J. A. WHITMAN.

APPARATUS FOR MAKING PHONOGRAPH RECORDS.

APPLICATION FILED SEPT. 28, 1910.

1,030,364.

Patented June 25, 1912.

2 SHEETS—SHEET 1.

Fig 1

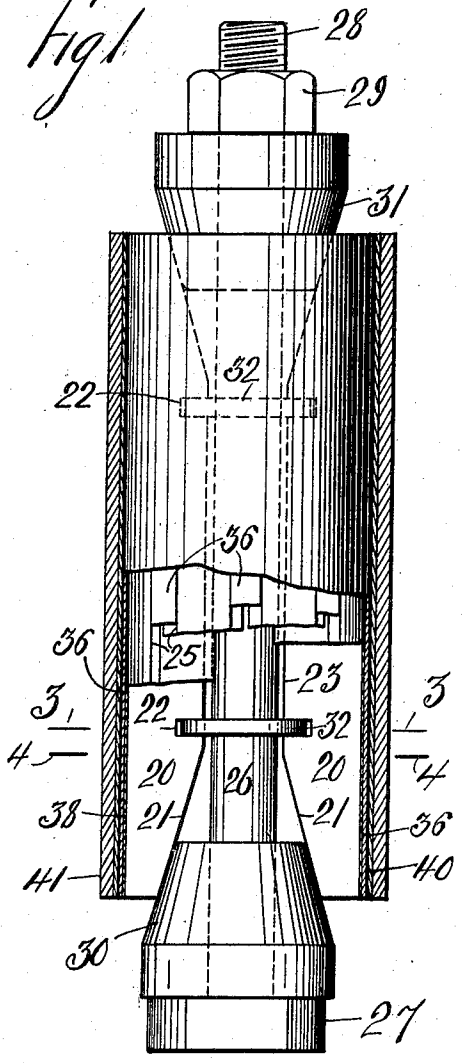


Fig 2

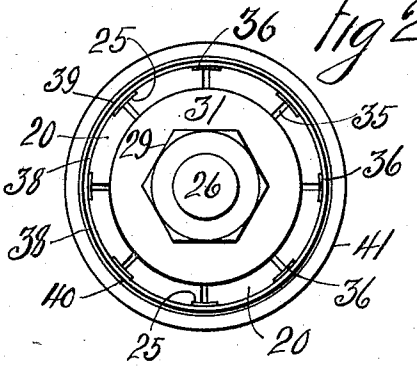


Fig 3

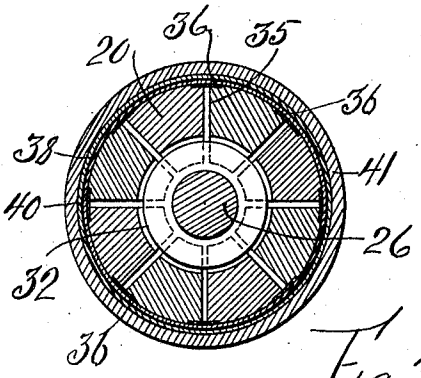
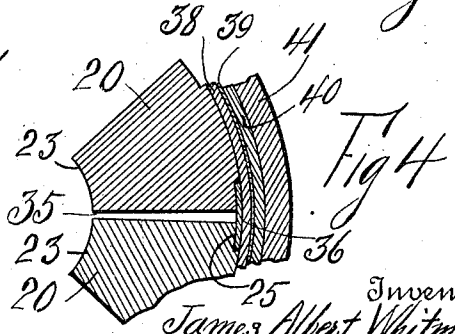


Fig 4



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2 SHEETS—SHEET 2.

Fig 5

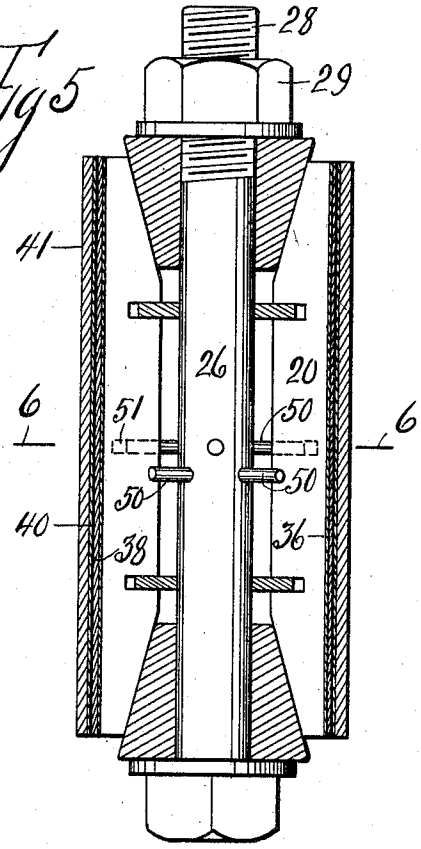


Fig 7

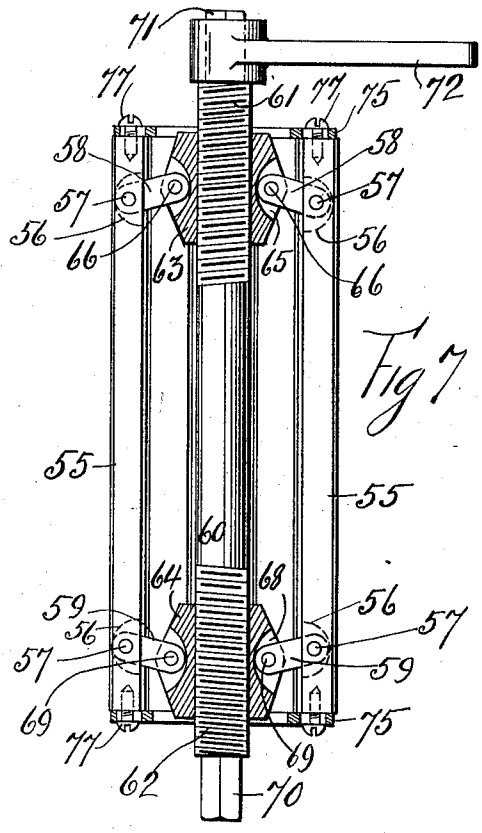


Fig 6

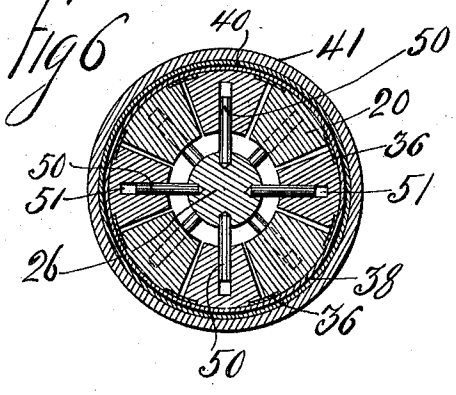
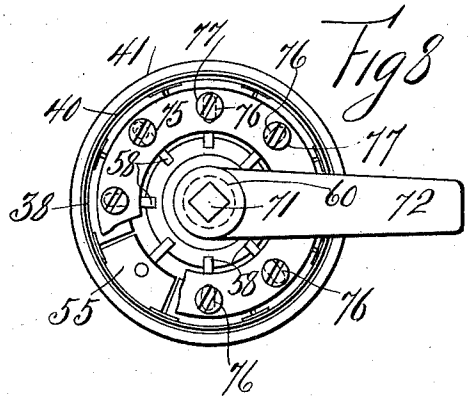


Fig 8



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR MAKING PHONOGRAPH-RECORDS.

1,030,364. Specification of Letters Patent. Patented June 25, 1912.

Application filed September 28, 1910. Serial No. 584,189.

To all whom it may concern:

Be it known that I, JAMES ALBERT WHITMAN, a citizen of the United States, and a resident of Grantwood, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Apparatus for Making Phonograph-Records, of which the following is a specification.

This invention relates to apparatus for making phonograph records. Its organization comprises means for evenly forcing or pressing a tube of celluloid, a paper tube coated with celluloid, or a cylindrical surface of any other suitable material against a matrix from which a sound record is to be taken.

The invention is characterized by its means of mechanically and uniformly pressing a tube against the impressions of a matrix.

In the accompanying drawings Figure 1 shows an elevation partly in section of one form of my invention, Fig. 2 shows a top plan view of Fig. 1, Fig. 3 is a section of Fig. 1 on the line 3, 3, Fig. 4, shows an enlarged partial section of Fig. 3 on the line 4, 4, Fig. 5 represents an elevation and partial longitudinal section of a modification of the invention, Fig. 6 shows a section of Fig. 5, on the line 6, 6, Fig. 7 represents an elevation and partial section of another form of the invention and Fig. 8 shows a top plan view of Fig. 7 with a portion thereof broken away.

Referring to Figs. 1 to 4, a plurality of segmental pressing bars 20 are shown with the tapered inner ends 21. Cross grooves 22 extend from the inner faces 23 of said bars and longitudinal indentations 25 are formed on the outer surfaces thereof. A central clamping bolt 26 with the head 27, threaded end 28 and nut 29 is shown in the axial line of the plurality of the segmental pressing bars. Frustum shaped pressing plugs 30 and 31 are slidably supported on the bolt 26, and collars 32 fitted on the said bolt engage the grooves 22 to assist in maintaining the pressing bars in proper operative positions, although the said collars may be omitted. The plug 30 may be secured to the bolt 26, or may be formed therewith. In the longitudinal indentations 25 of the bars 20 are located the cover strips 36 which cover the joints 35 between the accompanying sides of the bars 20. Over both the outside surfaces of the bars 20, and the strips 36 is forced the cushion tube 38 of rubber having a cloth cover 39.

The apparatus thus far described is shown within the barrel or tube 40 of celluloid or other suitable material, which is to take impressions from the matrix 41 represented on the outside of said barrel or tube 40.

To use the invention the parts are located as shown in said Figs. 1 to 4, and the operator screws up the nut 29 before or while the matrix is being heated. This will cause the pressing plugs 30 and 31, to bear against the tapered ends 21 of the pressing bars 20, and the tube 40 will be evenly and uniformly pressed against the inner surface of the matrix 41 to receive the impressions therefrom. The operator then releases the nut 29 which allows the cushion tube 38 to force the pressing bars 20 together, to allow the separation of the barrel 40 from the matrix 41, before the latter has shrunk to its normal diameter. It will be noted that a second function of the cushion tube 38 is to provide a uniform and elastic bed or support for the barrel 40 when the latter is pressed against said matrix.

In Figs. 5 and 6 the invention is modified by securely fastening pins 50 to the central clamping bolts 26, and guide openings 51 are formed in the segmental pressing bars 20 for said pins 50. By these means the said bars are guided in their movements to and from the said bolt 26.

In Figs. 7 and 8 the invention is shown to comprise a plurality of segmental pressing bars 55, which have the slots 56 extending from their inner surfaces and adjacent to their ends. Pins 57 in said bars pass through said slots 56 and have pivoted thereon the links 58 and 59. In the axial center of the plurality of the segmental pressing bars 55 is located the central clamping screw 60, with the right hand threads 61 at one end, and the left hand threads 62 at the other end. With the threads 61 is engaged the nut 63 and with the threads 62 is engaged the nut 64. Slots 65 are formed in the nut 63 and through which pass pins 66 that engage the links 58 thereto. In the nut 64 are formed slots 68 through which pass pins 69 for the links 59. The ends of the screw 60 terminate in the square shanks 70 and 71, and a wrench 72 can be applied to either of said shanks. At the ends of the bars 55 are located the guide rings 75, which

have formed therewith the radial slots 76, and screws 77 extending from the ends of the bars 55 to engage the slots 76.

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

1. In an apparatus for making phonograph records the combination of a plurality of segmental pressing bars, pressing plugs engaging said bars, longitudinal cover strips over the adjacent sides of each pair of said bars and a cushion tube encircling said bars and strips.

2. In an apparatus for making phonograph records the combination of a central clamping bolt, threads formed on the bolt, a nut in engagement with the threads, a pair of frustum shaped pressing plugs connected up with the bolt with one axially slidable on the bolt and bearing against said nut, a plurality of pressing bars encircling said bolt, cover strips over the joints between the adjacent sides of said pressing bars and a cushion tube encircling said bars and strips, to bear against a tube to force the latter against a matrix.

3. In an apparatus for making phonograph records the combination of a central clamping bolt, threads formed on the bolt, a nut in engagement with the threads, a pair of plugs connected up with the bolt with one axially slidable on the bolt and bearing against said nut, a plurality of pressing bars encircling said bolt, cover strips over the joints between the adjacent sides of said pressing bars, a cushion tube encircling said bars and strips, and a cover for said cushion tube.

4. In an apparatus of the character described the combination of a central clamping bolt, a pair of collars on the bolt, a pair of frustum shaped pressing plugs connected up with the bolt, a plurality of segmental pressing bars having indentations on their outer surfaces and with grooves extending from their inner surfaces, the latter to register with the collars on the bolt, tapered ends on the bars to register with the pressing plugs, threads on the bolt, a nut engaging said threads to bear against one of the pressing plugs, longitudinal cover strips in the indentations of the pressing bars to cover the joints between the adjacent sides of the pressing bars, a cushion tube encircling said bars and strips, and a cover over said cushion tube to bear against a pliable tube to force the latter against a matrix to form impressions on the pliable tube.

Signed in the borough of Manhattan in the county of New York and State of New York this 24th day of September A. D. 1910.

JAMES ALBERT WHITMAN.

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