Feb. 20, 1940. T. E. BRANDON 2,191,247

SIGNALING DEVICE

Filed April 7, 1938

Fig. 1.

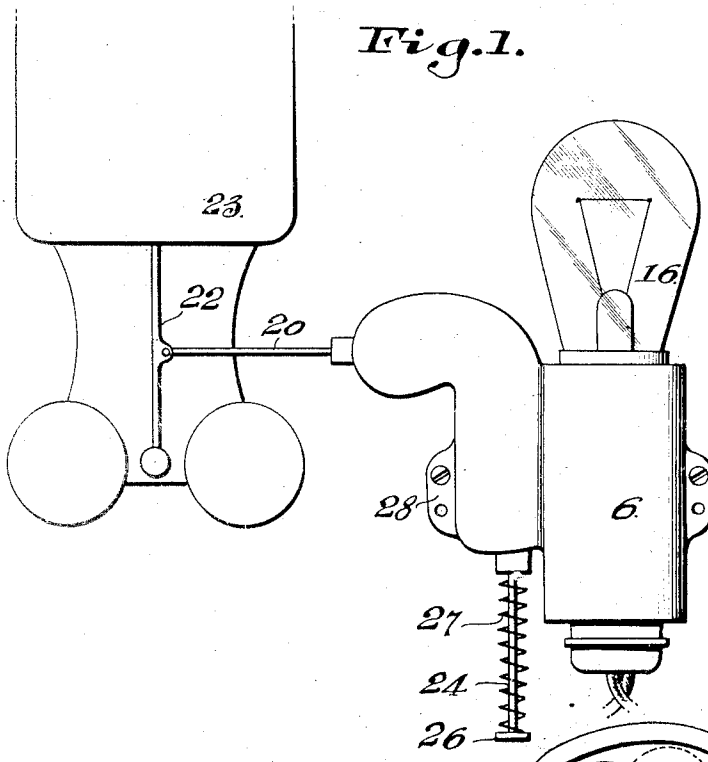



Fig. 3.

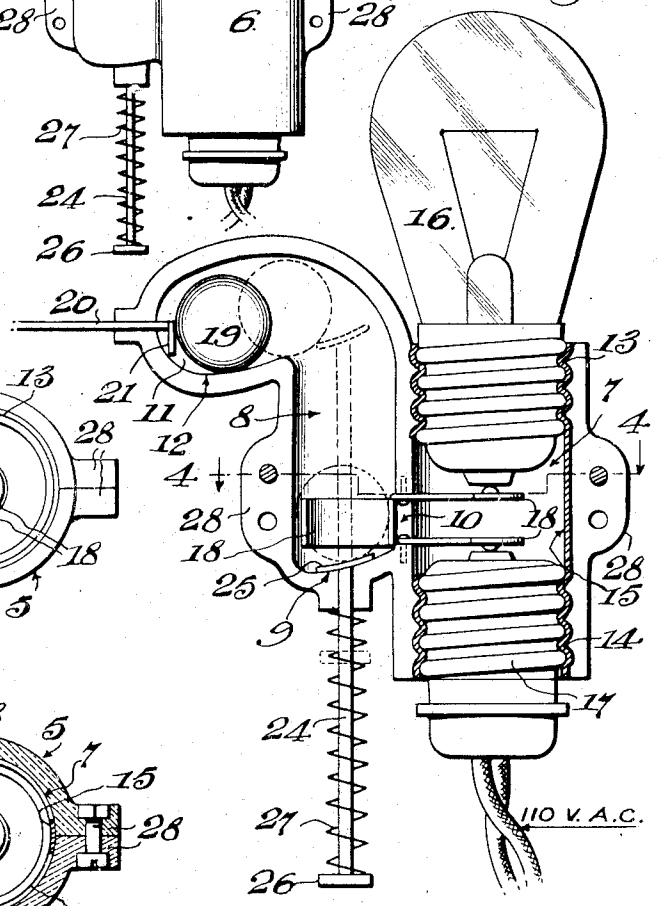



Fig. 2.

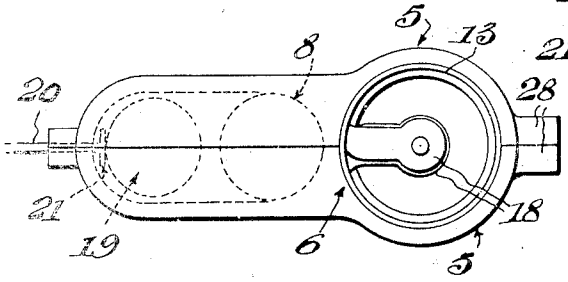
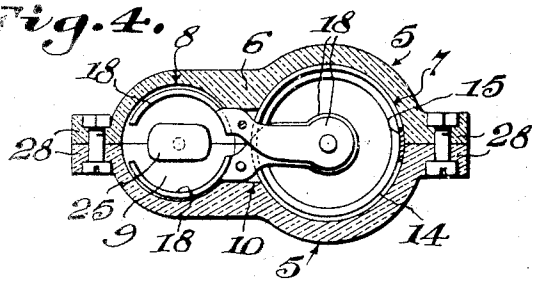



Fig. 4.




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2,191,247

# UNITED STATES PATENT OFFICE

2,191,247

## SIGNALING DEVICE

Thony Ernest Brandon, Bowling Green, Ky.

Application April 7, 1938, Serial No. 200,767

5 Claims. (Cl. 177—325)

This invention relates generally to new and useful improvements in signaling devices, and a prime object of my invention is to provide a signal lamp and novel electrical circuit means therefor, adapted to function in conjunction with a telephone bell or like audible signal, and resettable ball means mechanically actuated by movement of the clapper of the bell upon ringing of the bell to close the signal circuit and illuminate the lamp to provide visual indication of the functioning of the bell.

With these and other objects in view which will more fully appear, the nature of the invention will be more clearly understood by following the description, the appended claims, and the several views illustrated in the accompanying drawing.

In the drawing:

Figure 1 is a front elevation of a signal constructed in accordance with my invention showing the signal in its associated position to an audible alarm,

Figure 2 is a top plan view of the casing thereof,

Figure 3 is a longitudinal section taken substantially in the plane of abutment of the case sections, and

Figure 4 is a horizontal section taken on line 4—4 of Figure 3.

Referring to the drawing in detail, my invention is embodied in a signal device including two symmetrical case sections 5, 5 suitably secured together to form the case or housing 6. The case is preferably formed of porcelain and is provided with a lamp-receiving bore 7. A cylindrical recess 8, having a concave bottom 9, is located adjacent the upper portion of the bore 7 and is separated therefrom by the wall of the bore. The lower end of the recess 8 has an opening 10 to provide open communication with the bore 7, and the upper end of the recess terminates in a short laterally extending ball-supporting recess 11 having a concave lower surface 12.

Threaded metallic shells 13, 14 are secured within the upper and lower portions respectively of the bore 7, and are connected by a conductor element 15. An electric bulb 16 is screwed into the shell 13, and an electric plug 17 carrying power wires from any suitable source of potential, such as commercial power current, is screwed into the shell 14. Spaced contacts 18, 18 are secured within the opening 10 and have their ends extending into the bore 7 and into the recess 8. The ends which extend into the recess are shaped to generally conform to the contour of the wall of the recess. The ends of the contacts which extend into the bore are disposed in yieldable contact with the central contacts of the lamp bulb and plug respectively.

A contact making ball 19, preferably of copper, is normally positioned in the lateral recess 11 and is adapted to be impelled into the vertical recess 8 by an impelling rod 20. The rod 20 extends through an opening in the end wall of the lateral recess and is provided on its inner end with a ball-contacting face 21. The outer end of the rod preferably is pivotally connected to and near the free end of a clapper arm 22 of an alarm or signal bell 23. It is to be understood, however, that the rod can be actuated by other elements movable as an incident to the operation of an audible signal.

Upon the actuation of the alarm or signal bell, the clapper thereof will oscillate, thereby effecting the reciprocation of the impelling rod which in turn unseats the ball 19 from the lateral recess into the vertical recess 8 where it falls to the bottom and closes the space intermediate the contacts 18 and completes a circuit thereacross. This effects the illumination of the bulb and provides the desired visual indication in addition to the audible alarm.

Means are provided to break the circuit and to reset the contact ball. These means include a slidable plunger 24 which extends into the recess 8 and is provided on its inner end with an offset concave pusher 25 of non-conducting material. The outer end of the plunger is provided with a finger knob 26, and a coil spring 27 surrounds the plunger and is disposed intermediate the finger knob and the case and serves to yieldably hold the plunger in its retracted position. When it is desired to reset the signal, the plunger is merely pushed upwardly until the ball 19 rolls into the lateral recess, the offset concave pusher 25 serving as an inclined plane thereby utilizing the force of gravity to effect the lateral movement of the ball into the recess.

Lugs 28 may be provided for mounting the signal upon a wall or other supporting surface.

Thus it will be seen that I have provided a visual signal which is associated with and operated by movement of an element movable as an incident to the functioning of an audible alarm to give visual indication that the alarm is actually functioning.

It is of course to be understood that the details of structure and arrangement of parts may be variously changed and modified without departing from the spirit and scope of my invention.

I claim:

1. A visual electric signal including a casing, a vertical bore extending through said casing, a vertical recess disposed adjacent the upper end of said bore and separated therefrom by the wall of said bore, the lower end of said recess being in open communication with said bore and the upper end of said recess terminating in a short laterally extending recess having a concave bottom, a metal ball normally supported on said concave bottom, an electric lamp mounted in the upper end of said bore, a plug containing connections to an outside source of power mounted in the lower end of said bore, a conductor strip connecting the outside contacts of the lamp and the plug, the lamp and plug each including the usual side and center contacts, spaced contacts abutting the central contact of the lamp and plug and extending into said vertical recess, means including a reciprocating rod having its inner end in surface contact with said ball, for impelling said ball from the lateral recess into the vertical recess, whereby the ball will fill the space intermediate said contacts and close said circuit, and means including a vertically slidable plunger, for returning said ball to its normal position in said lateral recess.

2. A device of the class described having a case provided with a recess, contacts insulated from each other by the case each having a portion projecting into said recess and a portion projecting exteriorly thereof, a signal, a supply connection, means mounting said signal and supply connection on the case in conducting relation with each other and with the external projecting portions of said contacts, a conductor element arranged to bodily move in said recess into and out of circuit-closing relation with the contact portions therein, said recess having a lateral extension with a wall constructed and arranged to retain said element out of circuit-closing position.

3. A device of the class described having a case provided with a recess, contacts carried by the case each having a portion projecting into said recess and a portion projecting exteriorly thereof, the latter portions being spaced apart, a signal, a supply connection, means mounting said signal and supply connection on the case in conducting relation with each other and with the external projecting portions of said contacts, a rolling element in said recess to engage and disengage the contact portions therein to control an electric circuit therethrough, said recess having a lateral extension above said contacts with a wall constructed and arranged to retain said element out of circuit-closing position, and means carried by the case operable to return the rolling element from the first mentioned contact portions to said lateral extension.

4. A device according to claim 3 in which the last mentioned means is a device engageable with the rolling element from below and mounted to move upwardly in said recess to align the rolling element with the lateral extension, said device having a surface inclined in the direction for gravitation of the rolling element into the lateral extension.

5. A device of the class described having a case, said case comprising separable sections of insulation each having hollow portions registering and providing a recess, a contact carried by each section having a portion in said recess and a portion projecting exteriorly thereof, the latter portions being spaced apart, an element arranged to roll in said recess to engage and disengage the contact portions therein, and means carried by the case operable to move said element out of engagement with the contacts.

THONY ERNEST BRANDON.