T. A. EDISON.

PHONOGRAPH REPRODUCER.

APPLICATION FILED OCT. 28, 1909.

1,052,656. Patented Feb. 11, 1913.

Fig. 1

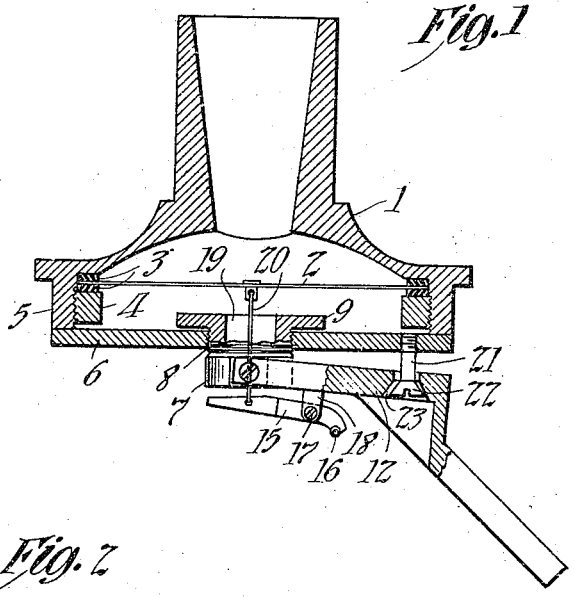
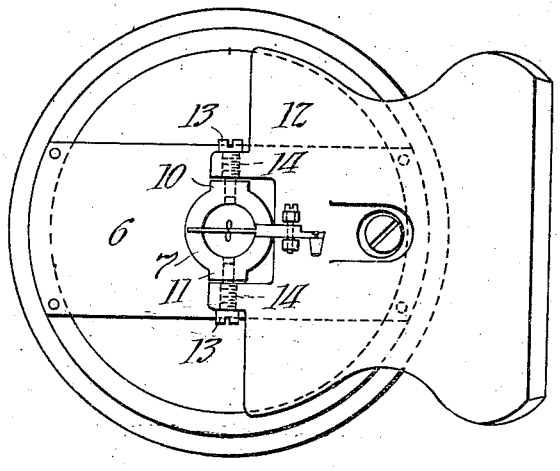


Fig. 2



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UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF LLEWELLYN PARK, WEST ORANGE, NEW JERSEY, ASSIGNOR TO THOMAS A. EDISON, INCORPORATED, OF WEST ORANGE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

PHONOGRAPH-REPRODUCER.

1,052,656. Specification of Letters Patent. Patented Feb. 11, 1913.

Application filed October 28, 1909. Serial No. 525,063.

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, a citizen of the United States, and a resident of Llewellyn Park, West Orange, Essex county, New Jersey, have invented certain new and useful Improvements in Phonograph-Reproducers, of which the following is a description.

My invention relates to phonograph reproducers and has for its object the provision of means whereby the stylus lever may have greater freedom of movement in tracking the grooves of the sound record, and particularly in movements transverse to the record groove.

While great facility of movement of the stylus lever both in a direction parallel to and transverse to the record groove is important for reproduction from any sound record of the hill and valley type, it is particularly important in the case of a record having 200 threads or a greater number of threads per inch, owing to the thin walls between the record grooves which might be broken down or jumped across by a stylus, the parts moving with which have considerable inertia.

In phonograph reproducers as commonly constructed, any movement of the stylus lever transverse to the record groove moves or twists the link connecting the stylus lever to the diaphragm, and a certain amount of inertia of this link must be overcome during the movement. I overcome this difficulty in my present invention by pivotally connecting the stylus lever to a floating weight which is pivotally connected to the sound box body, the pivotal connection therefor being in the same plane at right angles to the diaphragm as the link connecting the stylus lever to the diaphragm. By this means the floating weight, which is mounted to have a limited movement transverse to the record groove, may so move transversely together with the stylus lever without moving the link from its normal position or in any way stressing or distorting the same.

In order that my invention may be more clearly understood, attention is hereby directed to the accompanying drawings, illustrating a preferred form thereof, in which—

Figure 1 is a central vertical section through a reproducer equipped with my invention, certain parts being shown in side elevation. Fig. 2 is a bottom plan view thereof.

Referring to the drawings, the usual sound box 1 is provided with diaphragm 2, which is clamped between gaskets 3, the whole being held in place by ring 4, which is threaded within flange 5 of sound box 1 in the usual manner. A bridging member 6 is secured to the bottom of flange 5 of the reproducer in such a manner as to extend diametrically across the same as shown. A cylindrical member 7 screw threaded on its periphery, as shown at 8, and having an annular flange 9 at its upper end, is threaded through a suitable opening for the same in member 6, so that cylindrical member 7 is axially in alinement with the center of diaphragm 2. Member 7 is provided with lugs 10 and 11 on opposite sides at its lower end, and to these lugs, floating weight 12 is pivotally connected by screws 13, which extend through lugs or ears 14 formed on the floating weight 12, and into the lugs 10, 11 on member 7, the lugs on the floating weight being so formed as to embrace member 7 and come closely adjacent to lugs 10, 11 on member 7. Screws 13 are thus placed in a plane which is substantially in alinement with the center or axis of diaphragm 2. Stylus lever 15 bearing stylus 16 is pivotally connected to floating weight 12 by means of pivot pin 17, which is supported in ears 18 depending from floating weight 12 or in any other convenient manner. Cylindrical member 7 is provided with a passageway 19 which extends axially through the same. Link 20 connecting the center of diaphragm to the tail of stylus lever 15 is extended through this passageway, being positioned substantially in the same plane as pivots 13 of the floating weight. Cylinder member 7 being rotatable in bridging member 6, a limited amount of movement of the floating weight transverse to the record groove is permitted. The floating weight is supported, when stylus 16 is not in contact with the record, by means of screw 21 which is threaded within member 6 and is provided with a head 22 of a conical shape, engaging within a conical opening 23 on the lower side of floating weight 12.

Having now described my invention, what I claim and desire to protect by Letters Patent is as follows:

1. In a phonograph reproducer, the combination with the sound box, of vibratory means therein, a stylus lever, a member rotatably supported from said sound box centrally thereof and having a passageway therethrough, a link extending through said passageway and connecting said lever to said means, a floating weight, pivot means for said lever carried by said weight, and means pivotally supporting said weight from said member, substantially as described.

2. In a phonograph reproducer, the combination with the sound box, of vibratory means therein, a stylus lever, a cylindrical member rotatably supported from said sound box centrally thereof and having a passageway axially therethrough, a link extending through said passageway and connecting said lever to said means, a floating weight, pivot means for said lever carried by said weight, said weight being provided with lugs embracing said cylindrical member, and pivot means for said weight extending through said lugs into said member, substantially as described.

3. In a phonograph reproducer, the combination with the sound box, of vibratory means therein, a stylus lever, a bridging member secured to the face of said sound box, a cylindrical member rotatably mounted in said bridging member and having a passageway axially therethrough, a link extending through said passageway and connecting said lever to said means, a floating weight, pivot means for said lever carried by said weight, said weight being provided with lugs embracing said cylindrical member, and pivot means for said weight extending through said lugs into said member, substantially as described.

4. In a phonograph reproducer, the combination with the sound box, of vibratory means therein, a stylus lever, a member rotatably supported from said sound box and having a passageway therethrough, a link extending through said passageway and connecting said lever to said means, a floating weight, pivot means for said lever carried by said weight, and means pivotally supporting said weight from said member for up and down movement, the said means being located in a substantially vertical plane extending transversely to the longitudinal axis of said lever and containing the axis of said link, substantially as described.

This specification signed and witnessed this 26th day of October 1909.

THOS. A. EDISON.

Witnesses:
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