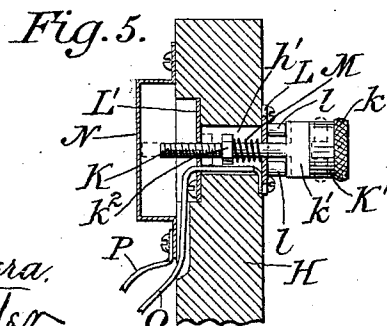
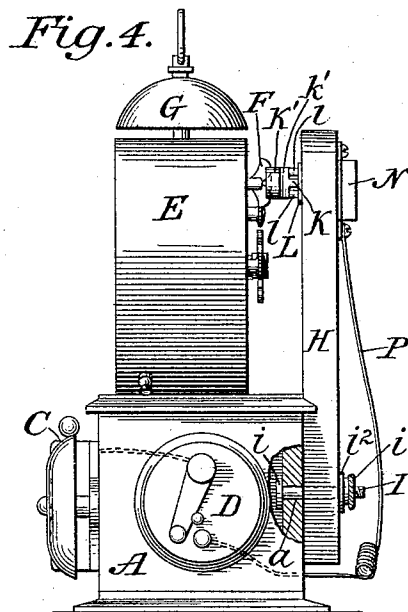
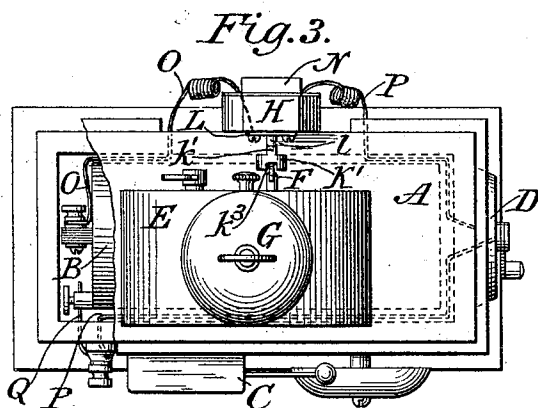
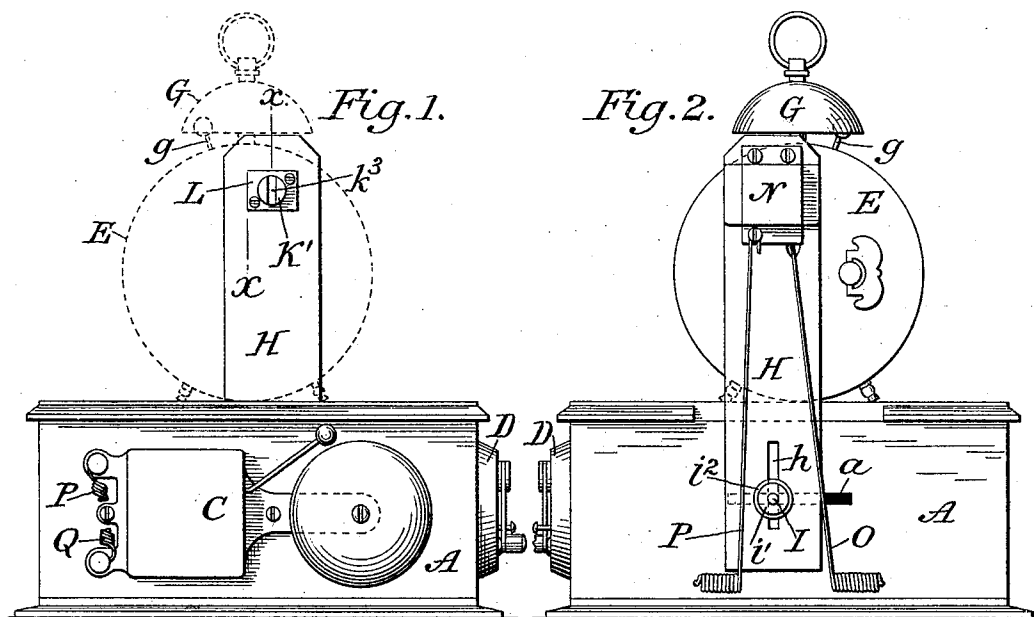


(No Model.)

W. KIST.
ELECTRIC ALARM CLOCK.

No. 546,016.

Patented Sept. 10, 1895.



Attest:
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Inventor:
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Atty.

UNITED STATES PATENT OFFICE.

WILLIAM KIST, OF HOBOKEN, NEW JERSEY.

ELECTRIC ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 546,016, dated September 10, 1895.

Application filed February 6, 1895. Serial No. 537,445. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM KIST, of the city of Hoboken, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Electric Alarms for Clocks; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The object of this invention is to provide an improved electric alarm for timepieces which is adapted to be set off by the movement of the alarm mechanism of the timepiece and to ring continuously until the current is broken manually.

The improvement relates particularly to the circuit-closing device which is operated by the alarm mechanism of the timepiece and to the means for supporting the same whereby the improved alarm is adapted for use with any of the ordinary round clocks without requiring any permanent connection between the alarm and the clock and without requiring the addition of anything whatever to the clock.

In the accompanying drawings, Figure 1 is a front elevation of the improved alarm, a clock being represented in position thereon by dotted lines. Fig. 2 is a rear elevation of the same with the clock shown in full lines. Figs. 3 and 4 are respectively a plan view and an end elevation of the same; and Fig. 5 is a detail view in vertical section on the line *xx* of Fig. 1, but on a larger scale.

A suitable box or case A contains an electric battery or cell B (see Fig. 3) and preferably supports an electric bell C, which may be of any ordinary construction, to be operated by the cell B when the circuit between them is closed. An ordinary switch D may also be supported by the box, so that the circuit through the bell may be opened to stop its ringing without disturbing the clock. The latter may be of any ordinary construction of the general form or kind represented at E and is supported upon the top of the box A. Clocks of the kind represented are provided with a key F to wind the alarm mechanism of the timepiece itself. This mechanism may be of ordinary construction and is sufficiently repre-

sented by the key F and the bell G, with its hammer *g*. As is well understood, the key F rotates backward when the alarm mechanism of the timepiece is released and begins to run down. Advantage is taken of this movement of the key to operate the circuit-closer of the electric circuit through the bell C, and in accordance with my invention this circuit-closer is so arranged that it shall not interfere with the free movement of the clock-key nor be itself interfered with by such movement after it has been operated. Furthermore, the circuit-closer is so supported that it may be set readily into any position required by the particular clock with which it may happen to be used. A standard H is secured upon the rear side of the box A by a screw I, which has within the box a head *i* and upon its outer end a thumb-nut *i'* and washer *i''*. The rear of the box is slotted horizontally, as at *a*, and the standard H is slotted vertically, as at *h*. The screw I being inserted through the slots *a* and *h*, the standard H may be adjusted readily to any required position and there held securely. Upon the upper end of the standard H is mounted the circuit-closer presently to be described. This comprises a rod K, which is mounted to turn and move longitudinally in bearings formed for it in metallic plates L L', which are secured to the standard H, the latter being suitably apertured, as at *h'*, to permit the free movement of the rod K. The head K' of the rod K may be provided with a milled rim *k* for convenience in manipulation and is cut away on its inner side to form a narrow cross-bar *k'*, which is of such width as to rest upon pins *l* *l'*, carried by the plate L, and thereby to hold the rod K in the position represented in Fig. 5 against the pressure of a spring M, which may be interposed between the plate L and a nut *k''*, which is threaded on the rod K. If the rod K is partially rotated in its bearings, the cross-bar *k'* slips from the ends of the pins *l* *l'* and permits the rod to be moved longitudinally by the spring M to bring its end into contact, as represented by dotted lines in Fig. 5, with a plate N, which may form conveniently a cover over the rear side of the circuit-closer. The outer end of the head K' is slotted, as represented at *k'''* in Figs. 1 and 3, to receive the end of the key F, before referred

to, so that when the latter commences to rotate as the alarm mechanism of the clock is released it shall partially rotate the rod K and the head K' and dislodge the cross-bar k' from the ends of pins ll, thereby permitting the rod to be moved longitudinally by the spring M, as described. The longitudinal movement of the rod K withdraws the head K' from the key F, so that the latter may continue its backward rotation without interference.

One or both of the plates L, L' is connected by an insulated wire O with the cell B, and the plate N is connected by an insulated wire P through the switch D to the bell C, from which connection is made through a wire Q, in usual manner, with the cell B. When the rod K is in its normal position, as represented in Fig. 5, the circuit just described is broken between said rod and the plate N; but when the rod is dislodged for movement by the spring M the circuit is completed and the electric bell will ring until the circuit is broken by the switch D or by setting the rod K or until the battery runs down. When the alarm is to be reset, the rod K is pulled forward and turned till the cross-bar k' rests upon the line ll. The clock is then set in place, with its alarm-key F entering the slot k³ in the head K'. It will be observed that my device requires no permanent connection with the clock and no addition of parts to the clock, and, furthermore, that it is adapted for use with clocks of different sizes and of different arrangements of alarm-key.

I claim as my invention—

1. The combination with an electric bell and battery, of a rod adapted to be engaged by the alarm key of a clock and rotatable and

movable longitudinally in its bearings, a spring to act upon said rod, pins upon which the head of said rod may rest and from which it may be dislodged by a partial rotation, a contact plate with which said rod is brought in contact by said spring, and electrical connections from said rod and plate to said bell and battery, substantially as shown and described.

2. The combination with a box adapted to receive a battery and to support a clock and an electric bell, a standard secured to said box, a circuit closer supported to said box, a circuit closer supported by said standard and having an operating rod with a slotted head to engage the alarm mechanism of a clock, and connections from said circuit closer to said bell and battery, substantially as shown and described.

3. The combination with a box adapted to receive a battery and to support a clock and an electric bell, of a standard having a vertical slot, said box having in its rear side a horizontal slot, a headed screw provided with a nut passed through said slots and securing the standard adjustably to the box, a circuit closer carried by said standard and adapted for engagement with and operation by the alarm key of a clock, and electrical connections from said circuit closer to said bell and battery, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM KIST.

Witnesses:

A. WIDDER,
A. N. JESBERA.