Sept. 2, 1952 D. J. FALTZ 2,609,431

ELECTRIC POWER FAILURE ALARM DEVICE

Filed Nov. 14, 1949

Fig. 2.

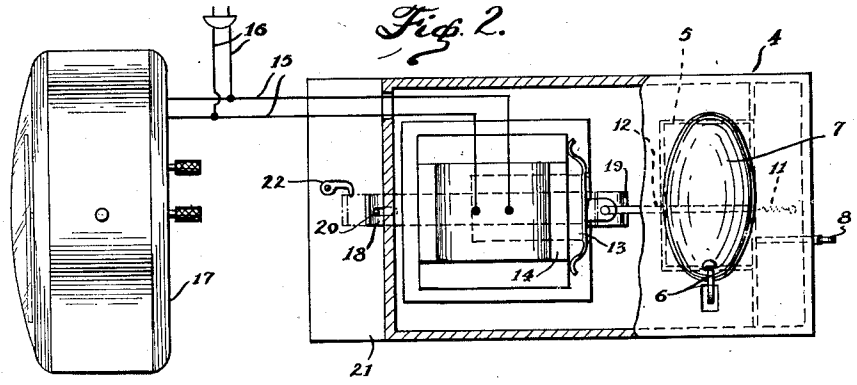


Fig. 1.

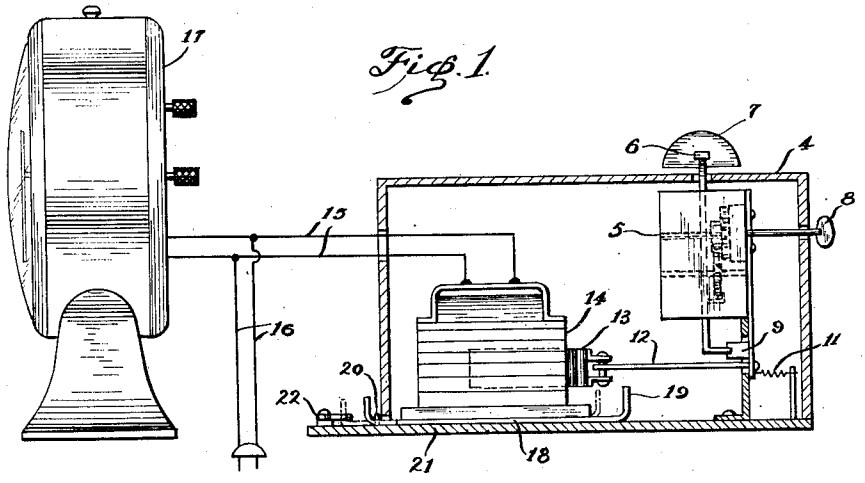
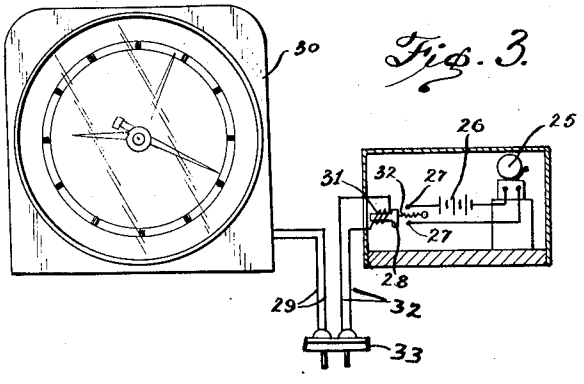


Fig. 3.



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ELECTRIC POWER FAILURE ALARM DEVICE

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1 Claim. (Cl. 177—311)

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My invention relates to electric alarm systems, and more particularly to those suitable for use with electric clocks. The device is particularly useful for immediately calling attention to any interruption in the circuit of an electric clock. For example, the owner will set the alarm of an electric clock at bed time. If, during the night, the clock circuit is interrupted, the owner will be immediately apprised thereof, through ringing of a warning bell. This warning will be given also upon the stopping of an electric clock that does not have an alarm.

My invention has for its object the provision of an alarm unit or warning signal that can readily be applied to electric clocks that are either of the alarm or non-alarm type, without the necessity of making any changes in the clock.

As shown in the accompanying drawing, Figure 1 is a view, partly in side elevation and partly in section, showing my alarm device electrically connected to the wiring for an electric clock; Fig. 2 is a plan view thereof, and Fig. 3 is a view showing a modification of the alarm or signal device of Figs. 1 and 2.

Referring first to Figs. 1 and 2, the mechanism is shown as enclosed within a housing 4 and comprises alarm bell gearing within a clock case 5 of standard or conventional form having a striking hammer 6 for engagement with a bell 7, the hammer being operated by spring-driven gearing in a well known manner, and a key 8 is provided for winding the alarm spring. A trip lever 9 projects from the lower end of the case, and when swung in the right-hand direction, will trip the alarm mechanism to permit operation of the hammer.

A tension spring 11 is connected to the trip lever 9 and tends to pull the lever in a direction to release the alarm. A pull rod 12 connects the lever 9 to a movable core 13 of a solenoid 14. When the solenoid 14 is energized, its core 13 will be moved to the left to hold the lever 9 in its locked position, against the tension of the spring 11. The current-supply wires 15 for the solenoid are tapped into the line 16 that supplies electrical current to a clock 17. This clock may be of the type that has an in-built alarm or may be of the non-alarm type.

In setting the system for operation, a slidably-mounted holding bar 18 is pulled to the left, so that its upstanding leg 19 will push the core 13 into the solenoid, against the pull of the spring 11, to hold the trip lever 9 in its locked position. The slide bar 18 has pin-and-slot connection at 20 with the base 21 of the housing 4. A latch 22 is pivotally supported on this base and will releasably hold the slide in its pulled-back position, to prevent ringing of the alarm bell either while the winding key 8 is being turned or when the user is aware of the broken circuit through the solenoid and does not wish the alarm to continue ringing.

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When the wires 16 have been plugged into the house wiring circuit and wires 15 have been tapped into the wires 16, movement of the slide to its release position shown in full lines in Fig. 1 places the system in condition for operation. If there is failure of current in the line 16, the magnet will release the core 13, thus permitting the spring 11 to pull the trip lever 9 to the right and release the alarm mechanism.

Referring now to Fig. 3, I show an electrically-operated warning bell 25 which may be of the ordinary door bell type, energized from a dry cell at 26. The bell and dry cell circuit has switch contact members 27 that will be bridged by a movable switch member 28 when there is failure of current in the circuit 29 of an electric clock 30. When there is electric current present, a relay winding 31 will be energized to thereby hold the switch member 28 in open position. The wiring 32 of magnet 31 and the wires 29 are plugged into a two-way connector 33 which will in turn be plugged into a house-lighting circuit. When there is failure of current, a spring 32 will close the contact members 28—27 to complete the alarm bell circuit. In this arrangement also, a locking device such as the latch 22 of Fig. 2 can be used to releasably hold the switch 28 open.

I claim as my invention:

A warning device for control by the circuit of an electric clock or the like, comprising a case having a base therein, a solenoid on the base adapted for electrical connection to an electrical circuit, a movable core for the solenoid, an alarm bell and spring-driven mechanism therefor carried by the case, a trip lever for releasably locking the mechanism against operation, a connection between the trip lever and the core, a spring for moving the lever and the core, to release the mechanism when the clock circuit is broken and the solenoid deenergized, a slide bar on the base and projecting from the casing, parallel to the core and having a leg engageable with the core, to move the core and the lever to their holding positions and to releasably hold them there, and a latch for releasably holding the slide bar against the force of the spring that acts on the core and the lever.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
942,508	Menkin	Dec. 7, 1909
1,565 904	Burkholder, Jr.	Dec. 15, 1925
2,439,331	Bean	Apr. 6, 1948

FOREIGN PATENTS

Number	Country	Date
438,170	Germany	Dec. 10, 1926