

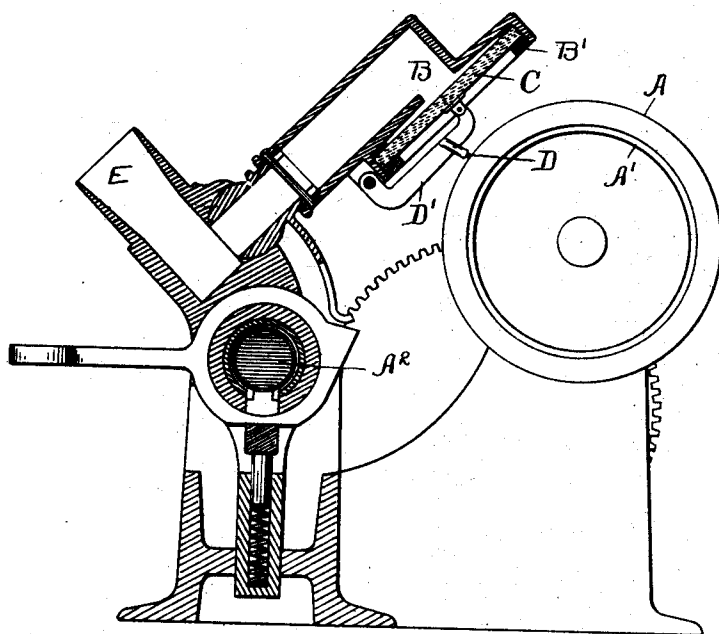
No. 667,117.

L. E. CURTIS.
PHONOGRAPH.

Patented Jan. 29, 1901.

(No Model.)

(Application filed Mar. 25, 1898.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

LEWIS E. CURTIS, OF CHICAGO, ILLINOIS.

PHONOGRAPH.

SPECIFICATION forming part of Letters Patent No. 667,117, dated January 29, 1901.

Application filed March 25, 1898. Serial No. 675,095. (No model.)

To all whom it may concern:

Be it known that I, LEWIS E. CURTIS, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Devices for Reproducing Sound, of which the following is a specification.

This improvement relates to devices for reproducing sounds.

10 The object of this invention is to improve the quality of the tone obtained in reproducing sound-vibrations by eliminating the "fry" and other "foreign" sounds. It has been devised more particularly for use in talking-
15 machines.

I have discovered that a full, clear, and sweet reproduction of sound-vibrations free from all foreign sounds can be obtained by substituting for the diaphragms now in use
20 a non-resonant diaphragm of soft or semisoft material—for example, such as woven or felted cloth. The thickness of the diaphragm may be varied from very thin material to one of considerable thickness. The diaphragm
25 may be made of any soft or semisoft material; but I prefer to use felt and to confine it in the diaphragm-holder without stretching or placing it under tension.

30 In the accompanying drawing I have shown a sectional view of a phonograph or talking-

machine, the reproducer and diaphragm being also in section.

In the drawing, A represents the ordinary cylinder carrying a sound-record, A' its mandrel, and A² the feed-screw for carrying the
35 reproducer B along the record-cylinder A. The reproducer or diaphragm-holder B is of the ordinary construction used in talking-machines in which my improved diaphragm C is clamped by the screw-ring B'.
40

D is the style, and D' the lever carrying the style and which is connected to the diaphragm, so that any vibration given to the style will be conveyed to the diaphragm and the sound reproduced.
45

E is the tip or nozzle for receiving the listening horn or tubes.

What I claim is—

1. A non-resonant diaphragm for reproducing sound-vibrations made of soft or semisoft
50 felted fabric, substantially as specified.

2. A non-resonant diaphragm for reproducing sound-vibrations composed of soft or semisoft material free from tension, substantially as specified.

LEWIS E. CURTIS.

Witnesses:

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