June 2, 1942. M. SHOEMAKER 2,285,061

COIN-CONTROLLED MACHINE

Filed Feb. 16, 1939 2 Sheets-Sheet 1

Fig. 2.

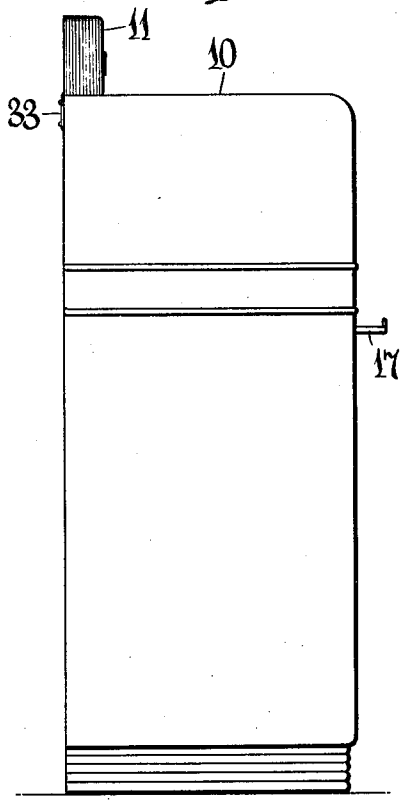


Fig. 1.

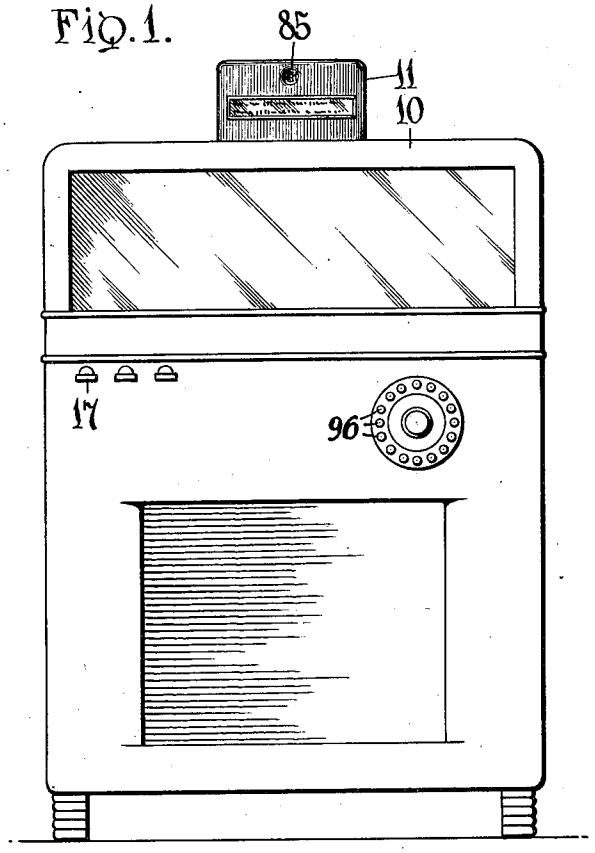
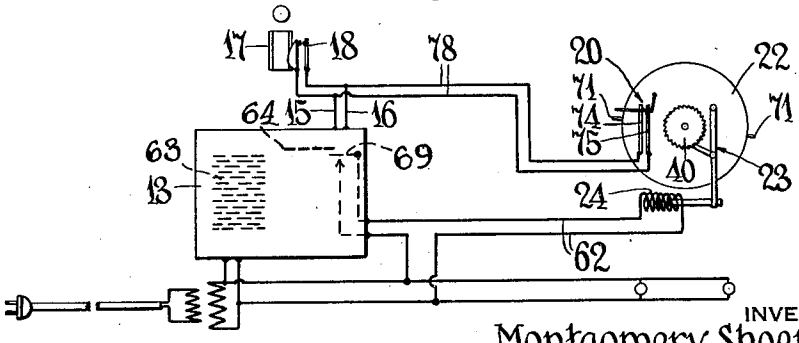


Fig. 3.



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Fig. 4.

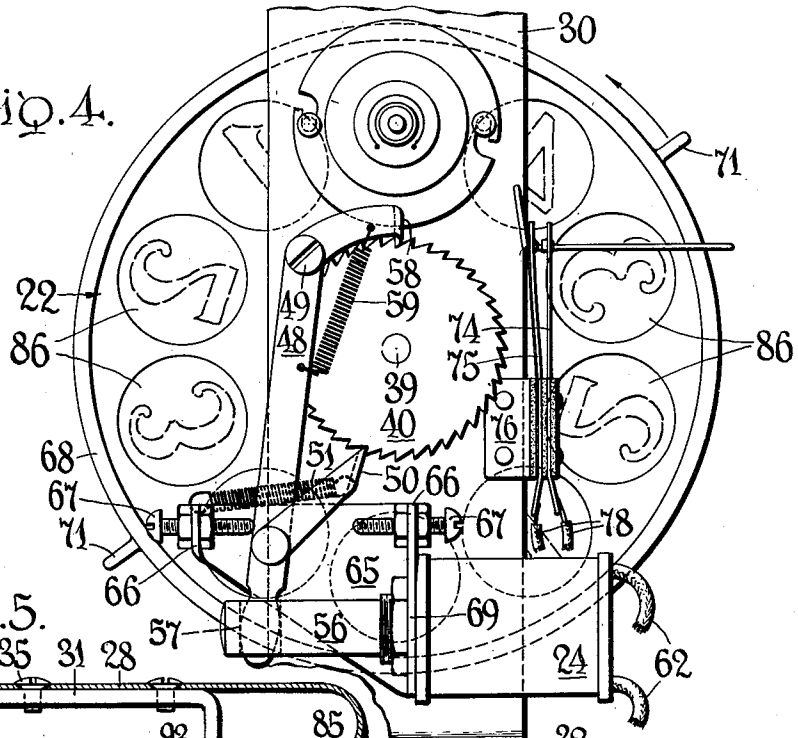


Fig. 5.

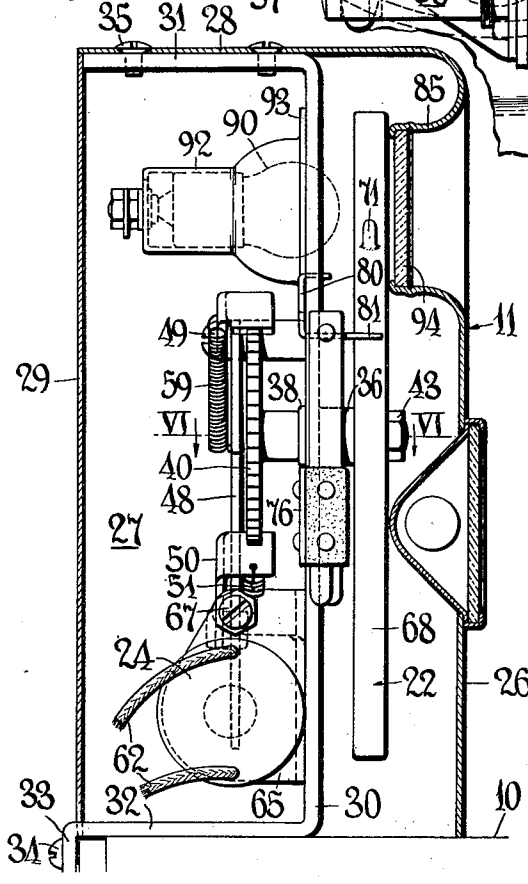


Fig. 6.

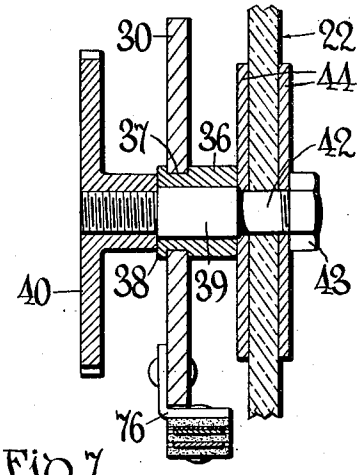
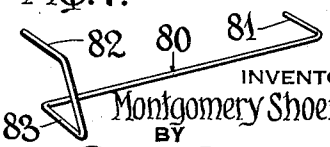


Fig. 7.



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COIN-CONTROLLED MACHINE

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Application February 16, 1939, Serial No. 256,754

12 Claims. (Cl. 194—15)

This invention relates to an improvement in coin-controlled machines and has more particular reference to the provision in such machines of means whereby the operation is attended by an added incentive or attraction to the user or the prospective user.

While the principles of my invention may be adapted and incorporated in the construction of coin-controlled vending or amusement machines of a variety of types, I shall, for the purpose of illustrating a preferred embodiment, have particular reference herein to coin-controlled musical instruments. In coin-controlled musical instruments of the phonograph type commonly in use, a single selection or record may be played by depositing a suitable token or coin in the machine and at the present time such machines are conventionally arranged so that the deposit of a coin or token of larger denomination or the deposit of a plurality of coins or tokens results in the automatic reproduction of as many selections or records as the value or denomination of the coin or token indicates.

Also conventionally found in machines of the kind now being referred to are suitable means, usually electro-mechanical, for permitting the patron of the machine to select one or a sequence of records to be played in any desired order, each of the selected records being automatically and serially moved into operating position, usually onto the turn-table of a phonograph, played or reproduced, and subsequently removed from the operating or playing position and returned to the starting or idle position.

One type of machine which is in active commercial use is the Wurlitzer Simplex machine. The construction and operation of this machine is known and understood by those skilled in the art to which the present invention pertains and the construction and operation of machines of this class will be referred to only so far as is necessary to an understanding of the instant invention.

In machines of the type of the Wurlitzer Simplex, a coin-controlled mechanism operates to energize what may be termed an initiating circuit which sets in motion mechanism for producing one or more record playing cycles. In such machines the initiating circuit may be so arranged that it is closed by the operation of the coin-controlled mechanism and remains closed during the entire playing cycle, being interrupted by means operative at the time the end of a record playing cycle is reached. In the alternative, the initiating circuit may be energized only momentarily or while the coin-controlled mechanism is being operated, in such case serving as a relay circuit for setting other electrical and mechanical instrumentalities in motion, which motion is continued to the end of the playing cycle by timed means deriving energy from other electrical circuits.

In either event the device of the present invention will be associated with what has herein been termed the initiating circuit of the usual coin-controlled musical instrument. In conventional machines the coin-control mechanism is electrically in series with an initiating circuit and is adapted, upon insertion of a single coin, to close the initiating circuit for a predetermined period of time.

For more convenient operation, machines of the type being referred to have coin-controlled mechanism which, upon the insertion of several coins or a coin of larger denomination than the unit coin for effecting one playing cycle of the machine, sets up the machine for a number of playing cycles which corresponds to the value of the coins inserted as compared with the unit coin for effecting a single record-playing cycle of the machine. This may be accomplished by causing the initiating circuit, upon the insertion of a coin of larger denomination than the unit coin or several unit coins, to give a number of initiating impulses to the playing mechanism or to remain closed for a period of time which is as many times as long as the unit period of time for which it is closed by the insertion of one coin as the number or denomination of coins inserted dictates. In the Wurlitzer Simplex machines separate coin-controlled means are provided for coins of different denominations and since the apparatus of the present invention will usually, but not necessarily, be associated with the control mechanism which is operated by depositing a unit coin, usually a five cent piece, we shall discuss the invention with reference only to the basic or unit coin-operated control mechanism.

In the application of the principles of my invention to a machine of the type described, in one form, I provide a shunt circuit around the coin-controlled circuit closing means in the initiating circuit, the shunt circuit being automatically closed after a certain number of playing cycles have been executed. The means for automatically closing the initiating circuit around and independent of the coin-controlled circuit closing means is arranged to close the initiating circuit in the same manner and for the same time period for which it would be closed

if it were closed by the insertion of a unit coin in the coin-controlled mechanism.

In the drawings:

Fig. 1 is a front elevational view of an automatic coin-controlled record reproducing machine provided with means which combine with the machine to form the subject matter of my present invention;

Fig. 2 is a side elevational view thereof;

Fig. 3 is a diagrammatic view showing one mode of electrically associating my new control means with the coin-control and record-reproducing mechanism of a machine of the class referred to;

Fig. 4 is an enlarged fragmentary rear elevational view of the mechanical portion of my new control means;

Fig. 5 is a side elevational view of my new control means wtih the casing portion thereof shown in cross section;

Fig. 6 is a horizontal cross sectional view taken approximately on the line VI—VI of Fig. 5; and,

Fig. 7 is a detailed perspective view of the contact closing arm of my control means.

In the drawings like characters of reference denote like parts and the numeral **10** designates the main casing portion of a machine for automatically and selectively reproducing sound records, such for instance as the Wurlitzer Simplex machine referred to above, and **11** designates what in the present instance is an auxiliary casing for housing the mechanical means which form a part of my present invention. The principles of my invention may be incorporated into a machine of the kind herein mentioned at the time of its original construction either permanently or in such way that it may readily be put into use or removed by merely connecting or disconnecting readily attachable electrical connections.

Referring particularly to the wiring diagram of Fig. 3, the numeral **13** designates diagrammatically electro-mechanical means which are familiar to those skilled in the art and which are capable, upon suitable electrical excitation, of removing a selected sound record from a record bank containing usually somewhere in the neighborhood of twelve or sixteen records, disposing such record upon a turn-table for rotation, placing a stylus having an associated sound box in the record groove at its beginning, rotating the turn-table until the reproduction of the record has been completed, and subsequently removing the stylus from the record and replacing the record in its proper position in the record bank.

A pair of leads **15** and **16** are shown emerging from the record playing mechanism and these leads form part of the initiating circuit heretofore referred to. For the purpose of the present description it shall be assumed that a single momentary energization of the initiating circuit sets the playing mechanism in operation. In the specific kind of reproducing machine being referred to there are usually provided a number of coin-receiving mechanisms for coins of different denominations. Those which are for larger denomination than the unit price for playing one record are adapted to operate the playing mechanism a number of times corresponding to the denomination of the coin but in the present instance and for the purpose of this description we shall consider only the mechanism which is actuable by the unit coin, usually a five cent piece, and the present invention will be described as operating particularly in conjunction therewith.

A coin-controlled mechanism is indicated diagrammatically at **17** in Fig. 3 and one of the three alternative coin-control devices illustrated in Fig. 1 has been similarly designated. The mechanism **17** is arranged, upon deposit of a suitable coin or token and usually by the manual operation of a slide bar, which latter operation is rendered possible by the insertion of the coin, to close the initiating circuit of the record playing mechanism by closing a switch **18**, the opposite sides of which have electrical connection with the leads **15** and **16**. A second switch **20** is electrically connected to the leads **15** and **16** in parallel with the switch **18** so that either switch may be closed to energize the initiating circuit.

In connection with the application of the principles of my invention to machines of various types it will be within the purview of mechanical skill to modify the switch **20** and the mechanism for closing it so that in any event the period during which the switch **20** is closed during normal operation is the same as the period for which the switch **18** is closed to effect a like playing cycle of the machine.

The operating means for the switch **20** are adapted to become effective under predetermined conditions and in the present embodiment the switch **20** is closed automatically each time a predetermined number of records has been reproduced in the ordinary manner by the deposit of a coin or token. The result is that a record is reproduced free without the deposit of a coin after a certain number of records have been paid for and reproduced. Means are further provided for indicating to a prospective patron the number of records which must be reproduced at the usual cost before a free record, or rather a free reproducing cycle, is reached.

The means for causing a record to be reproduced free appear more or less functionally and diagrammatically in Fig. 3 and may comprise a rotatable disc **22** and a step-by-step or ratchet mechanism **23** which gives a partial revolution to the disc **22** each time it is actuated by a solenoid **24** which is energized once during each playing cycle by connection with any convenient circuit associated with the record reproducing mechanism. Such circuit may be for the sole purpose of energizing the solenoid **24** and in that case would be provided with a switch disposed mechanically in the path of some moving part of the playing mechanism for being closed once during each playing cycle. The closure of the initiating circuit through the switch **20** is arranged to have the same effect on the record reproducing mechanism as when the initiating circuit is closed through the switch **18** of the coin-control mechanism.

Referring now to the control means of the present invention, a specific form, for the purpose of describing a working embodiment, is shown in detail in Figs. 4 through 7. The auxiliary casing **11** heretofore referred to may comprise a casing element having a front wall **26**, side walls **27** and a top wall **28**. The casing may rest directly upon the top of the main casing **10** and its rear is preferably provided with a closure **29**.

For simplicity of construction substantially all of the working parts of the mechanical portion of the present invention are carried upon a bracket **30** which extends vertically in the casing

11 and is shown provided with upper and lower horizontal securing flanges 31 and 32 respectively. The upper flange 31 may be secured to the under side of the top wall 28 and in the embodiment of Figs. 4 and 5 the lower flange 32 may serve as the entire securing means for the mechanism carried by the bracket 30 and for the casing 11 itself. A downward extension 33 of the lower flange 32, see Fig. 5, may be provided for disposition against the upper rear edge of the main casing 10 of an automatic record reproducing machine. Screws 34 may be passed through the flange 33 and into the body of the main casing 10 for securing the casing 11 and its associated mechanism in position upon the casing 10.

A bearing member 36, see Fig. 6, is secured in a suitable opening in the bracket 30 and this may be accomplished as illustrated in Fig. 6 where the bearing 36 has a reduced portion 37 at one end which is adapted to be inserted in the opening in the bracket 30 and the outer edge of the bearing spun or swaged to provide a securing rim 38. A shaft 39 is journaled in the bearing 36 and has secured to one of the protruding ends thereof a ratchet wheel 40.

The opposite end of the shaft 39 is designed to support the disc 22, previously referred to, for rotation therewith and to this end the shaft is provided with a reduced portion 42, the outer end of which is threaded to engage with a nut 43. Washers 44 are disposed upon opposite sides of the disc 22 with one of the washers 44 engaging the abutment occurring where the reduced portion 42 of the shaft 39 begins and the other washer being confined by the nut 43. If desired the washers 44 may be formed of a cushioning material or a separate washer or shim of cushioning material may be disposed between each of the washers 44 and the disc 22. The nut 43 is tightened sufficiently to cause the disc 22 to rotate with the shaft 39 and consequently with the ratchet wheel 40.

Means for imparting step-by-step rotative movement to the ratchet wheel 40, the shaft 39, and the disc 22, may be caused to operate by either an electrical or a mechanical impulse but in either event such impulse will be one which is imparted to the ratchet mechanism by reason of the record reproducing mechanism having reached or being in the act of passing through a predetermined phase of the operating cycle of the machine.

Electrical means have been illustrated in the accompanying drawings for effecting the desired result and, as appears best in Fig. 4, a ratchet operating arm 48 is pivotally secured against the bracket 30 as by means of a pivot pin 49. A ratchet engaging pawl 50 is pivotally associated with the arm 48 at a point spaced from the pivotal connection of the arm 48 with the bracket 30 and the pawl 50 may be urged into resilient engagement with the ratchet wheel 40 by means of a coil spring 51 secured at one end to the pawl 50 and at its other end to a stationary part of the bracket 30.

The ratchet operating solenoid or electro-magnet 24 previously referred to may also be adapted to be secured to the bracket 30 and its disposition is such that one end of a movable core or armature 56 which is associated with the electro-magnet 24 may be notched as at 57 and engaged with the outer end of the ratchet operating arm 48. The illustrated manner of associating the outer end of the arm 48 with the core or armature 56 affords a play connection between those elements whereby electrical energization of the electro-magnet 24 attracts and moves the core or armature 56 to a position within the magnet and results in moving the arm 48 to the right as seen in Fig. 4 and, through the pawl 50 and the ratchet wheel 40, imparting rotary movement to the shaft 39.

When the electro-magnet is de-energized the arm 48, the pawl 50 and the core 56 are automatically returned to their initial position under the impetus of the coil spring 51. Retrograde movement of the ratchet wheel 40 is prevented by a locking pawl 58 which may conveniently be pivotally mounted upon the pivot pin 49 which mounts the operating arm 48. A coil spring 59 extends between the pawl 58 and a point on the operating arm 48 for the purpose of resiliently urging the pawl 58 into engagement with the ratchet wheel 40.

The circuit for energizing the electro-magnet 24 is shown at 62 in the diagrammatic view, Fig. 3, and this circuit is adapted to be momentarily closed by a suitable and conventional switch which is associated with the record reproducing mechanism and is adapted to be acted upon by some part of the record reproducing mechanism once during each record reproducing cycle, as for instance by engagement with the edge of a record as the record is being returned to its proper position in the record bank after having been reproduced. In Fig. 3 a record bank is indicated schematically at 63, and 64 designates a sound record in playing position. A normally open switch 69 is arranged in the circuit 62 and disposed in such position that it will be closed momentarily by contact with the edge of the record 64 as the record moves downwardly from playing position to a position where it may be moved laterally into the record bank 63. The switch 69 is of conventional construction and is such that upward movement of a record past the switch arm does not affect the normally open circuit 62. The circuit 62 may be energized by connection in parallel with the main operating circuit of the machine. The result of this momentary energization of the solenoid 24 once during each record reproducing cycle is that the ratchet wheel 40, the shaft 39 and the disc 22 are advanced a fraction of a revolution each time a record is reproduced.

A bracket 65 has a portion for securement to the bracket 30 in any convenient manner and a pair of opposed flanges 66 which have adjustably secured therein stop screws 67 for limiting the movement of the arm 48 in both directions and thereby defining the length of its path of oscillation under the impetus of the electro-magnet 24 and the spring 51. One of the flanges 66 has an extension 69 against which the electro-magnet 24 may be secured in any convenient manner.

The disc 22 heretofore referred to has as one of its functions a visual indication to the operator or prospective patron of the machine at all times as to how many records must be reproduced by deposit of the usual coin before a free reproduction will come around. The means for actually bringing about the free reproduction of a record may also conveniently be associated with the disc 22 and the construction of this portion of the device will now be described. In the form illustrated in Figs. 4 and 5 of the drawings I contemplate the provision of a disc 22 of transparent or translucent material having associated therewith a frame member 68 for supporting one

or more contact closing elements which may take the form of the peripherally arranged and radially projecting pins 71, best shown in Fig. 4.

A circuit closing device is arranged in such manner as to effect closure of the initiating circuit of the record playing mechanism momentarily whenever the disc 22 passes through a position where a projecting pin 71 comes into engagement with the circuit closing device just mentioned. In one form the circuit closing device may comprise a fixed contact element 74 and a resiliently mounted relatively movable contact element 75. The contact elements 74 and 75 are normally supported in spaced open-circuit relation by means of a bracket 76 carried by the bracket 30.

The contact elements 74 and 75 are suitably insulated from each other and from their supporting bracket 76 and each is provided with an electrical conductor 78 for connection in the initiating circuit 15, 16 in parallel or shunt relation with the switch means 18 which is adapted to be closed by operation of the coin-control mechanism whereby the switch 18 and the circuit closing device including the contact elements 74 and 75 may operate alternatively to close the initiating circuit 15, 16.

Referring to Figs. 3 and 4, the movable contact element 75 may be provided with an operating arm 80. One form of operating arm is shown in perspective in Fig. 7 and comprises a bent terminal portion 81 for projecting into the circular path of travel of the pin or pins 71. At its opposite end the arm 80 has a pintle portion 82 which may be journaled in the bracket 30 in any convenient manner and intermediate its ends there is an offset portion 83 which bears against the movable contact element 75.

It will be clear from an examination of Fig. 4 that as a pin 71 comes into contact with the portion 81 of the arm 80, with the pin moving in a counterclockwise direction as seen in Fig. 4, the arm 80 will be rocked in a counterclockwise direction about its pintle portion 82. This rocking movement brings the movable contact 75 resiliently into engagement with the relatively fixed contact 74 until the pin 71 has moved sufficiently to cause its outer end to ride off of the terminal portion 81 of the arm 80 whereupon the contact 75 will spring back to its normal open-circuit position. In this manner the shunt circuit 78, 78 is momentarily closed each time a pin 71 passes through a predetermined position in its path of travel and such circuit closure is arranged to initiate a record reproducing cycle of the machine without the deposit of a coin or token.

The degree of rotation imparted to the disc 22 by each stroke of the mechanism resulting from each complete record reproducing cycle is such that a given number of strokes will result in exactly one complete revolution of the disc 22 and in the illustrated instance ten such strokes will cause a single revolution of the disc. A window 85 is formed in the front wall 26 in such position that a predetermined portion of the disc 22, preferably out toward its margin, is visible therethrough.

Each of the ten spaced portions of the disc 22 which will be seen through the window 85 in the ten different rest positions which the disc 22 assumes during a series of ten record playing cycles is provided with certain indicia which will now be referred to. In the order in which they appear at the window 85, the spaced visible areas of the disc 22 thus referred to and designated 86 in Fig. 4 are marked "4," "3," "2," "1," "Free," "4," "3," "2," "1," and "Free." Suitable indicia may be permanently affixed to the outside of the front wall 26, preferably adjacent the window 85, to indicate the significance of the markings appearing through the window.

While the disc 22 may be of an opaque material with the markings made on the front face thereof and visible through the window 85, I prefer to form the disc 22, or at least the portions thereof which bear the markings referred to, of transparent or translucent material and a lamp 90 may be conveniently disposed behind the disc 41 and in alignment with the window 85 whereby when the lamp is lighted the marking of the particular portion of the disc which is at the time disposed behind the window 85 will appear through the window. The lamp 90 may be arranged to be illuminated at all times or whenever the machine is in operation, as preferred. While the specific manner of mounting and positioning the lamp 90 may be varied, this object may be attained by the provision of a cup shaped member 92 having a securing flange 93 and the member 92 thereby serves as a receptacle for the lamp and as a reflector. The window 85 is preferably closed by a glass or the like, designated 94, and the glass 94 may be clear or diffuse.

The marking which appears through the window indicates to a user or prospective user of the machine how many record reproductions must be paid for at the usual rate before a record will be reproduced free and, of course, it indicates that a free record is about to be reproduced when that is the case. In the instant example it will be noted that of each ten records reproduced two are reproduced free because two pins 71, equally spaced, are provided upon the frame 68. It will be apparent that any desired number of pins spaced equally or even at unequal intervals may be employed to modify the interval or intervals between free record reproductions and of course the number of reproducing cycles necessary to effect one complete revolution of the disc 22 may readily be varied by varying the number of teeth in the ratchet wheel and the stroke of the operating arm.

In the operation of an automatic record reproducing machine equipped with the apparatus and the invention disclosed herein, one wishing to use the machine proceeds in the conventional manner to make his choice among the selections available in the machine, indicates such choice by pressing the proper selector button, then deposits a suitable coin and operates the coin-control bar which sets the automatic record-positioning and reproducing mechanism in operation. Automatic operation continues until the record has been reproduced and returned to its proper position in the record bank. Sometime during this record reproducing cycle, preferably toward the end thereof, the solenoid circuit 62 is momentarily closed and the ratchet mechanism advances the disc 22 one space. This advance alters the marking which appears through the window 85 and indicates the number of records still remaining until a record will be played free or the fact that a free record is about to be played. The pins 71 are so located with respect to the markings on the disc 22 that they close the contacts 74, 75 during the final movement of the disc to a position where a free record is indicated thereon.

Reference has been had herein to the fact

that an operator of the machine may select the particular record or records which he desires to hear. A conventional bank of selector buttons is indicated at 96 in Fig. 1 but the details of the selector mechanism do not form a part of the present invention and are therefore not disclosed.

While various modifications may be made in the apparatus of my invention, particularly in the adaptation thereof to machines whose mode of operation is different from the conventional machine to which reference has been had herein, it is to be understood that the principles of the invention comprehend such modifications and the invention is not to be considered as limited save as defined in the appended claims.

I claim:

1. Control apparatus for an automatic phonograph having means adapted to receive and support a plurality of sound records and means cooperating with said record supporting means for automatically effecting reproduction of a sound record; said control apparatus comprising coin-controlled mechanism connected to said automatic means for initiating a record-reproducing cycle thereof, other means for independently initiating a record reproducing cycle thereof and means engageable with said other means for causing said other means to initiate a record reproducing cycle, one of said last two means being adapted to revolve in a path which passes the other of said means to effect a cycle-initiating actuation, and means for advancing said revolving means a predetermined part of a revolution by and upon the execution of a record reproducing cycle whereby a predetermined number of successive record reproducing cycles move said engaging means and said second mentioned initiating means into initiating engagement to cause initiation of a record reproducing cycle independently of said coin-controlled mechanism.

2. Control apparatus for an automatic phonograph having means adapted to receive and support a plurality of sound records and means cooperating with said record supporting means for automatically effecting reproduction of a sound record; said control apparatus comprising coin-controlled mechanism connected to said automatic means for initiating a record reproducing cycle thereof and other means for independently initiating a record reproducing cycle thereof, said other means having step-by-step means actuated by said record reproducing means whereby each record reproducing cycle advances said other means a predetermined increment toward a cycle initiating position.

3. Control apparatus for an automatic phonograph having means adapted to receive and support a plurality of sound records and means cooperating with said record supporting means for automatically effecting reproduction of a sound record; said control apparatus comprising coin-controlled mechanism connected to said automatic means for initiating a record reproducing cycle thereof, and other means for independently initiating a record reproducing cycle thereof, said other means becoming periodically operative after a predetermined number of record reproducing cycles have been initiated by said first mentioned initiating means and comprising means for closing said second mentioned initiating circuit and means movable toward said circuit closing means for actuating the same, means for moving said movable means toward said circuit closing means, said last mentioned means being associated with said record reproducing means for imparting to said movable means an increment of movement after each record reproducing cycle.

4. Control apparatus for an automatic phonograph having means adapted to receive and support a plurality of sound records and means cooperating with said record supporting means for automatically effecting reproduction of a sound record; said control apparatus comprising coin-controlled mechanism connected to said automatic means for initiating a record reproducing cycle thereof, and other means comprising an electrical circuit for independently initiating a record-reproducing cycle of operation of said automatic means, said other means having a rotatable element and a relatively fixed circuit closing device adapted to be operated thereby, and means actuated by said record reproducing means for imparting a fractional rotative movement to said rotatable element during each record reproducing cycle to advance said rotatable element toward its position of engagement with respect to said circuit closing device for periodically closing said electrical circuit.

5. Control apparatus for an automatic phonograph having means adapted to receive and support a plurality of sound records and means cooperating with said record supporting means for automatically effecting reproduction of a sound record; said control apparatus comprising coin-controlled mechanism connected to said automatic means for initiating a record reproducing cycle thereof, and other means comprising an electrical circuit for independently initiating a record reproducing cycle thereof, said other means having a rotatable element and a relatively fixed element, one of said elements comprising a circuit closing device associated with said electrical circuit and the other of said elements comprising means for operating said circuit closing device upon engagement therewith, and means actuated by said record reproducing means for imparting step-by-step rotative movement to said rotatable element to advance said rotatable element toward said relatively fixed element for closing said second mentioned initiating circuit.

6. Control apparatus for a coin-controlled phonograph having automatic operating means and an electrical initiating circuit therefor having switch means adapted to be closed by coin-controlled mechanism; said control apparatus comprising an auxiliary initiating circuit independent of said coin-controlled mechanism and switch means therein for automatically establishing said auxiliary initiating circuit and means operable automatically through said first initiating circuit to close said last mentioned switch means by and upon initiation of a predetermined number of playing cycles by operation of said coin-controlled mechanism.

7. Control apparatus for an automatic phonograph having means adapted to receive and support a plurality of sound records and means cooperating with said record supporting means for automatically effecting reproduction of a sound record; said control apparatus comprising coin-controlled mechanism connected to said automatic means for initiating a record reproducing cycle thereof, and other means for independently initiating a record reproducing cycle thereof, said other means having step-by-step means movable a predetermined amount to effect initia-

tion of a record reproducing cycle, said step-by-step means being actuated by said record reproducing means whereby each record reproducing cycle advances said step-by-step means an increment of movement toward a cycle initiating position, and visible indicating means actuated by said step-by-step means for indicating the number of increments of movement and accordingly the number of record reproducing cycles necessary to advance said step-by-step means to the cycle initiating position.

8. Control apparatus for a coin-controlled phonograph having automatic operating means and an electrical initiating circuit therefor having switch means adapted to be closed by coin-controlled mechanism; said control apparatus comprising an auxiliary initiating circuit independent of said coin-controlled mechanism and circuit closing means associated therewith, said circuit closing means comprising a rotatable member having a circuit closing element associated therewith, said circuit closing element being adapted to close said auxiliary initiating circuit each time a predetermined point in the rotation of said member is reached, means for imparting to said rotatable member step-by-step rotary movement, said means being actuated during each normal record reproducing cycle of the machine for imparting an increment of rotary movement to said rotatable member, and visible indicating means actuated by said step-by-step means for indicating the number of increments of rotary movement of said rotatable member which are required to bring said member to a position for closing said second mentioned initiating circuit.

9. In an auxiliary operating means for a coin-controlled automatic phonograph having means for automatically selecting an indicated sound record and successively reproducing and replacing the same and having an electrical initiating circuit for beginning an automatically completed record reproducing cycle which initiating circuit is established by coin-controlled mechanism; ratchet mechanism comprising a ratchet wheel and an operating arm and pawl therefor, an electrical circuit closing device associated with said ratchet wheel and adapted to be periodically closed thereby whenever a predetermined number of reciprocations of said operating arm have been made, said circuit closing device being adapted to be connected in series in the initiating circuit across and in parallel with the coin-controlled mechanism thereof whereby a record reproducing cycle may be alternatively initiated thereby, and electro-magnetic means adapted to be energized for a limited period of time during each record reproducing cycle and connected to said rachet operating arm for imparting to said ratchet mechanism a predetermined increment of movement during each record reproducing cycle to ultimately actuate said circuit closing device for effecting initiation of a record reproducing cycle independently of said coin-controlled mechanism each time a predetermined number of record reproducing cycles have been initiated through the medium of said coin-controlled mechanism.

10. In an auxiliary operating means for a coin-controlled automatic phonograph having means for automatically selecting an indicated sound record and successively reproducing and replacing the same and having an electrical initiating circuit for beginning an automatically completely record reproducing cycle which initiating circuit is established by coin-controlled mechanism; ratchet mechanism comprising a ratchet wheel and an operating arm and pawl therefor, an electrical circuit closing device associated with said ratchet wheel and adapted to be periodically closed thereby whenever a predetermined number of reciprocations of said operating arm have been made, said circuit closing device being adapted to be connected in series in the initiating circuit across and in parallel with the coin-controlled mechanism thereof whereby a record reproducing cycle may be alternatively initiated thereby, electro-magnetic means adapted to be energized for a limited period of time during each record reproducing cycle and connected to said ratchet operating arm for imparting to said ratchet mechanism a predetermined increment of movement during each record reproducing cycle to ultimately actuate said circuit closing device for effecting initiation of a record reproducing cycle independently of said coin-controlled mechanism each time a predetermined number of record reproducing cycles have been initiated through the medium of said coin-controlled mechanism, and shiftable visible indicating means actuated by said ratchet mechanism for indicating to an observer the number of normal record reproducing cycles which remain to be executed before initiation of a record reproducing cycle independently of the coin-controlled mechanism.

11. In an automatic phonograph, means adapted to receive and support a plurality of sound records, means cooperating with said record supporting means for automatically effecting reproduction of a sound record, coin-controlled mechanism connected to said automatic means for initiating a record producing cycle thereof, auxiliary means for initiating a record producing cycle of said automatic means, and step by step means actuated by said record reproducing means whereby each record reproducing cycle imparts a predetermined increment of movement to said step by step means, said step by step means having engagement with said other means for causing the latter to initiate a record reproducing cycle after a predetermined number of increments of movement have been imparted to the step by step means by the record reproducing means.

12. In a coin-controlled phonograph having automatic operating means and an electrical initiating circuit therefor having switch means adapted to be closed by coin-controlled mechanism, an auxiliary initiating circuit and switch means therein for establishing said initiating circuit, means acted upon by said automatic operating means and thereby rendered effective to engage and close said second switch means at the conclusion of a predetermined number of playing cycles to accomplish an additional playing cycle through said auxiliary initiating circuit.

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