Oct. 23, 1951 C. W. SLOCUM 2,572,400

SIGNAL CIRCUIT CUTOUT

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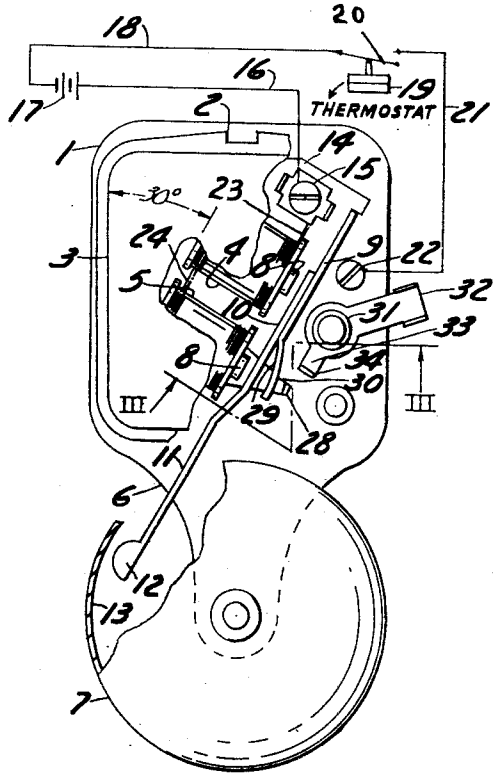

Fig. 1

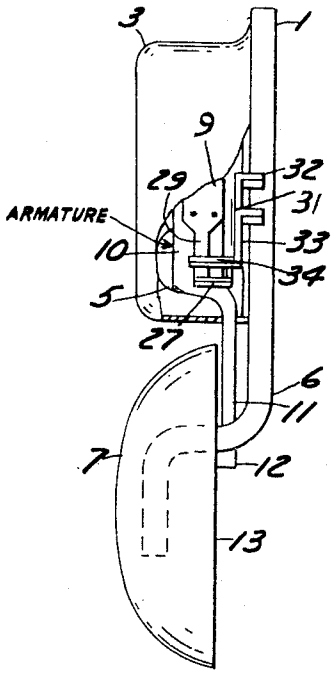

Fig. 2

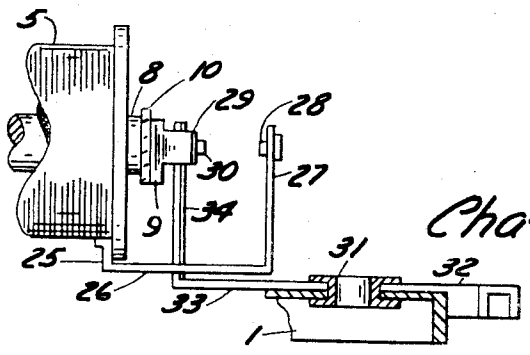

Fig. 3

Charles W. Slocum
Inventor

By

Attorney

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SIGNAL CIRCUIT CUTOUT

Charles W. Slocum, Adrian, Mich., assignor to Sperti Faraday Inc., Adrian, Mich., a corporation of Ohio

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2 Claims. (Cl. 177—7)

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This invention relates to a cut-out or breaker control in supplemental relation as apart from introduction in any way whatsoever in the circuit proper.

This invention has utility when incorporated with a signal device, primarily as having an armature functioning therewith, as for an audible unit, and herein embodied in association with a bell or gong.

Referring to the drawings:

Fig. 1 is a front elevation, with parts broken away, of an embodiment of the invention in an electric bell type of calling means;

Fig. 2 is a side elevation, from the right of Fig. 1, a portion of the cover being removed; and

Fig. 3 is an enlarged view on the line III—III, Fig. 1, a portion being in section, but with the cut-out shifted.

Upon a base 1, catches 2 detachably mount a lid or cover 3 for electromagnet coils 4, 5, herein shown at an angle of 30° as to the generally rectangular base 1. From the base 1 there extends centrally from one side an arm 6 mounting a bell 7. In the respective coils 4, 5, are fixed pole magnets 8. A conductor leaf spring 9 provides a yieldable mounting for an armature 10. An arm 11 from the armature 10 terminally carries a knocker or lug 12 for striking inside the bell 7 near its open side rim 13 parallel to and spaced slightly away from the plane of the base 1 outer side or face on which are mounted the coils 4, 5.

The electric circuit

An insulation fiber plate 14 on the base 1, carries a terminal 15 from which a conductor line 16 extends to energy source, herein shown as a battery 17. From the battery 17 there is a conductor line 18 to a normal or emergency control, as a thermostat 19 to close a switch 20, thereby completing the electric circuit thru a conductor line 21 to a ground terminal 22 at the base 1.

At the terminal 15 is a conductor connection 23 to the coil 4 in series by a connection 24 with the coil 5. A conductor connection 25 from the coil 5 is to an extension 26 having an upright arm 27 carrying at its upper or outer end a contact 28. The electrical circuit from the line 16 thru the terminal 15 to the contact 28 is insulated from the base 1.

The conductor spring leaf 9 is conductively connected to the base 1, and accordingly in circuit with the ground terminal 22. The spring leaf 9 in its extent along the armature 9 has an offset or spring tongue 29, at its end carrying a

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contact 30 normally yieldably in contact with the contact 28. This means that as the switch 20 be closed, the coils 4, 5, are energized to draw the armature 10 to strike the poles 8, thereby separating the contact 30 from the contact 28. The circuit to the coils 4, 5, is thus automatically opened or broken. However, in this instant of pulling the armature 10 toward the poles 8, the arm 11 has its striker end 12 hammer the bell 7. The opening of the circuit at the points or contacts 28, 30, is only momentary and the cycle is repeated for a continuation of the ringing of the bell 7.

The cut-out

In the base 1 anchored by an eyelet 31 is a lever having a handle 32. Away from the arm 32 and beyond the eyelet 31, the lever has a short arm 33 with an upwardly extending portion or offset 34. Desirably this lever is of insulation material. At the limit position therefor, as frictionally held by the eyelet 31, the lever 32, 33, 34 (Fig. 1) leaves the bell circuit entirely within the control of the switch 20. By swinging the handle 32 away from its limit position toward the terminal 22, the offset 34 pushes the contact 30 clear of the contact 28, thereby nullifying any closing action at the switch 20. This is a manual cutout. By locating the coils 4, 5, at the angle, full dimension relation therefor as to the base 1 is retained, with clearance for the cut-out lever 32, 33, 34, mounting by the eyelet 31.

While the suggestion has been made herein that the lever 32, 33, 34, may be of insulation, in the particular circuit set-up as herein disclosed, such is immaterial. In fact, with this lever 32, 33, 34, of metal thruout and by the metal eyelet 31 anchored with the base 1 connected as a ground side for the circuit, at all times the lever is out of circuit. The complementary contact 28 is the one which is insulated from the base 1, and as the contact 30 be moved clear thereof, there is no flow of current in the circuit.

The 30° from vertical, or 60° away from horizontal for the general diagonal direction to be taken by the armature 10, leaves a clearance region cornerwise therefrom of ample area for placing the cut-out lever 32, 33, 34.

What is claimed and it is desired to secure by Letters Patent is:

1. For an electric circuit, a breaker in said circuit including a mounting therefor maintaining the breaker as idle free for normal operation, and a base for the breaker, a cut-out on the base independent of any in-circuit relation to the

breaker, said cut-out being movable relatively to the breaker and as to the circuit, and, as so moved, effecting an opening of the circuit to nullify breaker operation in thereby maintaining the circuit opened, said cut-out comprising a fulcrum in the base and a lever having arms in a plane extending from the fulcrum, one of said arms being offset one way from the plane to overhang an edge of the base and provide a handle for operating the cut-out, and the other arm being terminally offset the other way from the plane into the range of the breaker and as there shiftable from the handle operation to effect in one direction breaker circuit opening and in the other direction breaker circuit closing.

2. For an electric bell base, a pair of parallel electric coils thereon, a pole in each coil, a leaf spring conductively anchored to the base and extending toward the poles, an armature mounted on the spring to extend between and in proximity to the poles, but normally spaced therefrom and held clear of the base by the action of said spring mounting therefor, an in-circuit contact from the base carried by the spring, a relatively fixed complementary contact in circuit from the coils providing with the in-circuit contact a normally closed first switch, a circuit from the base and coils, and a control additional switch in said circuit closeable for energizing the coils and thereby

normally causing the first switch to operate as a breaker to ring the bell, a lever electrically and magnetically independent of said circuit, said lever being in a plane from an eyelet mounting in the base adjacent the coil and normally clear of the armature and its contact, and said lever having an arm with an integral free end offset one way from the plane, said lever having another arm extending beyond the base to provide an operating handle for the offset to be responsive to swinging of the lever to thrust the in-circuit contact away from the complementary contact, thereby, independent of any in-circuit relation, rendering the control additional switch closing ineffective to operate the bell.

CHARLES W. SLOCUM.

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