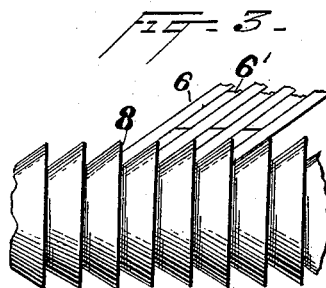
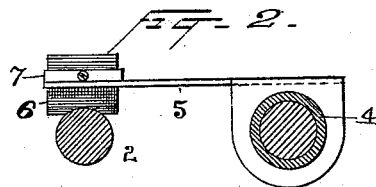
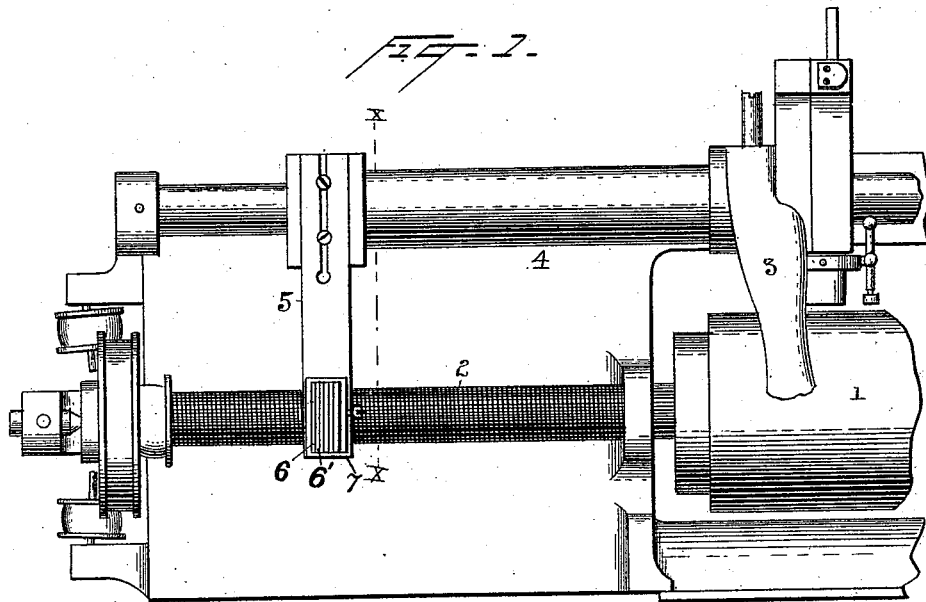


(No Model.)

T. A. EDISON.  
PHONOGRAPH.

No. 456,302.

Patented July 21, 1891.



Witnesses  
Stovius F. Clark.  
*W. E. G. Jr.*

Inventor  
T. A. Edison.  
By his Attorneys  
*Dyer & Seely.*

# UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF LLEWELLYN PARK, NEW JERSEY.

## PHONOGRAPH.

SPECIFICATION forming part of Letters Patent No. 456,802, dated July 21, 1891.

Application filed August 12, 1890. Serial No. 361,775. (No model.)

*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. 869,) of which the following is a specification.

My invention relates to the bearing block or surface of the feeding-arm—that is, the device which rests on and co-operates with the feed-screw of a phonograph for the purpose of moving the recorder or reproducer along over the phonogram-blank during the formation or reproduction of a record.

In the accompanying drawings, which illustrate the invention, Figure 1 is a plan view of a portion of a phonograph. Fig. 2 is a cross-section on line *x x*, showing the guide-rod and the screw in cross-section and the feeding-arm in elevation. Fig. 3 is a perspective view of the outer end of said feeding-arm with the plates forming the bearing-block supported thereon and resting on the screw.

Referring to Fig. 1, 1 is a phonogram-blank supported on a cylinder, which is turned by means of a screw-threaded shaft 2 in the ordinary manner.

3 is the pivoted recorder and reproducer carrying arm connected with the sleeve 4, to the other end of which is connected the feeding-arm 5, which may be sufficiently thin as to constitute a spring-arm. The outer end of the feeding-arm—that is, the end which extends over the screw-shaft—is provided with one or more plates 6, which may be of soft metal or other material softer than the metal of the screw, preferably copper. As shown in the drawings, the end of the feeding-arm carries a clamp 7, which may be of any suitable construction, and in which the plates 6 6' are supported. The plates 6 are longer than plates 6', and said plates are arranged alternately and in such manner that one end of the former bears on the feed-screw. The plates are preferably placed at an angle, as shown, so that the ends of the plates will bear directly on the wearing-surface 8 of the screw-thread. It is not essential that the short plates be of the same material as the plates 6, since they serve merely as distance-pieces to hold the other plates in proper position. The plates are of such thickness that the al-

ternate long plates will bear on the screw-thread, as clearly indicated in the drawings. The thickness will evidently depend on the pitch of the screw employed, while the angle at which they are held will depend partly on the shape of the screw-thread. When of copper or of other material which is softer than the screw, the plates will wear the threads of the screw much less than bearing-blocks of hard metal heretofore used. The plates 6 will wear away evenly at the bearing end without impairing their efficiency, and when worn to a certain extent may be moved forward or may be replaced by new plates. This form of bearing-block is simpler and easier of construction than one in which a screw-thread is cut in a solid block to correspond to that of the feeding-screw.

Having thus described my invention, what I claim is—

1. A phonograph-feeding device having a screw, and a co-operating bearing-block consisting of two or more metal plates, the ends of which bear on the screw-thread, substantially as described.

2. A phonograph-feeding device having a screw, and a co-operating bearing-block consisting of copper plates having an end bearing on the screw and carried by the feeding-arm, substantially as described.

3. The combination, with a phonograph-screw, of a feeding-arm, and a bearing-block consisting of plates held at an angle to the screw, substantially as described.

4. The combination, with a phonograph-feeding arm, of a bearing-block made of alternate long and short plates, substantially as described.

5. The combination, with a phonograph-feeding arm, of a bearing-block made of alternate long and short copper plates, substantially as described.

6. The combination, with a screw, of a co-operating block consisting of plates bearing against the screw-thread, and intermediate distance-plates not in contact with the thread, substantially as described.

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

THOS. A. EDISON.

Witnesses:

RICHD. N. DYER,  
W. PELZER.