

A. N. PETIT, DEC'D.

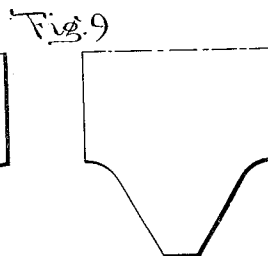
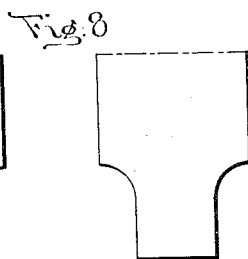
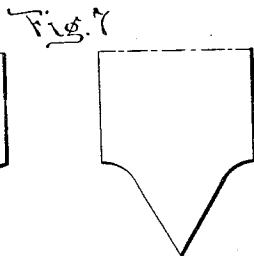
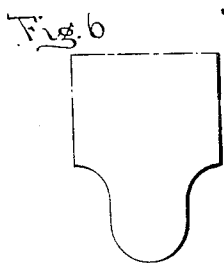
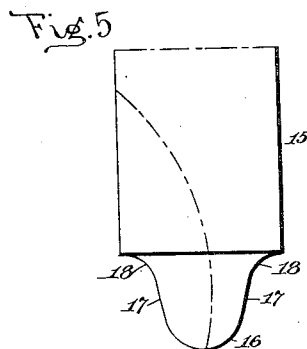
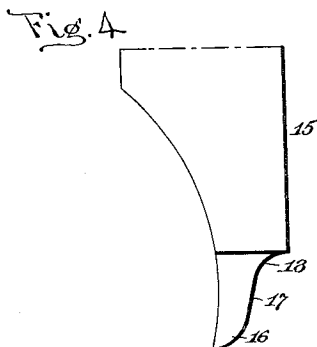
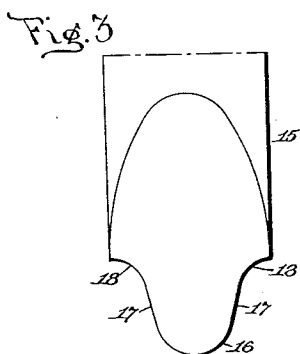
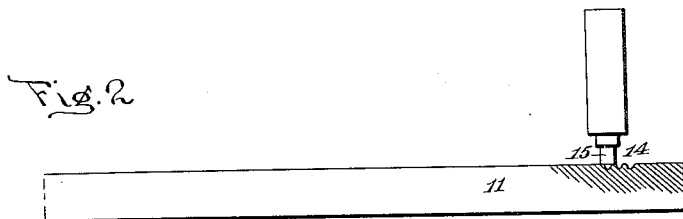
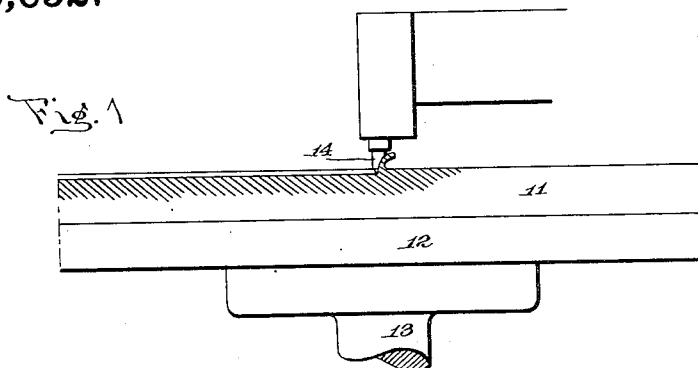
A. O. PETIT, ADMINISTRATOR.

CUTTING TOOL FOR SOUND RECORDING MACHINES.

APPLICATION FILED FEB. 12, 1914. RENEWED APR. 14, 1917.

1,246,652.

Patented Nov. 13, 1917.



Witnesses:

John L. Lotech
Elijah F. Munn, Jr.

Inventor

Adenor N. Petit, Dec'd.
Albert O. Petit, Administrator.
Waldo L. Morse,
Attorney.

UNITED STATES PATENT OFFICE.

ADEMOR N. PETIT, OF ORANGE, NEW JERSEY; ALBERT O. PETIT, ADMINISTRATOR OF SAID ADEMOR N. PETIT, DECEASED, ASSIGNOR TO JOHN L. LOTSCH, TRUSTEE, OF BROOKLYN, NEW YORK.

CUTTING-TOOL FOR SOUND-RECORDING MACHINES.

1,246,652.

Specification of Letters Patent.

Patented Nov. 13, 1917.

Application filed February 12, 1914, Serial No. 818,350. Renewed April 14, 1917. Serial No. 162,143.

To all whom it may concern:

Be it known that I, ADEMOR N. PETIT, a citizen of the United States, residing at Orange, county of Essex, and State of New Jersey, have invented a certain new and useful Improvement in Cutting-Tools for Sound-Recording Machines, of which the following is a specification.

My invention relates to tools for cutting the record grooves in records of the lateral type wherein a sinuous groove of substantially uniform depth is cut into a disk or tablet rotated beneath and in engagement with a cutting tool which is held stationary relatively to the rotative movement of the disk or tablet, and which moves laterally with respect to the motion of the disk so that a spiral groove may be cut in the surface of the disk. When the cutting tool is properly attached to the diaphragm of a sound recording machine and said diaphragm is vibrated, the cutting tool is moved laterally by the sound waves and a sinuous groove is cut, and this sinuous groove is disposed in a spiral or helix on the surface of the disk or tablet.

In all previous cut or traced records the groove has been made of V shape, U shape, semi-elliptic shape, semi-circular arc shape, or with a flat or rounded bottom having diverging walls. All of these forms are alike in one respect, the walls adjoin the record surface at a sharp angle to the latter and produce a thin, sharp, fragile, edge which cannot be made smooth, as is highly desirable in a talking machine record, and which edge from the nature of the material used in the manufacture of such articles, will be very quickly broken off, thereby exciting false vibrations in the reproducing stylus and diaphragm and producing discordant sound vibrations.

The object of my invention is to provide a cutting tool for shaping grooves suitable for use in talking machine records and to so proportion and form the tool that the resulting record groove will be of such a shape that all sharp, thin edges will be eliminated and a smooth curved wall from the bottom of the groove up to and merging into the surface of the record, will be secured. The form of record groove produced by the use of my improved cutting tool is not claimed herein, but is made the subject

of a separate application filed on even date herewith.

This and further objects will more fully appear from the following specification and the accompanying drawings taken together or separately.

In the drawings:

Figure 1 is a sectional view of a portion of a recording machine, showing a cutting tool in operative connection therewith.

Fig. 2 is a sectional view of the same, taken at right angles to Fig. 1.

Fig. 3 is a greatly enlarged sectional view of the preferred form of cutter.

Fig. 4 is a side view of the cutting tool.

Fig. 5 is a side view of the stock from which the tool is produced.

Figs. 6, 7, 8 and 9 are front views of modified forms of cutters.

In all of the above views corresponding parts are designated by the same reference characters.

A suitable blank disk or tablet 11 made of any well-known or preferred material is carried on a turntable 12 which is mounted on the shaft 13 of a motor suitable to rotate the blank and cause relative lateral movement of the blank and a cutting tool 14 which may be suitably connected to an ordinary recording diaphragm so that it will be given a sidewise motion by the vibrations of the diaphragm while the blank is revolving beneath it and it is being fed laterally across the face of the blank.

The preferred embodiment of my preferred cutting tool is shown in Figs. 3 and 4. 15 represents a cylindrical body having one end turned down to nipple form, that is, having an axial projection with a rounded apex 16 and flaring sides 17 which merge into the end of the cylinder by means of a curve 18. A portion of the cylinder is cut away at one side to a point a short distance beyond the medial line, as shown by the dotted line in Fig. 5. By cutting away the stock as described a tool of the shape shown in Figs. 3 and 4 will be produced, and such a tool will cut a groove of the same shape as the nipple shaped projection.

It is obvious that various modifications may be made without departing from the spirit or scope of my invention.

It is to be understood that I do not limit myself to a disk record and it is obvious that

the invention herein described and disclosed is equally applicable to the cylindrical and other types of record.

In accordance with the provisions of the 5 patent statutes I have now described my invention together with the apparatus which I consider to represent the best embodiment thereof, but I desire it to be understood that the apparatus is merely illustrative and that the invention is not to be 10 understood to be so limited, and that the invention can be carried out in other ways.

Having now described my invention, what I claim and desire to secure by Letters 15 Patent is:

1. A cutting tool for sound recording machines having a cutting edge which merges into a line on the plane of the surface to be acted on.
- 20 2. A cutting tool for sound recording machines having its cutting edges merging into a line on the plane of the surface to be acted on.
- 25 3. A cutting tool for sound recording machines having diverging edges, said edges merging into a line on the plane of the surface to be acted on.
4. A cutting tool for sound recording machines having a rounded extremity and

edges merging into a line on the plane of the surface to be acted on.

5. A cutting tool for sound recording machines having a rounded extremity, and flaring edges, said edges merging into a line on the plane of the surface to be acted on. 35

6. A cutting tool for sound recording machines having cutting edges which are rounded into a line on the plane of the surface to be acted on.

7. A cutting tool for sound recording machines having diverging edges, said edges being rounded into a line on the plane of the surface to be acted on. 40

8. A cutting tool for sound recording machines having a rounded extremity and sides rounded into a line on the plane of the surface to be acted on. 45

9. A cutting tool for sound recording machines having a rounded extremity, and flaring sides, said sides being rounded into a line on the plane of the surface to be acted on. 50

This specification signed and witnessed this 11th day of February, 1914.

ADEMOR N. PETIT.

Witnesses:

JOHN L. LOTSCH,
ELIJAH F. MUNN, Jr.