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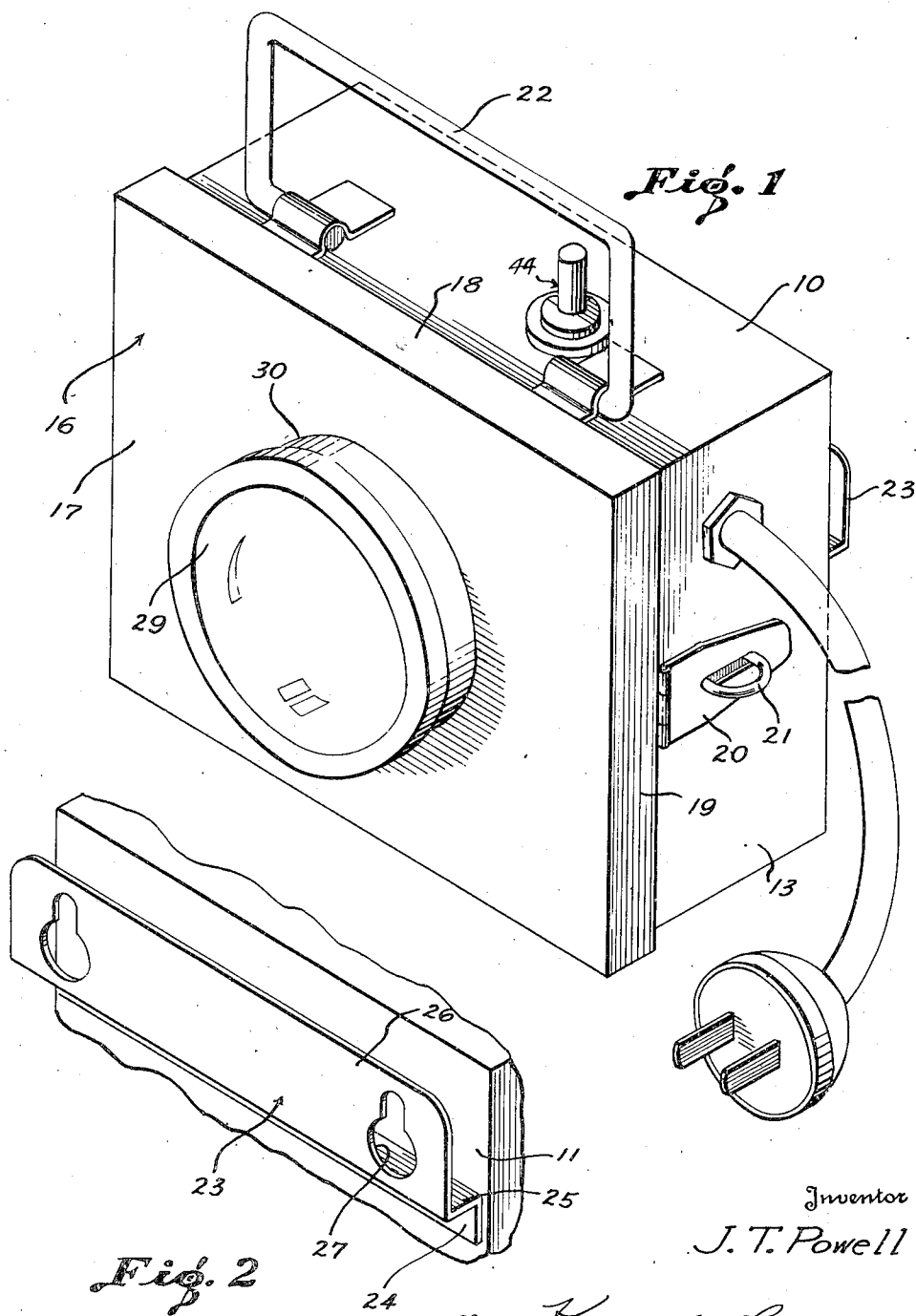
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2,478,129

AUTOMATIC EMERGENCY LIGHT

Filed Nov. 14, 1945

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

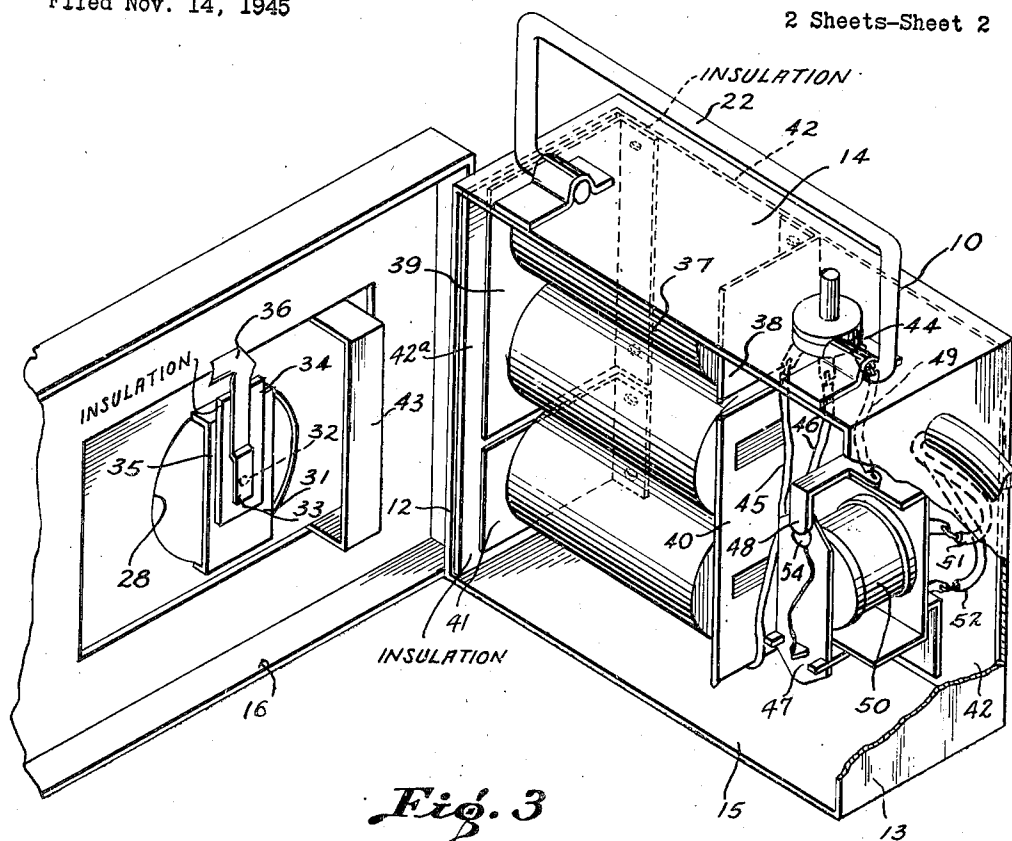


Fig. 3

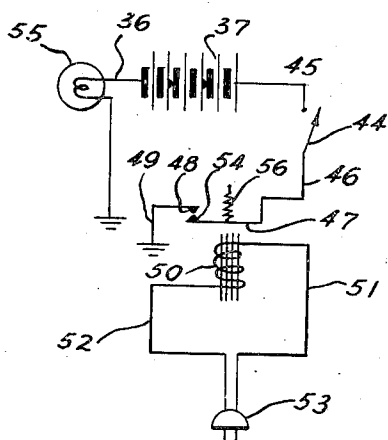


Fig. 4

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UNITED STATES PATENT OFFICE

2,478,129

AUTOMATIC EMERGENCY LIGHT

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Application November 14, 1945, Serial No. 628,530

1 Claim. (Cl. 240—1)

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This invention relates to a portable trouble light.

An object of this invention is to provide a trouble light which is designed for locating circuit breaks in outlet boxes.

Another object of this invention is to provide a device of this kind which may be used as an emergency light which is normally cut off when the house current is on, but which will provide light automatically from an independent source when the house current is broken.

A further object of this invention is to provide an emergency light for theaters, public buildings, stores, ships or the like, which embodies a self-contained electric source, and which includes means for normally cutting off the current from the self-contained source when the house current is on, so that the emergency light will be normally cut off, but will be automatically turned on when the house current is cut off so that exits, stairways or the like will be lighted.

To the foregoing objects, and others which may hereinafter more fully appear, the invention consists of the novel construction, combination and arrangement of parts, as will be more specifically referred to and illustrated in the accompanying drawings, but it is to be understood that changes, variations, and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a perspective view of a trouble light constructed according to an embodiment of this invention,

Figure 2 is a fragmentary perspective view of the supporting bracket carried by the housing,

Figure 3 is a perspective view partly broken away and in section showing the device in open position, and

Figure 4 is a schematic view of the electric circuits embodied in this device.

Referring to the drawings, the numeral 10 designates generally a housing embodying a rear wall 11, opposite side walls 12 and 13 and upper and lower walls 14 and 15. A closure, generally designated as 16, is hingedly connected to the side wall 12 and includes an outer plate 17 formed with upper and lower flanges 18 and opposite end flanges 19. One of the flanges 19 has a hasp 20 pivotally secured thereto engaging a loop 21, which is carried by the wall 13 so that the closure 16 may be locked in its closed position. The flanges 18 and 19 are adapted to overlap the adjacent edges of the upper and lower and the opposite side walls of the housing 10. A handle or bail 22 is hingedly carried by the top wall 14.

The housing 10 is adapted to be removably secured to a pair of headed supporting members, such as screws or the like, by means of a bracket 23. The bracket 23 includes a plate 24 which is

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fixed, as by welding or the like, to the rear wall 11 of the housing and a right angularly disposed flange 25 extends from the plate 24. An upstanding plate 26 extends from the outer edge of the flange 25 and is formed with a pair of button-hole slots 27. The front wall 17 of the closure 16 is formed with a circular opening 28 and a lens 29 is supported in spaced relation with respect to the wall 17 by means of a supporting bevel 30. A lamp socket supporting bar 31 of substantially U-shape is struck rearwardly from the wall 17, extending across the opening 28 for supporting a light bulb centrally with respect to the lens 29. One side of the light bulb socket is grounded to the closure 16 whereas the center contact 32 of the light bulb is adapted to engage a spring contact member 33 which is secured to an insulating plate 34 fixed to the bight 35 of the U-shaped member 31. The contact 33 has extending therefrom a resilient contact arm 36, the purpose for which will be hereinafter described. A plurality of batteries 37 are disposed in the housing 10 being removably mounted between resilient contact plates 38 and 39 and 40 and 41.

The contact plates 38 and 39 are secured to an insulated plate 42 and the contact plates 40 and 41 are also secured to either plate 42 or a similar insulating plate. An insulating plate 42a is also interposed between wall 12 and contacts 39 and 41. With an arrangement of this kind the contact plate 38 is relatively narrow and the same is true of plate 41, whereas plates 39 and 40 are relatively wide so that they will extend between two of the batteries. In this manner the batteries 37 can readily be arranged in series and the provision of the insulation plates 42 and 42a will insulate the electrical parts from the housing. The batteries 37 are adapted to be maintained between the contact plates by means of a U-shaped holding member 43 which is secured to and extends inwardly of the closure 16 for engagement with the batteries 37 when the closure is in closed position. The contact arm 36 is adapted to engage the contact plate 38 when the closure 16 is closed thereby closing one side of the electric circuit to the light bulb. A switch 44 is carried by the top wall 14 of the housing, one side of the switch 44 being connected by means of a wire 45 to contact plate 40. The other side of the switch is connected by means of a wire 46 to an armature 47, which is normally in engagement with a stationary contact 48.

The contact 48 is connected by means of a wire 49 to the ground. The armature 48 is correlated with a relay 50 which has wires 51 and 52 connected to a plug connector 53 for placing the relay 50 in circuit with house current or the like. The relay 50 is adapted to be normally energized when the house current is on so that the armature 47 will be drawn thereto and contact 54

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carried by the armature will be disengaged from stationary contact 48. In this manner the electric circuit to the light bulb 55 will be broken in the event the switch 44 is closed. If the electric circuit with which the relay 50 is connected is broken, the armature 47 will be drawn by its spring 56 to a circuit closing position whereupon the light bulb 55 will become lighted. The light bulb 55 being interposed in an independent electric circuit will remain lighted as long as switch 44 is closed and as long as the electric circuit to the relay 50 is broken.

This device may be used for locating broken electric circuits in a building or other location and is designed primarily for mounting in a position where it will light stairways, halls, or other passages in the event the normal electric current used in the building, ship or the like is broken. In this manner an emergency light will be provided which may be of less intensity than the normal light provided at the particular location but will be sufficient to provide for the lighting of the particular area. Where the device is located in a theater or the like it may be placed adjacent the stairways so as to light up the stairways and other exits when the house current has been broken. Inasmuch as the electric circuit to the light bulb is normally broken when the house current is normal there will not be any drain on the batteries 37 with switch 44 in circuit closing position.

The exact configuration illustrated is regarded as the optimum, but some of the desirable results inherent in this disclosure may be obtained by various slight modifications including some departure from the exact configuration shown, and it is therefore requested that the scope of the invention should be regarded as limited only by the terms of the claim.

What I claim is:

An emergency light comprising a housing, a

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hinged closure carried by said housing, a plurality of batteries in said housing, resilient contacts yieldably holding said batteries in said housing, a U-shaped battery holding bar carried by said closure and engageable with said batteries when said closure is in closed position, a U-shaped socket support carried by said closure, a socket carried by said U-shaped support, a light bulb carried by said socket having one side thereof grounded to said closure, a conductor connecting one side of said batteries with said housing, a manual switch interposed in said conductor, a resilient contact carried by said U-shaped support and insulated therefrom, said latter contact having a free end adapted to engage one of said first named contacts when said closure is closed, a second switch spring biased to a circuit closing position, electromagnetic means connected to said second switch and adapted upon energization thereof to move said second switch to circuit breaking position, and means connecting said electromagnetic means to a current source remote from said housing.

JOHN THOMAS POWELL.

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