

(No Model.)

J. YUNGBAUER.
ELECTRIC ALARM CLOCK.

No. 469,802.

Patented Mar. 1, 1892.

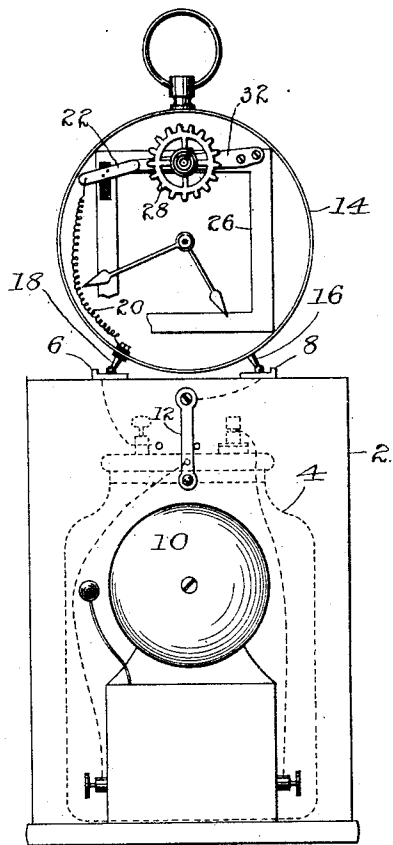


Fig. 1.

Fig. 4.

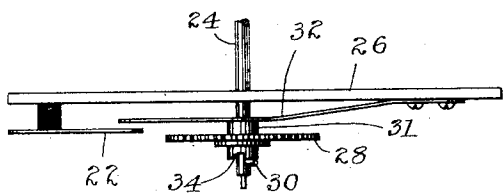


Fig. 2.

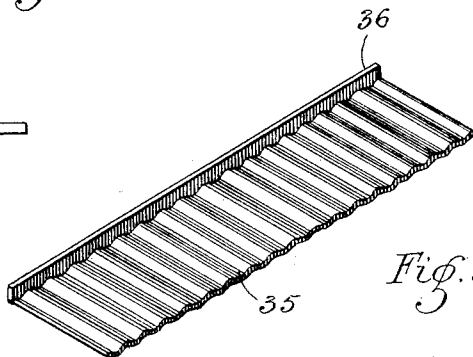


Fig. 3.

Witnesses:-

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UNITED STATES PATENT OFFICE.

JOSEPH YUNGBAUER, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-HALF TO
THEODORE B. MYERS, OF SAME PLACE.

ELECTRIC ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 469,802, dated March 1, 1892.

Application filed June 22, 1891. Serial No. 397,036. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH YUNGBAUER, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Electric Alarm Attachments for Clocks, of which the following is a specification.

My invention relates to electrical alarm attachments for clocks having make-and-break devices for closing a circuit therethrough at a predetermined time, its object being to provide an electrically-operated alarm which is brought into electrical connection with the clock by simply placing the legs of the clock upon the terminals, the circuit being broken by simply lifting the clock from the terminals.

To this end my invention consists in providing a suitable case containing an open-circuit battery and provided with a gong electrically connected with the battery and also with corrugated or concave contacts or terminals upon the top of the case upon which the clock is placed, so as to be brought into circuit with the battery and gong, whereby the gong is caused to be rung when the circuit is closed by the make-and-break device until the circuit is either mechanically or automatically broken.

My invention further consists in the construction and combination hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a front elevation of my improved attachment, the clock being shown in position thereon, but with the clock mechanism removed to show more clearly the make-and-break device. Fig. 2 is a detail of the make-and-break device. Fig. 3 is a detail of one of the corrugated contact strips or terminals on the top of the case, and Fig. 4 is a modified form of contact or terminal of concave or cup shape.

In the drawings, 2 represents a suitable box or case, in which is placed an open-circuit battery-jar 4, the binding-screws of which are in electrical connection with the contact strips or terminals 6 and 8 on top of the case, the gong 10 and switch 12 being arranged in circuit in the usual manner.

The clock 14, adapted to be used in con-

nection with the alarm attachment, is provided with the leg 16 in electrical connection with the clock case and frame, and the leg 18, insulated from the case and frame, but connected by means of the wire 20 with the insulated contact-strip 22. Slidable and rotatable upon the arbor 24, secured to the clock-frame 26, is the pinion 28, meshing with the clock running mechanism. Secured rigidly to the arbor 24 is the pin 30, against which the hub 31 of the pinion 28 bears as thrust outward by the spring 32. The outer end of the pinion-hub is formed as a cam, with a notch 34, into which the pin 30 enters when the pinion has been turned into position, thereby allowing the spring 32 to bear against the contact 22 and close the circuit through the wire 20, the clock-frame, the legs 16 and 18, the terminals 6 and 8, and the gong, the current causing the gong to sound until the circuit is broken. The circuit is automatically broken, so as to stop the ringing of the gong, by the gradual turning of the pinion 28 as actuated by the clock mechanism until the cam bearing upon the pin 30 is pushed back upon the arbor carrying the spring 32 with it and breaking connection between the spring and the contact-strip 22, or mechanically by simply lifting the clock off from the terminals or by opening the switch 12. The arbor 24 may be turned or set in the same way as the ordinary alarm attachment, so as to cause the circuit to be closed at any predetermined hour.

Any other suitable make-and-break device may be employed in connection with the clock mechanism to close the circuit at a predetermined time, my improved attachment being intended to be used in connection with the ordinary alarm-clock having the electrical connection shown or with a clock constructed substantially as shown in the drawings.

In order to hold the clock from displacement so as to break the circuit, I provide the contact strips or terminals with transverse corrugations 35, as shown in Fig. 3, and a strip or flange 36 on the outer edge, or, as shown in Fig. 4, with a hollowed or cup-shaped top, the bearing-surface thus being concave and serving as a socket for the foot. The feet or supports for the clock therefore rest

in the hollows of the terminals, and are not readily displaced by the jar of the mechanism when in operation, and more certain electrical connection, is secured.

5 I claim—

1. The combination, with a clock provided with suitable contacts electrically connected through a make-and-break device actuated by its time mechanism, of a source of electrical
10 energy, an electric gong in circuit therewith, and insulated terminals for said source of electrical energy supporting the contacts of the clock, electrical connection being made therewith simply by the gravity of the clock,
15 substantially as and for the purposes set forth.

2. The combination, with a suitable source of electrical energy and an electric gong in circuit therewith, of concave or cup-shaped terminals insulated from each other, respectively, connected with the source of electrical
20 energy, a clock having legs adapted to rest upon said terminals, one of said legs being electrically connected to the time mechanism thereof and the other insulated therefrom, and
25 an intermediate make-and-break device actuated by the running mechanism and adapted to be operated at a predetermined time, substantially as and for the purposes set forth.

3. In a device of the class described, the
30 combination, with the source of electrical en-

ergy and the alarm-gong in circuit therewith, the clock having its supporting-legs electrically connected through a make-and-break device actuated at a predetermined time by the clock mechanism, of concave battery-terminals in which the legs of said clock are held
35 and with which said legs make bearing-contact, substantially as and for the purposes set forth.

4. In a device of the class described, the
40 combination, with the clock provided with contacts and a make-and-break device adapted to be actuated by its time mechanism for electrically connecting said contacts, of an open-circuit battery, an electric gong in circuit therewith, and insulated terminals for
45 the wires of said battery, provided with a suitable support and adapted to receive said contacts when said clock is placed on said support and to be brought into electrical connection with said contacts by the gravity of the
50 clock, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 17th day of June, 1891.

JOSEPH YUNGBAUER.

In presence of—

T. D. MERWIN,

A. MAE WELCH.