United States Patent [19]

Rockola

[11] **3,798,811**

[45] **Mar. 26, 1974**

[54] **PROGRAM FOR AUTOMATIC PHONOGRAPH**

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[73] Assignee: **Rock-Ola Manufacturing Corporation,** Chicago, Ill.

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[21] Appl. No.: **262,224**

[52] **U.S. Cl.** **40/77.7,** 40/124.2

[51] **Int. Cl.** **G09f 11/02**

[58] **Field of Search** 40/68, 68.4, 77.4–77.8, 40/36, 44

[56] **References Cited**

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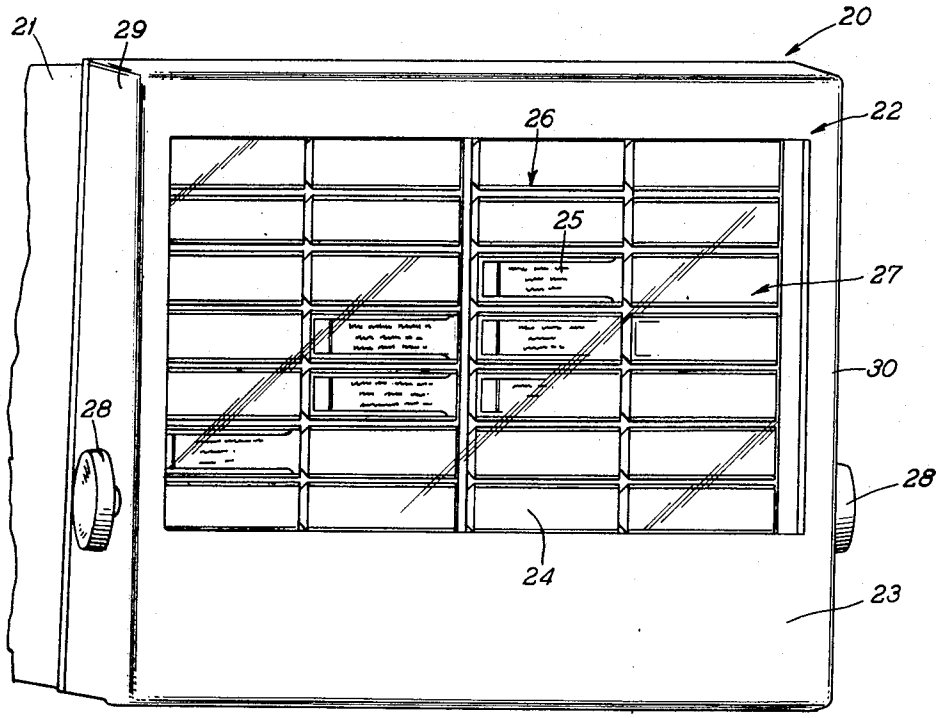
Primary Examiner—Robert W. Michell
Assistant Examiner—J. H. Wolff

[57] **ABSTRACT**

A wall-mounted holder mounting a multiple section program for use with coin-operated jukeboxes or phonographs wherein a plurality of individual program tabs or cards, each identifying a single musical selection, are mounted in individual holding pockets provided on multi-faceted holders arranged in parallel rows for simultaneous rotational movement between selected index positions. In each index position for the holders, corresponding faces thereof are commonly aligned to expose one section of the total program to the viewer.

3 Claims, 13 Drawing Figures



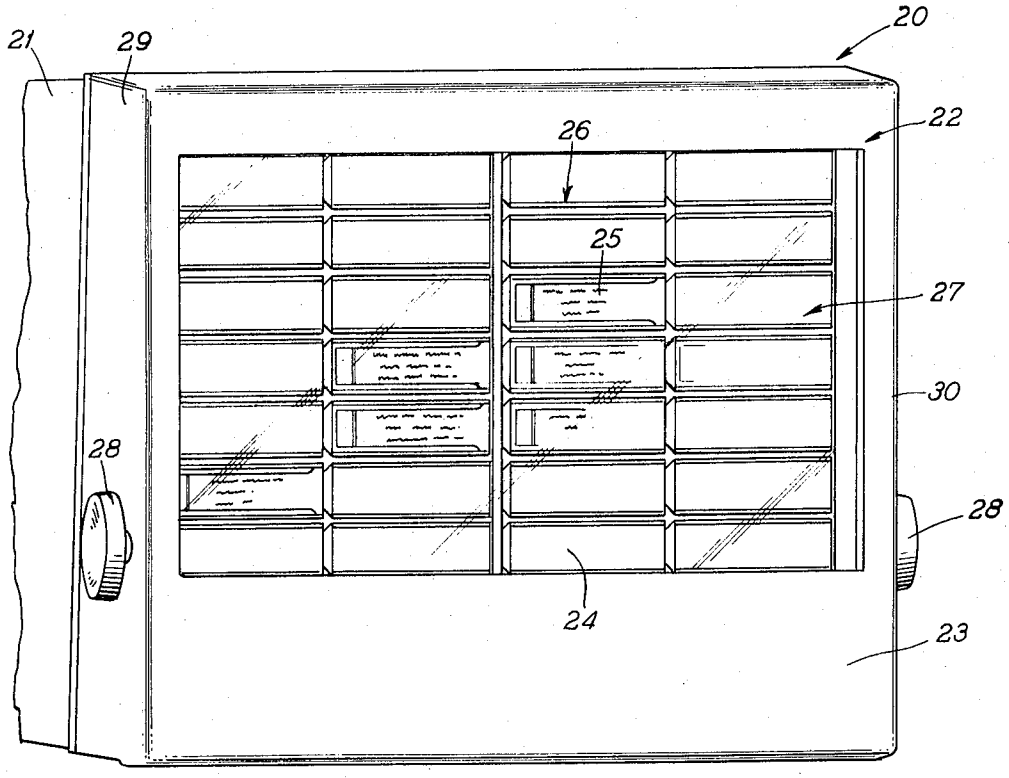

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Fig. 1

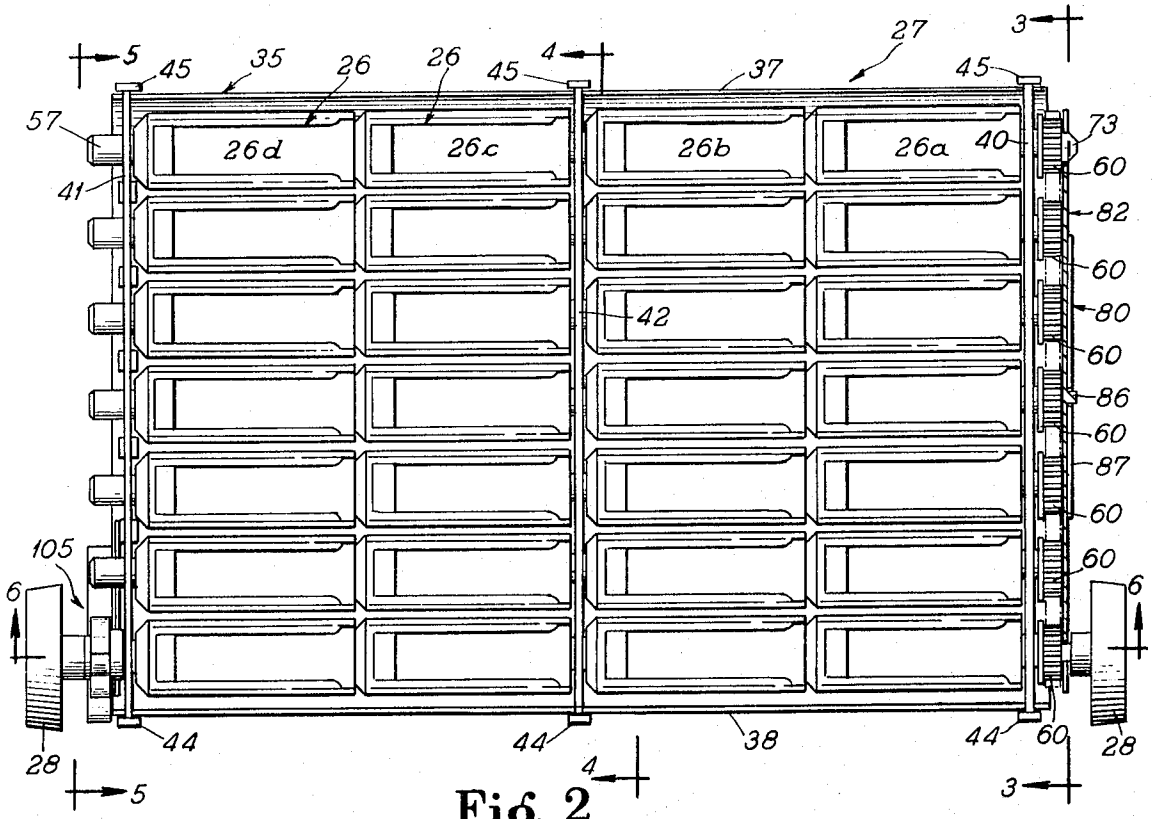
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Fig. 2

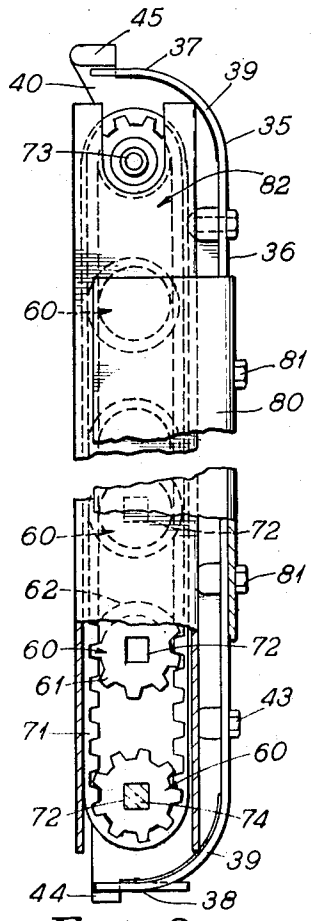

Fig. 3

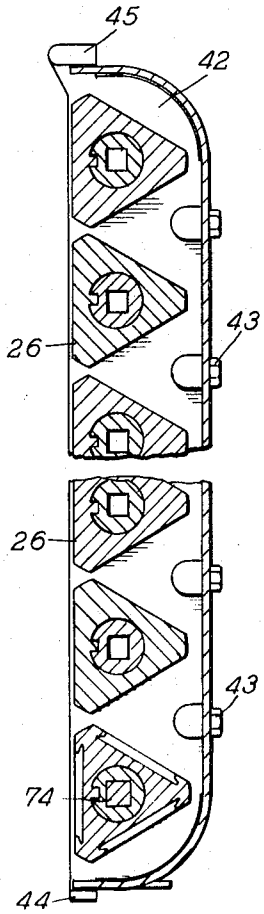

Fig. 4

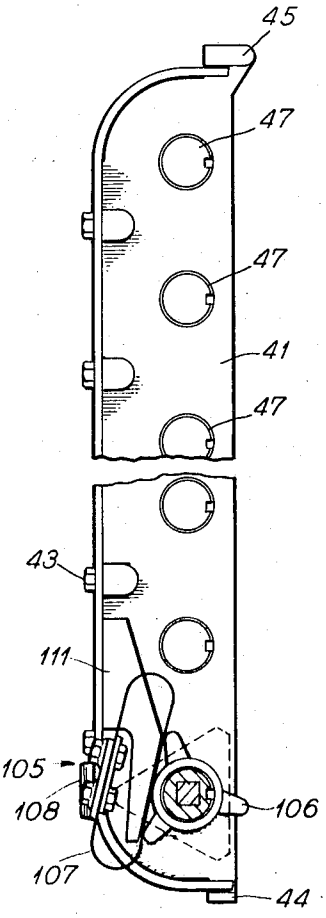

Fig. 5

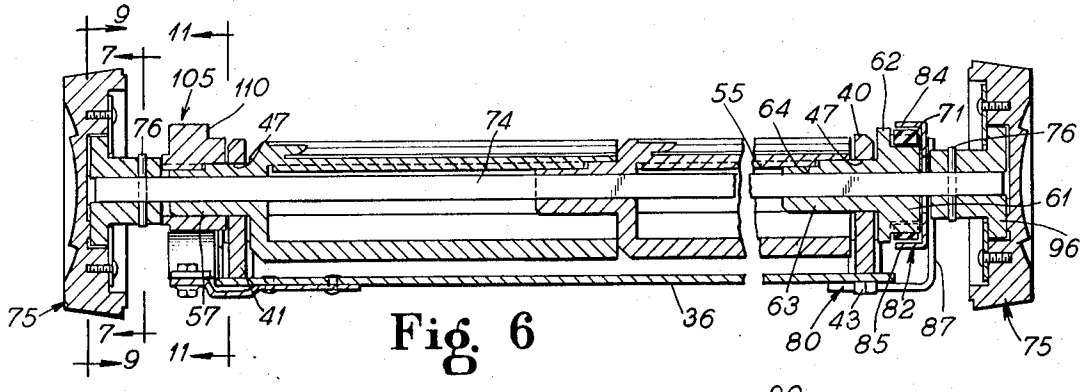

Fig. 6

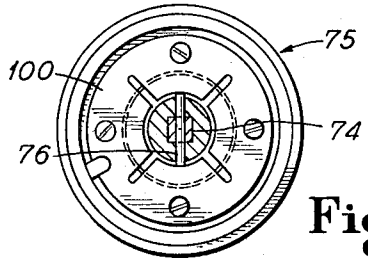

Fig. 7

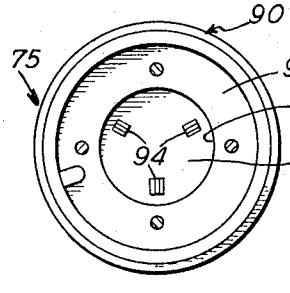

Fig. 8

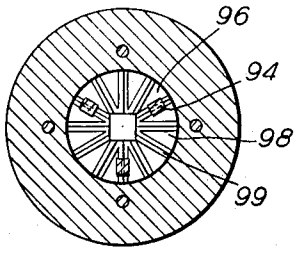

Fig. 9

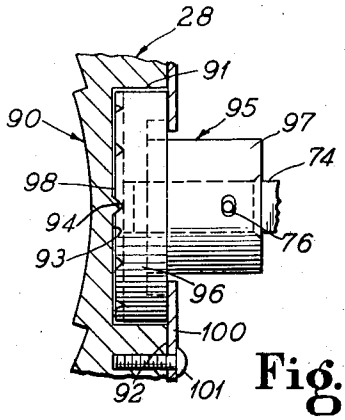

Fig. 10

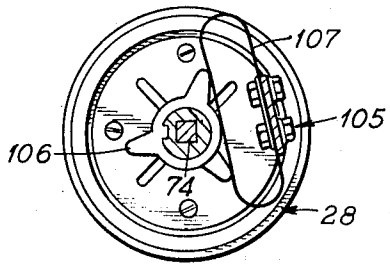

Fig. 11

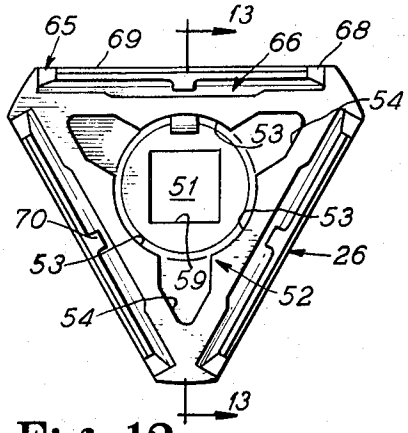

Fig. 12

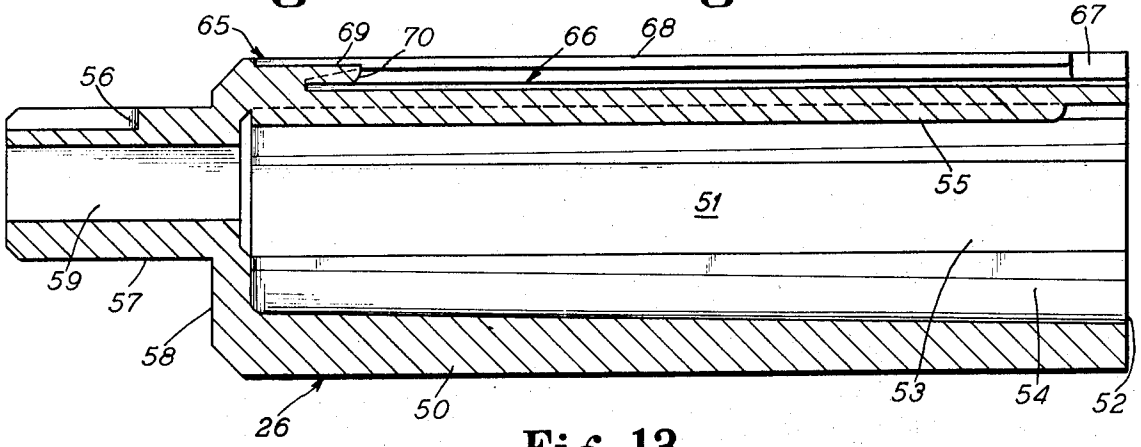

Fig. 13

PROGRAM FOR AUTOMATIC PHONOGRAPH

This invention relates generally to automatic phonographs and more particularly to improved means for presenting programs associated therewith.

Automatic phonographs or "jukeboxes" as they are more commonly termed, provide the customer-listener with a wide range of musical selections, conventionally in the order of 100 or more individual musical compositions. It is the usual practice to list such selections in a single program display from which the viewer chooses a desired selection, enters its identifying code in the jukebox selector system and thus initiates the play cycle. It is readily understandable that displaying a large number of selections according to the above described conventional practice requires rather extensive display areas. In still other instances, particularly with respect to so-called wall-mounted selectors, the program is combined with the selector mechanism remotely of the coin-operated phonograph. Typical of such an installation is that described and shown in U. S. Pat. No. 3,268,868, issued Aug. 23, 1966, wherein the program is divided up into sections mounted on individual pages or leaves, much as in a book, for the purpose of conserving space. Under either of these practices, it is desirable to present the program to the viewer in as convenient a fashion as possible while conserving presentation area. It is to be recognized, however, that leafing through of a number of pages, each containing a section of the program as in U. S. Pat. No. 3,268,868 does not display the entire program to the viewer as conveniently as when the entire program is set forth in a single display panel or mount therefor.

In order to meet the aforenoted difficulty and satisfy the need which has arisen from past and present practice for an improved means of displaying a program as conveniently as possible while conserving the space requirements therefor, especially important in automatic phonographs presenting programs of 100 or more selections, the present invention has been devised.

In brief, the present invention is directed to an improved program holder having means for conveniently sectionalizing the total program and readily presenting such sections to the viewer, thus conserving space and presentation area. The combination of this invention is particularly characterized by its ability to be located remotely of or in direct association with an automatic coin operated phonograph and is marked by its simplicity of the component arrangement, dependability of operation, and convenience and accuracy in readily displaying multiple section programs to the viewer. To this end the present invention comprises a holder structure in which a plurality of individual program tabs, each identifying a specific musical selection or the like, are displayed on multi-faced holders each of which presents a plurality of tab-holding pockets to accommodate the mounting of several program tabs. A multiplicity of such holders are mounted in parallel rows and are commonly associated with a manually-operated drive means for conjointly rotating the several holder rows between selected index positions; the drive means being actuated by the viewer. With this arrangement corresponding tab-holding pockets of the several holders may be indexed simultaneously into a substantially common planar display position whereat the same are removably held by detent means associated with the drive means. Each index position of the holders presents a plurality of individual selections to the viewer, comprising a section of the total program, with the changing of such program sections being conveniently and readily effected by the viewer.

An important object of this invention is to provide a new and improved sectionalized program, particularly useful with automatic phonographs and the like.

Another important object of this invention is to provide a program holder accommodating a multiplicity of individual program items in a presentation or viewing area which is substantially less than that occupied by the entire program.

Still another important object of this invention is to provide an improved combination of elements for displaying a plurality of individual item identifiers with the capability of visually presenting a selected number of items at one time.

An additional object of this invention is to provide an improved combination for a holder, as set forth in the immediately preceding object, having manually operable means for changing a particular set of item identifiers at the selection of the viewer.

Having thus described this invention, the above and further objects, features and advantages thereof will be recognized by those familiar with the art from the following detailed description of a preferred embodiment thereof illustrated in the accompanying drawings; it being understood that while the same is herein disclosed in association with a specific field of use, namely, automatic phonographs, the inventive scope and ramifications of its teachings are not so limited.

In the drawings:

FIG. **1** is a perspective view of a wall-mounted program holder embodying the features of this invention;

FIG. **2** is a front elevational view of the holder illustrated in FIG. **1** with the housing cover thereof removed;

FIG. **3** is a cross-sectional view taken substantially along vantage line **3—3** of FIG. **2** and looking in the direction of the arrows thereon;

FIG. **4** is another cross-sectional view taken substantially along vantage line **4—4** of FIG. **2** and looking in the direction of the arrows thereon;

FIG. **5** is an elevational view with parts thereof shown in section taken substantially along vantage line **5—5** of FIG. **2** and looking in the direction of the arrows thereon;

FIG. **6** is another cross-sectional view taken substantially along vantage line **6—6** of FIG. **2** and looking in the direction of the arrows thereon;

FIG. **7** is a partial cross-sectional view taken substantially along vantage line **7—7** of FIG. **6** and looking in the direction of the arrows thereon;

FIG. **8** is an end elevational view of the operating member illustrated in FIG. **7** divorced from clutch means associated therewith;

FIG. **9** is a cross-sectional view of the operating member shown in FIGS. **7** and **8**, taken substantially along the vantage line **9—9** of FIG. **6** and looking in the direction of the arrows thereon;

FIG. **10** is an enlarged view with parts thereof in cross section showing the operating member and clutch means employed with the drive means;

FIG. **11** is an end elevational view with parts in cross section illustrating detent means associated with the drive means as viewed substantially along vantage line

11—11 of FIG. 6 and looking in the direction of the arrows thereon;

FIG. 12 is an end elevational view of a multi-faceted holder member according to this invention; and

FIG. 13 is a cross-sectional view of the holder member shown in FIG. 11, taken substantially along vantage line 13—13 of FIG. 12 and looking in the direction of the arrows thereon.

Turning now to the details of the specific embodiment of this invention illustrated in the drawings, it will be appreciated from FIG. 1 in particular, that the same is therein shown embodied in a wall-mounted unit **20** adapted to be hung on a vertical wall or like support **21.**

Unit **20,** as illustrated, comprises a generally rectangular shaped outer housing **22** having a front wall **23** distinguished by a central viewing area **24** fully covered with glass or clear plastic to disclose a plurality of underlying program tabs or cards **25** bearing suitable identifying data, such as the title of a musical selection and its code designation for entering a selection system of an associated jukebox. Each of the tabs **25** is suitably held in unitary holder members **26** of the program assembly indicated generally by numeral **27** (see FIG. 2).

Manually engageable operating members **28,28** are available at opposite sidewalls **29** and **30** of the housing **22** for changing the displayed program section visible to the viewer through panel **24.**

The program assembly **27** as best shown in FIG. **2,** constitutes a unitary combination protectively contained within the exterior outer housing **22** illustrated in FIG. **1.** As shown best in FIGS. **2** through **5,** assembly **27** comprises a plurality of the individual holder members **26** arrayed in parallel rows (six in the particular illustrated embodiment) protectively carried in the hollow interior of an open top tray element **35** (see FIGS. **3–5**) preferably formed of sheet metal, rigid plastic or the like. Tray element **35** is formed with a substantially planar bottom wall **36** and two upturned margin wall portions **37, 38** each integrally formed with the bottom wall **36** and interjoined with the latter by a curvilinear portion **39.** The two margin walls **37** and **38** lie along opposite longitudinal sides of the generally rectangular bottom wall **36** and as oriented in vertical posture illustrated in FIG. **2,** for example, constitute top and bottom border wall portions or margins for the tray element.

It will be understood that the dimensional extent of the tray element **35** may be varied widely, depending upon the size and number of individual holder members **26** to be accommodated thereby, thus providing selective versatility as to size and shape for a program holder according to this invention.

Mounted transversely of the margin walls **37** and **38,** at opposite ends of the tray element **35** are a pair of parallel spaced end bearing walls **40** and **41.** A similar intermediate bearing wall **42** is mounted substantially midway of the length of the tray member in parallel relationship to the end wall members **40** and **41.**

The three wall members **40, 41** and **42** are each rigidly affixed to bottom wall **36** of the tray element, as by fastener screws **43,43** (see FIGS. **3–6**) and are locked to and over the outer edges of margin walls **37,38** by means of projecting ear portions **44** and **45** thereof located outwardly of the margin walls **37** and **38;** the latter having suitable slotted openings for this purpose. In this fashion each of the walls **40, 41, 42** is rigidly held in a fixed position, normal to the plane of bottom wall **36** of the tray element **35.**

As will be noted best from examining FIG. **5** of the drawings, each of the walls **40–42** is formed with a plurality of spaced cylindrical openings **47,47** therethrough, there being seven such openings in each of the walls in the particular seven row embodiment illustrated. It will be appreciated that the openings **47** are registeringly aligned when walls **40, 41** and **42** are assembled with the tray element for purposes of supporting the several arrayed holder members **26** in contiguous parallel rows as will be described in greater detail presently. (See FIGS. **2** and **6**).

Turning now to the features of the individual holder members **26,** reference is made specifically to FIGS. **6, 12** and **13** of the drawings. As best illustrated in FIGS. **12** and **13,** each holder member **26** preferably comprises, according to the particular illustrated embodiment, a unitary molding of rigid plastic material formed with an elongated body portion **50** of polygonal cross-sectional configuration, specifically shown as triangular in FIG. **13.** Body portion **50** is hollow to define an interior chamber **51** therewithin having one open end **52;** a major cylindrical portion of the chamber being defined by cylindrical surface segments **53** (see FIG. **12**) which are separated by intervening void areas **54** extending radially outward from surface portions **53** toward the external corners of the triangular shaped body **50.** One interior cylindrical surface segment **53** is distinguished by a longitudinally extending rib **55** comprising a key for interlocking engagement with a keyway **56** formed in a cylindrical stub shaft portion **57** projecting from one end **58** of the body **50** (the lefthand end as viewed in FIG. **13**). The stub shaft portion **57** is distinguished by a substantially square cross-sectional shaped opening **59** extending axially therethrough while the external diameter thereof is slightly less than the cylindrical diameter between the surface portions **53,53** of the body's interior. Thus it will be understood that adjacent holder members **26** may be coaxially interlocked by inserting the stub shaft portion **57** of one into the open end of an adjacent holder member, so that a key **55** and keyway **56** interfit. In this fashion lengthwise extending rows of holder members are formed by interlocking a desired number of individual holder members **26** in coaxial alignment. In the present instance each row of holder members comprises four, interlocked, individual unitary members **26*a***, **26*b***, **26** *c* and **26*d*** (See FIGS. **1** and **2**).

It will be recognized that the stub shaft portions **57** of members **26*d*** and **26*b*** are rotatably supported, respectively, in the openings provided for that purpose in the lefthand end wall **41** and the intermediate wall **42** fixed to the tray element. On the other hand, the holder members **26*a*** at the extreme right end of each row, as viewed in FIG. **2,** have their open ends **52** adjacent end wall member **40.** Consequently there is no hub portion **57** to support members **26*a*** on wall **40.** To overcome this difficulty, a plurality of drive gear units **60** are provided, one affixed or interlocked with the righthand end of each of the holder members **26*a*** adjacent end wall **40** of the assembly.

As best shown in FIG. **6,** each gear unit **60** comprises a molded or machined member comprising a toothed driving spur gear portion **61** having a radial flange **62** at one end (i.e., inner end) of the gear teeth. An integrally formed and related cylindrical hub portion **63** ex-

tends axially outwardly from the flange portion **62** of a diameter to fit closely into the cylindrical interior chamber **51** of an adjacent holder member **26***a*; hub portion **63** being provided with a keyway **64** for interlocking engagement with the key **55** formed along the hollow interior of the holder member (see FIG. **6**). It will be recognized that the hub portion **63** of each of the drive gear units **60** passes through an opening **47** in the righthand end wall **40** thereby to rotatably support the righthand end of a row of holder members, for coaxial rotation in response to rotational movement of the drive gear unit **60** associated therewith.

Externally, each holder member **26** is formed with a plurality of like planar sides **65**, each of which is provided with a recessed mounting or holder pocket **66** for removably mounting and displaying an individual program tab or card **25**. It will be understood that while the illustrated holder members **26** have three sides **65** in the embodiment shown, the number of sides may be varied depending on design requirements.

Each holder pocket **66** is open at one end **67** and has overhanging flange portions **68,68** bordering its lateral margins and a similar lip flange **69** overhanging the other closed end thereof. A friction rib **70** depends centrally from lip flange **69** to frictionally grip a tab card **25** therebeneath, thereby to hold the same in the holder pocket **66**.

The several drive gear units **60** for the rows of holder members illustrated, are commonly interjoined by an endless drive belt **71** (see FIG. **3**) which has teeth on its inner periphery engaged with the teeth of the several spur gear portions **61**. With this arrangement movement of the drive belt serves to simultaneously rotate the several drive gear units and thus the several rows of holder members associated therewith.

With special reference to FIGS. **3**, **4** and **5** of the drawings, it will be appreciated that each drive gear unit **60** is formed with a substantially square cross-sectional shaped opening coaxially therethrough as indicated by numeral **72**. A small stub shaft **73** is press fitted into opening **72** of the drive gear unit **60** associated with the holder member **26***a* located at the upper righthand corner of the array thereof illustrated in FIG. **2**. A square drive shaft **74** (see FIG. **6**) extends through wall **40** and the central opening of the drive gear unit **60** (see FIG. **2**) and openings **51** of all the holder members in the lowermost row thereof, ultimately extending beyond the lefthand wall member **41**.

The manually engageable drive members **28,28** are mounted over the outer projecting ends of shaft **74**, being pinned thereto as by pin means **76** outwardly of the end walls **40** and **41** (see FIG. **6**).

A bracket means **80** is attached to the bottom wall **36** of the tray element by fastener means **81** (see FIG. **3**) to maintain a belt guard **82** in covering position over the belt means and the several drive gear units. Belt guard **82** principally serves to maintain the drive belt means in driving engagement with the teeth of the several drive gear units. In this respect, as shown in FIG. **6** of the drawings, the guard **82** is substantially C-shaped in cross section having upper and lower flange portions **84** and **85** which extend over the drive belt **71**. The opposite ends of the guard cover **82** are bifurcated and pass over the stub shaft member **73** and the drive shaft **74**. The right angular shaped bracket means **80** (see FIG. **2**) is interlocked with a projecting ear **86** formed on the guard cover; ear **86** fitting into an opening in the vertical wall portion **87** of the bracket **80**. This securely positions the guard cover over the drive belt and gear units.

From the foregoing, it will be understood that the several rows of holder members and their respectively associated drive gear units are co-related to simultaneously rotate in response to actuation of the drive belt. Movement of the belt is effected by manually rotating the operating members **28,28** mounted at opposite ends of shaft **74** as heretofore noted.

As best shown in FIGS. **6** through **10** of the drawings, each operating member **28** comprises a generally cylindrically shaped, manually engageable outer shell portion **90** preferably molded of plastic or the like to include a central cup portion **91** extending inwardly of its rearward or inner face **92** (see FIGS. **8** and **10**). It will be noted in particular that the cup portion **91** is cylindrical and open on its side adjacent the inner face **92** of the shell member **90**. Bottom wall **93** of the cup portion is distinguished by three projections **94,94** circumferentially spaced at 120° intervals, in the particular illustrated embodiment, for purposes which will appear presently.

In addition to the outer shell portion **90**, each member **28** includes a hub assembly **95** comprising a cylindrical clutch member **96** having an integral mounting hub portion **97** adapted for the inserted reception of one end of the drive shaft **74** and passage of the pin means **76** therethrough. The clutch portion **96** (see FIG. **9**) has an inner face **98** provided with a plurality of diametrically extending channel grooves **99** to slidingly receive the projections **94** associated with the shell portion **90**. An annular plate spring **100** is fixed to the shell portion **90** by drive screws or rivets **101**; the spring member **100** extending across face **92** of the outer shell **90** and overlapping the clutch portion **96** of the hub assembly **95**. In this fashion, the grooves or channels **99** are resiliently held in contact with the projections **94** to provide a clutch means between the outer shell portion **90** and the hub assembly **95** which is affixed to the drive shaft **74**. Thus, if for any reason drive shaft **74** is prevented from rotating, the operating members **75** may rotate relative thereto and shaft **74** without damaging the drive train. This clutching arrangement is particularly desirable and necessary to avoid damage to the structure as may normally occur when twisting the two operating members **75** in different or opposite directions.

In order to moderate the free rotational movement of shaft **74** and maintain the separate display areas of the arrayed holder members in removably fixed index position until positively removed therefrom, a detent means is provided, as indicated generally at **105** (see FIGS. **2**, **5**, **6** and **11**). As shown best in FIG. **5**, for example, such detent means comprises a three-toothed star wheel **106** mounted on shaft **74** between end wall **41** and the adjacent operating knob **28**. A loop leaf spring **107** is mounted to engage the teeth of the star wheel **106**, such being held to the tray element **35** by bracket means **108**. It will be noted that the spring element **107** is disposed to position the holder members **26** with one of their display area faces upwardly when two teeth of the star wheel **106** are engaged therewith. As best shown in FIG. **6** of the drawings, one tooth **110** of the star wheel is foreshortened and spaced away from wall **41** for the purpose of providing two-positional movement for the several holders **26**. This latter function is

accomplished by means of a stop bar **111** normally mounted on end wall **41** in a non-interfering position with the star wheel **106,** but capable of being disposed in an interfering position as is illustrated in FIG. **5** of the drawings. In its interfering position, the two longer teeth of the star wheel, i.e., the teeth other than the foreshortened tooth **110,** each abuttingly engage the stop bar **111** to limit rotation of shaft **74** to the angular interval therebetween. In this fashion only two faces **65** of the holder members may be positioned for viewing.

From the foregoing those familiar with the art will readily appreciate the novel aspects and unique departure of the present invention over prior known program display devices. It further is to be recognized that within the scope and purview of this invention, the number of display areas or faces on the individual holder members may be varied to provide a convenient means for sectionalizing a total program to any desired number of sections. Additionally as to the number of holder members in the array thereof, greater or fewer than those illustrated herein may be accommodated depending upon the extent of the total program involved. Of like consequence is the obvious expedient or variation from the illustrated embodiment of providing unified elongated program holders instead of the individual holders described herein. Therefore, while this invention has been described in association with a particular preferred embodiment thereof, it is to be recognized that the same is not limited in its scope and concept except as may appear in the following appended claims.

I claim:

1. A sectionalized program assembly for use with automatic phonographs and the like comprising: an elongated open top support tray adapted to be mounted in a protective housing and having a planar bottom wall and parallel bearing walls rigidly affixed across and intermediate the opposite ends thereof, a plurality of like individual holder members arrayed in each of several parallel rows extending lengthwise of said tray and having means whereby the same are supported for rotational movement by said bearing walls, each said holder member comprising a unitary molding of rigid material defining an elongated body portion of substantially triangular cross section having a longitudinal cylindrical interior portion opening inwardly of one end thereof and a coaxially aligned longitudinal stub shaft portion extending outwardly of the opposite end thereof; said cylindrical portion being coaxially receptive of a said stub shaft portion of an adjacent holder member in the assembly of said rows with the said stub shaft and cylindrical portions being provided with cooperating key and key way means for interlocking the same against relative rotation; the exterior surfaces of each said holder member defining three elongated planar sides each of which is provided with a rectangular recessed area bordered along three margins by overhanging lip portions for retaining an individual indicia bearing program tab member therebeneath, drive gear means coaxially coupled to the outer said holder member of each of said rows adjacent one of said bearing walls, belt means drivingly engaging said drive gear means, manually operable drive means associated with one of said rows and having means for positively rotating the drive gear means associated therewith thereby to actuate said belt means and simultaneously rotate each of said rows of holder members, and detent means comprising a toothed star wheel having means whereby the same is rotatable with one of said rows and engaged by resilient spring means affixed to said tray for selectively arresting said rows in three rotational index positions, in each of which positions corresponding sides of individual holder members are coplanar to display said tab members thereon in viewing position.

2. The combination of claim **1** wherein said manually operable drive means comprises a pair of manually engageable operating members mounted over the outer ends of a drive shaft extending coaxially through one of said rows of holder members and said bearing wall means, each of said manually engageable members including clutch means operable to afford movement thereof relative to said drive shaft upon predetermined torque loading of the latter.

3. The combination of claim **1,** and stop means affixed to said tray and engageable with said star wheel to limit rotational movement thereof and said rows to and between only two of said index positions.

* * * * *