

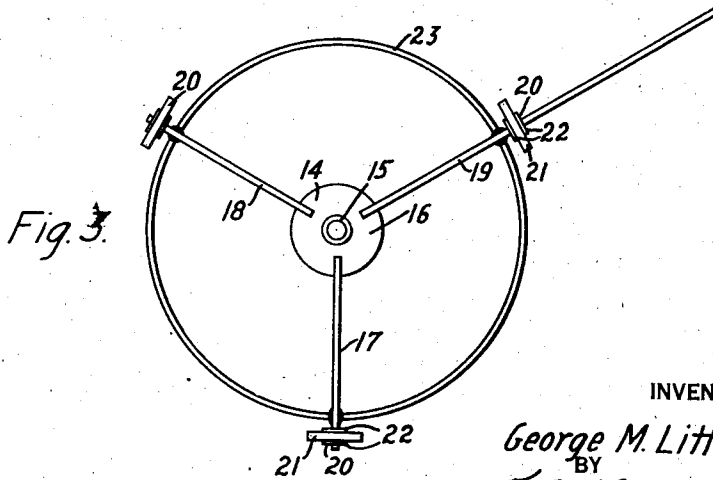
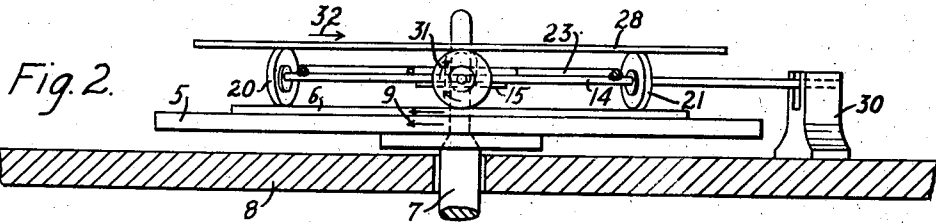
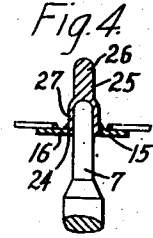
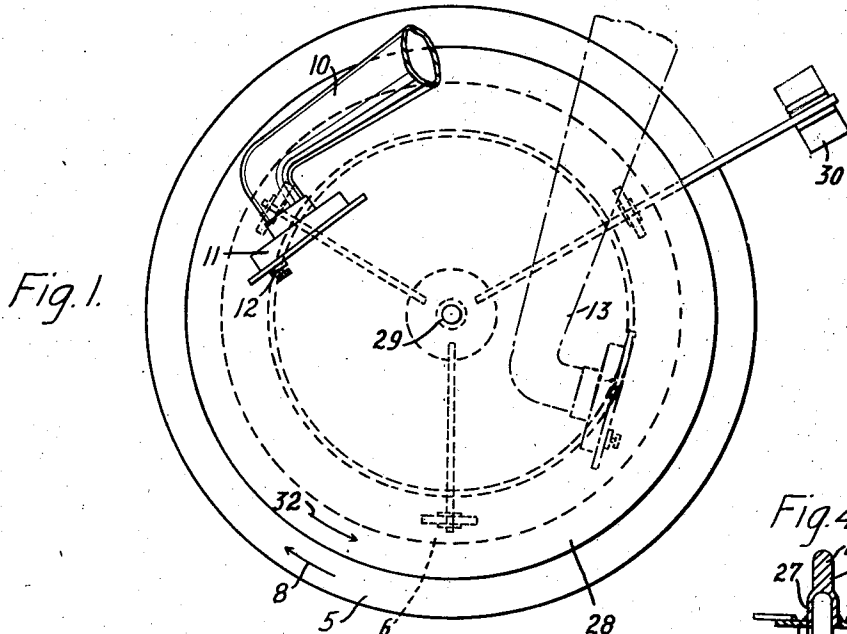
**July 28, 1925.**

**1,547,768**

G. M. LITTLE

PHONOGRAPH ATTACHMENT

Filed April 18, 1922



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# UNITED STATES PATENT OFFICE.

GEORGE M. LITTLE, OF PITTSBURGH, PENNSYLVANIA.

## PHONOGRAPH ATTACHMENT.

Application filed April 18, 1922. Serial No. 555,139.

*To all whom it may concern:*

Be it known that I, GEORGE M. LITTLE, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Phonograph Attachments, of which the following is a specification.

My invention relates to music reproducing devices of the phonograph type and it has special relation to means for causing a phonograph to produce the same tones as are normally produced from any given phonograph record and in the same sequence, but in the reverse order.

More specifically, my invention relates to means adapted to be applied to a phonograph for causing a phonograph record to be rotated by the turntable thereof but in the direction opposite to that of the turntable, and to produce music therefrom.

One object of my invention is to provide a means for supporting any given phonograph record in substantially normal position on a phonograph and for rotating the same in a counter-clockwise direction while the stylus of the reproducer is held in normal engagement therewith.

An additional object of my invention is to provide a device of the character designated that shall be suitable for use on any phonograph which utilizes a horizontally disposed turntable and that shall be easy to operate, simple and inexpensive to manufacture, and strong and durable in construction.

Heretofore, it has been customary to reproduce music with the various individual tones in exactly the same sequence and order as the original music was produced. I find that to reproduce the various individual tones in the same sequence but in exactly the reverse order produces a resultant music which is novel, entertaining and of an unusual nature.

A more thorough comprehension of the mechanical phases of my invention may be had by reference to the accompanying drawings to be hereinafter described in detail.

Figure 1 is a plan view of a phonograph provided with a device embodying my invention.

Fig. 2 is a side view, partially in elevation and partially in section, of the structure illustrated in Fig. 1.

Fig. 3 is a plan view of the device alone embodying my invention which is shown in operative position in Figs. 1 and 2.

Fig. 4 is a detailed sectional view of the phonograph record centering portion of the device illustrated in Figs. 1, 2 and 3.

In the drawings, I show a phonograph turntable 5 mounted upon a spindle 7 which extends through a top member 8 of the phonograph cabinet. The turntable 5 is adapted to be driven in the customary clockwise direction as indicated by the arrows 9. In Fig. 1, I show a tone arm 10 having mounted thereon the usual reproducer 11 provided with a stylus 12. The arm 10 is disposed on the left hand side of the turntable 5 instead of on its customary right hand side, as shown in broken lines at 13.

Upon the turntable 5 is mounted a wearing plate 6 on which, in turn, is mounted a device 14 which embodies my invention, as best shown in Fig. 3. The plate 6 may consist of a phonograph record, which will provide a suitable surface, or any other flat disk, metallic or otherwise. The device 14 consists of a record centering member 15, to be hereinafter more fully described, supported upon a centrally disposed sheet metal plate 16. To the plate 16 are attached, by soldering or otherwise, three radially extending arms 17, 18 and 19. Upon each of these arms is rotatably mounted a roller member 20 which consists of a soft rubber washer 21 supported on each side by a metallic washer 22 of smaller diameter than the washer 21. The washers 22 also provide a metallic journal member (not shown) for the rubber washers 21. The rods 17, 18 and 19 are stiffened by means of an annular wire member 23, which is soldered or otherwise suitably connected thereto. In Fig. 2 a portion of the member 23 is broken away for the sake of clearness. The arm 19 is of considerably greater length than are the arms 17 and 18, for a purpose to be hereinafter set forth.

The record centering device 15, which is best shown in Fig. 4, consists of the sheet metal member 16 which is provided with a centrally disposed opening 24 in which is soldered or otherwise suitably secured a pin member 25. The member 25 consists of an upper portion 26 which is of the same diameter as is the record engaging portion of the spindle 7, and a lower enlarged hollow portion 27, the inside diameter of which

is slightly larger than the outside diameter of the upper portion of the spindle 7, so as to permit free movement therebetween.

In using the device embodying my invention, the entire member, as shown in Fig. 3 is placed upon the turntable 5 with the upper end of the spindle 7 disposed within the hollow lower portion 27 of the record centering member 15. The device is supported by the roller members 20 and is rotatable with respect to the turntable 5 and spindle 7, the wearing plate 6 moving with the turntable. A phonograph record 28 is then placed upon the roller members 20 with the portion 26 of the pin 25 projecting through the centrally disposed opening 29 thereof in order to properly center the record 28. The record is supported upon the three soft rubber rollers 20 only. The extreme end of the arm 19, which projects beyond the outer edge of the turntable is adapted to be engaged, as for example by a weighted member 30, to prevent bodily rotation of the entire device 14.

The turntable 5 is rotated in a clockwise direction, as indicated in Figs. 1 and 2, by the arrows 9. As the device 14 is prevented from rotating by the extension of the arm 19, the roller members 20 will be rotated in the direction indicated by the small arrows 31 in Fig. 2. The rotation of the roller members 20 causes rotation of the phonograph record 28 in a counter-clockwise direction as indicated by the arrows 32. Thus, the power imparted by the turntable 5 to the device 14 is utilized to rotate the record 28 in a direction opposite to that of the turntable 5.

If desired, the wearing plate 6 may be dispensed with, if the felt surface of the turntable is quite smooth.

It is desirable, in order to reduce the wear on a phonograph record to a minimum, to dispose the stylus of the reproducer at an angle to the surface of the record which is obtuse with respect to that portion of the record which has but recently passed under the stylus. If the reproducer remains in its normal position and the direction of rotation of the record is reversed, the angle between the record and the stylus will be acute instead of obtuse, causing a tendency for the stylus to dig into the record, thus injuring it. In order to avoid such occurrence, I move the reproducer from the normal right hand position, as shown at 13, to the left hand position, as shown at 11, when the record is rotated in a counter-clockwise direction. This difficulty may also be avoided by the use of a suitable knuckle joint in the tone arm 10 whereby the reproducer 11 and stylus 12 may be properly disposed with respect to the record for either direction of rotation.

While I have shown but one form of my

invention and described in detail but a single application of the same, it will be obvious to one skilled in the art that many modifications and changes may be made therein without departing from the spirit and scope of the appended claims.

I claim as my invention:

1. A phonograph record supporting and actuating device comprising a plurality of roller members adapted to engage and be actuated by a rotatable phonograph turntable and to support and actuate a phonograph record in a direction opposite to that of the turntable.

2. In a phonograph-record-propelling device, in combination, a supporting means for a phonograph record adapted to be located on a phonograph turntable and comprising a roller member operatively engaging the turntable and the record and having its axis of rotation perpendicular to the axis of the turntable, whereby said record is caused to rotate in a direction opposite to the turntable.

3. In a phonograph-record-propelling device, in combination, a supporting means for a phonograph record located on a phonograph turntable and comprising a roller member operatively engaging the turntable and the record and having its axis of rotation perpendicular to the axis of said turntable, said roller member being adapted to rotate freely about its own axis but being prevented from rotating about the axis of the turntable, whereby the record is caused to rotate in a direction opposite to the turntable.

4. In combination with a phonograph having a power propelled turntable adapted to support and actuate phonograph records, means adapted to be mounted on said turntable comprising a support for a plurality of rotatably mounted roller members, said roller members being adapted to engage and be rotated by said turntable, and means for preventing the rotation of said roller support.

5. In combination with a phonograph having a power propelled turntable adapted to normally support and actuate phonograph records, means adapted to be mounted on said turntable comprising a stationary frame provided with a record centering pin and a plurality of radially extending arms, and a plurality of roller members rotatably mounted on said arms, said roller members engaging said turntable and supporting said frame, said rollers being adapted to support a phonograph record and cause it to rotate in a direction opposite to the turntable.

6. In combination with a phonograph having a power propelled turntable adapted to support and actuate phonograph records, means adapted to be mounted on said turn-

table comprising a frame provided with a record centering pin and a plurality of radially extending arms, and a plurality of roller members rotatably mounted on said arms, said roller members being supported upon and rotated by said turntable, and means for preventing the rotation of said frame.

7. In combination with a phonograph having a rotatable turntable, power means

for rotating said turntable, and means adapted to rest upon said turntable to support a phonograph record and to rotate it in a direction opposite to that in which the turntable is operating.

In testimony whereof, I have hereunto subscribed my name this 17th day of April, 1922.

GEORGE M. LITTLE.