H. D. HANSON.

ELECTRIC ALARM.

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967,766.

Patented Aug. 16, 1910.

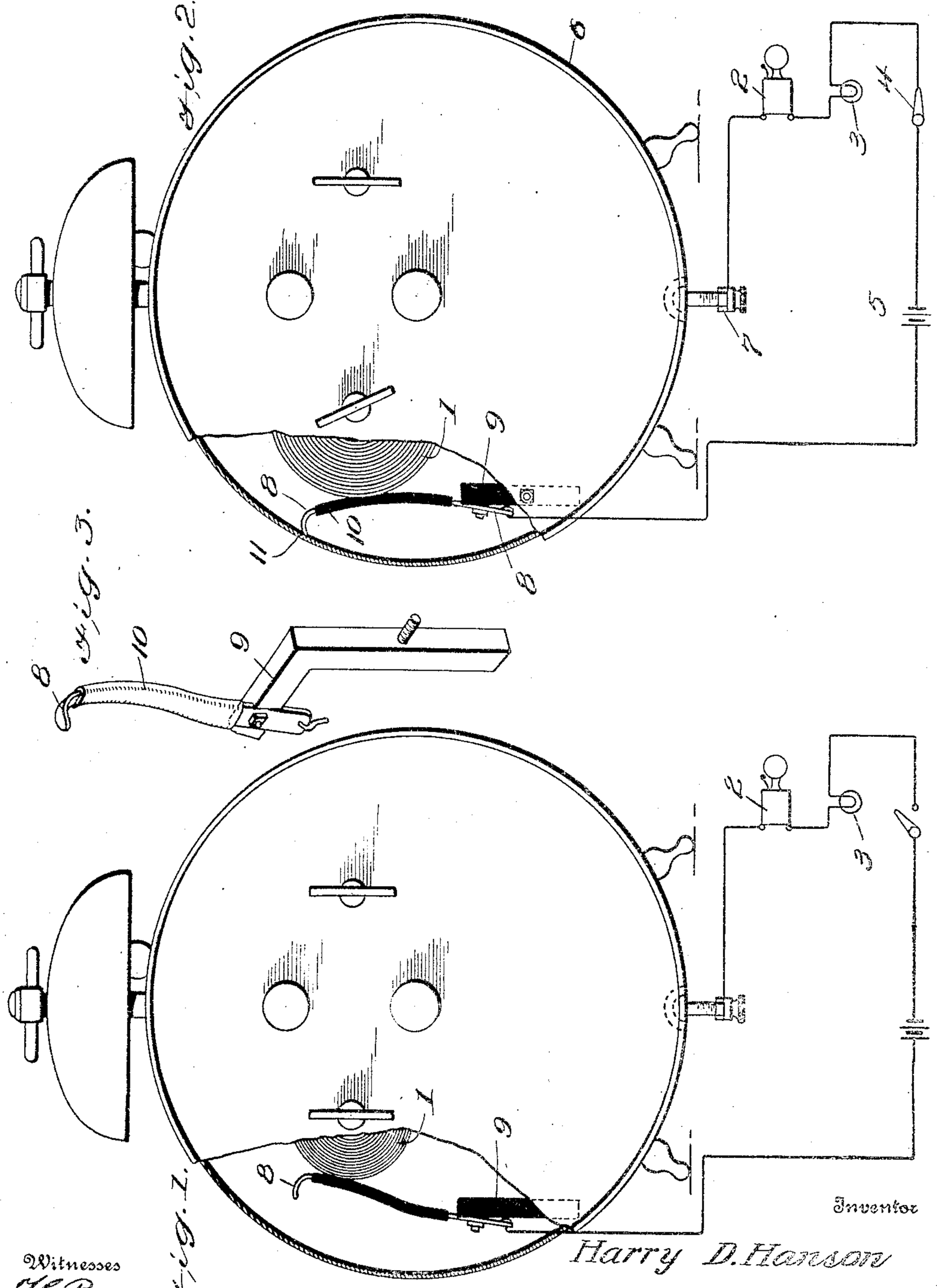

Fig. 3.

Fig. 1.

Witnesses

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ELECTRIC ALARM.

967,766. Specification of Letters Patent. Patented Aug. 16, 1910.

Application filed April 24, 1909. Serial No. 491,990.

To all whom it may concern:

Be it known that I, HARRY D. HANSON, a citizen of the United States, residing at East Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Electric Alarms, of which the following in a specification.

The purpose of the present invention is to combine with a clock or other form of time movement an electric circuit including a switch, a lamp and a bell, and circuit closing means of novel construction and arrangement whereby at a predetermined time the aforesaid electric circuit is closed and the bell sounded and the lamp lighted.

The invention is particularly adapted for time movements provided with the usual spring alarm mechanism which is adapted to be set off at a given time, the expansive action of the alarm spring being utilized as means for automatically completing the circuit through the circuit closing means.

The primary object of the invention is to supplement the action of the usual spring actuated alarm mechanism and to illuminate the dial of the clock so that the relative position of the hands may be ascertained at a glance, the electric alarm continuing until the circuit is interrupted by throwing the switch.

With the above and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter more fully described in detail and pointed out in the appended claim.

Referring to the drawings forming a part of the specifications: Figure 1 is a rear view of an alarm clock provided with an electric circuit and circuit closing means embodying the invention. Fig. 2 is a view of the parts shown in Fig. 1, the movable element of the circuit closer occupying the position which it will assume when the electric circuit is closed. Fig. 3 is a perspective view of the movable member of the circuit closer and the supporting means therefor.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The time movement illustrated may be of any type provided with a spring actuated alarm which is adapted to be set to sound the alarm at any given time. The spring for operating the alarm is indicated at 1. The electric circuit coöperating with the time movement includes a bell 2, a lamp 3, and switch 4. The battery for supplying the electro-motive force is indicated at 5. One end of the wire forming the circuit connects with the case 6 of the clock or time movement at 7. The other end of the wire is in electrical connection with a circuit closing member 8 which is supported by the case or movement but electrically insulated therefrom. The member 8 consists of a spring arm which is attached to a support 9 of dielectric material. The manner of supporting the member 8 is immaterial within the purview of the invention so long as the same is electrically insulated from the movement and is positioned to be actuated by the alarm spring 1 so as to close the circuit when the usual alarm mechanism of clock or time movement is sounded. Since the clock case which is usually of metal is included in the circuit, the movement and the spring 1 are also included in the circuit, hence, it becomes necessary to electrically insulate the circuit closing member 8 from the spring 1 in order to prevent short circuiting of the operating circuit. Insulating material 10 is applied to the circuit closing member 8 and is in the nature of a sleeve slipped thereon so as to prevent possible displacement. When the spring 1 is wound as indicated in Fig. 1 the circuit closing member 8 automatically clears the clock case, hence, the operating or working circuit is broken. However, when the alarm sounds and the spring 1 is practically run down, the circuit closing member 8 is moved outward at its free end by the expansive action of the spring 1 and brought into electrical connection with the clock case at 11 thereby closing the operating circuit and sounding the bell 2 and causing the lamp 3 to light. It is assumed that the switch 4 is closed as indicated in Fig. 2. The lamp 3 is so positioned as to shed its light upon the face or dial of the clock so as to illuminate the same and enable the occupant of the room in which the appliance is located to observe the time even though the room may be darkened. The bell 2 will continue to sound and the lamp 3 to burn so long as the circuit is closed and provided the battery or

electro-motive force is not exhausted. When the switch 4 is opened as indicated in Fig. 1 the operating circuit is broken, hence, the lamp is extinguished and the bell quieted.

The invention may be adapted to any type or style of clock movement and the circuit may be closed at 11 in any manner so long as the expansive action of the alarm spring 1 is utilized as the actuating means for moving the member 8 to close the operating circuit.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as are within the scope of the claim appended hereto.

Having thus described the invention, what is claimed is—

In combination, a clock embodying a metal case and an alarm mechanism actuated by means of a coil spring, an electric circuit including a switch, a lamp and a bell, and having the clock case and said coil spring included therein as a part, a spring arm also included in the electric circuit and forming a terminal thereof and in contact with said coil spring and adapted to be actuated thereby, a dielectric support for the spring arm secured to the clock case, and a sleeve of insulating material slipped upon said spring arm.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY D. HANSON.

Witnesses:

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