No. 893,506. PATENTED JULY 14, 1908.

F. ISCHER.

ILLUMINATED ALARM CLOCK.

APPLICATION FILED AUG. 29, 1907.

2 SHEETS—SHEET 1.

Fig. 2.

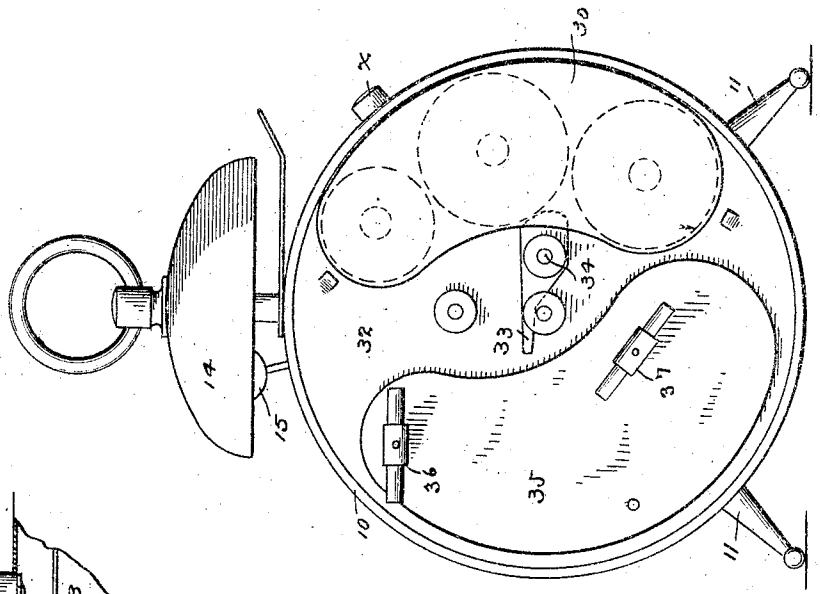


Fig. 3

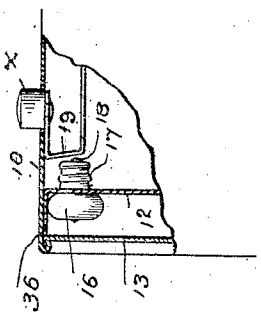
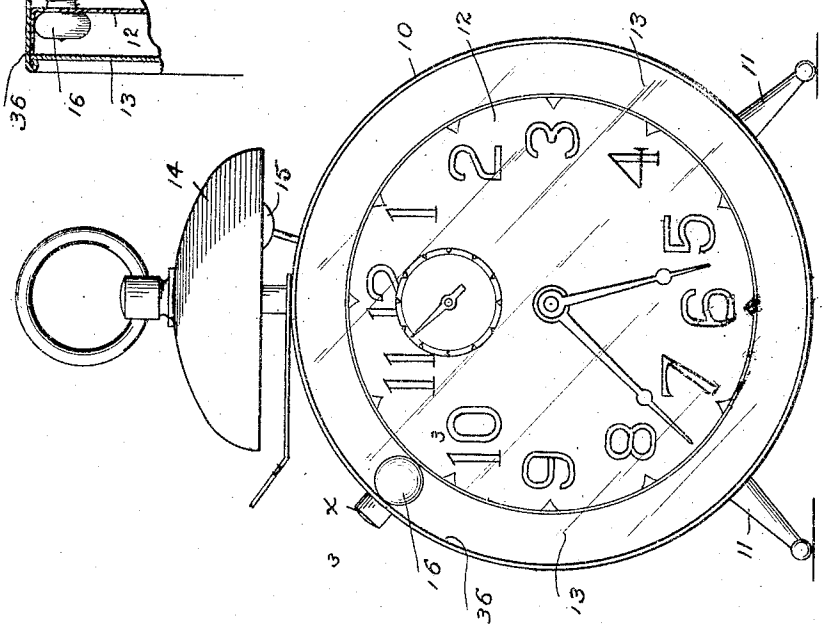


Fig. 1.



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L. W. Atherton.

Inventor
By Attorney Fritz Ischer
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2 SHEETS—SHEET 2.

Fig. 4.

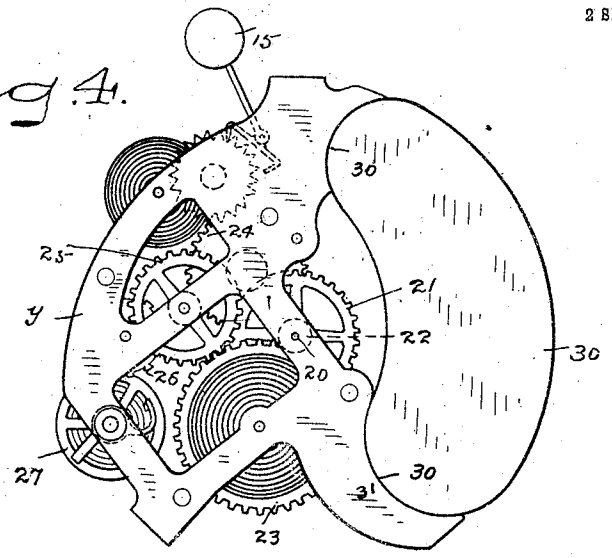


Fig. 5.

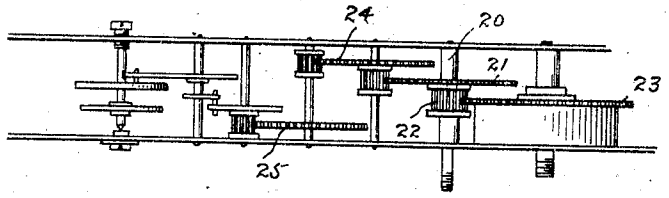
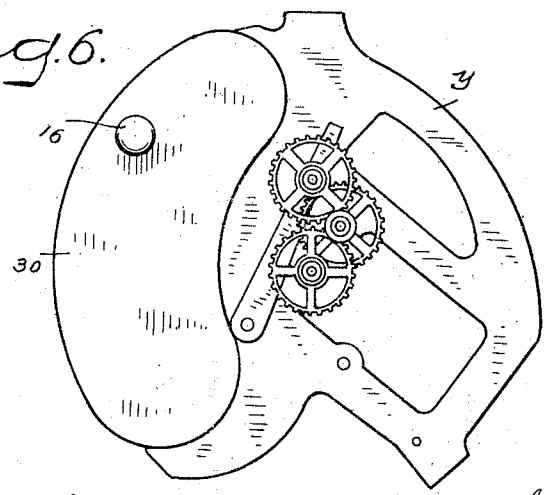


Fig. 6.



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UNITED STATES PATENT OFFICE.

FRITZ ISCHER, OF TORRINGTON, CONNECTICUT.

ILLUMINATED ALARM-CLOCK.

No. 893,506. Specification of Letters Patent. Patented July 14, 1908.

Application filed August 29, 1907. Serial No. 390,638.

To all whom it may concern:

Be it known that I, FRITZ ISCHER, a citizen of the United States, residing at Torrington, county of Litchfield, State of Connecticut, have invented a new and useful Illuminated Alarm-Clock, of which the following is a specification.

This invention relates to time pieces, and refers particularly to alarm-clocks, especially of the type having cylindrical cases, although my invention is not altogether limited to such type.

The frequent occasion to ascertain the time at night, and when no permanent light is burning, has led to the provision of lighting attachments of various types; but they are usually clumsy and likely to get out of order and are also expensive. In view of these facts, I have endeavored to provide a simple, economical and compact arrangement and combination of parts whereby the simple pressure of a knob or button will result in the illumination of the clock dial, the lamp and battery and all connections being inclosed in the case with the movement, without change in the form or construction of said case.

To these ends, my invention consists in the construction and combination of parts substantially as hereinafter described and claimed.

Of the accompanying drawings:—Figure 1 is a front elevation of a clock embodying my improvements; Fig. 2 is a rear elevation of the same; Fig. 3 is a detail sectional view on line 3—3 of Fig. 1; Fig. 4 is a rear elevation of the internal mechanism or movement of the clock, and the battery, removed from the casing; Fig. 5 is a diagrammatic elevation of the clock movement, said figure being merely given to show the train; Fig. 6 is a front elevation of the parts shown in Fig. 4.

Similar reference characters indicate the same or similar parts in all of the views.

Referring first to Figs. 1, 2 and 3, the casing 10 having legs 11, dial 12 and glass plate or dial cover 13 and the alarm bell 14 and alarm hammer 15, are all of a well-known form or type.

In the space between the dial and glass, near the margin thereof, is a small electric lamp 16, the socket shell 17 thereof being mounted in the dial and extending to the rear thereof. The terminal 18 of the lamp is in position to receive contact of the switch 19 having a knob or button x which protrudes through the casing. In the drawings, I have not attempted to illustrate the specific electrical connection, nor insulation, as the same may be made in any suitable or preferred way. For the purpose of this description, it is sufficient to state that one terminal of the dry battery hereinafter referred to is in electrical connection with the shell 17 and the other with the switch 19 so that when the button x is pressed in, the circuit through the lamp will be complete, the switch 19 being of a spring nature so that when pressure on the button is released the circuit will be broken.

In order to accommodate the battery within a case of ordinary size and shape, and at the same time provide a battery of a size to attain the greatest durability of current, I arrange the clock movement so that there will be considerable space for the battery at one side between said movement and one side wall of the case. To this end, the plates or frame y are formed to occupy only about two-thirds of the space diametrically of the case, the edges of said plates which bound the battery space being preferably concave to fit the sides of the battery case, as hereinafter explained. This shape of the frame for the purpose stated, renders it desirable that there shall be a somewhat novel arrangement of the works, although all the usual parts are employed. A specific description of the works will be unnecessary further than to say that 20 represents the center post, 21 the first wheel, 22 center pinion, 23 spring wheel, 24 second wheel, 25 third wheel, 26 escape wheel, and 27 the balance wheel. These and all their coacting parts, as clearly indicated in Fig. 4, are supported in a space occupying but little more than one-half a circle, leaving the rest of that space entirely free for the reception of the battery case 30. Said case is somewhat crescent-shaped and with rounded ends which fit the concave portions 31 of the movement frame or plates y. One end of the case 30 is preferably narrower than the other end, and of the three dry cells (see dotted lines in Fig. 2) contained in said case, the upper one is the smallest. I find that this arrangement provides for the greatest compactness of movement together with greatest capacity for dry cell current. The connections between the cells of the battery, and the electrical connections with the lamp and switch, may

be made in any preferred manner and it is not necessary to illustrate them. Said battery and lamp and switch and connections are all, of course, properly insulated from the clock movement.

As shown in Fig. 2, the back plate 32 of the case is formed with an opening of a shape corresponding to that of the battery case. The battery case is placed in the clock through said opening and is retained in position by a latch 33 pivoted at 34 on the back plate 32, one end of said latch entering a notch formed in the side of the battery case as indicated by dotted lines. By swinging the latch on its pivot, the battery will be released so that it may be removed.

When the battery has become exhausted and it is desired to remove it, if no new battery is to be at once inserted in its place, it is desirable that the opening for it in the back plate of the clock case shall be closed to prevent access of dust and moisture to the movement. For this purpose I provide a cover plate 35 of the proper shape. This cover plate is furnished with the clock, attached to the back thereof, as shown in Fig. 2, by the winding stems 36 and 37 of the clock and alarm trains. These stems, as usual in clocks of the alarm type, are removable by a left-hand turning movement. By so turning and removing them, the cover plate may be taken off and placed over the battery opening and fastened there by the latch 33, and the said stems then returned to their operative locations.

It will be observed in Fig. 3, that a ring or rim 36 extends around the space between the dial 12 and glass 13. This rim serves to reflect the light from the lamp over the dial.

Having now described my invention, I claim:—

1. A clock having a cylindrical case, and a lamp for illuminating the dial, and a battery located within said case at one side of the works, the frame of the works being concaved and the battery being relatively formed to abut said concave frame.

2. In a clock, the combination with the case having a back plate, of the movement and frame therefor, said plate and frame being cut away at one side to leave a space within one side of the case, a lamp for illuminating the dial, a battery removably fitted in said space, and a latch pivotally mounted on said back plate and engaging said battery.

3. A clock having a cylindrical case and having the movement frame arranged at one side thereof, the edge of said movement frame being concaved whereby a substantially crescent-shaped space is left within said case, in combination with a battery of substantially crescent-shape adapted to be removably fitted within said space.

4. In a clock, the combination of a case the movement frame of which is located at one side thereof and the edges of said frame formed to leave a tapering crescent-shape space therebetween and the side of the case, of a battery of a tapering crescent-shape adapted to be removably fitted within said space, and means for retaining said battery in said space.

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

FRITZ ISCHER.

Witnesses:
JAMES E. MALLETTE,
HENRY P. GAGNEBIR.