Sept. 15, 1942. W. R. FULLER 2,296,156

ATTACHMENT FOR RECORD-PRODUCING MECHANISM

Filed June 11, 1941

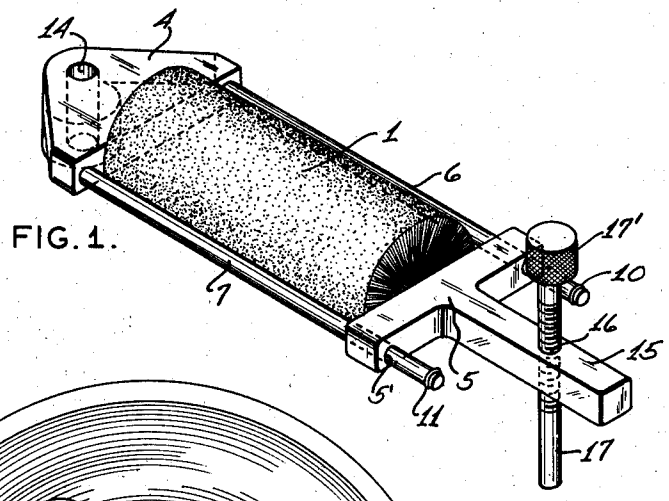


FIG. 1.

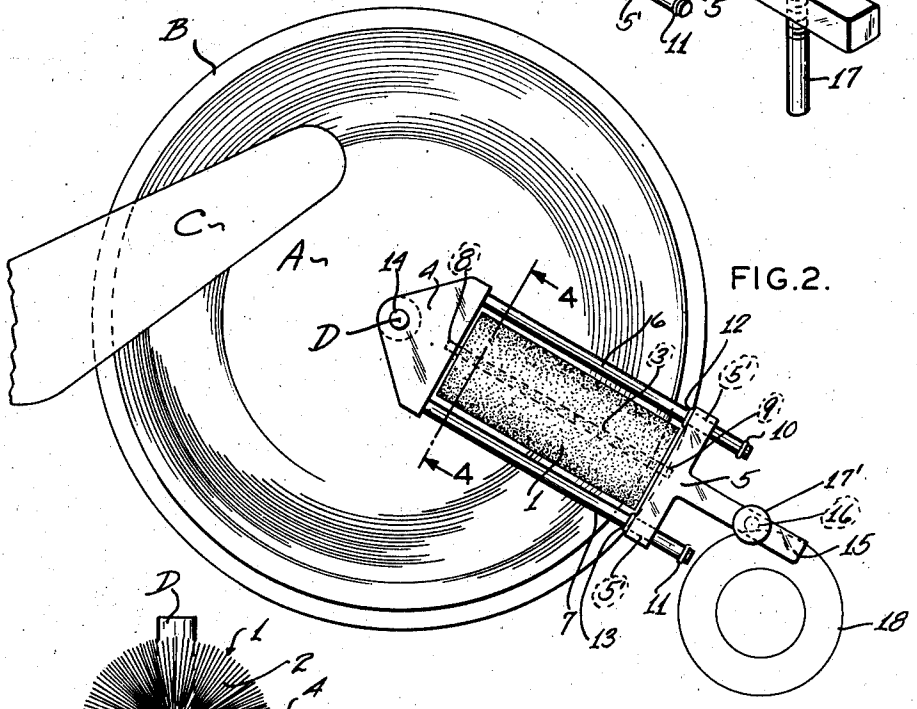


FIG. 2.

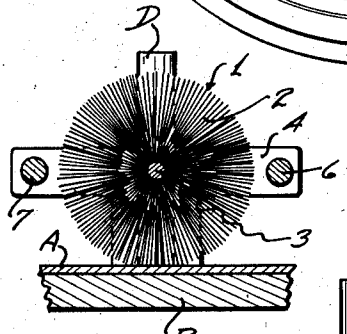


FIG. 4.

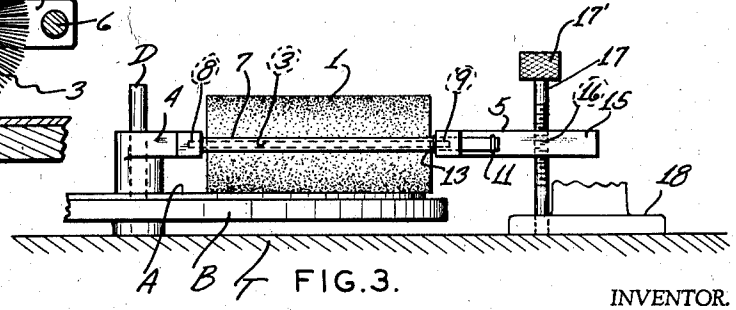


FIG. 3.

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Patented Sept. 15, 1942

2,296,156

UNITED STATES PATENT OFFICE

2,296,156

ATTACHMENT FOR RECORD-PRODUCING MECHANISM

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Application June 11, 1941, Serial No. 397,530

3 Claims. (Cl. 274—47)

This invention relates to attachments for record-producing mechanism, and more particularly to a brush device intended for use in making phonograph records. As is well known to those experienced in making records of this type, when the recording needle makes the groove in the record disc a thin strip of the material of which the disc is formed is thrown up from the groove by the needle, and as this waste material accumulates on the face of the record disc it forms an obstruction which may hinder the needle in its course, resulting in an unevenness in the groove which causes a roughness in the sound when the record is being played. This is a source of considerable loss, for once a record has a rough place in the groove nothing can be done to eliminate it, and such a record must be discarded.

My brush is designed to eliminate this difficulty by removing the strip of waste material from the record disc as soon as it appears on the surface thereof in such a way that there will be no opportunity for the waste material to accumulate, and to accomplish this without the necessity of stopping the disc in its rotation. My brush is simple and inexpensive to manufacture, and its use adds nothing to the operating cost when making a record, since it requires no independent motor but is operated by the rotation of the record disc.

Fig. 1 is a perspective of my device illustrating the brush and its supporting means.

Fig. 2 is a top, plan view of the device as it appears when in use.

Fig. 3 is a side elevation of the device as it appears when in use.

Fig. 4 is an enlarged, sectional view taken on the line 4—4, Fig. 2, illustrating the engagement of the brush with the record disc.

This invention comprises a brush 1 having bristles 2 of such softness that they will not injure a record disc when frictionally engaged therewith. The brush 1 is cylindrical in shape, and has a core 3, preferably formed of twisted wires, with which the bristles 2 are interwoven. The core 3 extends outwardly beyond the bristles 2 at each end of the brush, for a purpose to be hereinafter set forth.

The brush is mounted in a rectangular framework including two end members 4 and 5, respectively, and two side members 6 and 7, respectively. The side members 6 and 7 are rigidly secured to the end member 4 near its ends, but said side members are slidably mounted in apertures 5' in the member 5 near its ends. The end members 4 and 5, which are slightly longer than the diameter of the brush, are provided with apertures 8 and 9, respectively (Figs. 2 and 3), located at the centers of said end members 4 and 5 and extending a short distance into said end members. The apertures 8 and 9 are oppositely disposed and receive the outwardly extending ends of the core 3 when the brush is mounted in the framework, and said apertures are of slightly larger diameter than said core to permit easy rotation of the core within said apertures. The sliding engagement of the side members 6 and 7 with the end member 5 permits said end member 5 to be pushed in a direction away from the end member 4 a sufficient distance so that the outwardly extending ends of the core 3 of the brush can be inserted in the apertures 8 and 9, after which the end member 5 is again pushed toward the end member 4 to hold the brush within the framework, as shown in Fig. 1. It will be seen that by virtue of this arrangement the brush can be easily removed for cleaning and quickly replaced in the framework. The side members 6 and 7 have stop elements 10 and 11 at their ends which slip through the apertures 5' to keep said side members from slipping out of engagement with the end member 5, and also have stop elements 12 and 13 to keep the end member 5 from sliding too far toward the end member 4 and thus coming into contact with the bristles 2.

The end member 4 is weighted and has an aperture 14, for a purpose which will be hereinafter explained. The end member 5 has an extension 15 projecting outwardly from the center of said member 5, and said extension 15 is provided with a screw-threaded aperture 16 through which a set screw 17, having the usual head 17', is inserted. The set screw 17 rests against a control standard 18 on the worktable T on which the record is being made in order to prevent the set screw from moving out of place during the operation of the brush.

When my device is to be used during the making of a record, the procedure is as follows:

The blank record disc A is mounted on the usual revolving platform B under the recording needle (not shown) which is held by the arm C overhanging the disc A, the platform B having a post D which passes through the aperture ordinarily found at the center of a record to hold said record in place on the revolving platform B. The last-mentioned members are not parts of this invention and will not be further described.

When the blank record disc A has been placed upon the platform B, the aperture 14 in the

weighted end 4 of my device is passed over the post D so that it will rest upon the center of the record disc, as illustrated most clearly in Fig. 3, the aperture 14 being of slightly larger diameter than the post D, and the weight of said end 4 serving to keep it from slipping off of the post D. It will be seen by referring to Fig. 2 that the brush now extends over that portion of the blank record disc on which the recording needle will operate. The set screw 17 is now placed firmly against the control standard 18 on the workable T and is screwed upwardly or downwardly through the aperture 16 until the bristles 2 of the brush frictionally engage the upper surface of the record disc A, and this frictional engagement will cause the brush to rotate through the revolving movement of the record disc when the record is being made.

The brush is now in its operative position. As the disc A revolves with the platform B, the recording needle, in cutting the sound groove in the record disc, throws up a thin strip of material. Ordinarily, as above mentioned, this thin strip of waste material accumulates on the surface of the record as the groove grows longer and longer until it forms an obstruction in the path of the recording needle, and this, as all makers of records know, jolts the needle and causes an uneven place in the groove, and a resulting roughness in the sound when the record is being played. When this happens the record disc is spoiled and must be discarded.

However, when my device is used, by virtue of the frictional engagement between the bristles 2 and the record disc A the thin strip of waste material is caught in the bristles as the brush rotates above the revolving record disc and said waste material is thus removed from the surface of the disc and consequently from the path of the recording needle, so that it cannot interfere with the smooth operation of said needle.

When a record has been completed, the brush is easily detached from the framework by sliding the member 5 back from the brush until said member contacts the stop elements 10 and 11 on the side members 6 and 7, and releasing the core 3 from the apertures 8 and 9. The thin strip of waste material is combed from the bristles of the brush, which is then replaced in its framework and is ready for further use in making another record.

I claim:

1. A phonograph record cleaning device comprising a cylindrical brush provided with bristles, a framework rotatably supporting said brush above the phonograph record, said framework and the brush supported thereby being so positioned with respect to the phonograph record that the contact of the bristles with the revolving phonograph record will subject the brush to rotary motion, said bristles being so positioned as to remove waste material from said record, said framework including at one end a weighted member for engagement with said record, a transverse member at its opposite end, and side members slidably engaged with said transverse member, said transverse member being provided with means for holding said framework and said brush in adjusted position above said record.

2. A phonograph record cleaning device comprising a cylindrical brush provided with bristles, a framework for rotatably supporting said brush above the phonograph record, said framework and the brush supported thereby being so positioned with respect to the phonograph record that the contact of the bristles with the record will subject the brush to rotary motion and said bristles being so positioned as to remove waste material from said record, said framework including at one end a weighted member for engagement with said record, a second member on said framework opposite said weighted member, side members rigidly secured to said weighted member, said side members being in slidable engagement with said second member through apertures in said second member, said second member having an extension and means engaged therewith adapted to hold said framework and said brush in adjusted position above said record.

3. A phonograph record cleaning device comprising a cylindrical brush provided with bristles, a framework for rotatably supporting said brush above the phonograph record, said framework and the phonograph record supported thereby being so positioned with respect to the phonograph record that the contact of said bristles with the record will subject the brush to rotary motion and said bristles being so positioned as to remove waste material from said phonograph record, said framework including a weighted member at one of its ends, and at its opposite end a transverse member disposed opposite said weighted end member, said transverse member being in slidable engagement with said side members through apertures in said transverse member, said side members being provided with stop elements adapted to limit the sliding movement of said transverse member upon said side members, said transverse member having an extension provided with a screw-threaded aperture and screw-threaded means adapted to be screwed through said screw-threaded aperture to hold said framework and said brush in adjusted position above said record.

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