June 21, 1927. J. YENDRUCH 1,633,468

BURGLAR ALARM

Filed Dec. 30, 1922

FIG. 1.

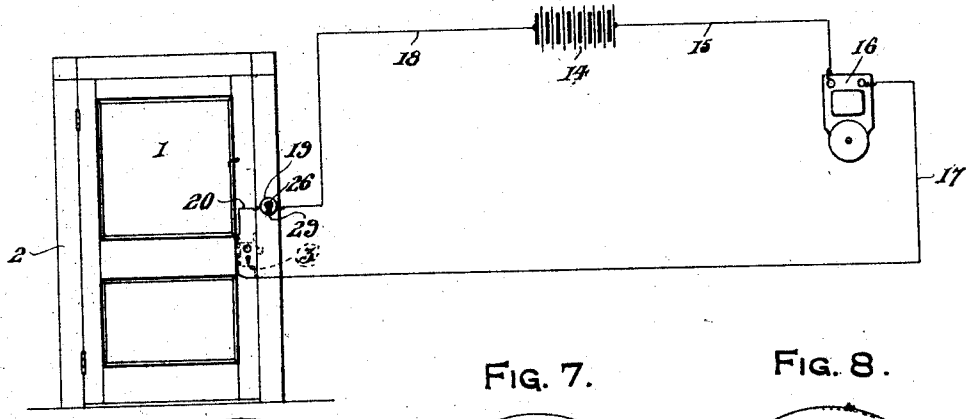


FIG. 7.

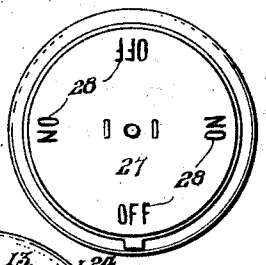


FIG. 8.

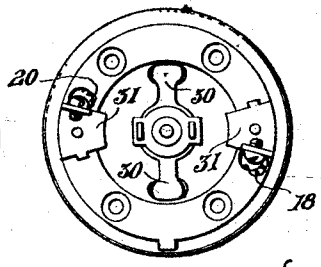
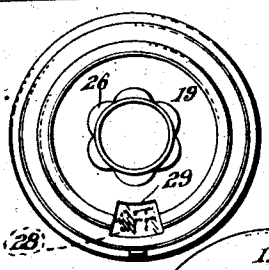


FIG. 6.



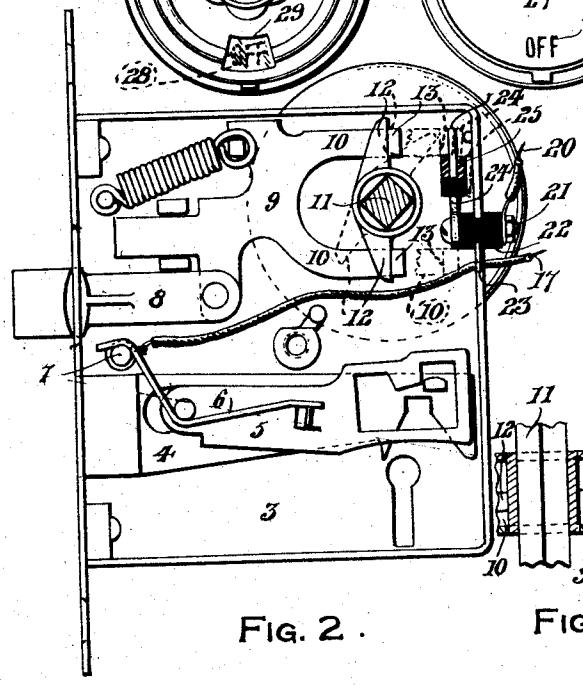
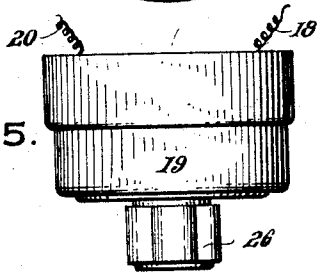


FIG. 2.

FIG. 5.



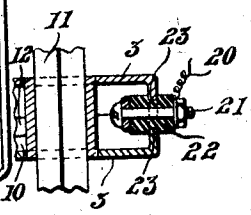


FIG. 3.

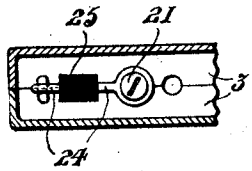


FIG. 4.

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UNITED STATES PATENT OFFICE.

JOHN YENDRUCH, OF WATERLOO, ONTARIO, CANADA.

BURGLAR ALARM.

Application filed December 30, 1922. Serial No. 610,065.

This invention relates to certain new and useful improvements in burglar alarms, and has particular reference to an alarm device associated with the lock mechanism of a door adapted for operation for sounding an alarm when the knob spindle of the door lock is rotated.

With the above and other objects in view as the nature of the invention is better understood, the same consists of the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed.

In the drawing, wherein like reference characters designate corresponding parts throughout the several views,

Figure 1 is a front elevational view of a door and frame equipped with the improved burglar alarm mechanism, an electric bell, battery, wiring and switch being shown as associated therewith,

Figure 2 is a top plan view of the lock casing removed from the door with the cover of the casing removed showing the electric wiring associated with the lock mechanism,

Figure 3 is a detail sectional view showing an insulated mounting for a contact arm clamped between adjacent edge walls of the lock casing,

Figure 4 is a fragmentary detail view showing the contact arm in side elevation,

Figure 5 is a side elevational view of a conventional form of rotatable hand switch,

Figure 6 is a top plan view of the switch,

Figure 7 is a top plan view of the switch with a portion of the cover removed, and

Figure 8 is a top plan view with the switch cover removed showing the side contacts and the cross switch arm.

Referring more in detail to the accompanying drawing, and particularly to Fig. 1, there is illustrated a burglar alarm associated with a door 1 hingedly mounted in a frame 2, the door carrying the usual lock mechanism casing 3 that encloses a key shiftable locking bolt 4 having a guard plate 5 associated therewith and tensioned by the spring 6 that is mounted upon the pin 7. The latch 8 is connected to the tensioned plate 9 carrying rearwardly directed spaced arms 10 between which the knob spindle 11 projects, the knob spindle shifting the lateral arms 12 that engage the bent ends 13 of the arms 10 for retracting the latch 8.

The alarm mechanism associated with the door lock includes a battery 14 having a lead wire 15 that extends to a bell 16, a wire 17 extending from the bell to the lock casing 3, and preferably anchored upon the spring supporting pin 7 as shown in Fig. 2, the wire 17 being thereby grounded to the lock mechanism. The lead wire 18 extending from the other pole of the battery 14 passes through and is electrically connected to the rotatable hand switch 19, the wire 20 leading from the switch 19 being connected to the pin 21 encased in the cylindrical insulator 22 having side grooves 23, more clearly shown in Figs. 2 and 3 to receive the adjacent edges of the lock casing walls for anchoring the pin 21 in position. The inner end of the pin carries a contact arm 24 having an insulating buffer 25 intermediate the ends thereof as shown in Figs. 2 and 4, the contact end of the arm 24 being disposed in the path of movement of one of the bent ends 13 of the arm 10.

The rotary switch is of the usual type embodying a turn button 26 for shifting the plate 27 carrying characters 28 viewable through the opening 29 to indicate the on and off positions of the switch, the knob 26 further operating the cross switch arms 30 for moving the same into engagement with the side contacts 31.

From the above detail description of the device, it is believed that the construction and operation thereof will at once be apparent, it being noted that when the switch 19 is rotated to a closed position, rotation of the knob spindle 11 for retracting the latch 8 will cause the bent end 13 of one of the arms 10 to engage the free end of the contact arm 24 for closing the circuit and through the system of wiring and battery 14, sound the bell 16, the projection of the latch 8 separating the arm 10 and contact 24, as will at once be obvious from an inspection of Fig. 2. The contact arm 24 is rigidly supported in the lock casing through the medium of the pin 21 and the insulating bushing 22, such mounting maintaining the contact arm in its proper position to be engaged by the arm 10 of the sliding plate that operates the latch.

While there is herein shown and described the preferred embodiment of the present invention, it is nevertheless to be understood

that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

What is claimed as new is:—

1. In a burglar alarm electric circuit closer, the combination with the encased lock mechanism of a door having an electric wire grounded thereto, of a pin inclosed in an insulating sleeve clamped between adjacent edges of the lock casing parts at the rear end thereof, a second electric wire connected to the outer end of said pin, a flexible contact arm having one end thereof fixed to the inner end of said pin normally lying parallel with the end wall of the casing and spaced therefrom, and having its free end disposed in the path of movement of a movable part of the lock mechanism, and a buffer insulator fixed to the contact arm intermediate the ends thereof and so positioned with respect to the free contact end of the arm to prevent accidental engagement between the contact arm and casing and permitting the flexing of the contact arm when engaged by a part of the lock mechanism to move into contact with the lock casing.

2. In an alarm latch, the combination of a door latch, wherein a casing carries a horizontally sliding latch bolt having a bifurcated inner end, and wherein a knob spindle carries lateral arms associated with the bifurcations of the latch bolt for effecting retraction of the latter upon turning of the knob spindle, a horizontal binding post element insulated from and extending through the inner end of the latch casing substantially in opposed relation to the lower furcation of the latch bolt, and normally open circuit closing means including a flexible resilient contact arm fixed at its lower end on the inner end of the binding post element and having a free upper end disposed in the path of movement of the upper furcation of the latch bolt, said contact arm being normally disposed adjacent to and substantially parallel with the inner end of the latch casing so as to have its free upper end forced inwardly into engagement with the inner end of the latch casing by the upper furcation of the latch bolt upon retraction of the latter.

3. In an alarm latch, the combination of a door latch, wherein a casing carries a horizontally sliding latch bolt having a bifurcated inner end, and wherein a knob spindle carries lateral arms associated with the bifurcations of the latch bolt for effecting retraction of the latter upon turning of the knob spindle, a horizontal binding post element insulated from and extending through the inner end of the latch casing substantially in opposed relation to the lower furcation of the latch bolt, and normally open circuit closing means including a flexible resilient contact arm fixed at its lower end on the inner end of the binding post element and having a free upper end disposed in the path of movement of the upper furcation of the latch bolt, said contact arm being normally disposed adjacent to and substantially parallel with the inner end of the latch casing so as to have its free upper end forced inwardly into engagement with the inner end of the latch casing by the upper furcation of the latch bolt upon retraction of the latter, and an insulator buffer on the intermediate portion of the contact arm for preventing engagement of the latter with the casing except when the free upper end of the contact arm is flexed inwardly.

In testimony whereof I affix my signature.

JOHN YENDRUCH.