Feb. 23, 1965 T. S. CONIGLIARO 3,171,116

COMBINED DOOR SIGNAL AND MAIL INDICATOR SYSTEM

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Fig. 1

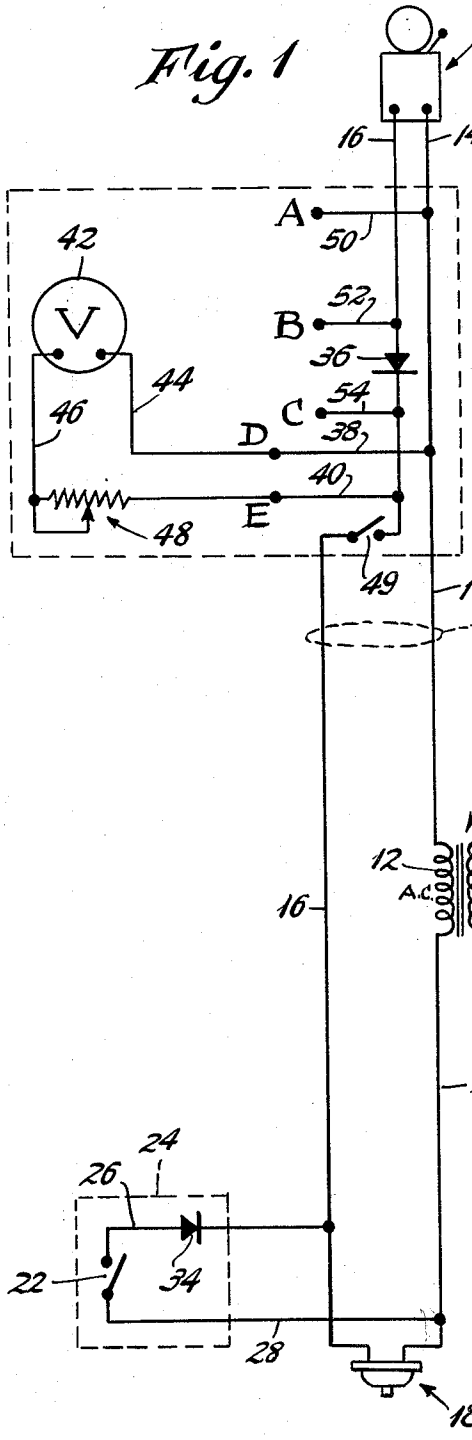


Fig. 2

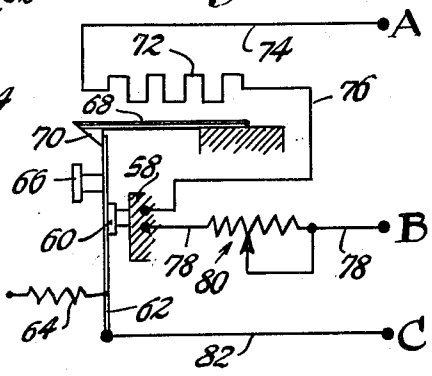


Fig. 3

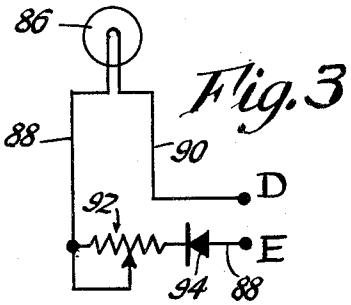
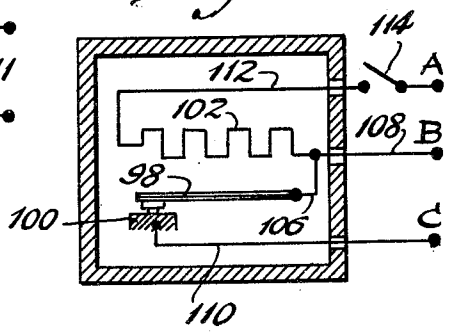


Fig. 4



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COMBINED DOOR SIGNAL AND MAIL INDICATOR SYSTEM

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Fig. 6

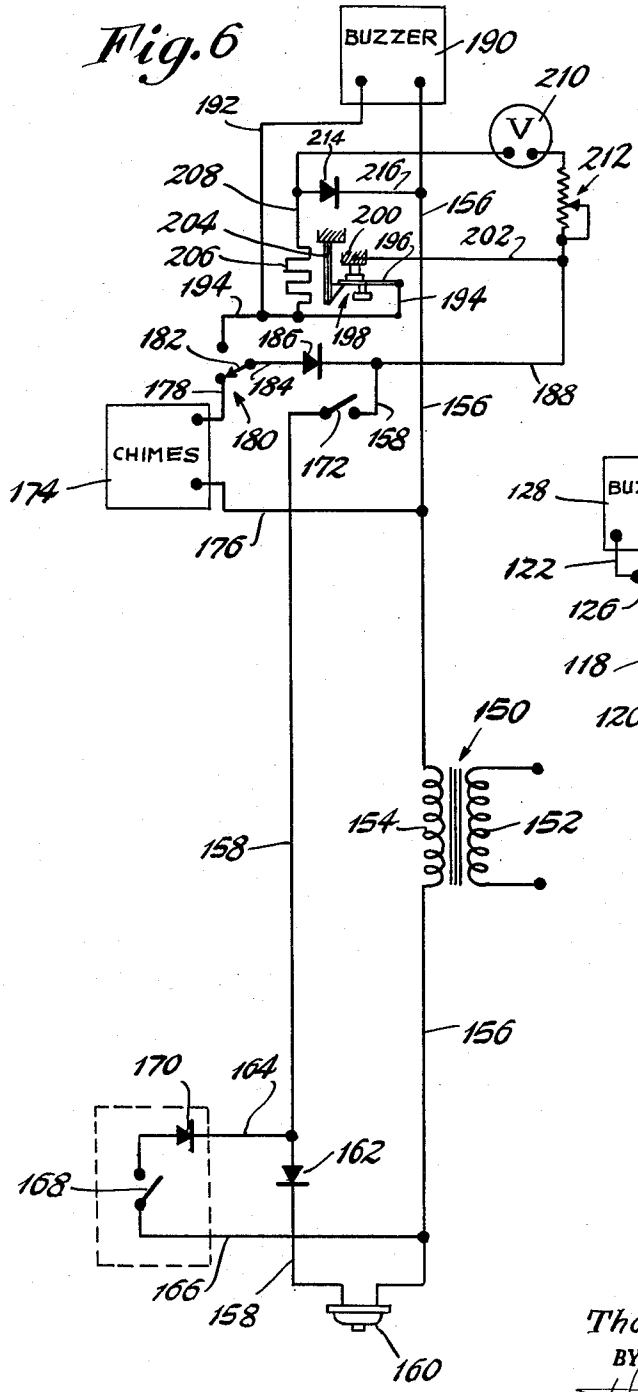
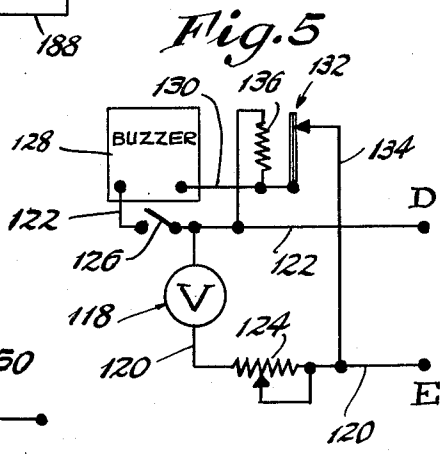


Fig. 5



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United States Patent Office 3,171,116 Patented Feb. 23, 1965

3,171,116

COMBINED DOOR SIGNAL AND MAIL INDICATOR SYSTEM

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Filed Sept. 13, 1961, Ser. No. 137,766
17 Claims. (Cl. 340—281)

This invention relates to mail indicators or signal systems, and more particularly to combined door signal and mail signal systems wherein a common energized line is utilized to obtain both indications or signals.

The present invention concerns improvements in the combination door and mail signal systems of my copending applications Serial No. 817,214, filed June 1, 1959, and entitled "Mail Indicator Device"; and Serial No. 853,655, filed November 17, 1959, and entitled "Combined Door Signal and Mail Indicator Device," said applications having issued respectively as Patent Nos. 3,008,132 and 3,008,133.

This application is a continuation-in-part of my application Serial No. 817,214 above referred to.

In the devices of my prior-filed applications referred to the mail signal responded to an attenuated current too weak to operate the door signal, such current being the result of a resistor inserted in the circuit of the mail box switch. While these devices performed the desired functions, the inclusion of the said resistor resulted in heat which, although of small amount, was considered undesirable. Also, these prior devices were somewhat limited in the disclosures of the mail signals, as this concerned the type and variety of signal device.

The present invention obviates the above drawbacks of the prior signal systems, and one object of the invention is to provide a novel and improved combined door signal and mail signal system utilizing a common energized door-signal line and a current modifying device associated with the mailbox and mailbox switch, wherein no appreciable heat is created as a consequence of modifying the line current to effect the mail indication.

This is accomplished, in accordance with the invention, by a novel organization comprising a series rectifier located in the mail switch circuit, in conjunction with a cooperable indicator device responsive to the rectified current effected by the rectifier, such indicator device being shown herein as a D.C. voltmeter, or a buzzer, or else as an incandescent bulb with the latter preferably coupled to a second rectifier to prevent over energization and premature burnout.

Another object of the invention is to provide a unique combination door signal and mail signal as above outlined, wherein the door signal is A.C. operated as usual whereas the mail signal involves a D.C. organization embracing rectification of the A.C. energy.

Still another object of the invention is to provide an improved combination signal or indicator as set forth, wherein a momentary audible signal is given as well as a visual signal to indicate the presence of mail, said momentary audible signal being either of single occurrence or else repeated, as in the form of an intermittent signal, and wherein the signal of single occurrence may be manually reset whenever desired, as for example after the mail has been procured.

A feature of the invention resides in the provision of an improved combination signal system with momentary reset-type audible indication as characterized, wherein the operation of the door button or switch for any length of time will not result in the mail indicator being shut off or inactivated so as to require resetting of the same.

Another feature of the invention resides in the provision of a combined signal system with intermittent indication, wherein the "off" periods are appreciably longer than the "on" periods, thereby to minimize the likelihood of annoyance being caused.

A further object of the invention is to provide an improved combination door and mail signal as characterized, wherein the audible signal device may be either the same as the door signal or else a separate or additional device.

Another feature of the invention resides in the provision of an improved combination signal system with momentary audible indication utilizing either the door signal or a separate signal for the indication, wherein a simple switching from one arrangement to the other, with a minimum of components, is had.

Other features and advantages will hereinafter appear.

In the drawings accompanying this specification, similar characters of reference are used to designate like components throughout the several views, in which:

FIG. 1 is a schematic circuit diagram of an improved combined door signal and mail indicator system as provided by the invention.

FIG. 2 is a schematic circuit diagram of a novel electrical control device for providing a momentary audible signal, such device being connectable to the circuit diagram of FIG. 1 as indicated by the correspondingly lettered connection terminals.

FIG. 3 is a schematic circuit diagram of a different kind of visual mail indicator signal which may be substituted for a portion of the circuit diagram of FIG. 1.

FIG. 4 is a schematic representation of an electrical control device for use with the circuit of FIG. 1, to effect repeated momentary operation of the door signal, for the purpose of indicating the presence of mail.

FIG. 5 is a schematic circuit diagram of a combined audible and visual indicator device, to be substituted for the visual indicator portion of FIG. 1, as indicated by the similarly lettered terminals.

FIG. 6 is a schematic circuit diagram of another embodiment of the invention incorporating both visual and audible mail indicators in addition to the door signal, the audible mail indicator being of the momentary type and the system having a control device which prevents operation of the audible mail indicator if the door button is depressed.

Refering first to FIG. 1, the improved combination door signal and mail indicator system comprises a usual type of bell ringing or chime energizing transformer **10** having a primary **11** for connection to the 110 volt house circuit. The transformer **10** has a secondary **12** connected in a wire **14** constituting one of the wires of a two-wire energized door signal line, the remaining wire of which is given the numeral **16**.

The wires **14** and **16** are connected to a usual type of door push button **18**, and the cable comprising the two wire door signal line is indicated by the broken line oval **20**.

In conjunction with the push button **18** there is provided a mail actuated switch **22** which is preferably located in or at the mailbox, the latter being indicated by the broken outline **24**. The mail actuated switch **22** is connected by wires **26** and **28** respectively to the wires **16** and **14** of the door signal line.

The door signal system also includes an electric doorbell or electric chimes, the bell being shown in FIG. 1 as a conventional bell unit **32** which is connected to the wires **14** and **16**.

In accordance with the present invention, there is provided in conjunction with the door signal line, mail actuated switch and system above outlined, a novel and improved mail indicator organization utilizing the signal wires **14**, **16** and also employing a unique arrangement of current modifying device associated with the mail op-

erated switch 22, whereby no appreciable heat is created as a consequence of modifying the line current to effect the mail indication.

The invention accomplishes this by the provision of series rectifier means located in the mail switch circuit, in conjunction with a cooperable indicator device which is responsive to the rectified current effected by the rectifier, to provide the indication as to the presence of mail. As shown, an electrical rectifier 34 is included in the wire 26 which is connected to the mail actuated switch 22 and to the door signal line 16. Further, a second rectifier 36 is shown as included in the door signal line 16, facing in a direction which enables it to oppose current which passes through the first rectifier 34. Thus, by the provision of the two rectifiers, a closing of the mail-operated switch 22 will not result in any appreciable current but only leakage current passing through the door signal 32 whereby the latter will not operate. However, closing of the push button 18 will enable a rectified half-wave D.C. current to pass to the doorbell 32 whereby the latter will be energized and will operable.

The characteristics of the bell 32 are such as to be suitable for use on direct current, considering the output voltage of the transformer 10. In most circumstances an ordinary A.C. bell will operate satisfactorily on rectified current from a transformer of the type intended to energize the bell. Thus, the door signal line has been converted, insofar as the bell or set of chimes is concerned, to half-wave D.C. operation from pure A.C. operation. It is to be noted that closing of the mailbox switch 22 will under all circumstances result in only leakage current passing through the bell 32, which will not operate the latter. However, half-wave D.C. current will be available at terminals "D" and "E" as shown, which are connected by wires 38 and 40 respectively to the line wires 14 and 16. Use is made of this rectified alternating current, in accordance with the invention, to operate any of a number of mail indicator devices which are responsive to such energization.

As shown in FIG. 1, a D.C. voltmeter 42 is provided, connected by wires 44 and 46 to the terminals "D" and "E" respectively. In the wire 46 an adjustable, current-limiting resistor 48 is provided, to adjust the value of the current to the range of the meter needle. The voltmeter 42 need not be an expensive instrument, but instead will operate satisfactorily even if it has a low sensitivity such as found in inexpensive commercial instruments.

With such organization, closure of the mail operated switch 22 will result in an indication by the D.C. voltmeter 42 whereas the door signal 32 will not be operated at all. However, closure of the front door button 18 will operate the doorbell 32 in the usual manner. It can also conceivably cause a deflection of the meter needle of the meter 42, which may be disregarded since it occurs only during operation of the doorbell 32.

It will now be understood that by the above organization there is obviated resistors and other heat-producing devices which create an appreciable amount of heat, at the mailbox location, and instead there is utilized the simple crystal (selenium or silicon) rectifier 34 which normally emits or produces such little heat as to be inconsequential.

I have further found that where the door signal is in the form of chimes, the energization of the same by a half-wave rectified current will result in a continuous desirable operation and sound being produced, as distinguished from the single chime note occurring for A.C. operation. This continuous type of operation or note is considered to be of advantage, for there is often a likelihood that a single note might not be heard. It may be noted, though, that by increasing and regulating the output voltage of the transformer 10, the normal chime operation may be had, if this should be desired.

The absence of appreciable heat in the current modifying device utilized in connection with the mailbox 24 results in a safer and more desirable operation, as may now be understood.

Included in the signal line wire 16 is an on-off switch 49, by which the combined door and mail indicator system may be rendered inoperative, as when the occupants leave for vacation, etc.

In accordance with the present invention, in addition to a visual signal or indication being given as to the presence of mail, there is also provided a momentary audible signal, and for this purpose, the usual doorbell 32 may be utilized. In effecting this, the circuit of FIG. 1 is shown as having terminals "A," "B" and "C" connected respectively by wires 50, 52 and 54 to the signal lines 14 and 16 as shown. The wires 52 and 54 are connected on opposite sides of the rectifier 36.

Referring to FIG. 2, an electrical control device is provided comprising stationary and movable cooperable switch contacts 58 and 60, the latter being carried by a movable arm 62 which is biased to open position by a spring 64. The arm 62 has a manually engageable push button 66, as shown, and is normally retained in the circuit-closing position by a bimetallic latch arm 68 having a latching nose 70. Adjoining the bimetallic latch arm 68 is an electrical heater coil 72 connected at one end by a wire 74 with the terminal "A" as shown. The other end of the heater coil 72 is connected by a wire 76 with the stationary contact 58, and a wire 78 having inserted in it an adjustable resistor 80 is connected to the terminal "B." The movable switch arm 62 is connected by a wire 82 with the terminal "C." When the terminals "A," "B" and "C" of FIG. 2 are connected respectively to the correspondingly lettered terminals of FIG. 1, the system will provide for a momentary signal being given by the bell 32 when the mailbox switch 22 is closed. For such condition, the half-wave rectified current will pass through terminal "C," switch contacts 58 and 60, heater 72 to terminal "A." Also a portion of such current will pass from the stationary switch contact 58 through the adjustable resistor 80 to the terminal "B," and thence through the bell 32 to the return wire 14 whereby the bell will be energized and will sound. As the heater coil 72 becomes hot, it will heat the bimetallic latch arm 68, releasing or separating the locking nose 70 thereof from the movable switch arm 62 whereupon the latter will be separated by the spring 64 from the stationary contact 58. Accordingly the energization of the bell 32 will be discontinued and there will also be a discontinuance of energization of the heater 72 since current will not be supplied threeto from the terminal "B" on the remote side of the rectifier 36. Therefore the presence of mail will be indicated audibly by a momentary sounding of the bell 32, as well as being continuously indicated by the voltmeter 42.

After the mail has been obtained and the mailbox switch 22 again opened, the operator resets the control device by depressing the button 66, the arm 62 being again latched in circuit-closing position by the bimetallic latch 68 which has cooled off.

In place of the visual indicator comprising the voltmeter 42 an incandescent lamp may be utilized, as indicated in the circuit of FIG. 3. This circuit is to be substituted for the voltmeter circuit of FIG. 1, such substitution being made at the terminals "D" and "E," as will be readily understood.

The rectified A.C. current will pass through the incandescent lamp 86 via the wires 88 and 90 connected respectively to the terminals "E" and "D." In the wire 88 a current limiting adjustable resistor 92 is provided, as well as an additional rectifier 94 which will pass the rectified current effected by the rectifier 34 without appreciable diminution, but will serve to rectify alternating current brought to the terminals "D" and "E," as when the push button 18 is depressed. Accordingly, approximately the same amount of energy will flow through

the incandescent lamp 86 for eiher closing of the mailbox switch 22 or closing of the push button 18, safeguarding the lamp and preventing premature burnout. The brilliance of the lamp 86 is adjusted by regulating the adjustable resistor 92, as will be readily understood.

Another type of electrical control device for effecting a momentary sounding of the audible signal is illustrated in FIG. 4, the circuit shown therein being arranged for use in conjunction with the system of FIG. 1, as by connection of the similarly marked terminals "A," "B" and "C." With the organization of FIG. 4, the momentary sounding of the bell 32 in response to the presence of mail at the mailbox will be repeated at intervals, and the organization is such that the intervals of silence are much greater than the intervals in which the bell is sounded.

As seen in FIG. 4, the control device thereof comprises a bimetallic switch arm 98 which is cooperable with a stationary contact 100, and further comprises a heating coil 102 adjacent the bimetallic switch arm 98, the entire assemblage being enclosed in a heat insulating casing 104. The arm 96 is connected to the heater 102 by a wire 106, such wire being joined by a lead 108 to the terminal "B." The stationary contact 100 is connected by a wire 110 to the terminal "C," and the remaining end of the heater 102 is connected by a wire 112 through an on-off switch 114 to the terminal "A."

When the circuit shown in FIG. 4 is connected to the circuit of FIG. 1, the rectified current effected when the mail switch is closed passes through the bimetallic switch 98, 100 and heater 102 to the return wire 14, causing energization of the heater. Also, a portion of the rectified current passes through the bimetallic switch 98, 100 to the terminal "B" and thence through the door signal 32 to effect an energization of the same. When the bimetallic arm 98 becomes hot, it will separate from the stationary contact 100, opening the circuit to the signal 32. The heat which has collected in the heat insulating casing 104 will retain the switch arm 98 separated from the cooperable contact 104 an appreciable length of time, during which the signal remains silent. As the bimetallic arm 98 finally cools off, it will again reclose and contact the stationary contact 100, causing the signal to be sounded as well as effecting reenergization of the heating coil 102. This cycle is accordingly continually repeated until the mail switch 22 is opened, as by the removal of the mail.

A combined visual and momentary audible signal device and electrical control adapted to be substituted for the visual signal of FIG. 1, is illustrated in FIG. 5. The circuit of FIG. 5 is arranged for connection of the terminals "D" and "E" thereof with the correspondingly lettered terminals of the circuit of FIG. 1, the voltmeter 42 and resistor 48 being removed.

In FIG. 5 a D.C. voltmeter 118 is provided, connected by a wire 120 with the terminal "E" and by a wire 122 with the terminal "D." In the wire 120 there is interposed an adjustable resistor 124. The wire 122 also connects, through a switch 126, with a buzzer or equivalent audible signal 128, and the latter is connected by a wire 130 through a bimetallic switch 132 to a wire 134 joined to the wire 120 and terminal "E." A heater 136 for the bimetallic switch 132 is connected to the wires 122 and 130, as shown.

When the circuit of FIG. 5 is connected to the terminals "D" and "E" of FIG. 1 with the voltmeter and resistor 48 of FIG. 1 removed, the rectified A.C. current resulting from closure of the mailbox switch 22 will energize the voltmeter 118. Also, it will energize the heater 136 through the bimetallic switch 132 and further effect energization of the buzzer 128. Upon the heater 136 causing the bimetallic switch 132 to open, the buzzer will be deenergized and become silent while the voltmeter 118 will remain in an indicating position.

Upon the heater 136 cooling, the bimetallic switch 132 will again close, causing the buzzer 128 to sound, etc.

It will be noted that with the organization of FIG. 5 the momentary audible signal is provided by a device which is separate from the doorbell signal 32. In other words, the circuit embraces the doorbell signal which is actuated only when the push button 18 is depressed, the separate audible signal or buzzer 128 and the visual indicator or voltmeter 118, both of these latter being operated in response to closing of the mailbox switch 22. Further, the buzzer 128 will be sounded intermittently until the mail is removed, or else until the switch 126 is opened, whereas the voltmeter 118 will indicate continuously. When the door button 18 is depressed, the voltmeter 118 will deflect and the buzzer 128 will also sound, as well as the regular door signal 32 operating, but this is inconsequential since all components become deenergized upon the door button 18 being released.

Another embodiment of the invention is illustrated in FIG. 6, wherein a separate audible mail indicator signal is provided, in addition to the regular doorbell or chime signal, as well as a visual signal, and wherein the separate audible signal for the mail indication is not actuated when the chimes are utilized, but sounds only when the mail operated switch is closed. Further, the system of FIG. 6 may be alternatively arranged, by the use of a simple single pole double throw selector switch, to enable the audible mail indicator device to also serve as the door signal.

As shown, the signal system comprises an energizing means or transformer 150 having a primary 152 for connection with the house circuit, and a secondary 154 connected with a wire 156 of a door signal line which has a second wire 158. The door signal wires 156 and 158 are connected to a push button 160, and interposed in the wire 158 is a rectifier device 162. Joined to the wires 156 and 158 at the places indicated are wires 164 and 166 leading to a mail operated switch 168 and series connected rectifier 170. The plus side of the rectifier 170 is connected to the negative side of the rectifier 162, as shown. The door signal line has an on-off switch 172 interposed in the wire 158, as shown.

A set of door chimes or equivalent device 174 is connected by a wire 176 to the signal line 156 at the point indicated, and connected by a wire 178 to one stationary contact of a single pole double throw switch 180. The blade 182 of the switch 180 is connected by a wire 184 to a rectifier 186, which is in turn connected by a wire 188 to the wire 158. The rectifiers 186 and 162 are not in opposition, and accordingly with the circuit as above described so far, depressing and closing of the button 160 will effect half-wave A.C. energization of the chimes or equivalent device 174. However, the rectifiers 186 and 170 are in opposition, and accordingly when the mail switch 168 is closed it will not cause energization or operation of the chimes 174 (considering the selector switch 180 to be in the position shown in the drawing).

By the present invention a unique combined visual and audible mail indicator signal is provided in conjunction with the circuit as thus far described, by which a visual indication is had as to the presence of mail, and also a momentary audible signal which shortly becomes terminated until manually reset.

In accomplishing the above mail indications, there is provided a buzzer or equivalent audible signal device 190 which is connected to the wire 156 and also connected by a wire 192 to a wire 194 leading to the remaining stationary contact of the selector switch 180 and also leading to the movable contact arm 196 of a heat responsive switch 198 having a stationary contact 200 connected by a wire 202 to the wire 188. The switch 198 is normally biased to open circuit position, and is retained in closed circuit condition by a bimetallic latch arm 204 which is influenced by a heater coil 206.

The coil 206 is connected at one end to the wire 194,

and joined at its other end by a wire 208 to a D.C. voltmeter 210 which is connected through an adjustable resistor 212 to the wire 188. Also, the wire 208 is connected to a rectifier 214 which in turn is connected by a wire 216 to the wire 156. Normally the bimetallic-latch switch 198 is closed. The rectified A.C. current which results when the push button 160 is depressed will also energize the buzzer 190, since the circuit from the wire 158 to the buzzer includes the wire 188, 202, the switch 198, and the wires 194 and 192, the return being through the wire 156.

However, such energization is of no consequence since it is accompanied by the sounding of the chimes 174, indicating that the doorbell button has been depressed. But, such action will not effect an opening of the bimetallic switch 198, for the reason that the heater 206 for such switch cannot receive sufficient energy through the voltmeter windings but instead must be energized through the rectifier 214 which opposes such intermittent D.C. half-wave current.

Accordingly, the mail indicator system comprising the buzzer 190, voltmeter 210, and automatic switch control 198 will remain intact even though the buzzer and voltmeter are actuated when the button 160 is depressed, along with the chimes 174. However, when the mail operated switch 168 is closed, the chimes will not be sounded but instead a circuit will be established through the voltmeter 210 via the wires 188, 208, rectifier 214 and wires 216, 156. Also, the buzzer 190 will be energized via the wires 158, 188, 202, switch 198, wires 194 and 192, and the return wire 156. At the same time, the heater 206 will be energized via the wires 158, 188, 202, switch 198, wire 194 and return circuit comprising the wire 208, rectifier 214 and wires 216, 156. After a momentary operation of the buzzer 190, the heat created by the heating coil 206 will deflect the bimetallic latch arm 204, thereby enabling the biased switch 198 to spring open, thereby interrupting the circuit to the buzzer 190 as well as the circuit to the heater 206. Accordingly, the energization of the buzzer 190 will be discontinued, while the visual signal comprising the voltmeter 210 will remain operative.

It will now be understood from the foregoing that the control device comprising the heat-responsive switch 198 will only be operated when the mail actuated switch 168 is closed, and will not be effected when the push button 160 is closed.

After the mail has been taken in and the mail switch 168 is again open, the bimetallic switch 198 may be reset by depressing the button carried by the switch arm 196, since the heater 206 and the bimetallic arm 204 will have cooled off. Thus, whereas when the push button 160 is closed, the chimes 174, buzzer 190 and voltmeter 210 will all be made to indicate, the user will be appraised of the fact that there is a visitor at the door by assigning prime importance to the operation of the chimes. However, when mail is deposited in the mailbox to actuate the switch 162, the chimes will not be sounded, and accordingly the momentary operation of the buzzer 190 and the continued indication provided by the voltmeter 210 will indicate to the user that mail is present in the mailbox, and should be removed.

It will now be understood from the foregoing that I have provided a novel and unique combined door signal and mail indicator system having a number of advantages. By the use of small rectifier units there is eliminated ot the greatest degree the creation of heat at the mailbox and at other places, except where such heat is desired in connection with the heat responsive switch unit. Further, the system provides for both a visual and an audible indication as to the presence of mail, the audible indication being of a momentary nature and being either shortly discontinued or else repeated at intervals, as desired. Moreover, the audible indication may be given by a separate audible signal, or the existing doorbell or door chimes may be utilized to provide the momentary indication as to the presence of mail. The system is seen to be relatively simple, requiring few components of an inexpensive nature. The operation is reliable, and the device provides the utmost in convenience and safety as regards the delivery and reception of mail, utilizing existing doorbell lines.

Variations and modifications may be made within the scope of the claims, and portions of the improvement may be used without others.

I claim:

1. A combined door signal and mail indicator system comprising a two-wire energized door signal line having series connected to it an A.C. energizing means and also connected to it an electrical control including a push-button series connected in the line; a mail box controlled circuit comprising a mail box switch and a first rectifier series-connected to the switch, for effecting a rectified voltage; means connecting said mail box controlled circuit in parallel with the electrical control, said mail box switch being responsive to operation of the mail box to cause a rectified voltage in the signal line; an audible electric signal and a control means including a second rectifier and means connecting the second rectifier and signal in series with each other and with the signal line, rendering the signal inoperative when the line has rectified voltage as effected by the mail box switch being closed, said control means passing current to enable operation of the audible signal to occur when the push button is closed to effect current through said electrical control which is independent of said first rectifier, said second rectifier blocking from the audible signal any rectified voltage which is effected by means of the mail box switch and first rectifier.

2. A system as in claim 1, wherein there is a second signal and means connecting the second signal to the door signal line, said second signal operating in response to the rectified voltage which is effected by closing of the mail box switch and operation of the first rectifier.

3. A system as in claim 2, wherein the second signal comprises a D.C. voltmeter.

4. A system as in claim 2, wherein there is an automatic control mechanism connected with the signal line, for effecting a momentary operation of the second signal by the said rectified voltage, and wherein there are blocking means preventing current from the energizing means from flowing through the said control mechanism when the push button is depressed.

5. A system as in claim 4, wherein the blocking means comprises rectifiers one of which is connected to one wire of the door signal line whereas the other is in series in the signal line.

6. A system as in claim 1, wherein there is an automatic control mechanism including a conductive circuit shunted around the said control means to bypass the same, for effecting a momentary operation of the signal by the said rectified voltage.

7. A system as in claim 6, wherein there are means causing the control mechanism to effect repeated momentary operation of the signal.

8. A system as in claim 6, wherein there are blocking means preventing current from the energizing means from flowing through the said control mechanism when the push button is depressed.

9. A system as in claim 8, wherein the blocking means comprises a pair of rectifiers connected one in series in the signal line and the other to the said control mechanism, said rectifiers being connected to oppose the flow in either direction of a current through both.

10. A system as in claim 6, wherein the automatic control mechanism comprises a bimetallic switch and a heater juxtaposed thereto and adapted to open the switch when energized by rectified current.

11. A system as in claim 10, wherein there is a manually releasable latch for retaining the bimetallic switch open after it has been opened initially by the heater.

12. A system as in claim 11, wherein there are blocking means preventing current from the energizing means from flowing through said heater when the push button is depressed.

13. A combined door signal and mail indicator system comprising a two-wire energized door signal line having series connected to it an A.C. energizing means and also connected to it an electrical control including a push-button series connected in the line; a mail box controlled circuit comprising a mail box switch and a first rectifier series-connected to the switch, for effecting a rectified voltage; means connecting said mail box controlled circuit in parallel with the electrical control, said mail box switch being responsive to operation of the mail box to cause a rectified voltage in the signal line; an audible electric door signal and control means including a second rectifier and means connecting the second rectifier and signal in series with each other and with the signal line, rendering the signal inoperative when the line has the rectified voltage as effected by the mail box switch being closed, said control means enabling operation of the audible signal to occur when the push button is closed to effect non-rectified current through said electrical control which is independent of said first rectifier, said second rectifier blocking from the audible signal any rectified voltage which is effected through the mail box switch and first rectifier; a second electric signal adapted to be operated by current due to said rectified voltage as effected by the first rectifier; and means connecting the second signal to the door signal line to enable it to respond to rectified voltage therein as effected by the first rectifier and resulting from closing of the mail box switch.

14. A system as in claim 13, wherein the means connecting the second signal to the signal line includes an electrical current-control device for controlling the circuit of the second signal.

15. A system as in claim 14, wherein the second signal comprises an incandescent lamp, and wherein the said electrical circuit control device comprises a rectifier.

16. A system as in claim 14, wherein the said electrical current control device includes automatic means effecting a momentary operation of the second signal by the said rectified voltage.

17. A system as in claim 16, wherein there is a third signal including visual signal means, and wherein there are means connecting said third signal to the signal line to respond to the rectified voltage therein resulting from closing of the mail box switch.

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