

C. P. CARTER.
TALKING MACHINE.
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1,047,497.

Patented Dec. 17, 1912.

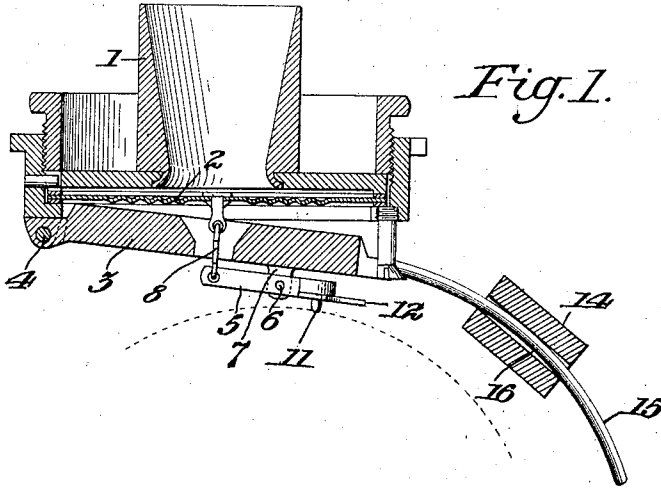


Fig. 1.

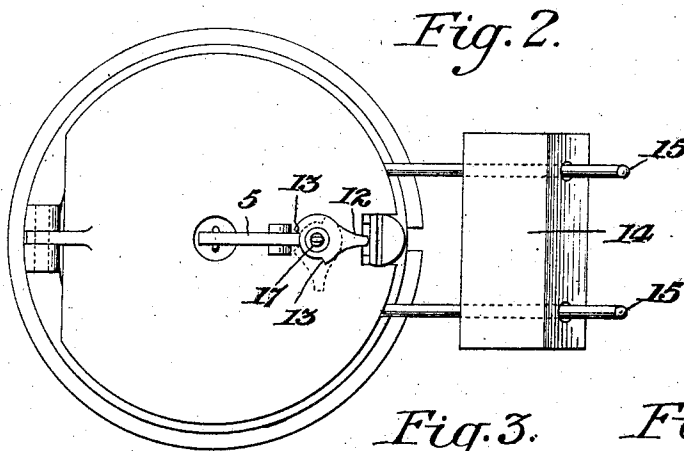


Fig. 2.

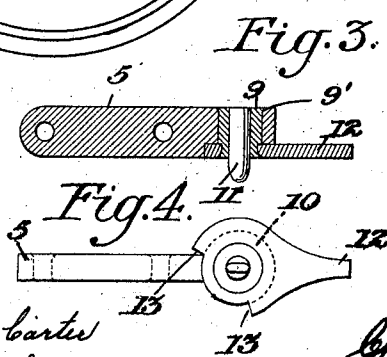


Fig. 3.



Fig. 5.

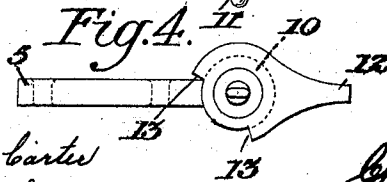


Fig. 4.

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TALKING-MACHINE.

Patented Dec. 17, 1912.

1,047,497.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES P. CARTER, a citizen of the United States, and a resident of Kingston, in the county of Ulster and State of New York, have invented certain new and useful Improvements in Talking-Machines, of which the following is a description.

My invention relates to improvements in the sound reproducing mechanism of talking machines, and particularly to the stylus and mounting therefor.

It consists broadly in a single stylus adapted to track two different kinds of record grooves, as for example, record grooves having 100 threads per inch and record grooves having 200 threads per inch, as the grooves upon the so-called two-minute and four-minute cylindrical sound records. This is accomplished by forming the stylus of different contours in planes at right angles to each other, so that the stylus as viewed in one direction is narrower than when viewed in the direction at right angles thereto. A cross section of the stylus in one direction is of suitable size and form for tracking the 200 thread record grooves, for example, and its cross section in the other direction is of suitable size and form for tracking a record groove of different size and shape, as for example a 100 thread record groove. The stylus is mounted by any suitable means, which can be shifted through an angle preferably of 90 degrees, to permit the stylus to be used in a single reproducer comprising preferably a single diaphragm, a single floating weight, and a single stylus lever upon one end of which is mounted a holder for the stylus. This holder is rotatably mounted upon the lever. Upon moving the holder through an angle of 90 degrees, the stylus will be rotated to present a contour suitable for engaging a record groove having a different number of threads per inch from the record groove with which the stylus was adapted to coact before the rotation.

In order that the invention may be more fully understood, reference is made to the accompanying drawings of which—

Figure 1 is a central vertical section of a phonograph reproducer provided with and embodying my invention. Fig. 2 is a bottom plan view of the same. Fig. 3 is an

enlarged vertical section through the stylus lever, the stylus being shown in side elevation. Fig. 4 is a bottom plan view of the same, and Fig. 5 is an end view of the same.

In all of the views, the same reference characters will be used to denote corresponding parts.

The reproducer shown comprises a sound box body 1 of the usual form and a diaphragm 2 secured therein in the usual manner. The floating weight 3 is pivoted at 4 to the body of the reproducer, as shown, or in any desired and usual manner. Stylus lever 5 is pivotally secured at 6 to lugs 7 depending from floating weight 3. One end of lever 5 is connected to the center of diaphragm 2 by link 8 in the usual manner. Stylus holder 9 is rotatably mounted within the end of lever 5 opposite to link 8 in any suitable manner. In the construction shown, stylus holder 9 is rotatably mounted within an opening formed in the enlarged end portion 10 of lever 5, stylus 11 being secured centrally within holder 9 and extending below the same. A lever 12 is secured to or formed integral with holder 9. Preferably, lever 12 is mounted within a recess in the lower surface of enlarged portion 10 of lever 5, so that the lower face of lever 12 is flush with the lower surface of lever 5. Shoulders 13, 13 are formed upon lever 12, as shown, to abut against the ends of the recess in lever 5 in which member 12 is seated to limit the rotation of stylus holder 9 in each direction, shoulders 13, 13 being preferably so placed as to limit the rotation of the stylus holder to one of approximately an angle of 90 degrees.

Stylus 11 may be of any suitable material, such as sapphire, and is secured as by cement within the holder 9. The stylus when viewed in one direction presents a comparatively broad tracking surface, as in Fig. 3, and when viewed at right angles thereto, the stylus presents a comparatively narrow tracking surface, as shown in Fig. 5, which is a view of the stylus at right angles to the face thereof shown in Fig. 3. The stylus shown in Figs. 3 and 5 is in position for tracking a 200 thread record groove, and if handle 12 be turned through an angle of 90 degrees, the broad face of the stylus shown in Fig. 3 will be moved into the position at

right angles thereto shown in Fig. 5, to track a 100 thread record groove. The stylus 11 may conveniently be shaped by first grinding to the shape shown in Fig. 3, and then grinding off the same on opposite sides to form the narrow point shown in Fig. 5, the sapphire then being highly polished. After stylus holder 9 is positioned within stylus lever 5, it may be peened within the same as shown at 9' to rotatably hold the same within the stylus lever, or the stylus holder 9 may be rotatably mounted within the stylus lever in any other desired manner.

I prefer to use an additional adjustable weight mounted upon floating weight 3 as shown at 14. Floating weight 3 is preferably provided with two curved arms extending forwardly and downwardly from the forward end thereof, as shown, upon which is mounted weight 14, which is provided with straight passages 16 there-through by which the same is mounted upon curved rods 15. Weight 14 may be shifted forward or back upon members 16 to create greater or less pressure upon stylus 11, as desired. Because of the curvature of members 15, weight 14 may be bound in position at any desired point.

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

1. A phonograph reproducer comprising a stylus, the cross-section of which in one plane is substantially narrower than in a plane at an angle thereto, and a mounting for said stylus rotatable through said angle to enable the stylus to engage record grooves of different size or shape.

2. A phonograph reproducer comprising a stylus lever, a stylus holder having an angular adjustment with respect to said lever, and a stylus carried by said holder and having different contours in planes at an angle to each other to enable it to engage record grooves of different size or shape.

3. A phonograph reproducer comprising a body, a floating weight pivoted thereto, a stylus lever pivoted to said floating weight, a stylus holder mounted upon said lever and having an angular adjustment with respect thereto, and a stylus carried by said holder and having different contours in planes at an angle to each other to enable it to engage record grooves of different size or shape.

4. A phonograph reproducer comprising a stylus lever, a stylus holder carried by said lever and angularly adjustable with reference to said lever, a stylus fixed in said holder having operative record engaging surfaces having different contours in planes at an angle to each other, means for adjusting said holder angularly to position the one or the other of said surfaces in operative position, and means for stopping said holder in its different operative positions.

5. In a device of the class described, the combination of a stylus, the cross-section of which in one plane is substantially narrower than in a plane at an angle thereto, and a mounting for said stylus permitting rotation of the stylus through an angle to enable the stylus to engage record grooves of different size or shape.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."