To all whom it may concern:

Be it known that I, THOMAS A. EDISON, a citizen of the United States, residing at Llewellyn Park, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Phonographs, (Case No. 668,) of which the following is a specification.

The invention consists in novel means for adjusting a phonograph reproducing-point into exact alignment with the phonogram-record.

The invention also consists in means for limiting the movement of the diaphragm which supports the recording and reproducing point when turned to place the reproducer out of operative position and the recorder into operative position.

In the accompanying drawings, which illustrate the invention, Figure 1 is a plan view of so much of a phonograph as is necessary to illustrate the improvement. Figs. 2, 3, and 4 are views of details which will be hereinafter referred to. Figs. 5 and 6 show the recorder and reproducer on a single lever connected to the diaphragm.

To reproduce, the arm 8 is moved downward, bringing the recorder-support or an extension thereof against the limiting device 11, it will be understood that the recording-point is in position over the blank. The screw 11 is set in the best position before the phonograph is sent out, and is not intended to be moved except when the range of movement of the arm 8 varies, owing to wear of any parts of the instrument or other cause. When it is desired to reproduce, the arm 8 is moved upward by the hand until arm 12 is positively engaged by the point of screw 18. The hearing-tube is put to the ear, and if it appears from the sound that the reproducing-point is not in line with the phonogram-record the adjusting-screw is turned, thus moving the extension, and hence the diaphragm and reproducing-point until the reproducer is brought into the track of the record. It will be seen that the diaphragm and the supporting-ring turn around an axis, but do not move bodily from one position to another. When it is desired to again put the instrument into position to record, the extensions 8 and the arm 12 are grasped by the hand and pressed together, thereby disengaging the latter from the screw, when the parts may be moved downward.

Having thus described my invention, what I claim is—

1. In a phonograph, the combination of a movably-supported phonograph-diaphragm, an adjusting-screw, and means for making a positive engagement between said screw and diaphragm, whereby the diaphragm may be moved to adjust the reproducer, substantially as described.
3. In a phonograph, the combination, with a diaphragm and a support therefor, of an extension from said support, an arm on said extension, and an adjusting-screw the point of which has means for engaging with said extension, substantially as described.

4. In a phonograph, the combination, with a diaphragm and a support therefor, of an extension from said support, a spring-arm on said extension, and an adjusting-screw the point of which is conical and which is grooved for engagement with the spring-arm, substantially as described.

5. In a phonograph, the combination of a diaphragm, a support therefor which can be turned on its axis, and an adjustable limit-stop whereby the turning movement of the diaphragm may be limited, substantially as described.

6. In a phonograph, the combination of a diaphragm to which is connected an operating-point, a support for the diaphragm, mounted to turn around the axis of the diaphragm, an extension from said support, and a limiting-stop, substantially as described.

This specification signed and witnessed this 4th day of July, 1890.

THOS. A. EDISON.

Witnesses:

E. COURAN,

W. PRIEST.