

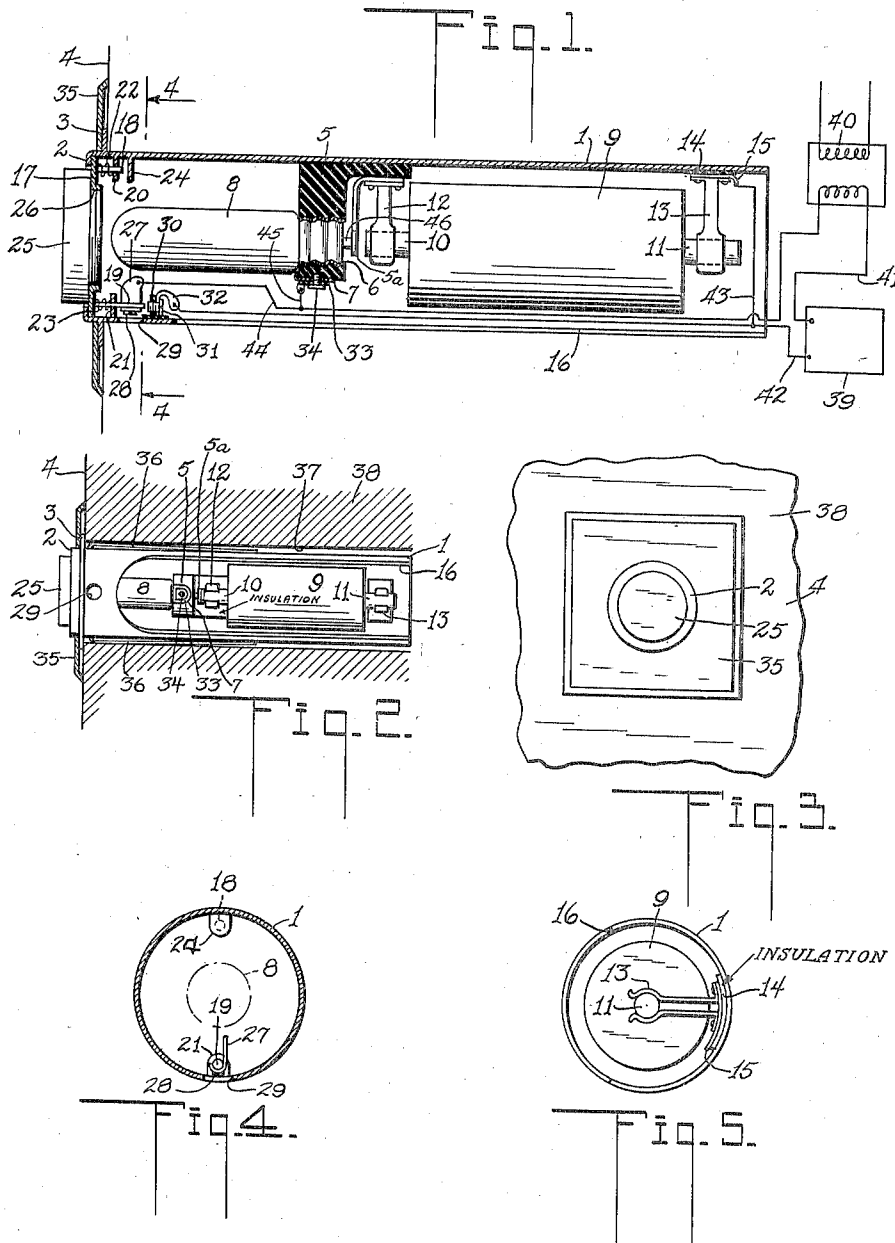
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J. L. WOOD

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ANNUNCIATOR MEANS

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INVENTOR.
JOHN L. WOOD
BY
Munn, Anderson & Kiddy
ATTORNEYS

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ANNUNCIATOR MEANS

John L. Wood, Sacramento, Calif.

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My invention relates to improvements in annunciator means for dwellings and the like, and it consists of the combinations, constructions and arrangements hereinafter described and claimed.

It is difficult to locate a doorbell push button after dark and therefore the purpose of this invention is to provide an illuminated push button. An object of my invention is to provide a novel electric circuit for connecting the push button illuminating means with an annunciator such as a doorbell or chimes and in series with an electrical resistor. A transformer or other source of current is used and the light will continuously burn on a current voltage too low to actuate the annunciator. This permits the light to be connected in series with the annunciator at all times without causing the annunciator to be actuated. The circuit is so arranged that a depressing of the doorbell button will increase the voltage of the current flowing through the annunciator and thus actuate it.

A further object of my invention is to provide a device of the type described which is extremely compact in construction. It is customary to drill a $\frac{5}{8}$ inch hole in the wall adjacent to the door for carrying the wires to the doorbell button. I mount the light and an electrical resistor in a casing whose outer diameter is slightly less than the diameter of the opening in the wall. This entire casing can be bodily moved into the opening and the installation is then completed by merely connecting the wires to the annunciator and to the transformer. It is further possible to remove the push button when it is necessary to replace a light which will last indefinitely because it only has a current of three volts flowing through it.

Other objects and advantages will appear in the following specification, and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawing forming a part of this application, in which—

Figure 1 is a longitudinal section through the device on an enlarged scale showing parts of the invention in elevation;

Figure 2 is a side elevation of the device shown at actual size and placed in a wall opening;

Figure 3 is a front elevation of Figure 2;

Figure 4 is a section along the line 4—4 of Figure 1; and

Figure 5 is a rear elevation of Figure 1.

In carrying out my invention, I provide a casing 1 which is preferably cylindrical in shape and formed from metal. The casing has an inwardly extending flange 2 at one end and an outwardly extending flange 3 disposed adjacent to

the flange 2. The flange 2 is designed to rest against the front surface 4 of a wall.

Within the casing 1, I dispose a base 5 made from insulating material and this base carries a metal threaded sleeve 6 and a tongue 7 extends from the sleeve and is bent over the outer surface of the support 5, see Figure 1. A low voltage lamp 8 is screwed into the sleeve 6 and is designed to burn approximately at a three volt current. The lamp faces toward the flange 2 and may be removed from the front end of the casing.

Directly in back of the lamp 8 I dispose an electrical resistor 9 preferably of a cylindrical shape and carrying electrical terminals 10 and 11. The resistor is preferably of the 10-watt type and the amount of resistance varies according to the voltage of the particular circuit into which the resistor is connected. This feature will be described hereinafter. A spring clip 12 is carried by the base 5 and yieldingly contacts with the terminal 10. A second spring clip 13 is carried by the casing 1 and is separated therefrom by an insulating strip 14 and a contact strip 15. The base 5 carries a spring clip 15a that yieldingly contacts with a central terminal 46 on the lamp 8, thus forming an electrical connection between the resistor 9 and the lamp 8. The clip 13 yieldingly engages with the terminal 11. The casing 1 is slotted at 16 for permitting the resistor 9 to be moved into engagement with the clips 12 and 13 from the side of the casing. This is clearly shown in Figure 2.

The front of the casing has a push-button supporting ring 17 carried by pins 18 and 19 and these pins slide in ears 20 and 21. Springs 22 and 23 yieldingly hold the ring 17 against the flange 2. A stop 24 limits the inward movement of the ring along the casing.

A usually translucent but permissibly transparent push button 25 is threaded into a sleeve portion 26 formed in the ring. The push button is disposed directly in front of the light 8 and is illuminated thereby. The stop 24 will prevent the push button from striking the lamp. The pin 19 acts as one contact arm of a switch and carries an electrical conductor strip 27. A screw 28 removably secures the strip to the pin and the screw is placed opposite an opening 29 in the casing 1 so that access may be had to the screw by means of a screw driver.

The other part of the switch comprises an insulating member 30 which is secured to the casing and carries a screw 31 which in turn connects an electrical conductor strip 32 to the insulating portion 30. When the pin 19 is moved by the push button 25 into contacting position with the screw 31, an electrical circuit is closed. Before describing this circuit, it is best to set forth that

the slot 16 terminates adjacent to the screw 31 so that access may be had thereto with a screw driver. Another electrical conductor plate 33 is secured to the tongue 7 by a screw 34. If desired, a cover plate 35 is placed over the front end of the casing 1 and bears against the flange 3 and may be secured to the wall surface 4 by screws or other suitable fastening means not shown.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

The actual size of the device is shown in Figure 2 and in this figure the casing 1 is illustrated as carrying leaf springs 35 that frictionally engage with a bore 37 in a wall 38. These springs prevent the accidental movement of the casing 1 within the bore. In Figure 1 I show an annunciator diagrammatically at 39 and this may be an audible signal such as an electric bell or chimes. A transformer 40 or other suitable source of current is also shown in Figure 1 and a wire 41 leads from the transformer to the annunciator 39 with a wire 42 leading from the annunciator to the conductor strip 32. A wire 43 connects the wire 42 with the strip 15, and a wire 44 connects with the conductor strip 27 and leads back to the transformer 40. A wire 45 electrically connects the wire 44 with the conductor strip 33.

Where transformers are used to change the usual house current of 110 or 220 volts down to a low voltage, various types of transformers are used and therefore the resistance offered by the resistor 9 must vary accordingly so that a three-volt current will always flow through the lamp 8 regardless of the transformer. For example, a 6-8 volt transformer is used with a 75 ohm resistor and drops the current to three volts for the lamp. In like manner, a 150 ohm resistor is used with an 18 volt transformer and a 200 ohm resistor is used with a 22 volt transformer. In all of these cases the current delivered to the lamp is three volts. The resistors are of a 10 watt variety in order to prevent them from burning out.

I will now trace the electrical circuits. Current normally flows from the transformer 40 along the wire 41, annunciator 39, wires 42 and 43, resistor 9, spring clip 5a, lamp 8, wire 45 and back to the transformer 40 by means of the wire 44. This current will have a pressure of three volts which will cause the lamp 8 to be illuminated by the current and yet the current will be too weak to energize the annunciator 39. The annunciator will therefore not be actuated. When now the translucent or transparent push button 25 is depressed, the switch consisting of the pin 19 and screw 31 will be closed and this will directly connect the wires 42 and 44 together and will shunt the current around the resistor and the lamp. The voltage of the current flowing through the annunciator is now increased to a point where it will be energized and actuate a bell or chimes.

The device is self-contained in that all of the parts are mounted within the casing 1 and may be quickly inserted in the wall opening 37 as a unit. The light 8 will stay illuminated continuously except when the push button is depressed. The voltage of the current to the light is so low that the light will burn for a very long time. In case, however, it is necessary to remove the light, the push button 25 is unscrewed from the ring 17 and then the light is unscrewed from its socket and removed through the ring opening. A new

lamp is now substituted and the push button again secured in place. In case the resistor needs removing, the casing is first removed from the bore 37 and then the resistor is pulled free from the spring clips 12 and 13 and bodily moved through the slot 16. A new resistor is then placed in the casing and clipped in place. I have found that the average wall bore 37 is $\frac{3}{8}$ of an inch in diameter in most houses and I have therefore made the diameter of the casing 1 slightly less than this in order to readily fit into position. I do not wish to be confined, however, to this exact measurement. I make use of a standard six-volt lamp or globe and since only a three-volt current continuously flows through the lamp, its life is greatly increased. It is obvious that a higher current than three volts may be caused to flow through the lamp, but I have found that a three-volt current is ample to illuminate the light to the desired extent.

While I have shown only the preferred form of my invention, it should be understood that various changes or modifications may be made within the scope of the appended claims without departing from the spirit of the invention.

I claim:

1. Annunciator means for a dwelling comprising a lamp with its base, a socket assemblage comprising a receptacle in which the lamp base is seated, a resistor with two terminals one of which is included in said assemblage in contact with said base preparatory to the maintenance of a current sufficient to illuminate the lamp, mounting means to which said assemblage is attached, a portion of said mounting means demarcating the diametral confines of the lamp, socket assemblage and resistor, the mounting means establishing a unit formation tightly fittable in a hole of prescribed size in a support forming part of the dwelling, a pair of contacts and connections between them and the respective lamp base and remaining resistor terminal, and switch means to control the lamp and resistor consisting of a translucent button in front of the lamp, a ring in the center of which the button is fitted, and spring elements in back of the ring pressing against part of the mounting means to normally maintain an open circuit at said contacts.

2. Annunciator means for a dwelling comprising a cylinder slidable from end to end into a tightly fitting mounting in a hole of a support, a lamp with its base, a socket assemblage consisting partly of a receptacle in which the lamp base is seated, a resistor with two terminals, all contained in the cylinder, said cylinder also containing an insulating mount carrying the receptacle and having a clip holding one of the resistor terminals in contact with said base preparatory to the maintenance of a current sufficient to illuminate the lamp, a second clip independently located in the cylinder and holding the remaining resistor terminal, a pair of contacts and connections between them and the respective lamp base and the second clip; and switch means to control the lamp and resistor consisting of a translucent button in front of the lamp, a ring carrying the button, spring elements pushing between the ring and a part of the cylinder to normally maintain an open circuit at said contacts, and means projecting at the button end of the cylinder retaining the ring against the spring pressure.

JOHN L. WOOD.