Oct. 7, 1952 P. M. FULLER 2,612,710

REMOTE-CONTROL SELECTOR DEVICE

Filed Aug. 17, 1945 6 Sheets-Sheet 1

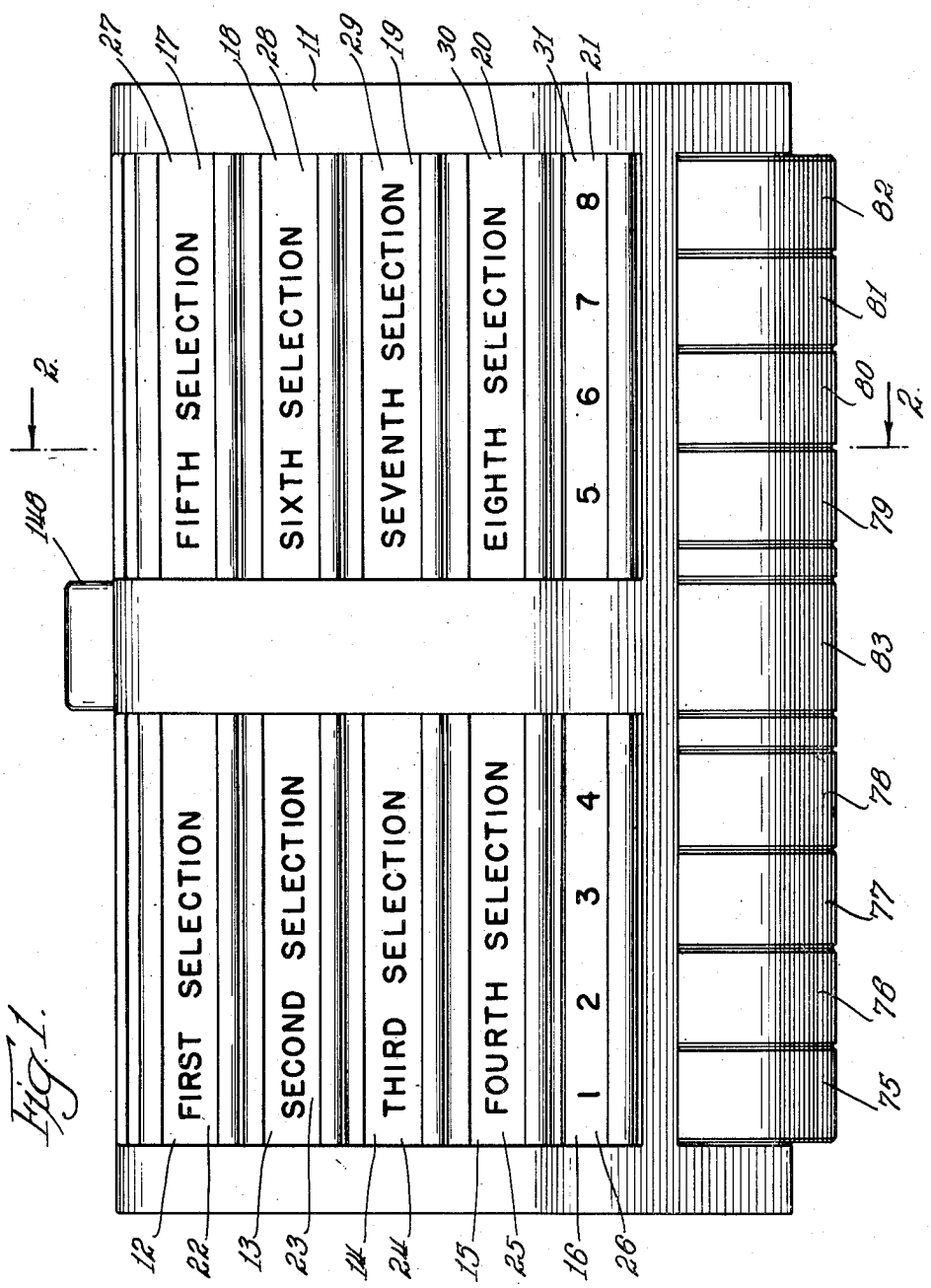

Fig. 1.

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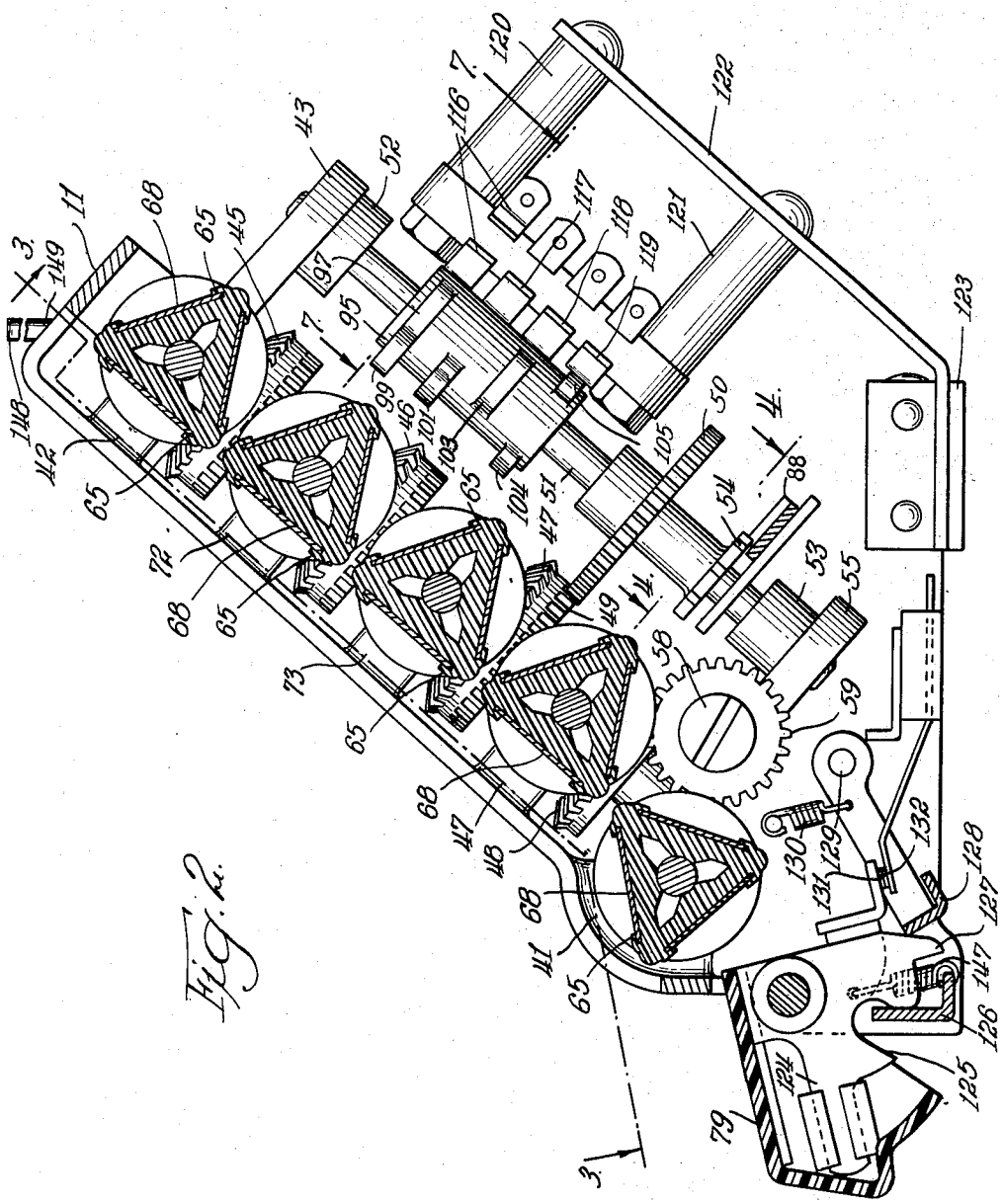

Fig. 2.

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REMOTE-CONTROL SELECTOR DEVICE

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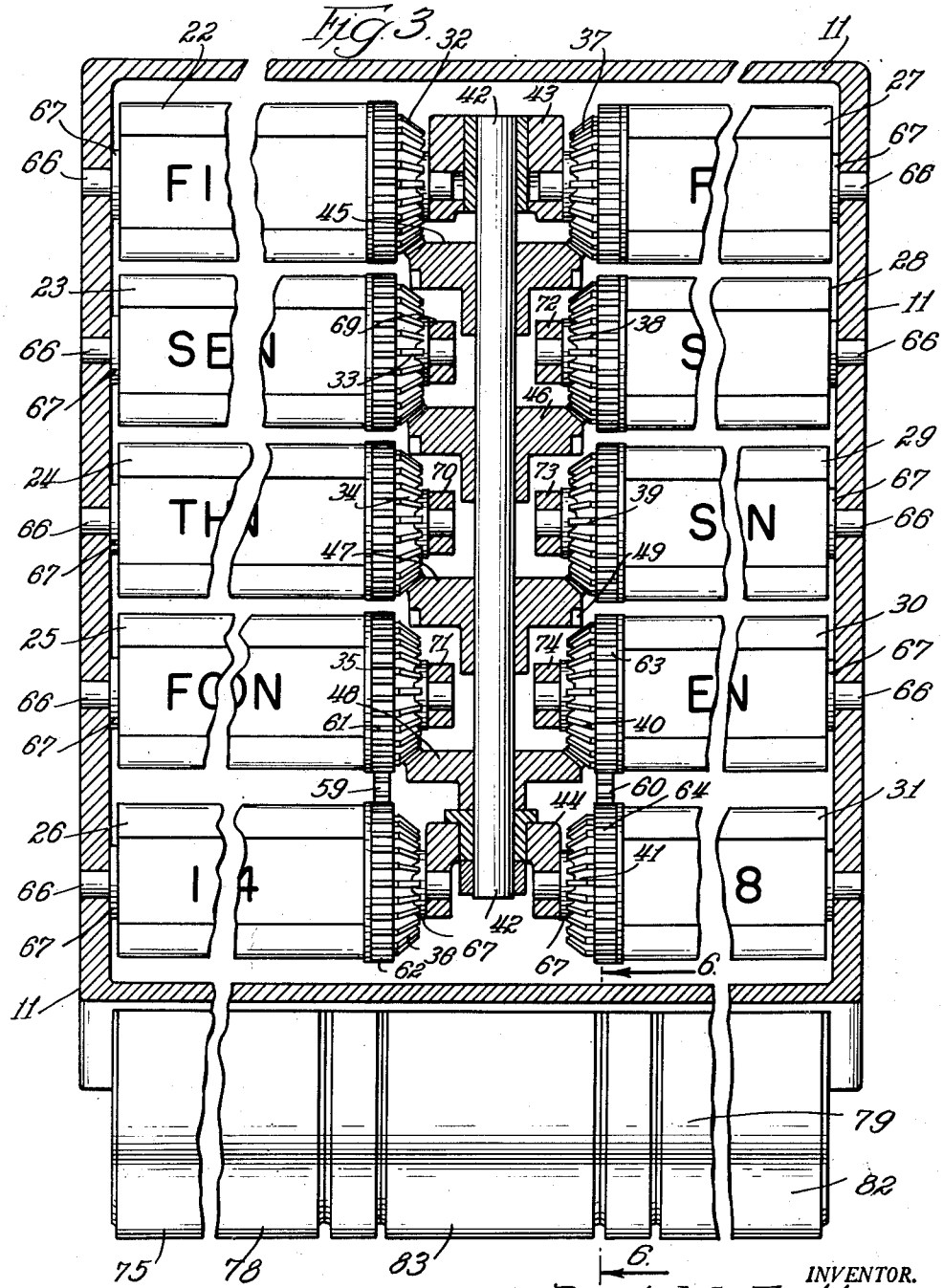
Fig. 3.



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REMOTE-CONTROL SELECTOR DEVICE

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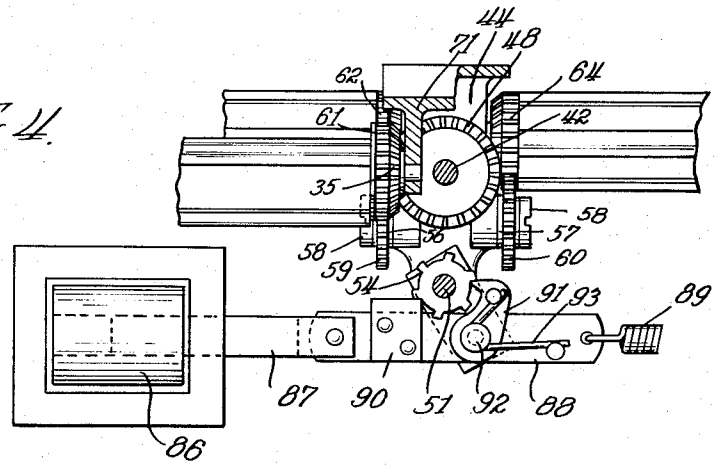
Fig. 4.



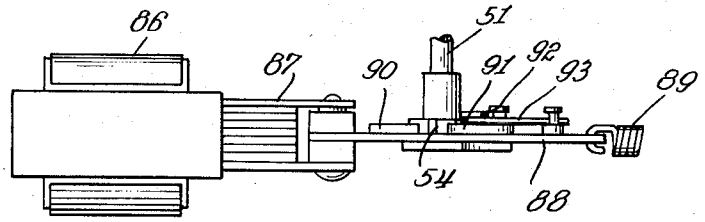


Fig. 5.

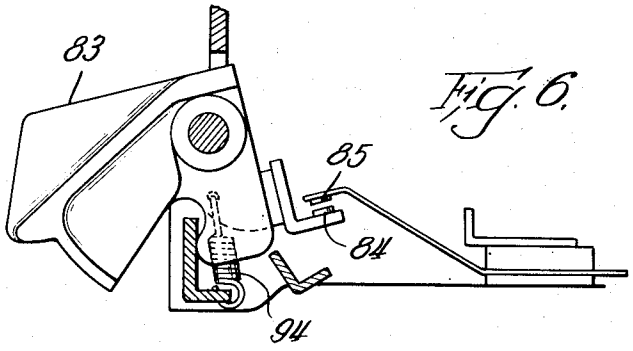


Fig. 6.

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REMOTE-CONTROL SELECTOR DEVICE

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Fig. 7.

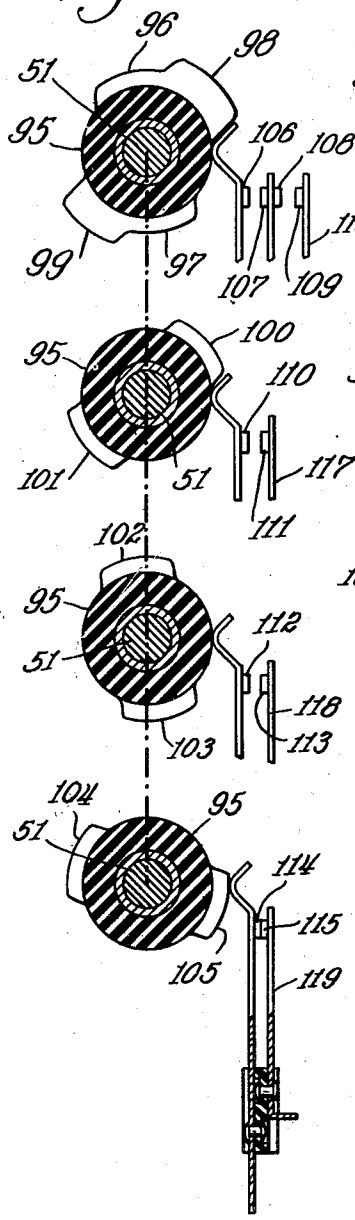


Fig. 8.

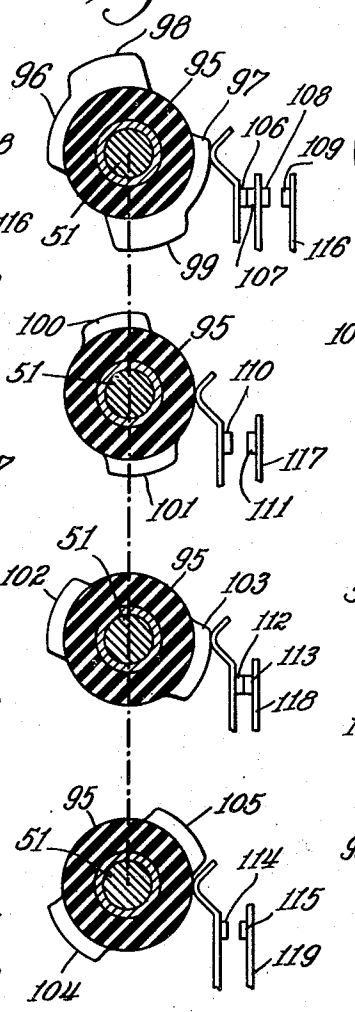
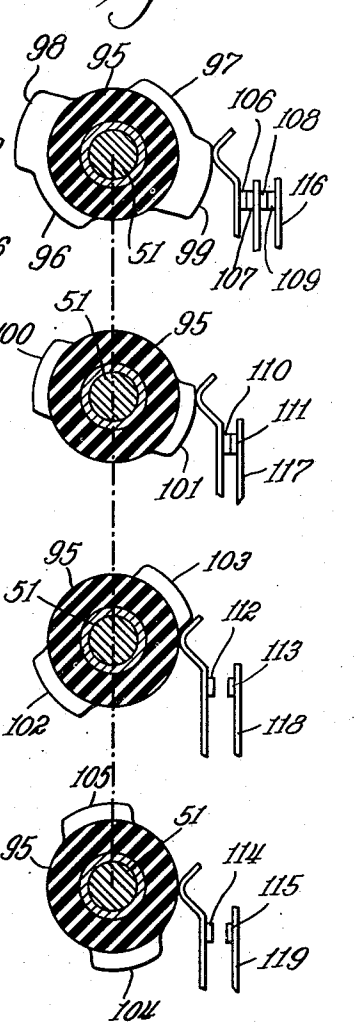


Fig. 9.



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REMOTE-CONTROL SELECTOR DEVICE

Filed Aug. 17, 1945 6 Sheets-Sheet 6

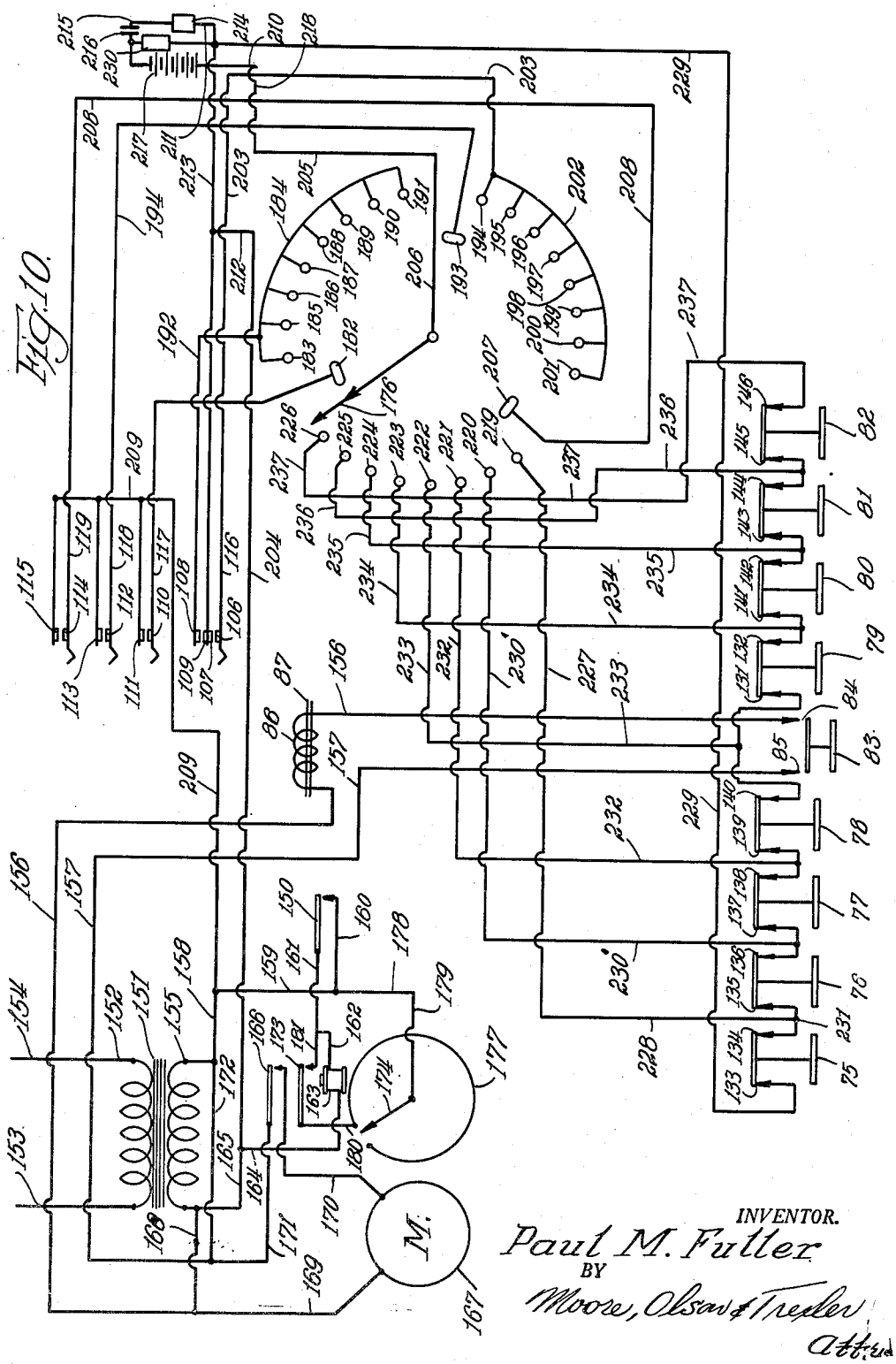

FIG. 10.

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Patented Oct. 7, 1952

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UNITED STATES PATENT OFFICE

2,612,710

REMOTE-CONTROL SELECTOR DEVICE

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Application August 17, 1945, Serial No. 610,958

15 Claims. (Cl. 40—76)

1

This invention relates to a remote control selector device for governing the selection of records to be played by an automatic phonograph or of stations to be heard through a pre-tuned radio, and more particularly to a multi-prism selector device having a panel showing a plurality of selections, which panel may be changed to offer to view a plurality of panels in succession.

Selector devices for coin controlled remote control selection for the playing of automatic phonographs are known to the art. They comprise generally two types. One type employs a cylinder which is successively rotated and automatically selects the phonograph record to be played and exposes its title to view. In this type one title is exposed and it requires a considerable amount of manipulation to have a prospective user view all of the titles which may be presented. This is time-consuming and it is found that the amount of effort required results in a decreased play of records, as the user is apt to become tired of continually rotating a single cylinder.

The other type of selector known to the art comprises a large panel in which a number of selections, say 24, are presented to view at once. Selection is made by pressing a button opposite the desired selection. The inanimate presentation of a large number of titles does not arouse curiosity, with the result that after a cursory glance at the panels and the playing of a selection or two, the user is apt to lose interest in the selector.

One object of this invention is to provide a selector of the panel type in which a smaller number of titles are exposed to view, thus economizing on wall space, with provision for means for conveniently and rapidly changing the panel to present a new array of titles.

Another object of this invention is to provide a selector which combines the advantageous features of both types of the aforementioned types of selectors and minimizes their disadvantages.

Another object of this invention is to provide a panel changing means which may be operated without the use of coins and a selection mechanism which requires the insertion of a coin.

Another object of this invention is to provide an electric switching mechanism for use in a coin controlled remote control selector device of simplified form which preserves the cheapness and convenience of a two wire circuit between the control and the remotely situated controlled machine or instrument.

Other and further objects of this invention will appear from the following description.

In general, this invention contemplates the provision for 24 selections by means of a panel showing 8 selections, which panel may be changed in a simple, expeditious and convenient manner with no other effort than by turning a button

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or pressing a key. In this manner compactness of a single cylinder is partially retained and wall area is conserved without the sacrifice of legibility. The means for changing the panels is a panel changing key which also controls the playing of records or the tuning in of stations. Selector devices are usually installed in places of amusement or of refreshment. Patrons of such places have idle hands. Most people twirl a glass by a stem, rearrange loose articles, play or toy with napkins or the like. The pressing of a program key of this invention produces a revolution of the title-bearing prisms, resulting in an entire change of the panel, producing a new and interesting effect which attracts attention and is productive of use. The actual selection of a record to be played is made by means of a selection key and the use of a coin through a coin control device of any suitable design.

In the accompanying drawings which form part of the instant specification, and which are to be read in conjunction therewith, and in which like reference numerals are used to indicate like parts in the various views,

Fig. 1 is a front elevation of a device of this invention, showing the panel.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a sectional view with parts broken away, taken on the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary sectional view taken along the line 4—4 of Fig. 2 showing the panel-changing mechanism.

Fig. 5 is a rear elevation of the panel-changing mechanism shown in Fig. 4.

Fig. 6 is a fragmentary sectional view taken along the line 6—6 of Fig. 3 showing the panel-changing key.

Fig. 7 is an exploded fragmentary sectional view showing the positions of the cam lobes with reference to one another and the switch positions in one position of the panel prisms.

Fig. 8 is a view similar to Fig. 7, with the cam lobes and switches in another position of the panel prisms.

Fig. 9 is a view similar to Fig. 7, showing the parts in the third position of the panel prisms.

Fig. 10 is a diagrammatic view showing the wiring and electric connections of this invention.

More particularly, referring now to the drawings, the assembly is mounted in a casing 11 provided with 10 windows, 12, 13, 14, 15, 16, 17, 18, 19, 20, and 21. Journalled behind the windows there are 10 three-sided prisms, 22, 23, 24, 25, 26, 27, 28, 29, 30, and 31. The prisms are formed at their inner ends with integral bevel gears 32, 33, 34, 35, 36, 37, 38, 39, 40, and 41, Fig. 3. A vertically extending shaft 42 is journalled in suitable bearings 43 and 44. Secured to the shaft are four bevel gears, 45, 46, 47, and 48, which mesh

with and drive gears 32 and 37, 33 and 38, 34 and 39, and 35 and 40 respectively. A spur gear 49 is formed on the lower portion of gear 47. This meshes with the teeth of a gear 50 secured to a drive shaft 51 journalled in bearings 52 and 53 as can be seen by reference to Fig. 2.

A support 55 is provided with a pair of bosses 56 and 57, as can be seen by reference to Fig. 4. Journalled in the bosses by means of shoulder screws 58, there is provided a pair of idler gears 59 and 60. The idler gear 59 meshes with spur gear 61 formed adjacent bevel gear 35 on prism 25, and with spur gear 62 formed adjacent bevel gear 36 on prism 26 so that whenever gear 61 is operated by the actuation of shafts 51 and 42, gear 62 will also be operated but in the opposite direction. Similarly, idler gear 60 meshes with spur gear 63 formed adjacent bevel gear 40 on prism 30 and with spur gear 64 adjacent bevel gear 41 on prism 31. The arrangement is such that the rotation of the shaft 42 through gear 50 and spur gear 49 will cause the prisms 22, 23, 24, and 25 to revolve in one direction, while the prisms 27, 28, 29, and 30 will revolve in the opposite direction. It will also be observed that the direction of rotation of prisms 22, 23, 34, and 25 on one side of the panel is in a direction opposite from the direction of rotation of prism 26. Similarly, prism 31 will revolve opposite to the direction of rotation of prisms 27, 28, 29, and 30. All the prisms will revolve upon the depressing of the panel-changing key which effects the actuation of shaft 51 as will presently be described, with a very curious effect which attracts attention and induces patrons to operate the panel-changing key, making for increased use.

Each of the prisms is formed with both bevel and spur gears to make them interchangeable so that any prism can be used in any of the positions. The gears are molded with the center line of the teeth on the radius of the circle in which they are disposed so the alignment of the faces of the prisms becomes automatic. The prisms may be made of metal or molded from plastic, the co-radial teeth being aligned with the faces of the prisms. The prisms themselves have a sectional form of an equilateral triangle as can readily be seen by reference to Fig. 2, though it is to be understood that any suitable polygonal form may be employed. Each of the faces is bounded along its longitudinal edges by inturned flanges 65 forming grooves which serve to retain the upper and lower edges of program slips 68 while exposing their faces. Each of the prisms is provided with an axle 66. Adjacent each end of the axle is provided a portion of reduced cross sectional area 67 serving to space the prism ends away from the frame 11, thus reducing friction. The inner ends of each of the axles are supported in a series of brackets similar to brackets 43 and 44 and shown in Fig. 3 at 69, 70, 71, 72, 73, and 74. These are formed with or attached to frame 11.

The panel as shown is adapted to expose 24 selections, 8 of which are shown by one panel. Prism 22 will bear selections 1, 9, and 17. Prism 23 will bear selections 2, 10, and 18. Prism 24 will bear selections 3, 11, and 19. Prism 25 will bear the 4th, 12th, and 20th selections. Prism 27 will bear the 5th, 13th, and 21st selections. Prism 28 will bear the 6th, 14th, and 22nd selections. Prism 29 will carry the 7th, 15th, and 23rd selections, while prism 30 will carry the 8th, 16th, and 24th selections. Adjacent the bottom of the frame there is provided a plurality of selector keys 75, 76, 77, 78, 79, 80, 81, and 82. As can be seen by reference to Fig. 1, selectors keys 75, 76, 77, and 78 are disposed on one side of a central panel-changing key 83, while selector keys 79, 80, 81, and 82 are disposed on the other side of the panel-changing key 83. The prism 26 is adapted to bear a series of numbers identifying the selections. Its three surfaces will bear the numbers 1, 2, 3, and 4 on one face, the numbers 9, 10, 11, and 12 on another face, and the numbers 17, 18, 19, and 20 on the third face. The prism 31 will bear the numbers 5, 6, 7, and 8 on one face, the numbers 13, 14, 15, and 16 on a second face, and the numbers 21, 22, 23, and 24 on the third face. The arrangement is such that when the panel is changed the correct numbers will appear over the selector keys, each of the numbers being positioned directly over a key.

Upon operation of the panel-changing key 83, each of the prisms will revolve 120 degrees through the actuation of shaft 51. The pressing of the panel-changing or program key 83 will bring contact point 84, Fig. 6, into contact with contact point 85 and complete a circuit which will be described hereinafter, through a solenoid 86 which is shown in Figs. 4 and 5. The armature 87 is drawn into the solenoid, pulling the draw bar 88 against the action of spring 89. A ratchet wheel 54 is mounted on the shaft 51. The draw bar 88 carries a stop 90. The removal of the stop 90 by the movement of the draw bar to the left in Fig. 4 leaves the ratchet wheel 54 free to revolve. The draw bar 88 carries a pawl 91 pivoted on pin 92 and urged into engagement with the teeth of the ratchet wheel by means of spring 93. Movement of the draw bar to the left causes the pawl to override the next tooth of the ratchet. Upon releasing the panel-changing key 83, the spring 94 will cause contact point 84 to be drawn away from contact point 85, opening the circuit through solenoid 86. The spring 89 will pull the draw bar to the right, causing the pawl to revolve the ratchet which is secured to shaft 51 through an angle of 60 degrees. At the same time the stop 90 will be positioned under one of the ratchet teeth, locking the ratchet between the pawl 91 and the stop 90, holding the prisms against accidental dislocation.

Referring now to Fig. 2, the shaft 51 is journalled in bearings 52 and 53, and is mounted parallel to the shaft 42. In addition to actuating the prisms, the shaft 51 carries a group cam 95 made of insulating material having 10 lobes. Six of the lobes in pairs in separate planes are angularly located 60 degrees apart and each occupies 52½ degrees of circumference. The other 4 lobes are in coplanar pairs, one having twice the width of the other, the combined angular length being 110 degrees, of which the wider occupies 50 degrees of the circumference.

Referring now to Figs. 7, 8, and 9, which are diagrammatic exploded views showing the position of the cam lobes for different positions of the prisms, lobes 96 and 97 are of the same dimension, while lobes 98 and 99 are the same. These 4 lobes are located in an uppermost plane as can be seen by reference to Fig. 2. The next 2 lobes, 100 and 101, are located in a second plane. The next 2 lobes, 102 and 103, are equal and located in a third plane. The 9th and 10th lobes, 104 and 105, are located in the lowermost plane. Adjacent the uppermost cam lobes are a pair of switches 116 having contact points 106, 107, 108, and 109. Adjacent the 5th and 6th lobes on a second plane is a switch 117 having contact points 110 and 111. Adjacent the 7th and 8th

lobes is a switch 118 having contact points 112 and 113. Adjacent the lowermost section of the cam assembly are the 9th and 10th lobes adjacent which is a switch 119 having contact points 114 and 115. In the first position, as shown in Fig. 7, all of the switches are open except the lowermost switch 119, which has been closed by the action of lobe 105 bringing contact points 114 and 115 together. The partial revolution of 60 degrees which would take place on the actuation of the program or panel-changing key moves the shaft 51 sixty degrees, bringing the cams into the position shown in Fig. 8. In this position one of the switches 116 is closed, completing the circuit through contact points 106 and 107. Switch 117 remains open while lobe 103 closes the circuit through switch 118, through contact points 112 and 113. Switch 119 is open. Revolving the shaft 51 another sixty degrees brings the cam into the position shown in Fig. 9 in which both switches 116 have closed so that both circuits through contact points 106 and 107 and 108 and 109 are completed. The lobe 101 operates the switch 117 to close the circuit through contact points 110 and 111. Switches 118 and 119 are open. A further movement of 60 degrees will bring the parts back to the position shown in Fig. 7 so that the opposite cam lobes 96, 98, 100, 102, and 104 will complete a similar cycle. It will be observed in passing that the size of the spur gear wheels 50 and 49 and of the bevel gears 45, 32, et cetera, is such that rotation of the spur wheel 50 through 60 degrees will produce a rotation of the prisms 22, et cetera, of 120 degrees. The switches 116, 117, 118, and 119 are supported by a pair of posts 120 and 121 of insulating material from a supporting bracket 122 secured to a cross member 123 carried by the frame 11. The functions of the switches will be later described in reference to Fig. 10.

The selection keys 75, 76, 77, 78, 79, 80, 81, and 82 are each provided with a pair of fingers 124, Fig. 2, extending forwardly to provide reinforcement for the plastic covering of the keys. In the rightward down-turned side flange which extends below the finger there is provided a notch 125 astride a cross member 126. The width of the notch 125 is such that a key movement of approximately 15 degrees is permitted. The flange terminates in a locking nose 127 which, when the key is depressed, engages a bail 128 which is pivoted around shaft 129 as can readily be seen by reference to Fig. 2. The bail 128 is urged upwardly by means of spring 130. Depression of a selection key engages the nose 127 with the bail 128 and in doing so depresses the bail free of the nose 127 of the engaged key, thus holding the key in depressed position, serving to show which selection has been chosen so the operator may be sure of his choice before paying his money. The depressing of the selection key will break the contact between contact points 131 and 132. In Fig. 2, a section through selection key 79 is shown. Similar contact points 133 and 134, Fig. 10, are provided for key 75, contact points 135 and 136 are provided for key 76, and contact points 137 and 138 are provided for key 77. Contact points 139 and 140 are provided for key 78. Contact points 141 and 142 are provided for key 80. Contact points 143 and 144 are provided for key 81. Contact points 145 and 146 are provided for key 82. Each of the keys is urged upwardly by means of a spring 147 as can be seen by reference to Fig. 2. It will be clear from the foregoing that one of the keys is always held in depressed condition by means of the bail 128. Pressing another key cams the bail downwardly, permitting the spring 147 to raise the key which previously was depressed. When the nose 127 of the key being depressed engages the bail 128 it remains locked, showing the operator the particular selection made.

Referring now to Fig. 1, a coin slot 148 connecting with the coin chute 149, Fig. 2, provided, leading to any suitable coin-actuated switch, shown diagrammatically in Fig. 10 at 150. Any suitable coin-actuated switch may be employed as is well known to the art.

Again referring to Fig. 10, there is provided a small transformer 151, the primary 152 of which is connected by conductors 153 and 154 to a lighting feeder such as found in homes and places of amusement, ordinarily 110 volt 60 cycle alternating current. The secondary winding 155 of the transformer is used to deliver any desired voltage. The winding of the solenoid 86 and its armature 87 are shown in Fig. 10, adapted to be energized from the secondary of the transformer through conductors 156 and 157 when the selector key 83 is operated to close the circuit through contact points 84 and 85, thus changing the panel by the ratchet mechanism and gearing described hereinabove.

In the operation of the device, let us assume the panel selector is in the positon shown in the drawings. The cams will be in the position as shown in Fig. 7. Let us assume further that selection 3 is chosen. Doing so the operator would press key 77, thus opening the circuit through contact points 137 and 138 in Fig. 10. A coin is now paid and when falling from the conventional coin mechanism (not shown) will close switch 150. The closing of switch 150 completes the circuit from the secondary of the transformer through conductor 158, conductor 159, conductor 160, switch 150, conductor 161, conductor 162, the winding of locking relay magnet 163, through conductor 164 and conductor 165 to the other side of the secondary 155. The energization of the electro-magnet 163 of the locking relay will close switch 166, placing the motor 167 across the secondary winding 155 through conductors 169, 170, 171, and 172.

Thereupon current will flow from one side of the secondary through conductor 168, conductor 169, the motor winding, conductor 170, switch 166, conductor 171, and conductor 172 to the other side of the secondary winding 155. At the same time the locking relay will close switch 173. Geared to the shaft of the motor 167 are two revolving contact arms 174 and 176. Immediately upon the closing of switch 166 the motor will revolve and contact arm 174 will make contact with conductor 177. Current will then flow from conductor 159 through conductor 178, and conductor 179, contact arm 174, conductor 177, conductor 180, switch 173, conductor 181, conductor 162, through the winding 163 of the locking relay, and conductor 164 to the other side of the secondary. It will be observed that the locking relay is kept energized and the motor 167 will keep running since the relay will actuate the motor switch 166, keeping it closed.

The selector arm 176 is also driven by the motor and it will revolve (the revolution of the arms being in a clockwise direction). It will be seen that the revolving conducting arm 176 will first sweep by contact point 182, leading to switch 117. Since the switch 117 is open as can be seen by reference to Fig. 7, no current passes. The

arm 176 next encounters the first segment 183 of a group of segments connected in parallel by conductor 184. These segments are segments 183, 185, 186, 187, 188, 189, 190, and 191, being eight in number. Conductor 184 of the first group of segments is connected by conductor 192 to one branch of switch 116. Since contact points 108 and 107 are separated, no current passes. The revolving contact arm 176 next encounters contact 193 connected by conductor 194 to the switch 118. Since this switch is open, as can be seen by reference to Fig. 7, no current passes. The revolving conductor 176 makes contact with a series of segments 194, 195, 196, 197, 198, 199, 200, and 201, connected in parallel by conductor 202. Conductor 202 is connected by conductor 203 to switch 116 which, as can be seen by reference to Fig. 7, is open. Accordingly, no current passes from one side of the secondary 155 through conductor 204.

It will be observed that conductor 204 is connected by conductors 212 and 213 and 211 to an alternating current responsive device 214 located in the remote phonograph, the current returned being through conductor 215, condenser 216, battery 217, and conductor 210. Conductors 210 and 211 may be of any suitable length and serve to connect the selector device to the remotely controlled phonograph. Conductor 210 is connected by conductor 218 and conductors 205 and 206 to the revolving arm 176.

The contact arm 176 leaves contact point 201 and makes contact with contact point 207. Current now flows from the one side of the secondary 155 through conductors 165, 204, 212, 213, and 211, through the alternating current responsive device 214, conductor 215, condenser 216, battery 217, conductor 210, conductor 218, conductor 205, conductor 206, contact arm 176, contact point 207, conductor 208, switch 119, contact point 114, contact point 115, conductor 209, and conductor 158, to the other side of the secondary. It should be noted that contact points 182, 193, and 207 are elongated to insure that alternating current impulses shall include several cycles to prevent the revolving arm 176 from failing to close the circuit due to reaching one of these contact points during the zero voltage period in the alternations.

The selection device is one well known to the art and includes alternating and direct current responsive units, and wherein the device is conditioned for selection by an alternating current impulse, after which a series of D. C. impulses are then transmitted until a cessation of impulses acts as the mode of selection. This is used in dial telephones and many other instrumentalities known to the art.

The selection device having been conditioned by the alternating current impulse by passing over contact point 207, the selection arm 176 then makes contact with contact point 219, which is one of a series of contact points 220, 221, 222, 223, 224, 225, and 226. It will be observed that contact arm 176 is connected by conductor 210 to one side of the battery 217. Direct current now flows from battery 217 through conductor 210, conductor 218, conductor 205, conductor 206, contact arm 176, contact point 219, conductor 227, conductor 228, across switch points 134 and 133, through conductor 229, through a direct current responsive selection device 230, to the other side of the battery 217. The contact arm 176 then makes contact with conductor 220 and current will flow from the battery through the conducting arm 176, through contact point 220, through conductor 230', through contact points 136 and 135, through conductor 231, through contact points 134 and 133, conductor 229, and thence to the other side of the battery as described above, giving a second pulse to the direct current responsive device 230. It will be recalled that selector 77, or the third selector, was depressed. This breaks the contact between contact points 137 and 138. When the rotating arm 176 reaches contact point 221, the potential on arm 176 passes through contact point 221, to conductor 232, where it encounters an open circuit, no current flowing, hence no impulse is transmitted through the direct current responsive device 230, and this cessation of impulses is the act of selection. In the eighth selection, were that made, the operation just described would be repeated, contact point 222 being connected by conductor 233 to switch point 140. Similarly, contact point 223 is connected by conductor 234 to switch point 132, contact point 224 being connected by conductor 235 to switch point 142, contact point 225 being connected by conductor 236 to switch point 144, and contact point 226 being connected by conductor 237 to switch point 146.

It will be understood that after the motor 167 drives the contact arm 174 one full revolution, the circuit made by contact of the contact arm 174 with circular conductor 177 is broken, thus releasing the holding relay and stopping the operation of the device in a position ready for the next selection.

Let us now assume as a second example of operation that the second panel is exposed to view. The panel will present the following appearance: The prisms 22, 23, 24, and 25 would bear the 9th, 10th, 11th, and 12th selections respectively. The prism 26 would bear the numbers 9, 10, 11, and 12 over selector keys 75, 76, 77, and 78. Prisms 27, 28, 29, and 30 would bear the 13th, 14th, 15th, and 16th selections respectively, while prism 31 would bear the numbers 13, 14, 15, and 16 over selector keys 79, 80, 81, and 82 respectively. The cam lobes would be in the position shown in Fig. 8, in which one segment of switch 116 would be in the position to close the circuit through contact points 106 and 107. Switch 117 would be open, while switch 118 would be closed. Switch 119 would likewise be open. Let us assume the third selector key 77 were again depressed, opening the circuit through switch points 137 and 138.

With the parts in the position shown in Fig. 10, a coin is dropped through the coin slot 148 and the switch 150 is again closed to start the motor 167 as described hereinabove. The rotating contact arm 176 sweeps by contact 182. Since switch 117 is open, no impulse is received. The arm then sweeps by the 8 contact points of segment 184, and since one segment of switch 116 across contact points 108 and 109 is open, no impulses are received. The arm then encounters contact point 193. It will be observed that in the position shown in Fig. 8, switch 118 is closed, thus permitting alternating current to flow from one side of the secondary 155 of the transformer, through conductor 209, through switch 118, through conductor 194, through contact point 193, through contact arm 176, through conductors 206, 205, 218, and 210, through battery 217, through condenser 216, through conductor 215, through alternating current responsive device 214, through conductors 211, 213, 212, 204,

and 165, to the other side of the secondary 155, thus conditioning the remote control device in a position to be responsive to direct current impulses. The rotating arm 176 then contacts the series of segments 194, 195, 196, 197, 198, 199, 200, and 201, which are connected in parallel by conductor 202. Conductor 202 is connected by conductor 203 to one segment of switch 116, and contact point 106. Contact point 106, however, is in contact with contact point 107, thus closing the circuit through conductor 213 to the direct current responsive device 230. Current will therefore flow upon each contact with one of the contact points of the segment 202, from the battery 217, through conductors 210, 218, 205, 206, and the contact arm 176, through the closed switch points of switch 116, and through the direct current responsive device 230. A series of eight impulses is thus received by the direct current responsive device as contact arm passes each of the eight contact points of the segment 202. In passing over contact point 207, no response is received since switch 119 is open. Direct current impulses, however, are received by the direct current responsive device when the contact arm 176 passes over contact points 219 and 220. No response is received when the contact arm contacts contact point 221 because selector switch 77 is open and the circuit is broken across contact points 137 and 138. Similarly, no further pulses will be received due to the interrupted circuit when the contact arm passes over contact points 222, 223, 224, 225, and 226, and comes to a stop by the opening of the circuit when contact arm 174 rides free of circular conductor 177. The relays of the selection device are such that the receiving of no further impulses for an appreciable length of time performs the act of selection. This time interval is sufficiently long so the selection will not be made by the passing of the contact arm from the last contact of one of the series of eight contacts to the first contact of the next series as for example in passing from contact 201 to contact 219.

When the panel presents the third view, that is, with selections 17 to 24 inclusive, to view, the cams are in the position shown in Fig. 9, in which switch 117 is closed, and switches 118 and 119 are open. In this position, as will be readily appreciated by reference to Fig. 10, the alternating current conditioning impulse is transmitted as soon as contact arm 176 passes over contact point 182. Sixteen impulses will then be received from the eight contact points of each of segments 184 and 202 so that the selector keys will control selections 17 to 24 respectively in a manner similar to that just described.

It will be seen that this invention accomplishes the objects thereof. There is provided a selector of the panel type in which a number of titles are exposed to view, thus economizing wall space, with provision for means for conveniently and rapidly changing the panel to present a new array of titles. The selector of this invention combines the advantageous features of the cylinder type of selector in which only one title is exposed to view in the economy of wall space, and at the same time doesn't make the selection burdensome on the user. There is retained, however, the curiosity arousing feature and the feature which takes advantage of the tactile sense of a user. The panel may be changed without the use of coins and a user is certain by means of the depressed key which selection he has made before paying his coin. A multi-selection device is presented which preserves the cheapness and convenience of a two wire circuit, while at the same time presenting a panel exhibiting a plurality of titles.

While this invention has been described for a remote control to govern the selection of records to be played by an automatic phonograph, or stations to be heard through a pre-tuned radio, it will be clear to those skilled in the art that it may be used in a public address system to choose the part of a ship to which commands or warnings are to be given, or a department or room of a building in a factory or school for transmitting information, or in other installations as may be desired. A compact mechanism which offers a large number of selections is provided.

It will likewise be clear to those skilled in the art that various changes may be made in detail without departing from the spirit of this invention. This is contemplated by the appended claims and it is therefore to be understood that this invention is not to be limited to the particular details shown and described except within the ambit of the appended claims.

Having thus described this invention, what is claimed is:

1. A selector device for remotely controlled sound apparatus having a predetermined number of sound units, including in combination a frame, a sub-multiple number of shiftable indicating means mounted on said frame, each of said indicating means having a number of faces which is a factor of said predetermined number, means for simultaneously exposing one face of each of said indicating means to view in a group, means for changing the group of faces in view, face-identifying means, including shiftable prisms for identifying each face in view and means operated by said changing means to shift said prisms for identifying the faces.

2. In a selector of the character described, a plurality of shiftable indicating means, electric switch mechanism including means shiftable with the indicating means, a number of selector means for shifting the indicating means and selectively initiating the operation of one of a plurality of devices indicated by said indicating means, identifying means associated with and identifying said selector means, means for changing said indicating means and for correspondingly shifting said identifying means.

3. In a selector device of the character described, a frame, a plurality of rotary indicating means, each having a number of faces, selector means for selectively initiating the operation of one of a plurality of devices indicated by said indicating means, rotary identifying means associated with and identifying said selector and indicating means, and changing means for correspondingly changing said indicating means and said identifying means.

4. In a selector device of the character described, a frame, a plurality of indicating prisms mounted for rotation in said frame, electric switch mechanism including means rotatable with said indicating prisms, a number of selector means for selectively initiating the operation of one of a plurality of devices indicated by said indicating prisms, an identifying prism associated with and identifying said selector means and mounted for rotation in said frame, means for rotating said indicating prisms, and means for correspondingly rotating said identifying prism.

5. A device as in claim 3 in which said changing means includes gears carried by said rotary

indicating means, a driving gear, and a prime mover for rotating said driving gear.

6. A device as in claim 3 in which said changing means includes gears carried by said rotary indicating means, a driving gear, and a prime mover for rotating said driving gear, said prime mover comprising a solenoid.

7. A selector as in claim 3 in which said changing means includes a prime mover, a driving gear adapted to be driven by said prime mover, gears carried by said rotary indicating means, a gear carried by said rotary identifying means, and gears driven by said driving gear meshing with the gears on said rotary indicating and identifying means.

8. A selector as in claim 3 in which said changing means includes a prime mover, a driving gear adapted to be driven by said prime mover, gears carried by said rotary indicating means, a gear carried by said rotary identifying means, and gears driven by said driving gear meshing with the gears on said rotary indicating and identifying means, said prime mover comprising a solenoid and a pawl and ratchet device.

9. In a selector device of the character described, a frame, a plurality of rotary indicating means, each having a number of faces, selector means for selectively initiating the operation of one of a plurality of devices indicated by said indicating means, rotary identifying means associated with and identifying said selector and indicating means, and changing means for correspondingly changing said indicating means and identifying means, said selector means including a cam mounted for rotation in said frame, a plurality of selector switches, a plurality of connecting switches, means for rotating said cam in phase relation with said rotary indicating means, said cam having lobes adapted to actuate said connecting switches to place the devices indicated by said indicating means in predetermined electric relation with said selector switches.

10. A selector device for remotely controlled sound apparatus having a predetermined number of sound units, including in combination a frame, a plurality of shiftable indicators mounted on said frame, electric switch mechanism including means shiftable with the indicators, each of said indicators having a plurality of indicating faces, the number of indicators multiplied by the number of indicating faces of each indicator being equal to the number of sound units to be operated, means for simultaneously exposing one face of each indicator to view in a group, and means for changing the group of faces in view.

11. A selector device for remotely controlled sound apparatus having a predetermined number of sound units, including in combination a frame, a submultiple number of shiftable indicating means mounted on the frame, electric switch mechanism including means shiftable with the indicating means, each of said indicating means having a number of faces which is a factor of said predetermined number, means for simultaneously exposing one face of each of said indicating means to view in a group, means for changing the group of faces in view, and a coin actuated switch in circuit with said selector switches and operable upon closing to complete a circuit preconditioned thereby.

12. A selector device for vending machines comprising a plurality of movable indicating panels, a plurality of identifying panels associated respectively with said indicating panels, a series of corresponding indicia on said panels, respectively, manually operable means for simultaneously moving said associated panels into exposed position, a group of selector circuits corresponding to each set of associated panels, one circuit of each group corresponding to one indicia, means for simultaneously moving said associated panels to exposed position and conditioning their group of circuits for closing, and a selector switch corresponding to each exposed indicium selectively operable to close a conditioned circuit corresponding thereto.

13. A selector device for remotely controlled apparatus having a predetermined number of units to be selected, including in combination a frame, a plurality of shiftable unit indicators mounted on said frame, said unit indicators having a plurality of indicating indicia collectively representative of the units to be selected, an identification indicator, said identification indicator having a plurality of indicia representative of the unit indicators, and actuator means for effecting the correlative shifting of said unit and identification indicators.

14. A selector device for remotely controlled apparatus having a predetermined number of units to be selected, including in combination a frame, a plurality of shiftable unit indicators mounted on said frame, said unit indicators having a plurality of indicating indicia collectively representative of the units to be selected, identification means, said identification means having a plurality of indicia representative of the unit indicators, a plurality of connecting switches actuated with the unit indicators, and actuator means for effecting the correlative shifting of said unit indicators and said identification means.

15. A selector device for remotely controlled apparatus having a predetermined number of units to be selected, including in combination a frame, a plurality of shiftable unit indicators mounted on said frame, said unit indicators having a plurality of indicating indicia collectively representative of the units to be selected, identification means, said identification means having a plurality of indica representative of the unit indicators, a set of connecting switches operable with the unit indicators, actuator means for effecting the correlative shifting of said unit indicators and identification means, a set of selector switches corresponding respectively to said unit indicators and corresponding to the indicia of the identification means, and a selector circuit controlled by said sets of switches.

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