E. MURINGER.

BURGLAR ALARM.

APPLICATION FILED MAY 29, 1916.

1,265,361.

Patented May 7, 1918.

Fig. 1

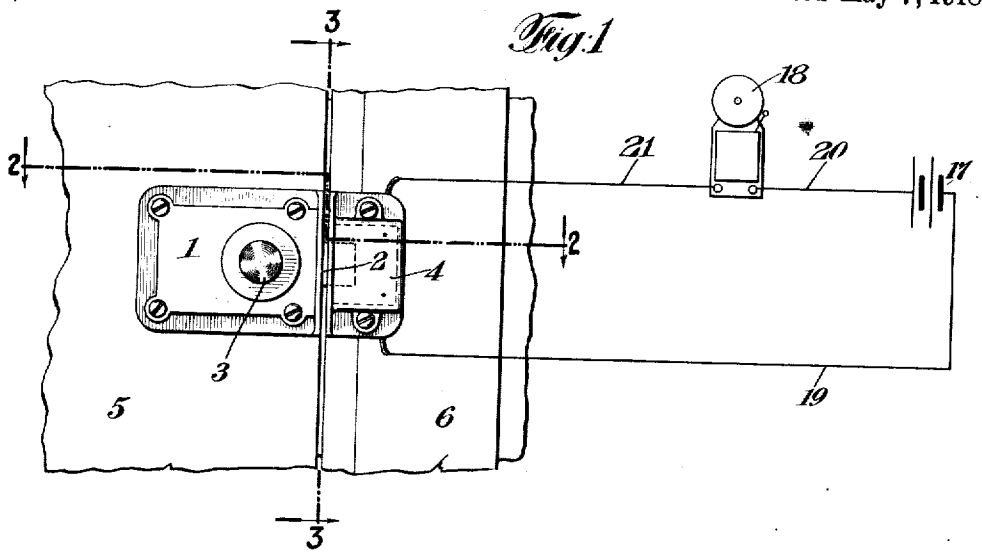



Fig. 2

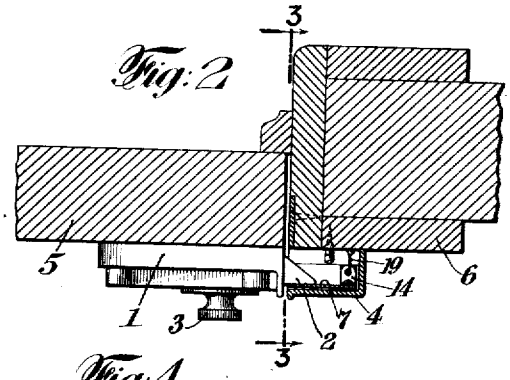



Fig. 3

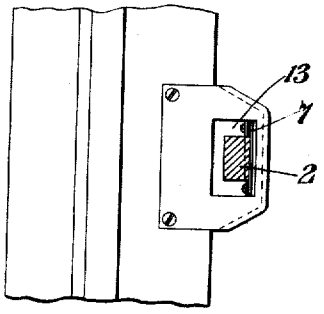



Fig. 4

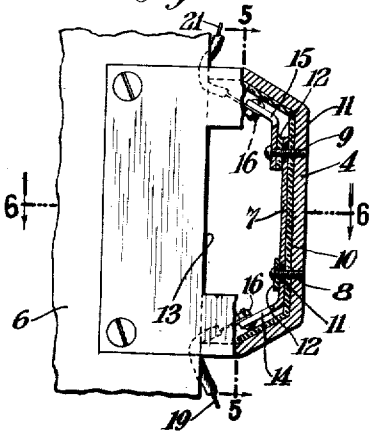



Fig. 5

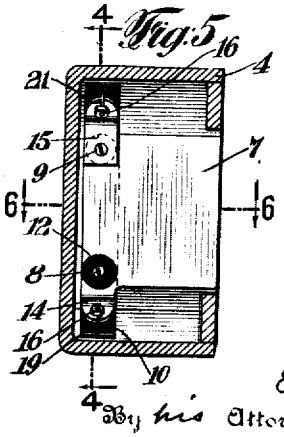
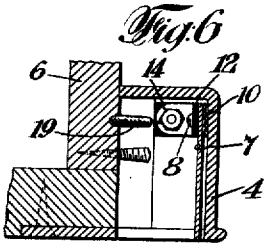



Fig. 6




Inventor

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By his Attorney

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# UNITED STATES PATENT OFFICE.

EMIL MURINGER, OF NEW YORK, N. Y.

## BURGLAR-ALARM.

1,265,361. Specification of Letters Patent. Patented May 7, 1918.

Application filed May 29, 1916. Serial No. 100,507.

*To all whom it may concern:*

Be it known that I, EMIL MURINGER, a citizen of the United States, residing at the borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Burglar-Alarms, of which the following is a specification, reference being had therein to the accompanying drawings, forming part thereof.

My invention relates to burglar alarms of the electrical type and relates more particularly to burglar alarms which are combined with a usual form of lock. Objects of my invention are simplicity of construction, inexpensiveness of manufacture, effectiveness in operation, convenience and inexpensiveness of installation, reliability, durability and other objects and advantages which will hereinafter appear.

My invention includes an automatically returning contact member, such as a resilient contact plate combined with the keeper for a lock bolt in such a way as to be supported by the keeper out of electrical connection therewith and adapted to be pressed into contact therewith by transverse movement of the bolt relatively to the keeper in a direction for forcing the lock. My invention also includes features of construction and combinations of parts as will appear from the following description.

I shall now describe the electrical burglar alarm illustrated in the accompanying drawings embodying my invention and shall thereafter point out my invention in claims.

Figure 1 is an elevation of a portion of a door showing thereon a door lock of the night-latch type having the electrical burglar alarm of my invention combined therewith, the electrical circuit being shown diagrammatically.

Fig. 2 is a horizontal transverse section on planes indicated by the line 2—2 of Fig. 1 as viewed from above, the lock appearing in plan.

Fig. 3 is a vertical section on a plane indicated by the line 3—3 of Figs. 1 and 2 as viewed from the left.

Fig. 4 is an enlarged view similar to Fig. 3, partly in elevation and partly in vertical section on a plane indicated by the line 4—4 of Fig. 5 as viewed from the right.

Fig. 5 is a vertical section on a plane indicated by the line 5—5 of Fig. 4 as viewed from the left.

Fig. 6 is a transverse horizontal section on a plane indicated by the line 6—6 of Figs. 4 and 5 as viewed from above.

In the accompanying drawings the electrical burglar alarm of my invention is shown as embodied in and combined with a snap lock of the type known as a night latch having a casing 1, a bolt 2, a handle knob 3 and a keeper 4 for the bolt 2, the lock casing 1 being shown as secured in a usual way by screws upon a door 5, and the keeper 4 for the bolt 2 is shown as similarly secured upon the door frame 6. The door lock, having the casing 1, the bolt 2, and the handle knob 3, may be of a usual or of any suitable construction, and likewise the keeper 4 for the lock bolt 2 may be of a usual construction, but preferably, and as is shown in the drawings, is somewhat wider or deeper from left to right or laterally as to its bolt-receiving cavity or recess, for a reason that will presently appear.

A thin resilient metal contact plate 7 is carried by the keeper 4 and is supported at the inside thereof in slightly spaced relation from the inner surface of the front wall of the keeper by means of two screws 8 and 9 which pass in spaced relation through the inner margin of the contact plate 7 near the inner edge thereof and screw into the forward wall of the keeper 4. These screws 8 and 9 pass also through an interposed strip 10 of insulating material which both insulates the contact plate 7 from the metal keeper 4 and also spaces it therefrom in its outer or forward portion which projects freely in spaced relation to the inner surface of the front wall of the keeper 4 as clearly appears in the drawings, particularly in Figs. 2, 3 and 6. The screws 8 and 9 are insulated from the resilient contact plate 7 by means of small collars 11 and washers 12 beneath the heads of the screws at the inside of the keeper 4.

The face of the keeper 4 adjacent to the lock casing 1 is provided, as shown, with a bolt-receiving opening 13 for the reception of the end of the lock bolt 2 in its locked position, and the contact plate 7, at its outer edge, projects into this bolt opening 13 and is preferably, as shown, substantially flush with the adjacent face of the keeper, as clearly appears in Figs. 2, 5 and 6 of the drawings. The length or vertical dimension of the contact plate 7 is shown as nearly equal to that of the bolt opening 13 into

which it projects, and the width or lateral dimension of the contact plate 7 is quite or to some extent greater than the distance to which the bolt 2 projects into the keeper 4. The contact plate 7 extends laterally from the outer face of the keeper 4 adjacent to the lock casing 1 inward substantially to the rear wall of the keeper, which is spaced back to provide a recess of more than usual width, as hereinbefore mentioned, so that a free resilient overhanging or unsupported portion of the contact plate 7 is provided of considerable width and of a width substantially greater than the extent to which the lock bolt 2 projects into the keeper 4, as clearly appears in the drawings.

Pressure applied upon the outside of the door 5, such as would result from an attempt to force the lock, or pressure applied upon the locking end of the lock bolt 2 or directly upon the contact plate 7, such as would result from the insertion from the outside of the door of a knife blade or the like with the intention of pushing back the lock bolt 2, will in each instance force or press the overhanging free outer margin of the contact plate 7 into contact with the adjacent inner surface of the forward wall of the keeper 4, thereby closing an electrical circuit for giving an alarm, as will now be described.

At one end, shown as the lower end, and adjacent to its inner edge opposite the lower retaining screw 8, the thin resilient metal contact piece 7 is provided with an extension 14 shown as projecting downwardly and rearwardly, as viewed from the inside of the door 5, within the keeper 4 for forming an electrical connection to the contact plate 7. The upper retaining screw 9, which is proportionately longer than the lower screw 8, holds in place a connecting strip 15 which projects within the keeper 4 upwardly and rearwardly and which, through the retaining screw 9, is in electrical connection with the metal keeper 4, but is insulated from the contact strip 7 by means of the collar 11 and washer 12 of the screw 9, as clearly appears in Fig. 4 of the drawings, the connecting strip 15 thus providing means for forming an electrical connection to the keeper 4. The projecting free ends of the extension 14 and of the connecting strip 15 are provided with binding posts 16 for conveniently connecting electrical conductors thereto. It is to be noted that the insulating strip 10, which spaces and also insulates the contact plate 7 from the keeper 4, is extended at its ends so as to assure that no contact can take place between the conductive extension 14 or connecting strip 15, or the binding posts 16 carried thereby, and the adjacent wall of the keeper 4.

The keeper 4 and contact plate 7 are adapted to be connected in an electrical circuit including a source of electrical energy, such as a battery 17, and a translating device for giving an alarm, such as an electric bell 18. This circuit includes connecting conductors 19, 20 and 21, of which the conductor 19 is shown as connected to the binding post 16 of the extension 14 from the contact plate 7 and to the battery 17, the conductor 20 forms a connection between the battery 17 and the bell 18, and the remaining conductor 21 extends from the bell 18 and is connected to the connecting strip 15 by means of the binding post 16 and is electrically connected by the retaining screw 9 to the metallic keeper 4.

It is to be particularly noted that no manual switches or circuit-controlling devices other than the contact plate 7 and its adjuncts are included in the circuit and that this normally open circuit is only open at one point, namely, between the resilient contact plate 7 and the keeper 4. It will be noted therefore that the alarm device of my invention is always ready to give an alarm and requires no attention whatever except of course an occasional testing to ascertain that the battery 17 and other parts are in good order, and to make this test it is only necessary to move the door 5 slightly inward, the same as would be done by a burglar in an attempt to force the lock. The battery 17 and bell 18 may of course be located at any place desired, but it is considered preferable that the bell 18 should be a loud one and that it should be located in a place where it will be heard by the burglar and also by the neighbors, for frightening the burglar against further attempts at entrance and to arouse and give notice to other people. Any suitable type of battery, such as the usual dry cells and any suitable and readily obtainable electric bell may be employed in carrying out my invention.

In order to carry out my invention it is only necessary to provide the special keeper 4 having my invention embodied therein and combined therewith, and this keeper embodying my invention may be supplied for or in connection with any lock, or it may be supplied and sold separately to replace the ordinary keeper not having my invention in connection with locks already in use, it being only necessary to change the keeper in order to install my invention for any lock.

It is to be noted that the resilient contact plate 7 is comparatively thin and is only slightly spaced from the inner surface of the front wall of the keeper 4, and provides for the engagement of the lock bolt 2 back of the contact plate 7. The contact plate 7 is stiff enough not to cause the bell to ring from any slight accidental vibration of or pressure upon the door 5; but when a burglar applies a jimmy to the door for forcing

it inward to break the lock, the pressure on the door forces the contact plate 7 into contact with the keeper 4, thereby closing the circuit and ringing the bell 18. At each attempt to force the lock the bell will ring and will stop ringing when the effort ceases. Should the burglar try to push back the lock bolt 2 by inserting a thin piece of metal or a knife blade along the edge of the door from the outside, the consequent inward pressure on the bolt 2 will also likewise close the circuit and cause the bell to ring.

It is obvious that various modifications may be made in the construction shown in the drawings and above particularly described within the principle and scope of my invention.

I claim:

1. An electrical burglar-alarm comprising a metal keeper for a bolt, and a resilient metal contact member mounted at the inside of and electrically insulated from the keeper but adapted to make electrical connection therewith under pressure and arranged to receive the direct pressure of the side of the bolt upon transverse movement of the bolt in a direction to force the lock, whereby said electrical connection will be made.

2. An electrical burglar-alarm comprising a metal keeper for a bolt, and a resilient metal contact plate carried by and electrically insulated from the keeper at the inside thereof and having a free portion slightly spaced from and adapted to make electrical connection with the keeper under pressure and interposed between the inner surface of the keeper and the side of the locking end of the bolt in the locked position of the latter, whereby to receive the direct pressure of the side of the bolt end upon transverse movement of the bolt in a direction to force the lock.

3. An electrical burglar-alarm combined with a bolt and its metal keeper and comprising an automatically-returning metal contact member normally out of electrical connection with the keeper and adapted to be forced into electrical connection therewith by the direct pressure thereupon of the side of the bolt upon transverse movement of the bolt in a direction to force the lock.

4. An electrical burglar-alarm comprising a metal keeper for a bolt, a thin resilient metal contact plate slightly spaced from the inner surface of the bolt-holding wall of the keeper, insulation between the inner margin of the contact plate and said wall of the keeper, the outer margin of the contact plate being free in slightly spaced relation to the wall of the keeper and unsupported and adapted to be pressed into electrical connection with the keeper by the direct pressure thereupon of the side of the bolt upon transverse movement of the bolt in a direction to force the lock, a metallic fastener securing the insulation and the contact plate at its inner margin to the wall of the keeper, insulation interposed between said fastener and the contact plate, a metallic connecting strip held by said fastener in insulated relation to the contact plate and in electrical connection with the keeper, a binding post carried by the connecting strip, and another binding post carried by the contact plate.

In testimony whereof I have affixed my signature.

EMIL MURINGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."