Nov. 6, 1923. 1,472,857

A. SWENSEN

RECORD CLEANING DEVICE

Filed April 12, 1922

Fig. 1.

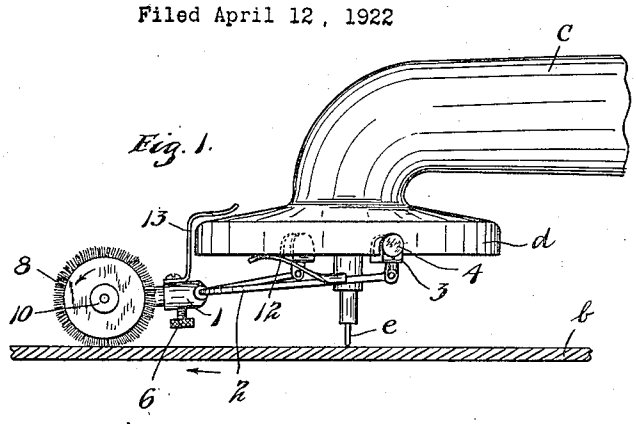


Fig. 2.

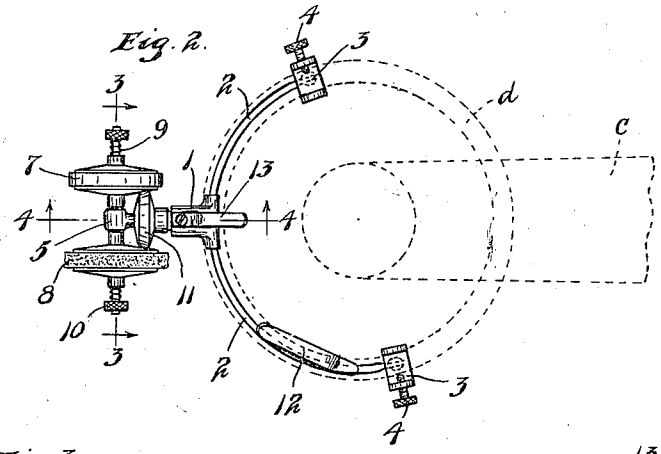


Fig. 3.

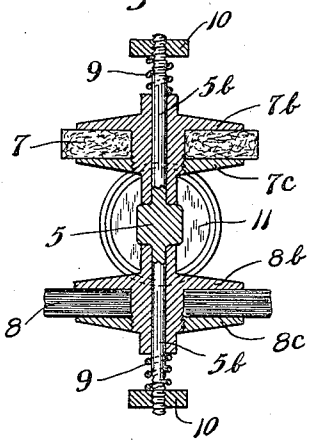
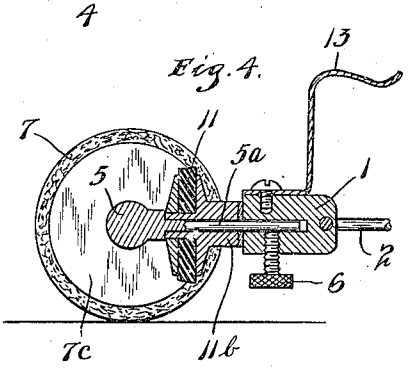


Fig. 4.



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UNITED STATES PATENT OFFICE.

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RECORD-CLEANING DEVICE.

Application filed April 12, 1922. Serial No. 551,776.

To all whom it may concern:

Be it known that I, ABRAHAM SWENSEN, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Record-Cleaning Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a phonograph and particularly to a cleaning device for keeping the records clean adjacent the playing needle. It is well known to those familiar with such machines that dust accumulates on the record and in the grooves thereof. Such dust is pushed along by the playing needle and unless the record and, needle are brushed or cleaned, will very noticeably interfere with the proper reproduction of the selections.

It is an object of this invention, therefore, to provide a moving means for cleaning the record adjacent the needle.

It is another object of the invention to provide a rotatable cleaning means which is driven by a member adapted to contact therewith and be driven by the record.

It is still another object of the invention to provide means for driving the cleaning means so that the same will be driven in the opposite direction from the means which engages and is driven by the record.

It is a still further object of the invention to mount the device on the tone arm or sound box carried thereby so that the device will move with the tone arm, will be yieldingly urged toward the record and will be lifted by the tone arm when the latter is lifted.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to the same parts throughout the different views and in which—

Fig. 1 is a view in side elevation of the attachment showing the same attached to the sound box or tone arm and also showing a part of the record;

Fig. 2 is a plan view of the device illustrating the sound box and tone arm in dotted lines;

Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 2 shown on an enlarged scale; and

Fig. 4 is a vertical section taken on the line 4—4 of Fig. 2, also shown on an enlarged scale.

Referring to the drawings, in Fig. 1 is shown a portion *b* of the usual rotating disk record and a portion of the tone arm *c* carrying the sound box *d* is also shown from which extends and is supported a playing needle *e*.

In accordance with this invention, a bracket 1 is carried by a bail member 2 having its ends swingingly mounted in independent fork members carried by U-shaped brackets 3 adapted to be clamped to the under-edge of the sound box *d* by suitable knurled clamping screws 4. The member 1 is provided with a central bore extending substantially horizontal or in parallelism with the surface of the record and a member 5 has a projecting shaft or pintle portion 5^a adapted to be received in said bore and held in adjusted position therein by a suitable knurled clamping screw 6. The member 5 has a pintle or stem 5^b extending at each side thereof in a plane substantially horizontal or parallel to the surface of the record *b* and on one of these pintles is journaled a friction wheel 7 comprising a central portion of rubber fiber or other suitable material clamped between a hub 7^b bored to fit and rotate on the pintle 5^b, and a hub 7^c threaded onto the member 7^b, as shown in Fig. 3. On the other pintle 5^b is journaled a rotating brush 8 comprising circumferentially extending and radially projecting bristles clamped between the hub portion 8^b which is bored to fit and rotate on the pintle 5^b and another portion 8^c threaded thereon also, as shown in Fig. 3. The hubs 7^b and 8^b are contacted on their outer ends by coiled springs 9 surrounding extensions of the pintles 5^b and held in position by suitable knurled nuts 10 threaded on the outer ends of said extensions. It will be noted that the inner surface of the members 7^c and 8^b are somewhat beveled and a friction wheel 11 comprising a central portion of rubber fiber or other suitable material is held between the hub member 11^b bored to fit and rotate on the member 5^a and another hub or disk portion threaded thereon. This hub portion 11^b contacts a shoulder formed on the member 5 and, at its other end, contacts

with a suitable washer inserted between the same and the bracket 1. The member 1 and parts carried thereby are yieldingly urged toward the record by a spring member 12 attached to the bail 2 and pressing against the underside of the sound box *d*. A bracket 13 is attached to the top of the member 1 and has a resilient hook portion adapted to extend over the top of the sound box *d* so that when the said box and tone arms *c* are lifted, this bracket will engage with the sound box and raise the member 1 and attached parts.

In operation, the device will be attached, as shown, so that the cleaning member or brush 8 brushes over the part of the record at each side of the portion to be contacted and traversed by the needle *e*. The wheel 7 engages with the surface of the record *b* and is turned thereby. This wheel, in turn, turns the wheel 11 and said wheel being in engagement with the hub of the brush 8 rotates the latter in the direction opposite to the direction of rotation of the wheel 7. The dust and loose dirt on the record will thus be effectively brushed away out of the path of the needle. The member 5 can be swung about the axis of the member 5^a to bring the wheel 7 into correct engagement with the surface of the record by manipulation of the screw 6 and the wheel will be held in its correct adjusted position by the tightening of said screw. The nuts 10 can be adjusted to vary the tension of the springs 9 so as to give the proper engagement between the parts 7, 8 and 11 to properly drive the same.

From the above description it is seen that applicant has provided a simple and efficient cleaning device for phonograph records. The same can be attached to practically any standard phonograph machine, particularly to a machine of the Edison type using a diamond point needle. The attachment will be lifted when the tone arm is lifted and will not interfere in any way with the operation of the machine. The dust and dirt being effectively cleaned from the record in the playing grooves thereof, a noticeable improvement will be effected in the rendition of the selections.

It will, of course, be understood that various changes may be made in the form, details and arrangement of the parts without departing from the scope of applicant's invention, which, generally stated, consists in the matter shown and described and set forth in the appended claims.

What is claimed is:

1. A record cleaning attachment for a phonograph comprising, a rotatable cleaning means attached to the sound box to move across the record therewith, and means adapted to contact with and be actuated by the record for rotating the cleaning means.

2. A record cleaning device for a phonograph comprising a rotatable cleaning means, a driving means therefor adapted to contact with and be driven by the record, and means for pivotally supporting said device from the sound box of the phonograph, and means yieldingly pressing the same toward the record.

3. A cleaning device for a phonograph comprising, a rotatable brush disposed in advance of the needle, means connecting the same to the sound box for movement therewith, a narrow rotating driving means for said brush adapted to contact with and be driven by the record, a transmission means connecting said means to turn the former in a direction opposite to the latter.

4. A cleaning device for a phonograph having in combination, a rotatable brush, a rotatable disk wheel engaged with and adapted to be driven by the record, a member having oppositely disposed pintles on which said brush and disk are mounted, said brush and disk having beveled faces disposed toward each other, a beveled friction wheel having its axis normal to the axes of said brush and disk disposed between and engaging said beveled faces so as to drive the brush in the direction opposite to the said friction disk, springs moving said brush and disk toward said friction wheel, and means for adjusting the tension of said springs.

5. A cleaning device for a phonograph having in combination a rotating brush, a rotatable friction wheel engaged with and adapted to be driven by the record, a friction wheel engaging said brush and first mentioned friction wheel to drive the former in a direction opposite to the latter, means for swingingly supporting said device from the sound box, and means for yieldingly pressing the same toward the record.

6. A cleaning device for a phonograph having in combination, a rotatable cleaning means, rotatable driving means therefor adapted to contact with and be driven by the record, a transmission means connecting said means to drive the cleaning means oppositely to the driving means, and means for swingingly supporting said members from the sound box.

7. The structure set forth in claim 6, said last mentioned means being provided with means permitting the driving means to be moved toward and from the record and for holding the same in adjusted position.

8. A cleaning device for a phonograph having in combination, a bracket swingingly supported by the sound box for movement toward and from the record, a member having oppositely extending alined pintles and mounted on a pivot in said bracket so as to extend substantially parallel to the surface of the record, a cleaning device journaled on one of said pintles, a driving means

therefor journaled on the other of said pintles, and a transmission mechanism connecting said cleaning means and driving means, said bracket having means whereby said member may be adjusted about said pivot and held in adjusted position.

9. A cleaning device for a phonograph having in combination, a bracket swingingly supported by the sound box for moving toward and from the record, a member having oppositely extended alined substantially horizontal pintles carried by said bracket, cleaning means rotatably mounted on one of said pintles, driving means rotatably mounted on the other of said pintles, and a friction wheel engaging said cleaning means and driving means mounted on said member and in engagement with said means.

10. The structure set forth in claim 9, and means for yieldingly urging said bracket and members carried thereby toward the record.

11. The structure set forth in claim 9, and means attached to said bracket and projecting over the sound box whereby when the tone arm and sound box are lifted, said bracket will be lifted.

12. A record cleaning device for a phonograph having in combination, a bracket adapted to be supported above the record, a member having oppositely extending alined substantially horizontal pintles carried by said bracket, cleaning means rotatably mounted on one of said pintles, driving means rotatably mounted on the other of said pintles, a friction wheel engaging said cleaning means and driving means mounted on said member, and adjustable tension means on said pintles for urging the cleaning means and the driving means into engagement with said friction wheel.

13. A record cleaning device for a phonograph having in combination, rotatable cleaning means, a rotatable driving means therefor adapted to engage with and be driven by the record, a member for supporting said two means, said member being provided with means whereby said driving means can be moved toward and from the record, and means for holding the same in adjusted position.

14. A device for cleaning phonograph records comprising means to mount the device to constrain it to move laterally with the lateral movement of the phonograph needle, a revolving brush adapted to clean the surface of the record, a friction wheel adapted for frictional engagement with the record to be driven by the latter, and means to turn said brush with the turning of said wheel.

15. A device for cleaning phonograph records, comprising a cleaning element rotated and moved transversely over the record by the record, the rotation of said element being opposed to the rotation of the record.

In testimony whereof I affix my signature.

ABRAHAM SWENSEN.