Oct. 14, 1924. 1,511,660

G. C. CYR

DOORBELL SIGNAL INDICATOR

Filed Jan. 24, 1921 2 Sheets-Sheet 1

Fig. 1.

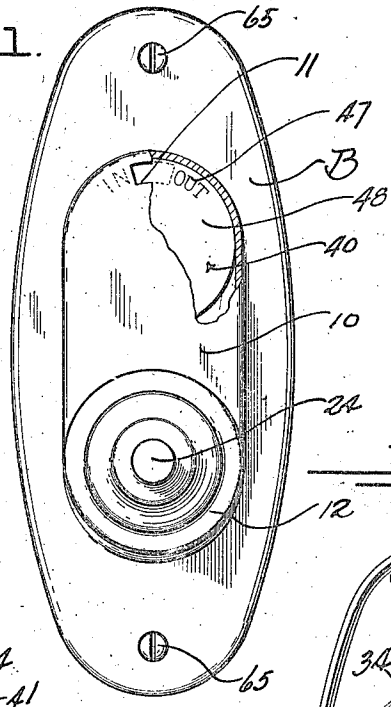


Fig. 2.

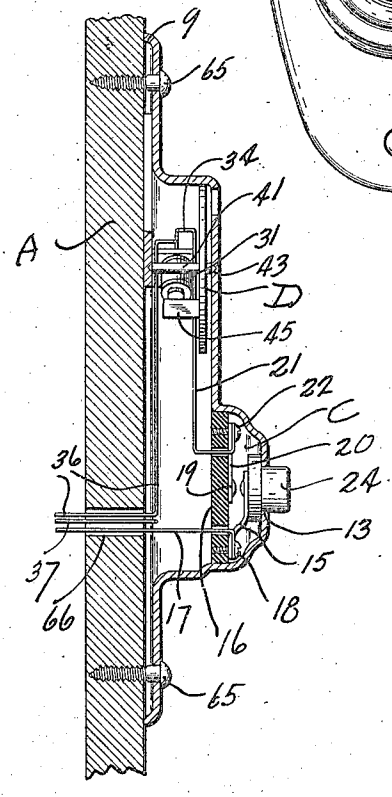
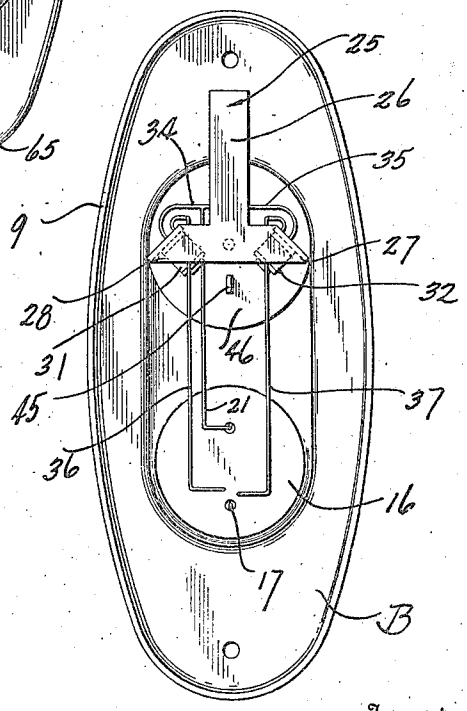


Fig. 3.



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Fig. 6.

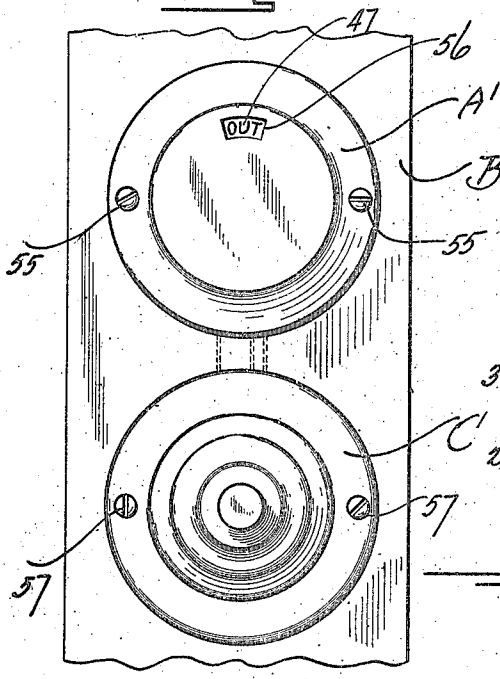


Fig. 4.

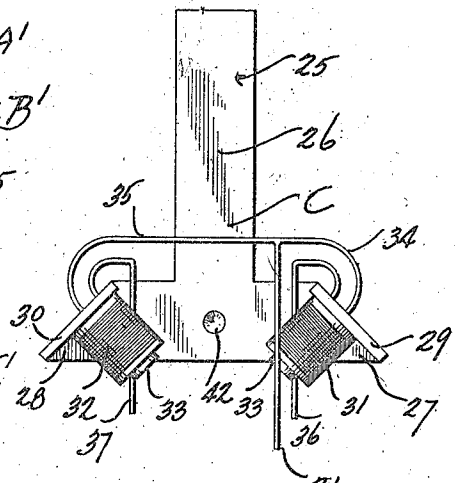


Fig. 5.

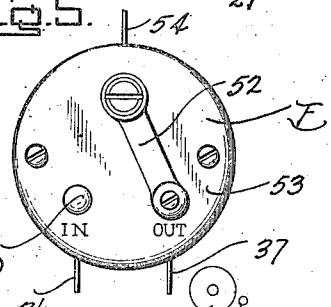
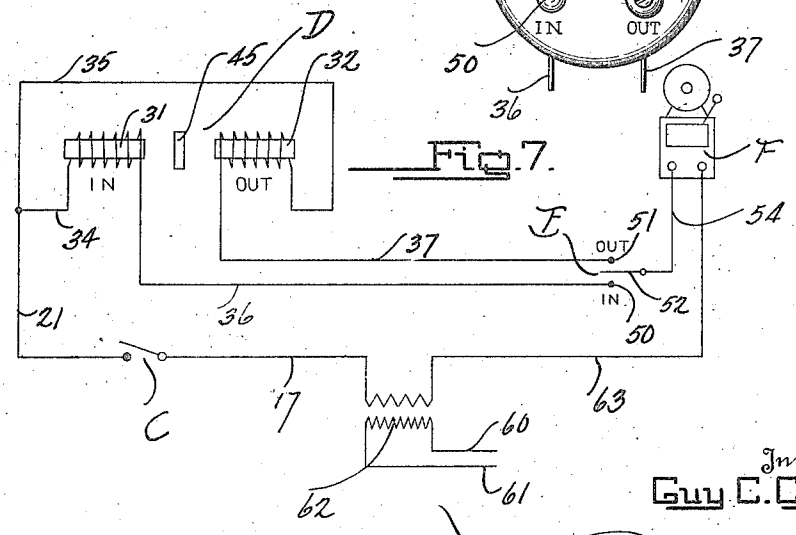


Fig. 7.



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UNITED STATES PATENT OFFICE.

GUY C. CYR, OF ESCANABA, MICHIGAN.

DOORBELL SIGNAL INDICATOR.

Application filed January 24, 1921. Serial No. 439,526.

To all whom it may concern:

Be it known that I, GUY C. CYR, a citizen of the United States, residing at Escanaba, in the county of Delta and State of Michigan, have invented certain new and useful Improvements in Doorbell Signal Indicators, of which the following is a specification.

This invention relates to improvements in door bell signal indicators.

The primary object of the invention is the provision of a door bell indicator which is adapted for installation in houses, offices or the like, to indicate or convey information from one part thereof to another.

A further object of the invention is the provision of a device of the above described character which is adapted for specific application to houses, and is for the purpose of informing persons exteriorly of the house, such as tradesmen, agents, or the like, the presence or absence of individuals in the house.

A further object of the invention is a device of the above described character adapted for use in homes and the like, in which the indicating means is in circuit with a signal, and a selective switch remote therefrom, whereby the indicating means may be selectively controlled.

A further object of the invention is the provision of a selective switch signalling means which is simple in construction, having its various parts compactly and conveniently developed for easy application to any supporting structure.

Other objects and advantages will be apparent during the course of the following detailed description.

In the accompanying drawings, forming a part of this specification, and in which like reference characters designate like parts throughout the same:

Figure 1 is a fragmentary front elevation of the signal indicator.

Figure 2 is a cross sectional view of the improved signal indicator showing the various details of construction.

Figure 3 is a rear elevation of the improved signal indicator.

Figure 4 is a front elevation of the means employed for actuating an indicator.

Figure 5 is a plan view of a selective switch embodied as part of the improved signal indicator.

Figure 6 is a front elevation of a modified form of the improved signal indicator.

Figure 7 is a diagrammatic representation of the improved signal indicator and the circuit therefor.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the letter A designates a support, such as a door or door post, upon which the casing B is detachably mounted. The casing B includes the push button switch C, and the indicating means D. A selective switch E, and a signal or bell F are provided in circuit with the indicating means E and push button switch C.

The casing B is preferably of copper stamped metal, and is an integral structure, substantially oval in shape, having the outturned peripheral flange 9 upon the inner face thereof, and the longitudinal outstruck casing 10. The casing 10, is of course hollow, and in the upper end thereof is provided a slotted aperture 11, the purpose of which will hereinafter be more specifically set forth. A circular outstruck casing 12 is provided upon the lower part of the casing 10 and is adapted to house the switch structure C. An aperture 13 is provided centrally of the raised portion 12.

The push button switch C is of ordinary construction and includes the contact arm 15 resiliently mounted upon the insulated support 16 and connected to the lead wire 17 by a detachable screw 18. The contact arm 15 is spaced from the contact 19; which is positioned upon one end of a bar 20 having upon the other end a lead wire 21, detachably mounted by a screw 22. Thus upon depression of the push button 24, which projects exteriorly of the casing B through the aperture 13, the contact arm 15 will engage the contact 19 and close the circuit through the wires 17 and 21.

The indicating means D is of special formation and is adapted for disposal in an end of the casing A, adjacent the aperture 11. It includes a substantially T-shaped support 25, adapted to be supported upon the rear face of the casing A as by soldering. The support 25 includes the stem 26, and the extending feet 27 and 28 upon the ends of which extensions 27 and 28 the supporting flanges 29 and 30 are positioned, the planes of which flanges are substantially at right angles to

the plane of the support 25, and which extend at an oblique angle to the longitudinal run of the stem 26. The electro-magnets 31 and 32 are positioned upon the under surface of the flanges 29 and 30 respectively, and have their pole faces 33 converging in direction to face each other. The electro-magnets 31 and 32 are in circuit with the wire 21 by lead wires 34 and 35 respectively; and the current entering the electric magnets 31 and 32 is conveyed therethrough and led through the wires 36 and 37 respectively to the selective switch E. The indicating means D also includes a substantially circular indicating disc 40 which is pivotally mounted upon a stem or axle 41, the ends of said axle projecting upon either side of the disc 40 and being pointed. One of the pointed ends of the axle 41, is pivotally disposed within the depression 42 in the support 25. The depression 42 is located equi-distantly from the pole faces 33 of the electro-magnets 31 and 32 respectively, and the axes of the pole faces 33 might be said to be disposed tangentially with respect to the depressions 42. The other end of the axle 41 is disposed within a suitable depression 43 upon the rear face of the raised portion 10. The disc 40 is provided upon its rear face 46 with a suitable armature 45, which is eccentrically disposed with respect to the pivot axle 41. The armature 45 is however in line of contact with the pole faces 33 of the electro-magnets. Suitable indicia 47 are inscribed or otherwise placed upon the face 48 of the disc 40 and near the outer circumference of the disc in such manner that when the disc is oscillated upon its pivot 41, the various delineations 47 will be visible through the aperture 11.

The selective switch E is of ordinary construction and includes the contacts 50 and 51, representing the terminals of the lead wires 36 and 37 respectively. A contact arm 52 is pivotally mounted upon the supporting disc 53 and adapted to bridge either of the contacts 50 or 51 for conveying the current to a common lead wire 54, for conveying the current into the signal F.

In the modified form of structure, as illustrated in Figure 6, the casing A′, is adapted to enclose the indicating means D which is fully illustrated in Figures 2 and 3 of the drawings, and which casing A′ is provided to be detachably mounted upon a support B′ as by screws 55. The casing A′ is substantially circular in formation and is provided with a suitable aperture 56 to display the delineation 47 upon the disc 40. A casing C′ is provided for detachably mounting upon the support B′ as by screws 57 and is substantially circular in formation for the purpose of enclosing the push button switch C. Thus in the modified form the casing A′ and B′ are separate casings as distinguished from the integral structure B in the preferred form.

The improved signal indicator is adapted to be in circuit with a common supply source of electrical energy and from which source the wires 60 and 61 lead. A step down transformer 62 is provided in circuit with the wires 60 and 61 and is connected at one outlet to the lead wire 17 which has hereinbefore been described as conveying the current to the switch C. A wire or conductor 63 is attached for conveying the current from the transformer 62 into the signal F. Thus a complete selective circuit is provided, which has been diagrammatically represented in Figure 7.

In mounting the preferred form of casing B as illustrated in Figure 1 upon the support A, suitable screws or the like 65 are employed, and a suitable aperture 66 is provided through the support A for the purpose of inserting the lead wires 36, 37 and 17 therethrough and to their various destinations as hereinbefore described.

In operation, when a person leaves the house or does not desire to be disturbed, it is merely necessary to throw the contact arm 52 of the selective switch E to indicate "out" thus bridging the wires 37 and 54 by contact of the arm 52 with the contact 51. A person then desiring to find out whether the individuals are at home or not will merely press the button 24 of the switch C, in such manner that the wires 17 and 21 are bridged, which will immediately close the circuit through the wires 17, 21, 35, 37, 54 and 63 which will energize the electro-magnet 32. Upon the energizing of the magnet 32 the armature 45, which by its weight is normally held in neutral position intermediate the magnets, will be attracted to the pole face 33 thereof, and which will automatically rock the indicating disc 40 upon its pivotal axis 41, in such manner that the same will oscillate to throw the delineation 47 reading "Out" in line to be visible through the aperture 11, thus notifying the operator of the switch C that the person within the house is not to be disturbed or is not at home. In the circuit as above described, the current will of course be conveyed through the signal F for ringing the same. Generally if the person or resident of the house desires to have it made known that the house is occupied, the contact arm 52 is thrown to bridge the wires 36 and 54. Upon pushing the button 24 of the switch C, the circuit will then be conveyed through the electric magnet 31 to energize the same which will attract the armature 45 and rock the disc 40 in a direction opposite to that above described, when the electromagnet 32 was energized; and which will show a delineation 47 to indicate "in," conveying information to the person or operator of the

switch C the presence of individuals within the house. Thus, an indicating means D has been provided having a common armature 45, for a plurality of electromagnets 31 and 32.

Various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the claims.

I claim:

1. In a device of the class described, the combination with a support, of a casing having a pocket therein and provided with an opening therein communicating with said pocket, a T-shaped support connected intermediate said casing and said support to extend into said pocket, electromagnets carried by the depending end of said support and having the axes thereof disposed at right angles with respect to each other and having their pole faces in confronting relation substantially at right angles with respect to each other, a shaft pivoted in said casing at one end and in said depending support at its other end, a disc fixed upon said shaft adapted for rotary movement therewith, said disc having indicia upon the outer face thereof adapted for alignment with the opening of said casing upon movement thereof, an armature extending outwardly from a face of the disc opposite from the face on which said indicia are provided, and being eccentric with said shaft whereby the weight of said armature normally holds said disc as to render all delineations on said indicator member invisible through the opening of said casing, and whereby the armature is held in neutral relation with respect to the pole faces of said magnets, said armature adapted for attraction by either of said electromagnets upon energizing thereof whereby the indicator disc may be swung to have a delineation thereof visible through the opening in said casing.

2. In a signal indicator the combination of a supporting casing providing an opening therein, a circular disc pivotally mounted centrally thereof within the casing having several delineations thereon, adapted to be exhibited one at a time through the opening of the casing, an armature eccentrically mounted upon said disc and extending in projecting relation from the plane of the disc, and electro-magnets mounted within the casing upon opposite sides of the armature of the disc, the weight of the armature being normally sufficient to retain the disc delineations out of exhibiting position with respect to the opening in the casing, but when attracted by either of the electromagnets adapted to move the disc to display indicia through said opening.

GUY C. CYR.