

Jan. 6, 1925.

1,521,793

W. C. ROE

ALARM DEVICE

Filed July 31, 1922

Fig. 1.

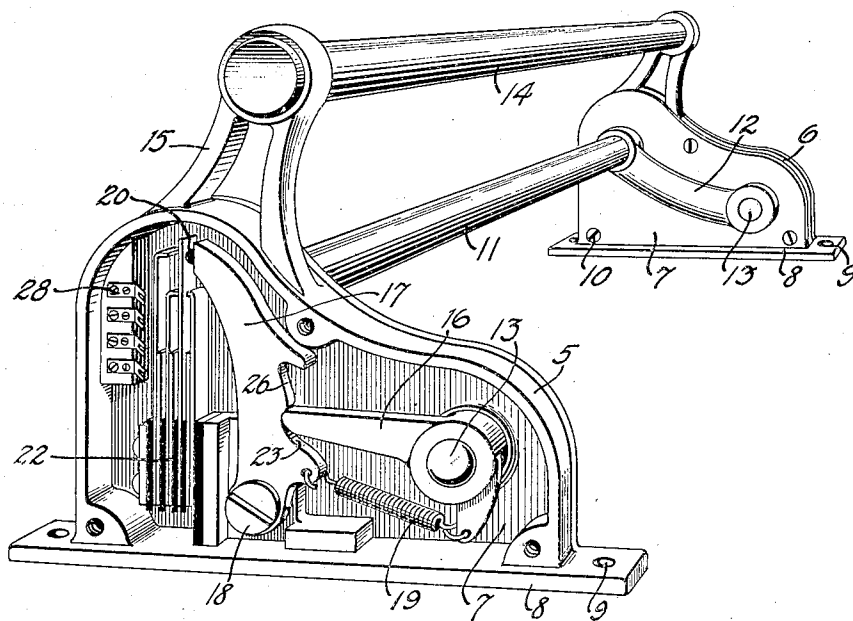


Fig. 2.

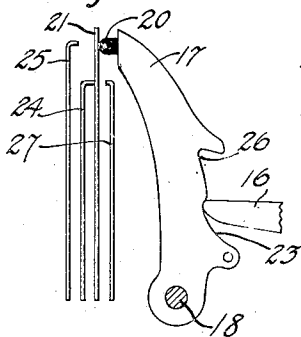


Fig. 3.

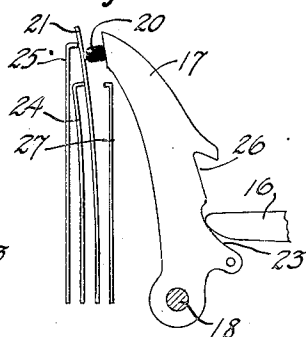
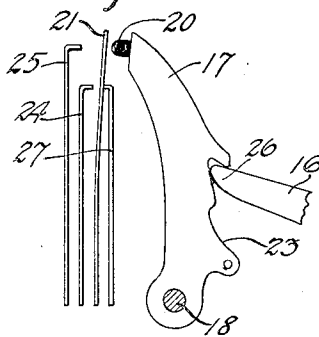


Fig. 4.



Inventor:
William C. Roe
by J. E. Roberts Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM C. ROE, OF NEW YORK, N. Y., ASSIGNOR TO HOLMES ELECTRIC PROTECTIVE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

ALARM DEVICE.

Application filed July 31, 1922. Serial No. 578,622.

To all whom it may concern:

Be it known that I, WILLIAM C. ROE, a citizen of the United States, residing at New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Alarm Devices, of which the following is a full, clear, concise, and exact description.

This invention relates to electric alarm devices and particularly to circuit controlling devices employed in connection with hold-up and burglar alarm systems.

It is an object of the invention to provide a foot actuated circuit controlling switch which is simple in construction, economical in cost, and in which the chance of accidental operation is reduced to a minimum.

In accordance with the general features of this invention, means are provided whereby the switch actuating means when moved in one direction will automatically return to normal, and when moved in another direction will be retained in its operated position.

Other features and advantages of the invention will appear from a consideration of the following description taken in connection with the accompanying drawing and the appended claims.

In the drawing, Fig. 1 is a perspective view of the invention in its preferred form, one of the bracket covers being removed to show the contacts and actuating mechanisms; and Figs. 2, 3, and 4 are diagrammatic views showing the spring contact assembly in various operated positions.

Referring particularly to Fig. 1, numerals 5 and 6 designate a pair of metal end brackets having side plates 7 and bases 8 which may be attached to the floor in any suitable manner, as by means of screws through holes 9. The side plates 7 are clamped upon the brackets by means of screws 10, these plates being removable to facilitate the assembly of the contact mechanisms. An elongated tube or rail 11, preferably of metal, is supported by end levers 12 which are pivoted upon bearings 13 which extend within the brackets 6 and 7. This foot rail switch is adapted to be used in hold-up alarm systems, such as that disclosed in application Serial No. 576,670, filed July 22, 1922, and when so used the rail 11 is elevated approximately $2\frac{1}{2}$ inches above the floor, and is parallel thereto, so as to be

readily operated or raised with the toe of the operator's shoe with the least possible effort. A second rail 14, similar to the rail 11, is fixedly mounted upon end supports 15 above the rail 11 and preferably nearer the front of the brackets, to serve as a normal rest for the operator's foot. The rails 11 and 14 are parallel and are spaced apart sufficiently to permit the operator's toe to be readily passed between them.

The bearing 13 upon which the foot rail 11 is pivoted is connected within the bracket 5 with a short lever arm 16 which cooperates with an eccentrically curved latch 17. Latch 17 is pivoted on a headed bolt 18 and is normally held in engagement with the lever arm 16 by the action of a coil spring 19. The latch 17 is provided with an insulating pin 20 which is normally in engagement with a main spring 21 of a bank of contacts 22 and is adapted to control the engagement of the said main spring with other spring contacts under the action of the lever arm 16. It will be evident that when the foot rail 11 is depressed the rounded surface of the lever arm 16 will ride upon the smooth rounded surface 23 of the latch 17 and when released will immediately return to the normal position shown in Fig. 1 under the action of the coil spring 19.

The action of the latch and lever arm to control the spring contacts is shown more clearly in Figs. 2, 3, and 4 from which it will be apparent that the main spring 21 is normally held in engagement with a contact spring 24 and that when the foot rail 11 is moved downwardly as described above, contacts 21 and 24 will remain closed and main spring 21 will be brought into engagement with contact 25, as shown in Fig. 3. When rail 11 is raised by the toe of the operator's shoe, however, the rounded end of the lever arm 16 is raised over the rounded projection on the latch 17 and rests at 26 as shown in Fig. 4, being retained in this position. When the rail 11 is brought to the up position shown in Fig. 4, the main spring 21 disengages the contact spring 24 and is brought into engagement with the contact spring 27, owing to the fact that the spring 21 is flexed in that direction.

A plurality of contact members 28 are provided within the bracket 5 for the purpose of establishing electrical connections.

It will be evident that the mechanisms

described in connection with the bracket 5 may also be employed in the bracket 6 for controlling entirely separate circuits, or for any other purpose, and that any suitable materials may be employed in the construction of this device. These and other changes may obviously be made without departing from the scope and spirit of the invention, and the claims are not, therefore, limited to the specific structure shown and described.

What is claimed is:

1. An alarm device comprising a pivoted rail, a plurality of contact members controlled by said rail, means for returning said rail to its normal position when depressed, and means for locking said rail in its operated position when raised.

2. A foot rail switch comprising a pivoted rail, a plurality of contacts, means for simultaneously opening and closing certain of said contacts upon raising said pivoted rail, means for closing one of said contacts upon depressing said pivoted rail, means for returning said rail to normal when depressed, and means for locking said rail in its operated position when raised.

3. A foot rail switch comprising a pivoted rail, a protecting rail mounted above said pivoted rail, a plurality of contact members controlled by said pivoted rail, means for opening and closing certain of said contacts upon raising said pivoted rail, means for closing one of said contacts upon depressing said pivoted rail, means for returning said pivoted rail to normal when depressed, and means for locking said rail in its operated position when raised.

4. A foot rail switch comprising a pivoted rail, a lever arm controlled by said rail, a latch controlled by said lever arm, and a plurality of contact members controlled by said latch and so disposed that certain of said contact members will be brought into engagement when said rail is depressed and certain of said contact members will be disengaged and others brought into engagement when said pivoted rail is raised.

5. A foot rail switch comprising a pivoted rail, a lever arm controlled by said rail, and an eccentrically curved latch controlled by said lever arm whereby said latch will return to its normal position when said rail is

depressed and will be locked in its operated position when said rail is raised.

6. A foot rail switch comprising a pivoted rail, a lever arm controlled by said rail, an eccentrically curved latch controlled by said lever arm whereby said latch will be returned to normal when said rail is released after being depressed and will be retained in its operated position when raised, and a plurality of contact members controlled by said latch.

7. A foot rail switch comprising a pivoted rail, a protecting rail mounted above said pivoted rail, a lever arm controlled by said pivoted rail, an eccentrically curved latch controlled by said lever arm whereby said latch and said rail will be returned to normal when released after being depressed and will be retained in their operated positions when said rail is raised, and a plurality of contact members controlled by said latch.

8. A foot rail switch comprising a casing, cooperating switch contacts within said casing, a pivoted rail mounted outside of said casing for operating said contacts, means for returning said rail to normal when depressed, and means for locking said rail in its operated position when raised.

9. A foot rail switch comprising a casing, cooperating switch contacts within said casing, a pivoted rail mounted outside of said casing for operating said contacts, a protecting rail mounted above said pivoted rail, means for returning said rail to normal when depressed, and means for locking said pivoted rail in its operated position when raised.

10. A foot rail switch comprising a casing, cooperating switch contacts within said casing, an eccentrically curved latch controlling said contacts, a lever arm controlling said latch, a pivoted rail outside of said casing for operating said lever arm, a protecting rail mounted above said pivoted rail, means for returning said pivoted rail to normal when depressed, and means for locking said pivoted rail in its operated position when raised.

In witness whereof, I hereunto subscribe my name this 24th day of July, A. D. 1922.

WILLIAM C. ROE.