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J. J. KERTZ
BURGLAR ALARM
Filed Oct. 18, 1924

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Fig. 1.

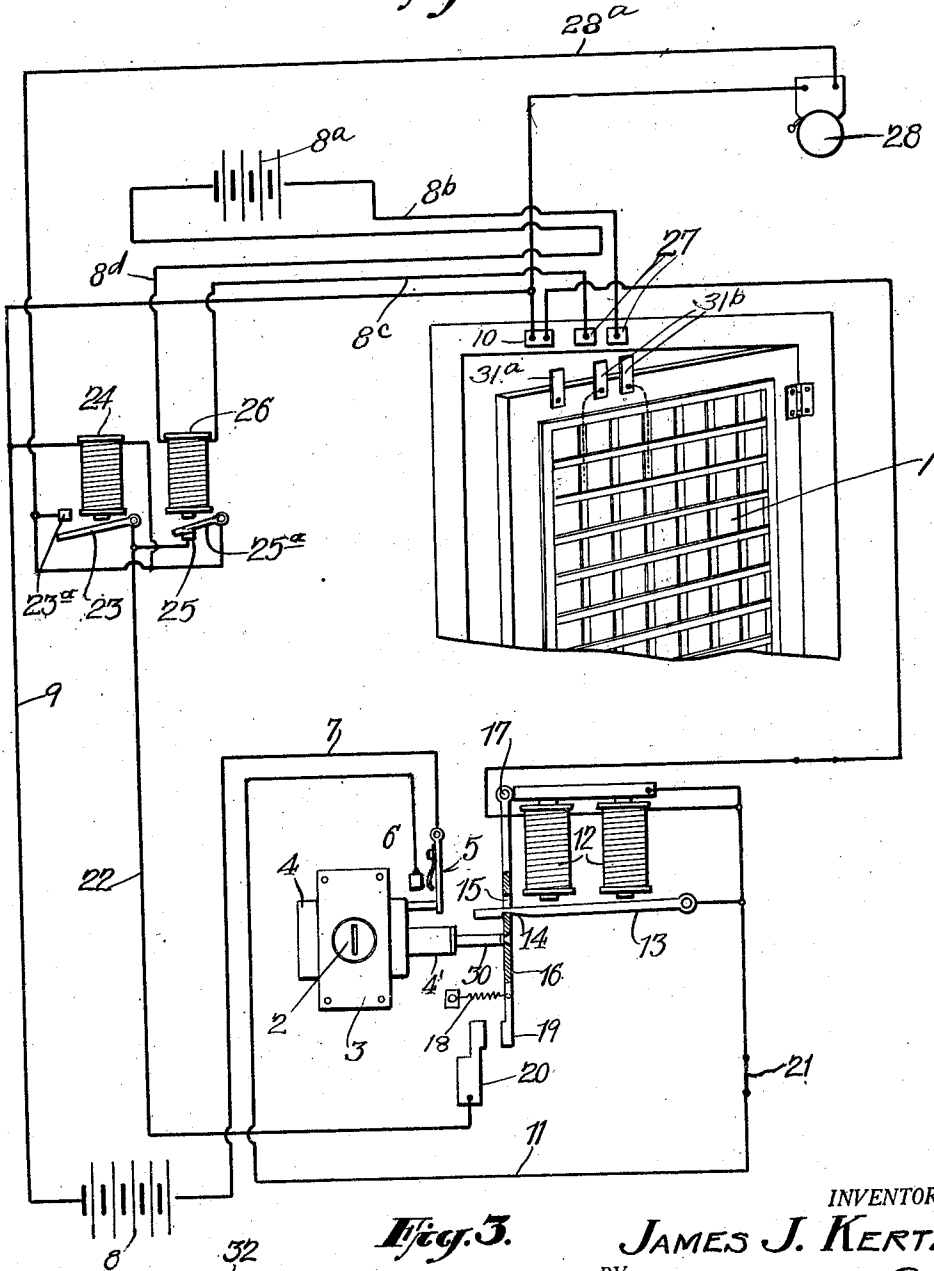


Fig. 2.

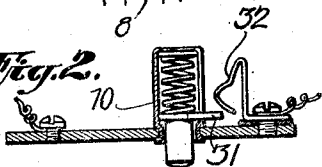
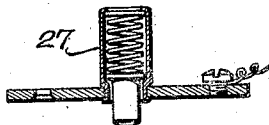


Fig. 3.



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BURGLAR ALARM

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This invention relates to improvements in electrical burglar alarm systems and has for its primary object to provide a system having provision for permitting a person to set an alarm in connection with a door or window, for instance, whereby the alarm will be operated when the door is opened but not stop in its operation when the door is closed.

Another object of my invention is to provide a burglar alarm system of the above character including an open and a closed circuit whereby the alarm will be given and will ring constantly until it is again set.

With the above and other objects in view as will appear as the description progresses, the invention resides in certain novel features of construction and the combination and arrangement of parts as will be hereinafter more specifically described and claimed.

In the drawings,

Figure 1 is a diagrammatic view of the system embodying the features of my invention.

Figure 2 is a sectional view showing a detail of one of the spring contacts on the door or closure.

Figure 3 is another view showing a different type of contact system.

Referring now to the drawings, wherein like reference characters designate corresponding parts throughout the several views, 1 designates an entrance door to the premises, which it is desired to guard against unlawful entry or to notify a guard when entrance has been made therethrough. In order that the owner may leave the protected premises without sounding an alarm, the following procedure is necessary. The door 1 is opened and a key is inserted in the key slot 2 of a lock 3 which is placed on the wall inside the premises and adjacent the door 1 for convenience and so arranged that the sliding member 4 may be turned to the left thereby closing the contacts 5, 6 its purpose being to control the contacts 5 and 6 and permit operation of another contact member to be later referred to. A conductor 7 leads from contact 5 to the open circuit battery 8 and conductor 9, leads to a door frame spring contact 10, which comprises a spring pressed

plunger with an extension 31 formed thereon which has wiping contact with a spring arm 32 adjacent thereto and through which a circuit is completed momentarily during a closing movement of the door which carries the contact operating finger 31—*a* and other fingers 31—*b*.

From the contact 6, a conductor 11 leads to relay 12 which, when momentarily energized attracts the locking armature 13, this momentary energization taking place during the closing of the door which causes the extension 31 on the spring contact 10 to wipe across the spring arm 32.

When the door 1 is open and the lock 3 is turned to the left, the drop 12 will not be energized as the circuit is broken at the contacts 10 but it will be energized while the door is being closed as the circuit will be temporarily completed by the engagement of the contacts 31 and 32, the former of which is operated by the spring contact 10 in the manner explained. The circuit being completed from the battery 8 through the conductor 7 to contacts 6 and 5 thence through the conductor 11 to the magnet coils of the automatic drop 12 to the spring contact 10 and through the circuit 9 to the battery. During the closing of the door, the contacts 27 are engaged and make contact with the door carrying fingers 31—*b*, which are in circuit with the usual wiring frame carried on the door and covering the same and it will be noted that this contact is made before the spring contact 10 operates, thereby closing a circuit from battery 8—*a* through the conductor 8—*b* to the contacts 27 through the circuit or conductor 8—*c* to the relay 26 through conductor 8—*d* to battery 8—*a*, thereby energizing the closed circuit relay 26 and opening contacts 25 and 25—*a* before the drop 12 is energized.

When the drop 12 is energized, the armature 13 is attracted thereby releasing the lever 16 and closing the contacts 19 and 20. The closing of the contacts 19 and 20 thereby connect an alarm circuit from the positive side of battery 8 to the contacts 5 and 6 through wire 11 to armature 13 to the lever 16 to contacts 19 and 20 to the contact 25 to armature 25—*a* to wire 28—*a* to bell 28 and

through wire 9 to the negative side of the battery 8. Now, when the door is open and the spring contacts 27 are not joined, the relay 26 is de-energized thereby closing the contacts 25 and 25-a and closing a circuit to the bell 28 and drop 24, which is accomplished through the battery 8 through the conductor 9 to the drop 24 and bell 28 through the conductor 28-a to contacts 23 and 23-a and contacts 25 and 25-a through the conductor 22 to battery 8, the coils of the drop 24 being shunted across the bell wire remain energized and close a circuit through the bell 28 causing it to ring constantly until the key 2 in lock 3 is turned to the right side thereby opening the battery leaf contacts 5 and 6.

The opening of the contacts 5, 6, releases the current from the relay 24 thereby opening the ringing contacts 23, 23-a. The operation of the sliding element of the lock 3 to the right causes the lever 29 to force the plunger 30 so that the member 16 is pulled to the right to engage the notch in the armature 13. This opens the contacts 19, 20, and in this position, the alarm system is ready to be set. When the key operated device of the lock is turned to the left, the lever 4' is drawn away from the plunger 30 thereby allowing a space from the member 16 and contacts 19, 20, so that the proper operation of the circuit closing relay 12 may be set. This closing relay is operated, by closing the door 1 which makes proper contact as at 27, completing a circuit, attracting armature 25-a of relay 26 before the circuit closing device is operated by the spring control member 31, riding past the bent contact 32 as shown by Figure 2 of the drawings.

Although I have described my system with a certain degree of particularity, it is understood that the present disclosure has been made only by way of example and numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as hereinafter claimed.

Having thus described my invention, what I claim as new is:—

50 In a protective burglar alarm system, the combination comprising a main circuit, an alarm circuit in shunt of the main circuit and a wholly independent auxiliary circuit, a manually controlled main switch, including
55 a lock for preventing surreptitious operation of said switch, an electro-magnetic drop interposed in the main circuit including an armature for said drop, a supplemental
60 armature when the magnet circuit of said electro-magnetic drop is dead, a plurality of contacts adapted to be located adjacent the entrance door to the premises to be protected, two of said contacts comprising the terminals
65 of an auxiliary circuit including a source of

electricity, said auxiliary circuit having interposed therein an electro-magnetic switch, a screen for the entrance of said premises comprising a continuous conductor terminating in two separate contacts, which contacts are adapted, when the entrance door is being closed, to respectively engage the two last mentioned contacts and thereby effect the opening of said electro-magnetic switch, a door switch interposed in the main circuit and adapted to be located adjacent the entrance to the premises, said switch being adapted to be closed subsequent to the closing of the circuit through the aforesaid screen, another electro-magnetic switch interposed in the alarm circuit and closeable upon the closing of the other electro-magnetic switch in the alarm circuit, means for connecting the alarm circuit to a source of electricity and an alarm interposed in the alarm circuit.

In testimony whereof I affix my signature.
JAMES J. KERTZ. [L. s.]