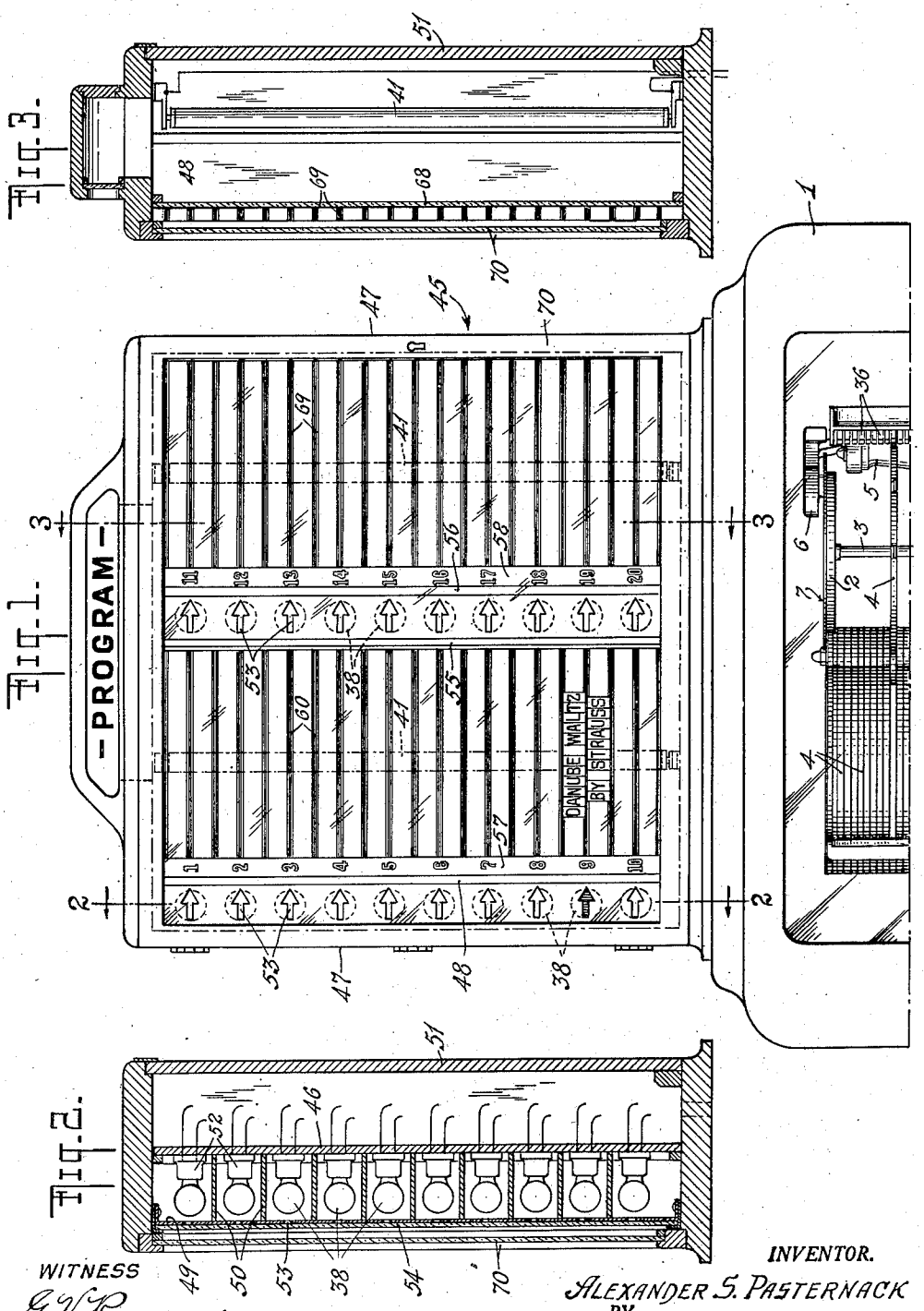
March 1, 1949. A. S. PASTERNACK 2,463,050

ANNUNCIATOR FOR AUTOMATIC PHONOGRAPHS

Filed July 21, 1945 3 Sheets-Sheet 1



WITNESS
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FIG. 4.

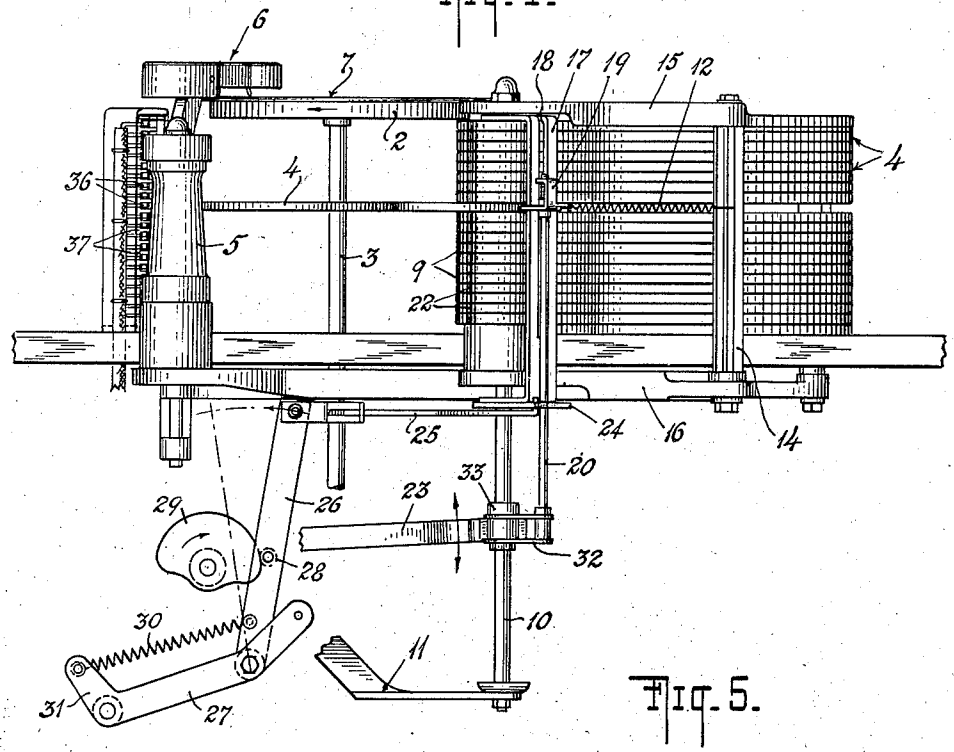
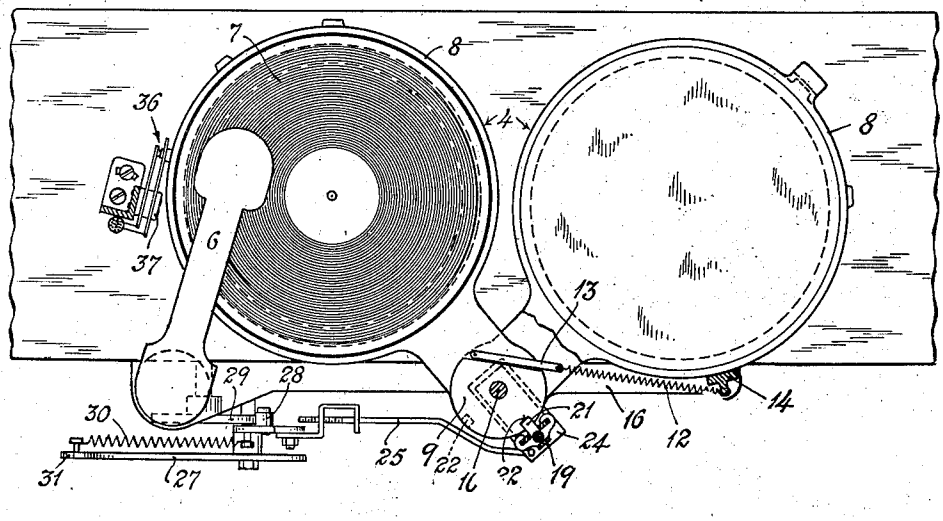


FIG. 5.



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Filed July 21, 1945 3 Sheets-Sheet 3

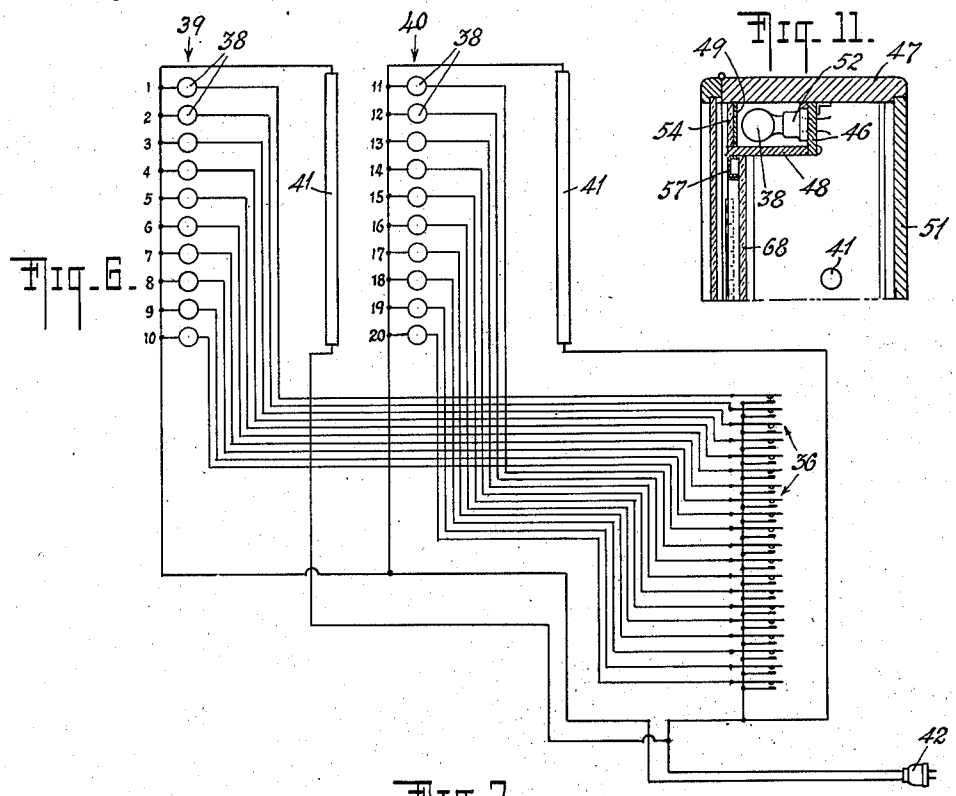

Fig. 6.

Fig. 11.

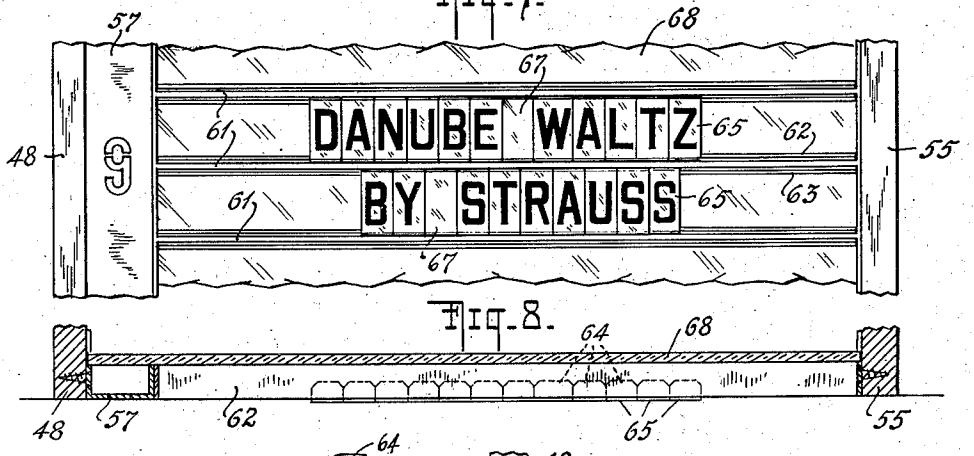

Fig. 7.

Fig. 8.

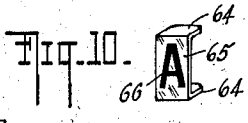

Fig. 10.

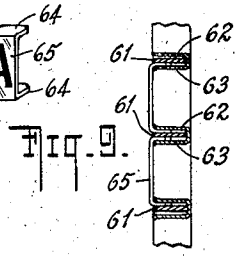

Fig. 9.

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Patented Mar. 1, 1949

2,463,050

UNITED STATES PATENT OFFICE

2,463,050

ANNUNCIATOR FOR AUTOMATIC PHONOGRAPHS

Alexander S. Pasternack, Hollis, N. Y.

Application July 21, 1945, Serial No. 606,425

1 Claim. (Cl. 177—311)

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This invention relates to automatic phonographs and more particularly to annunciator means for providing a visual indication of the titles of songs being played by such phonographs.

The principal object of the invention is to provide an improved annunciator apparatus which will automatically and visually designate the title of a song being played by an automatic phonograph.

A further object of the invention is to provide an annunciator system which will automatically designate by visual means the title of a song that is being played by a phonograph throughout the period of its playing, and which will automatically discontinue such visual indication soon after the record has finished playing.

Other objects of the invention as well as the novel features of construction thereof, will become apparent after a perusal of the following description when read in connection with the accompanying drawings, in which Fig. 1 is a front elevational view of an annunciator made according to the invention and shown mounted on the upper end of an automatic phonograph of well-known construction; Fig. 2 is a vertical sectional view of the annunciator taken along the line 2—2 of Fig. 1; Fig. 3 is another vertical sectional view of the annunciator taken along the line 3—3 of Fig. 1; Fig. 4 is an enlarged rear elevational view of a portion of the mechanism in the automatic phonograph; Fig. 5 is a top view of the parts shown in Fig. 4; Fig. 6 is a diagrammatic view of the annunciator light circuit; Fig. 7 is an enlarged front elevational view of a portion of the annunciator title panel; Fig. 8 is a top view of the parts shown in Fig. 7; Fig. 9 is a vertical sectional view of the letter supporting bars or brackets shown in Fig. 7; Fig. 10 is a perspective view of one of the letter members or units and Fig. 11 is a horizontal sectional view of a lamp compartment portion of the annunciator.

In the drawings, the numeral 1 designates generally, an automatic phonograph of well-known construction and of which, only such parts thereof are shown as are believed necessary for an understanding of the present invention. The phonograph 1, illustrated, includes a turntable 2 mounted on the upper end of a turntable shaft 3 normally positioned to support the turntable 2 below a stack of record trays 4. Mounted on a tone arm housing assembly 5 is a tone arm 6 adapted to play a record 7 supported by the turntable 2 in the latter's fully advanced or raised position, as is shown in Figs. 1, 4 and 5 of the drawings. The record trays 4 each include an outer ring-shaped

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portion 8 having an internal diameter greater than the external diameter of the turntable 2 and having a recessed seat for supporting a record 7 with its upper surface slightly below the upper surface of portion 8. The ring-shaped portion 8 is integrally formed with a hub portion 9 rotatably mounted on a rod 10 which is supported upon a bracket 11 mounted on the frame of the machine. The tray hubs 9 are slightly thicker than the ring-shaped portions 8 so that the latter are spaced apart in the stack. The trays 4 are maintained in stack form by springs 12 each of which is connected at one end to a link 13 pivotally attached to a hub 9 and at its other end, to a vertically disposed bar 14. The bar 14 is supported at its upper and lower ends by a pair of supporting arms or members 15, 16 mounted on the rod 10 and forms a stop for the trays 4 in their fully retracted position. Mounted on the rod 10 is a movable U-shaped guide frame 17 whose vertically disposed central portion spans the hubs 9 of the stack of trays 4 and is provided with a longitudinally extending slot 18 forming a guideway for a record tray selector block 19 adjustably mounted on the upper end of a selector rod 20. The block 19 is provided with a take-out finger 21 which in the operation of the device, travels in a groove formed by aligned notches or recesses 22 provided in the hubs 9. The rod 20 is mounted on a movable support 32 carried by a sleeve 33 slidably mounted on the tray rod 10. The sleeve 33 is connected to the outer end of an actuating lever 23 constructed and arranged to be oscillated in the directions of the double headed arrow shown in Fig. 4 of the drawings. In the operation of the device, the lever 23 is raised and lowered in the manner indicated by a selector cam (not shown). The U-shaped guide frame 17 for the selector block 19 has attached to its lower end or leg, a plate 24 to the outer end of the latter of which is connected one end of an adjustable rod 25. The other end of rod 25 is connected to the upper end of a lever 26, which lever at its lower end is pivotally mounted on a brace member 27. Provided on the lever 26 intermediate its ends, is a cam roller 28 which bears against the peripheral edge of a tray take-out cam 29, the cam roller 28 being maintained in engagement with the cam 29 by means of a spring 30 which is connected at one end to the lever 26 and at its other end to an offset portion 31 of the brace member 27.

From the foregoing description of the automatic phonograph mechanism illustrated, it will be understood that prior to the cycle of operations

of the same in the playing of a record, the turntable 2 will be in its lowermost position, the tone arm 6 will be in an at-rest position and the record trays 4 will all be arranged in superimposed relation in the stack. When the machine is started, as by the insertion of a coin, and the song to be played, selected, as by depressing a selector button or key, the tray take-out cam commences rotating and the actuating lever 23 is lifted to move the rod 20 and consequently the selector block 19 to a position in which the take-out finger 21 is in the notch or recess 22 of that tray 4 which carries the record selected to be played. The cam 29 then causes through cam roller 28, the advancement of lever 26. As lever 26 advances it causes, through rod 25 and plate 24, the U-shaped guide frame 17 to swing to the right, as viewed in Fig. 4 of the drawings, about the shaft 10. The movement of frame 17 and consequently the selector block 19 carried thereby, causes the take-out finger 21 to bear against the hub 9 of the selected tray 4 and swing such tray from the stack to a playing position, as is shown in Figs. 1, 4 and 5 of the drawings. After the selected tray 4 has reached its playing position, the turntable shaft 3 is caused to be raised, lifting the turntable 2 through the selected tray 4. As the turntable 2 passes through the selected tray 4, it removes the selected record 7 from such tray and carries it to playing position. When the turntable 2 reaches the top of its stroke in position for playing the record, the tone arm 6 is positioned to properly engage the record. After the record has been played, the tone arm 6 is swung toward the center of the record by suitable mechanism which causes means to operate to lower the turntable shaft 3. As the turntable 2 returns through the selected tray 4, the record 7 is deposited on such tray. By this time, the cam roller 28 will be starting its engagement with the low side of cam 29 and as it climbs down cam 29, spring 30 will cause lever 26 to move to the left, as viewed in Fig. 4 of the drawings. As lever 26 is retracted, the U-shaped guide frame 17, through plate 24 and rod 25, will be swung back to its normal position, thereby replacing the selected tray 4 in the stack. The return of the tray 4 to the stack is facilitated by its associated spring 12. The machine is then ready to play a new record selected by a customer.

When in the operation of the phonograph machine 1, a selected tray 4 is moved into playing position, it comes into contact with a normally open switch 36 mounted upon a bar 37 of insulating material and closes such switch. The switch 36 is maintained closed by the tray 4 throughout the playing of the record 7 and until the tray starts to return to the stack after the playing of the record has been completed. The bar 37 is provided with a vertically arranged series of spaced switches 36, one for each of the trays 4 in the stack and positioned on the bar to be closed by such trays as the latter are moved into position for playing the records carried thereby. The switches 36 are contained in an electrical circuit containing a plurality of lamps 38, the circuit being arranged so that each switch 36 controls a particular lamp 38 and causes such lamp to be lighted when closed by its associated tray 4. As is shown in Fig. 6 of the drawings, the lamp circuit is constructed so that the lamps 38 are arranged into two series 39 and 40, each of such series containing an equal number of lamps 38. Associated with the series 39 and 40 are elongated lamps 41 which are arranged in the circuit so that electrical energy is continuously

supplied thereto so long as the plug 42 is connected to a source of electrical energy.

The lamps 38 and 41 form part of the annunciator which is indicated generally by the reference numeral 45. As is shown more clearly in Figs. 1 and 2 of the drawings, the lamps 38 are arranged in two vertical columns in the annunciator, the series 39 thereof being arranged along the left hand side of the annunciator, as viewed in Fig. 1, and the series 40 thereof being arranged just to the right of the vertical center of the annunciator. Each lamp 38 in the two columns is contained in a separate compartment so that when it is energized, its light will not cause a false or doubtful indication to be given to an observer. The compartments for the left-hand column of lamps (series 39) are formed by a back plate 46, side wall 47 of the annunciator 45, side partition 48, front plate 49 and dividing partitions 50 (see Figs. 1, 2 and 11). The side partition 48 extends the full height of the interior of the annunciator and forms the front of the annunciator halfway to the rear wall 51 thereof (note Figs. 1 and 11). The dividing partitions 50 are suitably supported in spaced relation by the side partition 48 and the annunciator side wall 47. The back plate 46 has mounted thereon a plurality of lamp bases 52 for the lamps 38 and closes the space between the side wall 47 and the rear end of partition 48. The front plate 49 which closes the front ends of the lamp compartments, is made of metal and is provided with a series of arrow-shaped openings 53 positioned in front of each lamp 38 in the said column and directed toward the right, as viewed in Fig. 1 of the drawings. Positioned in front of and against the metal plate 49 is a panel 54 of colored glass or any suitable transparent or translucent material.

The inner column of lamps 38 in series 40 are contained in suitably constructed compartments, the latter being formed between partitions 55 and 56 which are similar to partition 48, a back panel similar to back panel 46, a front plate similar to front plate 49 and dividing partitions similar to the dividing partitions 50. Secured to the outer sides of the front end portions of partitions 48 and 56 are channel-shaped metal strips 57 and 58, respectively, arranged so that their body portions form part of the front of the annunciator 45 and their flanged edges are directed rearwardly. The body portions of strips 57 and 58 are provided with a series of spaced openings in the form of numerals positioned so that the arrow-shaped openings 53 in the front plates of the columns of compartments are directed thereto. Thus, the arrows of front plate 49 are directed to the numerals one through ten, for example, in the strip 57, while the arrows of the inner front plate are directed to the numerals eleven through twenty in the strips 58.

Extending from the strip 57 to the partition 55 and supported thereby, are a series of spaced letter holders 60 (see Fig. 1). As is shown more clearly in Figs. 7 to 9 of the drawings, each letter holder 60 includes a central, horizontally disposed strip 61 having attached to its rear edge portion, a U-shaped member whose legs or flanges 62, 63 are directed forwardly. The flanges 62, 63 are made of spring metal and form elongated spring tongues adapted to receive in the slots formed by such flanges and the strip 61 and grip, the legs 64 of U-shaped letter members 65. Thus, the upper leg 64 of a member 65 will be gripped between the tongue 63 and strip 61 of one letter holder 60 while the lower leg 64 of such member

will be gripped between the tongue 62 and strip 61 of an adjacent lower letter holder 60. The letter members 65 are made of any suitable material such as thermoplastic material and are provided with a design 66 in the form of a letter. It will thus be evident that opposite each numeral on the strip 57, an operator may readily mount the members 65 to furnish the title of a particular song, that is, the title of the song on the record 7 which is carried by the tray 4 controlling the lamp 38 alongside such numeral. The letter holders 68 are so arranged in the space between the strip 57 and partition 55 that two rows of letter members 65 may be mounted on such holders. Blank members 67 similar to members 65 but not provided with letter-shaped openings, may be positioned between words in the title to function as spacing members (note Fig. 7). Extending between the partitions 48 and 55 is a plate 68 of transparent or translucent material which permits light to pass from a lamp 41 through the numerals of strip 57 and the members 65 and 67.

In a similar manner, letter holders 69 of a construction similar to holders 60, are provided between the strip 58 and the right-hand side of the annunciator 45, the lamp 41 associated therewith being arranged to transmit light through a plate similar to plate 68 and through the numerals of strip 58 and the members 65 and 67 carried by such holders 69. The annunciator is provided with a glass paneled door 70 exposing to the view of an observer, the indicating parts described (see Fig. 1).

It will be understood from the foregoing, that as the lamps 41 are always energized in the use of the machine, the numerals on the strips 57 and 58 the letter members 65 will be continuously illuminated, thus, affording the customers, a clearly visible indication of the titles of the song records 7 contained in the machine and the number of the button or key which should be pressed in order to have a particular record played. Suppose for example, a customer noting that there is a record 7 entitled "Danube Waltz," and desiring that it be played, he inserts his coin and depresses the button marked 9 on the machine or on a remote control, causing the tray 4 bearing such record to move out from the stack and into position for the turntable to pick up such record. When the tray 4 reaches such position, it closes the switch 36 controlling that lamp 38 in the left-hand column of compartments opposite or aligned with the numeral 9 in the annunciator. There is thus provided adjacent the numeral 9, an illuminated arrow which indicates to the other customers, the title of the song that is being played. As has been explained, the lamp 38 will remain lighted throughout the playing of the record and until the tray 4 for this record, starts its return to the stack. The illuminated arrow will thus remain during a like period, affording a visual designation of the title of the song being played throughout its playing period. The customers therefore will be informed at all times of the titles of the songs being played by the machine.

While I have described and illustrated an embodiment of my invention, it will be evident to those skilled in the art, that various changes and modifications may be made therein, without departing from the spirit of the invention. For example, instead of mounting the annunciator on top of the phonograph machine, as illustrated, it may form part of the front face thereof, or may be separate from such machine and positioned at a place where it will be more clearly visible to the customers than the machine itself. Other means than the trays 4 and switches 36 illustrated, may be employed for controlling the lamps 38 so long as such means maintain a lamp energized during the period that a record is played and deenergizes the lamp at the end of such period. The lamps 38 themselves, may have colored bulbs, thus dispensing with the transparent or translucent plates 54. Various other obvious changes and alterations may be made in the device within the scope of the appended claims.

I claim:

An annunciator for use with an automatic phonograph machine comprising a receptacle including a vertically disposed series of horizontal spaced letter holders, each including a pair of elongated spring tongues whose longitudinal free edges are disposed to the front of the device, removable letter members spanning and carried by pairs of said spaced holders, each of said letter members being U-shaped and having a central portion made of light permeable material and leg members adapted to be gripped by the tongues of said holders, the central portions of said letter members being provided with letters and forming the titles of the records in the phonograph machine, a vertical face section adjacent one side of said letter holders and having a vertically disposed series of numerals arranged in predetermined relation with said spaced letter holders, each numeral indicating the arrangement in the machine of the record bearing the title formed by the letter members on its associated letter holders, a second face section adjacent to said first mentioned section and having a vertical column of designs aligned with the numerals of said first mentioned section, each design bearing portion of said second section forming the front face of a separate lamp compartment, means responsive to the operation of the selectively operated means in the phonograph machine for selectively lighting the design associated with the title of the record being played by the machine throughout the period of play of such record, said responsive means comprising a lamp concealed in each of said compartments in back of the designs formed on the front face of said compartments, and lamp means for continuously illuminating all of the letter members on said holders and said numerals while the annunciator is available for use.

ALEXANDER S. PASTERNACK.

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The following references are of record in the file of this patent:

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Certificate of Correction

Patent No. 2,463,050. March 1, 1949.

ALEXANDER S. PASTERNACK

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows:

Column 6, line 19, claim 1, after the word "machine" insert *wherein means are selectively operated at the start of the playing of each record and remains in such operated condition until the playing of the record has been completed when it returns to an inoperative condition, said annunciator*;

and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 21st day of June, A. D. 1949.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.