

(No Model.)

T. A. EDISON.  
PHONOGRAPH.

No. 437,424.

Patented Sept. 30, 1890.

FIG. 1.

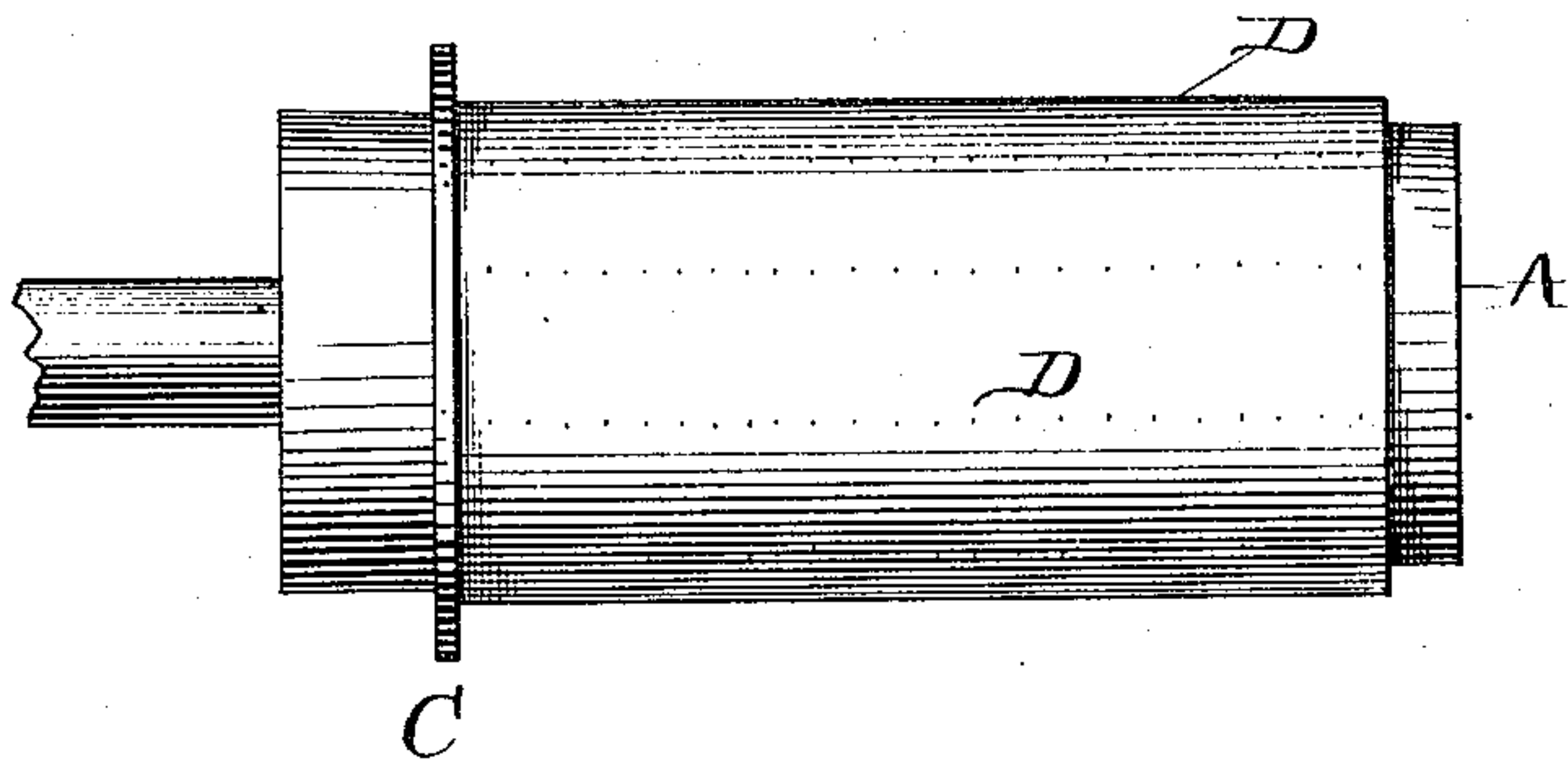


FIG. 2.

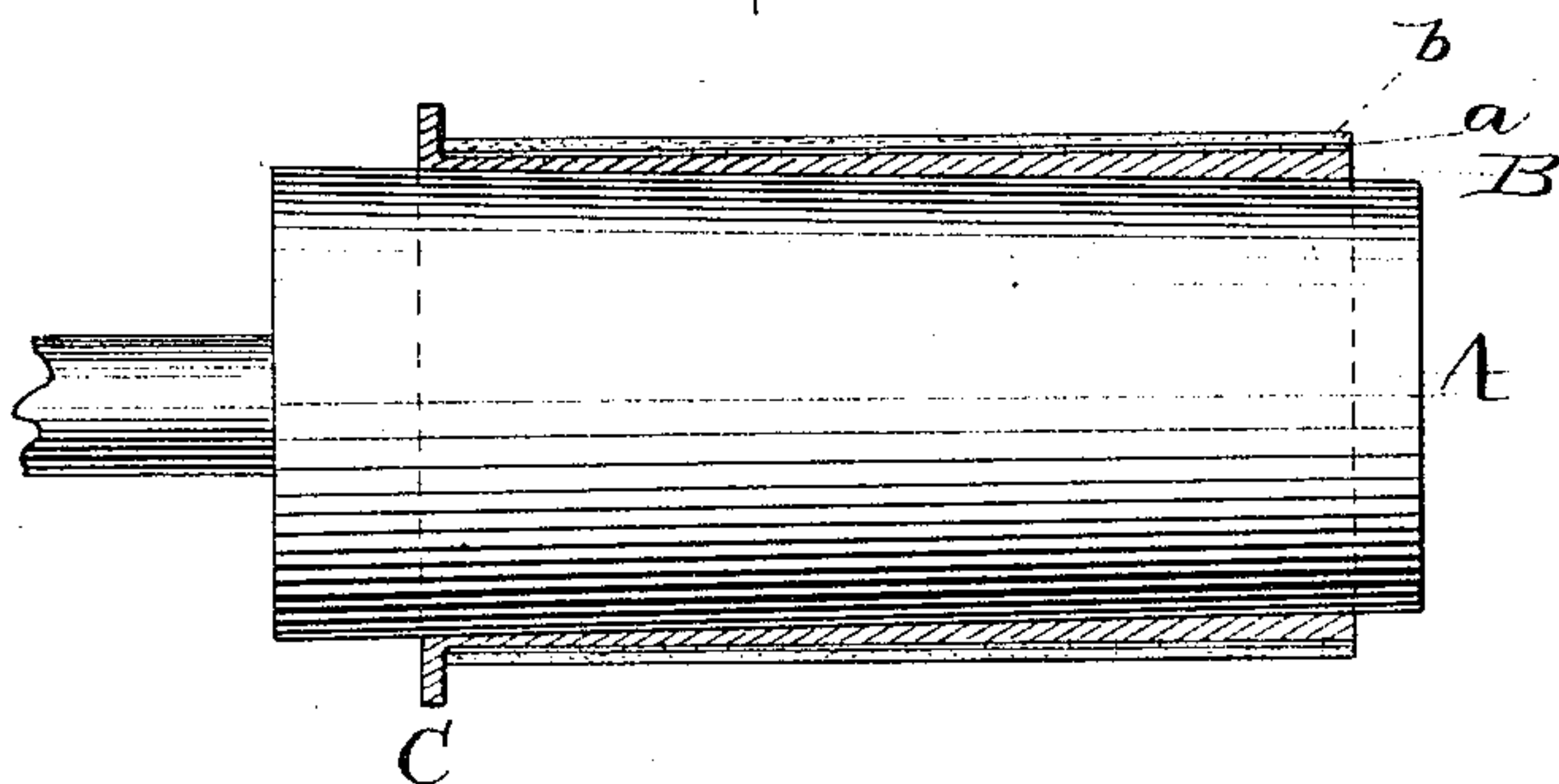


FIG. 3.

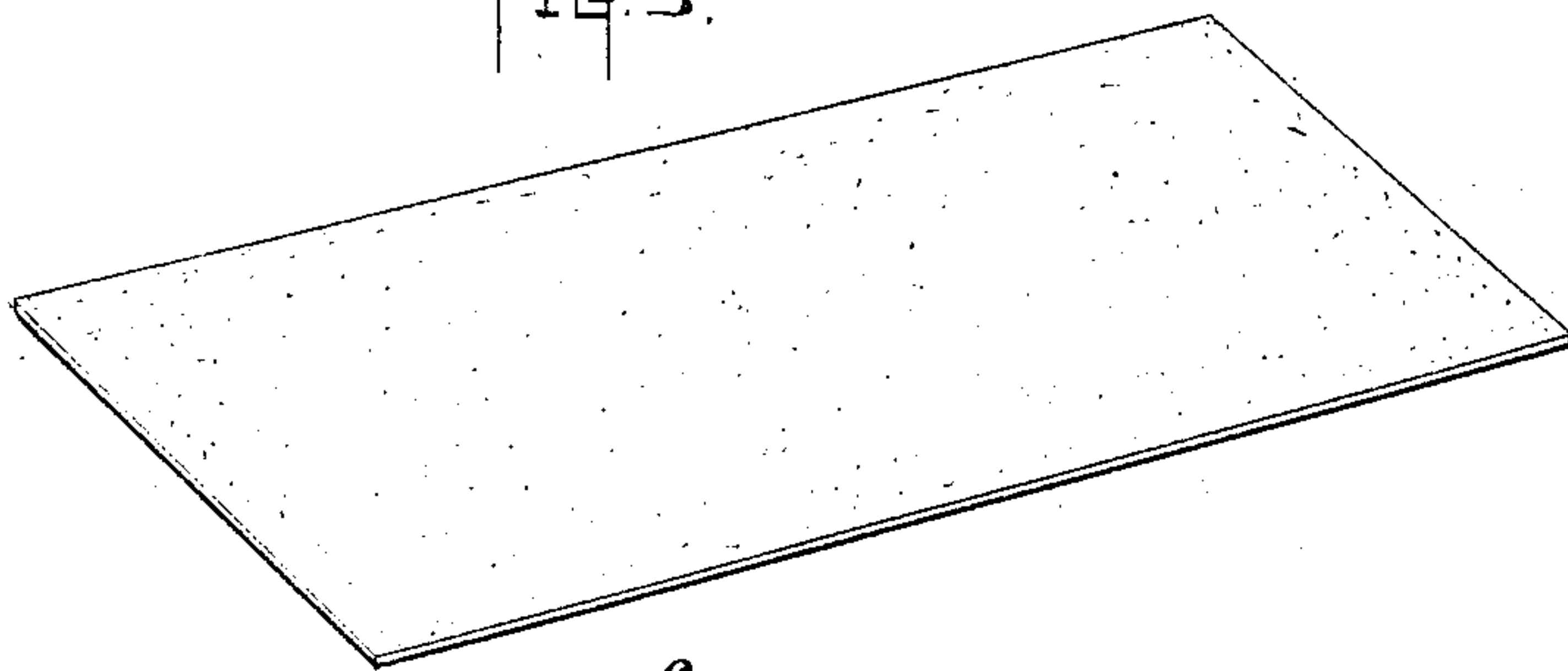
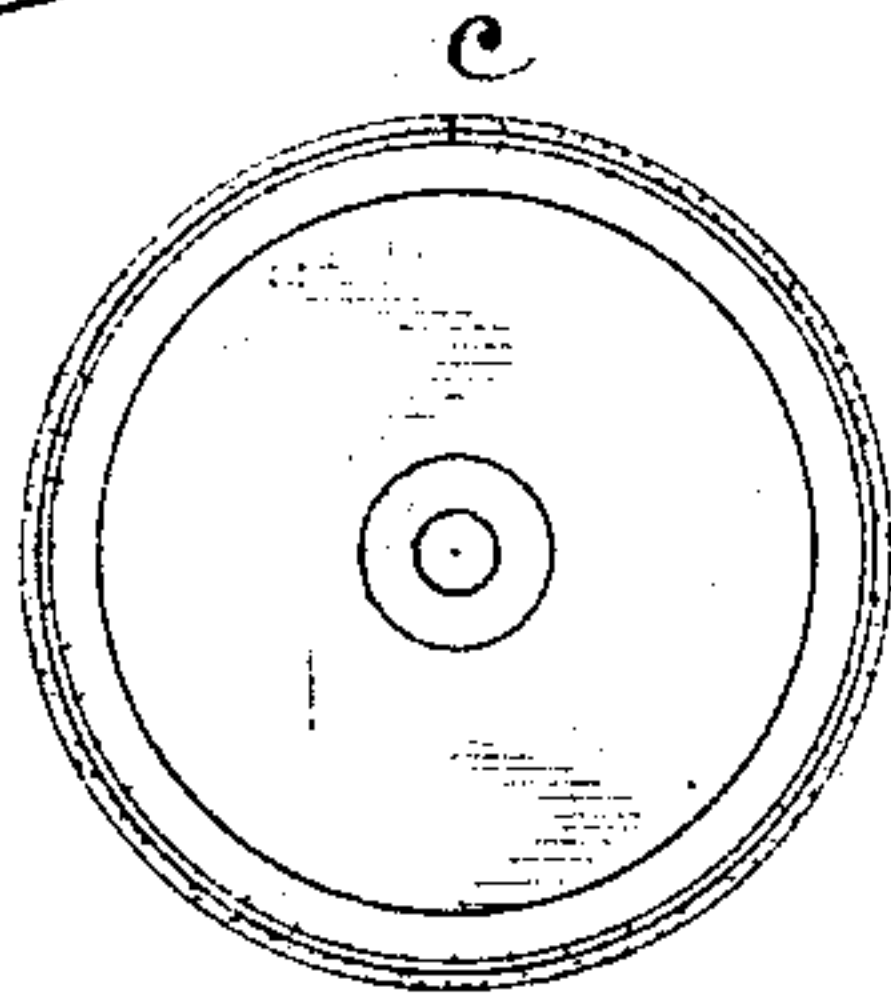


FIG. 4.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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

## PHONOGRAPH.

SPECIFICATION forming part of Letters Patent No. 437,424, dated September 30, 1890.

Application filed October 17, 1888. Serial No. 288,362. (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. 810,) of which the following is a specification.

My invention relates to the use of flexible phonogram-blanks which may be sheets of flexible material capable of being indented by the recording-point of the phonograph, and which may, if required, be provided with a backing of paper or similar flexible material. My object is to enable such flexible sheets to be used with the tapering phonogram-cylinder of the phonograph.

In carrying my invention into effect I provide the phonogram-blank holder with means for securing a rolled phonogram-blank in place thereon and with a guide for guiding the sheet of which the phonogram-blank is made. I prefer to use as a means of securing the phonogram-blank on its holder numerous sharp points studding the face of the holder of such length as to enter the flexible sheet of the phonogram without penetrating entirely through it. I prefer to use as a guide a flange at one end of the phonogram-holder. When a false shell is used as the phonogram-holder, I prefer that it shall have a tapering bore, so that it can be placed on the tapering phonogram-cylinder, and having a cylindrical outer surface around which the flexible phonogram-sheet may be bent or rolled, such shell being provided with means for securing the flexible sheet to it, and with means for guiding such sheet into its proper position in placing it upon the false shell. I prefer to provide the false shell with numerous fine sharp points, which enter the flexible sheet without penetrating entirely through it, and so hold such sheet firmly in position, and I also provide the false shell with a raised flange, which furnishes a straight guiding-edge in bending the phonogram around the false shell.

My invention is illustrated in the accompanying drawings.

Figure 1 is a view in elevation of the false shell embodying my invention placed on the

phonogram-cylinder; Fig. 2, a longitudinal section of the same with the phonogram-blank in position, the phonogram-cylinder being in elevation; Fig. 3, a view of the flexible phonogram-blank before it is placed on the false shell, and Fig. 4 an end view of the phonogram-cylinder with the false shell and the phonogram-blank placed on it.

A is the ordinary phonogram-cylinder, which is of tapering form as usual.

B is the false shell, which has a tapering bore and a cylindrical outer surface, and is provided at one end with a raised flange C. Such false shell is provided with a number of rows of fine sharp points D, which are merely sharp burrs on the metal surface, raised sufficiently above such surface to enter the phonogram-blank, but not to pass through it.

The flexible phonogram-blank may be a sheet of paper *a*, covered with suitable flexible material *b*, adapted to receive the impressions of the recording-point of the phonograph. Such sheet is rolled around the false shell, with its edges meeting at *c*, being guided in rolling by the raised flange C, so as to assume its true position on the shell, and the paper backing is penetrated by the sharp points on such shell, so that the sheet is held securely in position. The false shell is slipped on the phonogram-cylinder either before or after receiving the phonogram-blank. If the phonogram-blank has received a sound-record which is to be reproduced, the operation is the same.

What I claim is—

1. The combination, in a phonograph, of a phonogram-blank holder provided with a studded surface for securing the phonogram-sheet in place, substantially as set forth.

2. The combination, in a phonograph, of a phonogram-blank holder provided with a guide and a sheet phonogram-blank bent around the holder, substantially as set forth.

3. The combination, in a phonograph, of a phonogram-blank holder provided with a studded surface and a sheet phonogram-blank on the holder and held in place by said studs and supported in operative relation to a recorder, substantially as described.

4. The combination, in a phonograph, of a phonogram-blank holder provided with a



guide and a studded surface and a sheet phonogram-blank held on the holder by said studs and supported in operative relation to a recorder, substantially as described.

- 5 5. The combination, in a phonograph, of a phonogram-blank holder provided with a studded surface and a sheet phonogram-blank bent around the holder and held in place by the studs, said studs being shorter

than the thickness of the blank, substantially as described.

This specification signed and witnessed this 15th day of October, 1888.

THOS. A. EDISON.

Witnesses:

WILLIAM PELZER,  
A. W. KIDDLE.