Feb. 13, 1934. W. H. DAVIDSON 1,946,781

ALARM SYSTEM FOR BANKS AND THE LIKE

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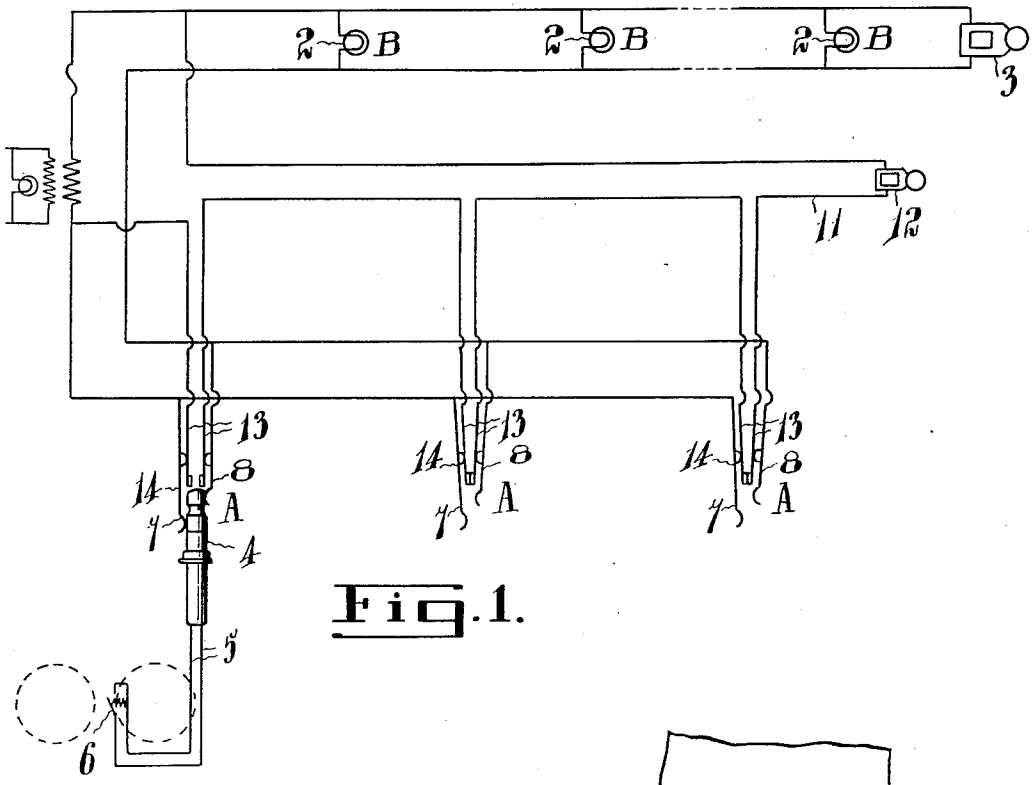


Fig. 1.

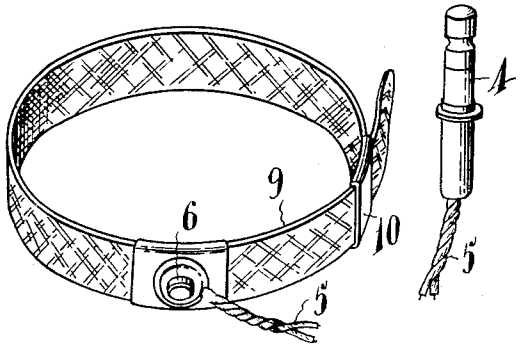


Fig. 2.

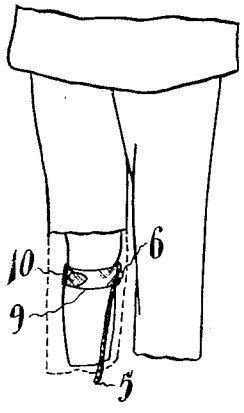


Fig. 3.

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ALARM SYSTEM FOR BANKS AND THE LIKE

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4 Claims. (Cl. 177—314)

This invention relates to means for giving an alarm at a distant point or points of any occurrence at a given point or points threatening life or property, and more particularly useful in banks or financial institutions to enable a teller or other employee to send out an alarm signal no matter where he may be in his cage or whether or not he has his hands raised. A further object is to so arrange the system that, of several stations equipped for sending an alarm, at least one must at all times be occupied and conditioned for the sending of signals.

I attain my objects by providing an alarm circuit which is provided at each alarm sending station with means whereby the circuit may be conditioned to cause an alarm to be given.

The circuit conditioning means comprises a switch and flexible circuit connections which will normally be plugged in to the alarm circuit.

This switch will be secured about the person in such a manner that it may be actuated to give an alarm by pressure between any two parts of the body, for example, the knees, which permits of its operation if the sender of the alarm has his hands raised above his head in response to an order "Stick-em-up" or is in any other position. As the flexible connections carried on the person are readily disconnectible from the fixed parts of the alarm system, the person equipped may remove his plug and go elsewhere about his business. When he does so a special warning system is automatically closed at the jack from which the plug has been removed so that if the plugs are removed at all stations a warning is given, as, for example, by a buzzer or bell and it becomes necessary for one person, at least, to return to his station to stop the warning bell.

The invention is hereinafter more specifically described and is illustrated in the accompanying drawing in which

Fig. 1 is a diagrammatic view of my alarm system;

Fig. 2 a perspective view of a switch arranged for attachment to the person; and

Fig. 3 a perspective view showing the switch attached to a user's knee.

In the drawing like numerals of reference indicate corresponding parts in the different figures.

1 indicates an alarm circuit in which are connected the alarm sending stations A, A, A and the alarm receiving stations B, B, B. While only three stations of each kind are shown, it will be understood that any number may be included. The stations A may be at tellers' cages or other points which it is desired to protect. The stations B may be in the offices of bank officials, but one will be located at a convenient police station. Each station B has a signal lamp 2 or other alarm device connected in parallel in the circuit. At one station, preferably the police station, an alarm bell 3 is also included in parallel in the circuit. Each station A will be provided with a suitable jack 14 adapted for connection with a plug 4 such as commonly used in the radio art. The contacts of the plug 4 are, as common in the art, connected with the flexible conductors 5, the other ends of which are connected with the contacts of the switch 6, which is preferably of a spring type adapted to be closed by pressure.

When a plug is in position it engages the spring contacts 7 and 8 of a jack. When the plug is positioned in the jack and the switch 6 is closed, it is evident that the alarm circuit will be energized and an alarm given at the different alarm stations B.

The switch 6 will usually be of the push button type shown in Fig. 2 of the drawing, which will usually be connected to a band 9 provided with the buckle 10 by means of which the switch may be secured to some part of the person. Usually the switch will be connected about one of the knees of the occupant of a particular station from which an alarm is to be sent. From this it follows that, if the knees be pressed together when in the position shown in Fig. 3, the switch will be closed and the alarm circuit energized. With the switch so positioned the operator is enabled to close the switch and give an alarm with an almost imperceptible movement, and therefore without exciting any suspicion in the mind of a hold-up man. Further, the alarm may be given with the operator's hands held well above his head. The connection being flexible, an alarm may be given with the operator standing in any position within the limits of his cage or normal ambit of operation.

If an occupant of one of the stations A requires to leave his position, he can readily do so by disconnecting his plug 4. On his return to his station he plugs in again and everything is again set ready for the giving of an alarm when necessary.

As occupants of the stations A may become careless and forget to plug in when returning to their stations, it is desirable to provide means

to ensure that one occupant of a station A be at his post at any given time. To ensure this I provide the warning circuit 11 which includes a bell 12 or other audible warning device. Each jack 14 includes two spring contacts 13 which normally are pressed into engagement, as shown in the middle station in Fig. 1, by inward pressure of the spring contacts 7 and 8, specifically any jack such as used in radio apparatus to break one circuit when another circuit is closed by the insertion of a plug will answer the purpose of my invention. These contacts are arranged in series in the circuit 11. Consequently it follows that, if all the spring contacts at stations are closed the warning circuit is closed and the bell 12 sounded. It then becomes necessary for one of the occupants of the stations A to return to his post and plug in in order to stop the warning bell.

It will be understood, of course, that many more stations than three may be included in the alarm circuit if necessary, and that the system may be duplicated to cover different groups of stations.

The alarm circuit and the warning circuit will be fed with current from the transformer 15 in the primary circuit of which is included a lamp 16. In the secondary circuit which is connected to the circuits 1 and 11 is included a fuse 17. In case of the break down of the transformer, the fuse blows and protects the alarm and warning circuits from the high tension current. The lamp also will blow under these conditions and the absence of light gives warning of trouble.

From the above description it will be seen that I have devised an alarm system which will satisfactorily carry out the objects of my invention.

What I claim as my invention is:

1. A hold-up alarm system for control by persons in the building to be protected comprising an alarm circuit including an alarm device; a warning circuit including a warning device; a control unit for conditioning the alarm circuit for operation including two conductors, a switch carried and operable by a person aforesaid to make and break a connection between said conductors, and a plug controllable by the person carrying the switch and having separate contact parts connected respectively with the two conductors; and a jack into which the plug is insertable, the said jack having separable contacts included in the warning circuit and normally tending to engage, and contacts included in the alarm circuit for engagement by the contact parts of the plug, the contacts of the jack being arranged so that the engagement of the contacts in the alarm circuit by the contact parts of the plug separates the contacts included in the warning circuit.

2. A hold-up alarm system for control by persons in the building to be protected comprising a plurality of alarm circuits arranged in parallel and extending to different alarm sending stations, a warning circuit including a warning device and extending from alarm sending station to alarm sending station; a control unit at each station for conditioning the alarm circuit of the station for operation including two conductors, a switch carried and operable by a person aforesaid to make and break a connection between the conductors, and a plug controllable by the person carrying the switch and having separate contact parts connected respectively with the two conductors; and a jack into which the plug is insertable, the said jack having separable contacts included in the warning circuit and normally tending to engage, and contact parts included in the alarm circuit for engagement by the contacts of the plug, the contacts of the jack being arranged so that the engagement of the contact parts in the alarm circuit by the contacts of the plug separates the contacts included in the warning circuit.

3. A hold-up alarm system for control by persons in a building to be protected comprising an alarm circuit including an alarm device; a warning circuit including a warning device; unitary means for conditioning the alarm circuit for operation including two conductors, a switch operable to make and break a connection between the two conductors, means for securing the switch to the leg of a person aforesaid, and a plug controllable by the person carrying the switch and having separate contact parts connected respectively with the two conductors; and a jack into which the plug is insertable, the said jack having separable contacts included in the warning circuit and normally tending to engage, and contact parts included in the alarm circuit for engagement by the contacts of the plug, the contacts of the jack being arranged so that the engagement of the contact parts in the alarm circuit by the contacts of the plug separates the contacts included in the warning circuit.

4. A hold-up alarm system for control by persons in the building to be protected comprising a plurality of alarm circuits arranged in parallel and extending to different alarm sending stations; a warning circuit including a warning device and extending from alarm sending station to alarm sending station; unitary means at each station for conditioning the alarm circuit of the station for operation including two conductors, a switch operable to make and break a connection between the two conductors, means for securing the switch to the leg of a person aforesaid, and a plug controllable by the person carrying the switch and having separate contact parts connected respectively with the two conductors; and a jack into which the plug is insertable, the said jack having separable contacts included in the warning circuit and normally tending to engage, and contacts included in the alarm circuit for engagement by the contacts of the plug, the contacts of the jack being arranged so that the engagement of the contacts in the alarm circuit by the contacts of the plug separates the contacts included in the warning circuit.

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