(No Model.)

JAMES JONES & JAMES JONES, Jr.

TIME CALL.

No. 474,835. Patented May 17, 1892.

Fig. 1.

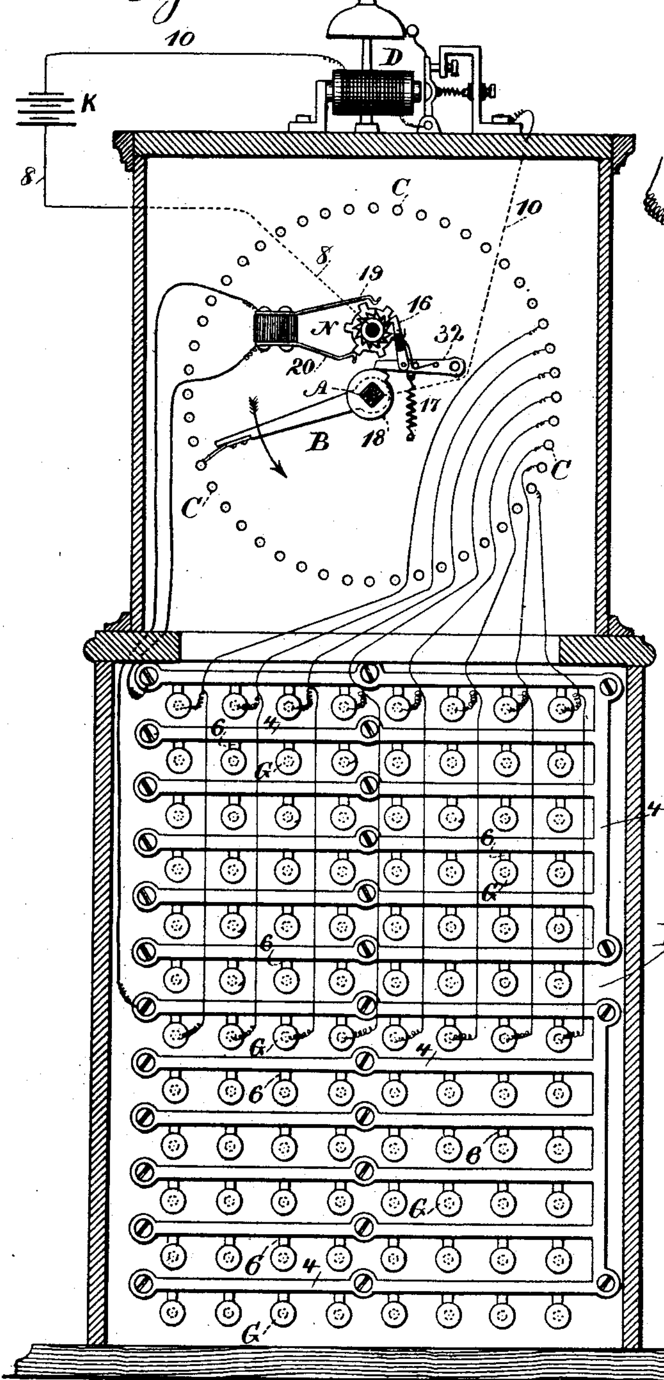


Fig. 2.

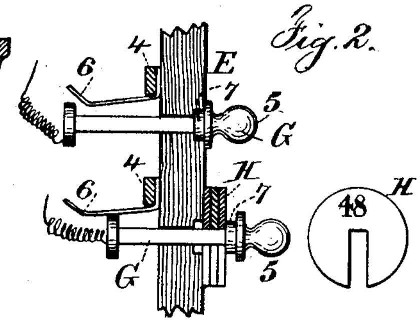


Fig. 3.

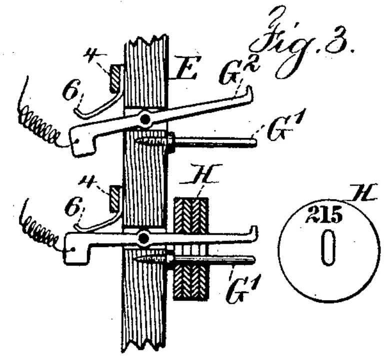
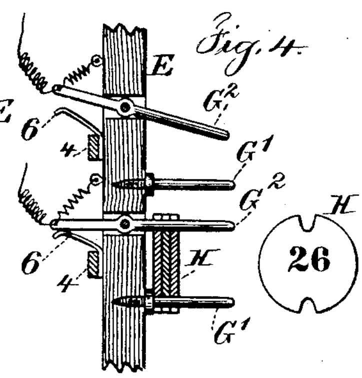


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES JONES AND JAMES JONES, JR., OF BROOKLYN, NEW YORK.

TIME-CALL.

SPECIFICATION forming part of Letters Patent No. 474,835, dated May 17, 1892.

Application filed July 31, 1891. Serial No. 401,273. (No model.)

To all whom it may concern:

Be it known that we, JAMES JONES and JAMES JONES, Jr., citizens of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Time-Calls, of which the following is a specification.

In Letters Patent No. 450,390, granted April 14, 1891, to R. Varley, Jr., an apparatus is represented in which there are number-checks that are adapted to be placed in position for closing the circuit between conductors, and these are used in connection with a time-movement and circuit-closing arm, in order that an alarm may be rung whenever a check has been applied to the hook or receiver allotted to a given time, and these checks are to be removed by the bell-boy or other attendant who proceeds to the guests' rooms successively.

The present improvement is a modification of this apparatus and is made for accomplishing the same object by the use of checks which are not of conducting material and in which the introduction of one or more checks effects a movement that closes the electric circuit, the check itself not being part of the electric circuit, and we provide, in connection with the time mechanism, an automatic switch which changes the connections between the time mechanism and the check-board or annunciator, so that the time mechanism during twelve hours will be in the electric circuit of one half of the check-board and during the next twelve hours will be in contact with the other half of the check-board, thereby rendering it unnecessary to provide a circuit-closing device revolving once in twenty-four hours, and lessening the number of circuit connections between the time mechanism and the check-board and simplifying the construction and lessening the cost of the apparatus.

In the drawings, Figure 1 is a rear elevation with the case in section, illustrating a circuit-closer moved by a time mechanism and some of the circuit-wires to the check-board. Figs. 2, 3, and 4 are detached sectional views showing the circuit-closing devices that are operated by the movable checks, such checks also being represented in elevation.

A time mechanism of any suitable character is provided, and the hour-hand arbor is indicated at A. The hour-hand or a circuit-closing arm B, moving in unison therwith, is made use of as a circuit-closer, the end thereof coming in contact successively with the pins in the circular range C of pins. We have represented the circuit-closing hand B as at the back of the clock-dial. This hand revolves twice in twenty-four hours, and during the first twelve hours the electric connections will act with one half of the check-board and during the second twelve hours the circuit-closing hand will act with the other half of the check-board, there being an automatic switch or circuit-changer brought into contact every twelve hours, as hereinafter described. Upon the check-board or annunciator E the check-holders are arranged in vertical and horizontal rows, the rows being preferably adapted to signals at fifteen minutes apart, and the check-board, as represented, shows six rows of check-holders for each twelve hours in the twenty-four hours of the day, and the clock mechanism is provided with the circuit-closing pegs in the row C—a peg for each fifteen minutes in the travel of the circuit-closing arm or hand B. Hence there are forty-eight of said circuit-closing pegs represented with wires leading to the corresponding circuit-closing devices in the two sections or halves in the annunciator-frame or check-board, the connections being made in duplicate, so that one wire leads by a branch or connection to the two check-holders marked with the corresponding time, and there are two sets of contact-strips 4, there being one set for each half or section of the annunciator or check-board E. These strips may be substantially similar to those shown in the aforesaid patent, except that they are in two sections, instead of being all connected together. In the drawings only eight wires are represented from eight of the pins C to avoid confusion, and it is to be understood that there is a wire from each pin leading to the proper check-holders in the two sections of the check-board.

There is a battery (represented at K) leading through the call or alarm D, and the wire 10 passes from the same to the arbor of the circuit-closing hand B, and one wire 8 from the battery leads to the center of the rotary switch N. This switch receives a movement once every twelve hours, preferably by the pawl 16 and spring 17, such pawl being upon a lever 32, that is moved gradually by the cam 18 on the arbor A of the hour-hand, so as to take up one tooth upon the rotary switch N, and when the end of the cam passes clear from the pawl-lever 32 the spring 17 gives motion to the lever 32 and by the pawl 16 turns the rotary switch N, and this rotary switch N has circuit-closing teeth, and there are contact-springs 19 and 20, with wires leading to the respective sections of contact-strips 4, so that during twelve hours the circuit connection will be closed by the wire 8 from the battery through the switch N and the spring 19 to one section of the contact-strips 4 and during the next twelve hours the circuit will be from the battery through the wire 8, switch N, and contact-springs 20 to the second section of the contact-strips 4. Thereby a hand or circuit-closer revolving once in twelve hours is made to act reliably at any time during the entire twenty-four hours.

In the present improvements the checks H may be of any suitable material, as the electric circuit does not pass through such checks; but in order to apply the check to the check-holder at the designated time a movement has to be given to the check-holder, and in so doing the circuit connection is closed and the check-holder is adapted to receive one or more of the checks. In carrying out this part of our invention the contact springs or fingers 6 extend from the strips 4 toward the check-holder. We have illustrated in Figs. 2, 3, and 4 modifications in the details of construction of the movable check-holders. In Fig. 2 the check-holder G is made as a sliding pin with a head 5, by which it can be manipulated, and a short cylinder 7 passes into a recess in the check-board, and the check H is notched to set over the shank of the check-holder, and the check cannot be applied until the check-holder has been drawn out sufficiently far for the check to be introduced behind the cylinder 7, and in so doing the check-holder is brought into contact with the spring 6. The circuit-wire may be connected to the check-holder in any suitable way. We have represented a flexible coil of wire connected with the end or button-head of the check-holder which comes into contact with the spring 6.

In Fig. 3 the check-holder G^2 is made to swing instead of slide, and in so doing it is brought into contact with the spring 6, and the check H may be made with either a circular opening or an elliptical hole, as shown in Fig. 5 of the aforesaid patent, so as to be placed over the circuit-holder and over the pin G′, that projects from the check-board, and it will be noticed that either one or more checks can be applied to either of these check-holders.

In Fig. 4 the check-holder is shown as operating in the reverse direction to that represented in Fig. 3, and the check is to be notched upon its opposite edges and introduced between the swinging check-holder G^2 and the stationary pin G′.

It will now be understood that the operations of these devices are similar to those described in the aforesaid patent—that is to say, the alarm or call D is rung when the hand B is in contact with a pin in the circular range of pins C from which the circuit connections have been closed by the presence of a check or checks; and these checks are to be removed by the bell-boy or attendant who proceeds to the room to call the guest, and in the removal of the checks from the check-holder the alarm is stopped by the breaking of the circuit automatically. In consequence of the checks indicating the numbers or letters upon the rooms the risk of mistakes is reduced to a minimum, because the check cannot be applied upon the check-board without closing the circuit, so that the alarm will be given at the proper time, and the checks cannot be removed from the check-board without the alarm thereby stopping; and in the present invention the circuit not passing through the check itself such check may be of non-conducting material, and there is no risk of the circuit connections being interrupted by the presence of oxide or non-conducting material upon the check itself.

We claim as our invention—

1. The combination, with the time-circuit-closing mechanism, alarm, and electric circuits in a call apparatus, of removable checks and movable circuit-closing check-holders, each having a projection for receiving one or more checks, and upon which such checks cannot be placed until the motion necessary for closing the circuit has been given to such holder, substantially as specified.

2. The combination, in an electric call, of a time mechanism and circuit-closer revolving once each twelve hours, an annunciator or check-board with circuit-connections in two sections, an electric call or alarm and battery, and an electric switch and mechanism for moving the same at the end of each twelve hours to change the circuit-connections to the respective sections of the annunciator or check-board, substantially as set forth.

3. The combination, in an electric-alarm mechanism, of a spring connected to one part of the alarm-circuit, a movable circuit-closer connected to the other part of the electric circuit and having a check-holding projection that is not adapted to receive the checks un-

til such circuit-closer and check-holder have been moved to close the electric circuit to the spring, substantially as set forth.

4. The combination, in an electric call, of a circuit-closer revolved once in twelve hours, a switch for changing the circuit connections, a spring and pawl for moving the switch progressively, and a cam rotated each twelve hours and acting upon the pawl to give motion to the same and to cause the movement of the switch, substantially as set forth.

Signed by us this 24th day of July, 1891.

JAMES JONES.
JAS. JONES, JR.

Witnesses:
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