

No. 631,631.

Patented Aug. 22, 1899.

J. GOLDBERG, N. KOMOW & L. GUTTERMAN.

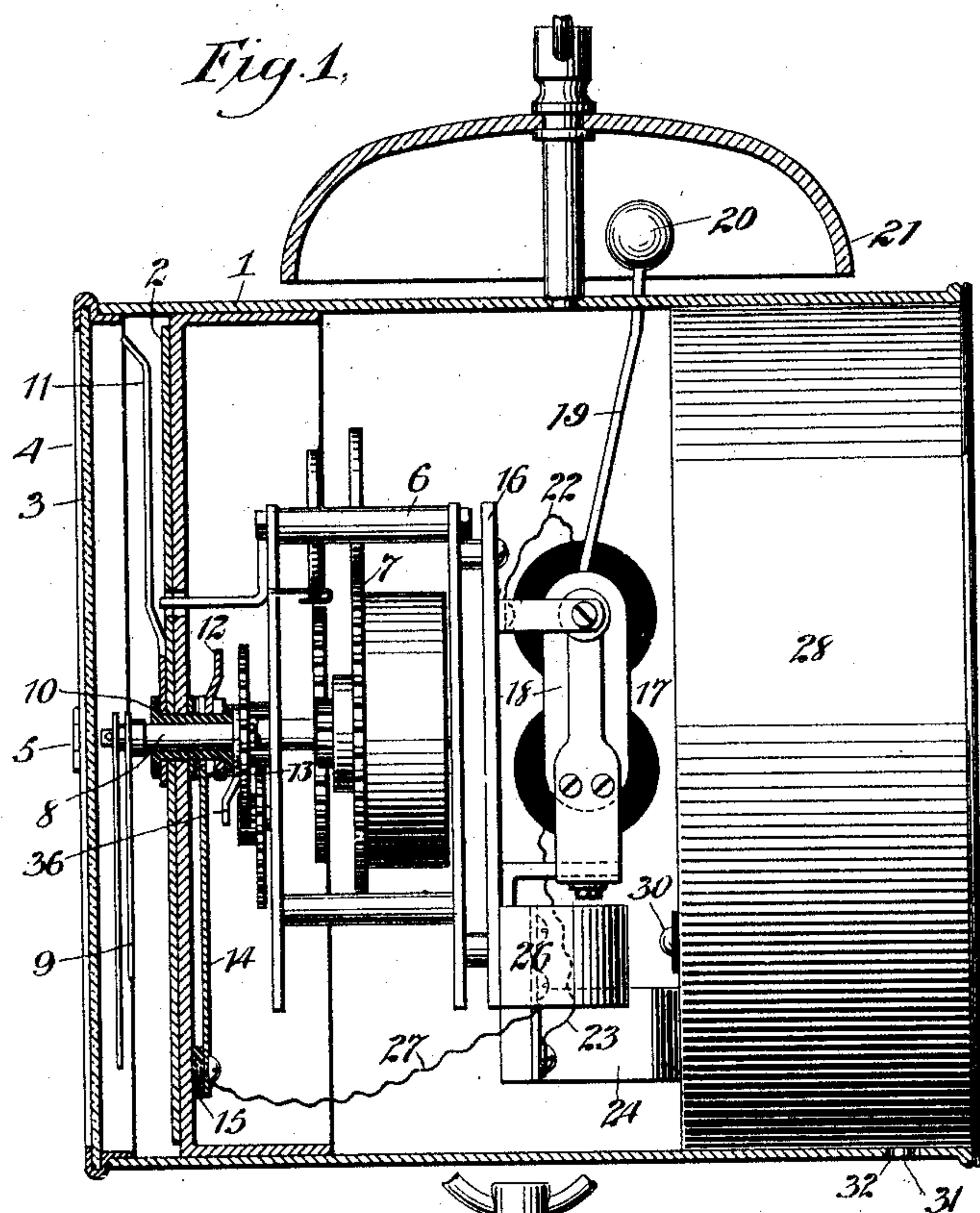
ELECTRIC ALARM CLOCK.

(Application filed Sept. 20, 1898.)

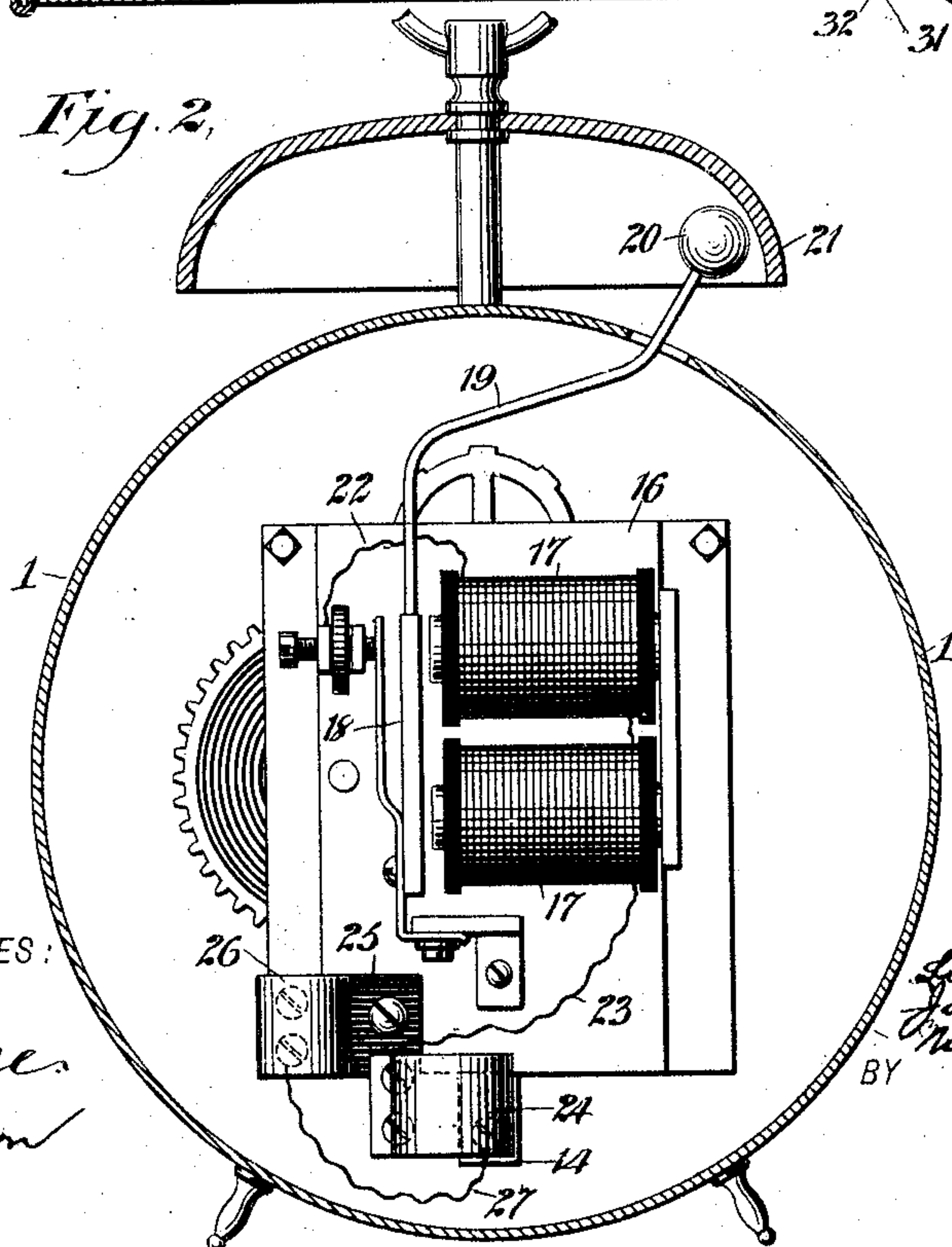
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*Fig. 1.*



*Fig. 2.*



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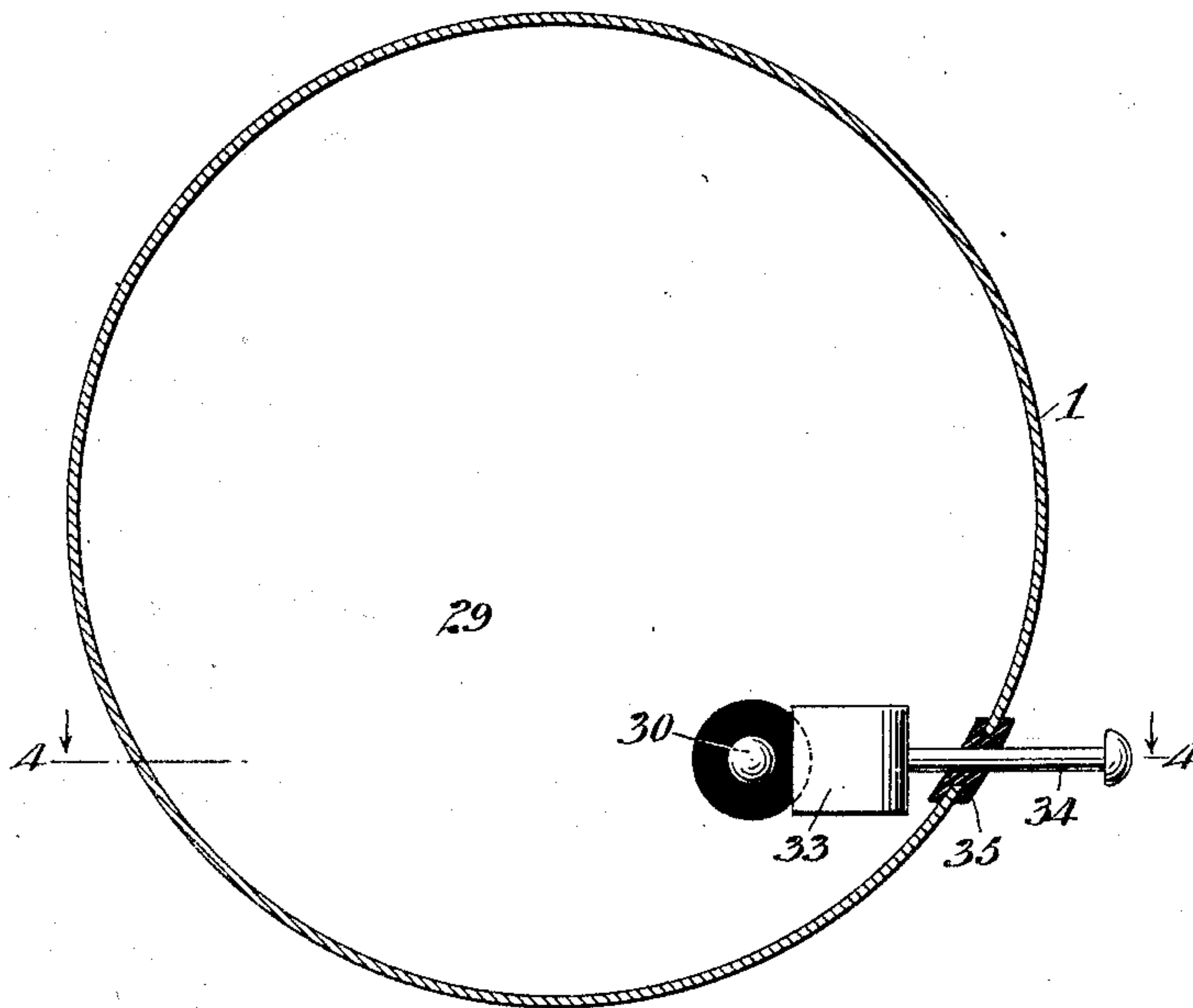
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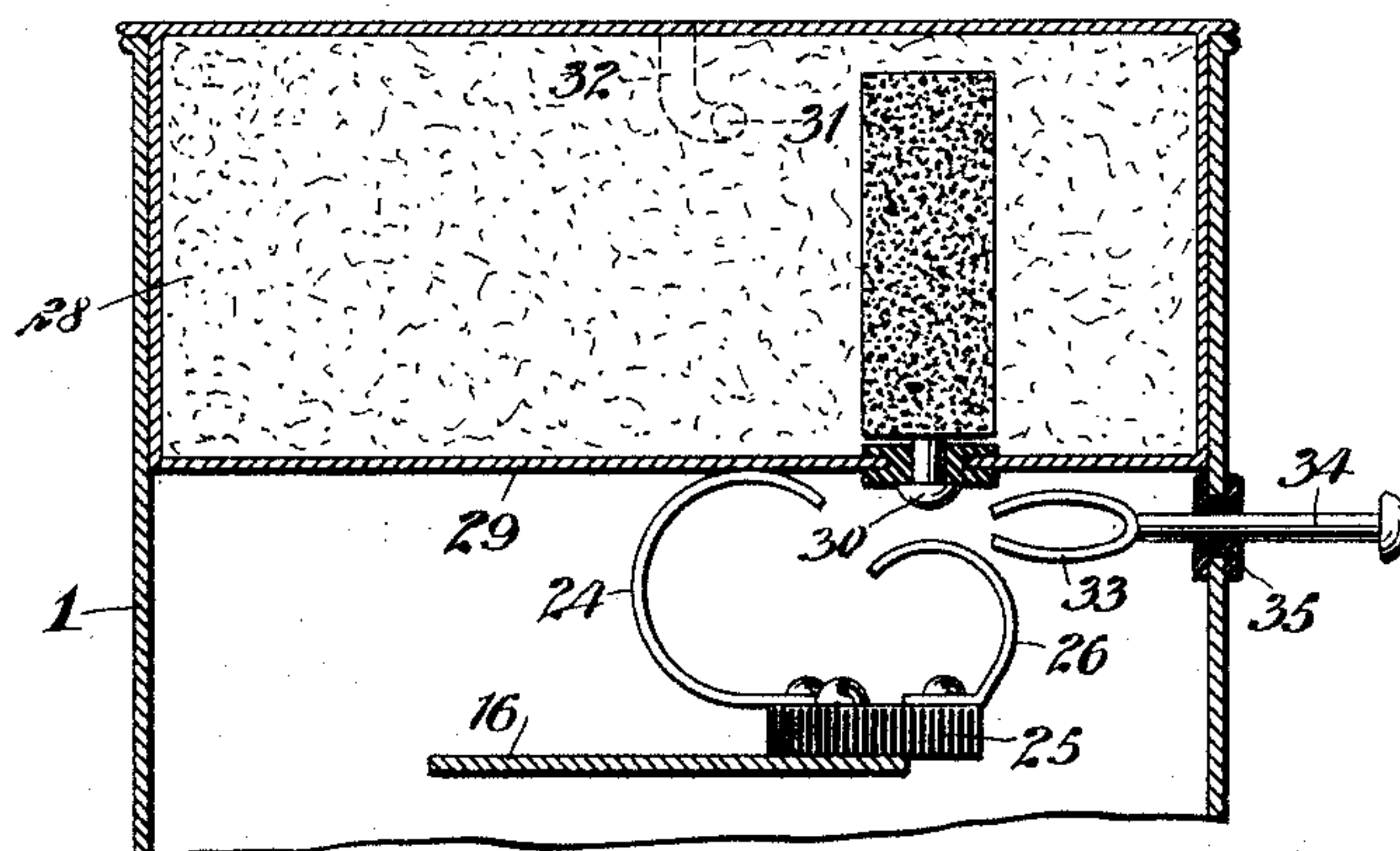
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*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

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## ELECTRIC ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 631,631, dated August 22, 1899.

Application filed September 20, 1898. Serial No. 691,425. (No model.)

*To all whom it may concern:*

Be it known that we, JACOB GOLDENBERG, of New York, borough of Manhattan, county of New York, NICHOLAS KOMOW, of New York, borough of Brooklyn, county of Kings, and LION GUTTERMAN, of New York, borough of Manhattan, county of New York, State of New York, have invented new and useful Improvements in Alarm-Clocks, of which the following is a full, clear, and exact description.

This invention relates to improvements in electric alarm-clocks; and the object is to provide an alarm-clock of this character in which the inciting-battery is arranged wholly within the casing containing the time mechanism and forms a back for said casing, thus comprising the whole device in a comparatively small compass, and, further, to provide an alarm-clock of simple construction and comparatively cheap to manufacture.

We will describe an alarm-clock embodying our invention, and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a partial section and partial elevation of an alarm-clock embodying our invention. Fig. 2 is a rear elevation of the electric mechanism, the case and the bell being shown in section and the battery being removed. Fig. 3 is a vertical sectional view of the casing, showing a circuit-closer and the front of the battery; and Fig. 4 is a section on the line 4 4 of Fig. 3.

Referring to the drawings, 1 designates a clock-casing, 2 the dial, and 3 the front secured in the frame 4, having a hinge connection 5 with the casing. Arranged within the casing is a metal frame 6, containing the time mechanism 7, which is of the usual construction, and therefore need not be described in detail.

Mounted to rotate on the arbor 8 for the hour-hand 9 and extended through the dial 2 is a sleeve 10, of insulating material. Secured to the outer end of the sleeve 10 and designed to move around the dial is an alarm-setting hand 11, and mounted on the inner end of said sleeve 10 is a contact-point 12,

which must be in line with the hand 11. This contact-point 12 is held yieldingly against a washer 13, which abuts against a shoulder on the end of the sleeve 10 by means of a spring-plate 14, which has a bifurcated upper end to engage around the sleeve 10 and press against the contact-point 12. The lower end of this plate 14 is secured to a block 15, of insulating material, and it forms part of the electric circuit, as will be hereinafter described.

Secured to the back of the frame 6 is a plate 16, upon which is mounted an electromagnet 17, and also mounted on this plate is the armature 18, coacting with the electromagnet and having an arm 19 extended outward through an opening in the casing 1 and provided with a striker 20 for striking a gong 21, secured on the casing. One end of the electromagnet 17 is connected to the plate 16, which is in electrical connection with the frame 6 by means of a wire 22. The other end of the electromagnet 17 has a connection 23 with a curved yielding contact-plate 24, mounted on a block 25, of insulating material, secured to the plate 16. Also secured to this block 25 is another spring yielding contact-plate 26, having a connection 27 with the spring-plate 14.

Removably arranged in the rear portion of the casing and forming a closure therefor is a battery 28, the front metal wall 29 of which forms one of its poles, while the other pole is indicated at 30. This battery is removably held in position by means of a pin 31, extending from the battery into a bayonet-slot 32, formed in the casing 1. When the battery is in position, the contact-plate 24 is in yielding engagement with the pole 29 of the battery, and to open and close the circuit between the pole 30 and the contact 26 we have here shown a two-pronged yielding contact-plate 33, mounted on a stem 34, which projects outward through a bushing 35, of insulating material, arranged in the clock-casing.

In operation the contact 33 is to be moved into engagement with the contact 26 and pole 30. Then the alarm-setting hand 11 is to be rotated to point to the hour at which it is desired that the alarm shall sound. Of course this arm may be readily rotated after swing-



ing open the clock-front. When the hour-hand points to the desired hour, a contact-finger 36, arranged on the inner end of its arbor and parallel with said hour-hand, will engage with the contact-point 12, thus completing the circuit and energizing the electromagnet to sound the alarm. The current will be as follows: from the pole 30 of the battery through the contacts 33 and 26, the wire 27, the spring-plate 14, the contact-point 12, the contact-finger 36, thence through the frame 6, the plate 16, the wire 22, the electromagnet, the wire 23, and the contact 24 to the opposite pole of the battery. When not in use, the circuit is to be broken by drawing out the contact 33.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. An electric clock, comprising a casing having an open rear end, a time mechanism in the casing and having a contact carried by its hour-hand, an alarm-setting hand carrying a contact, an electromagnet on the rear face of the time-mechanism frame, a gong on the casing, a striker carried by the armature of the electromagnet, contacts carried by the time-mechanism frame, one of which is connected with the electromagnet and with the contact of the setting-hand, a battery fitting in the rear open end of the casing and forming a closure for the same, the front wall of

the battery forming one of its poles, and with which one of the contacts carried by the time-mechanism frame engages when the battery is in position, and a two-pronged contact mounted to slide in the casing and adapted to be moved into engagement with the other pole of the battery and the other contact carried by the time-mechanism frame, substantially as described.

2. In an electric alarm-clock, the combination with a casing having an open rear end; and a time mechanism in the casing, of an electromagnet carried by the rear face of the time-mechanism frame, an alarm-sounder operated by the electromagnet, contact-springs carried by the time-mechanism frame, a battery forming a closure for the rear end of the casing and removably secured therein, the front wall of the battery forming one of its poles and with which one of the contact-springs engages, and a two-pronged yielding contact, mounted to slide in the casing and adapted to be slid into engagement with the other pole of the battery and the other contact-spring, substantially as described.

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