

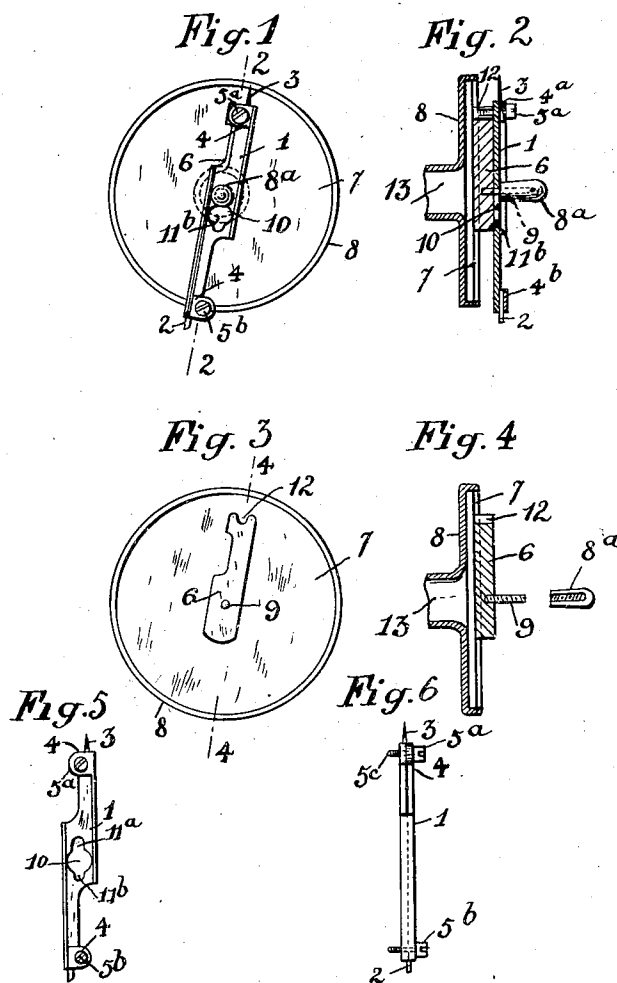
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RECORDING AND REPRODUCING PHONOGRAPHIC DIAPHRAGM DEVICE

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UNITED STATES PATENT OFFICE

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RECORDING AND REPRODUCING PHONOGRAPHIC DIAPHRAGM DEVICE

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My invention has for its object improvements in phonographs for the direct recording of sounds, and for their reproduction.

The phonograph according to my invention comprises a diametrical arm freely mounted at the center of the diaphragm so that it can be turned through 180° and fixed in opposite positions. Said arm is provided at one end with a cutting style for recording and at the other end with a sharp point for reproducing sounds.

It will be understood that, in order to pass from recording to reproducing or inversely, there is but to turn said arm through 180°.

A preferred embodiment of my invention will be described with reference to the appended drawings, in which:

Fig. 1 is a front view of the diaphragm provided with its arm.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is a view similar to that of Fig. 1, the arm being removed.

Fig. 4 is a section on the line 4—4 of Fig. 3, the fixation nut being unscrewed.

Figs. 5 and 6 are a front and a side elevation respectively of the point carrying arm.

As shown in the drawings, the phonograph according to my invention comprises an arm 1 (Figs. 5 and 6) carrying at one end a cutting style 2 for recording and at the other end a sharp point 3 for reproducing. The style and the point are held in position by means of plates 4a and 4b secured by screws 5a and 5b respectively. The arm is applied against a base 6 which is glued to the diaphragm 7 (Figs. 1 to 4) of the sound box 8. Arm 1 is pressed against base 6 by means of a cylindrical nut 8a, which is screwed on the screw-threaded rod 9 provided at the center of the diaphragm.

In order to set arm 1 in position, it is brought opposite nut 8a and applied against base 6, the central opening 10 of said arm giving free passage to nut 8a. Arm 1 is then pulled downward so that rod 9 may engage the upper slot 11a, and the nut is tightened. The downward radial displacement of arm 1 has for its effect to engage the extension 5c of screw 5a (Figs. 2 to 6) into the groove 12 of the base 6 (Figs. 2 to 4) and to suitably main-

tain said arm, thus preventing it from rotating.

When it is desired to use the diaphragm for reproducing, there is but to slightly unscrew nut 8a, then to push arm 1 upward. The extension 5c of screw 5a is then disengaged from groove 12 and it is then possible to turn arm 1 through 180° about rod 9. The arm is then pulled upward as previously explained so that rod 9 may engage the slot 11b, while the extension 5d of screw 5b is maintained in groove 12. It is therefore not necessary to remove the nut for using the diaphragm either for reproducing or for recording, and even not for removing arm 1 in order to substitute a needle for another one.

The diaphragm is connected to the tone arm through a central tube 13.

While I have in the above description endeavored to disclose what I believe to be an efficient and practical embodiment of my invention, it is to be understood that the invention is not limited by the specific details as shown, but that it is subject to many and all structural variations which may express the invention and at the same time come within the scope of the appended claims.

What I claim is:

1. A phonograph for recording and reproducing sounds comprising a diaphragm, an arm removably mounted in a diametral position on said diaphragm in parallel relation thereto, means for fixing said arm with respect to said diaphragm in either of two positions at 180° to each other, a cutting style for recording at one end of said arm, and a sharp point for reproducing at the other end of said arm.

2. A phonograph adapted for directly recording sounds and reproducing them, comprising a diaphragm, a base glued on said diaphragm, a screw-threaded rod on said plate at the center of the diaphragm, a removable diametral arm adapted to be turned through 180°, a cylindrical nut adapted to engage said rod for applying said arm on said base, a cutting style for recording at one end of said arm, and a sharp point for reproducing at the other end of said arm.

3. A phonograph adapted for directly re-

5 cording sounds and reproducing them, comprising a diaphragm, a base glued on said diaphragm, a screw-threaded rod on said base at the center of the diaphragm, a cylindrical nut adapted to engage said rod, a removable
10 diametral arm provided with a central hole having a diameter slightly larger than that of the cylindrical nut and two slots on each side of said hole having a width substantially
15 ly equal to the diameter of the rod, whereby the arm can be applied on the base without removing the nut and set in position by engaging one of the slots on the rod and then tightening the nut, a cutting style for recording at one end of the arm, and a sharp point for reproducing at the other end of the arm.

4. A phonograph adapted for directly recording sounds and reproducing them, comprising a diaphragm, a base glued on said
20 diaphragm and provided with a groove, a screw-threaded rod on said base at the center of the diaphragm, a cylindrical nut adapted to engage said rod, a removable arm provided with a central hole having a diameter
25 slightly larger than that of the cylindrical nut and two slots on each side of said hole having a width substantially equal to the diameter of the rod, whereby the arm can be applied on the base without removing the
30 nut and set in position by engaging one of the slots on the rod and then tightening the nut, a cutting style for recording at one end of the arm, a sharp point for reproducing at the other end of the arm, and screws for
35 fixing said style and said point on the arm adapted to engage the groove provided in the base so as to prevent any rotation of the arm once it is set in position.

In testimony whereof I have signed this
40 specification.

ARMANDO ALVARES PENTEADO.

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