

F. L. CAPPS.
 PRODUCTION OF DOUBLE FACED SOUND RECORDS.
 APPLICATION FILED AUG. 6, 1908.

941,975.

Patented Nov. 30, 1909.

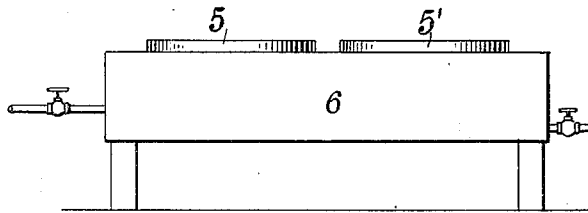


Fig. 1

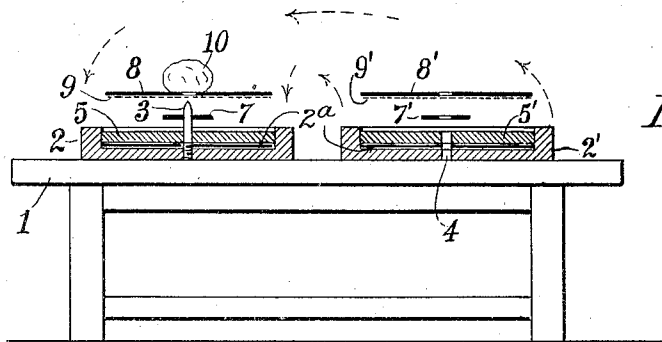


Fig. 2

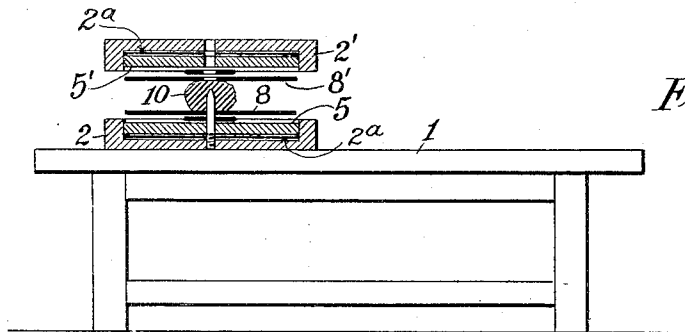


Fig. 3

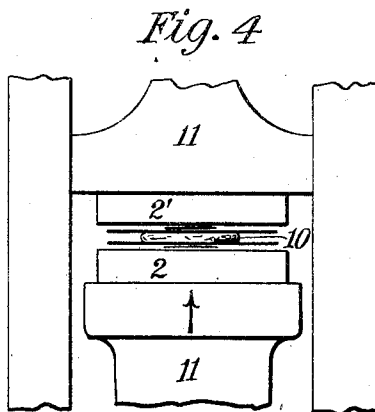


Fig. 4

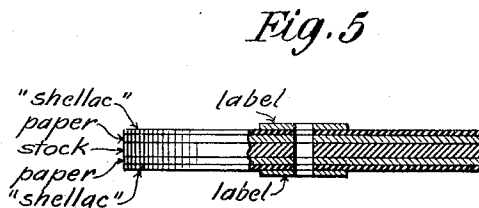


Fig. 5

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UNITED STATES PATENT OFFICE.

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PRODUCTION OF DOUBLE-FACED SOUND-RECORDS.

941,975.

Specification of Letters Patent.

Patented Nov. 30, 1909.

Application filed August 6, 1908. Serial No. 447,281.

To all whom it may concern:

Be it known that I, FRANK L. CAPPS, a citizen of the United States of America, and a resident of Bridgeport, Connecticut, have invented a new and useful Improvement in the Production of Double-Faced Sound-Records, which improvement is fully set forth in the following specification.

My invention relates to the production of the so-called "double-faced" disk sound-records, which are commonly of the zigzag variety, although they may also be of the vertically-undulating type.

The invention will be best understood by reference to the annexed drawings that indicate successive steps in producing the record.

In the drawings, Figure 1 represents a steam-table on which matrices are being heated; Fig. 2 represents a work-table, containing (shown in cross-section) two dies, and certain other articles indicated as not quite in final position; Fig. 3 is a similar view of the same at a later stage; Fig. 4 represents the dies with their contents in position in a press; and Fig. 5 is a cross-section of the final article. The thickness of the parts constituting the record is greatly exaggerated in all the drawings, for the sake of clearness.

Upon the work-table 1 are placed two dies 2—2', each recessed to receive a matrix. From the center of the recess in one die (as 2) rises a stud or pin 3, while the other die (as 2') has a corresponding central hole 4 that will receive the stud 3 when the dies are brought face to face. A paper disk 2^a is placed in the bottom of each recess. Two centrally-apertured matrices 5—5' are heated upon the steam-table 6, and each placed face uppermost upon the paper sheets 2^a in the recess of each die. In practice, the dies do not require any application of heat other than may be imparted to them (through the paper) by reason of the heated matrices. A centrally-apertured label (indicated at 7—7') is laid face downward upon the center of each matrix. Upon each label and matrix is placed a centrally-apertured sheet 8 (8'), the prepared surface being next to the matrix. This sheet is of the exact diameter of the record to be made, and is preferably of ordinary paper. Its surfacing consists preferably of a high-grade composition

(e. g., one containing shellac) which has been sprinkled upon the same and made secure by the application of heat (for instance, as described in the Macdonald & Capps patent, No. 870,569, Nov. 12, 1907). This surfacing is indicated at 9—9'. Next a lump or mass 10, of any convenient thermo-plastic record-material, such as the so-called "stock" and preferably of cheap or inferior quality, is placed on top of one of the dies (as 8). Then the workman reverses the other die 2' (with its sheet 2^a, matrix 5', label 7', and sheet 8'), taking pains to hold in place the contents of the recess. This reversing is indicated by the dotted line and the arrow in Fig. 2. When the two dies with their contents are brought face to face, with the lump 10 of thermo-plastic material between, the whole is inserted between the plates 11 of a suitable press (Fig. 4), and pressure applied in the usual manner. In about one minute the matrices and record will become sufficiently chilled to permit taking them out. The fact that the dies were not independently heated, and are therefore comparatively cool, facilitates this.

The resulting article (indicated by Fig. 5) is a disk consisting of a flat central layer of the material 10, having on each side thereof the sheet 8 (8') with its surfacing 9 (9') of high-grade material, in each of which surfaces appears an impressed sound-record, while centrally of each surface is the label. The two matrices are returned to the steam-table to be re-heated for further use, while the dies are meantime recovering their normal temperature (or they may be artificially cooled from time to time, if found desirable).

While I have described the process as comprising the heating beforehand of the matrices (without independently heating the dies), yet the dies also may be slightly warmed, in which case the paper disks 2^a may be dispensed with. While I have likewise referred to the surfacing 9—9' as of high-grade material and the central mass 10 as of low-grade material, yet this relative distinction in quality is not material to the invention, though, of course, it would be preferable to employ cheaper material for the body or central portion of the record.

Having thus described my invention, I claim:

1. The herein-described process of pro-

5 ducing double-faced records, which consists,
 first, in heating two record-matrices; second,
 placing each matrix face upward within the
 recess of a die; third, placing a label face
 10 downward upon the center of each matrix;
 fourth, placing face downward upon each
 matrix and label a sheet having a surface of
 high-grade record-material; fifth, placing
 upon the back of one of said sheets a mass of
 15 thermo-plastic material; sixth, reversing the
 other die with its contents and locating the
 same upon top of the thermo-plastic ma-
 terial; and, seventh, inserting the parts thus
 assembled into a press and applying pres-
 sure.

2. The herein-described process of pro-
 ducing double-faced sound-records, which
 consists of applying face downward upon
 each of two heated record-matrices a label
 20 and a sheet surfaced with high-grade ma-
 terial, next bringing the same together with
 a mass of inferior record-material interpo-
 sed, and finally applying pressure.

3. The herein-described process of pro-
 25 ducing double-faced records, which consists
 of applying face downward upon each of
 two record-matrices a label and a sheet sur-
 faced with high-grade material, next bring-
 ing the same together with a mass of in-
 30 ferior record-material interposed, and sub-
 jecting the same to heat and pressure.

4. The process of producing double-faced
 sound-records, which consists of sprinkling
 upon disks of paper a dry finely powdered
 35 material rich in shellac, causing the same to
 adhere to the paper by heat, heating record-
 matrices, placing the same face uppermost
 in suitable dies, placing a label face down-
 ward centrally upon each of two matrices so
 40 positioned, then placing face downward
 upon each of the same the coated paper disk
 aforesaid, then placing upon the back of
 one of said disks a mass of thermo-plastic

material, inverting the other of said dies
 with its contents and placing it upon top 45
 of said mass, and finally subjecting the parts
 so assembled to pressure.

5. The process of producing double-faced
 sound-records, which consists, first, in plac-
 ing a sheet of paper within the recess of 50
 each of two cold dies; second, heating two
 record-matrices; third, placing each of them
 face upward upon the sheet of paper within
 the said recess; fourth, placing a label face
 downward upon the center of each matrix; 55
 fifth, placing face downward upon each
 matrix a label and a sheet having a surface
 of high-grade record-material; sixth, plac-
 ing upon the back of one of said sheets a
 mass of thermo-plastic material; seventh, 60
 reversing the other die with its contents and
 locating the same upon top of the said ther-
 mo-plastic material; and, eighth, inserting
 the parts thus assembled into a press and
 applying pressure. 65

6. The process of producing double-faced
 sound-records, which consists of, first, plac-
 ing a sheet of paper within the recess of
 each of two cold dies; second, placing there-
 in in the order indicated a matrix face up- 70
 ward, a label face downward, and a properly-
 surfaced sheet face downward; third, plac-
 ing on one of said sheets a mass of thermo-
 plastic material, and reversing the other die
 with its contents and locating the same upon 75
 said mass; and, fourth, subjecting the things
 between the two matrices to heat and pres-
 sure.

In testimony whereof I have signed this
 specification in the presence of two subscrib- 80
 ing witnesses.

FRANK L. CAPPS.

Witnesses:

C. A. L. MASSIE,
 RALPH L. SCOTT.