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W. S. SPRAGUE

2,709,801

BLACKOUT INDICATOR

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FIG. 1.

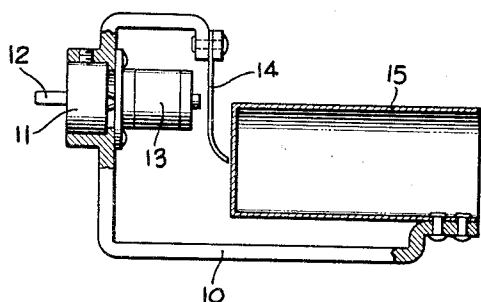
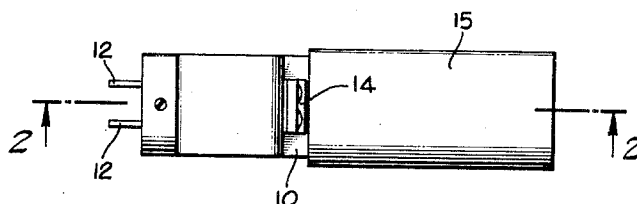


FIG. 2.

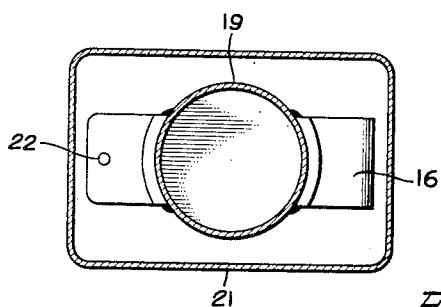
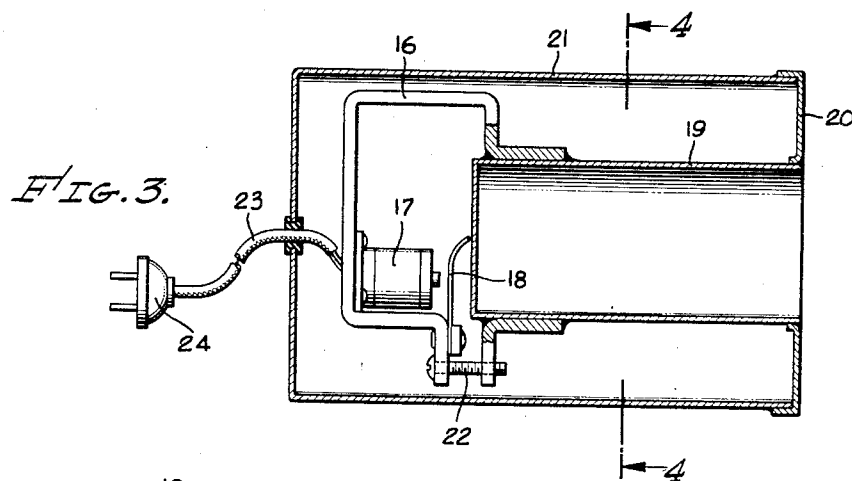


FIG. 4.

WILLIAM S. SPRAGUE
INVENTOR.

BY *Hazard & Miller*
ATTORNEYS

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2,709,801

BLACKOUT INDICATOR

William S. Sprague, Hollydale, Calif.

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1 Claim. (Cl. 340—310)

This invention relates to an indicator or an alarm for indicating possible or anticipated catastrophes, such as for example a bombing attack by hostile airplanes.

A primary object of the invention is to provide an alarm which may be easily and economically manufactured and which may be installed at any suitable location and connected to the power supply of a community which will enable the creation of an audible alarm that is operable or controllable by the powerhouse operator. In this manner, an entire community may be instantly warned of an anticipated bombing attack or similar catastrophe and may take suitable protective steps, such as proceeding to bomb shelters and the like. At the same time the installation of the alarm can be accomplished very easily and economically in that no special wiring circuits are required but the wiring used to supply buildings, dwellings, and the like with ordinary house current may be utilized. The alarm is also beneficial in that although there is a slight change in the current supplied from the powerhouse or source of electric current to create the alarm no conventional electric equipment that must be maintained in operation will be affected by the giving of the alarm.

Explanatory of the present invention, communities are now conventionally supplied with electric current at a predetermined frequency that is very closely maintained. In the usual community the electric current supplied is maintained at sixty cycles per second, although in a few isolated areas the current supplied is supplied at fifty cycles. The present alarm may be used on either type of supply and is so designed that when connected thereto the alarm will remain silent or substantially so as long as the predetermined frequency remains normal. However, if the powerhouse operator deliberately causes his generator to slow down slightly to reduce the supplied frequency from sixty cycles to say fifty-seven cycles per second in the case of sixty-cycle current, or from fifty cycles to forty-seven cycles per second in the case of fifty-cycle current, the alarm will instantly sound. If these alarms are well distributed throughout the community the entire community will be instantly warned at the control of the powerhouse operator. The slight slowing down of the frequency during the period that the alarm is given will not affect any ordinary equipment that must be maintained in operation. While synchronous motors will slow down slightly in accordance with the abnormal frequency, ordinarily the slowing down is so slight as not to be objectionable. Heaters, lamps, and other types of electrical equipment are not affected by the slight change in frequency. Clocks and similar timing devices may be slightly retarded during the period or periods that the generator is slowed down for the purpose of creating the alarm, but if the powerhouse operator subsequently speeds up his generator to say sixty-three cycles per second, in the case of sixty-cycle normal current, or to fifty-three cycles in the case of fifty-cycle current, for a corresponding period, the clocks will be maintained in proper time.

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With the foregoing and other objects in view, which will be made manifest in the following detailed description and specifically pointed out in the appended claim, reference is had to the accompanying drawings for an illustrative embodiment of the invention, wherein:

Figure 1 is a top plan view of one form of construction embodying the present invention;

Fig. 2 is a vertical section taken substantially upon the line 2—2 upon Fig. 1;

Fig. 3 is a vertical section through another form of construction embodying the present invention; and

Fig. 4 is a vertical section taken substantially upon the line 4—4 upon Fig. 3 in the direction indicated.

Referring to the accompanying drawing wherein similar reference characters designate similar parts throughout, the improved alarm as depicted in Figs. 1 and 2 consists of a suitable bracket 10 on which is mounted a plug 11 having prongs 12 corresponding to the conventional electric plug and which may be inserted into a socket or receptacle at any location which is electrically connected to an alternating current source of supply. Such a socket or receptacle may be assumed to be the socket or receptacle that supplies ordinary house current from the powerhouse that supplies the community with electric current.

On the bracket 10 there is mounted a coil or solenoid 13 that is electrically connected to the plug 11. Adjacent the core of this coil there is a tuned reed 14 which may be formed of strip steel capable of being magnetically attracted and consequently vibrated by the coil. This reed has such a length, weight, and stiffness that it is tuned to vibrate under the influence of the coil when the coil is energized with an abnormal alternating current frequency, such as for example fifty-seven cycles per second. When the coil is normally energized with sixty-cycle current the reed being out of tune or out of resonance, will not vibrate but will remain stationary or substantially so. On the bracket 10 adjacent the end of the reed there is mounted a suitable sounder. This sounder, indicated at 15, in its simplified form may consist merely of an open-ended tin can, the end of which is disposed in close proximity to the end of the reed. Such a sounder is preferred because it may be a relatively inexpensive sounder and when sounded by the reed, it may well produce a rather raucous sound so that it cannot be confused with other sounders, such as doorbells, buzzers, and the like.

In the construction shown in Figs. 3 and 4, the device consists of a bracket 16 on which the coil or solenoid 17 is mounted and on which the tuned reed 18 is also mounted. The bracket is connected to the sounder 19 which has its open end secured to a cover 20. The cover 20 is applicable to the open end of a suitable housing 21. In this form of construction the bracket 16 is divided and its parts are connected by an adjusting screw 22 which, on being turned, will adjust the reed 18 toward and away from the end of the sounder 19. It will be understood that the bracket 16 possesses sufficient give or flexibility to permit such an adjustment to be effected. The coil 17 is connected by a cord 23 that extends through the housing 21 and which is equipped with a conventional plug 24 that may be inserted into an electrical socket or wall receptacle.

In both forms of construction the coil is supplied with normal house current at normal frequency and as long as this condition persists the reed will remain stationary or substantially so so that no sound is created by the sounder. However, in the event that it is desired to warn a community equipped with these devices of an imminent catastrophe, such as a bombing attack, the powerhouse operator need only slow down his generators slightly to decrease the frequency from the normal fre-

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quency to a slightly lower abnormal frequency. This he may do at repeated intervals. When this occurs the tuning of the reed is such that the reed will be repeatedly vibrated and as the end of the reed is disposed in close proximity to the end of the sounder, the reed will cause the sounder or amplifier to emit the alarming sound, thus warning the persons in all dwellings and buildings equipped with the device of the imminent catastrophe.

In the form shown in Figs. 3 and 4, practically the entire structure is mounted on the cover 20 so that the parts may be readily assembled and adjustment of the reed and its coil toward and away from the end of the sounder may be made prior to the application of the cover onto the housing 21. This facilitates adjustment and assembly. It will be understood by those skilled in the art that if the coil or solenoid is properly designed it may consume a minimum amount of current during the time when it is supplied with normal frequency.

It will be appreciated that the improved construction can be very easily and economically manufactured so that inhabitants of a given community may acquire these alarms at very little expense. Furthermore, no separate or special wiring from the powerhouse to any particular dwelling or building is required.

Various changes may be made in the details of con-

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struction without departing from the spirit and scope of the invention as defined by the appended claim.

I claim:

An alarm comprising a sounder having a closed end and an open end, a bracket affixed to the external side of said sounder, a solenoid mounted on the bracket in spaced relation to the closed end of said sounder, a tuned reed having one end affixed to the bracket and having its free end disposed between said solenoid and said closed end of the sounder, and a housing enclosing said bracket, solenoid, reed and sounder and having an opening therein, said sounder having its open end secured in said opening.

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