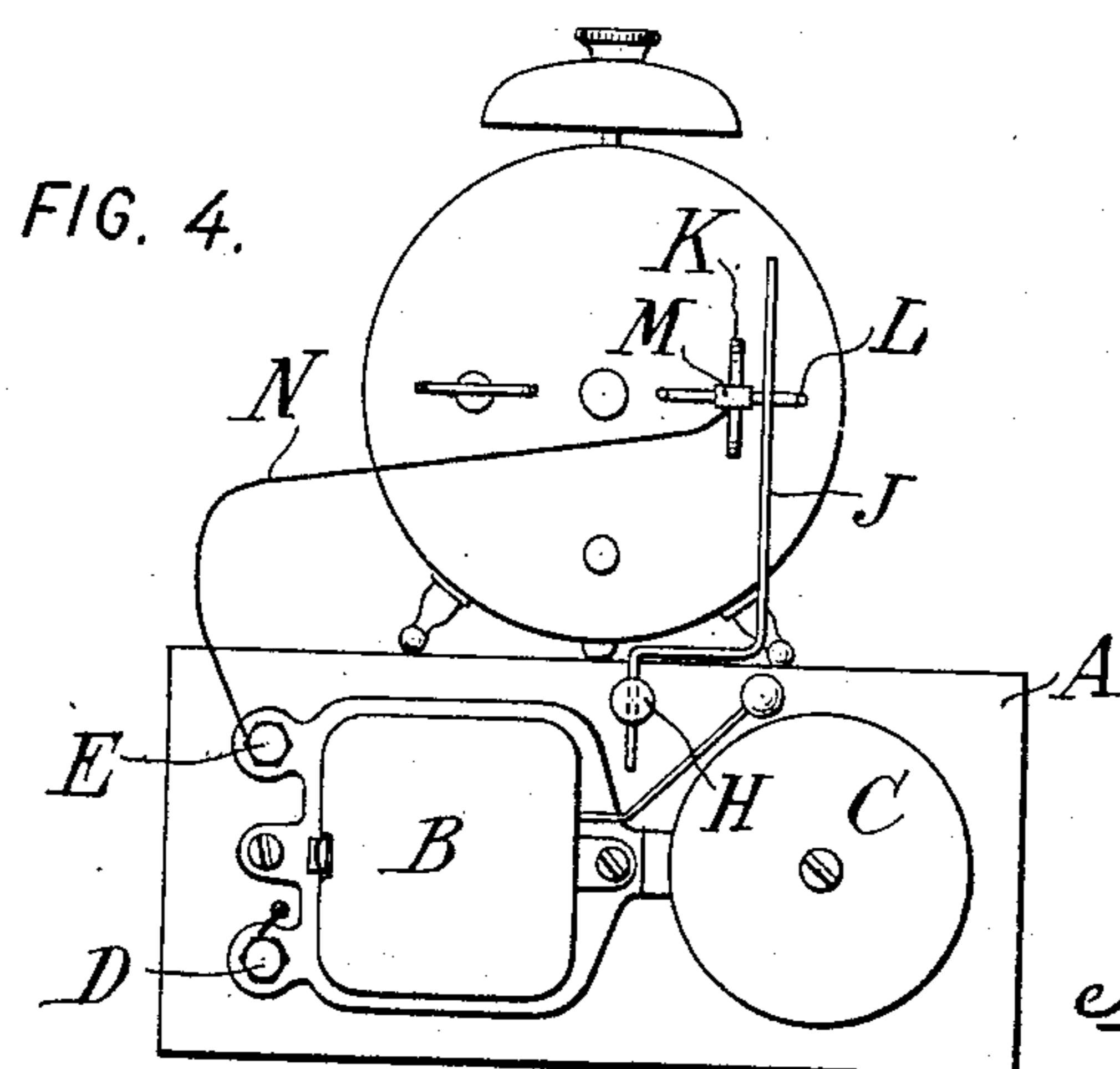
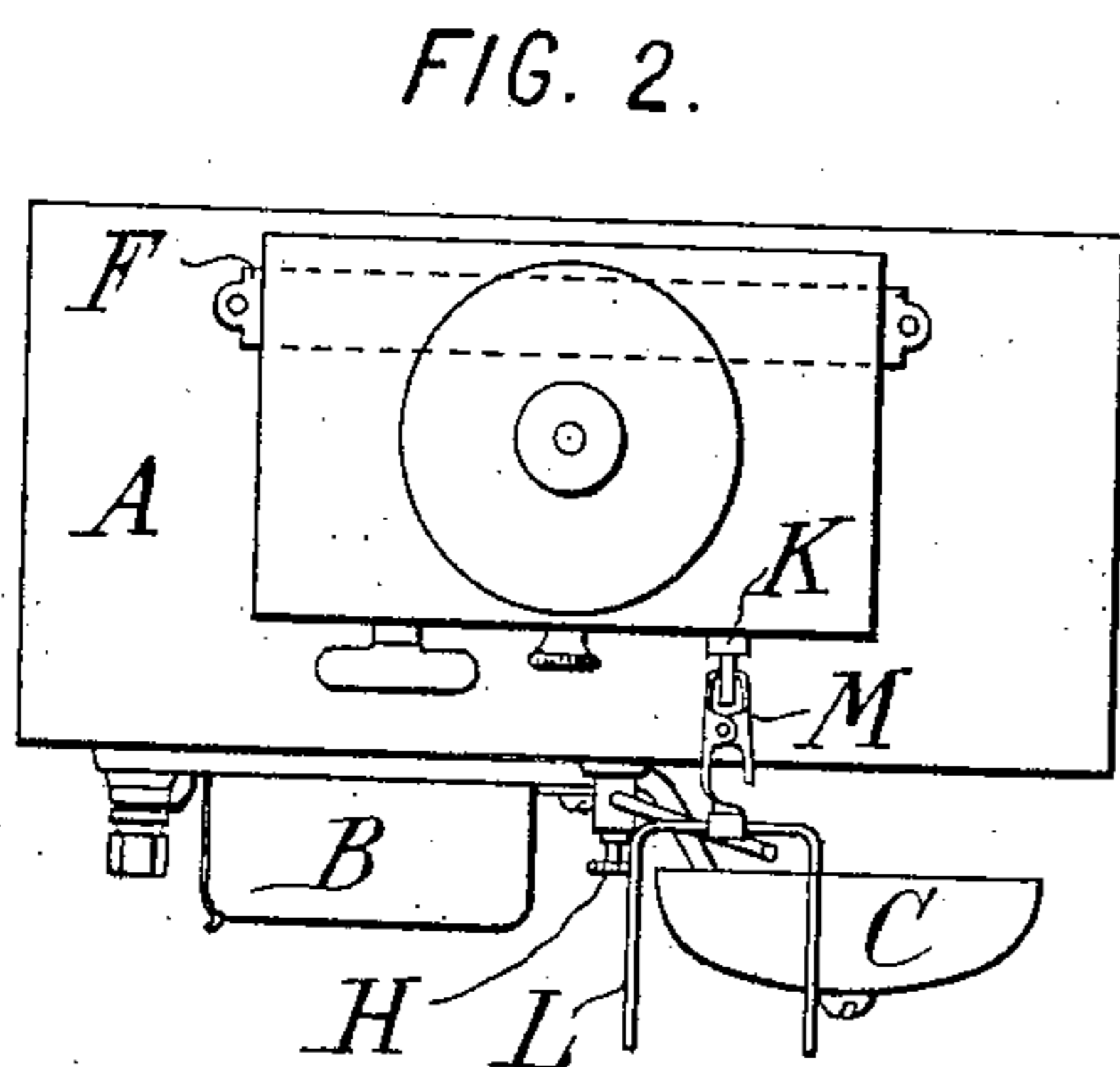
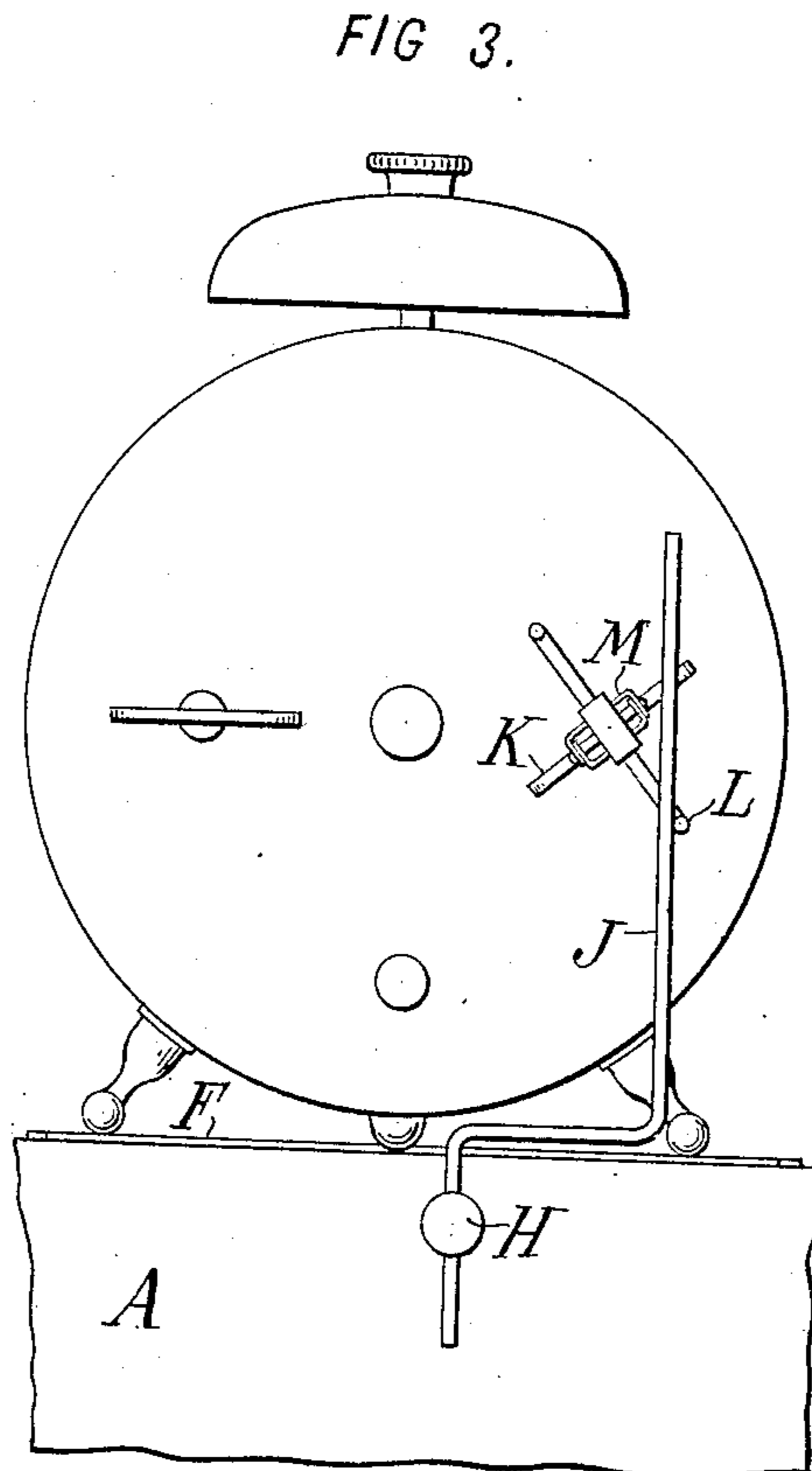
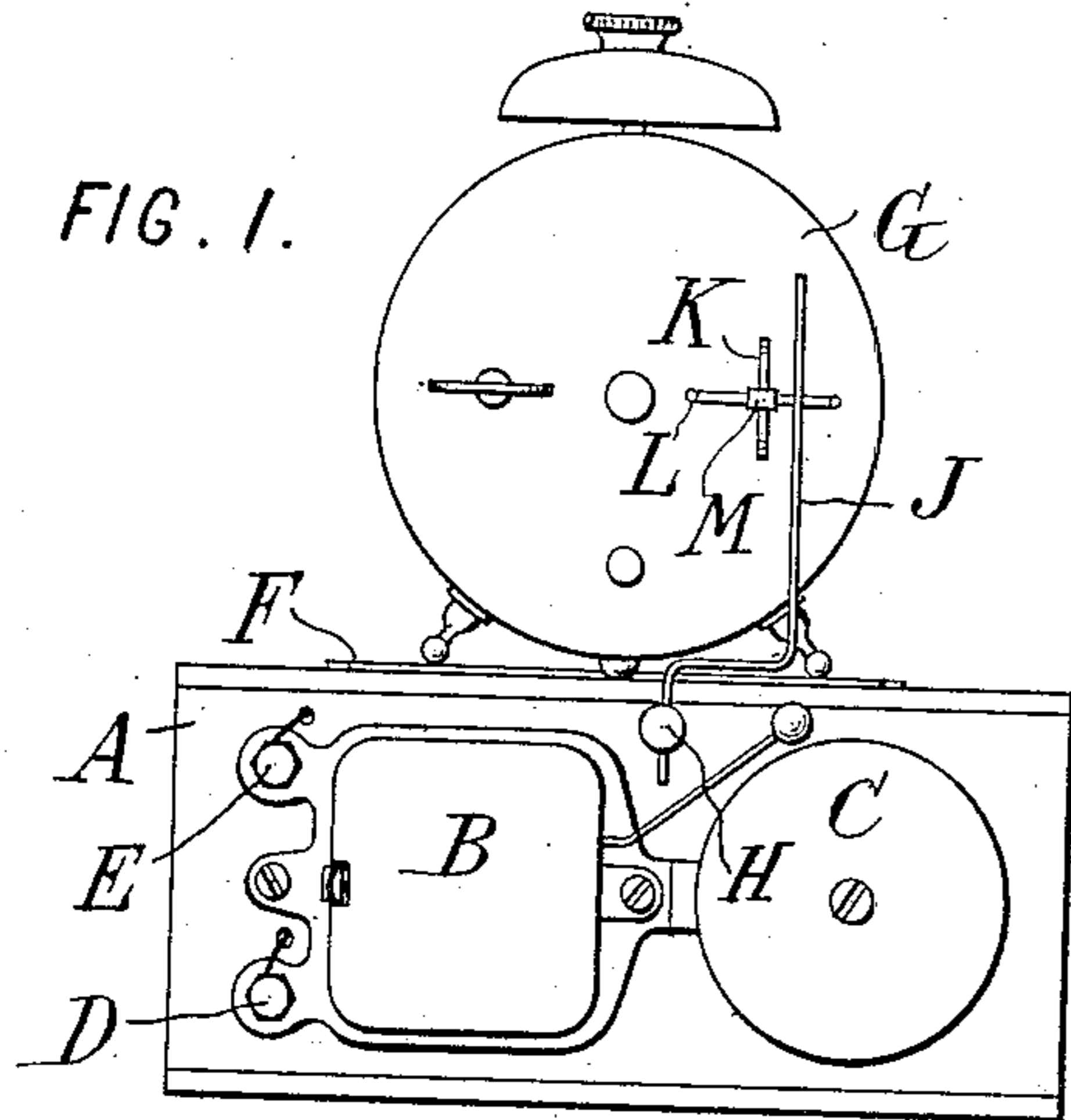


A. LEWIS.
ELECTRIC ATTACHMENT FOR ALARM CLOCKS.
APPLICATION FILED SEPT. 30, 1903. RENEWED NOV. 29, 1907.

919,368. Patented Apr. 27, 1909.



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ELECTRIC ATTACHMENT FOR ALARM-CLOCKS.

No. 919,368.

Specification of Letters Patent.

Patented April 27, 1909.

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To all whom it may concern:

Be it known that I, ABRAHAM LEWIS, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Electric Attachments for Alarm-Clocks, of which the following is a specification.

This invention aims to provide an improved device adapted to be easily attached or placed in juxtaposition to an ordinary alarm clock, which device preferably includes in or upon a single casing a battery, bell, coil, and circuit for the purpose stated.

The ordinary alarm clock rings only a comparatively short time, but by placing it upon or in suitable juxtaposition to my improved alarm the backward turning of the alarm key is caused to complete a circuit and ring an electric bell until the clock is removed from its position.

The device is very simple and easily understood, and is adapted for almost any style or size of clock.

The accompanying drawings illustrate embodiments of the invention.

Figure 1 is a side elevation of the alarm with a clock in operative position thereupon. Fig. 2 is a plan of Fig. 1. Fig. 3 is an enlarged portion of Fig. 1 showing the circuit completed. Fig. 4 is an elevation similar to Fig. 1 showing another embodiment of the invention.

Referring to the drawings, A is a box or casing of wood or any other suitable material within which is carried a battery.

B and C are respectively the coil and bell of a common type. The circuits extend from the binding posts D and E of the coil through the battery and to two terminals in such position that one of them may be electrically connected to the clock case or the alarm key and the other placed in a position to become electrically connected to the said key when the clock alarm goes off. For example one of the terminals may be in the form of a plate F on the top of the box and upon which the legs or metal casing of the clock may stand. The other terminal is preferably a wire or rod extending up from a binding post H on the outside of the box. The wire may be preferably a bent or offset wire J so that its lower end may be fastened to the binding post H and its upper portion turned toward or away from the clock or to any desired lateral position to provide for

use with clocks of various sizes. These parts may be so arranged that the alarm key K itself when it turns backward strikes against the terminal J and thus completes the circuit. Preferably however there is provided also a fork L having a clamp M by which it may be fastened on the key whatever the shape of the latter. The terminal J will then be positioned between the prongs of the fork L so that when the key, and with it the fork L, turns, at least one prong of the fork L will contact with the terminal J as shown in Fig. 3 and will remain in contact therewith (the resistance to further movement becoming so great as to overcome the pressure of the alarm spring within the clock). Thus the circuit will be completed through the permanently contacting terminal F, the clock case, the alarm key, the fork L, and the terminal J, and the alarm will continue to ring until the clock is removed.

Obviously the system of connection between the electric alarm and the clock may be modified in a great variety of ways without departing from the principle of the invention. For example a construction specially adapted for clocks with cases of non-conducting material, and also adapted for ordinary clocks with metal cases, is shown in Fig. 4. In this case the terminal J may be as before described, and the terminal which is to be permanently electrically connected comprises a covered wire M which may run for example from the binding post E and be directly connected to the clip or clamp M which carries the fork L. The circuit in this case may pass from the terminal J through the binding post H, the battery, binding post D, coil B, binding post E, and terminal N, to the fork L, cutting out the casing of the clock entirely.

In use an ordinary spring alarm clock will be stood upon the box A with at least one of its legs or its case touching the permanent contact plate F, and preferably with the fork L clamped on the alarm key K. Or the fork L carrying the flexible connection N will be clamped on the key, the exact position of the clock on the top of the box being immaterial. The alarm key K is first given one or two turns to wind the alarm. The fork L is then clamped on the key. The position of the clamp must be such that the terminal J will project between or adjacent to the fork L, the latter lying preferably in the vertical position of Figs. 1, 2 and 4, and the prongs of

the fork preferably inclosing at some point between them the terminal J. Now when the time arrives, the fork L will turn backward to say the position of Fig. 3, completing the circuit through the terminal J as described. Further movement of the key L will be stopped by the resistance of the terminal J and the alarm will continue to ring indefinitely.

Any other kind of an alarm will be an obvious substitute for the bell shown, and almost any electrical mechanism may be substituted for the particular style shown. Likewise any clock having an equivalent element for the key K which element moves when the clock alarm goes off may be used with the electric attachment, the proportion and arrangement of the parts being capable of the greatest variation without departure from the principle involved.

Though I have described with great particularity of detail certain embodiments of the invention, yet it is to be understood that the invention is not limited to the specific constructions described.

Various modifications may be made by those skilled in the art in detail and in the arrangement and combination of the parts without departing from the invention.

What I claim is:—

1. The combination with a clock having a key of an electric alarm adapted to be operated by the turning of said key and including a clamp adapted for attachment to said key, an arm carried by said clamp, and a circuit including a wire directly connected to said clamp so that said arm forms one terminal of the circuit, and a second terminal projecting into the path of movement of said arm as the key turns.

2. The combination with a clock having a key, of an electric alarm adapted to be operated by the turning of said key and including a clamp M adapted for attachment to said key and having a fork L with its prongs projecting backwardly parallel to and offset from the axis of the key when the clamp is so attached, whereby on the turning of the

key the prongs rotate and engage a terminal located between them.

3. The combination with a clock having a key, of an electric alarm including a clamp M adapted for attachment to said key, an arm carried by said clamp and projecting backwardly parallel to and offset from the axis of the key, and a circuit including a wire directly connected to said clamp so that said offset arm forms a terminal of the circuit, a support upon which such clock may be carried, and a second terminal carried by said support and projecting into the path of movement of said arm as the key turns.

4. The combination with a clock having a key, of an electric alarm including a circuit having a terminal J at one end, and having at the opposite end a clamp M and a fork L carried thereby and constituting the terminal, a portion of said circuit consisting of a flexible wire N attached to said clamp so as to permit it to be attached to said key with the terminal J between the prongs of the fork.

5. The combination with an alarm clock G having an alarm key K, of an electric alarm including a bell C and an incomplete circuit having two terminals, a support A carrying said bell, one of said terminals consisting of a detachable wire J projecting up from the support adjacent to the back of the clock and to the alarm key, and the other terminal comprising a fork L and a clamp M by which it may be fastened to the clock key with the wire J extending upward between the prongs of the fork, whereby the turning of the key backward brings the fork into contact with the wire J which stops further turning of the key, maintaining the circuit closed and the alarm in operation indefinitely.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

ABRAHAM LEWIS.

Witnesses:

DOMINGO A. USINA,
THOMAS F. WALLACE.