Dec. 20, 1938. C. J. SLOAN 2,140,655

RADIO CONTROL DEVICE

Filed Nov. 23, 1936

FIG. 3.

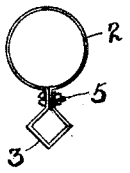


FIG. 2.

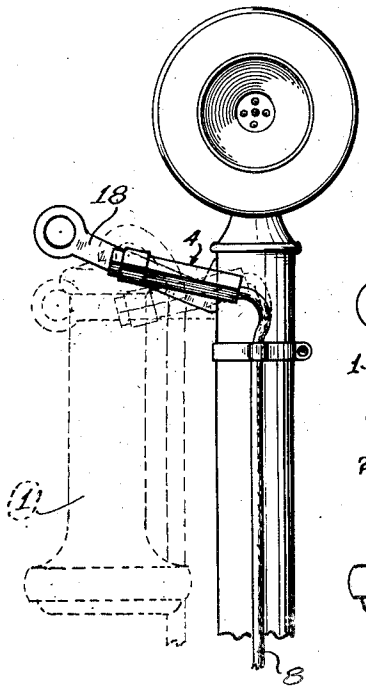


FIG. 1.

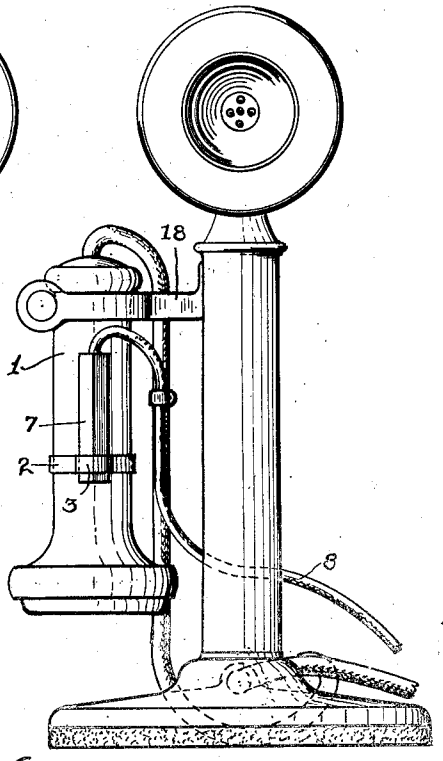


FIG. 4.

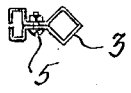


FIG. 7.

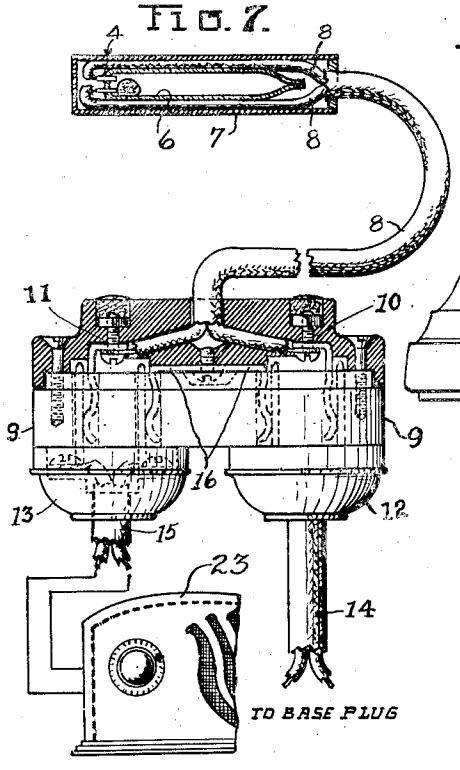


FIG. 6.

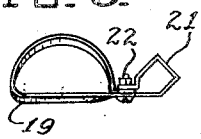
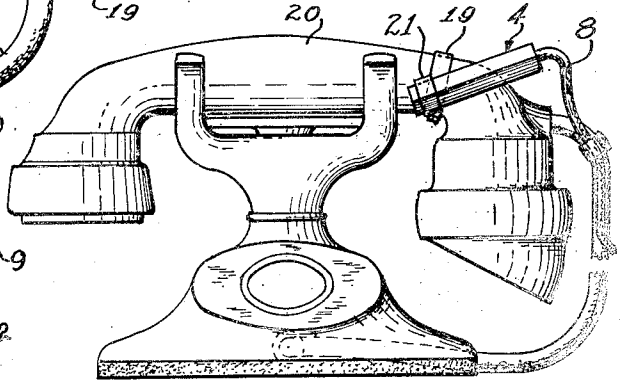


FIG. 5.



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RADIO CONTROL DEVICE

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2 Claims. (Cl. 179—2)

This invention relates to a radio control device.

There have been several attempts to provide devices for automatically shutting off the radio while the telephone is in use, the idea being to prevent the annoyance of the radio while one is engaged in conversation over the telephone. But these prior devices, so far as I am aware, are either quite complicated or require modification of the telephone instrument in order to embody the automatic control means. Such devices are therefore quite impractical so far as the general public is concerned.

The object of the present invention is to provide such a device that is comparatively simple and inexpensive and that can be installed by the user and without requiring any modification of the telephone instrument.

More specifically, my object is to provide such a device in which the main part of the same consists of a tiltably operated electric switch that will be operated automatically by the movement of the telephone receiver as it is taken from and returned to its holder.

This improvement involves the use of a mercury switch which can be tiltably mounted upon either the transmitter or the receiver of the upright style of telephone instrument, or can be mounted upon the combined receiver and transmitter of the cradle type of telephone instrument, the general manner of operation being the same in all of these arrangements, namely, the automatic operation of the switch by the removal of the receiver from and its return to its idle position. All of these several features are to be considered as coming within the objects of the present invention.

Other objects will appear from the following description and claims when considered together with the accompanying drawing.

Fig. 1 illustrates one form of my improved device in which the mercury switch is attached to the receiver of the old upright style of telephone instrument;

Fig. 2 is a view similar to Fig. 1 except that the mercury switch is here shown as attached to the receiver-supporting hook of the telephone instrument;

Fig. 3 is a plan view of the clip itself by which the mercury switch is mounted upon the receiver in Fig. 1;

Fig. 4 is a view of the clip for mounting the switch upon the receiver-supporting hook in Fig. 2;

Fig. 5 illustrates the application of my device to the cradle type of telephone instrument;

Fig. 6 illustrates the form of clip employed for attachment of the mercury switch in the arrangement illustrated in Fig. 5; and

Fig. 7 illustrates in a general way the electric connections involved in my automatic control device.

It is to be understood that the present form of disclosure is merely for purposes of illustration and that there may be devised other forms and modifications without departing from the spirit of the present invention.

In Fig. 1 of the accompanying drawing, the receiver 1 of the familiar upright type of telephone instrument has attached thereto a clip for holding the mercury switch. This clip consists of a strap of metal having a loop portion 2 for surrounding the receiver, and an angular shaped closed portion 3 within which the switch 4 is held. This clip may be formed of a single piece of metal with ends thereof overlapping at the middle and secured together by means of a bolt, as indicated at the point 5. In this way, the single bolt will serve to hold the clip upon the receiver and also to hold the switch within the clip. The portions 2 and 3 extend in substantially the same plane and thus the switch extends substantially longitudinally of the receiver 1.

As will be understood, the switch consists of the well-known mercury bulb 6 within the rectangular casing 7 which is adapted to be supported within the clip portion 3. As will be seen, the electric terminals of the mercury switch are at the opposite end of the casing 7 from that end into which the wires 8 are entered for connection to the switch.

The two wires 8 are connected at the points 10 and 11 to opposite sides of a special double electric socket 9. Into this socket there are inserted the electric plugs 12 and 13 which are connected to the base or wall plug through the wires 14 and to the radio set through the wires 15, respectively, as indicated in Fig. 7. One prong of the plug 12 engages the companion prong from the connection point 10, while the other prong of plug 12 engages the one side of the double prong 16. The other part of the double prong 16 is engaged by the one prong of plug 13, the other prong of which engages the companion prong from the connecting point 11. In this way, the mercury switch is placed in the circuit between the base plug and the radio receiving set which is indicated in a general way by reference numeral 17.

So long as the mercury switch is closed, the circuit will be closed between the base plug and the

radio set, this condition existing when the receiver is suspended from the hook 18, that is when the telephone is not in use, as indicated in Fig. 1. In this position, the mercury is in the bottom of the bulb and thus closes the terminals thereof. But, upon removing the receiver from the hook and turning it in the normal manner so as to bring the same to the ear of the user, the mercury will no longer occupy position across the terminals but will flow away from the same towards the other end of the bulb, at least to a sufficient extent to break the circuit therethrough and thereby break the circuit between the base plug and the radio set. Consequently, the radio broadcasting is at once discontinued and will not be resumed until the receiver is returned to the suspended position upon hook 18. Thus, the user of the telephone will not be annoyed by the radio while using the telephone and it is not necessary for him to go to the radio to shut off the same as a preliminary measure to using the telephone or to turn on the radio again after using the telephone. This is accomplished automatically.

In the arrangement illustrated in Fig. 2, the switch is mounted upon the hook 18 instead of upon the receiver. In Fig. 2, the clip holds the switch in the same manner as in Fig. 1 and this clip is attached about the inner part of one fork arm of the hook 18. In Fig. 2, the switch element extends along the hook, with the terminal end thereof nearer the outer end of the hook and slightly lowered below true horizontal, so that when the receiver rests upon the hook, the switch is closed; but when the receiver is lifted, the switch element is tilted with the hook and the mercury flows towards the other or inner end of the bulb so as to open the circuit. These two positions are both indicated in Fig. 2.

In Fig. 5 the switch is supported in a manner substantially the same as that before described, a clip having a portion 19 extending about the small part of the combined receiver-transmitter 20 and having an angular shaped portion 21 for the switch element. The clip has its ends clamped together in the same manner as above described, as indicated at 22. In this case, the switch element is inclined sufficiently upon the combined instrument to ensure closing of the switch by the mercury when this instrument rests in the cradle therefor. Such inclined position is indicated in Fig. 5. Then, when this instrument is removed from the cradle and placed in the normal manner to the mouth and ear of the user, such turning movement of the same will be sufficient to cause the mercury to flow away from the terminals of the bulb and thus break the circuit. This results in the disconnection of the radio 23 from its source of current supply and the radio is thus shut off and will so remain until the combined instrument is returned to its idle position upon the cradle therefor.

In all of the several instances above referred to, the electric cord from the end of the switch element can be led away with the other cord of the telephone set, as indicated in the drawing.

This device, in any of the several forms described, can be purchased and applied to the telephone apparatus by the user himself, this device to include the switch, the clip, the special double electric socket and the electric cord connections. There is not involved any modification of the telephone instrument in applying this device thereto, but it can be manufactured and sold as an accessory. Furthermore, this device can be sold at a comparatively low price.

However, if so desired, the switch instead of being mounted upon the outside of the telephone receiver or the combined instrument, as in Figs. 1 and 5, could be enclosed within the same by merely adopting a sufficiently small size of mercury switch. In such an arrangement, the switch would be completely out of sight and there would be nothing at all visible upon the receiver or the combined instrument. If found necessary, the end of the receiver within which the switch is enclosed could be made slightly larger.

Whether the mercury switch be mounted upon the outside or the inside of the cradle type of combined instrument 20, (Fig. 5), or whether it be mounted upon the older form of receiver, (Fig. 1), the invention is the same and the following claims are to be understood as comprehending these several forms.

What I claim is:

1. In a device of the class described, the combination of a radio receiving set, a telephone instrument including a combined receiver-transmitter, and a tiltably mounted and tiltably operated electric switch arranged upon said combined receiver-transmitter for operation by movement of the same and operatively connected with the electric current supply to the radio receiving set for automatically controlling the operation of the radio receiving set according to the position of the telephone receiver.

2. In a device of the class described, the combination of a radio receiving set, a telephone instrument having means for supporting the receiver, and a tiltably mounted and tiltably operated electric switch arranged upon the telephone receiver for operation by movement of the telephone receiver and operatively connected with the electric current supply to the radio receiving set for automatically controlling the operation of the radio receiving set according to the position of the telephone receiver.

CLARENCE J. SLOAN.