Feb. 13, 1934. J. E. SYMONDS 1,946,596

PHONOGRAPH RECORD

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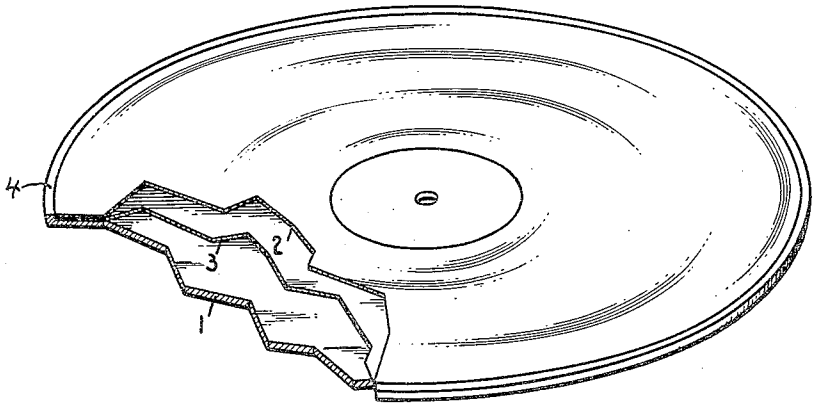

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1,946,596

PHONOGRAPH RECORD

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4 Claims. (Cl. 274—42)

My invention relates to phonograph records of the disc form.

Heretofore laminated records of the type in which a thin separator of paper or the like material is interposed between a sheet of glaze material having a record surface and a backing of material, which is plastic when hot but hard and inflexible when cold, have not been satisfactory as to the finish of their edges. The paper has interfered with the smoothing of the periphery.

An object of my invention is to provide a record of this type with a finished edge, the separator being unexposed at the periphery.

Another object of the invention is to provide such a record in which the edge of the sheet of glaze material is directly united to the backing so as to seal the separator and protect it from the attacks of moisture.

Another object of my invention is to produce a record in which the portion having the sound groove therein is composed of regenerated cellulose, a substance superior from the standpoint of durability and quality in reproduction.

Other objects and advantages will appear as the description proceeds.

In the accompanying drawing.

The figure is a perspective view of a finished record, embodying my invention, part being broken away to show the construction at the edge.

Referring to the drawing, a backing 1 is made of materials which are plastic when hot whereas it is relatively inflexible and preferably hard when cold. Substances such as used heretofore in inflexible, non-laminated records, are suitable. As the sound grooves are not inscribed on the backing, it is apparent that comparatively inexpensive materials may be of satisfactory quality.

A sheet 2 of material of a "glazed" character has sound grooves thereon. Materials adapted for this purpose are films of cellulose acetate, celluloid and regenerated cellulose, such, for instance, as is known commercially as cellophane.

Regenerated cellulose has a shiny, attractive appearance, is hard and does not tear up nor require a needle different from those used with shellac records.

A thin separator 3 of paper or fabric is interposed between, and adheres to the sheet 2 and the backing 1.

The sheet 2 and the separator are preferably of the same size but satisfactory results are obtained when either is slightly larger than the other; both are of smaller diameter than the backing 1.

The record is made by a process similar to that described in Patent No. 1,050,932 to Emerson, granted January 21, 1913, for a "Disk record and production thereof", and dies such as shown in Patent No. 1,576,642 to Bishop, granted March 16, 1926, for a "Molding die", may be used. The die for the back of the record is preferably smooth.

The sheet 2 is preferably assembled on a center pin and superposed on the die. The separator is positioned upon it and a lump of material to form the backing is applied to the center.

When the opposed dies are compressed, the backing material is spread out and the sheet 2 and the separator become embedded in it, causing it to adhere to the edge of the sheet along its entire periphery.

At the same time the sound groove is impressed in the sheet 2 and the heat and pressure cause the separator to adhere to the sheet 2 and the backing 1. If the sheet 2 is made of celluloid or cellulose acetate, it is unnecessary to use an adhesive to hold it to the separator, but with regenerated cellulose, such as cellophane, an adhesive, such, for instance, as water soluble glue, should be employed, preferably applied to the back of the sheet.

The joint between the sheet 2 and the backing is not only so intimate as to exclude moisture and prevent it from attacking the separator, but the surface of the record is quite smooth along this line, extending in an uninterrupted plane. There is, therefore, no irregularity to be engaged by the needle of a reproducer in such a way as to make an objectionable noise.

In the pressing operation surplus backing stock is pinched off by the dies and, on the removal of the record, its edge may be smoothed up in a lathe, as has been the practice in making records of the "shellac" type. The result is a finished rim 4, surrounding the edge of the sheet 2 and having the appearance of the edges of "shellac" type records and presenting an upper surface in substantially the same plane as the surface of the sheet 2. This gives the record, as illustrated in the drawing an especially attractive and finished appearance.

My invention is not limited to the details of the construction illustrated and described, which may be extensively modified without departing from the spirit of the invention. A substantial range of equivalents is contemplated within the scope of the appended claims.

What is claimed is:

1. A disk record comprising a relatively inflexible backing of plastic composition, a layer of

glaze material having a sound groove impressed therein, and a separator between said layer and said backing, said backing extending beyond the periphery of said separator and being directly united with said layer along its periphery, said separator and said layer being imbedded in said backing, the surface of said layer and that of the adjacent peripheral portion of said backing being substantially in one plane.

2. A disk record comprising a sheet of glaze material having a sound groove impressed therein, a relatively inflexible backing of plastic composition, a thin paper separator between and adhering to said backing and said sheet, said sheet and said separator being embedded in said backing, said sheet being directly united along the edges with said backing, the surface of said backing extending peripherally beyond said sheet and lying in substantially the same plane as the surface of said sheet.

3. A disk record comprising a surface layer having a sound groove impressed therein and being of hard material capable of softening slightly when heated, a backing for said surface layer composed of material which is of greater plasticity when heated than said surface layer but which is hard and inflexible when cold and a thin paper separator between and adhering to said layer and embedded in said backing, said backing extending peripherally beyond said layer and said separator and adhering to the edge of said layer along its periphery, thereby sealing said separator against moisture.

4. A sound record comprising a disc-shaped flexible sheet of film material having a sound groove thereon and a relatively inflexible backing united therewith and having an upstanding peripheral rim surrounding the edge of said film material, and a separator between said sheet of film material and said backing, said separator and said film material being embedded in said backing, said separator being substantially the same size as said film material whereby said peripheral rim also surrounds the edge of said separator, said peripheral rim serving to seal the peripheral edges of said film and said separator from moisture and also providing an edge which is adapted to be machined to present a smooth edged surface.

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