

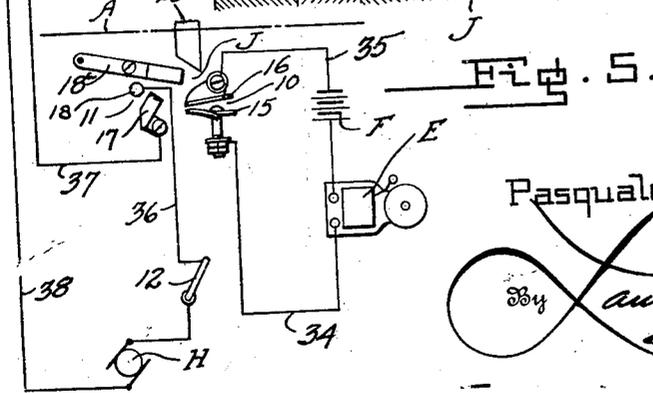
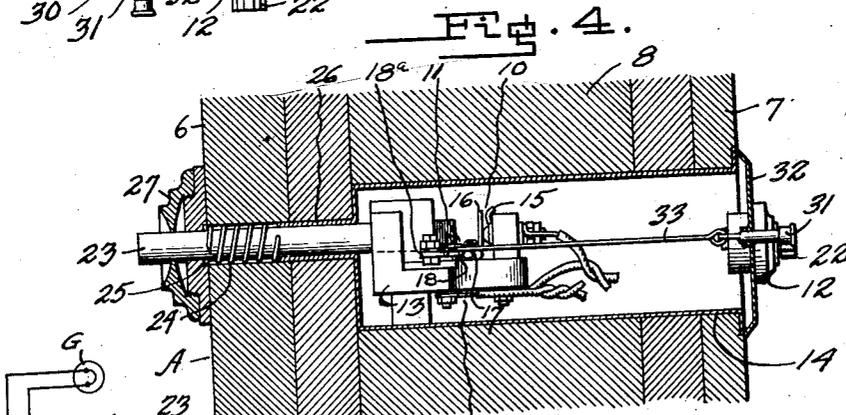
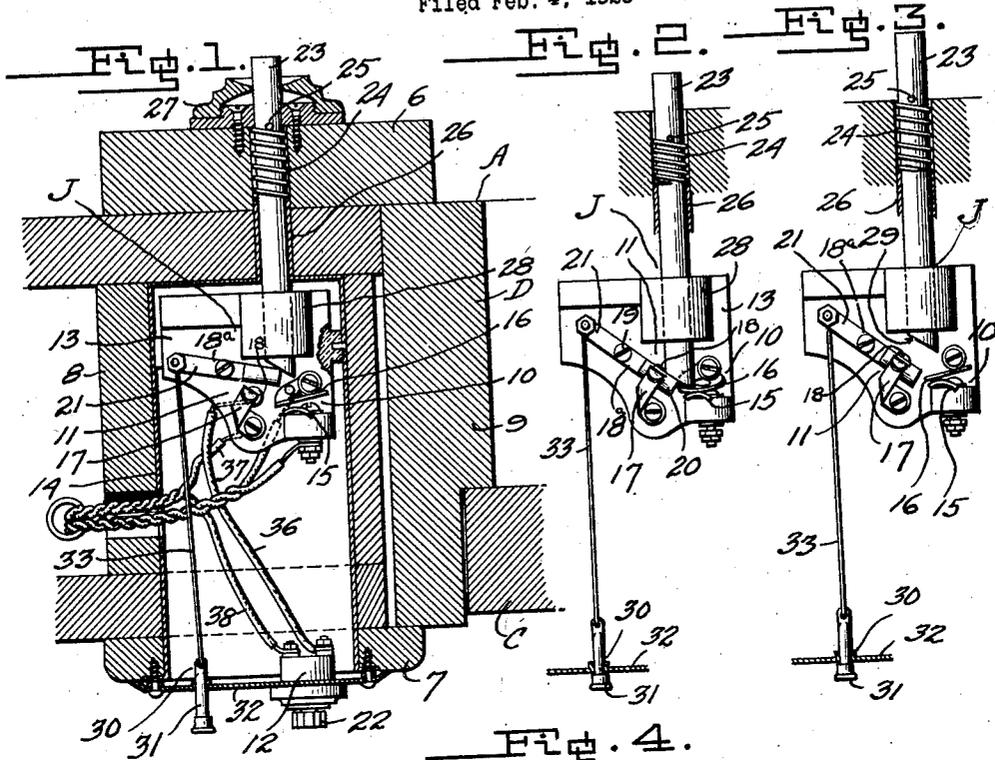
Nov. 1, 1927.

1,647,708

P. D. MONICA

DOOR BELL AND LIGHT CONTROL SWITCH

Filed Feb. 4, 1925



Inventor
Pasquale Della Monica

Lancaster & Allwin
Attorneys

UNITED STATES PATENT OFFICE.

PASQUALE DELLA MONICA, OF HARRISON, NEW YORK.

DOORBELL AND LIGHT-CONTROL SWITCH.

Application filed February 4, 1925. Serial No. 6,798.

My present invention relates to circuit makers and breakers of the character that may be manually operated to control different devices in circuits of different voltage, such as a door bell usually disposed in a low voltage circuit, and an electric lamp disposed in a circuit of comparatively high voltage, such as one of 110 volts.

One of the principal objects of the invention is to provide a control switch which may have a part conveniently disposed, say at the outside architrave of a door frame of a house where it may be readily actuated by a person desiring to gain entrance or seeking an audience, and which actuation will operate an audible signal, such as an electric bell, for a period substantially equal to the duration of actuation of the part, and will also immediately complete a circuit thru an electric lamp, (provided the circuit is otherwise closed), for a period determinable by a person in the house. By this mechanism a person merely actuating an element thereof, such as a push button may simultaneously close the circuits of different voltage, one thru an audible signal thus sounding a call, and the other through an electric lamp, to light the same, which lamp may be conveniently disposed to well illuminate the section where the person is located, continuing this illumination even after the person ceases to actuate the element and until the lamp circuit is broken by someone within the house. The invention is of importance from an economical and psychological standpoint for it conserves electrical energy by its ability to bring into use the lamp only when particularly needed and it gives peace of mind to occupants of the house in that it is not necessary to seek a switch at the inside of the house in order to bring into circuit a lamp located on the porch, a vestibule, or area way in order to ascertain who has sounded the signal or call. In other words, the person who has sounded the call also causes the section where he is located to be illuminated and this illumination continues even after he ceases to sound the call.

Other objects of the invention are to provide switches of the character described which may be operated from the interior of the building to cause the circuit to be completed thru the lamp independently of the member actionable from the exterior of the building or doorway, and without sounding the audible signal, such as when a call is

expected and it is desired to have the lamp illuminated; to provide switches of the character described which may be operated from the interior of the building to break the circuit of the lamp so that operation of the member actionable from the exterior of the building or doorway will not complete the lamp circuit, as when the audible signal is ready for use or being used during the day time, or at night time when the house is vacant, or the occupants do not wish to answer calls; and, to provide switches which may be readily installed in buildings already completed, and during the course of construction of buildings, no matter whether of frame, brick, stone, tile, or like construction.

Other objects and advantages of the invention will appear in the following detailed description, taken in connection with the accompanying drawings, forming a part of this specification, and in which drawings:

Figure 1 is a horizontal sectional view through a barrier portion showing a switch constructed according to the principle of my invention installed therein, portions of the switch being shown in horizontal section in order to disclose details.

Figure 2 is a similar view, non essential parts being omitted, but showing the switch element in another position.

Figure 3 is a view similar to Figure 2, but showing the switch elements in a different position.

Figure 4 is a vertical sectional view through the barrier and a portion of the switch.

Figure 5 is a diagrammatic view showing by way of example a wiring diagram.

In the drawings, where similar characters refer to similar parts throughout the several views, A designates a barrier of a house, such as a wall B and door C, the latter engaging a door frame D, which in the example shown, is of wood construction; E an audible signal such as an electro-magnetically operated door bell disposed inside of the house, which may be placed in circuit with a low voltage source of electrical energy, such as battery F of the dry cell type; G an electric lamp which may be disposed outside with respect to the barrier A and placed in circuit with a source of comparatively high voltage electrical energy H; and J the control switch mechanism for the devices E and G.

While the example illustrated, shows the switch carried by a door frame of wood construction, comprising an outside architrave 6, inside architrave 7, rough framing 8 and jamb 9, it is to be understood that this is merely by way of example, since the switch may be adapted for use in connection with barriers of wood, metal, stone, brick and the like, and is not necessarily countersunk, in the main, within the barrier.

The audible signal E, (in the example shown, an electromagnetically operated bell) may be of any approved type and disposed anywhere within the building desired; may be operated by any preferred source of electrical energy F, such as a dry cell battery, acid or alkali battery, or may be operated through the interposition of a transformer in an alternating current of high voltage, or a resistance in a direct current of high voltage.

The electric lamp G may be disposed in such proximity to the door C as to illuminate that portion outside of the barrier A usually occupied by a person seeking admittance or an audience, and the source of electrical energy H may be any of the many types of generators, or may be a storage battery.

The control switch mechanism J preferably comprises three switches, designated in a general way by 10, 11, and 12, the switches 10 and 11 being preferably mounted on a base 13 of insulating material, such as porcelain, and may be enclosed in a housing 14 of any approved character to meet the requirements of State or municipal regulations. The switch 10 preferably comprises two inherently separable switch contacts 15 and 16, while the switch 11 preferably comprises switch contacts 17 and 18 and a bridging member 18^a, the latter of which may be in the form of a lever pivoted as at 19 intermediate its length, thus providing two arms 20 and 21, the former of which is for cooperation with the contacts 17 and 18. The switch 12 may be of any approved construction, such as an ordinary snap switch which may be operated by a button or device 22 so disposed as to be readily operated manually by a person within the house.

The switches 10 and 11 may be manually operated by a person to one side of the barrier A, that is, exteriorly of the house, by a device 23, which, in the example shown, is in the form of a push button normally disposed projecting from the barrier by an expansion spring 24, one end of which may abut against a pin 25 carried by the push button, and the other end abutting against a tubular extension 26 of the housing 14. This push button 23 may be encircled by a rosette 27 of the usual character, in the example shown, carried by the architrave 6. The push button may be made entirely of

non corrosive, insulating material, of sufficient length that it may be shortened, if installation so requires or may be otherwise made so as to be susceptible of adaptation to particular installations. The inner end of the push button is preferably guided by a sleeve 28 carried by the base 13, and may have its inner end bevelled as at 29.

The switches 10 and 11 are so disposed that their contacts 16 and 18^a are in the path of movement of the push button 23, the bevelled end 29 adapted for engagement with the arm 20 of lever contact 18^a. It will thus be observed that, when the push button is moved inwardly it will simultaneously close switches 10 and 11, and when the push button is released, switch 10 will open, but switch 11 remains closed.

In order that switch 11 may be opened, means 30 is provided, susceptible of operation by someone located within the house, and in the example shown, this means comprises a push-and-pull element 31, preferably disposed adjacent to the knob 22, and extending outwardly of a face plate 32 of the housing 14; and a link 33 pivotally connected to the element 31, and the arm 21 of lever contact 18. It will thus be observed that the switch 11 may be operated independently of the push button 23.

When assembling the control switch mechanism J into operative relation with the devices E and G, the contact 15 may be placed in conducting communication with one pole of the audible signal E, as by wire 34, and the contact 16 into conducting communication with the other pole of said audible signal as by wire 35, the source of electrical energy being placed in either conductor 34 or 35. The switch 12 may be placed in series with switch 11 in any suitable manner, and in the example shown contact 18 is in conducting communication with one pole of switch 12 as by wire 36, and the contact 17 in conducting communication with one terminal of the lamp G as by wire 37. The other terminal of lamp G is in conducting communication with the other pole of switch 12 as by wire 38, the source of electrical energy H being shown in the conductor 38.

In operation, assuming that there is need for illumination exteriorly of the barrier when a person seeks entrance or an audience, the parts are disposed in the relative position as shown in Figure 1, with switch 12 closed. Upon pressing the button 23 the switches 10 and 11 are closed, thus sounding the audible signal momentarily, and completing the lamp circuit which circuit remains closed until broken by a person in the house, either by operating switch 12 as by button 22, or switch 11, as by device 31, preferably the latter. Thus the person actuating the switch not only sounds the audible signal but also illuminates the section

where he is located. In Figure 2 the push button is shown in its position closing the switches 10 and 11 and in Figure 3 is shown the relative position of the parts after the person ceases to actuate the button.

If it is desired to illuminate the lamp G, independently of the push button 23, as when expecting a caller, with switch 12 closed, the switch 11 may be closed by operating the device 31 and the lamp will then remain illuminated until the circuit is broken either by switch 11 or 12, operated from the interior of the house.

If it is desired to prevent illumination of the lamp, as during the day time, or at night, when the house is vacant, or it is not desired to respond to calls, the switch 12 may be opened.

In reduction to practice I realize that the conditions concurrent with the adoption of the control switch mechanism will necessarily vary, and I desire to emphasize the fact that various changes may be made in details without departing from the spirit of the invention as claimed.

I claim:

1. In an electric door bell and electric lamp control, the combination with a barrier, of a switch for low voltage electric current adapted to be placed in circuit with the bell, a switch for high voltage electric current adapted to be placed in circuit with

the lamp, a manually actuatable device exposed at one side of the barrier for momentarily closing said first mentioned switch and releasably closing said second mentioned switch, whereby the bell may be momentarily sounded and the lamp illuminated for an indefinite period of time, and a manually actuatable device at the other side of the barrier for opening and closing said second mentioned switch independently of said first mentioned manually actuatable device.

2. In an electric door bell and electric lamp control, the combination with a barrier, of a switch for low voltage electric current adapted to be placed in circuit with the bell, a pair of switches in series for high voltage electric current adapted to be placed in circuit with the lamp, a manually actuatable device disposed at one side of the barrier for momentarily closing said first mentioned switch and releasably closing one of said second mentioned switches whereby the bell may be momentarily sounded and the lamp illuminated for an indefinite period of time, and two manually actuatable devices at the other side of said barrier for opening and closing said second mentioned switches independently of one another and independently of said first mentioned manually actuatable device.

PASQUALE DELLA MONICA.