July 10, 1934. A. M. O'NEILL 1,966,184

RADIO CONTROL DEVICE

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Fig. 1.

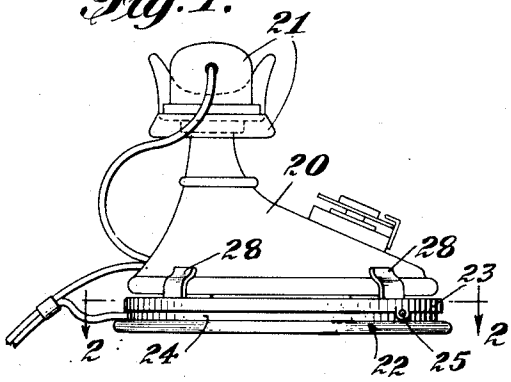


Fig. 4.

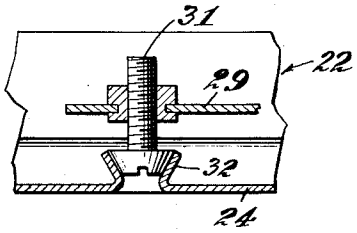


Fig. 2.

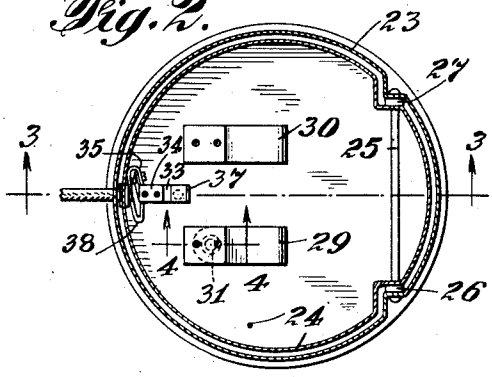


Fig. 5.

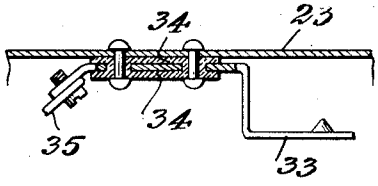


Fig. 3.

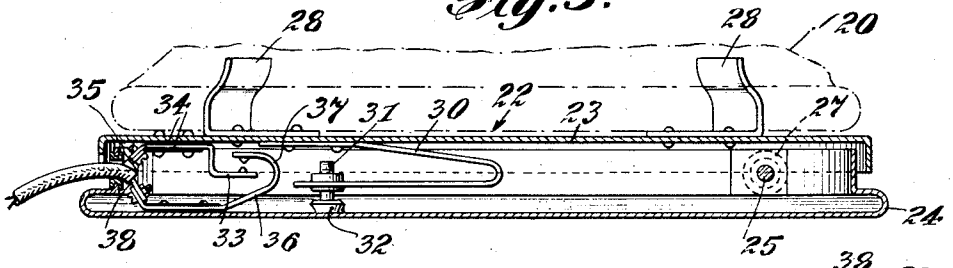
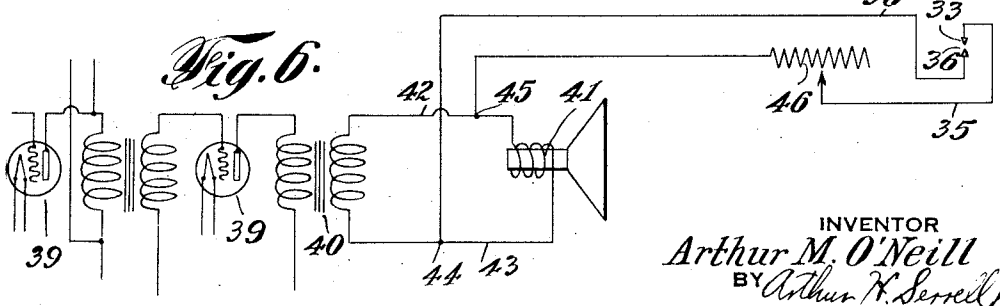


Fig. 6.



INVENTOR
Arthur M. O'Neill
BY Arthur K. Serrell Jr
his ATTORNEY

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Fig. 8.

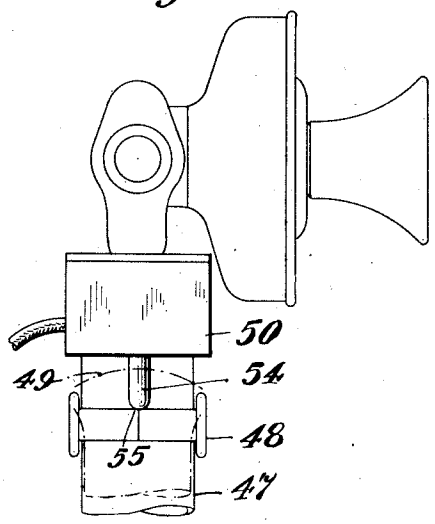


Fig. 7.

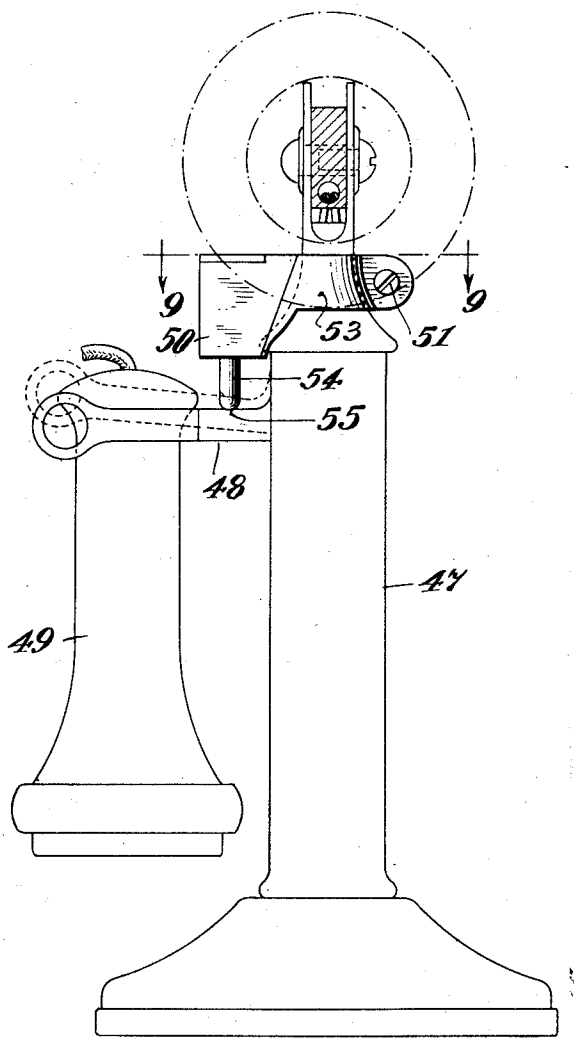


Fig. 9.

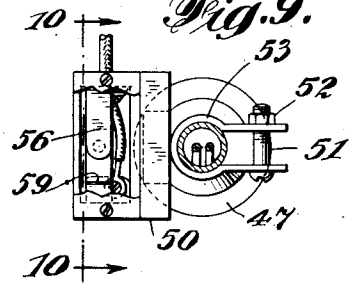
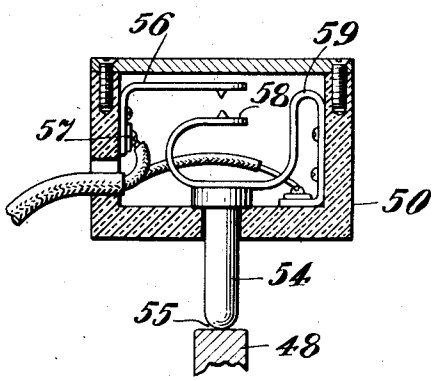


Fig. 10.



INVENTOR
Arthur M. O'Neill
BY Arthur K. Serrell Jr
his ATTORNEY

Patented July 10, 1934 1,966,184

UNITED STATES PATENT OFFICE

1,966,184

RADIO CONTROL DEVICE

Arthur M. O'Neill, New York, N. Y.

Application March 26, 1930, Serial No. 438,944

2 Claims. (Cl. 179—2)

This invention relates to an apparatus comprising a remote control system preferably used in connection with a radio, electric phonograph or similar device. It is often desirable to eliminate or lower the tone of a radio or electric phonograph from a distant location particularly when answering or using the telephone. The necessity of using the telephone under noisy conditions is very annoying as it obviously impairs the hearing of the operator. The object of the present invention is to provide an apparatus whereby the volume of sound emanating from a radio or similar device is controlled simultaneously with the raising of the receiver of a telephone. As hereinafter shown and described the apparatus is adapted for use in connection with a telephone. However, it will be understood that the invention is not to be limited in use with this particular device but may be associated with any desired fixed or movable article about the household.

In attaining the object of my invention, I prefer to employ a control circuit in which a contact is automatically made or broken in the control apparatus depending on the change in position of the hook of the receiver or by the difference in weight of the telephone when the receiver is on or off. Other means of performing the same function, such as the use of a relay in the telephone circuit, obviously are contained within the nature and spirit of the invention. In no instance is there any electrical connection made between the telephone lines and the radio circuit.

I attain the object of my invention by the apparatus illustrated in the accompanying drawings in which:

Figure 1 is an elevation of the apparatus illustrating its use in connection with the French type telephone.

Fig. 2 is a section on line 2—2, Figure 1.

Fig. 3 is a section on line 3—3, Fig. 2.

Fig. 4 is a section on line 4—4, Fig. 2.

Fig. 5 is an enlarged sectional view illustrating the method of insulating the contact arms.

Fig. 6 is a diagrammatic view showing the preferred form of connection.

Fig. 7 is a front elevation illustrating a modification of the present invention used in connection with the ordinary type telephone.

Fig. 8 is a side elevation of the apparatus as illustrated in Fig. 7.

Fig. 9 is a section on line 9—9, Fig. 7.

Fig. 10 is a section on line 10—10, Fig. 9.

Referring particularly to Figure 1, the well known French type of telephone is indicated at 20 having a combination receiver and mouth piece 21 located in the usual position on the telephone when not in use.

As illustrated in Figs. 2 and 3, the telephone 20 is mounted on a base 22 comprising an upper member 23 and a lower member 24. The members 23 and 24 are pivotally connected by a hinge pin 25 and are separated along the hinge pin axis by a set of washers indicated at 26 and 27. A number of spring clips 28 extend from the upper circumferential portion of the member 23 and are adapted to maintain the telephone 20 firmly on the base 22. It will be readily appreciated that other means of maintaining the telephone in the correct relative position to the base may be used without departing from the nature and spirit of the invention.

A set of spring members is indicated at 29 and 30. One end of the spring member 29 is firmly secured to the inner surface of the member 23, the opposite end being adjustably connected to a screw 31, the head of which rests against the surface of an upturned portion of the member 24 as indicated at 32 in Fig. 4. The spring 30 is connected to the members 23 and 24 in identically the same manner as spring 29.

Referring more particularly to Fig. 5, a contact arm 33 is riveted to the inner surface of the member 23 and is suitably insulated therefrom as indicated at 34. A lead 35 is connected to the end of the contact arm 33. Extending from the inner surface of the member 24 and suitably insulated therefrom is a contact arm 36 which is arched as indicated at 37 to assume a position directly above the contact arm 33. The contact arms 33 and 36 are normally maintained apart by the compression in the spring members 29 and 30 due to the weight of the telephone 20 and the receiver 21. A lead 38 is connected to the contact arm 36.

Referring to Fig. 6, a plurality of amplifying stages is illustrated at 39 and an output transformer 40 is connected to the voice coil of a loud speaker 41 by the usual lead lines as indicated at 42 and 43. The lead 38 is connected to the lead 43 as indicated at 44. The lead 35 is connected to the lead 42 as indicated at 45 through a variable resistance coil 46. It is obvious that the object of the invention may be accomplished by connecting the leads 35 and 38 to any one of the plurality of amplifying stages.

In the operation of the device the release of the combination receiver and mouthpiece 21 from this position on the telephone 20 will sufficiently relieve the compression in the springs 29 and 30

to elevate the member 23 in relation to member 24 about the hinge pin 25 to such a degree that the contact arms 33 and 36 connect. This short circuits or by-passes the voice coil of the loud speaker 41. By inserting the variable resistance 46 in the lead 35 the volume of the loud speaker may be toned down to any desired extent or cut out entirely.

Referring to Figs. 7 to 10, a modification of my invention is illustrated as preferably adapted to be used in connection with the standard type telephone. The ordinary telephone is indicated at 47 having the usual hook 48 and receiver 49. A box member 50 is shaped to conform to the upper surface of the telephone 47 and is maintained in position by means of a bolt 51 and a nut 52 clamping the same on the neck of the telephone as indicated at 53. Extending through an opening in the under surface of the box member 50 is a plunger 54, the lower surface thereof resting on the telephone hook as indicated at 55.

Referring to Fig. 10, a contact arm 56 is firmly secured to one side of the box member 50 and has a lead corresponding to lead 35, Fig. 6, connected to the lower portion thereof as indicated at 57. Oppositely disposed to the contact arm 56 is located a contact arm 58 firmly maintained in position on the inner side of the box member 50 and having a lead corresponding to lead 38, Fig. 6. The contact arm 58 is curved to perform the functions of a spring as indicated at 59 to normally maintain the plunger in the position illustrated in Fig. 10 and to separate the contact arms 56 and 58. In the operation of the apparatus the hook 48 is adapted to take the position shown by dotted lines, Fig. 7, when the receiver 49 is removed therefrom. The upward movement of the hook 48 forces the plunger 54 to actuate the contact member 58 in the same direction until a connection is made with contact 56. This short circuits or by-passes the voice coil of the loud speaker in identically the same manner as hereinbefore described. It is obvious that the general principles herein disclosed may be embodied in other organizations widely different from those illustrated without departing from the spirit of the invention.

I claim as my invention:

1. In combination, an electric sound reproduction circuit having a plurality of amplifying stages, and a loud speaker, means for diminishing the speaker volume including an independent circuit having therein an automatically operable make and break device and a variable resistance, said make and break device being controlled by the position of a telephone receiver, the said independent circuit being associated with the said first mentioned circuit and connected with one of the said amplifying stages.

2. In combination, an electric sound reproduction circuit having a plurality of amplifying stages, and a loud speaker, means for diminishing the speaker volume including an independent circuit having therein an automatically operable make and break device and a variable resistance, said make and break device being controlled by the position of a telephone receiver, the said independent circuit being associated with the said first mentioned circuit and connected with the last amplifying stage.

ARTHUR M. O'NEILL.