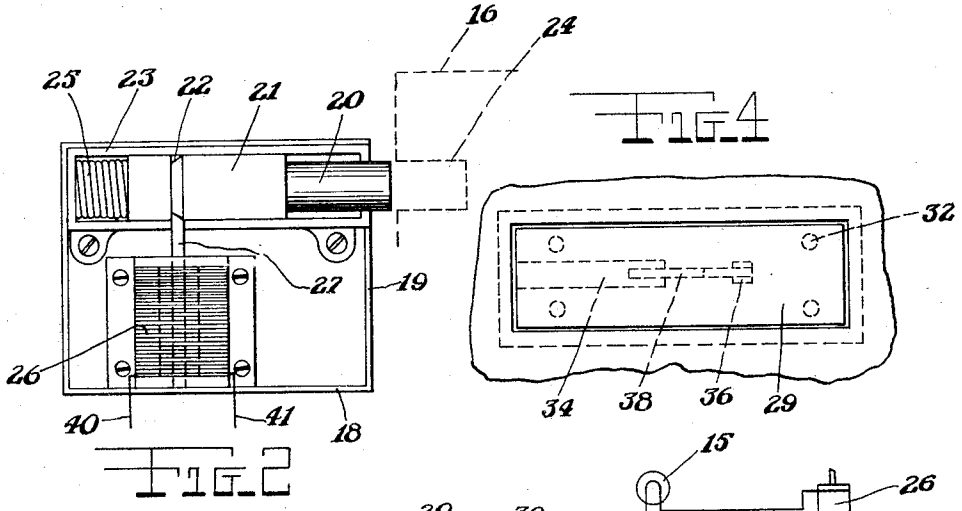


FIG. 4

FIG. 2

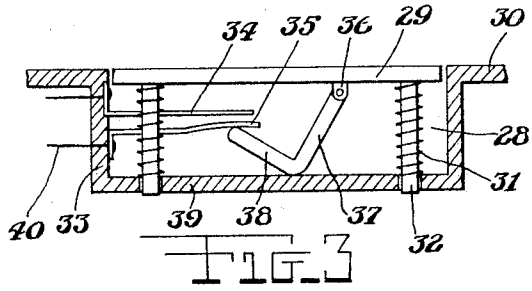


FIG. 3

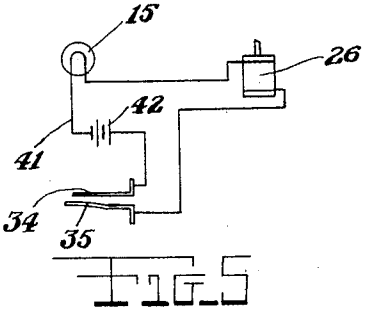


FIG. 5

INVENTOR
E. Werner

BY J. Tedesmann
ATTORNEY

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UNITED STATES PATENT OFFICE

ERHARD WERNER, OF NEW YORK, N. Y.

TREADLE SWITCH

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The main object of this invention is to provide a device which automatically secures a door in locked position and simultaneously illuminates a sign for the purpose of indicating that a hold-up is taking place and, at the same time, locking the marauder within the confines of the building.

Another object of this invention is to provide a device for capturing marauders and locking a door through the closing of an electrical circuit which is actuated by the foot of the person being held-up. The device is particularly adapted to be used in banks or counting houses where such happenings are liable to occur most frequently.

The above and other objects will become apparent in the description below, in which characters of reference refer to like-named parts in the drawing.

Referring briefly to the drawing, Figure 1 is a perspective view of a counting room showing a door at the corner and the device as applied.

Figure 2 is a front elevational view of the locking bolt mechanism, the cover of the casing holding the locking bolt being removed.

Figure 3 is a sectional side elevational view of the circuit closure for actuating the locking bolt and the illuminating sign.

Figure 4 is a top plan view of Figure 3.

Figure 5 is a wiring diagram of the device.

Referring in detail to the drawing, the numeral 10 indicates the bench of a counting room. This bench has its front enclosed by grill work 11 in which windows 12 are located. On the outside of the wall 13 of the counting room and exposed to the view of the passers-by in the street a box 14 is mounted in which blanked-out letters reading "Hold-up" are formed. Within this box a filament lamp 15 is located so that the rays of the lamp, when illuminated, will pass through the blanked-out letters in said box. The entrance door 16 of the counting room, which opens into the street, and is the only unguarded entrance of the counting room, is framed in a casing 17. Adjacent the upper corner of this casing a rectangular container 18 is mounted. The front wall 19 of this container has an opening therein through which the reduced end 20 of a locking bolt 21 is adapted to be projected. Near the opposite end of the bolt an encircling recess 22 is formed which has engaged therein a member which will be more fully hereinafter described. This locking bolt 21 is movable in a housing 23 and is adapted to be projected into a recess 24 formed near the upper corner of the door 16, said recess being illustrated in broken lines in Figure 2. Within the housing a coil spring 25 is located. This coil spring seats on the end wall of the housing and has seated thereon one end of the locking bolt and is adapted to project the latter so that its reduced end 20 is projected out of the opening in the wall 19. An electromagnet solenoid 26 is mounted within the container 18 and has a slidable locking plunger 27 operable therein. This locking plunger has a pointed end which is adapted to engage and seat on the shoulder of the recess 22 and retain said locking bolt 21 in telescoped position within the container.

At a plurality of positions behind and beneath the bench 10 symmetrical wells 28 are formed. These wells are covered by platforms 29 which are normally retained in a position level with the floor 30 of the counting room by springs 31 which are wound about guide studs 32. One of the walls 33, bounding the wells 28, has a rigid finger 34 projecting therefrom and beneath this rigid finger a second flexible finger 35 is mounted. The rigid finger 34 is superimposed above the flexible finger 35 and extends outwardly from the wall 33 in aligned relation. Between the studs 32, which yieldably support the platforms 29, a lug 36 is mounted. This lug has one arm 37 of a right-angled bell crank pivotally secured thereto. The opposite arm 38 of the bell crank extends angularly upward and its end contacts with the flexible finger 35. That portion of the bell crank at the intersection of the arms 37 and 38 is rounded so that it is freely slidably upon the bottom 39 of the well. A lead wire 40 extends from the solenoid and its opposite end is connected to the terminal of the flexible finger 35. A second lead wire 41 is connected to the remaining solenoid 26 and to the terminal of the

rigid finger 34. This lead wire 41 has a source of energy 42 connected in series thereto.

The device is adapted to simultaneously illuminate the letters located in the box 14 reading "Hold-up" and, at the same time, lock the door after the teller has depressed the platform 29. Depressing this platform causes the bell crank to be rotated and this bell crank, being in contact with and beneath the flexible finger 35, lifts the latter and causes it to contact with the rigid finger 34. This closes an electrical circuit through the solenoid 26 which is then energized and withdraws the locking plunger 27 out of the recess 22 in the locking bolt 21. The locking bolt is then in condition to have its reduced end 20 projected into the recess 24 and this is accomplished by the expansion of the coil spring 25. In order to reseat the locking bolt it is necessary that the cover be removed from the container 18 so that the marauder has no chance of disconnecting the locking bolt from the door.

It is to be noted that certain changes in form and construction may be made without departing from the spirit and scope of the invention.

I claim:

In a hold-up alarm, a floating platform, vertical studs projecting from the underside of said platform, coiled springs surrounding said studs and urging said platform upward, a bell crank having its arms mutually at right-angles to each other, one of said arms being longer than the other, the longer of said arms being pivotally secured to the underside of said platform, a casing adapted to receive said platform, the elbow of said bell crank resting upon the bottom of said casing, said studs passing through recesses in the bottom of said casing, the lower ends of said springs resting upon the bottom of said casing, said bell crank being rotated upon depression of said platform so that the longer arm moves in a downward direction and the shorter arm in an upward direction, and electrical circuit-closing means adapted to be moved into the closed position by the upward movement of said shorter arm.

In testimony whereof I affix my signature.

ERHARD WERNER.