April 6, 1937. P. H. SMYTHE, JR 2,076,255

AUTOMATIC PHONOGRAPH APPARATUS

Filed Oct. 25, 1935

Fig. 1.

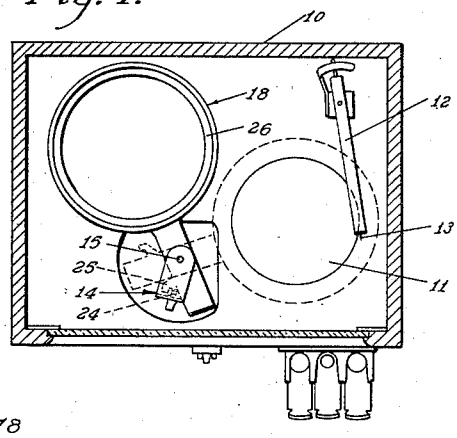


Fig. 2.

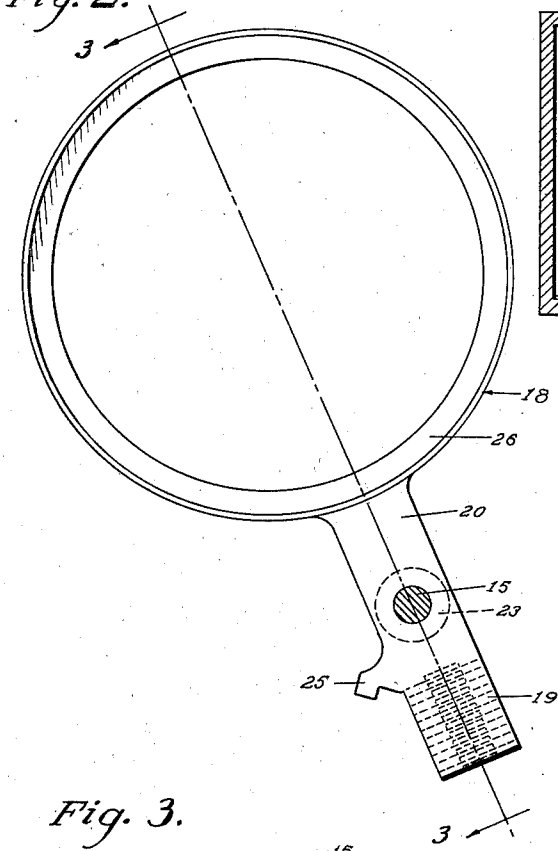
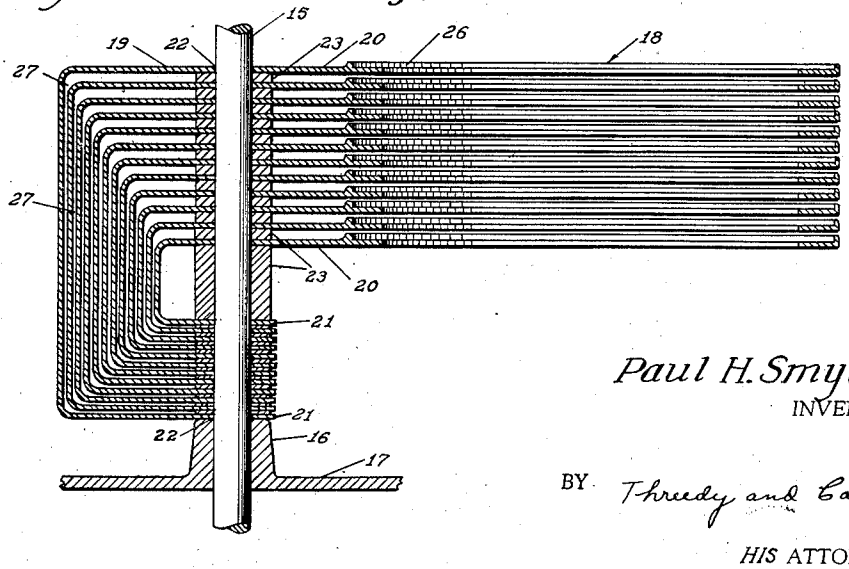


Fig. 3.



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UNITED STATES PATENT OFFICE

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AUTOMATIC PHONOGRAPH APPARATUS

Paul H. Smythe, Jr., Evanston, Ill.

Application October 25, 1935, Serial No. 46,688

6 Claims. (Cl. 211—40)

This invention relates to certain novel improvements in automatic phonograph apparatuses, and has for its principal object the provision of an improved construction of this character which will be highly efficient in use and economical in manufacture.

The present invention is especially concerned with an automatic phonograph apparatus wherein there is provided means for substantially supporting a plurality of superimposed records for movement into and from playing position.

A still further object of the invention is the provision of a simple and economical arrangement and combination of parts for effectively supporting a plurality of records in superimposed position with respect to each other and in proper spaced relation with the same force and effect of supporting the record in playing position.

In the art of manufacture of record carriers for automatic phonograph apparatuses, the record carriers are usually, by virtue of necessity, spaced substantially from their point of of connection with their supporting structure, and consequently, unless there is a proper bearing relation between the record carriers and their supporting structures, the record carrier due to its own weight and the additional weight of the record invariably has a tendency to flex or buckle. This flexing or buckling of the record carriers is an objectionable feature, particularly where there is a plurality of carriers arranged in superimposed position with respect to each other. It is, therefore, one of the many objects of this invention to provide means to prevent or at least to reduce to a minimum this flexing of the record carriers.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing showing the preferred form of construction, and in which:

Fig. 1 is a top plan view of a conventional phonograph apparatus in which my invention is embodied;

Fig. 2 is a plan view of the record carrier and its supporting structure; and

Fig. 3 is a fragmentary sectional detail view of the same taken substantially on line 3—3 of Fig. 2.

Referring now particularly to the drawing, in which the preferred form of construction of my invention is illustrated, a conventional phonograph apparatus is illustrated in Fig. 1, and this apparatus includes a cabinet 10 within which the mechanism for operating a turntable is incorporated. The apparatus includes a tone arm 12, and this tone arm embodies the usual phonograph needle 13 adapted to engage the records when properly disposed in playing relation with respect to the needle and the turntable.

The record carriers with the records mounted thereon in the present instance are adapted to be rotated or moved by a selecting device 14 into position with respect to the turntable 11 for engagement with the needle 13, and this selecting device is adapted to select the record carriers individually for such movement into engagement with the turntable 11.

The construction and operation of this selecting device 14 has not been illustrated or described for the reason that it is not a part of the present invention, the same having been fully described and shown in my United States Letters Patent No. 2,004,016, dated June 4, 1935.

As heretofore indicated, the present invention relates particularly to the record carriers and the supporting structure therefor, and in this present instance there is embodied in the phonograph apparatus a vertically extending shaft 15 having a suitable bearing 16 provided by a plate element 17 associated with the cabinet in any approved manner.

The record carriers are indicated at 18, and each includes a hollow dish portion 19 adapted to receive the phonograph record. This portion is preferably substantially circular in plan view, and includes a terminal 19 which preferably is substantially U-shaped to provide opposite limb portions 20 and 21. These limb portions 20 and 21 are provided with aligned perforations 22 through which the shaft 15 passes.

Between adjacent limb portions 20 and adjacent limb portions 21, there are mounted spacing washers 23 which serve to properly space the limb portions 20 and 21 in proper spaced relation with respect to each other.

When the terminals 19 are mounted in proper position upon the shaft 15, the limb portions are arranged in nested relation with respect to each other, and it is desirable that there be a proper space, as at 27, between the bight portions of the terminals so that each carrier may be free to rotate about the shaft 15 when engaged by the selecting device 14 without contacting or rubbing against the adjacent terminal 19.

The selecting pin of the selector is indicated at 24, and while there may be any desirable and effective means provided on the terminals 19

of the record carriers for selective engagement with this pin **24**, I have illustrated, for the purpose of illustration, each carrier as being provided with a lug **25** disposed for engagement with this pin **24**, whereby when the selecting device or mechanism is rotated in a clockwise direction, the pin **24** will contact with the lug **25** of the record carrier to be rotated by the selecting device or mechanism into playing position with respect to the turntable **11**.

I have found by the employment of a structure such as herein described that by virtue of the spaced opposite diametrical bearing relation between the terminals **19** of the carriers and the shaft **15**, adequate support is provided for supporting the record carriers in spaced relation with respect to each other for movement into and from playing position with respect to the turntable **11**.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. A record carrier for phonographs comprising shaft means, a plurality of record bearers arranged one above another and each having terminal supporting members in the form of U-shaped extensions having co-axially aligned bearing parts in their respective oppositely disposed side portions, the said shaft means being engaged by said bearing parts for pivotal support of said bearers and said U-shaped extensions being dimensioned relative to one another to permit the disposition of the same on said shaft means for interfitting movement of said terminal supporting members relative to one another.

2. A record carrier mechanism for phonographs including a plurality of superimposed record retaining members having supporting brackets extended therefrom, the said brackets having confronting body members separated by an intervening spacing portion, and concentrically disposed bearing apertures in said confronting members, shaft means through said bearing apertures, the said brackets being radially movable about said shaft means as a common axis and with respect to a common and substantially central point on said shaft, the said brackets being of diminishing size so as to fit and pivot one within the other on said shaft means.

3. A record carrier for phonographs comprising a plurality of record bearers having terminal supports extended therefrom in the shape of reentrantly extended portions with oppositely disposed surface portions, diametrically positioned bearing apertures therein in said opposite portions, shaft means embraced by said bearing apertures and connecting portions between said opposite surfaces, the said connecting portions of each said bearer being spaced at increasing radial distances relative to a first or innermost said extension and the axis of the said apertures therein, such that said supports rotate about a common central point and about said shaft as a common axial support.

4. A record carrier for phonographs including a shaft, a plurality of bearers, each said bearer comprising an annulus having an outer rim portion adapted to retain a record and a terminal bearing member in the form of a hook-shaped extension from the periphery of said annulus, the side or opposite faces of the hooked portions of the said extensions having aligned bearing members for engagement with said shaft, the said hook-shaped parts being of diminishing dimensions and adapted to rotate about said shaft as a common axis relative to the said bearing members therein in interfitting relation.

5. Record supporting mechanism for phonographs and the like including a central support, a plurality of bracket members having portions bent back upon themselves, the said bracket members being of diminishing proportions and being mounted upon said central support for pivotal movement on the same with the smaller said bracket members pivoting within the larger said members in a nesting or interfitting fashion, and each of said bracket members having an annular record-supporting bearer extended therefrom.

6. Record carrying mechanism for phonographs and the like including a central shaft, a plurality of record bearing members disposed in planes one above another and each having a substantially hook-shaped bracket with axially aligned openings in opposite side parts of the hook, the said brackets being disposed upon said central shaft with the latter extended through the said axially aligned openings, and the said brackets being dimensioned for disposition on said central shaft one within another about a substantially central point, together with spacing means on said shaft between each of said brackets.

PAUL H. SMYTHE, JR.