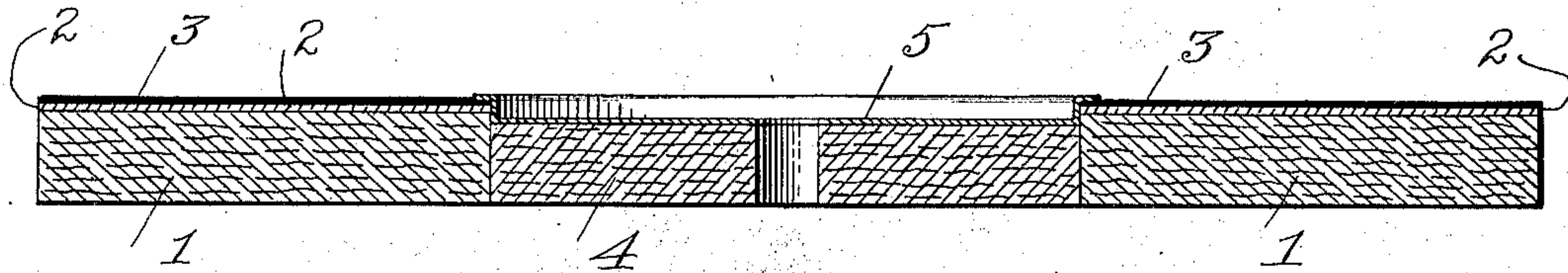


No. 850,494.

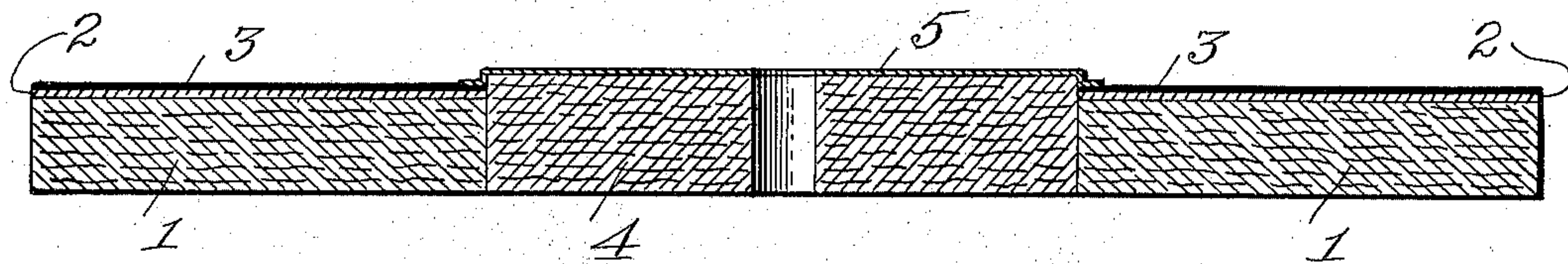
PATENTED APR. 16, 1907.

J. SANDERS.  
GRAMOPHONE RECORD TABLET.  
APPLICATION FILED JAN. 17, 1905.

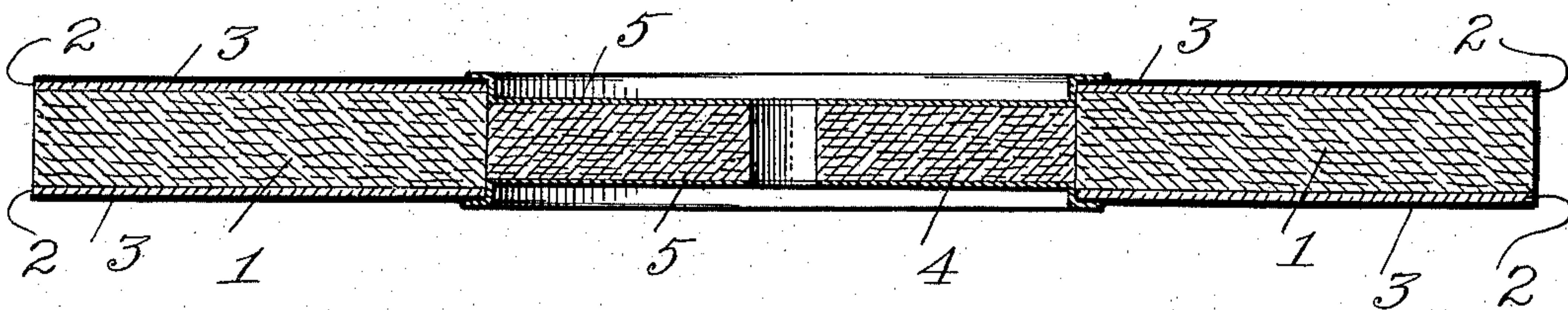
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses

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# UNITED STATES PATENT OFFICE.

JOSEPH SANDERS, OF WASHINGTON, DISTRICT OF COLUMBIA.

## GRAMOPHONE RECORD-TABLET.

No. 850,494.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed January 17, 1905. Serial No. 241,485.

*To all whom it may concern:*

Be it known that I, JOSEPH SANDERS, a citizen of the United States, and a resident of Washington, in the District of Columbia, have invented certain new and useful Improvements in Gramophone Record-Tablets, of which the following is a specification.

My invention has reference to improvements in gramophone record-tablets, one of the objects of the improvement being to cheapen the manufacture of such tablets by saving a considerable percentage of the costly gramophone-record material which is used in the manufacture of the same.

Gramophone record-tablets are universally made in disk form with a spiral record-groove impressed either in one or on both sides of the tablet, and it has generally been the practice to either depress or elevate the central portion of the tablet, which contains no record-groove, and to secure to that central portion a label bearing the name of the manufacturer, a legend descriptive of the piece of music, song, or speech that is recorded on the tablet and perchance also other information for the user. This label, which is ordinarily a disk of paper having a distinctive color or print, usually extends over the edge of the depressed or elevated blank center of the record-tablet. Heretofore such record-tablets were made of a solid body of record material, which is very expensive, and the depression or elevation in the blank center was produced in the act of impressing the record-groove. When the tablet was made with a depressed center, a thin disk of steel or other metal was placed in the center of the record-matrix and of a thickness corresponding to the depth of the depression which the tablet was to have. When the tablet was made with a raised blank center, the central part of the matrix was turned out to the requisite depth. In both cases, but particularly when the center was made depressed, every part of the tablet had to be subjected to the same uniform pressure, and this pressure must, in the nature of the case, be very great, amounting to as much as two thousand pounds per square inch. Now the depressed or elevated portion of the tablet represents about one-fifth of the total area of the tablet, and one of the objects of my invention is to save the pressure which heretofore was expended upon this blank part of the tablet.

Figures 1, 2, 3 represent cross-sections of record-tablets constructed in accordance with

my invention, the vertical scale of the drawings being largely very exaggerated for the sake of clearness of illustration.

Referring now to Fig. 1, the main body of my improved tablet is shown as an annulus 1, which I make of cardboard or other stiff fibrous material and which I impregnate, or nearly so, with a sizing, and preferably with a sizing that softens under heat and hardens when cooled. I have used with advantage a solution of rosin, into which the cardboard annulus is dipped. Of course other suitable sizing may be used. Upon the face of this cardboard annulus is a sheet 2 of paper or other flexible fibrous material, coated either on one or on both sides with an exceedingly thin layer 3 of record material. This paper is cemented onto the cardboard annulus either by the record material on its under side or by a separate cement or by the sizing in the cardboard if the same is of a kind that softens under heat, and this cementing is preferably, but not necessarily, accomplished at the same time as and by the act of impressing the record-groove into the surface of the prepared paper by the matrix. In the large central opening of the cardboard annulus is a web 4 of a thinner cardboard, which is also sized, and preferably with the same sizing that is employed for the annulus 1, and this web is fitted in place with its lower surface flush with the under surface of the annulus and with its upper surface below the upper surface of the annulus, as shown, and is cemented to the annulus preferably, but not necessarily, by and in the act of impressing the record-groove, since when this is being done the cardboard and also the matrix are heated, so that the resinous sizing in the annulus and the web fuse together. It is not necessary to subject the web portion of the tablet to surface pressure, although a very moderate pressure may be exerted with advantage for reasons which will presently appear. If the sizing employed is not of a kind that will soften under heat, the web would naturally be cemented into the annulus in any other manner than hereinbefore described. The label is represented in this drawing at 5, and if the sizing employed is of a kind that softens under heat this label may be cemented onto the web and over the inner edge of the annulus by and during the act of impressing the record-groove into the record material 3, and in this case a steel or other metal disk is used on the center of the matrix,



as is a common practice; but since the central part of the tablet constructed as here shown is already depressed this central portion need only be subjected to a very moderate pressure, just sufficient to flatten out the label. In this manner a considerable saving of power is secured. By reason of the fact that with this construction the base of the tablet is made of two parts, the annulus and the web, each of these parts may be more readily impregnated with the sizing than if a solid disk of cardboard were used. The layer of record material upon the paper annulus need not be thicker, but may be thinner, than one one-hundredth of an inch. The same saving of record material I can also secure by dispensing with the paper annulus altogether and applying the layer 3 of record material directly to the surface of the cardboard annulus. With this construction, the same as in the one where the coated paper annulus is employed, the edge of the label becomes cemented onto the record material, and in both cases the label itself reinforces the connection between the central web and the cardboard annulus.

Fig. 2 represents the construction of my improved tablet wherein the central web 4 is thicker than the annulus 1, so that its upper surface slightly rises above the upper surface of the annulus. In all other respects the construction is the same as that shown in Fig. 1; but when this construction is employed the central blank part of the record-matrix must be turned out to the requisite depth—namely, to a depth corresponding to the elevation of the central web above the upper surface of the annulus. In this case also the prepared paper 2 may be dispensed with and the record material 3 may be applied directly onto the cardboard annulus.

In Fig. 3 the construction of my improved tablet is shown, wherein both faces of the tablet are utilized—that is to say, where a record is impressed upon each face. In this case the central web 4 is made considerably thinner than the annulus, and it is so lodged within the annulus as to leave a central depression on each side. In such case a prepared sheet of paper is applied to each face of the annulus, and a label is applied to each face, as is clearly indicated in the drawings. When this construction is employed, each of the two matrices which are used for impressing the record-groove on the two sides of the tablet is provided with a central disk of steel or other metal and of a thickness corresponding to the depth of the depressions on the two sides of the tablet. In this case also the prepared paper may be dispensed with and the record material directly applied to the cardboard annulus on each face thereof.

The construction of the tablet in two principal parts, the annulus and the central web, secures some of the advantages of my inven-

tion even in the case when the central web is neither thinner nor thicker than the annulus, but is of the same thickness, for even in that case only the annulus will be coated with the record material, thus saving the portion which would otherwise go onto the central blank part of the tablet. In such case the central disk, which is cut out to obtain the annulus, would after the annulus has been either coated directly with record material or after a sheet of paper coated with record material has been applied to it be replaced into the center of the annulus and cemented to the same either in the act of impressing the record-groove or separately before the record-groove is impressed. With this construction, however, the saving of power secured in the construction of the forms of tablet hereinbefore described would be lost, since when the tablet is of uniform thickness all throughout the central part has to be subjected to the same pressure as the other parts.

In all the forms of tablet herein set forth it is not necessary to impress the record-groove before the article is put on the market or on sale, since blank tablets constitute complete articles of manufacture which can be furnished to manufacturers for impressing record-grooves therein.

The cardboard annulus itself prepared in the manner hereinbefore described and adapted to have a central web fitted into it and cemented thereto may be furnished to manufacturers either with or without the central web already secured in place, so that the prepared annulus is itself a complete article of manufacture.

Having now fully described my invention, I claim and desire to secure by Letters Patent—

1. A disk-shaped sound-record tablet consisting of an annular fibrous base having its inner and outer diameters so related as to include between them a surface approximately that of a possible sound-record, a layer of sound-record-receiving material on the annulus, and a disk-shaped insert of fibrous material secured centrally in and to the annulus.

2. A disk-shaped sound-record tablet consisting of an annular fibrous base impregnated with rosin and carrying on one or both surfaces a thin layer of gramophone-record material, and a disk-shaped insert of fibrous material secured centrally in and to the annulus.

3. A gramophone tablet-blank composed of an annulus of cardboard impregnated with sizing and having its inner and outer diameters so related as to include a surface approximately that of a possible sound-record, and a sheet of paper or other thin fibrous material coated with a thin layer of gramophone-record material and fast on one or both surfaces of the annulus.



4. A gramophone record-blank composed of an annulus of fibrous material carrying on one or both surfaces a thin layer of gramophone-record material, and a central web of fibrous material fitted in and secured to said annulus.

5. A gramophone tablet-blank composed of an annulus of cardboard or other stiff fibrous material impregnated with a sizing, and a central web of fibrous material thinner than the annulus and fitted to the latter.

6. A gramophone tablet-blank composed of an annulus of fibrous material impregnated with rosin and carrying upon one or both surfaces a thin layer of gramophone-record material, and a central web thinner than the annulus and fitted to the latter.

7. A gramophone tablet-blank consisting of an annulus of fibrous material impregnated with a sizing and carrying upon one or both surfaces a thin layer of gramophone-record material, and a central web of like fibrous material of different thickness than the annulus and fitted to the latter.

8. A gramophone tablet-blank consisting of an annulus of cardboard or other stiff fibrous material, sized with rosin and having on one or both surfaces a layer of paper or other thin fibrous material coated with a thin layer of gramophone-record material, and a central web of fibrous material fitted in and secured to said annulus.

9. A gramophone tablet-blank composed of an annulus of stiff fibrous material impregnated with a sizing and carrying on one or both surfaces a thin layer of gramophone-record material, and a thinner central web of like material impregnated with a sizing and fitted to the annulus, substantially as described.

10. A gramophone tablet-blank composed of a cardboard annulus impregnated with a sizing that softens under heat and carrying on one or both surfaces a thin layer of gramophone-record material, and a central web of sized cardboard fitted to the annulus, substantially as described.

11. A gramophone tablet-blank, composed of a cardboard annulus impregnated with a sizing that softens under heat and carrying on one or both surfaces a thin layer of gramophone-record material, and a central web of sized cardboard thinner than the annulus and fitted to the latter, substantially as described.

12. A gramophone tablet-blank composed of a cardboard annulus impregnated with a sizing that softens under heat and bearing on one or both surfaces a sheet of paper or other thin fibrous material coated with a thin layer of gramophone-record material, and a central web of sized cardboard fitted to the annulus, substantially as described.

13. A gramophone tablet-blank composed of a cardboard annulus impregnated with a

sizing that softens under heat and bearing on one or both surfaces a sheet of paper or other thin fibrous material coated with a thin layer of gramophone-record material, and a central web of sized cardboard thinner than the annulus and fitted to the latter, substantially as described.

14. A gramophone record-tablet composed of an annulus having a record-groove upon one or both surfaces, and a central web of a different thickness than the annulus and centrally cemented to and within the same, substantially as described.

15. A gramophone record-tablet consisting of an annulus having a record-groove on one or both surfaces, and a central web thinner than the annulus, centrally cemented to and within the same, substantially as described.

16. A gramophone record-tablet consisting of a stiff fibrous annulus carrying a record-groove upon one or both surfaces, with a central web of like fibrous material of different thickness than the annulus and centrally cemented to and within the same, substantially as described.

17. A gramophone record-tablet consisting of an annulus of stiff fibrous material impregnated with a sizing and carrying upon one or both surfaces gramophone-record material with a sound-record impressed therein, and a central web of like fibrous material of different thickness than the annulus and centrally cemented to and within the annulus, substantially as described.

18. A gramophone record-tablet consisting of an annulus of stiff fibrous material impregnated with a sizing that softens under heat and carrying gramophone-record material upon one or both surfaces, with a sound-record groove impressed therein, and a central web of like fibrous and sized material of different thickness than the annulus and centrally cemented within and to the annulus, substantially as described.

19. A gramophone record-tablet consisting of an annulus of cardboard impregnated with a sizing that softens under heat and carrying on one or both surfaces gramophone-record material impressed with a sound-record groove and a central web of sized cardboard centrally cemented within and to the annulus, substantially as described.

20. A gramophone record-tablet consisting of an annulus of cardboard impregnated with a sizing that softens under heat and carrying upon one of its surfaces gramophone-record material impressed with a sound-record groove and a central web of cardboard thinner than the annulus, flush with the under side of the annulus and centrally cemented to and within the latter, substantially as described.

21. A gramophone record-tablet consisting of an annulus of cardboard impregnated



with a sizing that softens under heat and carrying on one of its surfaces gramophone-record material impressed with a sound-record groove; a central web of sized cardboard which is thinner than the annulus and flush with the under side thereof and centrally cemented to and within the same, and a label cemented onto the face of the central web and over the inner edge of the annulus, substantially as described.

22. A gramophone record-tablet consisting of an annulus of cardboard impregnated with a suitable sizing and bearing on one or both surfaces a sheet of paper or other flexible fibrous material coated with a thin layer of record material having a sound-record impressed therein, and a central web of sized cardboard of different thickness than the annulus and centrally cemented to and within the latter, substantially as described.

23. A gramophone record-tablet consisting of an annulus of cardboard impregnated with a sizing that softens under heat and bearing on one side a sheet of paper thinly

coated with gramophone-record material, and a central web of sized cardboard thinner than the annulus and flush with the under side thereof and centrally cemented to and within the annulus, substantially as described.

24. A gramophone record-tablet consisting of an annulus of cardboard impregnated with a sizing that softens under heat, having on one side cemented to it a sheet of paper thinly coated with gramophone-record material, a central web of sized cardboard thinner than the annulus, flush with the under side thereof and centrally cemented to and within the same, and a label cemented onto the face of the central web and over the inner edge of the annulus, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH SANDERS.

Witnesses:

EDWIN S. CLARKSON,  
F. T. CHAPMAN.