

(No Model.)

M. McDONNELL.
ELECTRIC ALARM CLOCK.

No. 528,678.

Patented Nov. 6, 1894.

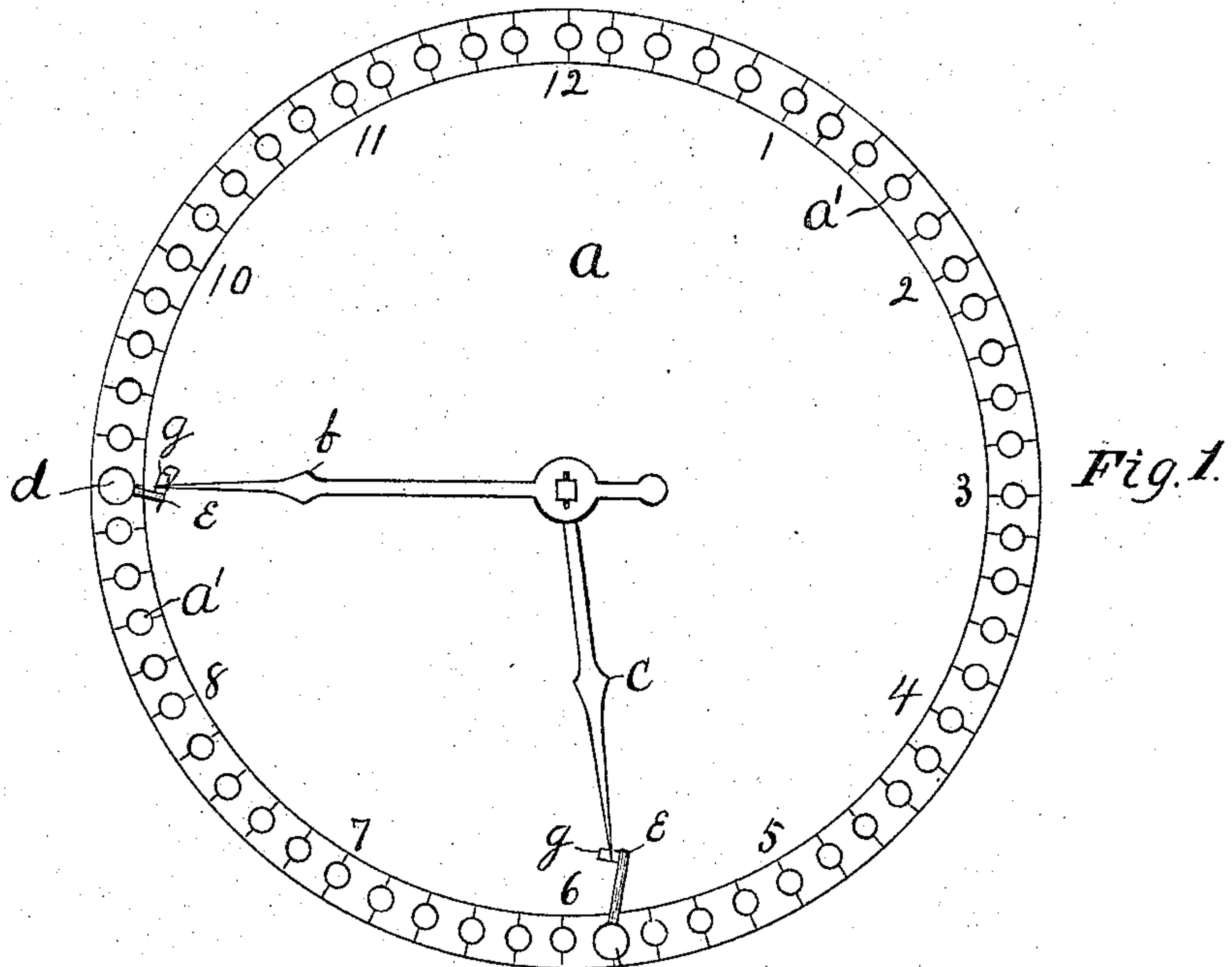


Fig. 1.

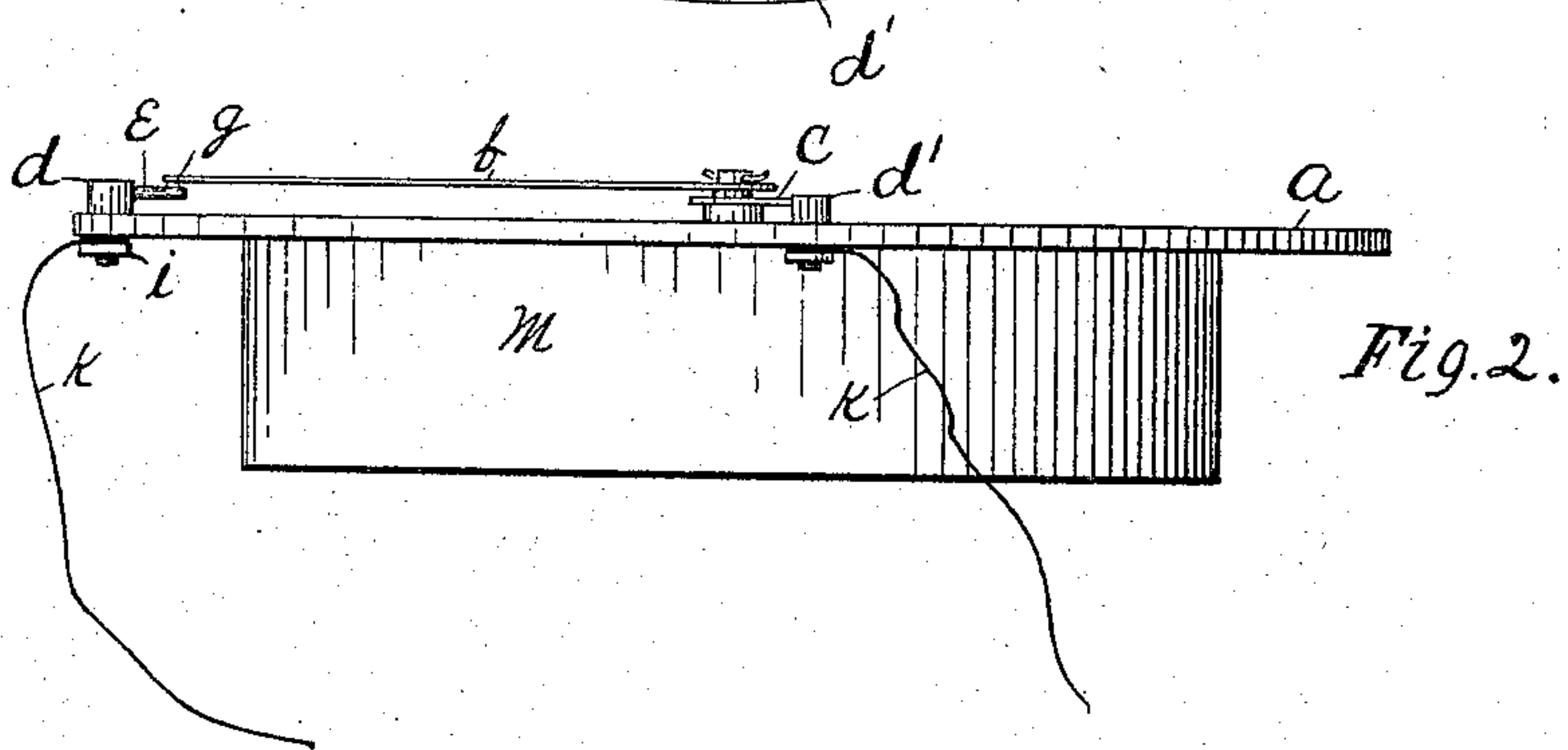
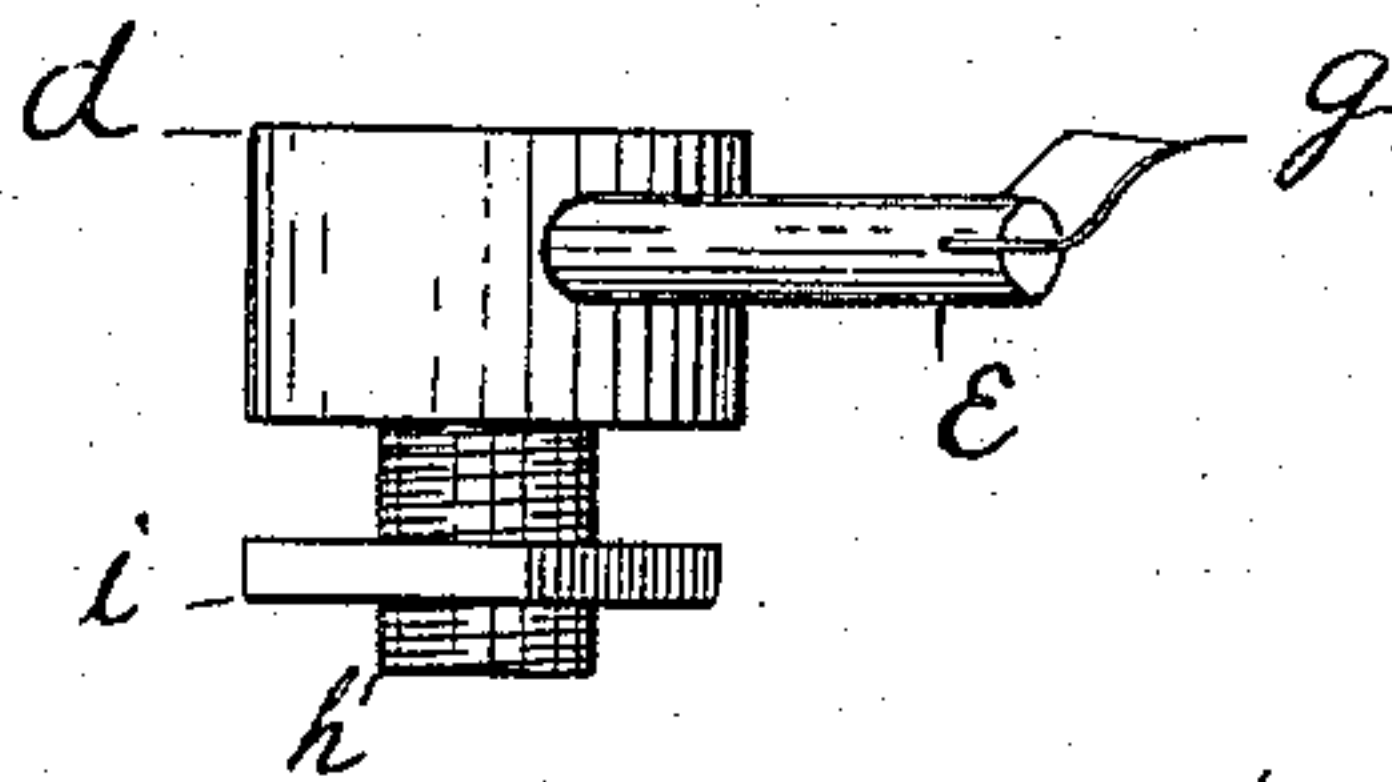


Fig. 2.

Fig. 3.



Witnesses
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ELECTRIC ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 528,678, dated November 6, 1894.

Application filed May 29, 1894. Serial No. 512,856. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL McDONNELL, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Electric Alarm-Clocks, of which the following is a specification.

The accompanying drawings illustrate my invention, in which—

Figure 1, is a front view of a clock dial provided with my improvements. Fig. 2, is a side view of the same; and Fig. 3, is an enlarged view of one of the adjustable contact devices, by means of which, the hands of the clock, at certain times, close the electrical circuit, and cause the alarm to sound.

Similar letters refer to similar parts in the several views.

The letter *a*, represents a clock dial composed of material which is a non-conductor of electricity and provided with holes *a'*, around its edge. These holes are located on the minute marks of the dial, and are equal in number with said marks.

d, and *d'*, are metallic posts adapted to be adjusted in any one of the holes *a'*, and are each provided with an arm *e*, carrying on its outer extremity, a flat metallic spring *g*, which spring is made very thin, so as to yield to the slightest pressure. The arm on the post *d*, is made short, so as to hold its spring *e*, in the path of the end of the minute hand *b*, of the clock, while the arm on the post *d'*, is made longer and adjusted nearer to the dial of the clock, in order that its spring *e*, may

be held in the path of the end of the hour hand *c*.

To the metallic posts *d*, *d'*, are secured wires *k*, which connect with a battery and electrical bell ringing device of ordinary construction. (Not shown.)

Now, when the hands *b*, and *c*, of the clock reach the position as shown in Fig. 1, or 5.45 the hour hand *c*, is in contact with the spring *g*, of the post *d'*; and the minute hand *b*, is in contact with the spring *g*, of the post *d*, which completes the electrical circuit, by connecting the posts *d*, and *d'*, through the hands of the clock, and thus sounds the alarm. As soon as the minute hand *b*, has passed beyond the spring *g*, of the post *d*, the circuit is broken, and the alarm ceases to sound.

The contact devices *d*, *d'*, may be adjusted to such position on the dial, that the circuit shall be completed by the hands of the clock, at any desired time, and an alarm sounded.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In an electric alarm clock, adjustable contact devices, consisting of the metallic posts *d*, *d'*, having an arm *e*, bearing in its outer extremity a flat spring *g*, adapted to yield to the slight pressure of the hand of the clock in whose path it is adjusted, substantially as shown and described.

MICHAEL McDONNELL.

Witnesses:

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