July 3, 1962 H. M. THOMAS ET AL 3,042,173

COIN CONTROLLED PHONOGRAPH

Filed Nov. 10, 1959 4 Sheets-Sheet 1

Fig. 1.

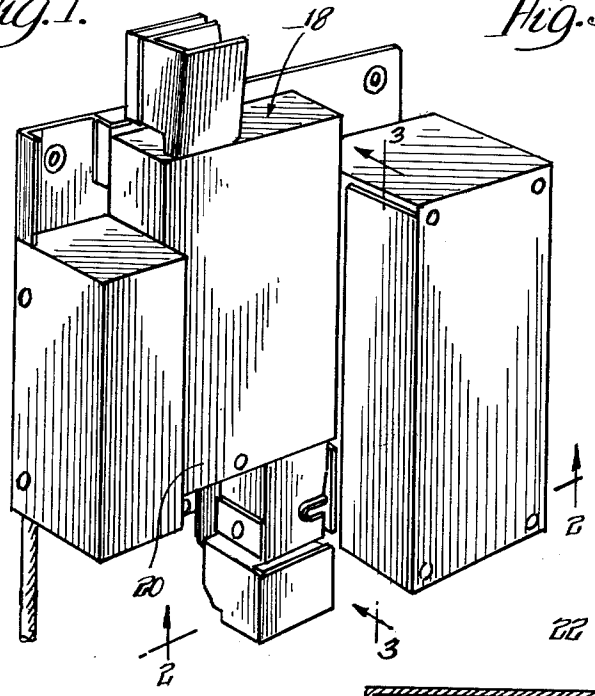


Fig. 5.

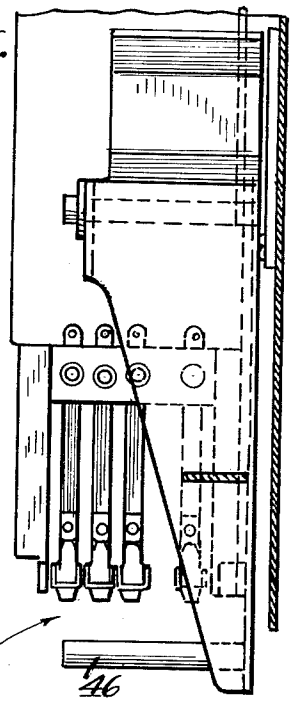
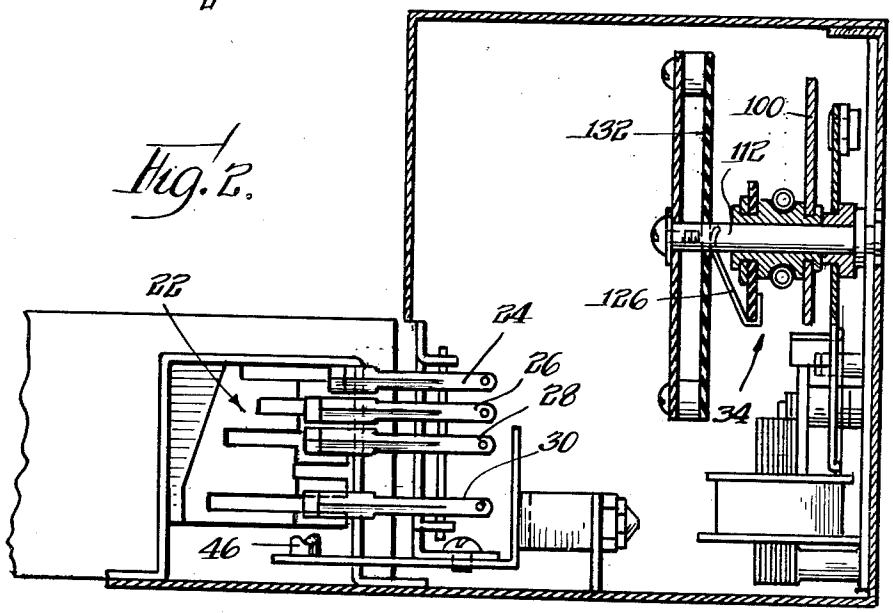


Fig. 2.



INVENTORS
Howard M. Thomas
BY: Charles A. Mellon
Olson & Treyler
attys.

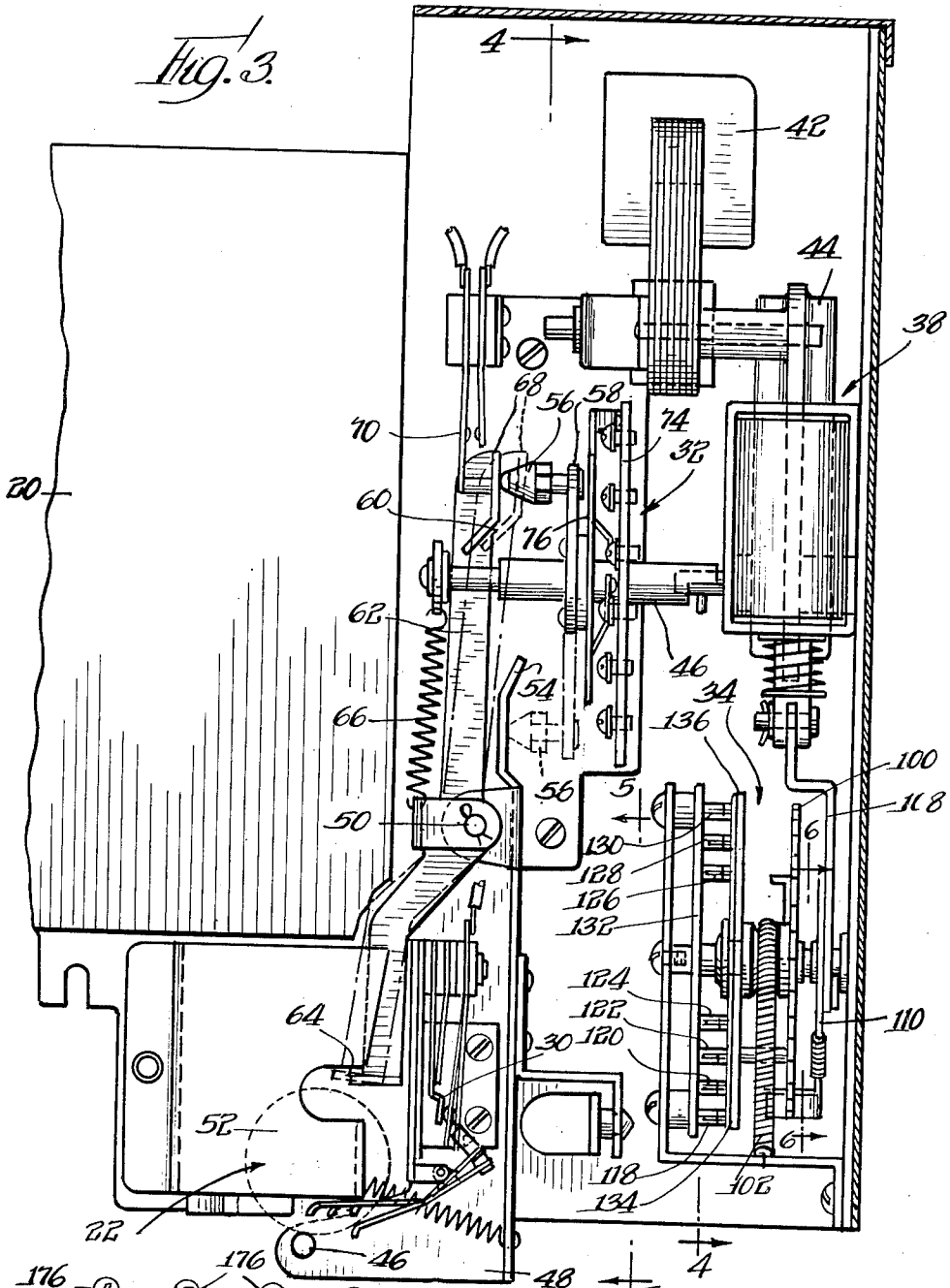
July 3, 1962 H. M. THOMAS ET AL 3,042,173

COIN CONTROLLED PHONOGRAPH

Filed Nov. 10, 1959

4 Sheets-Sheet 2

Fig. 3.



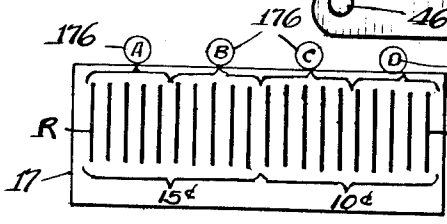


Fig. 8.

INVENTORS
Howard M. Thomas
BY: Charles A. Melton
Olson & Trexler
Attys.

July 3, 1962 H. M. THOMAS ET AL 3,042,173

COIN CONTROLLED PHONOGRAPH

Filed Nov. 10, 1959 4 Sheets-Sheet 3

Fig. 4.

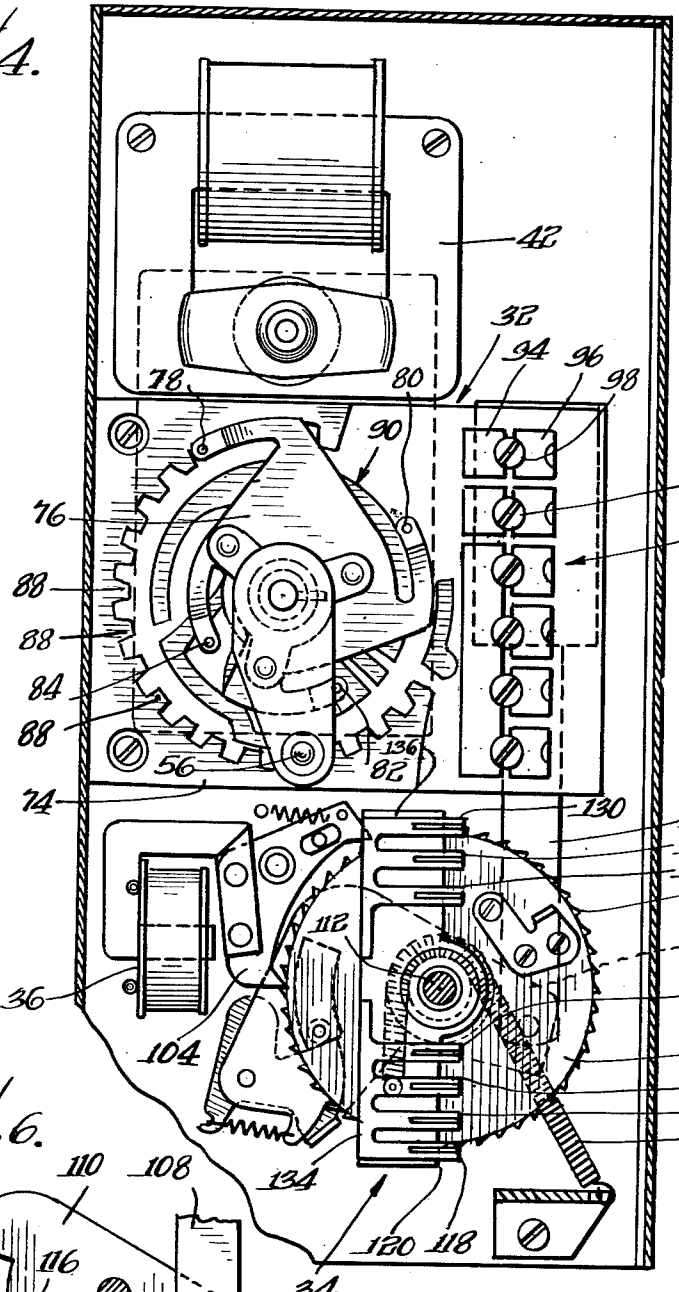
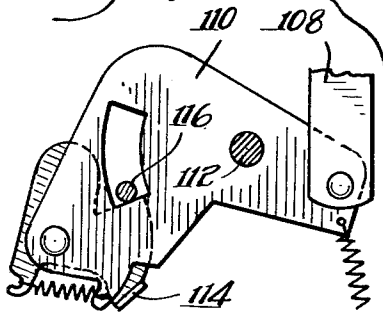


Fig. 6.



INVENTORS
Howard M. Thomas
BY: Charles A. Mellon
Olson & Treyler
attys.

July 3, 1962 H. M. THOMAS ET AL 3,042,173

COIN CONTROLLED PHONOGRAPH

Filed Nov. 10, 1959

4 Sheets-Sheet 4

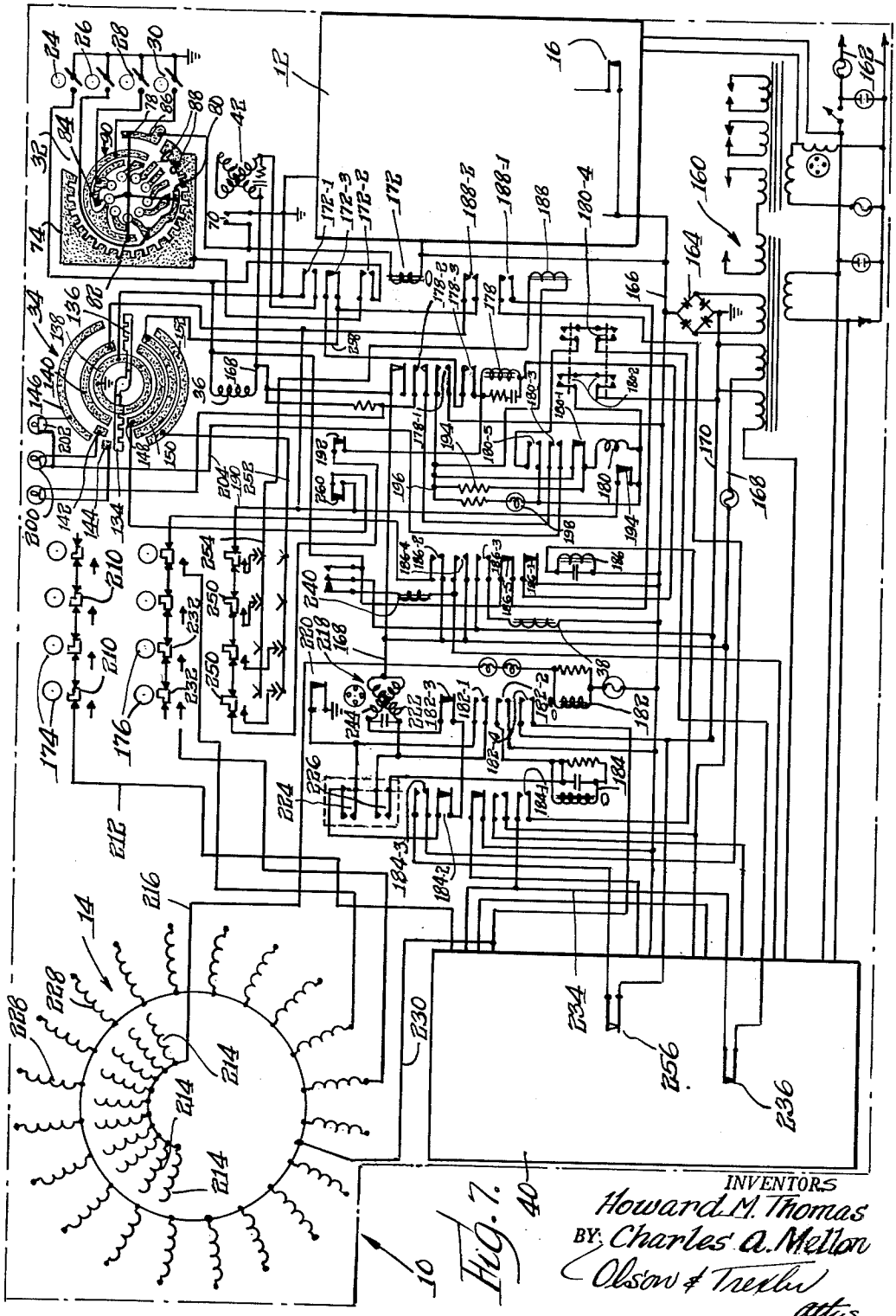


Fig. 7.

INVENTORS
Howard M. Thomas
BY: Charles A. Mellon
Olson & Trexler
attys.

United States Patent Office

3,042,173
Patented July 3, 1962

3,042,173

COIN CONTROLLED PHONOGRAPH

Howard M. Thomas, North Tonawanda, and Charles A. Mellon, Clarence, N.Y., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio

Filed Nov. 10, 1959, Ser. No. 852,143
13 Claims. (Cl. 194—15)

The present invention relates to coin controlled phonographs, and is concerned more particularly with problems associated with automatically establishing credit for coins deposited in a phonograph and automatically making charges against the established credit for the individual records selected for playing.

These problems are complicated by a number of factors, one of which is the desirability of giving to the player, who deposits coins in the larger denominations, bonus credits which are in addition to credits established in accordance with the value of the coins deposited.

Other complications arise from the adaptation of such phonographs to play a mix or selection of records for which different charges are made for playing. Thus, it is desirable from the commercial standpoint that phonographs of this character be capable of playing extended play and stereophonic records, for example, in addition to standard records. Because of the greater playing time of extended play records, and because of the additional equipment required to play stereophonic records, equitable charging practice requires that a greater charge be made for playing an extended play record or a stereophonic record than is made for playing a standard record.

One object of the invention is to provide a coin controlled phonograph having a new and improved and highly simplified control means which enables the player to make any desired selection of records from different categories of records, which are priced differently for playing, and which operates automatically to charge the player in accordance with the established playing price of the respective records selected.

Another object is to provide an improved and extremely versatile coin controlled phonograph in which novel control means markedly simplified in construction in accordance with the invention has an improved and significantly advantageous mode of operation in (1) crediting the player for coins deposited in the machine in accordance with a predetermined, yet variable, schedule of credits which gives credit for the value of the coins deposited, together with extra or bonus credit for coins of larger denominations, (2) enabling the player to make a desired selection of records for playing from different groups or categories of records priced differently for playing, and (3) automatically charging the player for the selection made in accordance with the established playing price of the respective records selected.

Another object is to provide, for playing records selected from different categories of records which are priced differently for playing, a new and improved coin controlled phonograph incorporating improved control means having an inherently rapid mode of operation in automatically making charges for selected records in accordance with the playing charge of the respective records selected for playing.

A more specific object is to provide a coin controlled phonograph for playing records in different price categories in which solenoid operated control means is improved and simplified in accordance with the invention to the extent that only two solenoids are required to automatically credit the player for both the amount and denomination of coins deposited in the machine, and for automatically charging for records selected from different price categories of records.

A further object is to provide an improved phonograph

as recited in the preceding objects which is so constructed that the control means will automatically take into account the established playing price of a selected record when debiting the established credit for the selection made without significantly delaying the debiting operation.

Another object is to provide, for automatically playing records in different price categories, an improved coin controlled phonograph in which improved control means provides for playing a record for which the lowest charge is made when only sufficient credit is established in the machine for playing the lowest priced record, while at the same time serving to avoid disturbance or disruption of the normal standby condition of the machine when an attempt is made to play a higher priced record when the machine contains credit sufficient only for playing a lower priced record.

A further object is to provide, in an improved coin controlled phonograph, as recited in the preceding objects, a simplified and improved mechanism which operates automatically as an incident to crediting the player for the value and denomination of a coin deposited in the machine to automatically release the coin from a crediting zone to drop to the cash-box while at the same time restraining movement of additional coins into the crediting zone to assure proper crediting of coins deposited successively into the machine.

Other objects and advantages will appear from the following description of the exemplary embodiment of the invention illustrated in the drawings, in which:

FIGURE 1 is a perspective view of phonograph control structure embodying the invention;

FIG. 2 is a horizontal sectional view taken looking up from the line 2—2 in FIG. 1;

FIG. 3 is a vertical sectional view taken with reference to the line 3—3 in FIG. 1;

FIG. 4 is a vertical sectional view taken with reference to the irregular line 4—4 in FIG. 3;

FIG. 5 is a fragmentary vertical sectional view taken with reference to the line 5—5 in FIG. 3;

FIG. 6 is a detail view taken with reference to the line 6—6 in FIG. 3;

FIG. 7 is a circuit diagram of control circuits used in controlling a phonograph in accordance with the invention; and

FIG. 8 is a schematic illustration of record storage means used in the phonograph.

For convenience in presentation, the following description of the coin controlled phonographic machine illustrated in the drawings and forming the exemplary embodiment of the invention will be presented under various headings and sub-headings, as will appear as the description proceeds.

General Organization of the Machine

Many component elements and subassemblies of the coin controlled phonograph forming the exemplary embodiment of the invention illustrated in the drawings are of a standard construction well known in this art and need not be described in detail here in order to convey a complete understanding of the present invention.

Having reference to FIG. 7 of the drawings, the coin controlled phonograph forming the illustrated embodiment of the invention is depicted diagrammatically in this figure and designated generally by the reference number 10. The overall machine comprises, as illustrated diagrammatically in this figure, a phonograph unit 12 of conventional construction which is designed to play individual records selected for playing by a standard record selector unit 14, also illustrated diagrammatically in FIG. 7. Suitable switch operating means of a well known construction (not shown) associated with the record selector unit 14 is actuated as an incident to the

selection of one or more records by the unit 14 to close a master control switch 16 for the record playing unit 12. It will be understood that the phonograph or record playing unit 12 operates automatically in response to closure of the switch 16 to play in succession all records selected for playing by the selector unit 14.

The record selector unit 14 illustrated diagrammatically in FIG. 7 is designed for selecting records from a coacting record storage unit 17 of conventional construction, illustrated schematically in FIG. 8, designed to hold in readiness for playing a total of one hundred records R having two hundred playing sides. As will presently appear, the assortment of records from which selection may be made by the selector unit 14 can be classified into different groups or categories which are priced differently for playing. Thus, some of the records may be standard records for which a lower or minimum charge is made for playing, while other records may be extended play or stereophonic records for which a higher charge is made for playing.

Only ten records in each price category are illustrated in FIG. 8. As will presently appear, the selection of records for playing is controlled by letter buttons 176, each of which controls five records in a single price category.

The phonograph 10 is controlled or activated in response to the depositing of coins into coin receiving and classifying means 18 illustrated in FIG. 1. The coin receiving and classifying means 18 includes a slug rejector 20 of conventional structure which operates to classify acceptable coins deposited into the machine and direct the accepted coins into a crediting zone 22, FIGS. 2, 3 and 5, in positions corresponding to the denominations of the individual coins.

The presence and value of coins reaching the crediting zone 22 is sensed by coin sensing switches 24, 26, 28 and 30 corresponding respectively to coins in the denominations of 5¢, 10¢, 25¢ and 50¢.

The coin sensing switches 24, 26, 28 and 30 are connected to energize and control operation of credit value assigning means 32, FIGS. 3, 4 and 7, which establishes credit to the player in accordance with the value and denomination of the deposited coins in a manner which will be described presently in greater detail. The credit assigning means 32 computes the credit value of the individual coins deposited in the machine and transmits this credit value to credit storage means 34, FIGS. 3, 4 and 7, which controls the selection of records and operation of the phonograph, in a manner to be described presently in detail. In general, however, credits are added into the credit storage means 34 by operation of a crediting solenoid 36 by the credit value assigning means 32.

Records selected by the selector means 14 for playing are charged against the established credit by debiting means 38, coacting with the credit storage means 34, as illustrated in FIG. 3. The credit storage means 34 is interconnected with control circuits illustrated diagrammatically in FIG. 7, to control operation of the machine in accordance with the established credit, as will be presently described in detail.

The coin controlled phonograph 10 forming the illustrated embodiment of the invention is adapted to be controlled from remote coin control stations or "wall boxes" through conventional remote control circuitry illustrated diagrammatically in block form in FIG. 7, and designated by the number 40.

The relationship and operation of the control circuitry illustrated diagrammatically in FIG. 7 will be described presently in greater detail.

Registration of Deposited Coins

As previously intimated, the acceptability of coins deposited in the machine is determined by the slug rejector 20 which directs each deposited coin into the crediting zone 22 in a position within the zone corresponding to the denomination of the coin, which is sensed by the corresponding one of the switches 24, 26, 28 and 30, as previously recited. Closure of any one of the coin sensing switches serves to energize an electric motor 42 forming a component of the credit assigning or computing means 32, FIGS. 3 and 4. The motor 42 operates through a speed reducing transmission 44 to rotate a sleeve 46, FIG. 3, through a complete revolution. Rotation of the sleeve 44 through one complete turn serves a number of functions, one of which is to operate improved means for releasing coins from the crediting zone 22 while at the same time precluding the escape of succeeding coins through the crediting zone without being properly registered.

Coins in denominations larger than 5¢ are, upon being admitted to the crediting zone 22, supported in the crediting zone by a horizontal support bar 46, fixed to the lower end of an L-shaped lever 48 swingably supported at its upper end by a pivot 50. FIGURE 3 illustrates a 50¢ coin supported in the crediting zone and denoted by the number 52.

The upper end of the swingable lever 48, which carries the coin support bar 46, is shaped, as shown in FIG. 3, to form an inclined cam actuator 54 which lies in the rotary path of an actuating button 56 carried on the projecting end of a radial arm 58 fixed to the rotatable sleeve 46. Upon rotation of the arm 58 through a complete revolution in response to closure of one of the coin sensing switches, the button 56 engages the lever cam 54 during a late phase of the rotary cycle of the button to swing the lever 48 in a counterclockwise direction with reference to FIG. 3, to allow the sensed coin to drop from the zone 22 into a suitable cash-box (not shown).

At the end of the rotary operating cycle of the sleeve 46, the button 56 returns to its normal position, illustrated in FIG. 3, in which it engages a cam 60 on the upper end of a coin restraining lever 62 to shift the lever counterclockwise to its normal position shown in FIG. 3. The coin blocking lever 62 is medially pivoted on the previously mentioned end 50 and extends downwardly to a lower end shaped to define a horizontal coin restraining element 64, which is shiftable as an incident to clockwise swinging movement of the lever 62 with reference to FIG. 3 into an operative position which interferes with and restrains movement of coins into the crediting zone 22.

A spring 66 connected to the coin restraining lever 62 urges the lever in a clockwise direction toward its operative position illustrated in phantom in FIG. 3.

Normally, the coin restraining lever 62 is held in its inoperative position illustrated in solid lines in FIG. 3 by engagement of the arm supported button 56 with an abutment 68 formed on the upper end of the lever adjacent the cam 60.

Immediately upon rotation of the button 56 away from its normal position, the lever 62 is released from the button to move into its operative position which automatically restrains movement of coins into the crediting zone 22 during an operating cycle of the sleeve 46 in the course of which the support bar 46 is shifted to a coin releasing position, as previously described. This automatically prevents coins from passing through the crediting zone 22 without being registered while the support bar 46 is temporarily displaced from its normal coin supporting position.

As previously intimated, both the coin support bar 46 and the coin restraining element 64 stop short of the path of 5¢ denomination coins through the crediting zone 22, thus allowing 5¢ coins to pass freely through the zone 22 to actuate the 5¢ sensing switch 24. As will presently appear, the 5¢ switch 24 operates to establish a unit of credit in the machine without moving the value assigning means 32 through an operating cycle.

The rotary arm supported button 56 also serves to control a switch 70 to continue initial energization of

the motor 42 throughout an operating cycle of the rotary sleeve 46 and to automatically deenergize the motor 42 upon completion of a rotary cycle of the sleeve 46. As will presently appear, the motor 42 is energized at the beginning of an operating cycle by one of the coin sensing switches previously mentioned. As shown in FIG. 3, the switch 70 is normally held in its open position by the button 56 acting through the upper end of the coin restraining lever 62. Initial energization of the motor 42 by one of the coin sensing switches frees the lever 62 to swing to its operative position, thus allowing the switch 70 to close to continue energization of the motor 42. Return of the button 56 to its starting position opens the switch 70 to deenergize the motor.

Credit Value Assigning Means

The credit value assigning or switching means 32 is operated in response to closure of any one of the coin switches 26, 28 and 30 to produce a sequence of electrical crediting signals in accordance with a predetermined schedule of credits for coins in the denominations of 10¢, 25¢ and 50¢.

As shown in FIGS. 3, 4 and 7, the credit value assigning means 32 comprises a flat circuit board 74 which opposes a series of spaced wiping contacts supported by a spider 76 mounted on the sleeve 46 for rotation with the sleeve. As shown in FIGS. 4 and 7 the spider 76 supports four wiping contacts 78, 80, 82 and 84 in positions angularly spaced from each other about the axis of the spider and having differential radial spacings from the spider axis such that rotation of the sleeve 46 moves the respective contacts through four separate circular paths radially spaced from each other. These wiping contacts are electrically connected together and yieldably urged by the spider 76 against the stationary circuit board 74 which supports a pattern of credit value assigning contacts or conductor patches in a predetermined positional relationship to the circular paths of the previously mentioned wiper contacts.

Thus, having reference to FIG. 7, the wiper contact 78 engages a short arcuate motor energizing conductor or patch 86 on the circuit board 74 when the wiping contacts are in their normal positions illustrated in this figure. Rotation of the sleeve 46 carries the contact 78 off the motor energizing patch 86 and over an annular series of circumferentially spaced pulsing contacts 88 mounted on the circuit board 74 in underlying relation to the path of contact 78 and electrically connected together as shown. In this instance a total of twenty pulsing contacts 88 are employed.

Other contacts 80, 82 and 84 sweep across a pattern of grounding contacts 90 which are connected through a terminal board 92, FIG. 4, with the coin switches 26, 28 and 30. The terminal board 92 is designed to provide for a selective connection of various ones of the grounding contacts 90 to the respective coin control switches 26, 28 and 30, to permit a selective variation of the schedule of credits assigned to coins of different denominations. Thus, the terminal board 92 comprises two parallel series of contacts 94, 96 which are connected respectively to the grounding contacts 90 and to the coin sensing switches 26, 28 and 30. The corresponding contacts 94 and 96 are selectively connected together by circuit bridging screws 98, as shown in FIG. 4.

The respective coin sensing switches 26, 28 and 30 operate to connect their associated grounding contacts 90 to ground as illustrated in FIG. 7. Engagement of the wiper contact 78 with one of the pulsing contacts 88 while any one of the other wiper contacts 80, 82 and 84 is in engagement with a grounding contact 90, which is grounded through one of the coin sensing switches, completes a pulsing circuit through the value assigning switching means 32, as will be described presently.

Credit Storage Means

As previously intimated, the coin sensing switches 24, 26, 28 and 30 operate either directly, as in the case of the switch 24, or through the credit value assigning means 32 described, to produce a series of electrical crediting pulses in accordance with the value and denominations of deposited coins. Each pulse represents a unit of credit which is registered by an incremental displacement of a credit accumulator wheel 100, FIGS. 2, 3 and 4, in a crediting direction. The crediting wheel 100 is biased rotatably in a crediting direction, clockwise with reference to FIG. 4, by a tension spring 102. The crediting wheel 100 may be displaced rotatably from its zero or no credit position through a rotary angle sufficient to accumulate the maximum credits which can be obtained by the deposit of one dollar in coins in the machine.

As will presently appear, the crediting wheel 100 is forcibly rotated against the spring 102 in a counterclockwise or debiting direction, FIG. 4, by credit cancelling or debiting means to be described. Thus, the spring 102 is fully tensioned when the wheel 100 is in the zero crediting position. Incremental displacement of the wheel 100 through angles representing individual units of credit is effected by cyclic operation of an escapement pawl 104 which coacts with the serrated peripheral edge 106 of the crediting wheel.

The escapement pawl 104 is actuated by the single crediting solenoid 36 previously mentioned in a manner such that a single crediting pulse to the solenoid displaces the wheel 100 by one credit unit.

The escapement pawl 104, itself, is of a very simple design well known in the mechanical art and requiring no specific description here.

Movement of the crediting or accumulator wheel 100 in both its crediting and debiting directions is controlled entirely by operation of the single escapement solenoid 36, together with operation of a single credit cancelling or debiting solenoid 38, previously mentioned with reference to FIG. 3.

As shown in FIGS. 3 and 4, the debiting solenoid 38 is connected through a link 108 with one end of a bellcrank 110, FIG. 6, medially pivoted on the support shaft 112 for the crediting wheel 100. The end of the crank 110 opposite from the link 108 carries a spring biased, pivoted dog 114 designed to engage the serrated periphery 106 of the wheel 100 to move the wheel in its debiting direction upon energization of the solenoid 38 to retract the link 108. The stroke of the solenoid 38 is such that a single energization of the solenoid displaces the wheel 100 through three credit units of movement in its debiting direction.

Normally the dog 114 is held clear of the wheel 100 by an abutment 116 permanently affixed to the base of credit storage means 34, thus avoiding interference with movement of the wheel in its crediting direction upon operation of the escapement 104. The escapement pawl 104, itself, does not interfere with movement of the wheel 100 by the debiting solenoid.

Credit Balance Phonograph Control

Operation of the machine 10 is controlled, in accordance with the balance of credit registered by the accumulator wheel 100, through wiper contacts 118, 120, 122, 124, 126, 128 and 130 rotated by the wheel 100 in opposing relation to control contacts, to be described, supported on a flat, stationary circuit board 132, FIGS. 2 and 3. For simplicity in illustration only the contacts on the board 132 are shown in FIG. 7. The wiper contacts are carried by two arms 134, 136 projecting radially in opposite directions and connected to the wheel for rotation about the shaft 112, the contacts 118, 120, 122 and 124 being carried on the arm 134 in radially spaced relation to each other and the contacts 126, 128 and 130 being carried

by the arm 136 in radially spaced relation to each other, as shown in FIGS. 3 and 4.

The four wiper contacts carried by the arm 134 are electrically connected together and move, as an incident to rotation of the credit wheel 100 through four separate arcuate paths radially spaced from each other. Similarly, the three contacts carried by the arm 136 move through three radially spaced, arcuate paths. The arms 134 and 136, as well as the wheel 100, have a maximum range of movement somewhat less than 180 degrees.

The radially innermost contact 124 of the arm 134 continuously engages an annular control contact or patch 138 on the circuit board 132, FIGS. 3 and 7. The patch 138 is grounded as indicated. The wiper contact 122, FIG. 3, coacts with a rather extensive arcuate contact patch 140 on the board 132. In like manner, the contact 120 coacts with a circuit board contact 142, and the contact 118 coacts with two circumferentially spaced contact patches 144 and 146 on the circuit board, FIG. 7.

The contacts 126, 128 and 130 on the arm 136 coact with three arcuate contact patches 148, 150 and 152 laid out on the circuit board 132 as illustrated in FIG. 7. The positional pattern of the contact patches on the circuit board 132 is related to the coacting contacts to control the machine in a manner to be described presently in detail.

Phonograph Control Circuits

For convenience in presentation, the general description under this main heading will be confined to a brief review of the major electrical components of the phonograph control circuit used. The relationship of these components to each other and the operation of the circuits will be treated under separate sub-headings.

As illustrated in FIG. 7, the electrical control circuitry used in implementing the invention comprises a group of power supply circuits 160 energized from two power lines 162. The power supply circuit 160 include a grounded rectifier 164 which supplies a direct current negative potential to a power conductor 166. Alternating current is supplied at a reduced voltage through two conductors 168 and 170, the conductor 170 being grounded as indicated.

Closure of any one of the coin sensing switches 24, 26, 28 and 30 completes a circuit to ground from the conductor 166 through an anti-cheat relay 172, contact patch 86 on the circuit board 74, wiper contact 78 and one of the contacts 90 which is grounded by the closed coin sensing switch.

Credit for coins deposited in the machine is registered by pulsing of the credit solenoid 36 as described to effect incremental displacement of the wiping contacts on the arms 134 and 136 in the clockwise direction with reference to FIG. 7.

Operation of the selector 14 to effect selection of a record for playing is controlled by the manual actuation of a series of ten number selector buttons 174 and manual actuation of a series of twenty letter buttons 176. Only four buttons of each class are shown in FIG. 7. As will be described presently in greater detail, actuation of a number button 174 and a letter button 176, after playing credit has been established in the machine, energizes a timing relay 178. This is normally followed by energization of a latch solenoid 180.

Actuation of a record selector button 174 effects energization of a second timing relay 182 which effects mechanical actuation and other appropriate control of the record selector 14.

At the conclusion of a record selecting operation, a relay 184 is energized to operate a group of switches, one of which effects energization of the credit cancelling or debiting solenoid 38 to cancel three units of credit, as previously described.

A pulse relay 186 is energized by the relay 184 to deenergize the first timing relay 178 and to effect a single energization of the crediting solenoid 36 to add one unit of credit to the credit wheel 100 just before the solenoid 38 is actuated in instances when a lower priced record has been selected for playing. Control of the crediting solenoid 36 to add in the unit of credit as an incident to the selection of a lower priced record is effected through energization of a pricing relay 188 upon actuation of a letter button 176 corresponding to a lower priced record.

Operation to Establish Credit for Deposited Coins

As previously intimated, one unit of credit is established for a 5¢ coin directly without operating the value assigning means 32. Thus, closure of the switch 24 completes a circuit from the A.C. power line 168 through the crediting solenoid 36 to ground. The 5¢ coin passes freely on through the crediting zone 22 allowing the switch 24 to open after one unit of credit is established.

The mode of operation for establishing credit for 10¢, 25¢ and 50¢ coins is the same, except for the number of crediting pulses produced which, as previously explained, is dependent upon the setting of the screws 98 in the terminal board 92, FIG. 4, to predetermine the selection of the grounding contacts 90 which are grounded through the respective coin sensing switches 26, 28 and 30.

Closure of any one of the coin sensing switches 26, 28 and 30 completes a circuit from the D.C. power line 166 through the anti-cheat relay 172 to ground, as previously described. This closes anti-cheat relay switch 172–1 to complete a circuit from A.C. power line 168 through the previously mentioned crediting motor 42 to ground.

Operation of the motor 42 moves the wiper contact 78 out of engagement with the anti-cheat energizing patch 86. However, before this occurs, the previously mentioned switch 70 is mechanically closed by rotation of the motor driven sleeve 46 to continue energization of the relay 172, and hence continue energization of the motor 42 until the switch 70 opens at the completion of a crediting cycle.

In moving through a complete revolution, the contact 78 is grounded during a portion or portions of its movement, depending upon which of the contacts 90 are grounded through the closed coin sensing switch. As previously mentioned, engagement of the contact 78 with one of the pulsing contacts 88 while the contact 78 is grounded produces a crediting pulse through the crediting solenoid 36.

Thus, all the pulsing contacts 88 are connected through closed anti-cheat relay switch 172–2 to intermittently ground one side of the solenoid 36, the other side of which is connected to the A.C. power line 168.

Since one credit unit is given for a 5¢ coin, the credit units may be regarded as having a 5¢ value. However, bonus credits are given for larger denomination coins in accordance with a predetermined schedule which can be varied by use of the terminal board 92.

As an example of credit given for various coins, the terminal board 92 may be adjusted to give two units of credit for a 10¢ coin, six credit units for a 25¢ coin, and fifteen credit units for a 50¢ coin.

Selection of Records When Machine Contains a Balance of Three or More Credit Units

While the machine is susceptible of being adjusted to make different charges for the records played, it will be assumed here that a 10¢ charge is to be made for playing standard records and a 15¢ charge or three credit units is to be made for playing extended play or stereophonic records. With reference to FIG. 7, it will be noted that the establishing of two or more units of credit effects a connection of the contact patch 140 to ground. This is accomplished by the position of the patch 140 to be engaged by the contact 122, FIG. 3, upon displacement of the arm 134 through two or more credit increments from its zero position.

Similarly, displacement of the arm 136 through two

credit units from its zero position causes the contacts 126, 128 to bridge the contact patches 148, 150. Displacement of the arm 136 through three or more credit increments from its zero position causes the contacts 126, 128 and 130 to bridge all three contact patches 148, 150 and 152.

Connection of the switch patch 140 to ground as an incident to registering two or more credits in the machine energizes the first timing relay 178 by a circuit established through contact patch 138, contact patch 140, conductor 190, normally closed number series switch 192, timing relay 178, normally closed pulse relay switch 186–1 and power conductor 166.

Energization of the first timing relay 178 energizes latch solenoid 180 through a circuit which includes power conductor 166, timing relay switch 178–1, normally closed latch switch 180–1, latch solenoid 180, normally closed reset switch 194 and grounded conductor 190. Energization of the latch relay 180 opens the switch 180–1 through which the latch relay is initially energized. However, energization of the latch solenoid 180 is continued at a lower current level through a resistor 194 in parallel with the switch 180–1.

A "select" light 198 is connected in parallel with the latch relay 180 to be energized at the same time by the timing relay 178. Energization of the latch relay 180 closes latch relay switches 180–2 to connect the latch relay to ground independently of the reset switch 194.

Energization of both the first timing relay 178 and the latch relay 180 in response to the registration of two or more credits in the machine supplies electrical energy to a 10¢ credit lamp 200 and an "any selection" credit lamp 202 by completing a circuit from the ungrounded A.C. conductor 168 through the relay switch 178–2, latch switch 180–3 and conductor 204 leading to both lights 200, 202. The registration of only two credits in the machine grounds the conductor patch 142 in the control 34 to energize the 10¢ light 200. The registration of three or more credits disconnects the patch 142 from ground and grounds the patch 146 to energize the "any selection" light.

Thus, in response to registration of at least two credits in the machine, the first timing relay 178 and the latch relay 180 are energized and the "make selection" light 198 turned on. The lights 200 and 202 are selected according to whether the machine contains two or more registered credits. The machine is then in readiness for selection of a record by actuation of one of the number buttons 174 and one of the letter buttons 176.

It is assumed under this sub-heading that three or more credits have been registered in the machine and that a 15¢ selection is to be made.

It should be mentioned here that energization of the latch solenoid 180 activates a mechanical latch of conventional construction (not shown) to retain in depressed or activated position any one of the number buttons 174 and any one of the letter buttons 176. The player depresses the number and letter buttons 174, 176 to make his selection.

The number buttons 174 operate on number switches 210 normally connected to a ground through a lead 212 and connected respectively to number control solenoids 214 in the selector 14. Operation of any one of the number switches 210 completes a circuit through one of the number solenoids 214 to a conductor 216 which energizes the second timing relay 182 connected between the conductor 216 and the power line 166.

Energization of the relay 182 closes relay switch 182–1 to energize a motor 218 in the selector 14 to turn in its forward direction. Thus the switch 182–1 completes a circuit from ground through a thermostat switch 220, switch 182–1, and the "forward" field coil 222 of the motor 218 to the power lie 168.

This affects rotation of conventional record selector means (not shown) in the selector 14 to a selector position determined by the energized one of the number solenoids 214.

Rotation of the motor 218 in the forward direction to locate the associated selector structure (not shown) in the position determined by the energized number solenoid 214 mechanically closes a motor reverse switch 224 and closes a start switch 226.

Closure of the start switch 226 energizes the third timing relay 184 by completing a circuit from ground through the timing relay 184 and closed relay switch 182–2 to the power line 166.

Energization of relay 184 effects energization of the pulse relay 186 through a circuit from the power line 166 to ground which includes the pulse relay 186, relay switch 184–1, a conductor 234, a normally closed switch 236 in the remote control circuitry 40, closed latch relay switch 180–4, closed latch relay switch 180–5, and closed latch relay switch 180–2. The pulse relay 186 is so constructed that its switch operating action is delayed momentarily after the pulse relay is energized, for a purpose to be explained later.

Operation of the pulse relay 186 affects an energization of one of a series of letter control solenoids 228 in the selector 14. All the solenoids 228 have a common ground conductor 230 which is at this time connected to ground through closed relay switch 182–4. The opposite ends of the latter solenoids 228 are connected for energization respectively by letter switches 232 operated by the respective letter buttons 176. All the switches 232 are supplied with power from the power conductor 168 upon closure of the pulse relay switch 186–2, hence, closing of a switch 232 completes the circuit through the corresponding letter solenoid 228.

The energized letter control solenoid 228 sets a conventional selector latch pin (not shown) in a conventional manner requiring no description here. The latch pin thus set in the selector 14, after the motor 218 has operated in the forward direction to the extent determined by the energized number control solenoid 214, corresponds to the recorded selection selected by operation of the number and letter push buttons 174, 176.

The pulse relay 186 also closes relay switch 186–3 to energize the credit canceling solenoid 38, which operates to cancel three units of credit as previously described.

Pulse relay 186 closes another switch 186–4 to energize a counter 240, which registers the total number of selections made.

Operation of the pulse relay 186 also opens the normally closed switch 186–1 to de-energize the first timing relay 178. This allows relay switch 178–1 to open to deenergize the latch 180 which releases the number and letter buttons previously depressed to make the desired record selection.

Release of the previously depressed number button 174 breaks the circuit through the energized number solenoid 214 to deenergize the second timing relay 182, which opens the switch 182–2 to deenergize the third timing relay 184.

Deenergization of the relays 182 and 184 energizes the selector motor 218 to rotate in the reverse direction. Thus a circuit is established from the power line 168 to ground through the reverse field winding 244 of the motor 218, normally closed relay switch 182–3, normally closed relay switch 184–2, previously closed reversing switch 224, and the thermostat grounding switch 220. Movement of the selector structure in the reverse direction by operation of the motor 218 opens the reversing switch 224 and the start switch 226 automatically, thus effecting deenergization of the motor.

This completes operation of the machine to select a fifteen cent or three credit record when at least three units of credit are registered in the machine. The selector 14 sets a record selector pin (not shown) in the manner described. Conventional switching means incorporated into the selector 14 closes the previously mentioned record changer switch 16 to hold the switch 16 closed until the selection corresponding to the set selector pin has

been played. Three units of credit are canceled by operation of the debiting solenoid 38 as described.

In the event three or more units of credit remain uncancelled after a selection has been made in the manner described, the wiper contacts carried by the arms 134 and 136 coact with the opposing contact patches in the manner previously described to re-energize the first timing relay 178 and the latch relay 180 to condition the machine for making another record selection in response to actuation of a number button 174 and a latter button 176 to effect a selection of a record in the manner described with reference to the selection of a fifteen cent record.

Operation of Machine to Select Ten-Cent Record

The machine is equipped with means which renders the record selector controls operative to select only a 10¢ record when only two units of credit are established in the machine. Moreover, the controls which provide for selection of only a 10¢ record when only 10¢ credit is established have an extremely efficient mode of operation in responding to an attempt to play a 15¢ record when only 10¢ credit is established. This phase of the operation of the control structure will be described presently under a separate subheading.

The registration of two units of credit operates in the manner previously described to energize the first timing relay 178, which in turn energizes the latch relay 180 to prepare the machine for selection of a record upon depressing of a number button 174 and a letter button 176.

Except for the action of controls which preclude the selection of a 15¢ record when only 10¢ credit is established in the machine, operation of the electrical controls for selecting a 10¢ record is the same as the previously described operation to select a 15¢ record. Thus, in brief, the activated number switch 210 energizes the second timing relay 182, which is followed by energization of the third timing relay 184 upon closure of the switch 226 by operation of the motor 218.

Energization of the third timing relay 184 energizes the pulse relay 186 which operates after a limited time delay, as described, to de-energize the third timing relay 178 and the latch relay 180. This releases the number and letter button to de-energize the second timing relay 182, which is followed by de-energization of the third timing relay 184 upon operation of the switch 226.

The delayed operation of the pulse relay 186 energizes the credit canceling solenoid 38 to cancel three units of credit as described. However, the playing price of a 10¢ record is only two units of credit. A charge of two units of credit is made by adding in a single unit of credit just before three units of credit are canceled by the solenoid 38. This price compensating unit of credit is added to the credit accumulating wheel 100 as an incident to the selection of a 10¢ record.

For this purpose a series of pricing switches 250 are mounted for operation by the respective letter buttons 176. It will be recalled that the ten record selections corresponding to each of the letter buttons 176 all have the same playing price value.

Each of the switches 250 is connected at one side to the conductor 190, which is grounded through the reset switch 194 and the relay switch 180–2. The other side of each of the switches 250 corresponding to the buttons 176 which control the selection of 15¢ records is connected to a 15¢ pricing conductor 252. Similarily, the switches 250 corresponding to the buttons 176 which control the selection of 10¢ records are individually connected to a 10¢ pricing conductor 254.

The depressing of a button 176 to select a 10¢ recording automatically operates the associated switch 250 to connect the 10¢ pricing conductor 254 to ground. This energizes the pricing relay 188 connected at one side to the conductor 254. The other side of the relay 188 is connected through the relay switch 178–1 to the power conductor 166.

This closes pricing relay switch 188–1, one side of which is connected to the ground side of the credit solenoid 36 through a normally closed pulse relay switch 186–5. The other side of the switch 188–1 is connected through a normally opened relay switch 184–3 and a normally closed switch 256 in the remote circuitry 40 to ground.

Hence, with the relay switch 188–1 closed in response to depression of a 10¢ letter button 176, closure of the third timing relay switch 184–3 completes a grounding circuit through the normally closed pulse relay switch 186–5 to the crediting solenoid 36 to add one unit of credit into the credit accumulator.

As previously mentioned, operation of the pulse switch 186 has a built in time delay. This permits the 10¢ record, price compensating pulse to pass through the closed pulse relay switch 186–5 in response to energization of the relay 184 before the pulse relay 186 operates physically to open the switch 186–5 and to close the credit cancelling switch 186–3, which cancels three units of credit to effect a net debiting of the credit balance by two units of credit.

Thus, the credit accumulator wheel 100 is operated by the crediting solenoid 36 and the credit canceling solenoid 38 not only to give proper credit for coins deposited but to cancel credit in response to the selection of differently priced record and in accordance with the price of the individual records selected.

Controls Which Provide for Selection of Only Ten-Cent Record When Only Ten-Cents Credit is Present in Machine

Having reference to FIG. 7, it will be recalled that the first timing relay 178 is initially energized through the normally closed number series switch 192. Energization of the relay 178 prepares the machine for making a selection.

The number series switch 192, however, is opened in response to the depressing of any one of the number buttons 174, thus breaking the circuit through which the timing relay 178 in initially energized. It may be assumed in this instance that a number button 174 has been depressed before a letter button 176 has been depressed. Operation of the controls when a letter button 176 is pressed first will be described presently.

Initial energization of the first timing relay 178 prior to opening of the number series switch 192 closes a holding switch 178–3, which is connected through a normally closed anti-cheat relay switch 172–3 with a conductor 258, which is connected with the patch 150 in the credit accumulator 34.

As previously mentioned, the registration of two units of credit in the accumulator 34 causes the wiping contacts on the arm 136 to connect the contact path 150 with the contact patch 148. The registration of three or more credits in the accumulator 34 connects the contact patch 150 with both the contact patches 148 and 152.

The contact patch 148 is connected through a normally closed letter series switch 260 with the conductor 190, which is grounded in response to the establishing of two or more units of credit as described. Thus upon opening of the number series switch 192 before a letter switch 176 has been depressed, energization of the relay 178 is continued through closed switch 178–3, anti-cheat switch 172–3, contact patches 150 and 148, letter series switch 260, and grounded conductor 190.

Actuation of any one of the letter buttons 176 opens the letter series switch 260 through which energization of the first timing relay 178 is continued as just described.

Upon opening of the letters series switch 260, continued energization of the timing relay 178 is dependent upon there being sufficient credit established in the machine to cover the price of the record selected for playing.

Thus if a letter button 176 corresponding to a 15¢ record is depressed, energization of the relay 178 will

be continued only if three or more credits have been registered in the machine. As previously explained, the registration of three credits connects the contact patch 148 with the contact patch 152, which is connected with the 15¢ pricing conductor 252. A depressing of a 15¢ letter button 176 grounds the pricing conductor 252 simultaneously with opening of the letter series switch 260 to continue energization of the first timing relay 178 when three or more credits are registered.

If, on the other hand, only two credits are registered in the machine, the grounded contact patch 152 is not connected to contact patch 148 and energization of the relay 178 ceases upon depressing of the 15¢ letter button. In this event the machine responds in a simple, straightforward fashion to immediately restore itself to its starting condition in which it is readied for selection of a 10¢ record.

Thus upon opening of the letter series switch 260 in an attempt to select a 15¢ record when only ten cents credit is established, the first timing relay 178 is de-energized and de-energizes the latch 180 to immediately release both the depressed number button and the depressed letter button. This allows the series number switch 192 and the series letter 260 to reclose and re-energize the relay 178 and latch 180 without delay to return the machine to its initial condition.

The depressing of a letter button 176 to effect selection of a 10¢ record grounds the 10¢ pricing conductor 254 to energize the 10¢ pricing relay 188 as previously described. This closes pricing relay switch 188–2 to connect the anti-cheat relay switch 172–3 to ground through the contact patch 140 of the accumulator 34, which is grounded upon establishment of two or more credits in the machine. Hence, upon depression of a 10¢ letter button 176 energization of the relay 178 is continued through the relay switch 178–3, anti-cheat switch 172–3 and pricing relay switch 188–2 even though only two credits are established, thus providing for operation of the controls to select the desired 10¢ recording.

Operation of the controls when a letter button 176 is punched before a number button 174 is punched is essentially the same as when a number button 174 is punched first a previously assumed. Upon actuation of a letter button 176 first which opens the letter series switch 260, energization of the relay 178 is continued through the number series switch 192. If the letter button is a 10¢ button, the pricing relay 188–2 immediately closes to ground the relay 178 independently of the number series switch 192 to continue energization of the relay 192 after a number button is punched.

However, if the actuated letter button is a 15¢ button the contact patch 152 in the accumulator 34 is grounded as previously explained. Hence, continued energization of the relay 178 upon actuation of a number button is dependent upon there being three or more credits in the machine to effect bridging of the contact patches 150 and 152.

It will be appreciated that the invention is not necessarily limited to the embodiment illustrated, but includes variants and alternatives within the spirit and scope of the invention as defined by the claims.

The invention is claimed as follows:

1. In an automatic coin controlled phonograph, the combination of record selecting means for controlling the selection of records priced differently for playing, a movable credit accumulator element, crediting means for moving said accumulator element in a crediting direction, coin sensing means, value assigning means interconnecting said coin sensing means with said crediting means to effect displacement of said accumulator element in said crediting direction in response to the sensing of a coin by said sensing means and in accordance with a predetermined schedule of coin values, credit cancelling means for displacing said accumulator element in a debiting direction opposite from said crediting direction, means interconnecting said selecting means with said credit cancelling means for effecting operation of the latter in response to the execution of a record selecting operation by said selecting means, and record price compensating means connecting said selecting means with said crediting means to effect displacement of said accumulator element in said crediting direction in response to operation of said selecting means to select a lower priced record.

2. In an automatic coin controlled phonograph, the combination of record storage means for storing records which are priced differently for playing, selecting means for selecting individidual records from said storage means for playing, credit accumulating means, coin sensing means, means interconnecting said coin sensing means with said accumulating means to effect the accumulation of credits by the latter in response to the sensing of coins by said sensing means, credit cancelling means coacting with said accumulating means to cancel credits from the latter, means interconnecting said selecting means with credit cancelling means for effecting operation of the latter in response to selection of a record by said selecting means, and price compensating means connecting said record selecting means with said accumulating means to add credit to the latter in response to operation of said selecting means to select a lower priced record.

3. In a coin controlled phonograph, the combination of selecting means for selecting individual records from a group of records preclassified into two different price categories, a credit accumulator element, a single crediting solenoid coacting with said accumulator element to effect displacement of the latter in a predetermined crediting direction, coin sensing means interconnected with said crediting solenoid to effect operation of the latter, a debiting solenoid interconnected with said accumulator element to effect displacement of the latter in a debiting direction opposite from said crediting direction, debiting means interconnecting said selecting means with said debiting solenoid for operating the latter to effect a predetermined displacement of said accumulator element in said debiting direction in response to the selection of any record for playing, and price compensating means interconnected between said selecting means and said crediting solenoid for operating the latter to effect a predetermined displacement of said accumulator element in said crediting direction in response to operation of said selecting means to select a record from the lower of said price categories.

4. In a coin controlled phonograph, the combination of a credit accumulator element, a credit actuator coacting with said accumulator element to effect movement thereof in a crediting direction, coin sensing means, credit value computing means controlled by said coin sensing means and coacting with said credit actuator to effect operation of the latter in response to the sensing of a coin by said sensing means, record selector means including a plurality of control elements for controlling the selection of records priced differently for playing, pricing control means coacting with said control elements corresponding to lower priced records, first control means operated by said accumulator element and coacting with said selector means to activate any one of said control elements for selecting a record when a first minimum credit value is established in said accumulator element, second control means operated by both said pricing means and said accumulator element to render only said control elements corresponding to the lower priced records effective for selecting records when only a second minimum credit value is established, said second minimum credit value being lower than said first minimum credit value, a credit cancelling actuator coacting with said accumulator element to displace the latter in a credit cancelling direction, debiting means operated by said selector means and coacting with said credit cancelling actuator to operate the latter in response to operation of said selector means to select a record, and means controlled by said pricing means and coacting with said

selector means and said credit actuator to operate the latter in response to operation of said selector means to select a low priced record.

5. In a coin controlled phonograph, the combination of a movable credit accumulator element, a crediting solenoid coacting with said accumulator element to effect displacement of the latter through individual increments of movement in a crediting direction corresponding to one credit unit each, coin sensing means, credit value computing means controlled by said coin sensing means and coacting with said crediting solenoid to intermittently energize the latter, a credit cancelling solenoid coacting with said accumulator element to displace the latter in a credit cancelling direction to a degree representing a predetermined number of credit units in response to energization of the cancelling solenoid, record selector means activated by said accumulator element, switch means interconnected with both said crediting solenoid and said cancelling solenoid and coacting with said selector means for effecting energization of both said solenoids in response to operation of said selector means to make a record selection, said selector means including means for selecting records which are priced differently for playing, and pricing means interconnected with both said selector means and said switch means to block energization of said crediting solenoid upon operation of said selector means to select a high priced record.

6. In a coin controlled phonograph, the combination of normally inactive selector means for selecting records priced differently for playing, said selector means including selector control means for selecting high priced records and selector control means for selecting low priced records, first switching means coacting with said high priced selector control means, second switching means coacting with said low priced selector control means, coin receiving means, crediting means coacting with said coin receiving means to register playing credit in response to the deposit of coins in said coin receiving means, control means operated by said crediting means and coacting with said second switching means and said selector means to activate the latter for selecting a low priced record upon registration of credit by said crediting means equal to the playing price of the low price records, and control means operated by said crediting means and coacting with said first switching means and said selector means to activate the latter for selecting a high priced record upon registration of credit by said crediting means equal to the playing price of the high priced records.

7. In a coin controlled phonograph, the combination of coin receiving means, coin sensing means associated with said receiving means, coin position control means for controlling the physical positioning of coins in relation to said sensing means, a motor, credit value switching means connected for operation by said motor and interconnected with said coin sensing means to provide electrical credit signals in accordance with the denomination of coins sensed by said sensing means, means connecting said motor to said coin position control means to operate the latter, a credit accumulator, a crediting solenoid interconnected with said credit value switching means and operatively associated with said accumulator to effect operation of the latter to accumulate credit, record selector means for selecting records for playing from two different categories of records priced differently for playing, a debiting actuator coacting with said accumulator to operate the latter to cancel credit, means connecting said debiting actuator to said selector means for operation in response to the selection of a record by said selector means, and price compensating means interconnected between said selector means and said credit solenoid to operate the latter to add credit to said accumulator in response to the selection af a record from the lower priced category by said selector means.

8. In a coin controlled phonograph, the combination of coin receiving and classifying means, a plurality of coin sensing switches associated with said coin receiving and classifying means to sense coins in different denominations, a credit accumulator, a crediting solenoid coacting with said accumulator to operate the latter to accumulate credit; credit value switching means including a plurailty of pulsing contacts, a plurality of energizing contacts, and a plurality of interconnected contacts movable through operating cycles relative to and in contact with said pulsing contacts and said energizing contacts; means interconnecting said coil sensing switches with predetermined ones of said energizing contacts, means connecting said credit value switching means in series with said crediting solenoid to energize the latter, a motor connected to rotate said interconnected contacts through cycles of movement, a debiting actuator coating with said accumulator to operate the latter to cancel credit, record selector means for selecting records from at least two categories of records priced differently for playing, means interconnecting said selector means with said debiting actuator to effect operation of the latter in response to selection of a record for playing, price compensating means interconnected with said selector means, means interconnecting said price compensating means with crediting solenoid to effect operation of the latter to add credit to said accumulator in response to selection of a record in a low price category.

9. In a coin controlled phonograph, the combination of means for storing both low priced records and high priced records, normally inactive selector means for effecting the selection of records from said storing means for playing and including a number of selector controls normally disposed in an inactive position and serving to effect selection of a record in response to operation of two of said controls, normally inactive latching means for holding operated ones of said controls in active position, coin receiving means, accumulator means for registering credit in response to the deposit of coins in said coin receiving means, a first circuit coacting with said accumulator means and said latching means to activate the latter in response to the establishment of a first minimum credit value in said accumulator, a first plurality of said controls corresponding to records in said storing means having a high playing price, a second plurality of said controls corresponding to records in said storing means having a low playing price, means associated with said controls and coacting with said first circuit to disable the latter as an incident to operation of two of said controls to effect selection of a record in said storing means, a second circuit coacting with said low price record controls and said latching means to continue activation of the latter upon operation of a low price record control to select a low priced record, a third circuit coacting with said high price record controls and said latching means to continue activation of the latter upon operation of a high priced record control to select a high priced record, said accumulator means being interconnected with said second circuit to render the latter operative when credit equal to said first minimum credit value is established in said accumulator means, and said accumulator means coacting with said third circuit to render the latter operative only when credit is established in said accumulator equal to a second minimum credit value higher than said first minimum credit value.

10. In a coin controlled phonograph, the combination of means for storing records priced differently for playing, normally inactive selector control means for selecting records from said storing means for playing and including two series of record selector controls, said selector control means including means for effecting selection of a record in response to operation of a control in each of said series, coin receiving means, accumulator means for accumulating credit in response to the deposit of coins in said coin receiving means, normally inoperative latching means for holding controls in each of said series in operated record selecting position, a first circuit

controlled by said accumulator means and coacting with said latching means to render the latter operative in response to the establishment of a first minimum credit value in said accumulator means, a first plurality of the controls in one of said series corresponding to low priced records, a second plurality of the controls in said one series corresponding to high priced records, means coacting with said controls in both of said series and with said first circuit to render the latter ineffective in response to the operation of a control in each of said series to effect selection of a record, a second circuit coacting with said low price controls of said one series and with said latching means to continue the operative condition of the latching means upon setting of one of said low price controls and a control in said other series subsequent to the establishment of said first minimum credit value in said accumulator; a third circuit coacting with said accumulator, with said high price record controls in said one series, and with said latching means to continue the operative condition of the latching means in response to establishment in said accumulator means of a second minimum credit value higher than said first minimum credit value and setting of a high price record control in said one series and a control in said other series.

11. In a coin operated phonograph, the combination of coin receiving means capable of directing coins into a crediting zone, movable coin support means normally positioned for supporting coins in said crediting zone, coin sensing means positioned to sense the presence of coins in said zone, motor driven means operable through individual cycles of movement and including an electric energizing motor therefor, means connecting said sensing means to said motor driven means to effect operation thereof through individual cycles of movement in response to the sensing of coins in said crediting zone, means interconnected between said motor driven means and said coin support means to shift the latter temporarily to a coin releasing position in response to movement of said motor driven means through an individual cycle of movement, credit value switching means connected for operation by said motor driven means during each operating cycle of the latter and coacting with said coin sensing means for control thereby, credit accumulating means, and electric operating means for said accumulating means connected for operation by said switching means to accumulate credits in the accumulating means in response to the sensing of coins by said coin sensing means and in accordance with credit values for coins computed by said credit value switching means.

12. In a coin controlled phonograph, the combination of a plurality of coin sensing switches for sensing coins in different denominations, a credit accumulator, a crediting element coacting with said accumulator to register credit in the latter, credit value switching means interconnected between said coin sensing switches and said crediting element to operate the latter in response to selective actuation of said coin sensing switches and in accordance with credit values for coins computed by the credit value switching means, a debiting element coacting with said accumulator to cancel credit from the latter, record selector means for selecting records from at least two categories of records priced differently for playing, means coacting with said accumulator and said selector means to activate the latter in response to the registration of credit in said accumulator, means interconnecting said selector means with said debiting element to effect operation of the latter to cancel credit in response to selection of records, price compensating means interconnected with said selector means in accordance with the price categories of records from which record selections are made, and means interconnecting said price compensating means with said crediting element to effect operation of the latter to add credits to said accumulator in response to selection of the records in a low priced category.

13. In a coin controlled phonograph, the combination of a plurality of coin sensing switches for sensing coins in different denominations, a credit accumulator, an electrical crediting element coacting with said accumulator to establish increments of credit in said accumulator in response to intermittent energization of the crediting element, credit value switching means connected with said electrical crediting element to intermittently energize the latter; said credit value switching means including two series of contacts and a plurality of interconnected contacts movable through operating cycles relative to and in intermittent contacting relation to contacts of both said series to intermittently form electrical connections between contacts in said respective series, an actuator connected to move said interconnected contacts through individual cycles of movement, a terminal assembly comprising a plurality of terminals connected with corresponding ones of said sensing switches and a plurality of terminals connected with individual ones of the contacts in one of said series of contacts in said credit value switching means, means for selectively interconnecting said terminals to determine for each of said sensing switches the number of intermittent circuits successively established through said credit value switching means to said crediting element upon operation of the sensing switch and movement of said interconnected contacts through a cycle of movement by said actuator therefor, record selecting means, means for activating said record selecting means in response to the establishment of credit in said accumulator means, and means for reducing the credit in said accumulator means in response to the selection of records.

References Cited in the file of this patent

UNITED STATES PATENTS

2,323,255	Sutherland	June 29, 1943
2,659,471	Johnston	Nov. 17, 1953