Oct. 9, 1945. J. H. PRESSLEY 2,386,503

DRIVING MECHANISM FOR PHONOGRAPH TURNTABLES

Filed Jan. 29, 1942

FIG. 1

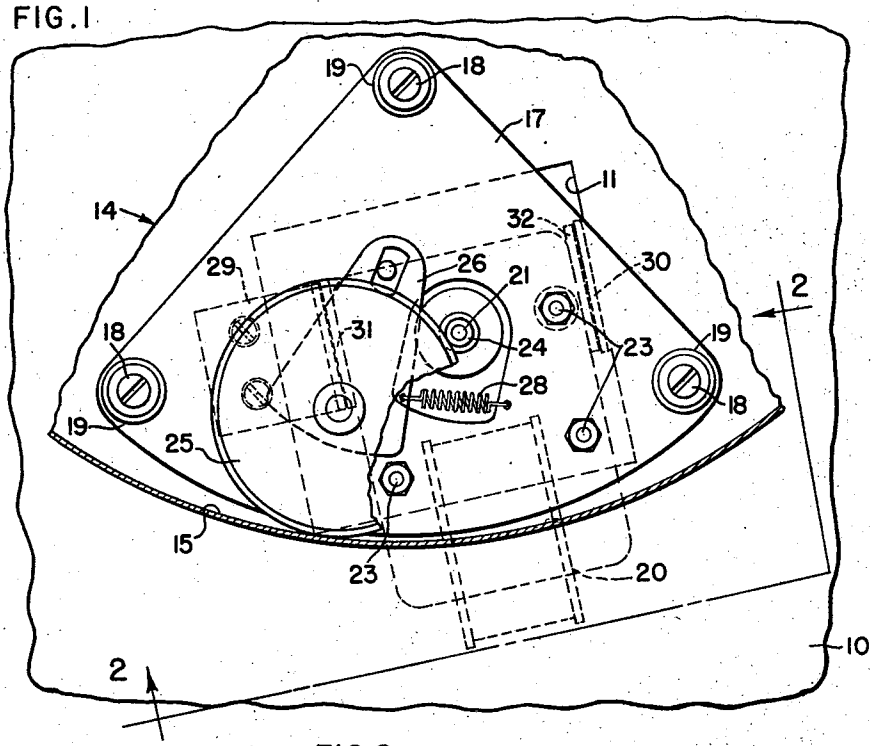


FIG. 2

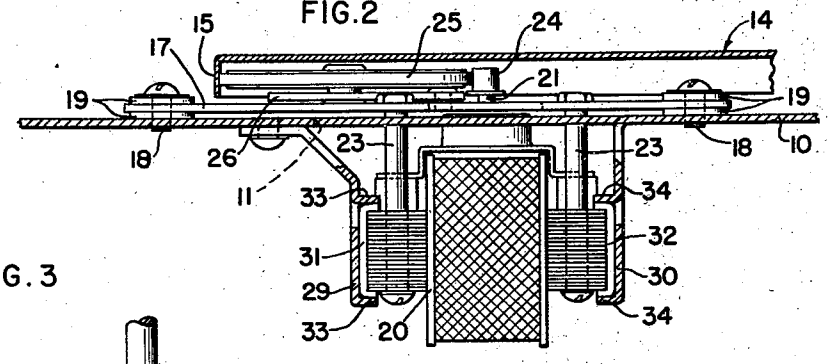
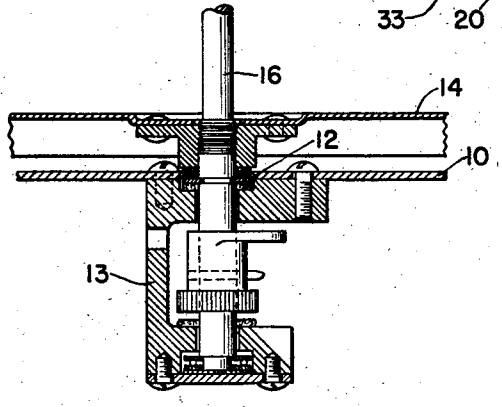


FIG. 3



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DRIVING MECHANISM FOR PHONOGRAPH TURNTABLES

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4 Claims. (Cl. 248—18)

This invention relates to a phonograph and more particularly to the mounting of a motor for driving a turntable.

It is well known in the phonograph art that it is hardly possible to manufacture driving motors which are so mechanically and electrically perfect that they are not a source of mechanical vibration. According to conventional phonographs, these mechanical vibrations are a great source of annoyance for the reason that they are transmitted to the turntable and affect the quality of reproduction of records on the turntable.

The object of the present invention, therefore, is to provide a phonograph in which the driving motor is mounted in such a manner that the mechanical vibrations created thereby are not transmitted to the turntable.

Another object of the present invention is to provide a phonograph in which the driving motor is mounted in the manner set forth, the cost of which is greatly reduced and which is highly efficient in eliminating the transference of vibrations to the turntable.

In accordance with the present invention, there is provided a phonograph having a base member on which a turntable is rotatably mounted. Extending below the base member there are provided a plurality of supporting members with vibration eliminating elements. A motor is supported by the supporting members and is engaged at its sides by the vibration eliminating elements for eliminating the vibrations of the motor. The motor has a driving member for driving the turntable.

For a better understanding of the invention, together with other and further objects thereof, reference is had to the following description, taken in connection with the accompanying drawing, and its scope will be pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is a top plan view showing the mounting of the driving motor and the association of the driving motor with the turntable;

Fig. 2 is a side view of the apparatus shown in Fig. 1; and

Fig. 3 is a fragmentary sectional view showing the manner in which the turntable is associated with the base member.

Referring now particularly to Figs. 1 and 3 of the drawing, there is shown a base member 10 having openings 11 and 12. A bracket 13 is fixed beneath the base member 10 at the opening 12 in the manner shown in Fig. 3. A turntable 14, having a downwardly extending peripheral rim 15, is fixed in a suitable manner to a spindle 16 to rotate therewith.

A mounting member or plate 17, by means of screws or pins 18, is connected to the base member 10 over the opening 11. Vibration eliminating elements or grommets 19 are placed between the plate 17 and the base member 10 for preventing the transference of motor vibrations to the turntable 14.

The vibration eliminating elements 19 may be rubber but, preferably, they should be of materials known commercially under the names of Glyptal, Pyralin, Viscoloid, printers roll and other names, depending upon the source of supply. Specifically, the vibration eliminating material employed should have the following properties and characteristics to a high degree: It should have great molecular inertia and such kinematic qualities as to offer considerable resistance to the transmission of wave motion. Apparently, the molecules of such material are capable of being subjected to an inertia action when a distorting force is applied thereto, and the material is capable of readily absorbing within itself and relatively slowly dissipating the energy supplied thereto. In other words the material should have high internal friction. Such properties in material make it especially fit for use in preventing the transfer of mechanical vibration.

A motor 20 having a driving member 21 is rigidly connected to the bottom of the mounting member 17 by means of pins 23. The driving member 21 extends above the base member 10 and the mounting member 17 and is adapted to cooperate in driving the turntable 14. As shown in the drawing, the end of the driving member 21, which extends above the members 10 and 17 is provided with an annular member 24, of rubber or other vibration eliminating material, which is adapted to engage the peripheral wall of a friction wheel 25. The periphery of the wheel 25 is also of rubber or other vibration eliminating material. The friction wheel 25 is rotatably mounted on a plate 26 and is also adapted to engage the inner peripheral wall 15 of the turntable 14. The plate 26 is movably connected to the mounting member 17, preferably in the manner shown in Fig. 1. A spring 28 is connected to the plate 26 and the mounting member 17 for maintaining the friction wheel 25 in continual driving engagement with the annular member 24 and the inner peripheral wall of the turntable 14.

While the preferred method of driving the

turntable 16 has just been described, the invention is not limited to this particular adaptation of driving the turntable. Any other adaptation for driving a turntable well known in the art may be used.

Extending from below the base member 10 and on either side of the motor 20 are members 29 and 30 which are provided respectively with elements 31 and 32. The elements 31 and 32 are of vibration eliminating material, such as rubber or other similar material, previously described. The members 31 and 32 are adapted to engage opposite sides of the motor 20, preferably diametrically opposite relative to the driving member 21, to eliminate the transference of vibration from the motor 20 to the turntable 14. Elements made of both rubber and Pyralin have been used by applicant. The Pyralin elements gave much more satisfactory results.

While the manner of mounting the motor 20 just described and shown in the drawing is preferred, the invention is not limited to this particular motor mounting. The members 29 and 30 may serve as the sole supporting means for the motor 20. When the motor 20 is supported solely by the members 29 and 30, the members preferably are provided, respectively, with ears 33—33 and 34—34 to prevent vertical movement of the motor 20.

While there has been described what is at present considered the preferred embodiment of the invention, it will be obvious to those skilled in the art that various changes and modifications may be made therein without departing from the invention, and it is, therefore, aimed in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

What is claimed is:

1. A support for a motor comprising a base member, means for supporting said motor on said base member, means of vibration-eliminating material between said supporting means and said base member for absorbing vibrations from said motor, a pair of members extending from said base member on opposite sides of said motor, said members being provided with elements of vibration-eliminating material for engaging said motor whereby vibrations from said motor are absorbed by said elements.

2. A support for a motor including a base member, means for supporting said motor on said base member, means of vibration-eliminating material between said supporting means and said base member for absorbing vibrations from said motor, a pair of members extending from said base member on opposite sides of said motor in planes substantially parallel to the longitudinal axis of said motor, said members being provided with elements of vibration-eliminating material for engaging said motor whereby vibrations from said motor are absorbed by said elements.

3. A support for a motor comprising a base member, means for rigidly supporting said motor and connecting it to said base member, means of vibration-eliminating material between said supporting means and said base member for absorbing vibrations from said motor, a pair of members extending from said base member on opposite sides of said motor in planes substantially parallel to the longitudinal axis of said motor, said members being provided with elements of vibration-eliminating material for engaging said motor whereby vibrations from said motor are absorbed by said elements.

4. A support for a motor including a base member, means for supporting said motor on said base member, means of vibration-eliminating material between said supporting means and said base member for absorbing vibrations from said motor, a pair of members extending from said base member on diametrically opposite sides of said motor, said members being provided with elements of vibration-eliminating material for engaging said motor whereby vibrations from said motor are absorbed by said elements.

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