

No. 697,999.

Patented Apr. 22, 1902.

A. P. DWELLY.
SIGNALING MECHANISM.
(Application filed May 31, 1901.)

(No Model.)

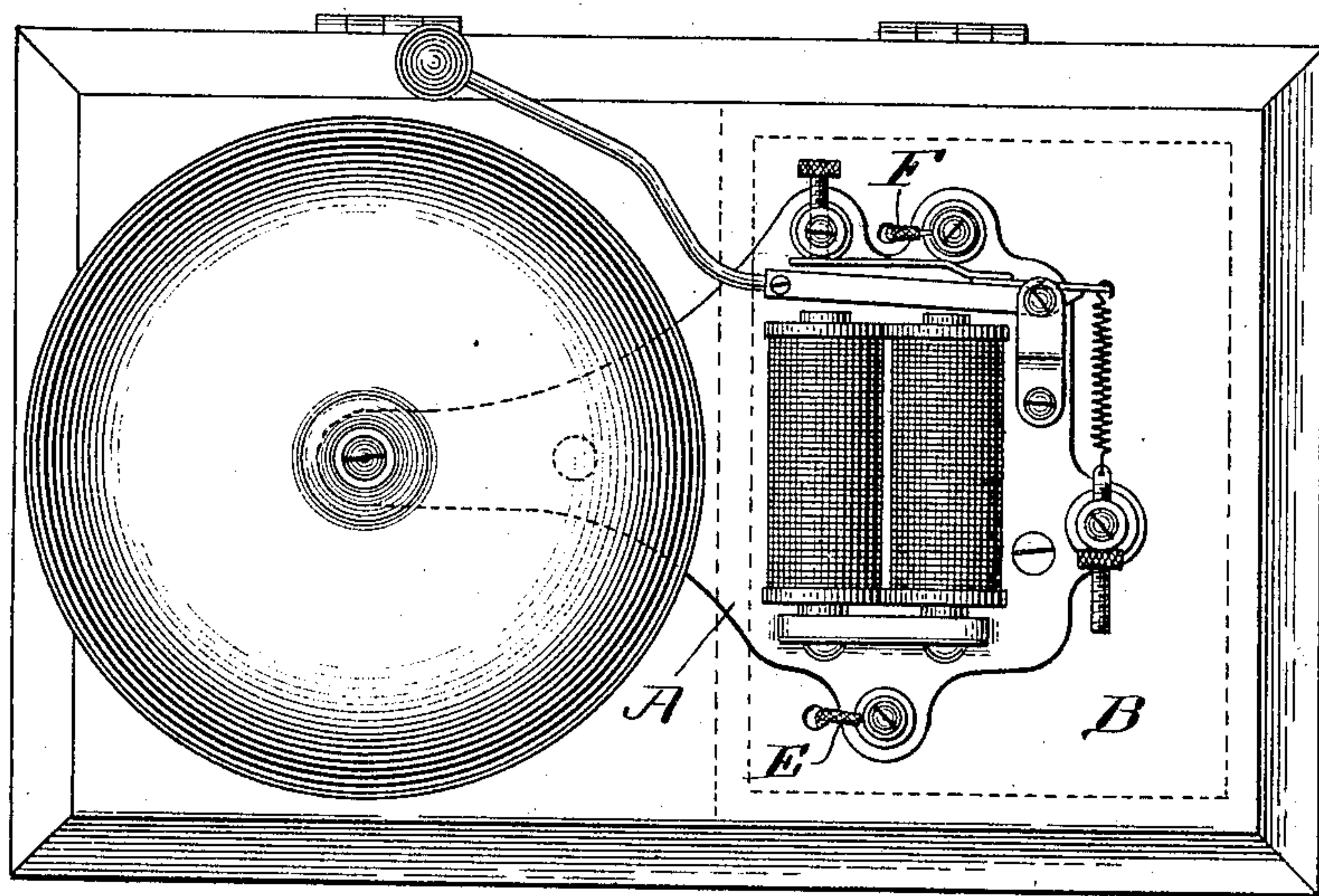


Fig. 1.

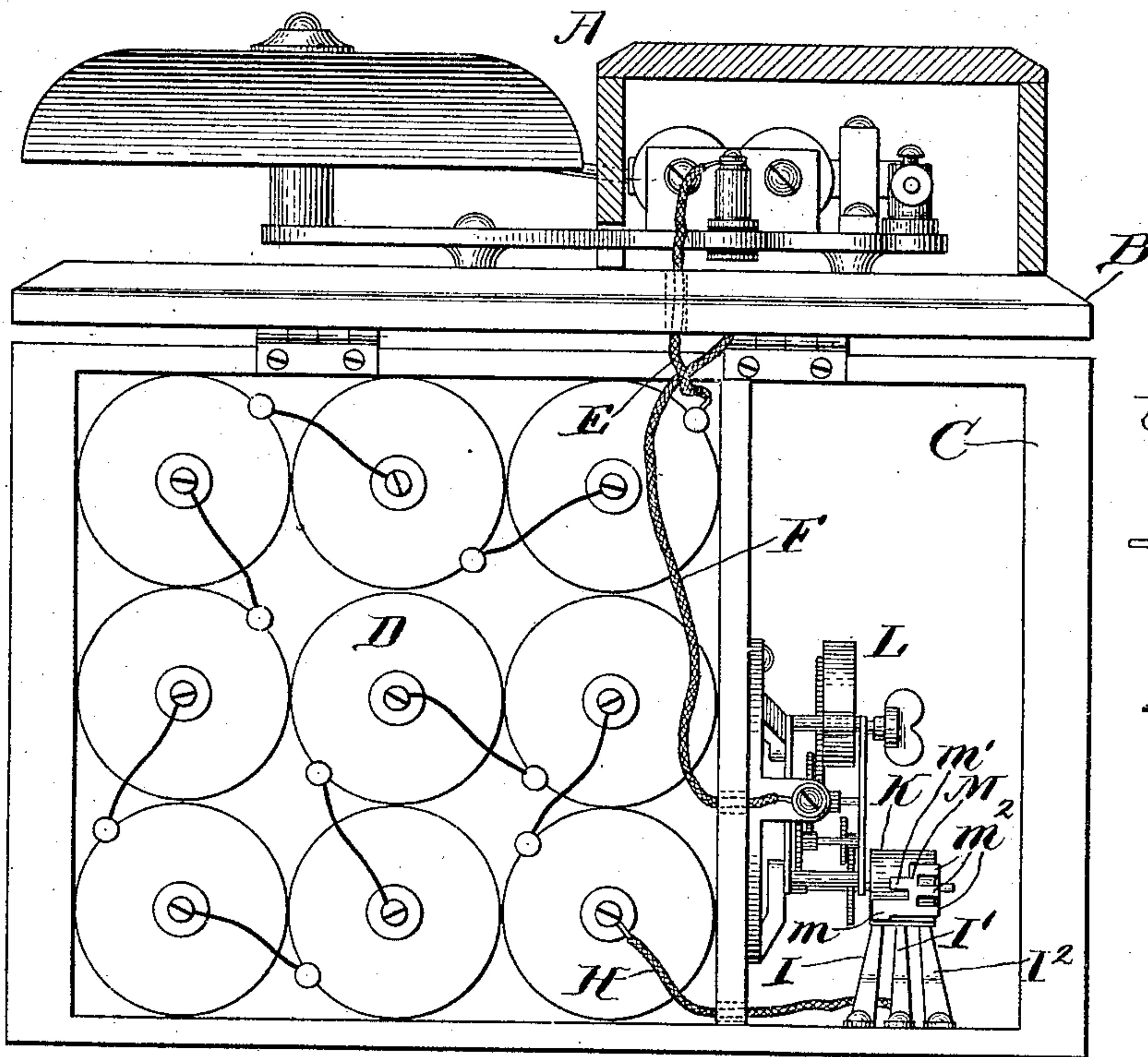


Fig. 2.

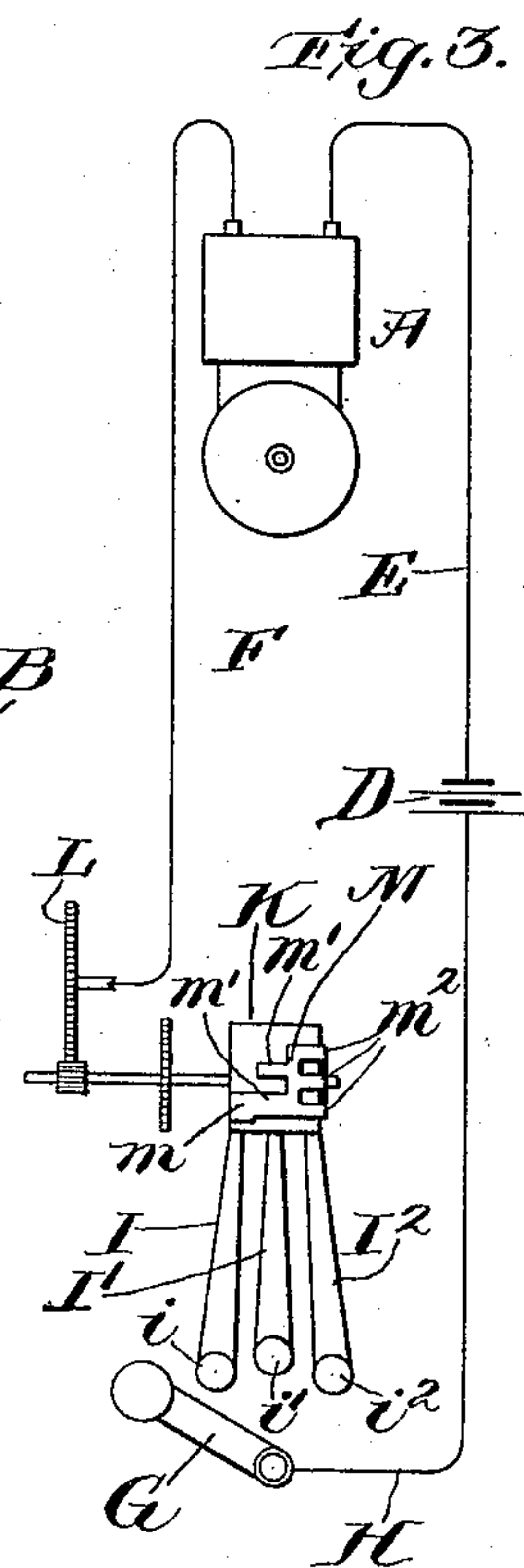


Fig. 3.

Witnesses:

Arthur D. Randall
Katherine C. Lujan.

Inventor:

Arthur P. Dwelly

by

Ira L. Fish

Attorney.

UNITED STATES PATENT OFFICE.

ARTHUR P. DWELLY, OF BOSTON, MASSACHUSETTS.

SIGNALING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 697,999, dated April 22, 1902.

Application filed May 31, 1901. Serial No. 62,498. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR P. DWELLY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Signaling Mechanism, of which the following is a specification.

The invention relates to an electrically operated or controlled signaling mechanism, and more especially to a signaling mechanism suitable for use upon sailing vessels or steamers for sounding signals during a fog or at other times when desirable. Upon sailing vessels it is customary during a fog to vary the signals according to the position of the vessel—that is to say, it is customary in case the vessel is sailing on the starboard tack to sound the signal once at intervals, and in case the vessel is on the port tack to sound the signal twice in succession at intervals, while if the vessel is sailing free the signal is sounded three times in succession at intervals.

The object of the present invention is to provide a simple and effective device which may be readily adjusted to automatically operate or control the operation of the signal, so that it will be operated once at regular intervals or two or more times in succession at regular intervals, as the case may require. This is accomplished by operating or controlling the signal through an electric circuit and providing means for either rendering said circuit effective at regular intervals or rendering said circuit effective a plurality of times in succession at regular intervals, which may be adjusted at will to operate the signal as desired—that is, once at intervals or a plurality of times in succession at intervals.

Any suitable form of signal may be employed—as, for instance, a whistle or a bell—and the signal may be operated directly by electrical devices, or the electrical devices may control other devices which act directly upon the signal, as may be found the most convenient or desirable in any given case. The particular construction of means for rendering the circuit effective may also be varied without departing from the broad scope of the invention.

The invention will be more fully understood by referring to the drawings, in which a simple and efficient mechanism embodying

the features of the invention in their preferred form is shown. In this construction a complete signaling mechanism is shown supported upon and in a small case or box, which may be readily carried from one place to another and which is especially convenient and suitable for small sailing vessels.

In the drawings, Figure 1 is a plan view of the case when closed. Fig. 2 is a view showing the cover of the case swung back through ninety degrees, and Fig. 3 is a diagrammatic view showing the connections.

In the construction shown the signal consists of an electric gong A of common and well-known construction mounted upon the cover B of the box or case C and is connected with the battery D within the case by a conductor E and with the circuit-controlling devices through a conductor F. The circuit-controlling devices comprise means for completing the circuit at intervals and means for completing the circuit a plurality of times in succession at intervals and also a switch G, connected with the battery by a conductor H and adapted to break the circuit, and thus throw the signal out of operation or to bring either of the circuit-completing means into operation. In the construction shown the circuit-completing devices comprise three fingers or brushes I I' I², connected by screws with contact-buttons i i' i², arranged to be engaged by the switch G, and three sets or series of traveling contacts arranged to cooperate with the brushes and electrically connected with the conductor F through the mechanism which drives said traveling contacts. The traveling contacts are mounted upon a rotating drum K, of insulating material, which is rotated by a spring-motor L of any common form—such, for instance, as is used in small clocks. The different sets of contacts which are carried by the drum are formed on a metallic plate M, secured to the surface of the drum and connected with the metallic shaft on which the drum is secured. The brush I is arranged to contact with a single projection m on the plate M, while the brush I' is arranged to contact with two projections m' and the brush I² is arranged to contact with three projections m² on the plate M.

When the switch G is in contact with the

button i , the brush I and contact m are in circuit and operate to complete the circuit and cause the signal to operate once during each revolution of the drum K, the signal being operated while the contact m is passing the brush and then being out of operation until the contact m again comes around into engagement with the brush I. When the switch G is in engagement with the button i' , the brush I' and contact m' are in circuit. In such case the circuit is closed while the first contact m' of the series is passing the brush, then is broken while the space between the two contacts of the series passes the brush, then is closed again while the last contact m' of the series is passing, after which the circuit remains broken until the first contact m' of the series again comes around to the brush. As the space between the two contacts of the series is small compared with the space between the last contact and the first contact, the signal will be operated twice in succession with a long interval between each series of operations. When the switch G is in engagement with the button i^2 , the brush I² and contacts m^2 are in circuit, and the signal will be operated three times in succession with a long interval between each series of operations, since the space between the successive contacts of the series is small as compared with the space between the last contact of the series to act in one series of operations and the first to act in the next series of successive operations. Thus by shifting the switch from one button to another the mechanism may be adjusted to cause the signal to operate once at intervals, twice in succession at intervals, or three times in succession at intervals, and the proper signals will be automatically given at regular intervals until the switch is thrown out of contact with the buttons, when the circuit will be broken at the switch and no signals will be given until the switch is again engaged with one of the buttons.

While it is preferred to control the operation of the signal through a circuit which is normally open and is rendered effective by completing the circuit, and the invention has been explained in connection with such a construction, it will be understood that the invention may be embodied in a construction in which the circuit is normally closed and is rendered effective to cause the operation of

the signal by breaking the circuit and that such construction would be the equivalent of the construction described.

What I claim, and desire to secure by Letters Patent, is—

1. A portable signaling device comprising a case, a battery therein, a signal supported by said case, an electric circuit connecting said battery and signal, mechanism supported by said case for rendering said circuit effective at regular intervals and for rendering said circuit effective a plurality of times in succession at regular intervals, and devices supported by said case and under the control of the operator for adjusting said mechanism, substantially as described.

2. In a signaling mechanism the combination of a signal, an electric circuit for controlling the operation of said signal, a series of brushes, a contact engaging one of said brushes at intervals, a series of contacts successively engaging another of said brushes at intervals, and means for bringing either of said brushes and the coöperating contacts in circuit, substantially as described.

3. In a signaling mechanism the combination of a signal, an electric circuit for controlling the operation of said signal, a series of brushes, an insulating-drum, a conducting-plate carried thereby and in said circuit, a projection on said plate arranged to engage one of said brushes, a series of projections on said plate arranged to engage another of said brushes, means for rotating said drum, and a switch for bringing either of said brushes in circuit, substantially as described.

4. In a signaling mechanism the combination of a signal, an electric circuit for controlling the operation of said signal, a series of brushes I, I', I², a switch for bringing any one of said brushes in circuit, an insulating-drum K, a contact m carried by said drum arranged to engage brush I, contacts m' arranged to engage brush I', and contacts m^2 arranged to engage brush I², and a motor for rotating drum K, substantially as described.

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

ARTHUR P. DWELLY.

Witnesses:

IRA L. FISH,

KATHARINE W. DUGAN.