June 23, 1931. K. EFTIHIOS 1,811,003

PHONOGRAPH ATTACHMENT

Filed March 21, 1929 2 Sheets-Sheet 1

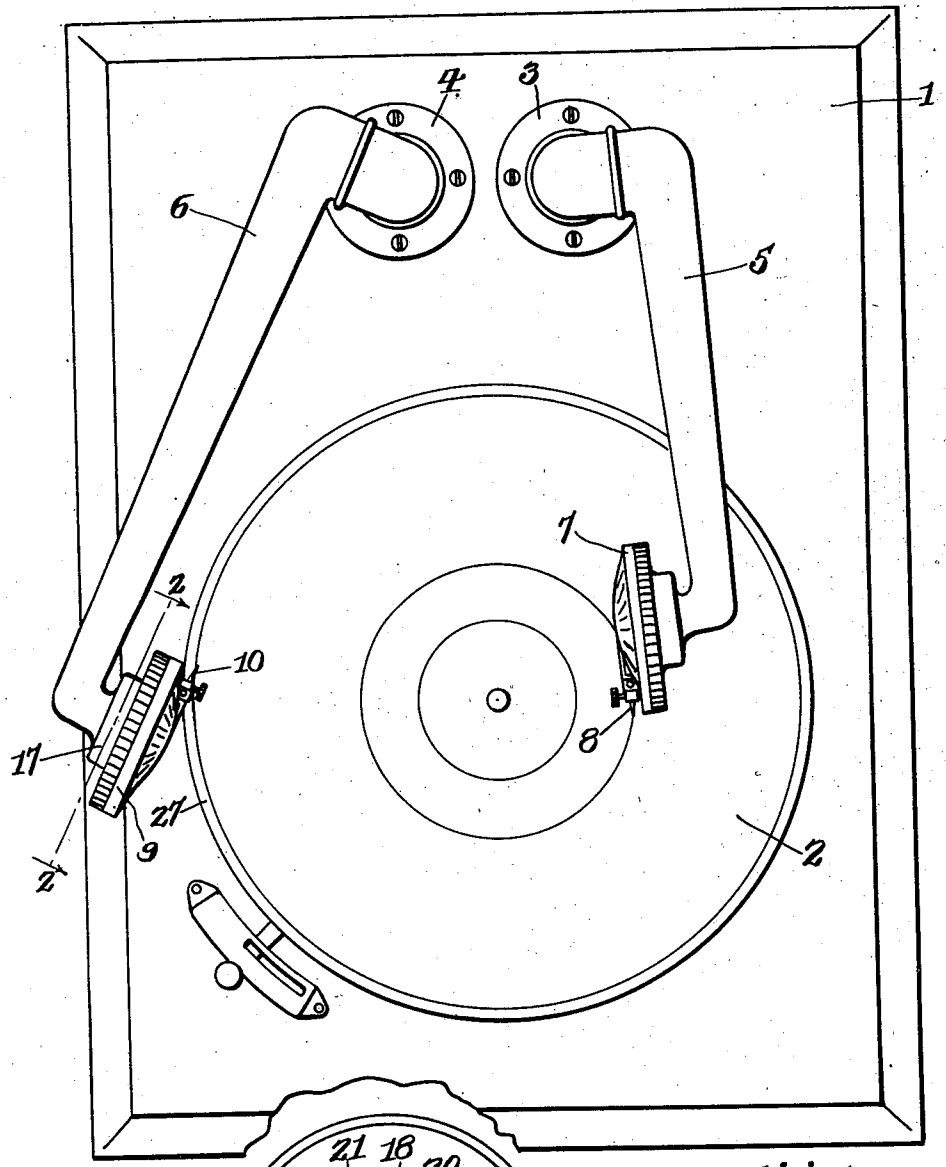


Fig. 1.

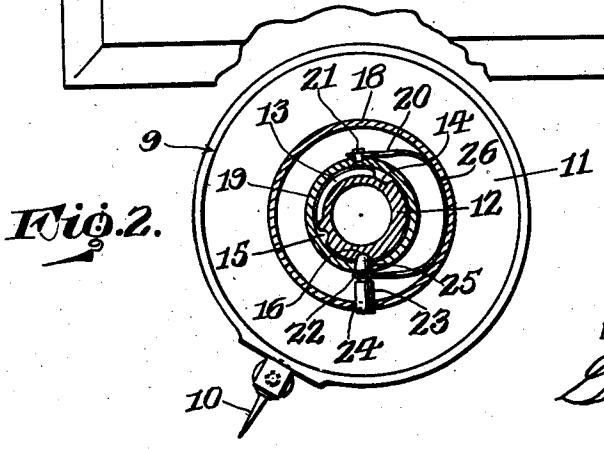


Fig. 2.

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Filed March 21, 1929 2 Sheets-Sheet 2

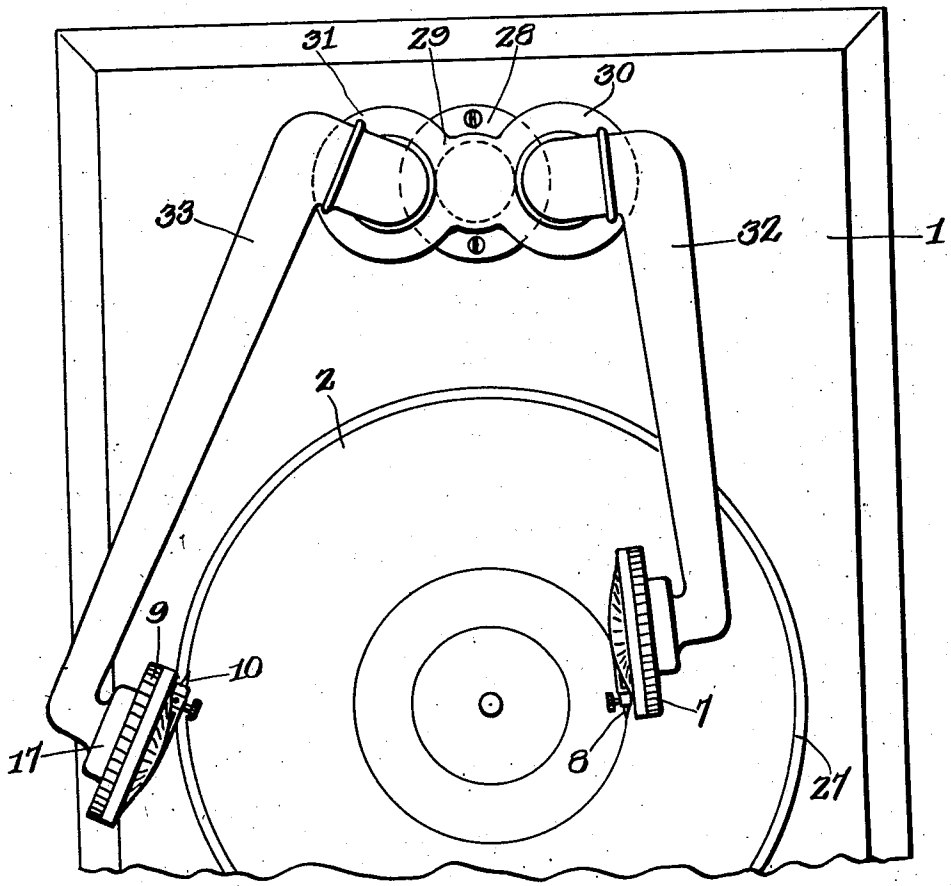


Fig. 3.

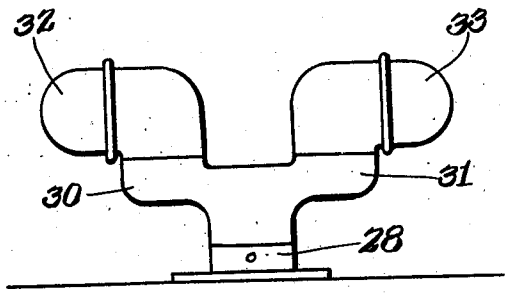


Fig. 4.

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UNITED STATES PATENT OFFICE

KOSMOS EFTIHIOS, OF NEW ORLEANS, LOUISIANA

PHONOGRAPH ATTACHMENT

Application filed March 21, 1929. Serial No. 348,947.

This invention relates to an attachment for phonographs, more particularly to a double tone arm attachment therefor, and has for its primary object to provide, in a manner as hereinafter set forth, an attachment of such class by means of which a record may be played continuously.

A further object of the invention is to provide a double tone arm attachment as aforesaid, in which each of the arms is provided with a reproducer and stylus and wherein the styli are adapted to be alternately applied to a record at substantially diametrically opposite points thereof.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter more particularly described, and as illustrated in the accompanying drawings wherein are shown embodiments of the invention, but it is to be understood that such description and drawings are to be taken as illustrative and that the invention is intended to be limited only by the scope of the claim hereunto appended.

In the accompanying drawings in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a top plan of a phonograph showing an embodiment of my invention in association therewith.

Figure 2 is a section taken on line 2—2 of Figure 1.

Figure 3 is a view similar to Figure 1 showing a modified form of my invention.

Figure 4 is a rear elevation of the form illustrated in Figure 3.

Referring to the drawings in detail, the numeral 1 designates a phonograph body having a record 2 in operative position thereon. Adjacent the rearward edge thereof, the body 1 is provided with a pair of tone arm bases 3 and 4 for respectively connecting a pair of tone arms 5 and 6 with the body 1. The tone arm 5 is provided at its forward end with a reproducer 7 having a stylus 8. The reproducer 7 may be connected with the tone arm 5 in any well known manner.

The tone arm 6 is of materially greater length than the tone arm 5 and is provided at its forward end with a reproducer 9 having a stylus 10. Projecting from the back 11 of the reproducer 9 is a collar 12 which is formed with a circumferentially disposed groove 13 extending over a portion of its circumference. Communicating with the groove 13 at one end thereof is a right angularly disposed groove 14 which extends through the free edge of the collar 12. Adjacent the opposite end of the groove 13, the collar 12 is provided with a depression 15 and in spaced relation to the depression 15, circumferentially of the collar, the latter is provided with a similar depression 16.

The tone arm 6 is connected with the reproducer 9 by means of a head 17 formed on the forward end of the tone arm and provided with a pair of cencentrically arranged, spaced annular flanges 18 and 19. Disposed between the flanges 18 and 19 is a spring 20, one end of which is secured to the flange 19 by means of a suitable stud 21, and the other end of which is secured to a neck portion 22 of a pin 23. The outer end of the pin 23 extends through an opening 24 through the flange 18 and the inner end of the pin 23 is of tapered formation and extends through an opening 25 through the flange 19.

With the ends of the spring 20 so secured, the central portion thereof bears against the inner face of the flange 18, as indicated at 26, and the resiliency of the spring normally exerts an inward pressure on the pin 23.

In assembling the reproducer 9 and head 17, the pin 23 is brought into alignment with the groove 14, after which the collar 12 is inserted within the flange 19, and the reproducer is rotated with respect to the head to bring the inner end of the pin 23 within the groove 13. When the reproducer 9 is rotated with respect to the head 17 to bring the inner end of the pin 23 into engagement with the depression 15, the stylus 10 will be projected from the reproducer in the usual manner, or in other words, in the manner in which the stylus 8 projects from the reproducer 7 of the tone arm 5 as illustrated in Figure 1. By a further rotation of the reproducer 9, so as to bring the inner end of the pin 23 into the depression 16, the stylus

10 will be projected from the reproducer 9 in the manner as indicated in Figure 1 so as to incline in the direction of travel of the grooves in the record 2 when the latter is rotating in a clockwise direction, whereby the stylus 10 may be applied to the record at a point thereon substantially diametrically opposite to the point of application of the stylus 8.

In the operation of my attachment, one of the tone arms, for instance the arm 5 is positioned in a manner to apply the stylus 8 to the record 2 to reproduce the record. The tone arm 6 is then positioned in a manner to bring the stylus 10 at rest on the marginal portion 27 of the record adjacent the outermost convolution of the grooves therein, where it remains during the reproduction of the record through the use of the stylus 8.

When the entire record has been reproduced through the reproducer 7, the tone arm 6 is manually pushed slightly inwardly to engage the stylus 10 with the grooves and the record is immediately reproduced through the reproducer 9. By alternately applying the styli 8 and 10 to the record in the above manner, the record may be played continuously and indefinitely.

The embodiment illustrated in Figures 3 and 4 is the same as that above described, except that only one tone arm base 28 is utilized. Mounted on the base 28 is an attachment 29 which is provided with a pair of socket forming members 30 and 31. Respectively mounted on the socket forming members 30 and 31 is a pair of tone arms 32 and 33, which engage the socket forming members in the same manner as the tone arms 5 and 6 engage the tone arm bases 3 and 4 in the embodiment illustrated in Figure 1.

It is thought that the many advantages of an attachment in accordance with this invention will be readily apparent, and although the preferred embodiments are as illustrated and described, it is to be understood that various changes in the size, shape and arrangement of parts may be made, so long as such changes fall within the scope of the invention as defined in the appended claim.

What I claim is:

In a phonograph, a tone arm, a sound reproducer having a stylus for engagement with a record, and coacting means on said tone arm and reproducer for adjustably securing the latter with the stylus selectively extending at forward and rearward inclinations whereby the reproducer may be applied to a record at diametrically opposite points thereof, said securing means including a head on the tone arm and formed with spaced, concentrically arranged flanges provided with aligned openings, a spring disposed between the flanges, a pin extending through the outermost of said openings and forced by said spring to project through the innermost of said openings, a collar formed on the reproducer and extended within the innermost of said flanges, said collar having its periphery formed with a pair of spaced depressions for the selective reception therein of the inner end of said pin to resiliently lock the head and reproducer against relative rotation, said depressions being disposed at equal distances from and on opposite sides of a plane passed through the stylus and perpendicular to the plane through which the stylus is movable to extend the same at said forward and rearward inclinations.

In testimony whereof, I affix my signature hereto.

KOSMOS EFTIHIOS.