(No Model.)

F. W. STEEG.

ELECTRICAL ANNUNCIATOR.

No. 473,975. Patented May 3, 1892.

Fig. 1.

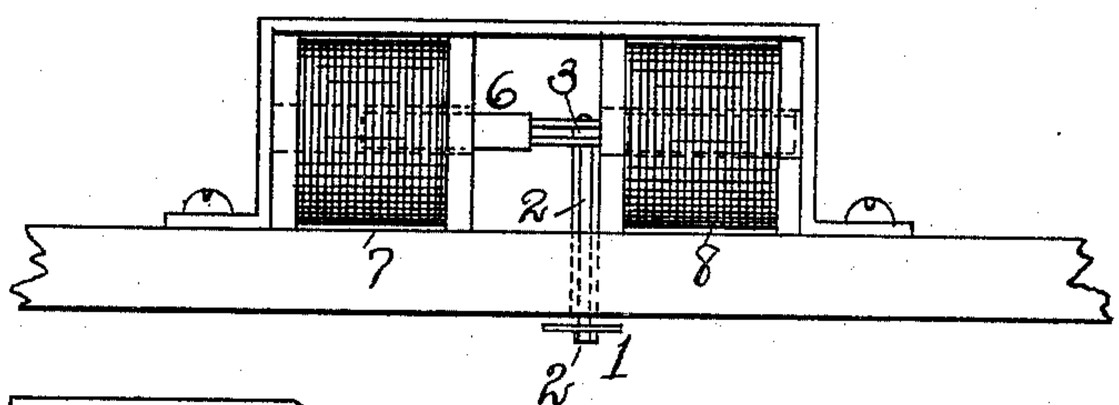


Fig. 2.

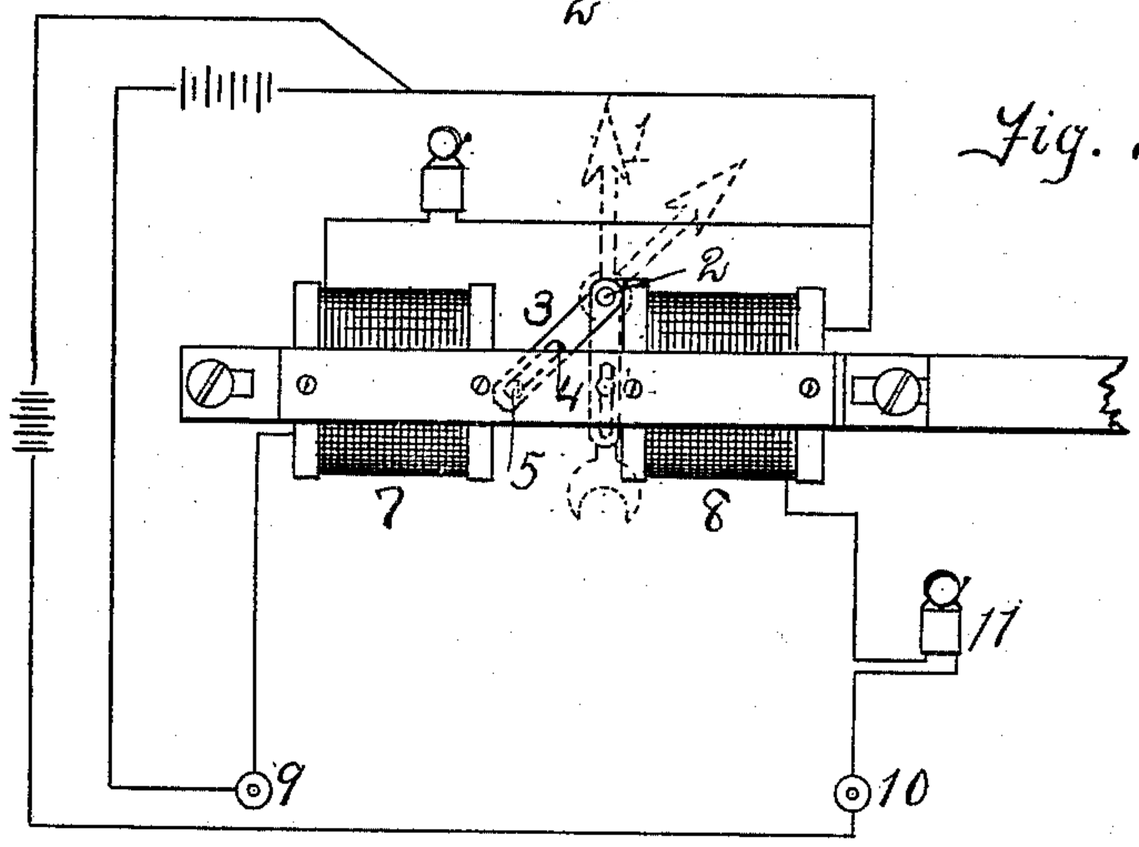


Fig. 3.

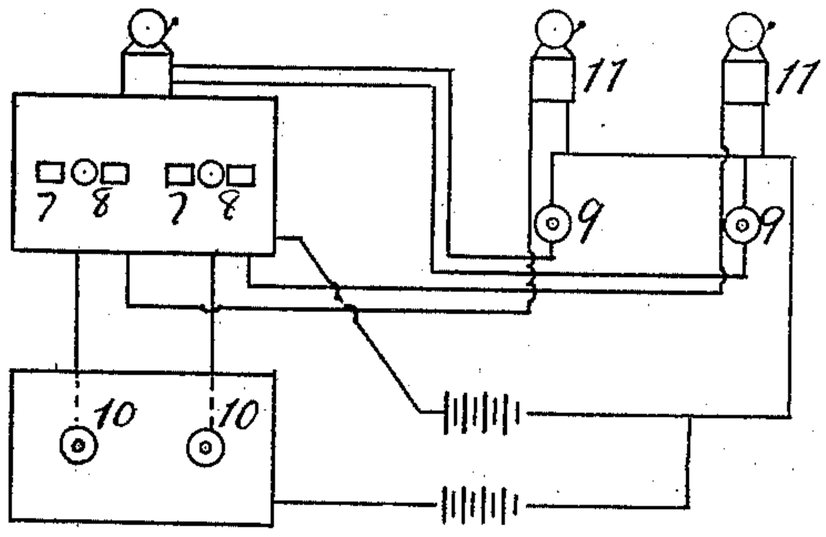
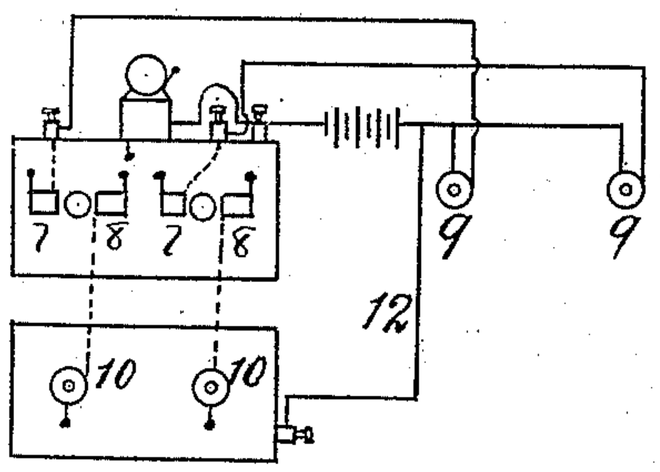


Fig. 4.



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ELECTRICAL ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 473,975, dated May 3, 1892.

Application filed October 24, 1890. Serial No. 369,247. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. STEEG, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Electric Annunciators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to annunciators for the use of hotels and the like, and relates especially to that class of annunciators in which a return-call circuit is employed for the purpose of informing the person calling that the call is noticed, though the system in its essential features may be employed without the use of the return-call.

The principal object of the invention is to enable the indicator, whose position has been changed by the initial call, to be restored to its normal position by itself without in any wise interfering with any other indicators in the annunciator system, whether a call may have been made upon them or not. It has been customary hitherto to so connect a lever or other operating device with all of the hands or other indicators of the system that the movement of the lever would return to normal position any of the indicators whose position may have been changed by calls from the rooms with which they are connected, thereby effacing from the annunciator-dial any evidence that such calls had been made, and in the case of several calls at the same time leaving it solely to the memory of the attendant to determine which of said calls had been answered, or in the case of his restoring said indicators to normal position upon answering the first call to determine which of the indicators had been moved by a call from the room connected with the same. The intention of the present invention is to do away with any uncertainty whatever in this regard, especially in systems in which a return-call is employed, by connecting the indicators in such a manner in the return-call circuit that the completion of said circuit shall at the same time restore to normal position the indicator in the circuit in which the call has been made without interfering with the circuits upon which other calls have been made and which still remain unanswered. The annunciator-dial thus becomes an accurate record of the calls that have been made and of the number of the same that remain unanswered, leaving nothing to the memory of the attendant.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the device employed for moving and returning the indicator-hand; Fig. 2, a plan view of the same, showing the connections; Fig. 3, a diagram illustrating the method of wiring, and Fig. 4 a diagram showing the method of wiring when the return-call system is not used.

The indicator, consisting, usually, of a hand 1, pivotally mounted upon the dial, has secured to the stem or spindle 2 thereof an arm 3, extending in a radial direction upon the rear of the dial. This arm 3 is loosely connected by means of a slot 4 and pin 5, playing therein, with a bar, of soft iron or similar material 6, forming the core of two solenoids 7 8, lying in the same axial line and situated, respectively, in the call and return circuits of a single indicator. The core 6 is obviously drawn in different directions alternately by the passage of the current through the respective coils, and the position of the arm 3 with reference to that of the indicator-hand and that of the core is such that when the current is passed through the return-call circuit—that is, through the coil 8—the hand 1 is drawn to a vertical position, and when the current is passed through the call-circuit the hand is drawn to a position at an angle—say of forty-five degrees—to such position. The circuit is completed in each instance by means of a suitable push-button 9 for the call-circuit and which is located in the room at a distance from the dial, and a push-button or similar circuit-closing device 10, located, preferably, in the vicinity of the annunciator-dial on the return-call board. In the latter circuit is also preferably included the return-call bell or similar device 11 for the purpose of notifying the party making the call that the same is answered.

The device further constitutes a check upon the perfect working of the system in that the return of the hand to its normal position is an assurance that the call is answered by the ringing of the bell in the room from which the call emanated, since the fact that the hand returns shows that the circuit is uninterrupted.

It will be understood that by a "single" call and "return-call" are meant a call and answer from the same point or room, the usual arrangement being of a push-button in the room for the purpose of completing a circuit between that room and the hand on the dial designated by the number of the room and of a bell or similar device in the same room in a circuit closed by the push-button on the return-call board bearing a corresponding number. There will thus be a series of indicators or hands designated by the numbers or names of the several rooms with which they are in circuit and a corresponding series of push-buttons or similar devices correspondingly numbered, by means of which the respective circuits may be closed to give an answering signal in the room. It will also be understood that the respective indicators may be returned to normal position in the same manner without the return-signal device being included in the circuit; but the former is believed to be the preferable arrangement, and for this reason the invention is so described.

I cases where the return-call system is not used the setting-off devices or means employed for returning each indicator separately to normal position when the call is answered may be connected in the same battery-circuit and with the use of a single extra wire 12, forming the return between the battery and the setting-off board.

The action of the device is positive in either direction, according as the initial or return circuit is closed, and there is no spring or counter-weight for the electro-magnets to overcome in addition to the strength of current required to change the position of the hands.

I claim as my invention—

1. In an annunciator, the combination of the indicator-hand, two electro-magnets arranged in axial alignment, an endwise-movable bar connected to the indicator-hand and forming the armatures to both electro-magnets and adapted to be moved thereby in opposite directions, two electric circuits in which said electro-magnets are respectively situated, and circuit-closers for opening and closing said circuits, substantially as described, for the purpose set forth.

2. In an annunciator, the combination of the indicator-hand, two electro-magnets arranged in axial alignment, an endwise-movable bar forming the armature of both electro-magnets and having a link connection with the spindle of the indicator-hand, call and return circuits in which said electro-magnets are respectively situated, and circuit-closers in said circuits, the circuit-closer in the call-circuit being at a distant point from the indicator and the circuit-closer in the return-circuit in the vicinity of the indicator, substantially as described.

3. In an annunciator, the combination of the spindle upon which the annunciator-hand is mounted, the two electro-magnets arranged in axial alignment, an endwise-movable bar having its ends fitted in the electro-magnets, a radial arm mounted on the spindle and connected to the endwise-movable bar, two separate circuits in which the electro-magnets are respectively included, signal devices included in one or both circuits, and means for opening or closing said circuits independently of each other, substantially as described.

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

FREDERICK W. STEEG.

Witnesses:

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