

No. 690,623.

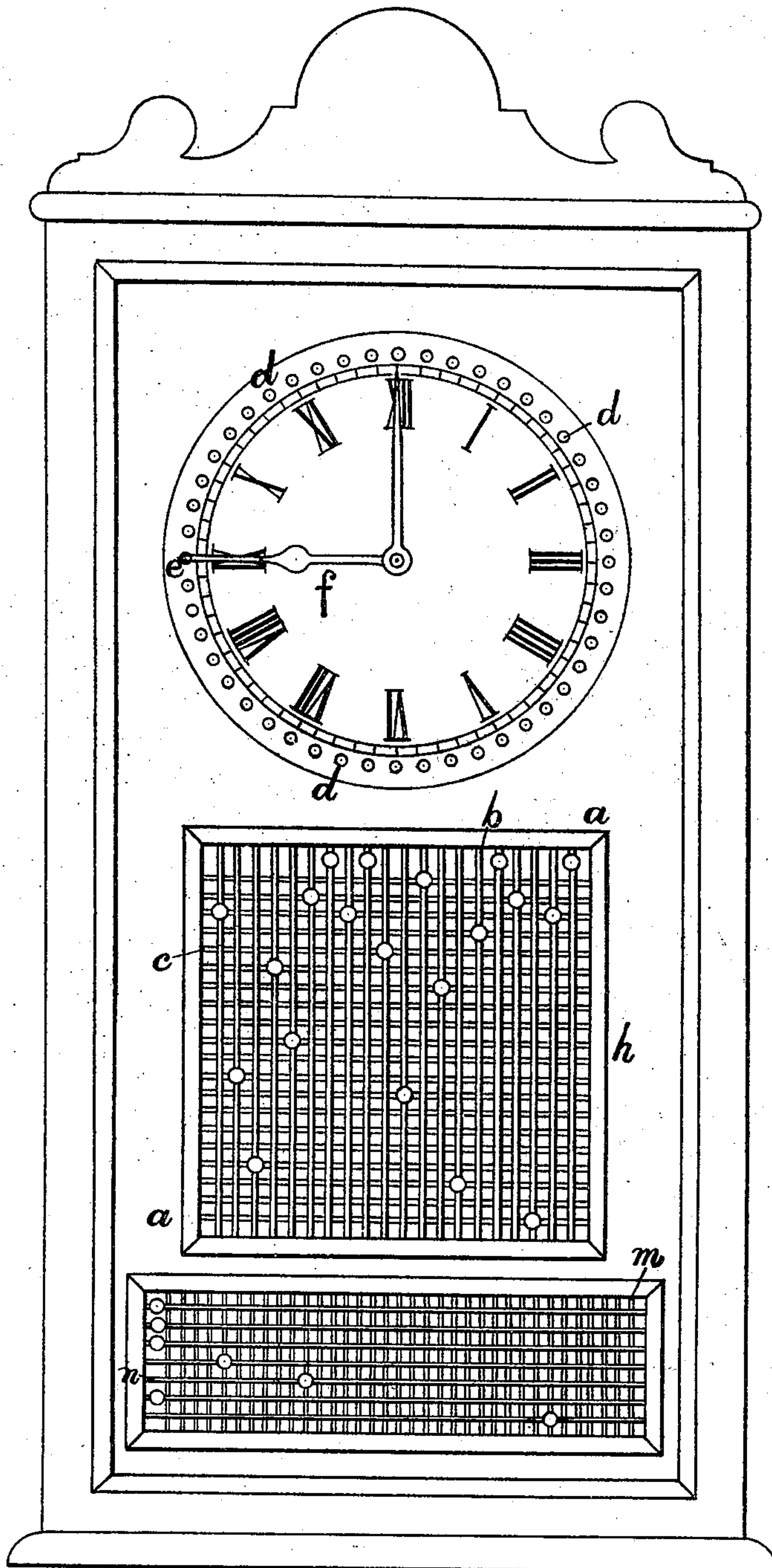
Patented Jan. 7, 1902.

C. SHORE.
ELECTRIC CALL APPARATUS.

(Application filed Apr. 8, 1901.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES.
Joseph Prates.
C. W. Alexander.

FIG. I.

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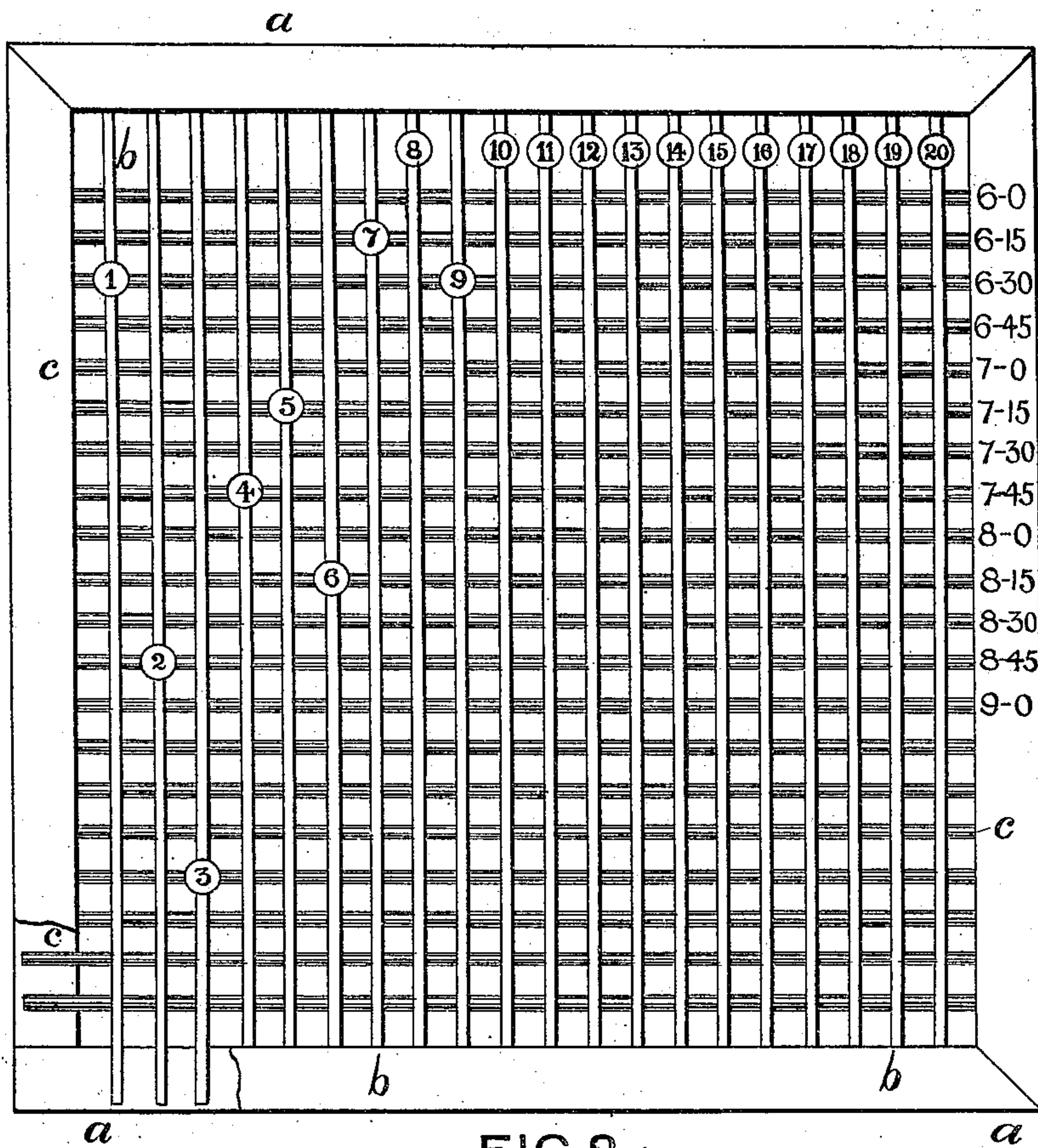


FIG. 2.

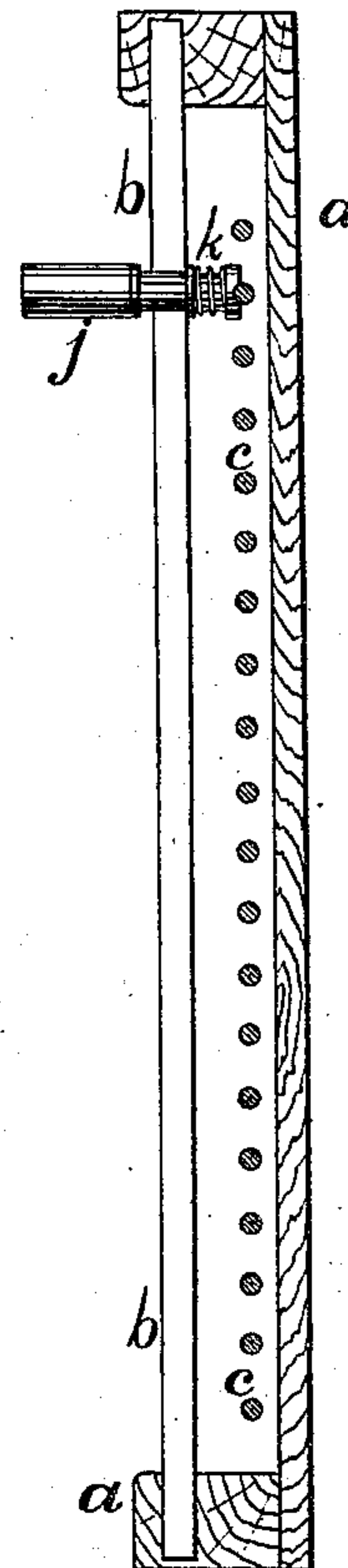


FIG. 3.

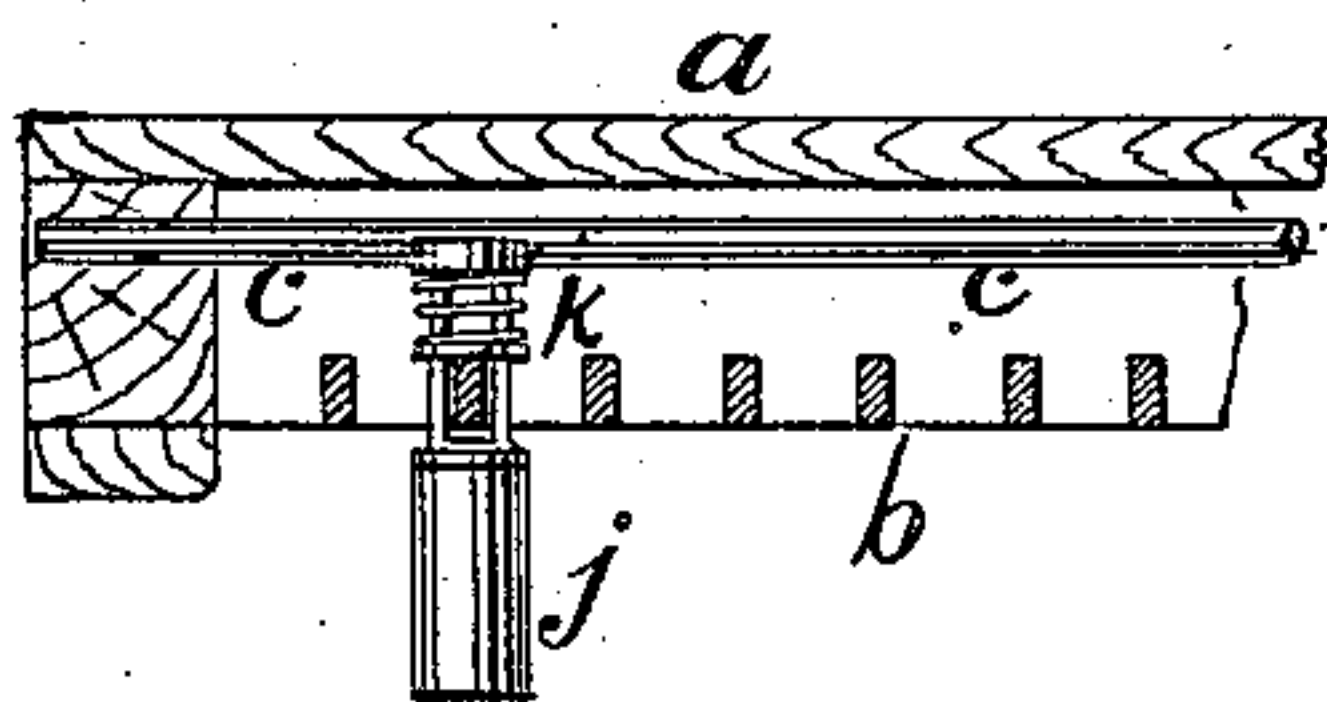


FIG. 4.

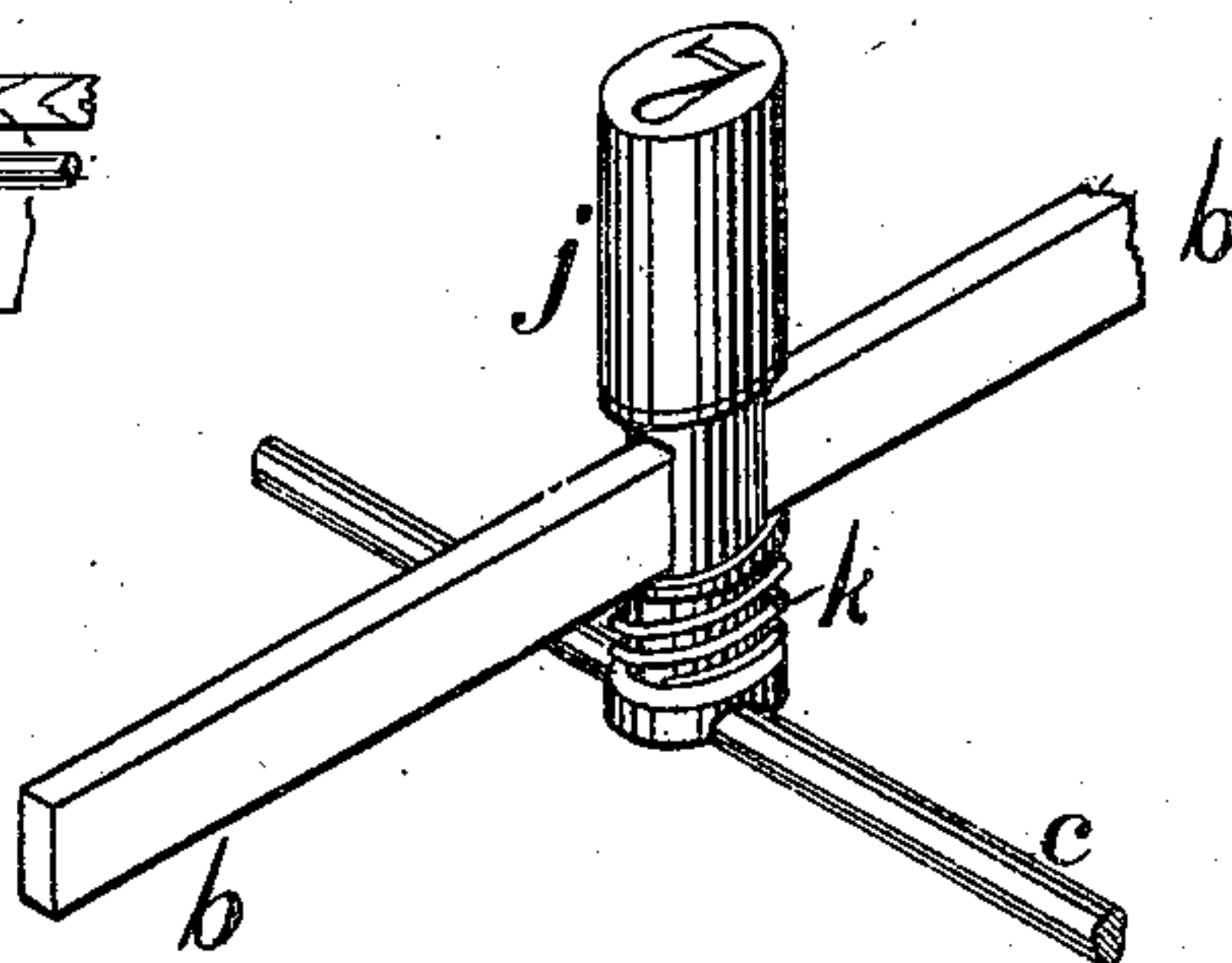


FIG. 5.

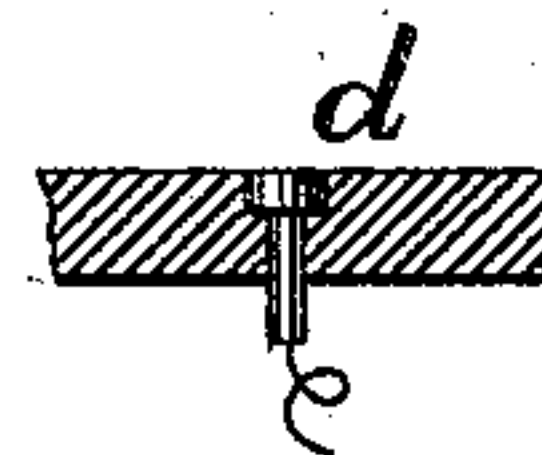


FIG. 6.

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INVENTOR.

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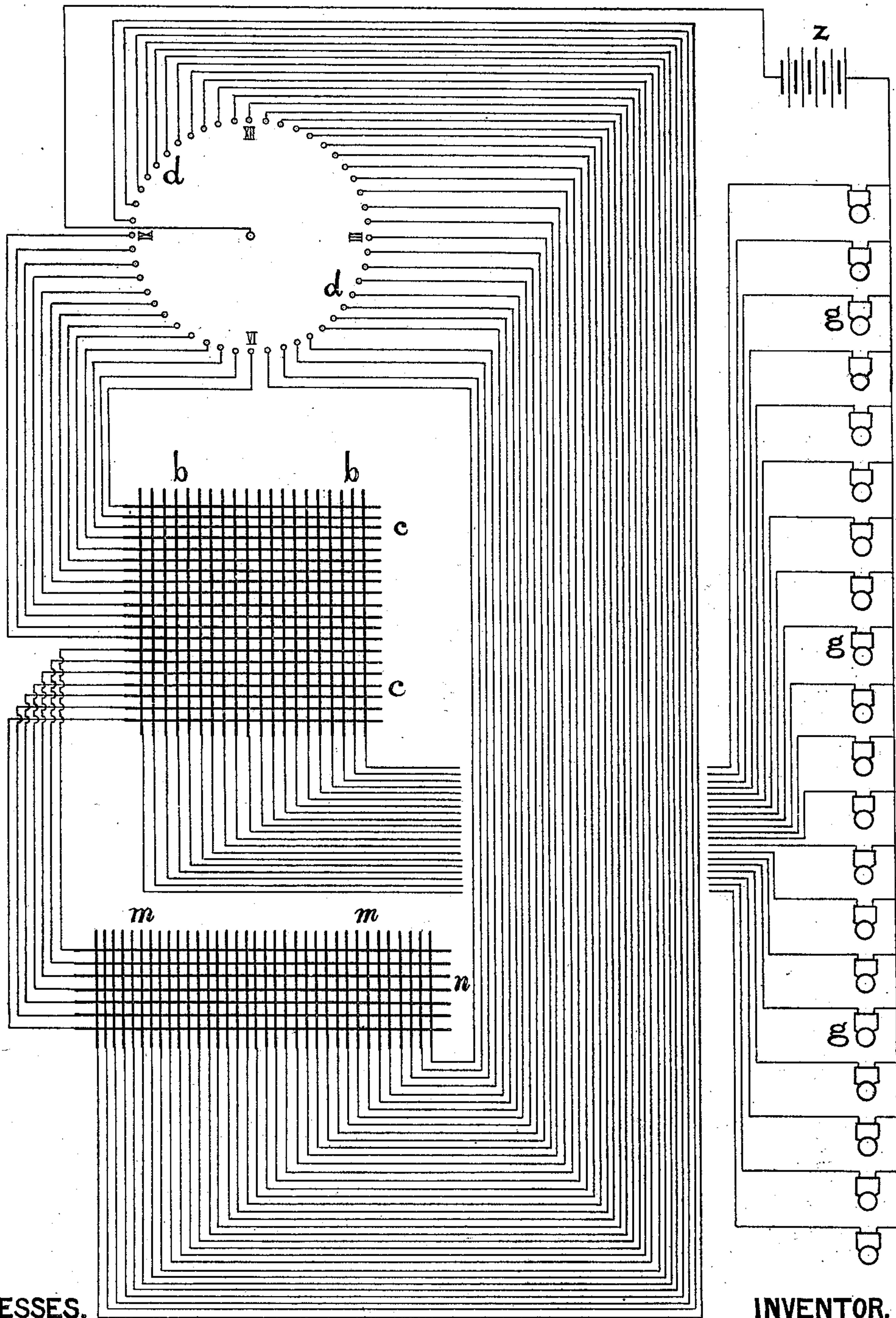
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(No Model.)

3 Sheets—Sheet 3.



WITNESSES.

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FIG. 7.

INVENTOR.

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UNITED STATES PATENT OFFICE.

CHARLES SHORE, OF BOLTON, ENGLAND, ASSIGNOR OF ONE-HALF TO
CHARLES HEAP, OF CALDERSHAW, ROCHDALE, ENGLAND.

ELECTRIC-CALL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 690,623, dated January 7, 1902.

Application filed April 8, 1901. Serial No. 54,947. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SHORE, a subject of the King of Great Britain, and a resident of Bolton, in the county of Lancaster, England, have invented certain new and useful Improvements in Electric-Call Apparatus, of which the following is a specification.

This invention relates to electric-call apparatus such as is used in hotels or other establishments for calling visitors by ringing electric bells or alarms in their rooms or apartments at any desired time and which are set in operation by the movement of a clock.

It is designed to provide a connection-board or call-board for establishing automatic electric connection between the clock and an apartment at any required time which will be simple and inexpensive in construction, easily worked, and not liable to get out of working order.

The invention will be described with reference to the annexed drawings.

Figure 1 is a front elevation of the connection-board or call-board, showing clock in the same frame therewith. Fig. 2 is a front elevation of main connection-board or call-board. Fig. 3 is a vertical section of same. Fig. 4 is a horizontal section of part of same. Fig. 5 is a detail view in perspective, to a larger scale, showing method of making contact at the connection or call board. Fig. 6 is a detail of clock-face contact. Fig. 7 is a diagram showing electrical connections of the system.

In carrying out the invention a main connection or call board *a* is constructed with a number of metal bars *b* running parallel to one another, and underneath them, preferably at right angles, runs a second set of metal bars *c*. The metal bars *b* each represent a separate room or apartment and are electrically connected to one side of an electric bell or alarm *g* therein, the other side of which is connected to a battery *z*. The bars *b* are marked consecutively with numerals "1" "2" "3," and so on, or otherwise marked or named to correspond with the number or name of the room in which the bell is situated. The bars *c* represent the periods of time and are electrically connected to contact-pieces *d*, arranged around the dial of the

clock, with which a sliding pointer *e* on the end of the hour-hand *f* makes contact at consecutive divisions of time, the hour-hand *f* being also connected to the battery *z*. I find that if the bars *c* are arranged to be in circuit at consecutive quarter-hours it is sufficiently often for practical purposes. An index-plate *h* is attached to the connection-board or call-board, with periods of time marked thereon corresponding with the period on the clock-dial with which the bar *c* is connected.

On each of the bars *b* is placed a sliding contact-maker *j*, which brings the two bars *b* and *c* into electrical contact, so that the circuit is completed through them. The sliding contact-maker *j* is constructed with a slot through which the bar *b* passes and at the lower end is formed with a groove to embrace the second wire or bar *c*. A spring *k* is placed between to hold the contact-maker in contact with both bars. As the contact-maker *j* is moved or slid along its room-bar *b*, it can be brought successively into contact with the time-bars *c*, thereby bringing the electric bell *g* of the room into circuit with the period of time on the clock-dial at which the alarm or call is to be given. The contact-makers *j* may also bear the number of the room. The circuit is completed through the clock hour-hand *f* as it passes over and in contact with the metallic studs *d* affixed to it.

Where it is desired to employ the alarms for a small range of time only—say from six o'clock to nine o'clock—a single call-board such as described will suffice. Where, however, a larger range is required—say for every quarter-hour throughout the day—instead of enlarging one board two call-boards may be employed, as illustrated in the diagram, Fig. 7. In such case the second board is made in precisely similar manner with two sets of bars or wires *m* and *n* with a contact-maker placed thereon, seven bars *n* running in one direction, and thirty-five bars *m* running at right angles thereto. The bars *n* are connected each at one end to one of the bars *c* of the other board, and the bars *m* are connected to the remaining contact-points on the clock-dial. Thus if No. 3 room is desirous of being called at, say, twelve o'clock the contact-maker *j* on the

first board is brought down to the position shown in Fig. 2, which brings it through the bar *c* into communication with one of the bars *n*, and by moving the contact-maker 5 along such bar *n* contact may be made with the bar *m*, which is in electrical connection with the twelve o'clock on the clock-dial.

What I claim as my invention, and desire to protect by Letters Patent, is—

10 In a call apparatus the combination with a clock-dial and contact-pieces thereon, clock-hands, an electric battery, and an electric circuit, of a connection-board or call-board with transverse bars, one set representing the place 15 where the call is to be given, a second set rep-

resenting the time when the call is to be given, and a third set to connect the connection-board or call-board to a second board, and a second board with one set of bars to connect it with the first board, and a second set of 20 bars to connect it with the contact-pieces on the clock-dial to give a longer range of time-periods substantially as described.

In witness whereof I have hereunto signed my name, in the presence of two subscribing 25 witnesses, this 26th day of March, 1901.

CHAS. SHORE.

Witnesses:

J. OWDEN O'BRIEN,
FRANK SPARKES.