A. URBAHNS.

PHONOGRAPH REPRODUCER.

APPLICATION FILED MAR. 17, 1910.

970,142. Patented Sept. 13, 1910.

Fig. 1,

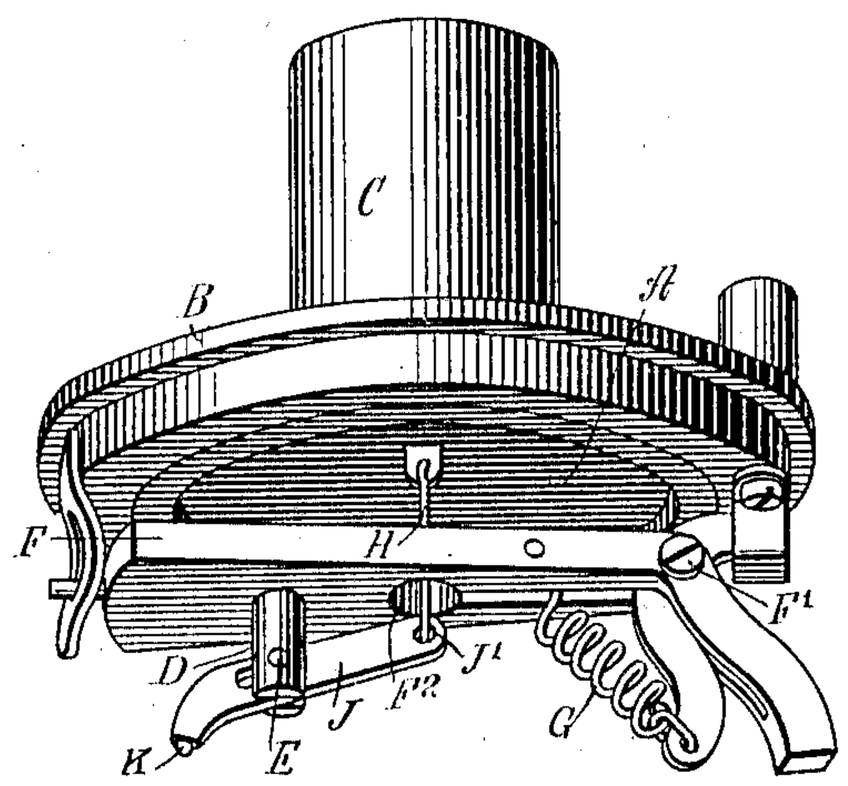


Fig. 2,

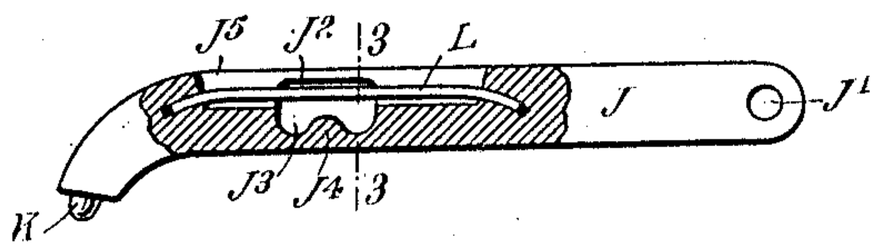
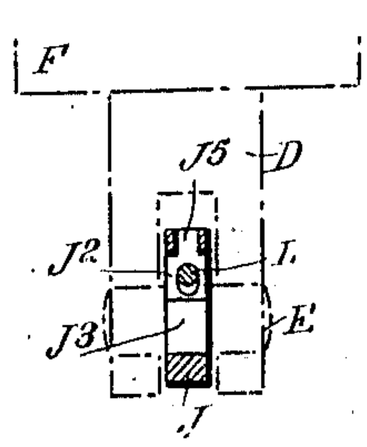


Fig. 3.



WITNESSES:

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ANTHONY URBAHNS, OF MINDEN, IOWA.

PHONOGRAPH-REPRODUCER.

970,142. Specification of Letters Patent. **Patented Sept. 13, 1910.**

Application filed March 17, 1910. Serial No. 549,837.

To all whom it may concern:

Be it known that I, ANTHONY URBAHNS, a citizen of the United States, and a resident of Minden, in the county of Pottawattamie and State of Iowa, have invented a new and Improved Phonograph-Reproducer, of which the following is a full, clear, and exact description.

My invention relates to phonograph reproducers, and has for its object to enable the loudness of the sound to be varied as may be desirable, in view of the size of the room in which the phonograph is operated, or in accordance with the character of the music or other matter played. For this purpose I have provided a certain novel construction of a variable connection between the vibrating diaphragm and the record-engaging point or jewel.

A specific embodiment of my invention is illustrated in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a perspective view showing my improvement applied to the reproducer of a Columbia cylinder phonograph; Fig. 2 is a separate view of the reproducer lever, with parts in section, to disclose my improved construction of this part; and Fig. 3 is a cross section on the line 3—3 of Fig. 2, showing also, in dotted lines, the fulcrum of the reproducer lever.

In its general features, the reproducer shown in Fig. 1 does not differ from the one now used with Columbia cylinder phonographs.

A is a diaphragm suitably secured in a casing B provided with a sound conduit C, and a forked post D, carrying a fulcrum pin E, is secured to an arm F fulcrumed at F′, and under the influence of a spring G. From the diaphragm A an operating link H extends through an opening F^2 in the arm F.

So far as above described, the parts may be of any usual or approved construction.

My invention relates more particularly to the reproducer lever J, connected with the link H at J′. This lever, instead of simply swinging on the fulcrum E, as in the ordinary construction, is also capable of sliding lengthwise, thereby varying the distance between the fulcrum E and the reproducing point or jewel K adapted to engage the sound record, and also varying the distance between the said fulcrum and the operating connection at J′. For instance, the fulcrum pin E passes through a transverse slot or recess J^2, the extent of which, measured lengthwise of the lever J, is considerably greater than the width or diameter of the fulcrum pin, and the slot is preferably made with a plurality of notches J^3 in one of its longitudinal walls (the lower wall is shown), a bevel-faced projection, such as J^4, separating the adjacent notches. The latter form seats for the fulcrum pin, which is forced into one notch or the other, and held therein, by a spring L engaging the fulcrum pin E on the side opposite the notches. This spring may extend lengthwise within a longitudinal recess J^5, intersecting the transverse recess J^2, the ends of the spring being secured to the lever. By pressing down on the lever J, the fulcrum pin E will be caused to enter the portion of the slot J^2 above the projection J^4, and then the lever can be slid lengthwise on the fulcrum pin to bring the latter into registry with one or the other notch J^3, the spring L bringing the pin E into such notch as soon as the lever J is released. A simple pull on the lever lengthwise, will also shift it for adjustment. I am thus enabled to vary the leverage of the lever J, and this also varies the pressure exerted on the diaphragm A by the movements of the lever J and of the operating link H, and therefore the loudness of the sounds emitted. The sounds will be loudest when the fulcrum pin E is nearest the reproducing point K.

Loud sounds will be emitted when the instrument is played in large halls or in the open air, also for certain classes of music, such as dances or band music, while soft sounds are better adapted to songs and to entertainment in the home.

While I have shown two notches J^3, the number could be varied, of course, and other modifications may be made without departing from the nature of my invention, as set forth in the claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A reproducer for talking machines, provided with a vibrating diaphragm, a reproducing lever operatively connected with

the diaphragm and adapted to engage the sound record, said lever being provided with an elongated transverse recess notched at different distances from its end, a fulcrum pin extending through said recess and adapted to become seated in said notches, and a spring carried by the lever and engaging the fulcrum pin on the side opposite said notches.

2. A reproducer for talking machines, provided with a vibrating diaphragm, a reproducing lever operatively connected with the diaphragm and adapted to engage the sound record, said lever being provided with an elongated transverse recess notched at different distances from its end, and with a longitudinal recess intersecting said transverse recess, a fulcrum pin extending through said transverse recess and adapted to become seated in said notches, and a spring carried by the lever and extending lengthwise of the lever within its longitudinal recess, said spring engaging the fulcrum pin on the side opposite to said notches.

3. A reproducer for talking machines, provided with a vibrating diaphragm, a reproducing lever operatively connected with the diaphragm and adapted to engage the sound record, said lever being provided with an elongated transverse recess notched at different distance from its end, a fulcrum pin extending through said recess and adapted to become seated in said notches, and elastic means for holding the fulcrum pin in any one of said notches.

4. A reproducer for talking machines, provided with a vibrating diaphragm, a reproducing lever operatively connected with the diaphragm and adapted to engage the sound record, said lever being provided with an elongated transverse recess notched at different distances from its end, and provided with a bevel faced projection between adjacent notches, a fulcrum pin extending through said recess and adapted to become seated in said notches, and elastic means for holding the fulcrum pins in any one of said notches.

5. A reproducer for talking machines, provided with a vibrating diaphragm, a reproducing lever operatively connected with the diaphragm and adapted to engage the sound record, said lever being provided with an elongated transverse recess, a fulcrum pin extending through said recess, and elastic means for pressing said pin against one of the walls of the recess and preventing accidental longitudinal movement of the lever.

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

ANTHONY URBAHNS.

Witnesses:
JOHN GEIGER,
JOHN ALBRECHT.