(No Model.)

R. VARLEY, Jr.

ELECTRIC TIME CALL.

No. 450,390. Patented Apr. 14, 1891.

Fig. 1.

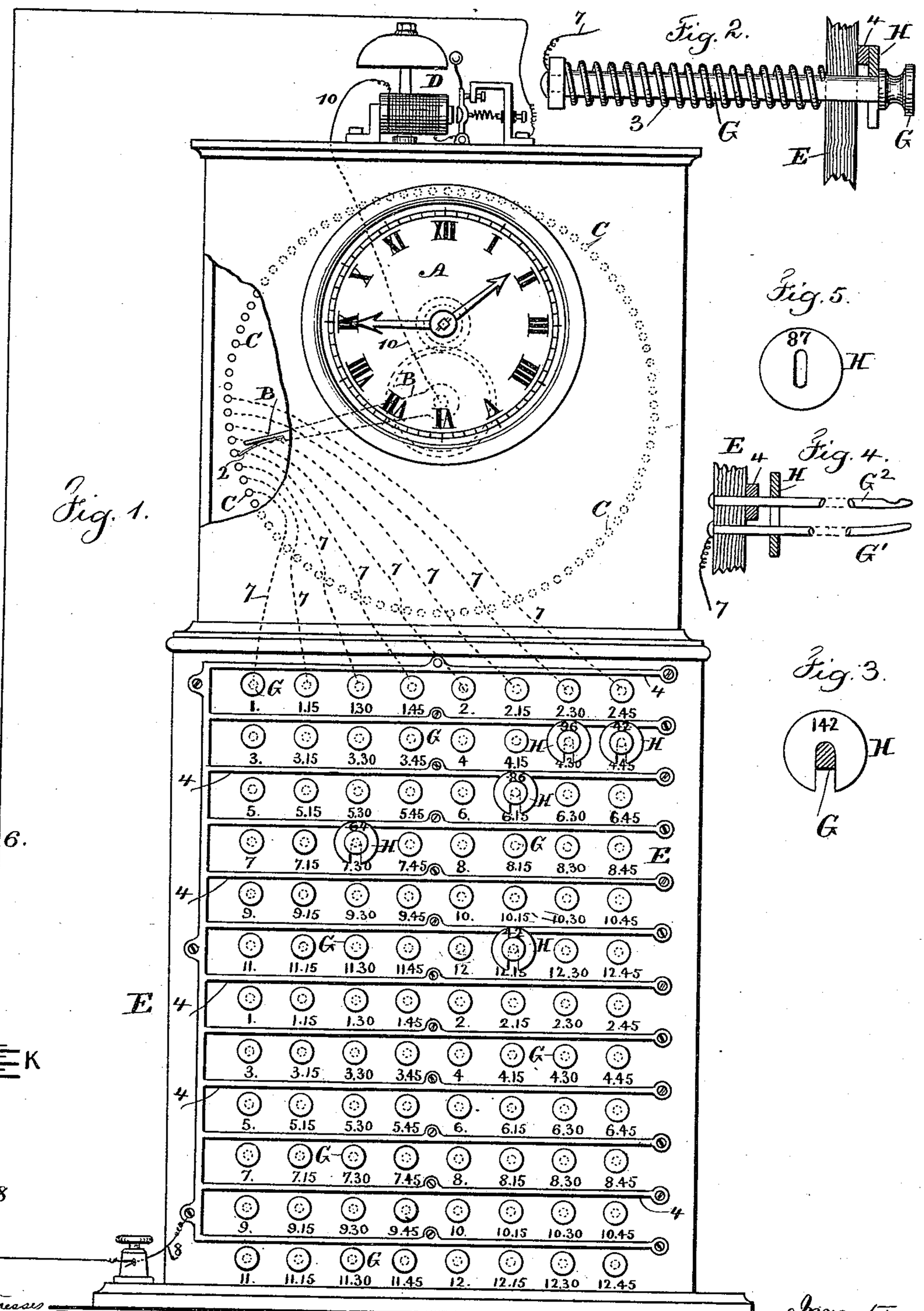

Fig. 2.

Fig. 5.

Fig. 4.

Fig. 3.

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ELECTRIC TIME-CALL.

SPECIFICATION forming part of Letters Patent No. 450,390, dated April 14, 1891.

Application filed November 18, 1890. Serial No. 371,810. (No model.)

To all whom it may concern:

Be it known that I, RICHARD VARLEY, Jr., a citizen of the United States, residing at Englewood, in the county of Bergen and State of New Jersey, have invented an Improvement in Electric Time-Calls, of which the following is a specification.

This device is especially adapted to hotels, where it is desired to arrange for calling guests at certain hours. Electric devices that have been used for ringing a bell in the guest's room automatically at a given hour are objectionable, because the occupants of adjoining rooms are often disturbed, and where checks are used to indicate the rooms where persons are to be called difficulty has arisen in connecting a number of checks to one time-signal, and some checks may be attended to and not others.

The object of this invention is to avoid the before-mentioned difficulties; and it consists in combining with a clock-movement an electric alarm and conducting check-holders, each adapted to receive one or more metallic checks, by the placing of which check upon the holder allotted to a given time of day or night closes the circuit, so that the alarm is rung automatically when the clock arrives at the corresponding time, and it will continue to ring for a given time, unless all the checks are removed from that particular holder.

In the drawings, Figure 1 is a diagrammatic elevation of the apparatus and some of the circuit-connections. Fig. 2 is a section, in larger size, of one of the check-holders. Fig. 3 shows the check separately, with the holder in section. Fig. 4 represents a modification of the check-holder, and Fig. 5 is an elevation of the check for the holder shown in Fig. 4.

A time-movement of any desired character may be used. I have represented at A the dial and hands of a clock, and in cases where the dial is divided into twenty-four hours, the circuit-closing arm B may be on the same arbor as the hour-hand; but where the time-movement is divided into twelve hours the circuit-closing arm should be geared to the same, as represented by dotted lines in Fig. 1, so that such circuit-closing arm revolves only once in twenty-four hours, and around the circle described by the arm B there are to be contact-pins C of the desired number. For instance, if the call-time is divided into half-hours, there will be forty-eight of such contact-pins C. If divided into quarter-hours, there will be ninety-six. Usually ninety-six of such contact-pins are sufficient, so that the alarm may be given at any fifteen minutes during the twenty-four hours, as hereinafter described.

Upon the circuit-closing arm B is a spring 2, preferably of platina, and it is attached to the rear side of such circuit-closing arm, and the end of such spring comes into contact successively with the pins C, and as the clock-movement progresses the spring is bent sufficient to allow the arm to pass on and the spring to separate from contact with one pin and straighten out flat against the side of the arm and then at the proper time come into contact with the next pin, and according to the length of this spring 2 so the same will remain in contact with one of the pins C a greater or less period of time and the alarm will be rung for a shorter or longer time. At D, I have represented an alarm. It may be of a suitable character. It is represented as a circuit-breaking alarm, so that the vibrations of the hammer will open and close the circuit, and the bell will remain ringing during the time that the spring 2 is in contact with one of the pins C, and the circuit is otherwise closed, as hereinafter mentioned, by a check H.

I provide an annunciator frame or board E, and there are perforations through the same for the sliding check-holders G. Each of these check-holders is provided with a spring 3, by which it is drawn inwardly, and the check-holder is of conducting material, and adjacent to the check-holder and preferably upon the face of the annunciator-board is a contact-strip 4; but the check-holder in its normal position does not come into contact with such strip.

There are to be as many check-holders as there are contact-pins C, and each contact-pin is connected by a conductor, preferably flexible, with its contact-pin, and these check-holders are arranged in a convenient manner to correspond to the hours of the day. For instance, if there are eight check-holders in the top line and they are all allotted to the hour of 1 o'clock and 2 o'clock and to the one-

quarter, one-half, and three-quarters hours, they will be marked accordingly upon the face of the annunciator-board. So, also, the second line may be for the hours and quarter-hours from 2 o'clock to three and three-quarters, and so on, as shown in Fig. 1. In this case there will be twelve lines and the marks can be either for a twelve-hour dial or for a twenty-four-hour dial upon the clock. As before mentioned, neither of the check-holders touches its contact-strip when in a normal position, and when a check is put upon the holder the check closes the electric circuit. The checks may be of any desired shape, but they must be of metal. I prefer to use the checks H having upon their surfaces numbers corresponding to the numbers of the different rooms in the hotel or building, and each check should be slotted to set upon the sliding check-holder, so that when a person desires to be called the check H with the number corresponding to his room is taken from a rack or holder and applied upon the sliding check-holder corresponding to the hour at which the guest is to be called, and the spring of the holder draws the check back against the contact-strip 4. Hence when the clock arrives at the time corresponding to the check upon the annunciator-board where the check has been applied the spring 2 of the arm B, when it comes into contact with the pin C, that is connected to that particular sliding check-holder, the circuit from the battery K is closed and the current from said battery passes by the wire 6 through the electro-magnet of the alarm D, and by the wire 10 to the arm B, and from there the current passes through the arm B, spring 2, contact-pin C, wire 7, to the corresponding sliding check-holder G, and through such check-holder and the check H to the contact-strip 4, and from there by the wire 8 to the other pole of the battery, and the alarm will continue to ring as long as the spring 2 is against the contact-pin C; but it will be apparent that the alarm will not be rung except where a check intervenes between the holder G and the contact-strip 4, because at this point the electric circuit is broken, and it makes no difference how many checks H with different numbers may be introduced upon the sliding check-holder, because they will all be pressed into contact and close the circuit with the strip 4, and as soon as the bell-boy or other attendant removes the checks from the check-holder the alarm ceases to ring, and by the checks with the numbers upon them he can pass to the respective rooms and call the guests with reliability, because he does not require to remember the respective numbers, because he can take the checks with him. In this manner the guests can be called with reliability without one person being disturbed by the alarm in another room, and there is little or no risk of any appointment being overlooked.

A projection or wires G^2 may be provided adjacent to each check-holder, such wires being connected by the strip 4 or otherwise, and such check-holder will be stationary and project, as at C′, and the check H can be slipped upon the same, as shown in Fig. 4, in which case the first check unites the contact-strip 4 and check-holder G′ electrically, and if other checks are added they only need to be hung on the holder. In this manner the spring and movement of the check-holder may be dispensed with and the parts G' G^2 may be made as spring-wires, or the checks may be provided with spring wires or rings to pass over the parts G' G^2, in which case such parts G' G^2 may be rigid.

I claim as my invention—

1. The combination, with a clock-movement and an alarm, of a revolving circuit-closing arm, contact-pins for the same, an annunciator-board and check-holders adapted to receive several checks and connected respectively with the contact-pins and circuit-wires, and a portable circuit-closing check adapted to be received by the check-holder and to close the metallic circuit, so that the alarm is rung when the moving arm of the clock comes in contact with the pin at the designated hour, substantially as set forth.

2. The annunciator-board having check-holders, each adapted to the reception of a number of portable circuit-closing checks, a clock-movement, an alarm, an electric circuit and contact-pins, and an arm actuated by the clock-movement for closing the circuit and ringing the alarm through the agency of the circuit-closing checks, substantially as set forth.

3. An annunciator-board having contact-strips 4, in combination with the separate check-holders and circuit-connections, and the circuit-closing checks adapted to be placed on the holders to close the electric circuit by contact with the same and with the strips, substantially as set forth.

4. The combination, with a time-movement and a circuit-closing arm, of a range of contact-pins, a spring upon the end of the arm, and an annunciator and sliding check-holders and circuit-closing checks, substantially as set forth.

5. The combination, with the annunciator-board and the stationary contact-strips 4, of the check-holders and the portable circuit-closing checks, such check-holders being adapted to receive one or more of the circuit-closing checks and an electric circuit closed by such checks, and an electric alarm mechanism connected with the check-holders, substantially as set forth.

Signed by me this 15th day of November, 1890.

RICHARD VARLEY, JR.

Witnesses:

GEO. T. PINCKNEY,

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