Nov. 24, 1931. O. A. JACOBSON 1,832,905

ALARM CIRCUIT CONTACTOR

Filed May 24, 1928 2 Sheets-Sheet 1

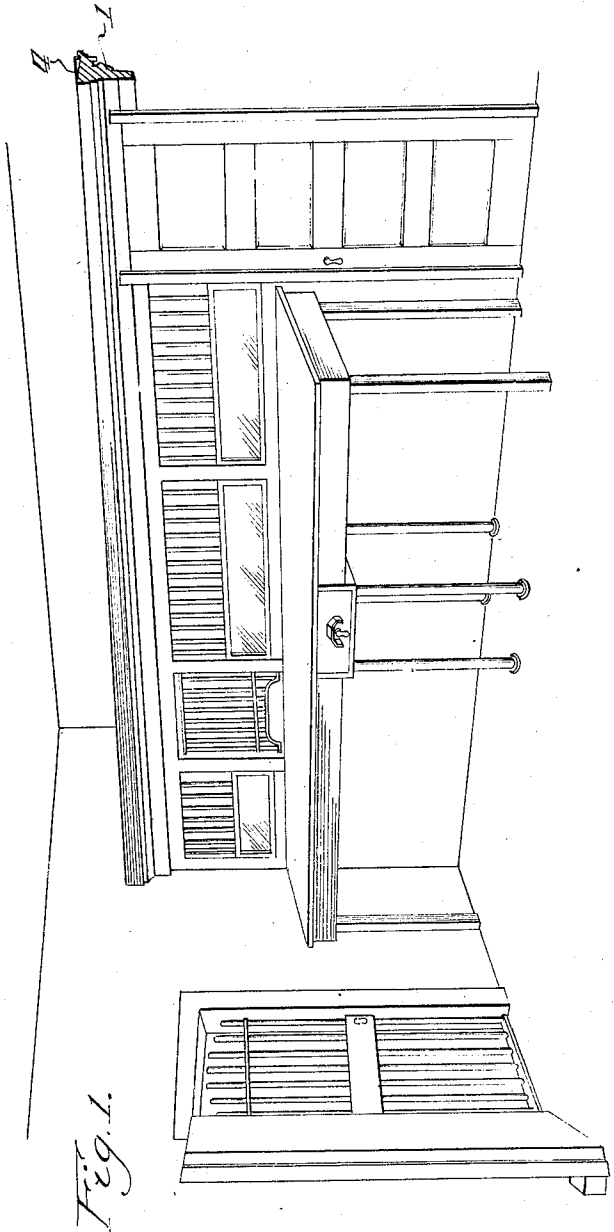


Fig. 1.

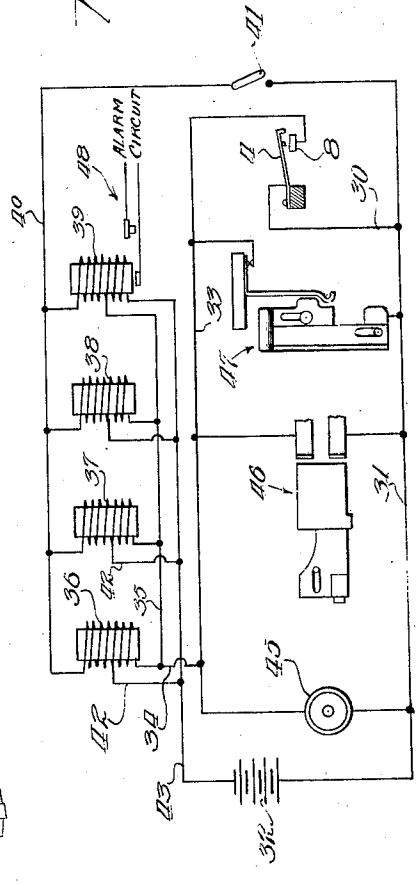



Fig. 2.

Inventor
Cle A. Jacobson
Rummler & Rummler
Attys.

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Fig. 6

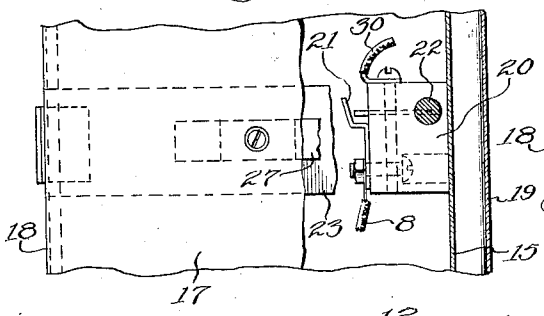



Fig. 7.

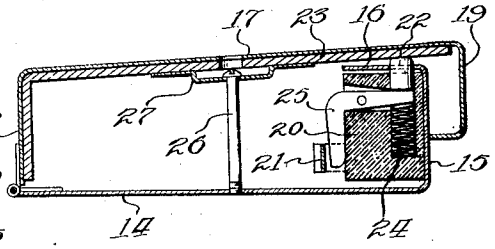



Fig. 3.

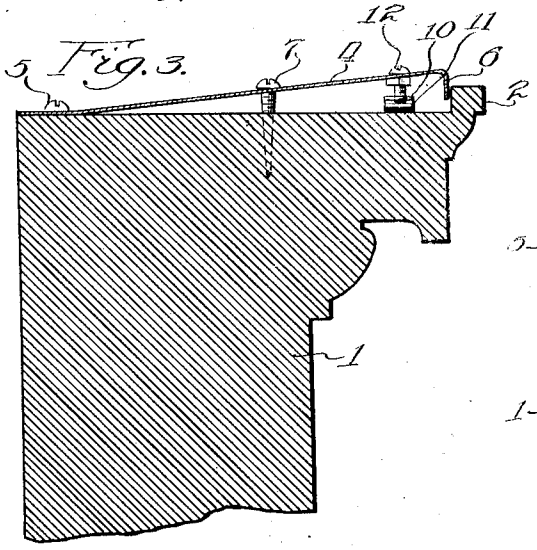



Fig. 4.

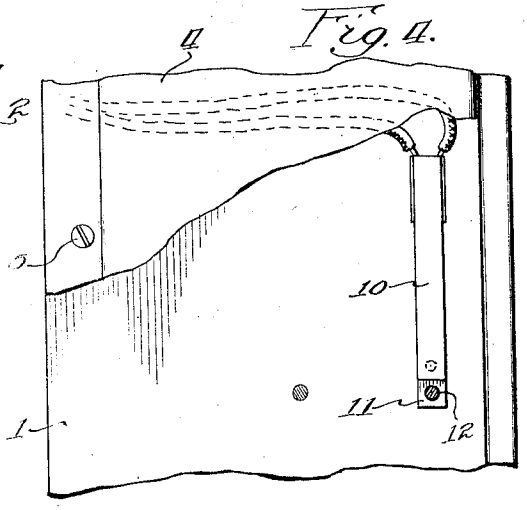
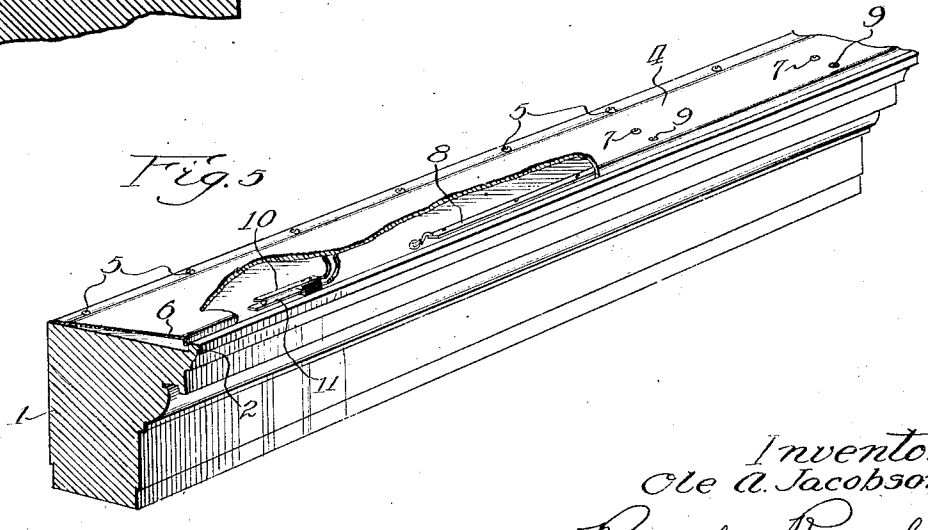



Fig. 5




Inventor
Ole A. Jacobson.
Rummler & Rummler
Attys.

Patented Nov. 24, 1931 1,832,905

# UNITED STATES PATENT OFFICE

OLE A. JACOBSON, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AMERICAN DISTRICT TELEGRAPH COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY

## ALARM CIRCUIT CONTACTOR

Application filed May 24, 1928. Serial No. 280,234.

This invention relates to improvements in alarm circuit contactor devices, more especially for bank protecting systems, and the like, as disclosed in my co-pending application Serial No. 53,768, filed August 31, 1925.

The purpose of this invention is to provide alarm contacting means arranged for inadvertent operation by a robber, so that bank employees will not be required to make any movement whatever to give the alarm. In many instances the robber vaults over the partition in the bank room in order to reach the money tills and vaults. Accordingly, the main objects of this invention are to provide alarm circuit contacting means located on the copings of the partitions; to provide such means which cannot be easily detected and which will operate the contact whenever the top of the coping is depressed along any portion of its length; to provide such a device which is simple in construction, reliable in operation and not likely to get out of order over long periods of time; and to provide such a device which can be easily installed, and which will not detract from the ornamental appearance of the coping.

Illustrative embodiments, of this invention are shown in the accompanying drawings, in which:—

Figure 1 is a perspective view of the interior of a banking room in which a contactor embodying this invention is installed.

Fig. 2 is a diagram of the alarm circuit.

Fig. 3 is a cross section of the partition coping shown in Fig. 1.

Fig. 4 is a fragmental plan view of the coping shown in Fig. 3, with portions broken away.

Fig. 5 is a fragmental perspective view of the same.

Fig. 6 and Fig. 7 are a fragmental plan and a transverse section, respectively, of a coping having an all-metal construction.

Referring to the form of wooden construction shown in detail in Figs. 3, 4 and 5, the upper surface of the coping 1 is provided with a strip 2 which extends along the front edge of the coping and forms a shallow recess for the sheet metal contactor plate 4. The rear edge of the plate 4 is fastened rigidly to the coping by means of a row of wood screws 5, and the plate is bent near the rear edge so that the front side of the plate tends to spring up away from the upper surface of the coping. The front edge of the plate 4 has a narrow marginal flange 6 which projects downwardly behind the strip 2; and the height of the front edge of the plate is regulated by set screws 7 which project through holes in the mid portion of the plate and are screwed into the coping until the heads of the screws are at the proper height so that the front side of the strip can yield slightly when pressed.

The circuit contacts are mounted on the coping, underneath the strip 4 and may be of the type for closing a normally open circuit, or for opening a normally closed circuit. For closing the circuit, a bar 8 is secured to the coping alongside the strip 2, and screws 9 are fastened along the length of the plate directly over the bar, with the ends slightly spaced from the bar when the plate is in its normal position. The bar is connected to one side of the signal circuit and the opposite side of the circuit is grounded to the plate 4 so that the circuit is closed when any portion of the plate is dispressed until one of the screws 9 touches the bar 8. The breaker contact consists of two spaced contact fingers 10 and 11 which are mounted in fixed spaced relation on the top of the coping with their ends normally in contact. A set screw 12 is secured in the plate 4 immediately above the outer end of the lower contact finger 11 which projects slightly beyond the upper finger. When the plate is depressed, the end of the screw 12 forces the end of the lower contact finger 11 down out of contact with the upper finger.

In the all-metal construction shown in Figs. 6 and 7, the body portion 14 of the coping is formed by a sheet metal strip which is bent up and back at one side to form the front portion 15 and the inwardly projecting flange 16 at the upper edge of the front portion. The cover 17 is in the form of an inverted channel section, the edge of the inner leg 18 of the section being hinged to the rear edge of the base member

14, and the lower edge of the front leg portion 19 being bent inwardly to abut against the surface of the edge portion 15. Insulating blocks 20 are mounted at intervals underneath the flange 16 which carry the insulated circuit contacts 21. The front edge of the cover member 17 is supported by plungers 22 which are slidably mounted in the blocks 20 to project through suitable holes in the flange 16 and to bear against reinforcing strips 23 which are secured to the inner side of the cover member 17. The plungers are pressed upwardly by means of springs 24 which are seated in the blocks 20 so that the front side of the strip is normally in a slightly raised position. A bell crank member 25 is pivotally mounted in each block with one end engaging the plunger 22 and the opposite end being positioned in engaging relation with the contact member 21. When the top member is depressed, contact is made from the sheet metal of the top member through the reinforcing strip 23, through the metal plunger 22, and the bell crank member 25 to the insulated contact 21. The upward movement of the strip 17 is limited by means of the rods 26 which are spaced along the length of the coping. The rods 26 thread into the base portion 14 and are provided with a head at the upper ends which engage with brackets 27 which are welded to the reinforcing members 13.

In the signal circuit shown in Fig. 2, the plate 4 is connected by a line 30 to the line 31 which is connected to one side of the battery 32, and the bar 8 is connected to the line 33 which is connected by the wire 34 to the wire 35, which is connected to one terminal of each of the bolt operating magnets 36, 37, 38 and 39. The opposite terminals of said magnets are connected by the line 40 through the switch 41 to the battery lead 31; and mid portions of said magnets are connected by the wires 42 to the battery wire 43 which is connected to the opposite terminal of the battery 32. Other contacting devices 45, 46 and 47 are also connected between the lines 31 and 33, as is more fully described in the application referred to above, and an alarm circuit 48 is shown associated with the magnet 39.

In operation, the manual control switch 41 is normally open and the plate 4 is raised out of contact with the bar 8. When the plate 4 is depressed, the battery 32 is connected from the line 31, plate 4, bar 8, line 33, to one terminal of the operating magnets 36, 37, 38 and 39, the intermediate portions of which are connected to the opposite terminal of the battery 32 by means of the wire 43. This operates whatever devices are connected to the magnets as well as the alarm circuit 48. As soon as pressure is removed from the plate 4, it springs away from the bar, breaking the energizing circuits. The various devices may then be restored by closing the hand operated switch 41 to energize the retracting portions of the electromagnets which are included between the lines 40 and 43. Obviously the device is well concealed, and the person touching the contact strip would hardly be aware that he has caused the alarm, since the yielding movement of the strip 4 of the cover member 17 which corresponds thereto, is very slight.

Although but one illustrative embodiment of this invention has been herein shown and described, it will be understood that details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:

1. In combination with a partition coping; a longitudinal member forming the top of said coping; said member being formed of spring conductive material and having a rounded front edge projecting above the top of the coping proper and simulating a continuation or part of the ornamental face of said coping.

2. In combination with a partition coping, a member formed of spring conductive material arranged to form the top of said coping throughout its length and with one edge thereof flush with the inner edge of said coping and secured thereto near said edge; said conductive top member being laterally and upwardly inclined from the horizontal, its free edge being formed into a curved portion terminating in a downwardly directed marginal flange, said curved portion projecting above the coping proper and simulating part of the ornamental face of said coping.

3. In combination with a partition coping, a member formed of spring conductive material and adapted to form the top of said coping, said member being secured near its inner edge to said coping and bent to form throughout its length and the length of said coping a spring tongue, the free edge of said tongue being depressible and formed into a downwardly directed marginal bend, the bend projecting above the top of the coping and simulating part or continuation of the ornamental face thereof.

4. In combination with a partition coping, a conductive member adapted to form the top of said coping, said member being anchored to said coping along its rear edge, its forward edge being yieldingly elevated and rounded to simulate a part or continuation of the ornamental face of said coping.

5. In combination with a partition coping, a plate member of conductive material forming a false top for said coping; said member being anchored to said coping near the rear edge thereof, its forward edge being depress-

ible and normally above and spaced from the top of the coping proper, and being formed longitudinally to simulate a part or continuation of the ornamental face of said coping.

6. A device for attachment to the copings of counting house partition consisting of a base member extending the length of said coping and having a unitary front wall and a backturned flange, plungers operating through said flange, bell-crank contact pieces, each rockably mounted with one arm beneath said plunger, a spring beneath and in contact with said arm, contact pieces located in the path of swinging movement of the other arm of each of said bell-crank contact pieces, a conductive plate hinged to the base plate and resting on said plungers, the front edge of said plate being formed to simulate a part or extension of the ornamental face of said coping, and means for limiting the movement of said conductive plate.

7. A device for attachment to a partition coping, a base member having a front wall, a conductive plate depressible from a point of attachment to said base member at its rear edge, said plate and base member extending over the width and length of said coping, the front edge of said plate being formed to provide a bead-like extension to simulate in connection with said front wall a part or extension of the ornamental face of said coping, and yielding means for supporting the front edge of said conductive plate.

8. In combination with a partition coping, a plate member adapted to form the top of said coping, said member being anchored to said coping along its rear edge, its forward edge being yieldingly elevated and rounded to simulate a part or continuation of the ornamental face of said coping.

Signed at Grand Rapids, this 21st day of May 1928.

OLE A. JACOBSON.