

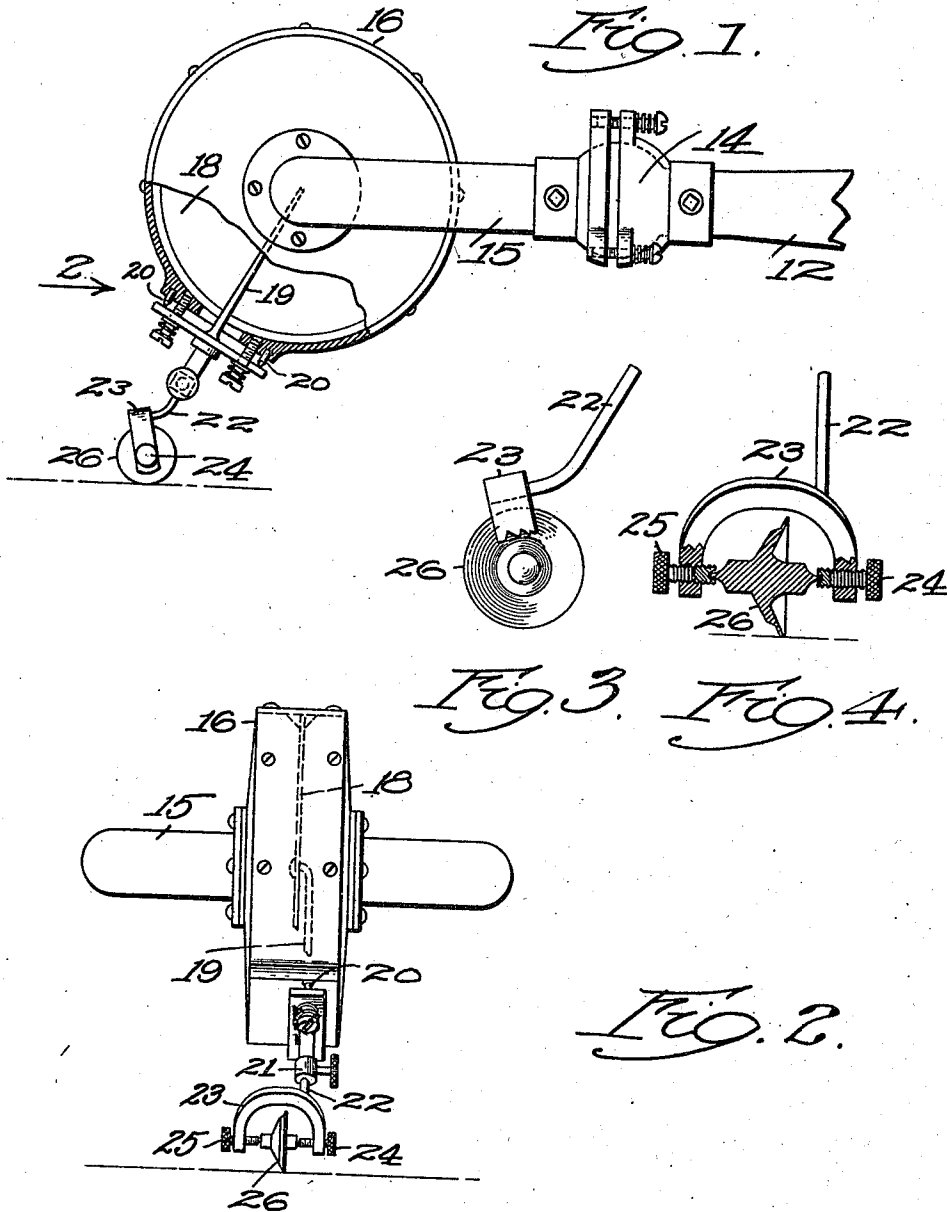
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PHONOGRAPH STYLUS

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UNITED STATES PATENT OFFICE.

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PHONOGRAPH STYLUS.

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To all whom it may concern:

Be it known that I, THEOPHILUS PARSONS, a citizen of the United States, residing at Camp Dodge, in the county of Polk and State of Iowa, have invented a new and useful Phonograph Stylus, of which the following is a specification.

This invention relates to a phonograph, and more particularly to improvements in the sound reproducing elements thereof.

It is one object of my invention to avoid some well-known objections to the usual construction by providing a freely rotatable record engaging disc, preferably having a thin edge adapted to be received in the usual record grooves. This disc construction possesses numerous advantages over the needles commonly used, which advantages will be fully indicated hereinafter.

Another object of my invention is to provide an improved sound box and amplifier construction, by means of which the volume of sound is increased and the quality of tone is also improved.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of my invention is shown in the drawings, in which—

Fig. 1 is a side elevation of a portion of a phonograph embodying my invention;

Fig. 2 is a front elevation of the sound box and record engaging disc;

Fig. 3 is an enlarged side elevation of the disc; and

Fig. 4 is a longitudinal sectional elevation thereof, together with the support in which it is mounted.

Referring to the drawings, I have shown a portion of a phonograph including a horn or other sound amplifier and distributor 12, connected through a universal joint 14 and a connection 15, to a sound box 16, within which a diaphragm 18 is mounted.

A diaphragm lever 19 of the usual type is mounted on pivots 20 on the sound box 16 and has its inner end secured to the diaphragm in the usual way.

The outer end of the diaphragm lever 19

is provided with a socket 21, adapted to receive a pin or stud 22 extending upwardly and rearwardly from a preferably U-shaped support 23. Pivot screws 24 and 25, threaded in the opposite ends of the support 23, provide adjustable bearings for a freely rotatable record engaging disc 26. The disc 26 is preferably formed of some hard material, such as steel or fibre and is also preferably provided with a concave face on one side and a substantially convex face on the opposite side. The disc also has a thin or knife-like edge which enables it to enter and follow the record grooves in a phonograph disc or cylinder.

The stud 22 may be fast in the support 23 or may be loosely secured therein, permitting the support to move angularly about the stud as an axis.

It will be noted that the pin or stud 22 is not positioned in the plane of the edge of the disc 26 but that it is placed substantially to one side thereof. With this construction, the pivotal axis of the diaphragm lever 19 is also necessarily at one side of the plane of the disc. This position of the disc relative to the axis of the lever is important, as the offset position enables me to use the same reproducing mechanism with records in which the sound vibrations are recorded either horizontally as in the Victor type of record, or vertically as in the Edison type of record.

By substituting a freely rotatable disc in place of the usual needle, I greatly prolong the life of the records, as the disc rolls freely along the record groove instead of being dragged over the surface thereof.

Having thus described my invention, it will be evident that changes and modifications can be made therein by those skilled in the art within the spirit and scope thereof as set forth in the claims, and I do not wish to be otherwise limited to the details herein disclosed, but what I claim is:—

1. In a phonograph, a record-engaging element comprising a freely rotatable disc concave on one face and having a relatively thin sharp edge.

2. In a phonograph, a record-engaging

element comprising a freely rotatable disc
formed of hard material, said disc having
a relatively thin sharp edge and being con-
cave on one face only adjacent the edge por-
5 tion.

3. In a phonograph, a record-engaging ele-
ment comprising a freely rotatable disc hav-

ing a relatively thin, sharp edge and having
portions of one face only projecting beyond
the plane of the edge and adjacent thereto. 10

In testimony whereof I have hereunto
affixed my signature.

THEOPHILUS PARSONS.