

No. 847,820.

PATENTED MAR. 19, 1907.

J. O. PRESCOTT.  
MECHANISM FOR MAKING SOUND RECORDS.

APPLICATION FILED JAN. 15, 1907.

Fig. 1,

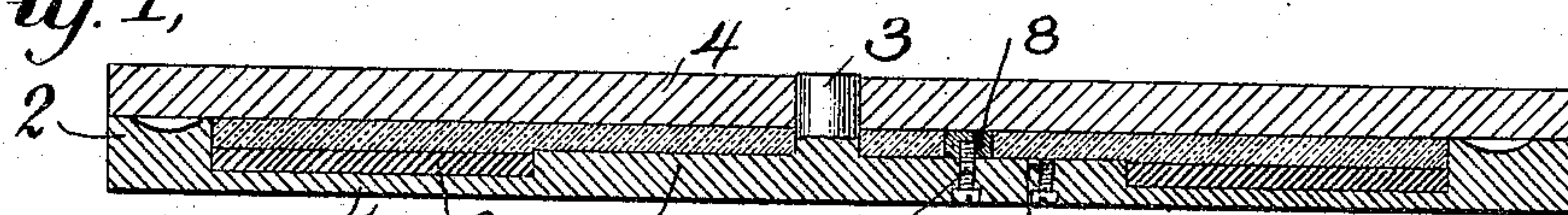


Fig. 2,

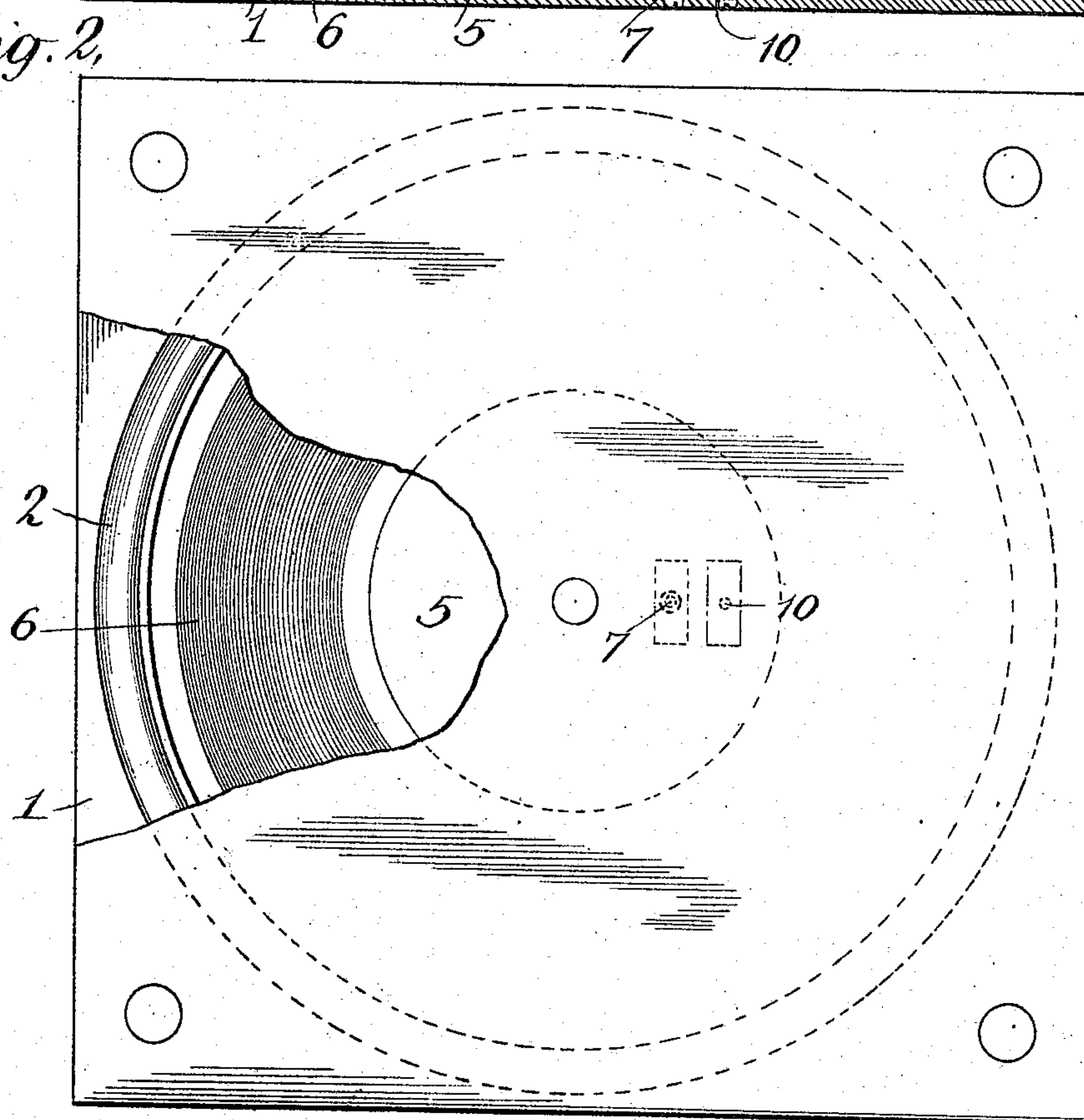


Fig. 3,

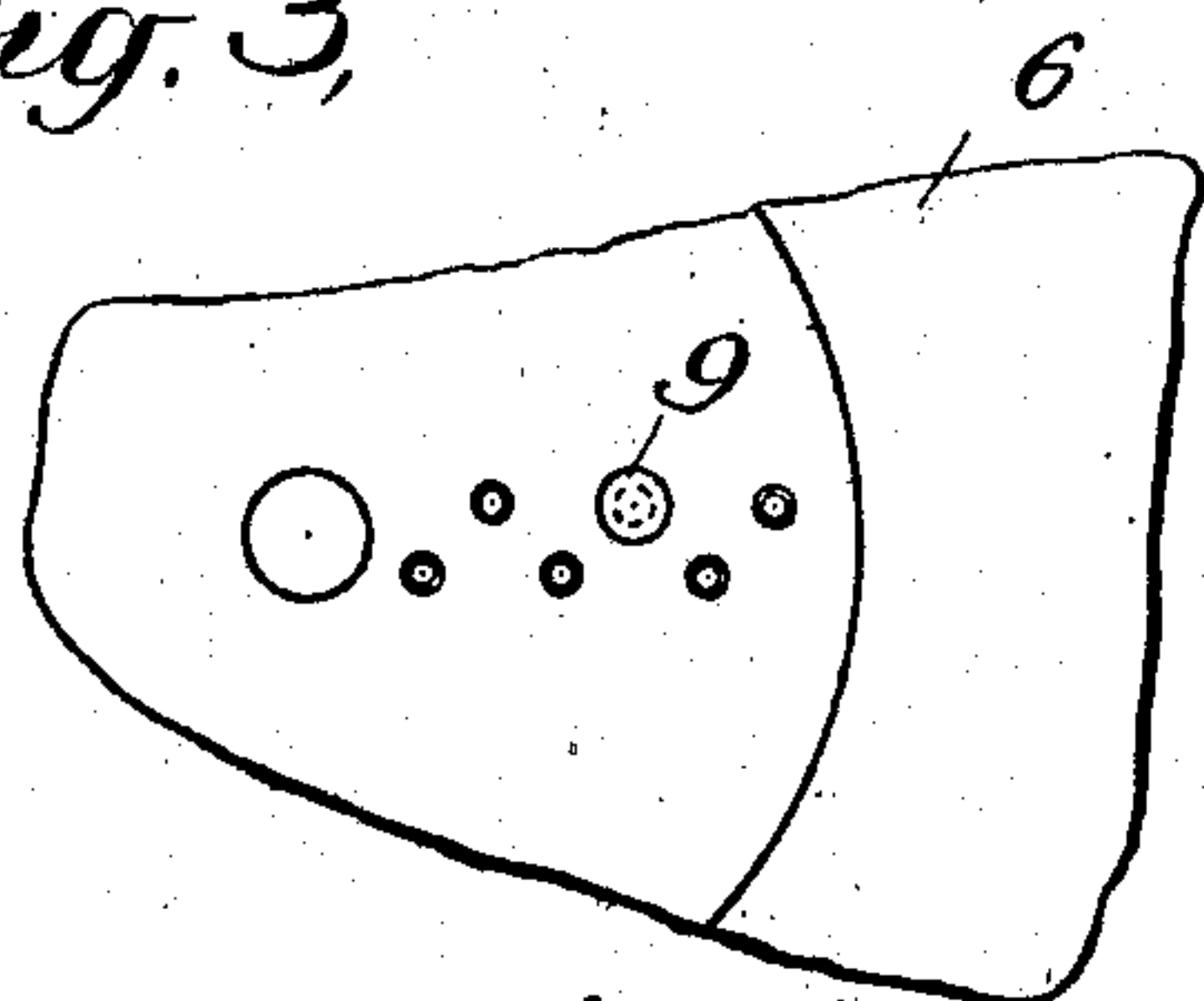
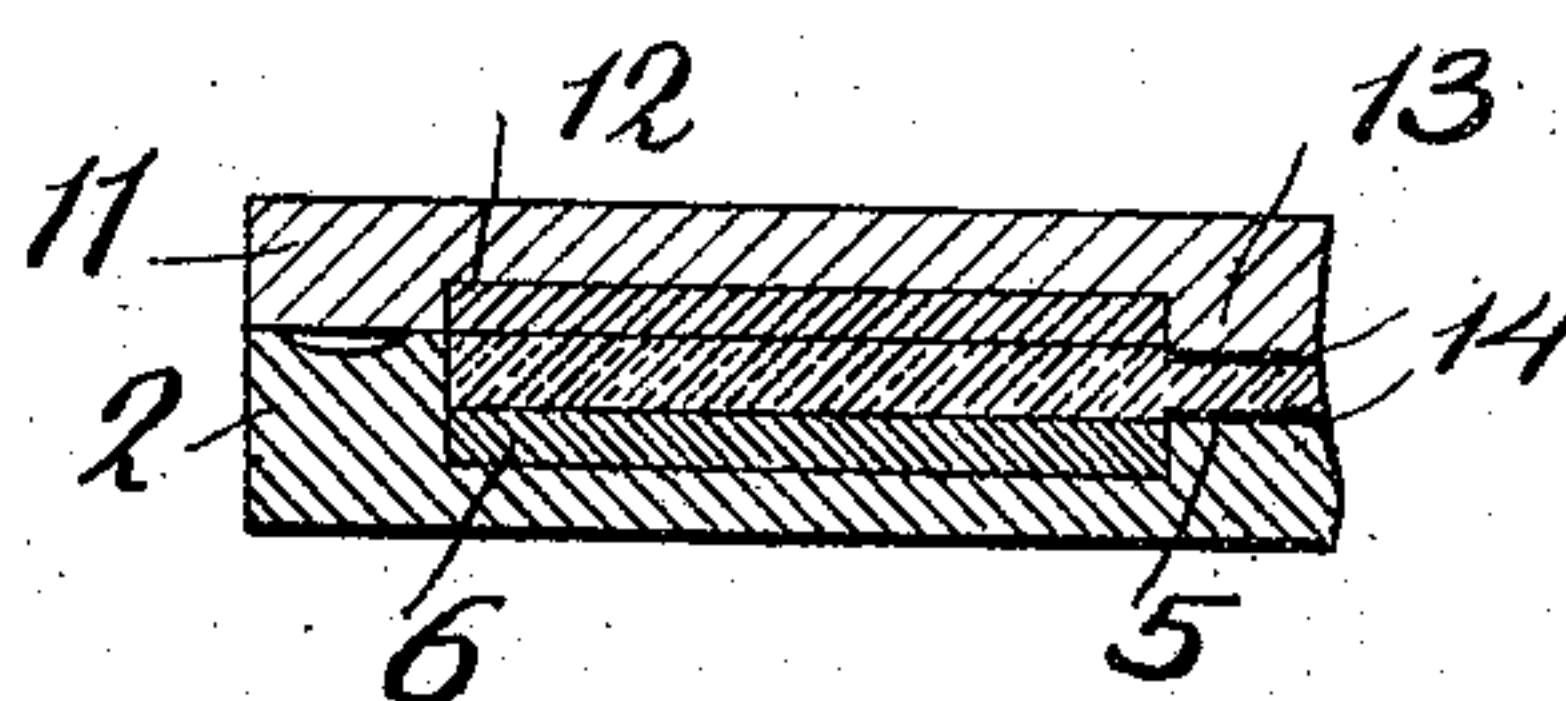


Fig. 4



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# UNITED STATES PATENT OFFICE.

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## MECHANISM FOR MAKING SOUND-RECORDS.

No. 847,820.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed January 15, 1907. Serial No. 352,363.

*To all whom it may concern:*

Be it known that I, JOHN O. PRESCOTT, a citizen of the United States, residing at Summit, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Mechanism for Making Sound-Records, of which the following is a specification.

This invention relates to mechanism for making sound-records of the disk type for use with talking-machines by pressing a plastic composition upon a suitable matrix to form a disk having a spiral sound-record groove in one or both of its faces corresponding to the spiral projection on the matrix.

The object of the invention is to effect certain improvements in the construction of the mechanism for performing the pressing operation, by means of which improved apparatus the records may be manufactured more rapidly and at a materially-reduced cost.

Sound-records of the disk type as now commonly constructed have the record-groove formed on one or both faces adjacent the periphery, and the central portion of the disk is of less thickness than the portion having the groove therein. This central portion need not be of the greater thickness in order to give the requisite strength, and a saving of material is thus effected, and the shallow depression at the center of the disk may receive a label suitably marked with the name of the recorded sound and such other matter as is desired. My improved pressing mechanism is adapted for forming this depression at the center of the disk during the operation of forming the disk with the record-groove therein without the provision and manipulation of additional parts, and hence without consuming additional time. To this end a matrix of annular form is employed. Either it is originally made of this form or a circular opening is cut in its center of a diameter but little less than that of the inner convolution of the spiral ridge for forming the record-groove. Either one or each of the pressing members is provided with an annular depression in which the annular matrix fits snugly. To form this annular depression, the pressing member is provided with a flange bounding the outer edge of the depression and a central circular raised portion or projection, and this central projection is made of a height slightly greater than the thickness of the matrix. The matrix thus formed is placed in the annular depression in

the pressing member with the projection extending through its central opening and beyond its surface, and the plastic composition is pressed down upon it and the top of the projection and between the outer wall or flange and a central stud. The second pressing member may have a plane surface or both members may be somewhat similarly formed when it is desired to make a disk having a record-groove in both faces. A depression is thus formed in one or each of the faces of the record corresponding in size and depth to the portion of the projection extending beyond the surface of the matrix.

It is sometimes desired to provide sound-records with an opening in or through the central portion in addition to the central opening to receive a stud on the turn-table of the talking-machine. In accordance with my invention I provide means for positioning a stud upon one of the pressing members in any one of a plurality of positions varying in distance from the center. Stud of varying shapes may be employed to give the desired shape of opening in the disk, and the openings for receiving the securing means for the studs may be closed when not in use, so that the material will not enter therein.

I have illustrated an embodiment of my invention in the accompanying drawings, in which—

Figure 1 is a central section of the pressing mechanism. Fig. 2 is a top view of the same, broken away in part; and Figs. 3 and 4 are detail views showing modifications.

Referring to the drawings, 1 indicates the lower pressing member, consisting of a metallic plate having a circular flange 2 integral therewith. At the center of the member is a stud 3 for forming the central opening in the record and for centering the upper pressing member 4. Around the stud 3 is a circular raised portion or projection 5, integral with member 1 and forming between it and the flange 2 an annular groove to receive the annular matrix 6. The projection 5 is of greater height than the thickness of the matrix 6, the difference being equal to the depth of the depression to be formed at the center of the record. The matrix is either originally formed of annular shape or, if of disk form, a circular piece is punched out at the center, so that it will fit snugly in the annular groove in the member 1, its inner edge thereby abutting the wall of the projection 5 and its outer edge similarly abut-



ting the inner wall of the flange 2. The upper pressing member 4 is a metallic plate having a central opening therein through which the stud 3 may pass when the member is brought down upon the member 1. The flange 2 is of such height that when the member 4 engages it the two pressing members will be separated by the amount required to give the desired thickness of the record.

In order to form the opening in the central portion of the disk additional to the central opening, I provide in member 1 a plurality of threaded openings, into any one of which a screw 7 may be inserted to secure a stud 8 on the top of the projection 5. This stud may be of any desired shape, such as the oblong stud shown in Figs. 1 and 2 or the round one shown at 9 in Fig. 3. Its height is equal to the thickness of the record at the center thereof. Any one or more of the openings not in use may be closed by a screw 10, inserted in the opening with its end flush with the surface of the projection 5. Any number of openings for screws 7 may be provided, as shown in Fig. 3.

With the mechanism thus constructed, a stud 8 is selected with reference to the shape of opening it is desired to form in the record and secured in the desired position by a screw 7, the other openings for the screws 7 being closed by screws 10. The matrix is then positioned on the pressing member 1 about the projection 5. If a label is to be affixed to the record, this is preferably circular and of the same diameter as the projection 5 and has openings therein for the studs 3 and 8. The label is laid upon the top of projection 5 with the studs passing through the openings, as indicated at 14, Fig. 1. A charge of the plastic composition sufficient for one record is then placed upon the matrix and the member 4 lowered over the stud 3. Pressure is then brought to bear upon the two members 1 and 4 by a suitable pressing-machine to press them together and cause the composition to spread into and fill all parts of the space between the two members. This having been done and the composition having hardened, the member 4 is raised and the record removed. The record thus formed bears on one face a spiral groove corresponding to the ridge on the matrix, and at its center is a shallow circular depression in which a label is secured. In the central portion the record has a central opening formed by stud 3 and also an opening displaced from the center and of a size and shape determined by the shape of the stud 8 and the position in which it was mounted.

If it is desired to press records having record-grooves on both faces thereof, the upper pressing member may be formed somewhat similar to the lower one to provide an annular depression in which a second annular matrix is received and a central projec-

tion of a height slightly greater than the thickness of the matrix. Such a construction is shown in Fig. 4, in which 11 indicates the upper pressing member, 12 the second annular matrix lying therein, and 13 the projection for forming a shallow depression in the upper face of the record just as the projection 5 forms a similar depression in the lower face.

Having now described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

1. Mechanism for making sound-records comprising the combination of a pressing member having an annular groove therein, an annular matrix lying in said groove, a central projection on said member of greater height than the thickness of said matrix, its side wall forming the inner wall of said annular groove, and a second pressing member for pressing the composition against said matrix and the top of said projection, substantially as set forth.

2. Mechanism for making sound-records comprising the combination of a pressing member having an annular groove therein, an annular matrix lying in said groove, a concentric projection integral with said pressing member and of greater height than the thickness of said matrix, its side wall forming the inner wall of said annular groove, and a second pressing member for pressing the composition against said matrix and the top of said projection, substantially as set forth.

3. Mechanism for making sound-records comprising the combination of a pressing member having an annular groove therein, an integral circular flange whose inner wall forms the outer wall of said groove, a circular concentric projection integral with said pressing member and of greater height than the thickness of said matrix, its side wall forming the inner wall of said annular groove, a central stud on said member, and a second pressing member having a central opening therein to receive said stud adapted for pressing the composition against said matrix and the top of said projection, substantially as set forth.

4. Mechanism for making sound-records comprising the combination of two pressing members one having a central stud and the other a corresponding opening and each of said members having an annular groove therein, an annular matrix lying in each of said grooves, a circular projection on each of said members of greater height than the thickness of the matrix in the groove therein, the side wall of each projection forming the inner wall of one of the annular grooves, and a circular flange on one of the pressing members bounding the annular groove therein and against which the other member abuts when the two members are pressed together to form a record, substantially as set forth.



5. Mechanism for making sound-records comprising the combination of a pressing member having an annular groove therein, an annular matrix in said groove, a projection on said member concentric with said groove, its side wall forming the inner wall of said groove, a stud mounted on the top of said projection, and a second pressing member for pressing the composition against said matrix and the top of said projection, substantially as set forth.

6. Mechanism for making sound-records comprising the combination of a pressing member having a circular flange thereon, a matrix upon said member within said flange, a second pressing member for pressing the composition against said matrix, a stud, and means for securing said stud in various positions upon one of said members, substantially as set forth.

7. Mechanism for making sound-records comprising the combination of a pressing member having a circular flange thereon, a matrix upon said member within said flange, a second pressing member for pressing the composition against said matrix, a stud, a

plurality of openings in one of said members, means coacting with any one of said openings for securing the stud upon the member, and means for closing the other openings, substantially as set forth.

8. Mechanism for making sound-records comprising the combination of a pressing member having an annular groove therein, a circular flange thereon forming the outer wall of said groove, an annular matrix lying in said groove, a circular concentric projection integral with said member and of a height greater than the thickness of said matrix, its side wall forming the inner wall of said groove, a stud, means for securing the same in any one of a plurality of positions on the top of said projection, and a second pressing member for pressing the composition against said matrix and the top of said projection, substantially as set forth.

This specification signed and witnessed this 10th day of January, 1907.

JOHN O. PRESCOTT.

Witnesses:

S. O. EDMONDS,  
D. S. EDMONDS.