A. D. JONES, DEC'D.
J. W. CAMMACK, ADMINISTRATOR.
TALKING MACHINE RECORD.
APPLICATION FILED FEB. 28, 1914.

1,288,610. Patented Dec. 24, 1918.

Fig. 1.

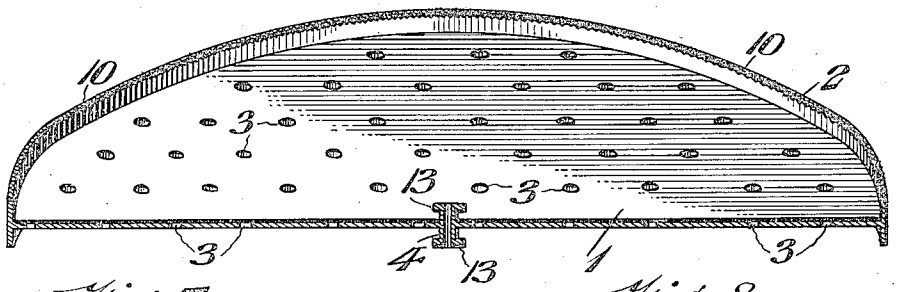


Fig. 7.

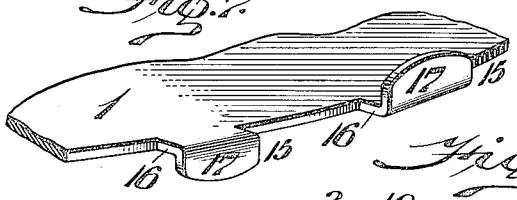


Fig. 8.

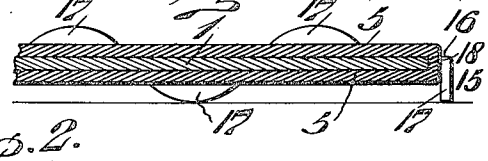


Fig. 2.

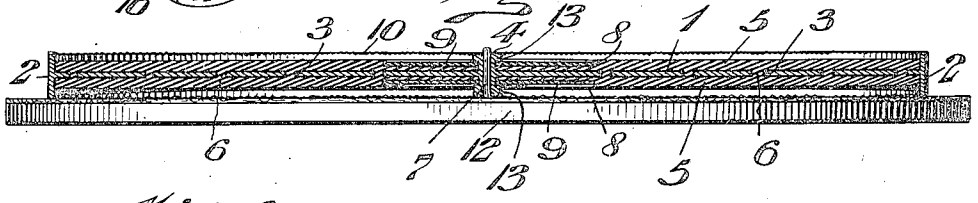


Fig. 6.

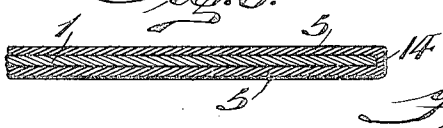


Fig. 5.

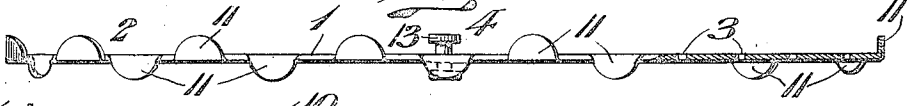


Fig. 3.

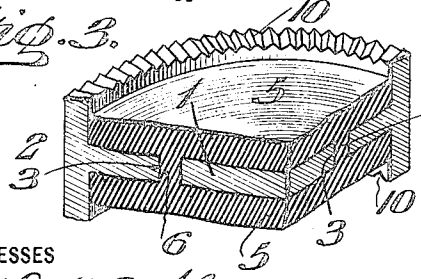
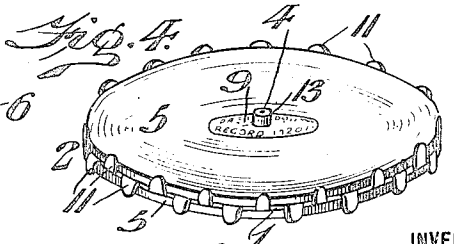


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

ALVA D. JONES, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF FORTY ONE-HUNDREDTHS TO FRANK LYSTER, OF PHILADELPHIA, PENNSYLVANIA; J. W. CAMMACK ADMINISTRATOR OF SAID ALVA D. JONES, DECEASED.

TALKING-MACHINE RECORD.

1,288,610. Specification of Letters Patent. Patented Dec. 24, 1918.

Application filed February 28, 1914. Serial No. 821,678.

To all whom it may concern:

Be it known that I, ALVA D. JONES, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Talking-Machine Record, of which the following is a specification.

My invention consists of a record for talking machines having a reinforcing support for the record material supporting and confining the same.

It further consists of a duplex record in which two record surfaces are provided, so that one disk will carry two records which may each be reproduced by reversing the disk.

It further consists of such a reinforced record having a central hub or bushing adapted to engage the central stud of the turn-table.

It further consists of such a reinforced record having means for protecting the edges of the compound disk against injury.

It further consists of providing a record with means for insuring its true and uniform rotation with the turn-table.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

Owing to the fragility of the compounds from which records for talking machines are usually made, a narrow limit to the diameter of the record and, consequently, to the "piece" reproduced, has existed, as the fragile disks, if made of large diameter, are liable to sag and thus distort the record owing to the frailty of the material, and are liable to easily break, either from their own weight or by slight taps or shocks. Also, owing to the mass of composition from which the majority of records are made being shellac or similar resinous substance and coloring pigments and strengthening ingredients, such record-disks have been liable to become softened and sag under high temperatures and are brittle and easily broken under low temperatures, thus precluding the making of record-disks beyond very limited diameters and confining the "pieces" to be reproduced within narrow time limits.

It is to the principal purpose of making records of greater diameters than has heretofore been possible that this invention is directed.

The annexed drawings and the following description set forth in detail, mechanical forms embodying the invention, such detail construction being illustrative of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings—

Figure 1 represents a perspective view of one-half of the reinforcing foundation forming a part of my improved record.

Fig. 2 represents an edge-view of a turn-table of a talking-machine and a diametrical section of the record.

Fig. 3 represents a perspective view of a broken-away piece of the record.

Fig. 4 represents a perspective view of a record embodying my invention in a slightly different form.

Fig. 5 represents an edge view of the foundation disk used in the form of Fig. 4, but on a larger scale.

Fig. 6 represents a sectional detail view of a portion of a disk embodying another form of my invention.

Fig. 7 represents a perspective detail view of a portion of a foundation disk embodying still another form of my invention.

Fig. 8 represents a sectional detail view of the complete record embodying such form.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, the reference numeral 1 indicates a circular reinforcing or foundation disk of metal, such, as aluminum, on account of its light weight, or any other metal or alloy of any substance combining strength and stiffness with comparative lightness. The periphery of the disk is formed with a standing flange, 2, preferably projecting on both sides of the disk, and the body of the disk is preferably formed with anchoring apertures, 3, of any suitable or desired configuration and arrangement. A hub-sleeve or bushing, 4, is provided in the center of the disk and extends to both sides of the same. Disks or layers, 5, of the record-material are located against the faces

of the reinforcing foundation disk, being outwardly confined by the peripheral flange and centrally confined by the hub-sleeve. Said layers may be formed by pouring a melted record compound into the annular pan formed by the peripheral flange and the hub, and then by pressure, and preferably in one operation, forming the record-groove and forcing the compound into shape at the same time, or a sheet of the record material may be placed in the foundation disk, either heated to soften it and then pressed in place and impressed with the record-groove, or softened by heat during the pressing process. When a duplex record is formed, both sides of the foundation disk can be treated at the same time. The softened compound in either case enters the apertures in the foundation disk, thus anchoring the record sheets to the same, as indicated at 6, and uniting the two record sheets when a duplex disk is formed. The hub-sleeve is adapted to fit upon the central stud, 7, of the turn-table, 12, and prevents injury to the composition covering of the disk by contact with such stud. The central portion, 8, of the surface of the record-disk is preferably depressed for the reception of the usual label, 9, indicating the subject of the record, directions of use and other matter. The edges of the peripheral flanges of the reinforcing foundation extend beyond the record surface, so that the record-disk when resting upon the turn-table will have its record-surface raised from the surface of the turn-table, and such edges are serrated or interrupted to form teeth, 10, or similar projections, which will engage the upper face of the turn-table, which is usually covered with cloth, felt or other soft material, and thus prevent any slipping of the record as it rotates and insuring the rotation of the record being identical with that of the turn-table. The extended peripheral flange being beyond the surface of the record, will permit of records being stacked and packed for storage or transportation with their record-surfaces out of contact with one another. The projecting peripheral flange protects the periphery of the composition sheet against chipping or other injury, and the double flange projecting on both sides of the record serves as a brace or stiffener for the reinforcing foundation disk. By the use of the foundation disk a great saving in the record composition is attained, as the thickness of the sheet of such material needs only to be slightly in excess of the depth of the record groove, which is rarely more than three thousandths of an inch.

In the form illustrated in Figs. 4 and 5 of the drawings, the flange projecting to opposite sides of the foundation disk is formed from tongues, 11, cut out from the periphery of the disk and alternately bent in opposite direction at right angles to the plane of the disk. Said tongues form the peripheral flange protecting the record sheets and their points serve the purpose of the teeth on the flange of the first described form.

It is evident that the proportionate thicknesses of the foundation disk and the sheets or layers of record compound are exaggerated in the drawings for the purpose of clearly illustrating their formation, and that the foundation disk is just sufficiently thick to possess the necessary stiffness to prevent bending or buckling of the record, and the compound layers forming the record sheets are of a thickness slightly in excess of the maximum depth of the record groove, which rarely in practice exceeds three one-thousandths of an inch.

In the form illustrated in Fig. 6 of the drawings, the foundation disk is disclosed as formed without the peripheral flange and without the anchoring apertures. The layers 5 of the record compound are placed upon the opposite faces of the foundation disk, and their peripheral edges are carried around the peripheral edge of the foundation disk and joined, as at 14, to inclose such disk. The centers of such layers are retained, as are also preferably the centers of the previously described record sheets or layers, by stops, 13, upon the hub-sleeve, which may be in the form of flanges or enlargements formed by the sleeve, or in the form of pins or collars.

In the form illustrated in Figs. 7 and 8 of the drawings, the foundation disk has peripheral tongues, 15, like those illustrated in Figs. 4 and 5, but in this form such tongues are bent in opposite directions at a distance from the periphery of the disk, so that each tongue will have a base-portion, 16, flush with the disk, and a tongue-portion, 17, and such tongues alternately pointing to opposite sides of the disk. The peripheries of the layers or sheets 5 of the record compound are joined, as at 18, between the tongues, and bear against the tongue-portions, alternately.

Other modes of applying the principle of my invention may be employed for the mode herein explained. Change may therefore be made as regards the mechanism thus disclosed, provided the principles of construction set forth, respectively, in the following claim are employed.

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

A talking machine record, comprising a central foundation disk, having apertures therethrough, a central hub sleeve projecting above and below said disk and having enlargements at its ends, and sheets of rec-

ord material upon the upper and lower surfaces of said disk, said record material passing through said apertures and the outer peripheral portions of said disk being provided with tongues cut out from the periphery thereof and alternately bent in opposite directions at right angles to the plane of the disks, said tongues protecting the record sheets and their points serving as teeth to engage their support.

ALVA D. JONES.

Witnesses:
WM. LECHER,
C. D. MCVAY.