

C. I. LAMB.  
SOUND REPRODUCING MACHINE.  
APPLICATION FILED JAN. 28, 1907.

908,778.

Patented Jan. 5, 1909.

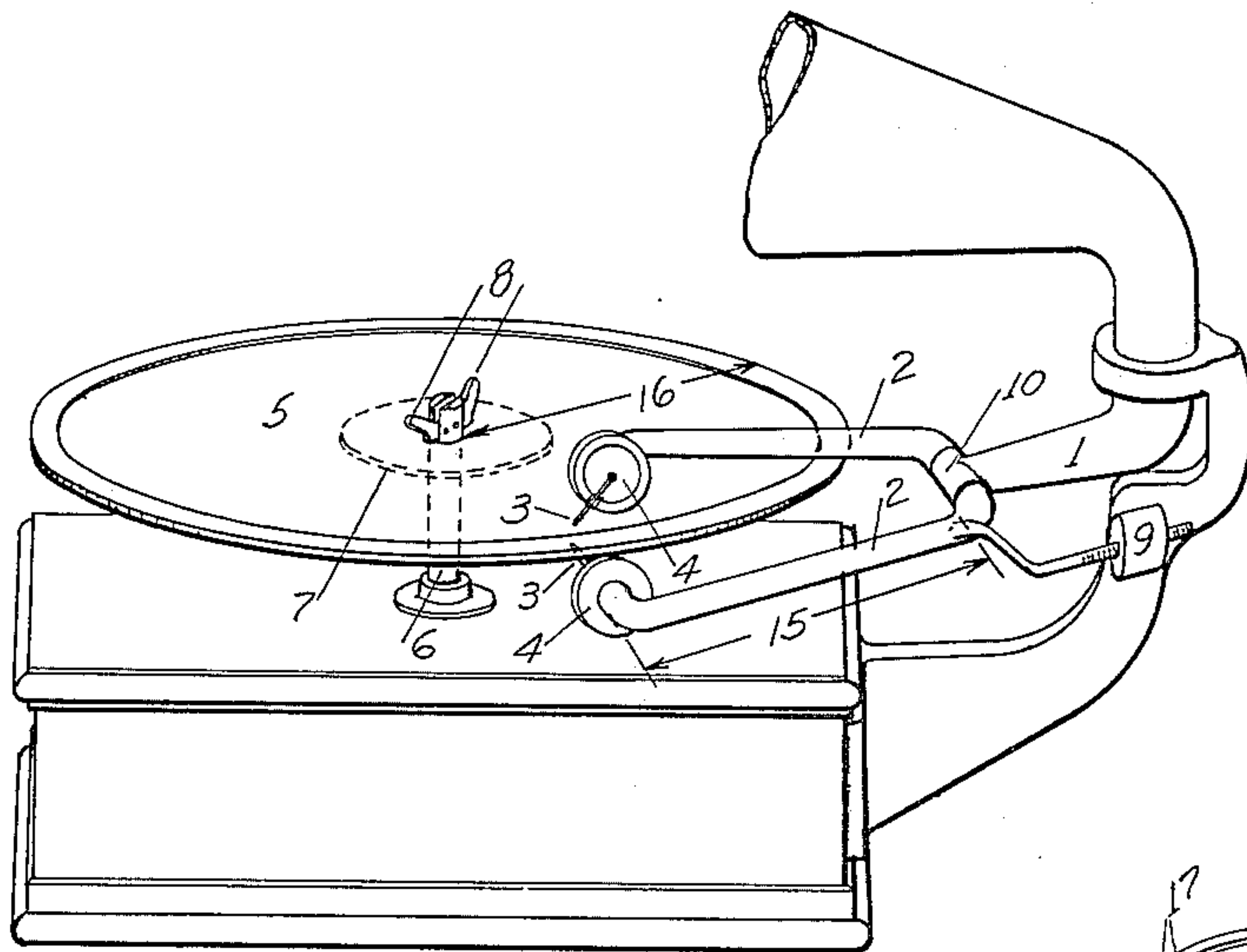


Fig. 1.

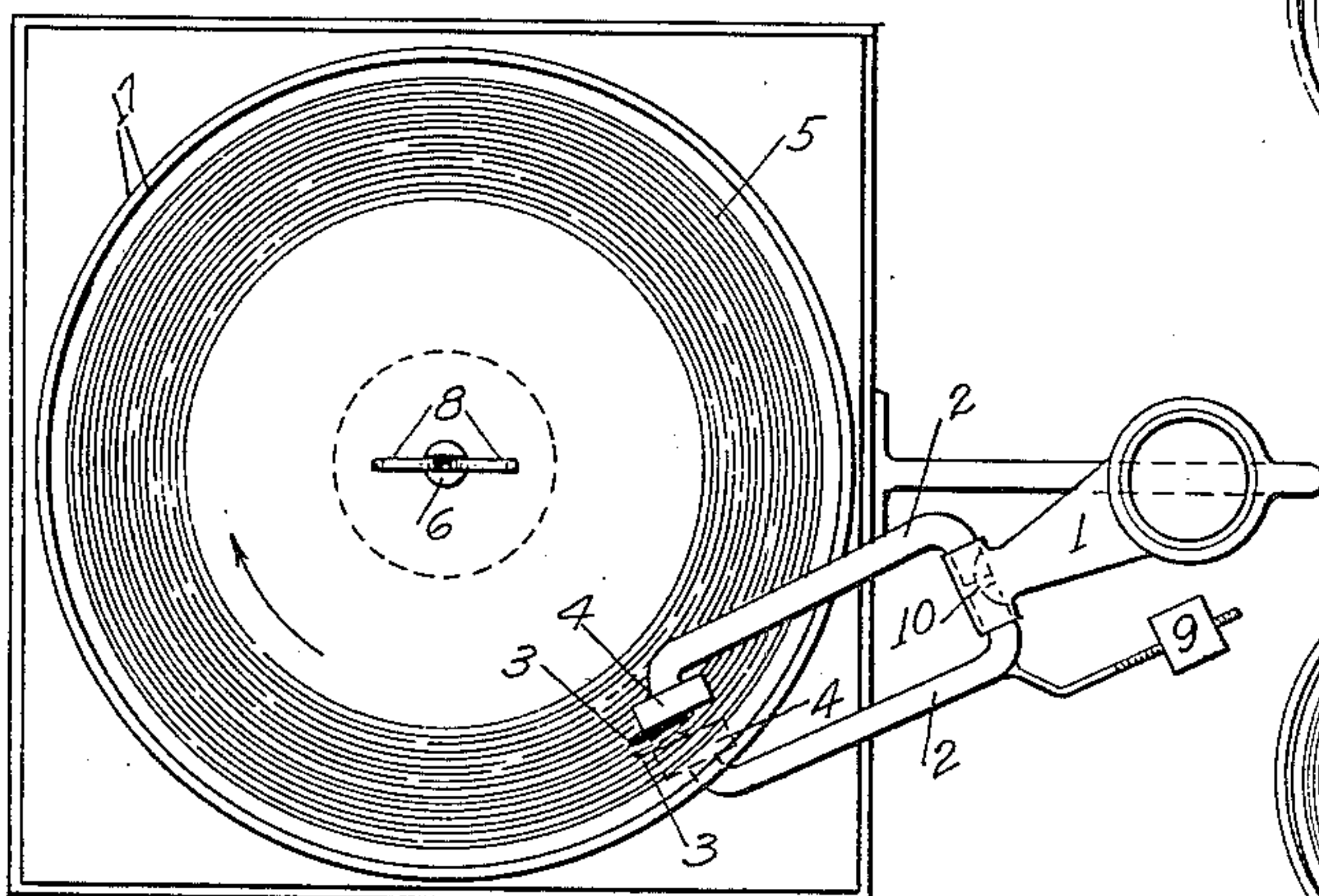


Fig. 2.

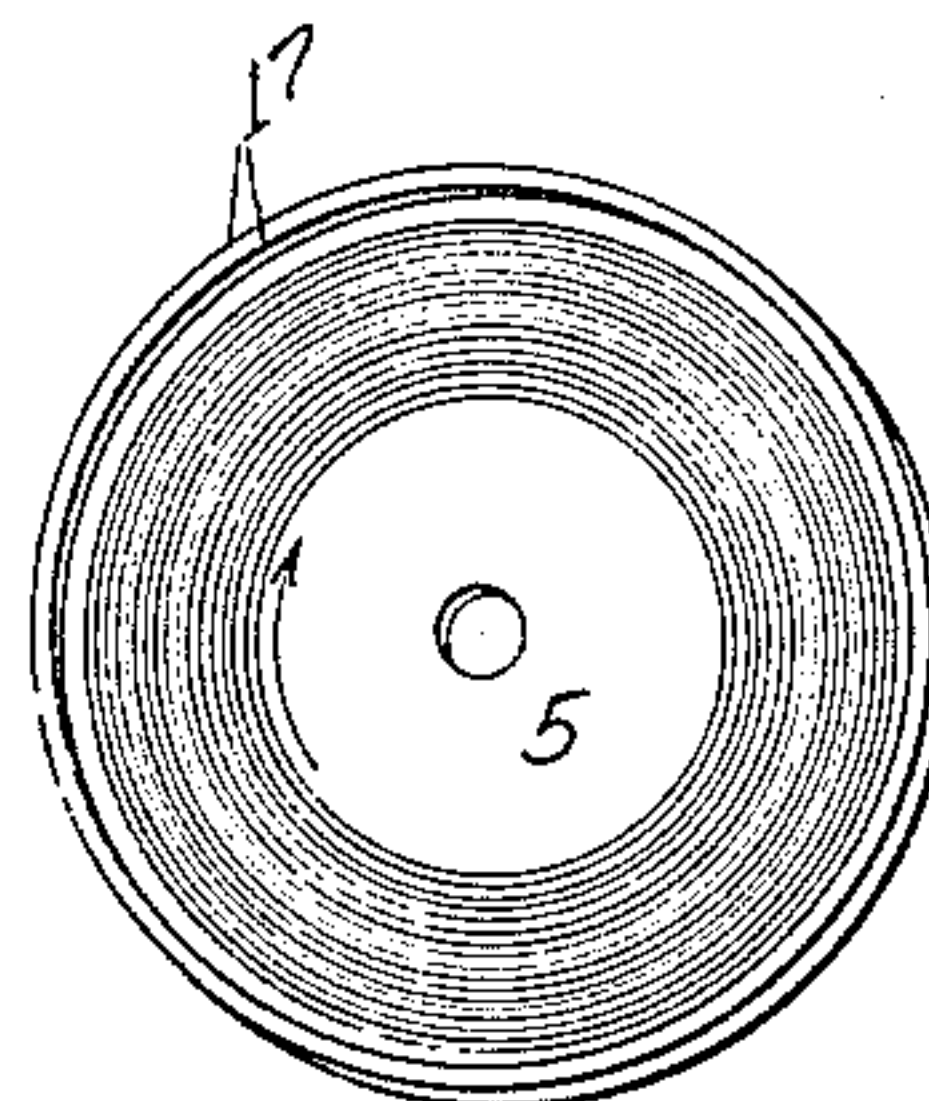


Fig. 3.

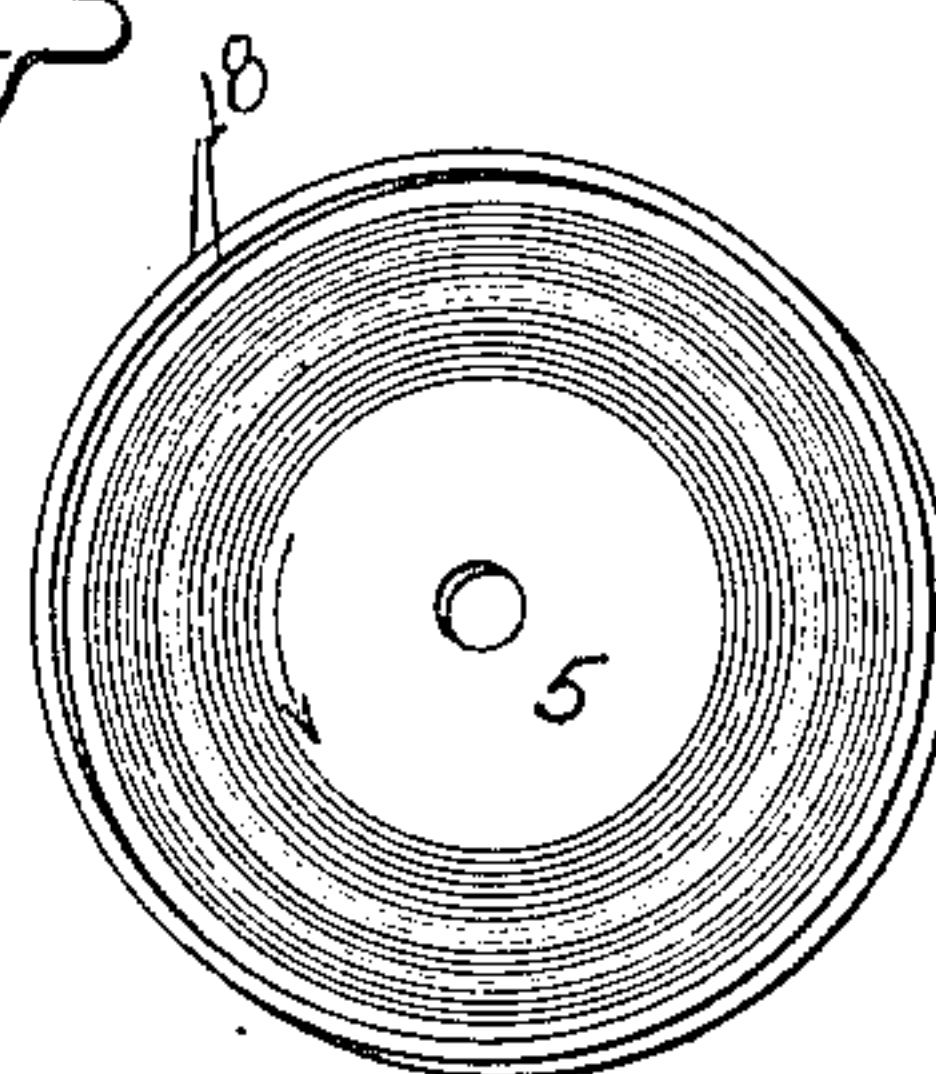


Fig. 4.

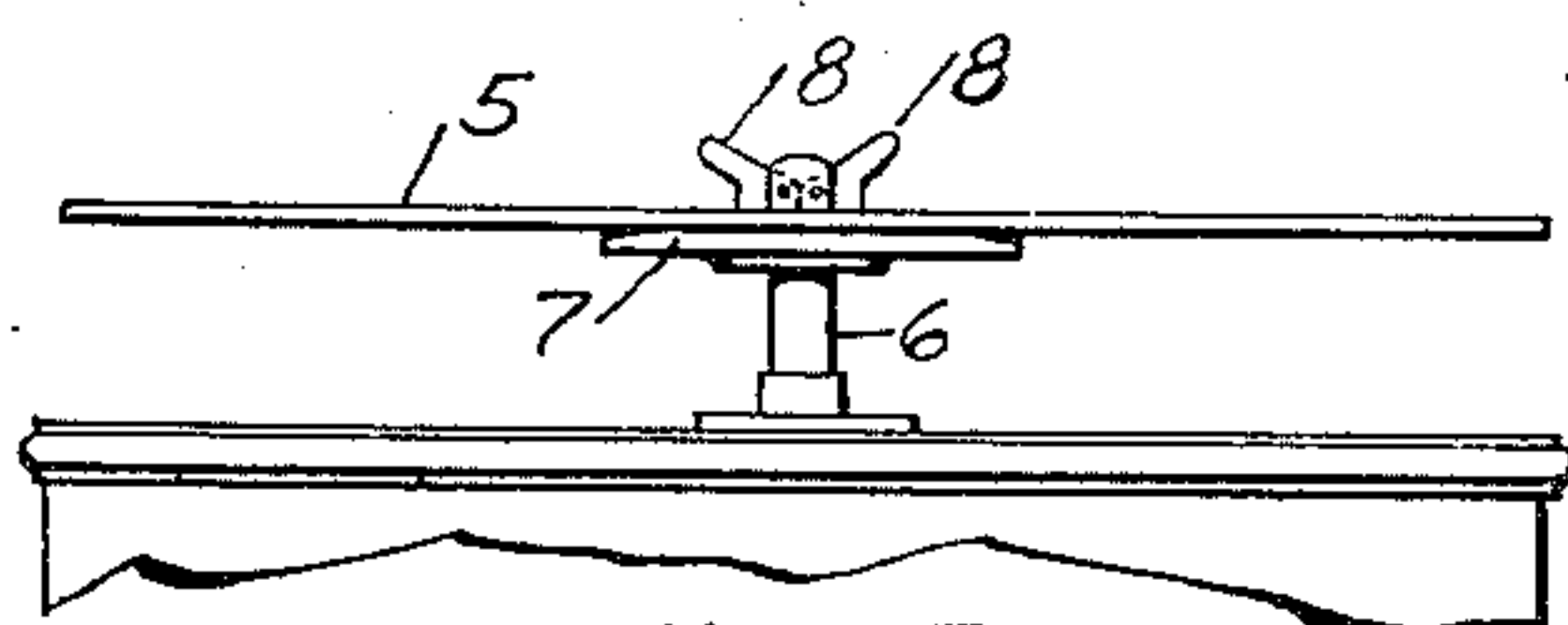


Fig. 5.

WITNESSES:

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BY

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# UNITED STATES PATENT OFFICE.

CHARLES IRA LAMB, OF CHATTANOOGA, TENNESSEE.

## SOUND-REPRODUCING MACHINE.

No. 908,778.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed January 28, 1907. Serial No. 354,570.

*To all whom it may concern:*

Be it known that I, CHARLES IRA LAMB, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented new and useful Improvements in Sound-Reproducing Machines, of which the following is a specification.

My invention relates to improvements in apparatus for recording and reproducing sounds, the improvements being directed to that kind of sound recording and reproducing apparatus, wherein a tablet or disk record is used, with a stylus carried on a lever, moving eccentrically with reference to the center of the record tablet; the purpose of the invention being the permitting of the reproduction of sound with much clearer tone and better volume than is now allowed by apparatus of the kind mentioned.

One feature of my invention relates to the construction of a double sound producing record tablet or disk record, and another feature, to means for adjustment in combination therewith. Each of the two features of improvement is designed to overcome certain difficulties and imperfections which have been heretofore encountered in the operation of sound reproducing machines, and more particularly to eliminate the harsh tones of some of the machines of the class described, by causing a louder tone of more volume to be reproduced.

With the objects stated in view, my invention consists in the novel construction and combination of parts, hereinafter described, with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the drawings: Figure 1 is a side elevation of an apparatus for reproducing sound, embodying my invention; Fig. 2 is a plan view of the arrangement of the two sound boxes; Fig. 3 is a view of the disk showing the direction of the lines indicating the sound indentations; Fig. 4 is a view of the lower side of the disk showing the lines indicating sound indentations; and, Fig. 5 is a detail view showing the axis on which the disk rotates bringing it into contact with the reproducers.

Referring to the drawings, in which the same reference numerals indicate the same or corresponding parts of the mechanism throughout the drawings, and particularly Fig. 1, the bracket arm 1 supports the two arms 2, one of which terminates in a sound

box 4, while the other terminates in another sound box 4. The needles 3 contact with the disk 5, and, by encountering the indented lines, cause the sound to be conveyed by means of the usual means employed in such instruments to the ear of the listener.

The numeral 6 represents the axis upon which the disk 5 rotates, and 7 is the axis plate on which the disk rests; two springs 8 prevent the disk from slipping, and hold it in a position of rigidity. The two sound boxes 3 are held in place by the joint 10. To the lower arm 2 is fastened a weight 9 which causes the needle 3 to press against the lower side of the disk 5. The two arms 2, being thus connected to the joint 10, provide for communication with a common outlet.

In Figs. 3 and 4 is shown the manner in which the lines causing the reproduction of the sound run, by reference to which it will be noticed that the lines on the lower side, shown in Fig. 4, run in the opposite direction to those on the upper side, as indicated in Fig. 3. The reason for this is that the idea of the invention is to have a double disk or record having the same sounds to be reproduced and requiring the needles to constantly be upon the same sound, as the disk rotates around the axis.

In Fig. 5 is shown the axis 6 which is connected with the mechanism running the machine, causing it to rotate. The disk is placed over the upper end and rests firmly on the disk plate 7, firmly fixed to the axis and is a part of same, while the disk is held in place by the springs 8, adapted to be released when it is desired to take the record off the axis.

Having thus described the various parts, it now remains to show the manner in which each is to operate. In an apparatus of this character using the flat disk, rotating around the axis of the machine, only one side, the upper surface, has been utilized for the purpose of reproducing sound. Formerly, the disk rested on a felt base directly on the top of the box containing the mechanism of the sound reproducing machine; in my invention, the disk is several inches above (Figs. 1 and 5) so that the reproducers, two in number, can rest one above the disk and the other underneath, (Fig. 1), and as a sound is reproduced by the upper reproducer the identical sound is reproduced by the sound reproducer which contacts with the lower side of the disk. As a result of this construction,



a greater volume of sound is reproduced from the double record, adding purity to the tones of the sounds so reproduced, and strengthening the reproduced sounds in such a manner as to reproduce the sounds with a minimum of the harsh metallic resonance experienced in other sound reproducing apparatus, prior to my invention.

In the adjustment of the disk and the construction of the parts carrying the reproducers, care must be exercised so that the disk will be enabled to have room between its center and circumference equal to the distance from the edge of the disk to the joint holding the two reproducers. In other words the distance 15, must be equal to the distance 16, see Fig. 1.

It is essential that the needles commence and remain on the corresponding parts of the records in the opposite faces of the record disk, and especially is it a requisite that they do not slip off the record; hence, I have provided an embossed ridge shown in Fig. 3 and Fig. 4 by the lines 17 and 18.

In the disk to be used in the invention, both sides are to be utilized for the reproducing of sound, the only difference between the sides being the fact, as previously mentioned, that the lines on the lower side run in a reverse manner to the lines in the upper side. In the preparation of the disk, the method to be used can be either the stamping from the same plate, in regular and reverse order, or the simultaneous stamping from two plates, one being the reverse of the other, either method sufficing.

Having now fully described my invention,

what I claim as new, and desire to secure by Letters Patent is:

1. In a machine of the class set forth, a rotatable record disk having similar sound records upon its opposite faces, means for simultaneously reproducing sound from said records, and a common outlet for the sound reproduced from both of said records, substantially as described.

2. In a machine of the class set forth, a horizontal rotatable record disk having similar sound records upon its opposite faces, means for simultaneously reproducing sound from said records, the sound boxes of which are carried by separate arms above and below the disk, a common outlet to which the arms are connected, and a counterbalance for the lower arm adapted to press the stylus of the sound box carried thereby into contact with the lower face of the disk, substantially as described.

3. In a machine of the class set forth, a rotatable record disk having similar sound records upon its opposite faces, means for simultaneously reproducing sound from said records, the lines of the sound records on the opposite sides of said record disk running in opposite directions, and a common outlet for the sound reproduced from both of said records, substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES IRA LAMB.

Witnesses:

E. L. WHITAKER,  
O. SWANEY.