Sept. 15, 1931. L. L. BROWN 1,823,083

CIRCUIT BREAKER

Filed July 12, 1927

Fig. 1

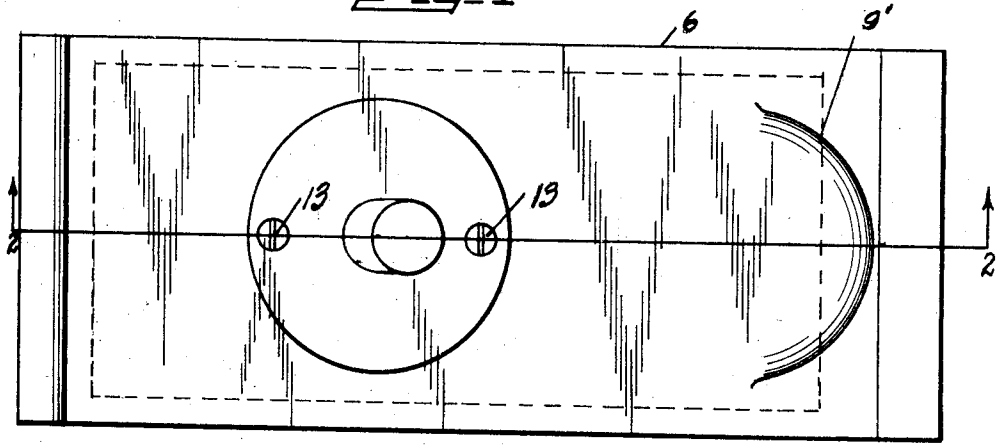


Fig. 2

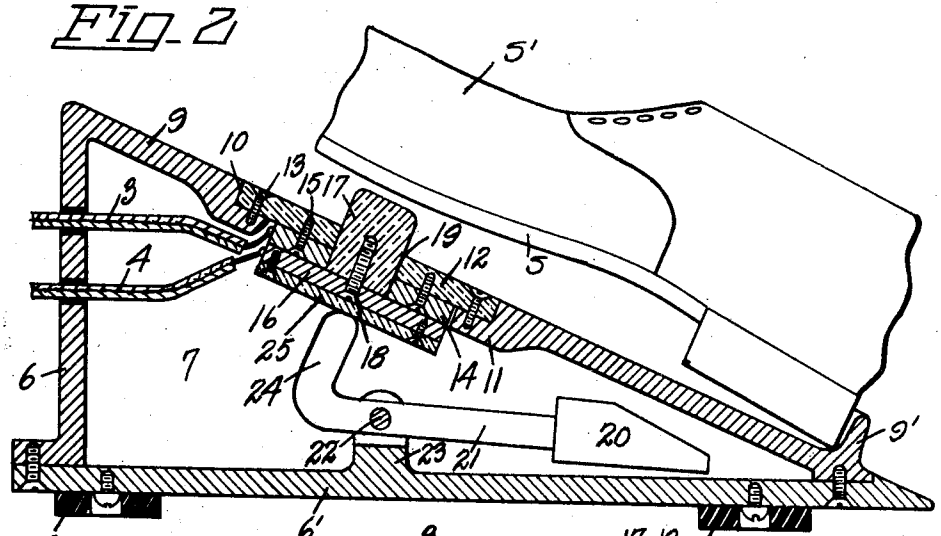


Fig. 3

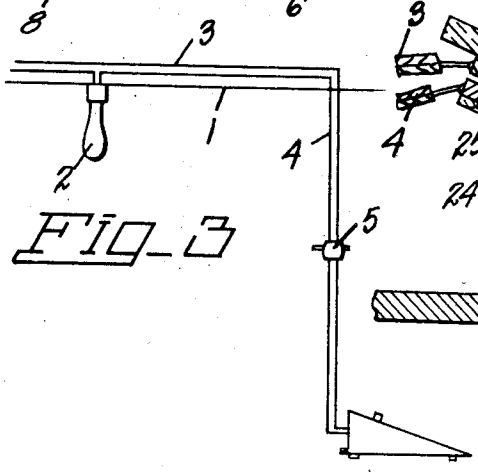
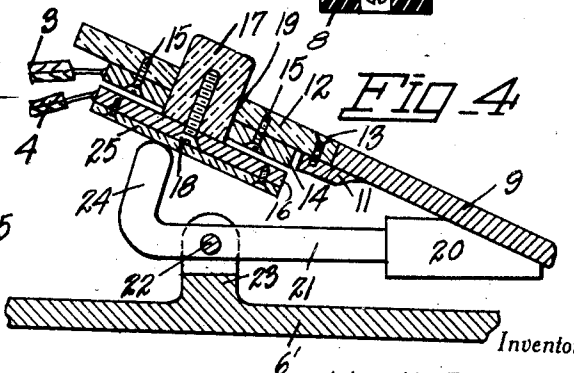


Fig. 4



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Patented Sept. 15, 1931

1,823,083

UNITED STATES PATENT OFFICE

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CIRCUIT BREAKER

Application filed July 12, 1927. Serial No. 205,125.

My present invention relates to an improved circuit maker of the portable type and designed especially to be located on the floor and adapted to be utilized by pressure from the foot of the operator. The circuit maker is particularly applicable for use as a gravity actuated, normally closed switch in an electric light circuit wherein a lamp is employed to illuminate a room, and the necessity frequently arises for extinguishing the lamp at certain times, as for instance, when an optometrist is examining the eyes of a patient. Thus the circuit maker is normally held closed by action of a weighted arm in order that the lamp may illuminate the examining room or chamber, and the device of my invention is conveniently located on the floor in order that, by foot pressure, the optometrist may overcome the weight and break the circuit to extinguish the lamp and thus darken the room. A cut-out switch is also provided by means of which the lamp circuit may be opened to extinguish the lamp when the illumination of the lamp is not required. Means are provided whereby the circuit maker is automatically closed by gravity after the release of foot pressure that has opened the circuit to extinguish the lamp, thus providing for a normally closed circuit and circuit maker or foot-switch.

The invention consists in certain novel combinations and arrangements of parts as will hereinafter be more fully set forth and claimed. In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention wherein the parts are combined and arranged according to the best mode I have thus far devised for the practical application of the principles of my invention.

Figure 1 is a plan view of the portable circuit maker.

Figure 2 is a vertical sectional view of the device at line 2—2 of Fig. 1, with the circuit maker in closed position.

Figure 3 is a diagrammatic view of the wiring for an electric lamp circuit with the circuit maker and a cut-out switch in the circuit.

Figure 4 is a sectional detail view showing the circuit open.

In order that the general arrangement and relation of parts may readily be understood I have illustrated the utility of the device in Figure 3 by designating the ceiling of a room to be illuminated by the numeral 1 and the illuminating lamp as 2. The wires 3 and 4 of the lamp forming the light circuit are provided with a cut-out switch 5 by means of which the circuit maker as a whole may be cut out of the light circuit when the circuit maker is not to be used and the lamp may or may not be illumined.

The portable circuit maker includes a cast metal casing 6 having a removable bottom plate 6′ and an interior chamber 7, and provided with exterior washers or coasters 8 of rubber or other material to form cushions for the casting that rests upon the floor or other suitable support.

The hollow casting is provided with an upper or top inclined face 9 as a rest for the sole S of the shoe S′ of the operator, and this top portion of the casting is fashioned with a heel flange 9′ to support the foot. An opening 10 is countersunk in the top 9 and provided with an annular supporting flange 11 for the supporting plate 12. This plate 12 which is of suitable insulating material, preferably circular, and removably set in the countersunk opening, flush with the top of the casting, is secured by screws as 13 to support the contact members of the circuit maker.

At the underside of the fixed plate 12 is attached a terminal plate 14, screws 15 being used to secure the terminal plate to the plate 12, and this terminal plate forms the fixed terminal or contact point of the circuit breaker, with the wire 3 attached thereto as shown in Figure 2.

A movable contact plate 16 forms the terminal for the wire 4 and is designed to normally contact with the plate 14 as in Fig. 2 and close the lamp circuit. The plate 16 is depressible and a pressure-button 17 is fixed to the movable plate by screw 18, and the button may move and is guided by the walls of the hole or opening 19 in the plate 12 as

the foot presses on the button to disconnect the plates 14 and 16 and break the circuit. When pressure is released, the plate 16 is returned to contact with plate 14 to close the circuit, by means of gravity through the agency of a weight 20 carried at the end of an arm 21 which is pivoted at 22 in a lug 23 on the bottom plate 6′ within the chamber 7.

The arm 21 has an angular or bent end 24 that pushes against an insulating pad 25 that is secured by screws 26 at the underside of the movable contact plate 16. It will be apparent that the lamp 2 is normally illumined and that it may be extinguished by pressure of the shoe-sole on the button 17 and after pressure is released by withdrawal of the shoe-sole, the switch is automatically closed by action of the weight. The movement of the weight is limited by the pressure of the top plate 9 and bottom plate 6′, as indicated in Figures 2 and 4.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is—

The combination with a hollow casting having an opening, a fixed, open center insulated plate covering said opening, an open center contact plate attached to the insulated plate within the casting and means for detachably securing the first plate to the casting, of a movable contact plate, an L-shaped lever pivoted within the casting having a short arm for co-action with the movable plate and a weight on the longer arm, a pressure button fixed to the upper side of the movable plate, and said button protruding through the insulated plate and fixed contact plate.

In testimony whereof I affix my signature.

LLOYD L. BROWN.