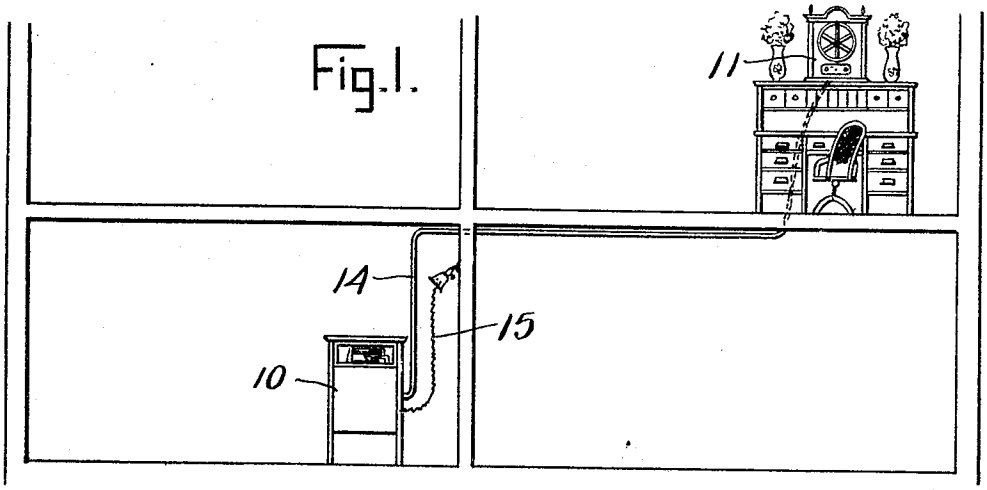
Dec. 30, 1930. W. R. MOORE, JR 1,787,392

REMOTE CONTROL FOR TALKING MACHINES

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Fig. 1.



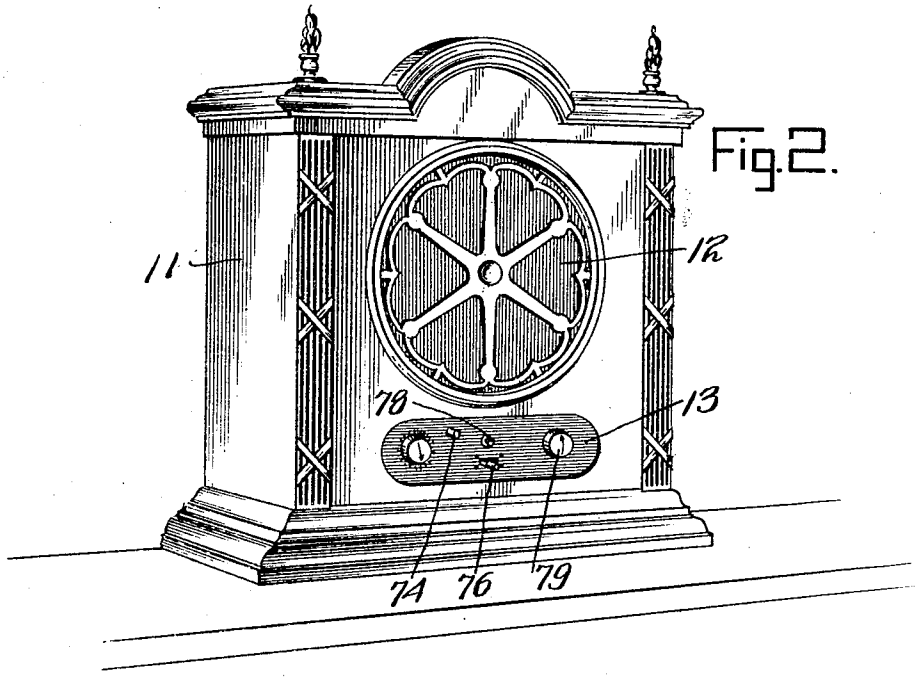


Fig. 2.

Inventor
William R. Moore, Jr.

By

Attorney

Dec. 30, 1930. W. R. MOORE, JR 1,787,392

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Fig. 3.

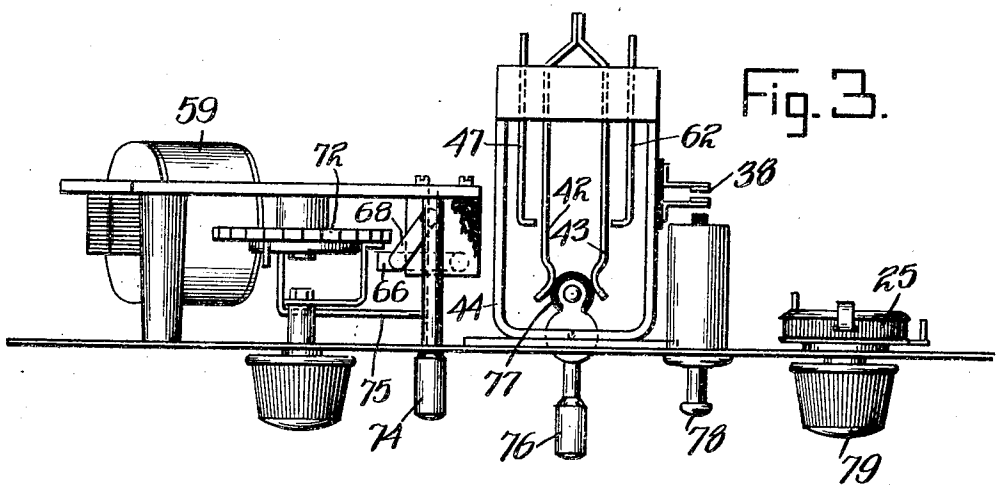
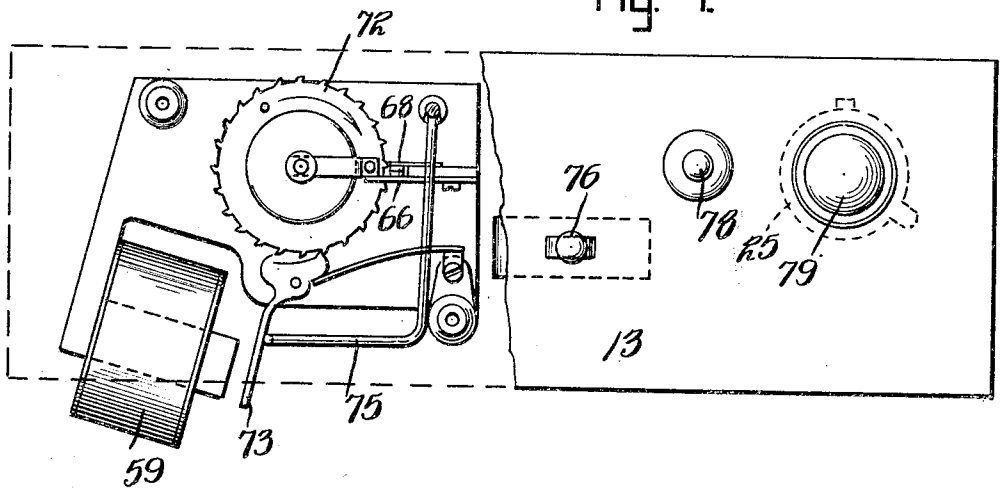


Fig. 4.



Inventor
William R. Moore, Jr.

By

Attorney

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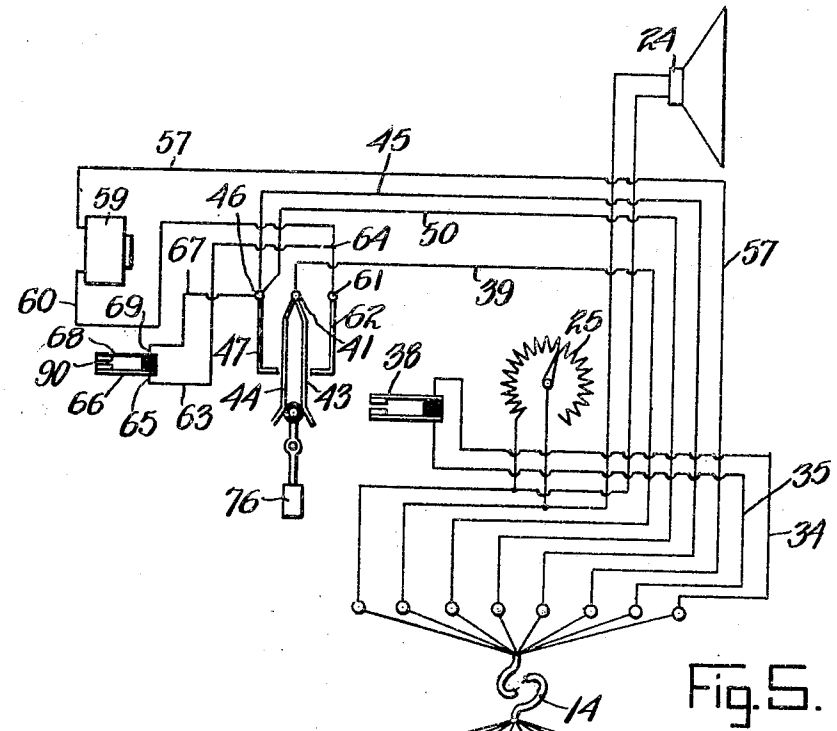
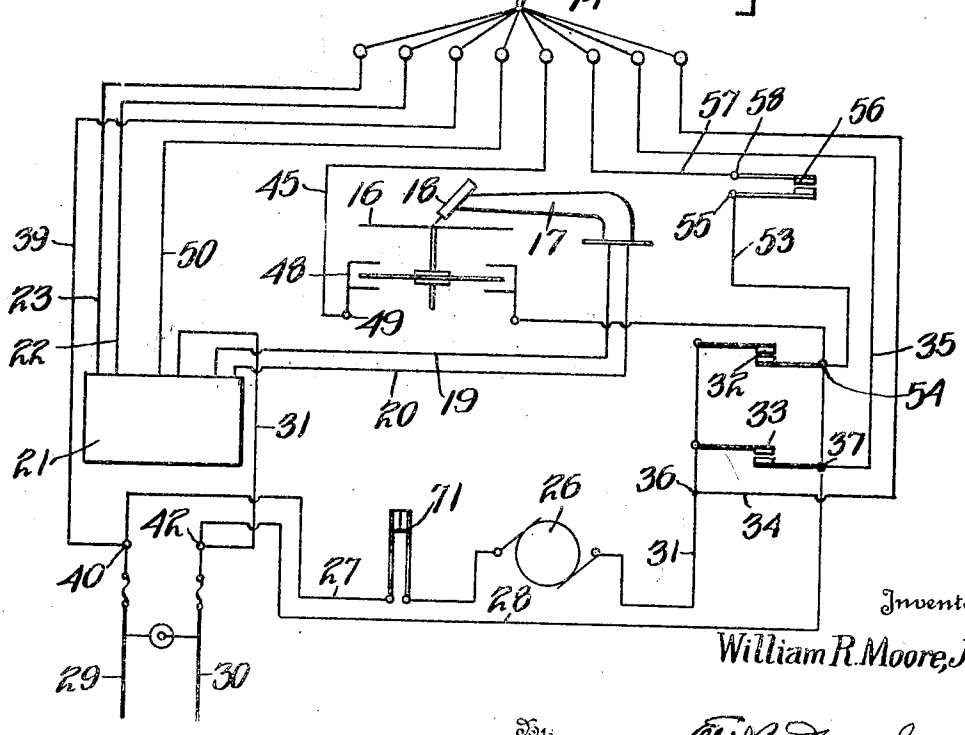


Fig. 5.



Inventor

William R. Moore, Jr.

Attorney

Patented Dec. 30, 1930 1,787,392

UNITED STATES PATENT OFFICE

WILLIAM R. MOORE, JR., OF HAGERSTOWN, MARYLAND, ASSIGNOR TO DECA-DISC PHONOGRAPH COMPANY, OF WAYNESBORO, PENNSYLVANIA, A CORPORATION

REMOTE CONTROL FOR TALKING MACHINES

Application filed December 22, 1927, Serial No. 241,931.

My invention relates to control devices and more particularly to mechanism for controlling the operation of automatic talking machines, the said controlling mechanism being placed at a distance from the operating mechanism for the talking machines.

It is an object of the invention to provide a control device of this character in which the cabinet containing the records and the operating mechanism may be located in one place and a sound producing unit having associated therewith control mechanism may be positioned in another place.

The invention is an improvement over the machine shown and described in my copending application, Serial No. 168,674, filed February 16, 1927, for automatic talking machines. The improvement consists in providing the talking machine presented in said application with a reproducing unit which may be positioned at a distance from the cabinet containing the records and the operating mechanism for playing them and providing means for controlling the operating mechanism at or near the reproducing unit.

The mechanism for rotating the record table for changing records is the same as that shown in the application above referred to. This invention, however, is provided with electrical pick-up which transmits impulses to an amplifier from which they are transmitted to a loud speaking unit and reproduced in a manner well known to the musical world.

Referring to the accompanying drawings which are made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is an elevation of the device showing the operating cabinet in one room and the control device together with the loud speaker unit in another room,

Figure 2, an elevation of the loud speaker unit and the control mechanism,

Figure 3, a detail view of the control mechanism,

Figure 4, a plan view of the control device having certain parts broken away to show some of the mechanism in detail, and

Figure 5, a diagrammatic view of the electric wiring and the control switches.

As seen in Figs. 1 and 2, numeral 10 represents a cabinet containing musical records and mechanism for playing them. 11 indicates as a whole the cabinet containing the speaking unit 12 and the controlling unit 13. A cord 14 containing a plurality of wires provides electrical operative connection between the playing cabinet and the loud speaker unit. A cord 15 connects the playing cabinet with a lamp socket or any other source of electrical current.

Referring now to Fig. 5, wherein is shown a diagrammatic view of the wiring constituting the control mechanism and the operating mechanism of the cabinet, numeral 16 indicates a record table for supporting the record to be played and 17 the tone arm carrying a tone box 18. The tone box in this application is in the nature of a telephone transmitting unit for transmitting impulses through wires 19 and 20 to an amplifying unit 21. Wires 22 and 23 lead from the amplifying unit to a loud speaker unit 24 in the loud speaker 12. A resistance element 25 is connected across the wires 22 and 23 to provide a volume control for the loud speaker.

Since the method of transmitting sound waves and reproducing them at a distance by means of a loud speaker is well known further description is believed unnecessary.

The mechanism for changing records and for setting in motion the record changing mechanism is the same as that shown and described in the application above referred to and will be described here only in sufficient outline to furnish an understanding of the control mechanism representing the subject matter of this application.

Numeral 26 indicates the motor for driving the record changing mechanism on the phonograph. This motor is operated by current taken from wires 27 and 28 connected to suitable source of current as, for example, lead in wires 29 and 30. Wire 31 connects the wire 28 through switch elements 32 and 33. These switches are normally open but when either one or both is closed current is fed to the motor 26 to operate the record changing mechanism. The switch 32 is operated by the tone arm 17 as it swings into the center of

the record upon completion of the playing of the record. Since the switch 32 is closed only for a short time switch 33 is closed by suitable mechanism to continue operation of the record changing mechanism until the record has been changed and the whole machine restored to position to play the next record.

Wires 34 and 35 connect wires 31 and 28 at 36 and 37 respectively. Wires 34 and 35 lead to a switch 38 on the control mechanism 13. This switch 38 is normally open. It may be closed, however, to provide means independent of the tone arm for operating the record changing mechanism as shown and described in the copending application referred to. A wire 39 connected to lead in wire 29 at 40 leads to a point 41 on a double throw switch having forks 43 and 44. Wire 45 is connected at 46 to an arm 47 with which the fork 44 on the double throw switch makes contact in one of its positions. The wire 45 also connects to one side of a motor 48 at 49. This motor rotates the record table for playing the record. The wire 28 connects the other side of this motor. A wire 50 is connected also to the arm 47 at 46. This wire leads into the amplifying unit 21. A wire 31 leads from the amplifier and is connected to the lead in wire 30 at 42. A wire 53 is attached to wire 28 at 54 and connects with a post 55 on a switch 56. A wire 57 connected to a post 58 on the switch 56 leads to a solenoid 59. A wire 60 leads from the other side of the solenoid and joins a post 61 on an arm 62 with which the fork 43 of the double throw switch makes contact in one of its positions. A wire 63 is joined to wire 60 at 64 and leads to a post 65 on a switch element 66. A wire 67 connected to post 46 joins the switch element 68 at 69. The contact points 90 on the members 66 and 68 are normally in contact during the playing of a record.

The switch 56 is normally open. This switch, however, is closed momentarily with each change of a record to energize the solenoid 59 for a purpose which will later appear. A circuit breaker 71 may be positioned in the line 27 to interrupt the current to the motor in case the record changing mechanism should become jammed. For operating this circuit breaker, I preferably use the device shown in my copending application, Serial No. 218,301, filed September 8, 1927, for automatic circuit breakers.

As shown in Figs. 3 and 4, a ratchet wheel 72 provides means for playing continuously a predetermined number of records. In the application above referred to this ratchet wheel or escapement means is operated by movement of the record table. In the invention herein presented I operate this escapement mechanism by the solenoid 59 which, as above stated, is energized at the end of each record that is played. The solenoid 59 pulls down on the arm 73 which allows a spring to rotate the escapement mechanism through one notch. A manually operated handle 74 is pivoted in the front plate of the control mechanism and has an arm 75 adapted to engage the escapement pawl 73. Oscillation of the pin 74 will release the pawl 73 so as to allow rotation of the escapement wheel. This provides means for manually rotating the escapement wheel.

Pivoted in the front plate of the control mechanism 13 is a lever 76 having a roller 77 of insulating material. This roller engages the outer curved ends of the members 43 and 44 on the switch 42. As shown in Fig. 3, the lever 76 is in the neutral position. When the lever 76 is turned to the right, the roller 77 will press against arm 44 and make contact with the arm 47. When the lever is moved to the left contact will be made between arm 62 and member 43 on the switch. A plunger 78 is positioned on the control mechanism 13 and is adapted to normally allow the switch 38 to rest in open position. When the plunger 78 is pushed in the switch 38 is closed so as to energize the record changing motor 26. A knob 79 provides operative connection with the resistance element 25 to vary the volume of the loud speaker. The lever 76 provides means for selectively playing a predetermined number of records or of playing continuously the whole number of records in the cabinet of the machine.

When the lever 76 is turned to the right, so as to make contact between members 44 and 47, current may pass from the lead in wire 29 through the wire 39 to contact point 41, through arm 44, arm 47, through wires 45 and 50 to the motor which operates the record table and to the amplifier respectively. It is immaterial whether the switch points 90 are in contact or not since the current does not have to pass through them. When, however, the lever 76 is moved to the left, current passes from lead in 29 through wire 39 to contact point 41, through arm 43, arm 62, through wire 63, through switch arms 66 and 68, through contact points 90, through wires 67 and through wires 45 and 50 to the motor 48 and amplifier 21 to rotate the record table as before.

When the contact points 90 are open the machine therefore will not operate. These contact points, it will be recalled, are open when the ratchet wheel has been rotated to play the last of a predetermined number of records.

The operation of the device should now be understood but a brief résumé of the operation may assist in understanding the invention.

The record cabinet with all of the operating mechanism is positioned in some remote place out of the way. The control element 13 carrying all the necessary controlling mech-

anism is housed in a cabinet containing the loud speaking unit. When a record is played the sound vibrations on the record are picked up by the needle and transmitted through the transmitting element 18 to the amplifier 21 and thence to the loud speaker 12. This electrical pick-up is well known. The record changing mechanism and the automatic movements of the tone arm and the record table which cause operation of the record changing motor are shown and described in the application above referred to and form no part of this application. But in this application the means for controlling the operation of these devices are placed on the control unit 13. As shown, these controlling devices consist of lever 76 which when in neutral position will hold the operating mechanism in inoperative position but when moved either to the right or to the left will cause continuous playing of the records on the machine or will play a predetermined number of records. The plunger 78 provides means for rejecting any record before it has been completely played. The knob 79 provides volume control for the loud speaker.

It will be seen, therefore, that I have provided means remotely positioned from the record cabinet and the operating mechanism for controlling the playing of the records.

The loud speaker unit and the control unit may be housed in an attractive small cabinet which may be placed on a desk, or mantel, or a table, or may be readily moved from place to place with ease.

It will be obvious to those skilled in the art that various changes may be made in my device without departing from the spirit of the invention, and I, therefore, do not limit myself to what is shown in the drawings and described in the specification, but only as set forth in the appended claims.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent, is:

1. A talking machine comprising two units, one comprising a cabinet containing the records and operating mechanism therefor including an electric pick-up device and an amplifier, and the other adapted to contain a speaking unit and mechanism for controlling the operating mechanism in the first-named cabinet, the unit containing the speaking and the controlling mechanism being positioned remotely from the operating mechanism, substantially as set forth.

2. In a talking machine having a cabinet containing a plurality of records, mechanism for playing the same successively, an electric pick-up device and an amplifier, a second cabinet containing a loud speaking unit and controlling mechanism for the operating mechanism in the first-named cabinet, and operative connections between the two cabinets whereby they may be remotely positioned one with respect to the other, substantially as set forth.

In witness whereof, I have hereunto set my hand at Waynesboro, Pennsylvania, this 17th day of December, A. D. nineteen hundred and twenty-seven.

WILLIAM R. MOORE, JR.