

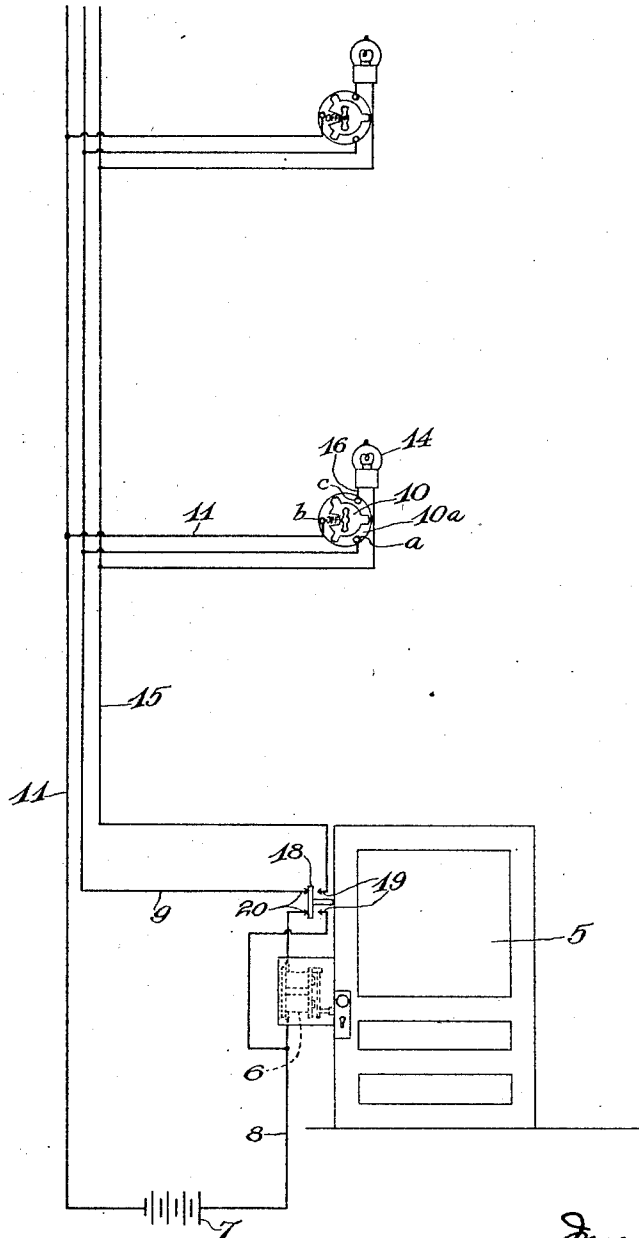
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J. M. WENZEL

SIGNALING DEVICE

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Inventor:  
John M. Wenzel  
by Milot B. Stenmark  
attorneys.

## UNITED STATES PATENT OFFICE.

JOHN M. WENZEL, OF CHICAGO, ILLINOIS.

## SIGNALING DEVICE.

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This invention relates to electrically operated door releasers for apartment houses whereby it is made possible to release the main entrance door of the house from any one of the apartments without the occupants thereof leaving the same and going to the door to unlatch it.

The invention particularly relates to an improvement over my prior Patent 1,509,010.

The invention has for its object to provide an apparatus of the kind stated, a signal device which will indicate to the occupants of the apartments whether the releaser has properly functioned to effect release of the door, and whether the person at the door has gained entrance or not.

The object stated is attained by means of a combination and arrangement of parts to be hereinafter described and claimed, and in order that the same may be better understood, reference is had to the accompanying drawing, wherein, the invention is illustrated diagrammatically.

Referring specifically to the drawing, 5 denotes the main entrance door of a building containing a number of apartments. This door is provided with an electrically operated releasing device whereby the door may be released from any one of the apartments without the occupants leaving the same and going to the door. This is a well known apparatus and hence a detailed description thereof is not necessary. It may be stated, however, that the door releasing mechanism is operated by an electro-magnet which is shown at 6. This magnet is interposed in an energizing circuit, and the current source may be a battery 7 or a transformer. One side of the current source is connected by a conductor 8 to one of the terminals of the magnet, and to the other terminal *a* mounted on a switch base 10<sup>a</sup>, located in an apartment remote from the door. The base 10<sup>a</sup> has two other terminals, namely *b* and *c*, and the three terminals are arranged in a circle to receive, preferably, a snap-switch installation 10 whereby the three terminals may be connected across, or disconnected as shown, by a partial turn of the switch. The three terminals may be otherwise arranged, if desired, in case a different type of switch is selected, to secure the same result. From the terminal *b*, a conductor 11 leads to the other side of the current source. The circuit is normally open, and when it is closed by operating the switch 10, the magnet 6 is

energized, whereupon the release of the door 5 takes place, so that the person seeking entrance may open the same.

To the energizing circuit of the door releaser is connected a branch circuit in which is interposed a signal, such as a small lamp 14. One terminal of the lamp is wired to the conductor 8, as shown at 15, and the other terminal is wired as shown at 16, to the contact C. It will therefore be seen that both circuits are controlled by the switch 10.

The branch circuit in which the signal 14 is interposed is normally open at the switch 10, and it is also provided with a circuit closer which is controlled by the door 5. This circuit closer is a contact 18 adapted to bridge a gap in the line 15 when the door 5 is opened, said line having contacts 19 at the gap. When the door is closed, the electrical connection is broken. In the line 9, between the magnet 6 and the switch contact *a* is also a gap, with contacts 20 thereat, these contacts being opposite the contact 18. The contacts 19 are on one side of the contact 18, and the contacts 20 are on the opposite side. Thus, the contacts 19 and 20 are alternately engageable to the contact 18, the latter normally bridging the contacts 20. The contact 18 is in position to bridge the contacts 20 when the door 5 is closed and it moves away from the contacts 20 to bridge the contacts 19 when the door opens.

The operation of the apparatus may be summarized as follows:

Upon turning the switch 10 to cover the terminals *a*, *b* and *c*, the energizing circuit of the magnet 6 is closed and the release of the door 5 takes place. When the door is opened, the circuit in which the signal 14 is interposed is also closed, and the signal is displayed as long as the switch 10 is held closed. The display of the signal 14 of course indicates to the occupant of the apartment that the door has opened, and that the door releaser has therefore properly functioned. A failure to obtain a signal is of course an indication that the door has not been opened. The door releaser circuit is broken and the device 6 is cut out immediately the door opens, by the movement of the contact 18 off the contacts 20 and over to the contacts 19. However, the signal 14 continues to be displayed as long as the switch 10 is held closed, and the contacts 18 and 19 touch. The apparatus therefore eliminates waste of electric current from un-

necessary operation of the door releaser, and it is convenient and does away with all guess work as to whether the person at the door has gained entrance or not.

5 The conductors 11, 9 and 15 being feeders to the apartment installation, the latter may be considered as a branch, the feeders continuing upwardly, as shown, to the next apartment where a similar branch installation is made. The feeders can thus be led  
10 to all the apartments using the door 5 as a front entrance, the three-point switch 10 enabling the independent operation of the door by each branch unit. The signal 14,  
15 while shown as a lamp, may be a buzzer or a bell, or any other type of visible or audible signal.

While the preferred embodiment of the invention has been shown, it will occur to  
20 those skilled in the art that various modifications may be devised without departing from the principle of the invention.

I claim:

25 1. The combination with an electrically operated door releasing device and an open energizing circuit therefor; of a plurality of independent operating stations in said energizing circuit, an indicator at each station  
30 in a branch of said energizing circuit, each of said branch circuits being open at two places, a switch at each station for simulta-

neously closing said energizing circuit and one of the openings of its branch circuit, and door controlled means for opening said energizing circuit and closing the second opening of the branch circuit. 35

2. In combination, an electrically operated door releasing device, a source of energy, a plurality of independently operable signals, a three point switch for each signal, a circuit  
40 connection between said source of energy and the door releasing device, a plurality of pairs of contacts having door controlled means for selectively opening and closing  
45 the same, one pair of the contacts being normally closed and the other pair being normally open, a circuit connection between the door releasing device and one of the first pair of contacts, a circuit connection between  
50 the other contact of said pair and one point of each switch, a circuit connection between the source of energy and a second point of each switch, a branch circuit connection  
55 from the first connection to one of the remaining pair of contacts, a circuit connection between the second contact of the last pair and each signal, and a circuit connection between the third point of each switch and its signal.

In testimony whereof I affix my signature.

JOHN M. WENZEL.