

F. G. MAYER.
MATRIX FOR SOUND RECORDS.
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1,327,722.

Patented Jan. 13, 1920.

Fig. 1

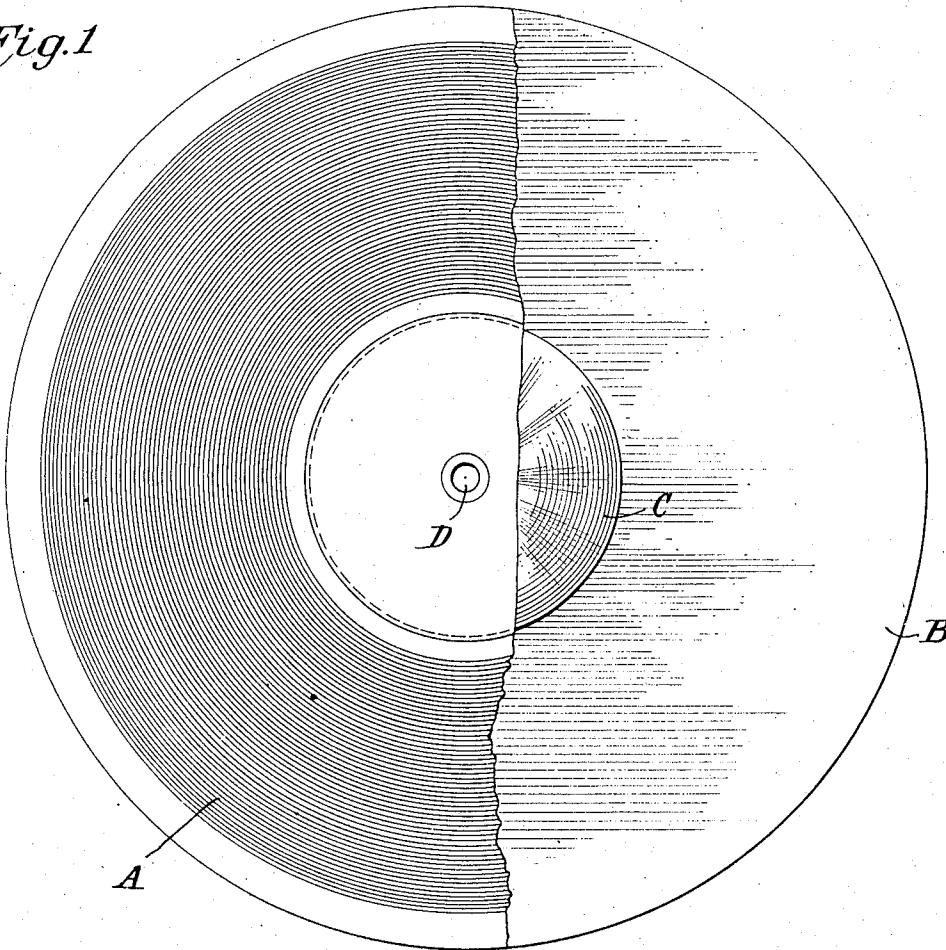
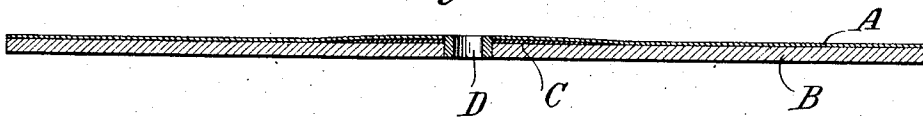


Fig. 2



Fred S. Mayer, Inventor,
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UNITED STATES PATENT OFFICE.

FRED G. MAYER, OF RICHMOND, INDIANA, ASSIGNOR TO THE STARR PIANO COMPANY,
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MATRIX FOR SOUND-RECORDS.

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Specification of Letters Patent.

Patented Jan. 13, 1920.

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To all whom it may concern:

Be it known that I, FRED G. MAYER, a citizen of the United States, residing at Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Matrices for Sound-Records, of which the following is a full, clear, and exact description.

In the manufacture of sound records for phonographs it is customary to electrotype a copper or other metal matrix sheet, to sweat this onto a suitable backing, and to use the compound structure as a matrix for the plastic record. It is usual to grind this matrix backing by hand on a rotary grindstone for the purpose of getting a surface for soldering the backing and matrix shell together, which operation has a tendency to make the backing thinner in the center portion. Furthermore, the electroplated shell which is soldered to the backing is usually thinner at the center, by reason of the copper metal depositing more heavily on the edges, in the course of electroplating, than in the center portion, this latter action being the chief cause of the decreased thickness in the center of the complete matrix.

From this it results that the record disks produced by the usual die process have central portions of slightly greater thickness than the remaining portions, but however slight this may be it is a source of the greatest trouble, inconvenience and expense, for when such records are stacked or packed, the slightest elevation or increase of thickness at the center renders the disks liable to be cracked when any weight or pressure is put upon them.

It is not exceptional to make records with depressed centers. This is usually done by a circular elevation secured to other matrices or otherwise, such depressions having more or less abrupt edges or walls, which also causes the labels to break if they are larger than this center depression, but I find that there are other practicable objections to this plan, and in an effort to improve and to provide a more simple and economical method of producing them I have devised the plan which forms the subject-matter of my present application.

According to my invention, I produce the matrix sheets in the usual manner, and sweat them on to the usual backing, but whether they be thinner at the center or not is of no special moment, for I employ a thin disk of sheet copper or other suitable metal which is secured, as by solder, around the matrix plate which is laid over this and sweated to the base in the ordinary way.

The edges of the copper disk are tapered off to a relatively fine edge, so that when the matrix sheet is united to the base it will be slightly higher at the central portion than elsewhere, the elevation being so gradual as to be practically unnoticeable. It will, however, be ample to produce records which are thinner at the center and not liable to breakage, as they would be, were they the least particle thicker at such point.

This improvement is illustrated in the accompanying drawing:

Figure 1 is a plan view of one-half of a matrix sheet, on its backing, and showing the thin metal disk when under the same.

Fig. 2 is a cross-sectional view of the completed matrix.

A is the matrix sheet, B is the back, and C is the thin copper disk soldered or secured to the backing and the sheet around the central opening D. The latter may be reinforced with the usual eyelet, and the disk is thinned off or tapered at its edge as shown.

This matrix or means for making phonographic sound-records has been found in practice to give the most useful and desirable results.

What I claim is:

1. A matrix for phonographic sound records comprising a matrix sheet, a back, and a thin metal disk intermediate the central portion of the two.

2. A matrix for phonographic sound records comprising a matrix sheet, a backing to which said sheet is secured, and a thin metal disk with tapered edges intermediate the central portion of the matrix sheet and the backing.

In testimony whereof I affix my signature.

FRED G. MAYER.