No. 737,733. PATENTED SEPT. 1, 1903.

E. D. GLEASON.

SOUND BOX FOR TALKING MACHINES.

APPLICATION FILED FEB. 9, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

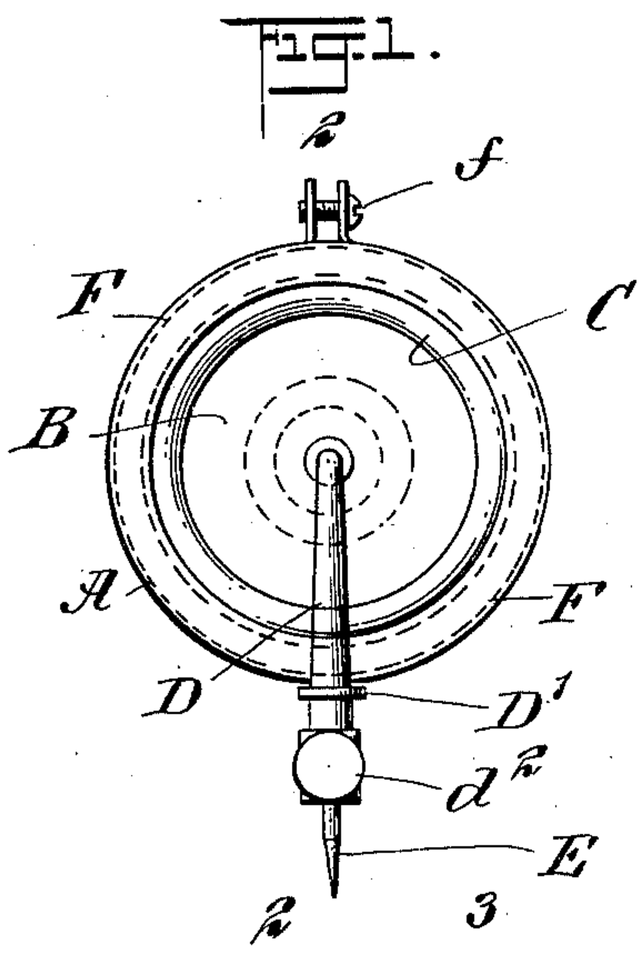


Fig. 2.

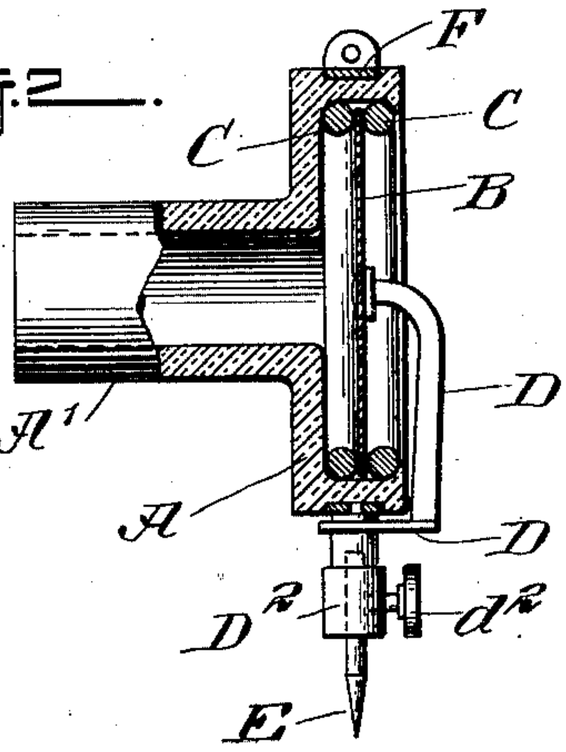
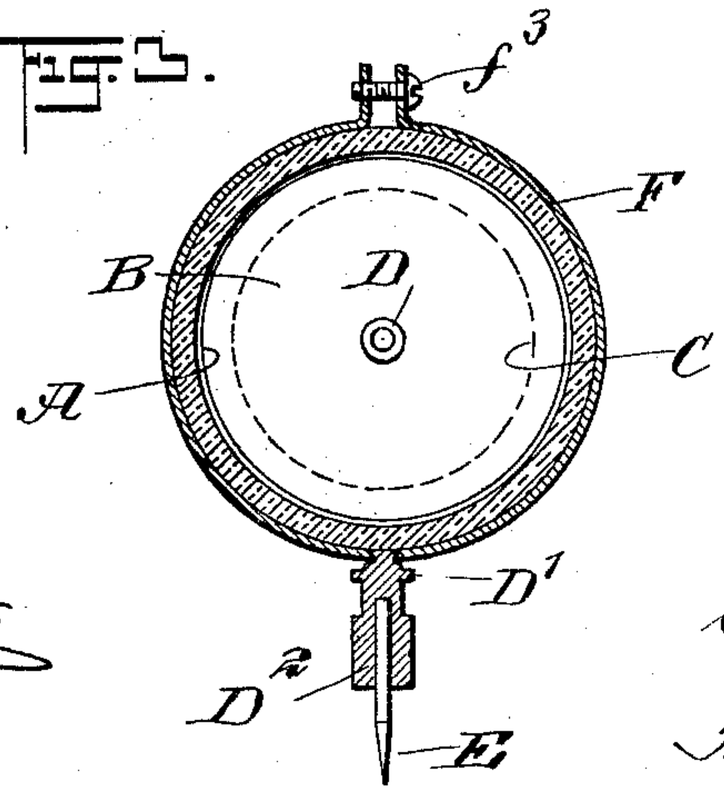


Fig. 3.



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No. 737,733. PATENTED SEPT. 1, 1903.

E. D. GLEASON.

SOUND BOX FOR TALKING MACHINES.

APPLICATION FILED FEB. 9, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

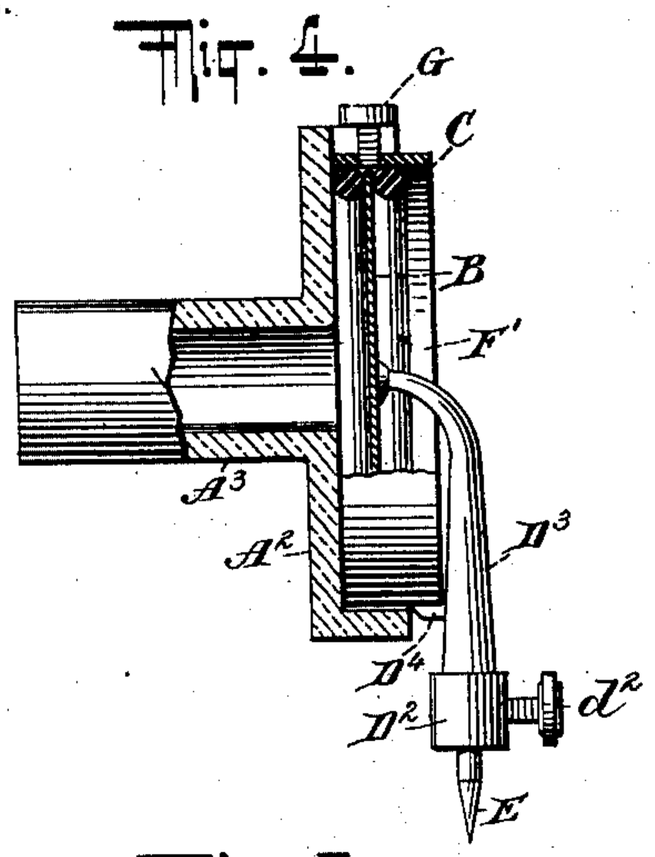


Fig. 5.

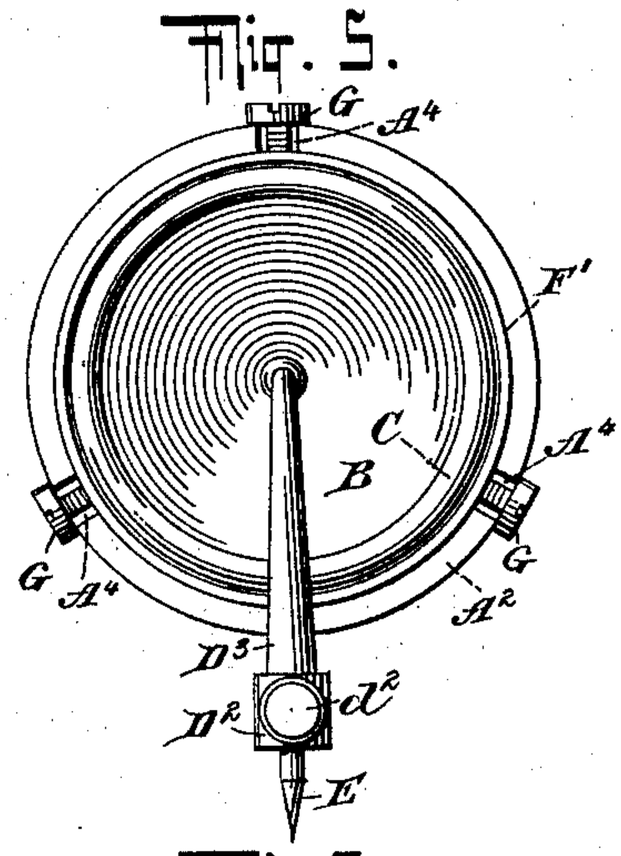


Fig. 6.

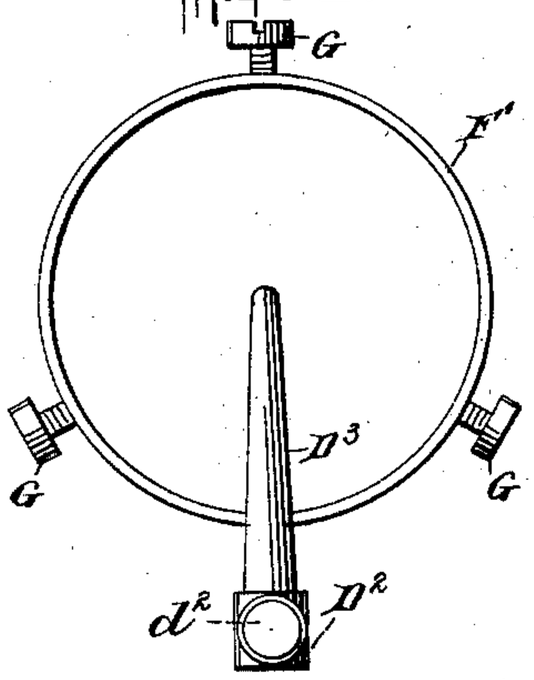


Fig. 7.

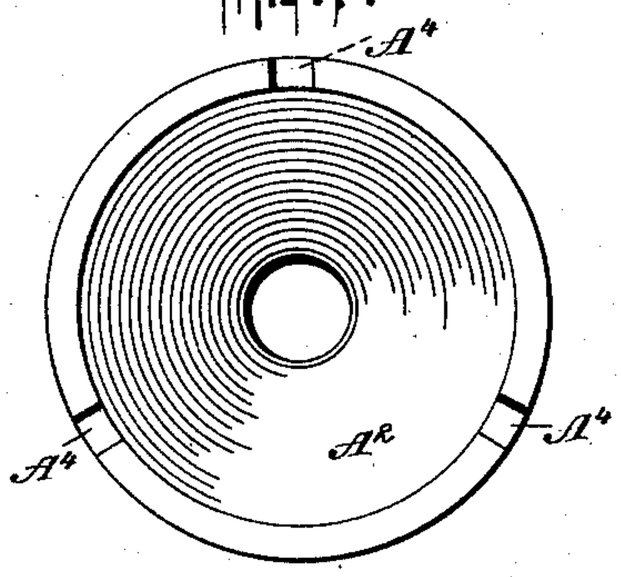


Fig. 8.

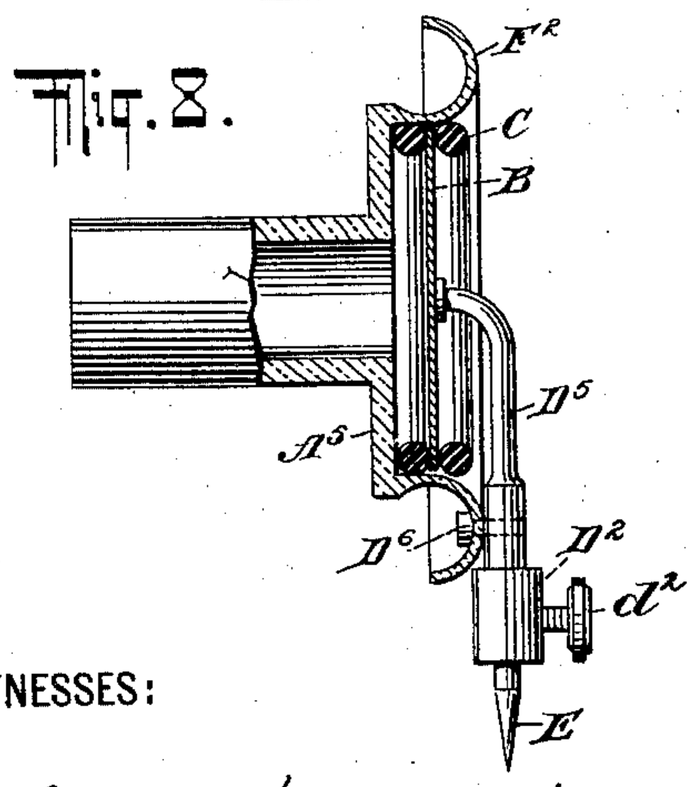
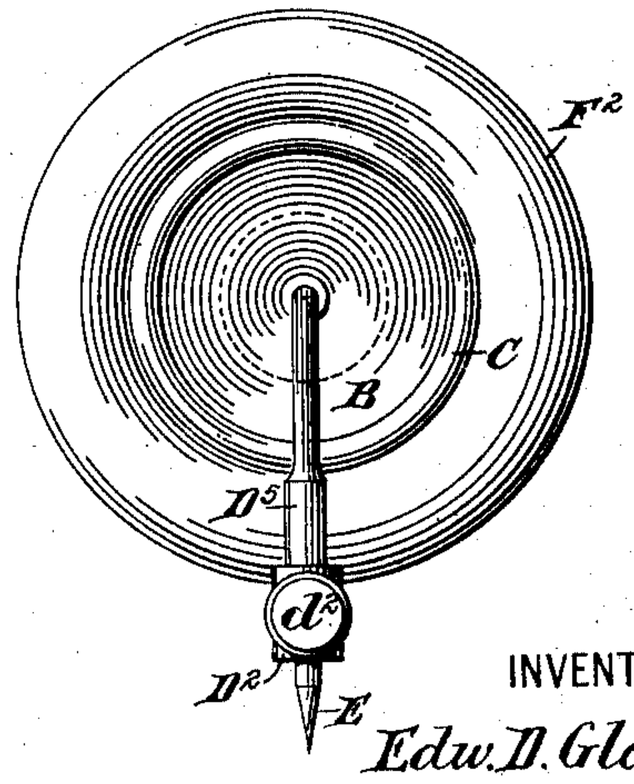


Fig. 9.



WITNESSES:

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No. 737,733. Patented September 1, 1903.

UNITED STATES PATENT OFFICE.

EDWARD D. GLEASON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO REGINA MUSIC BOX COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

SOUND-BOX FOR TALKING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 737,733, dated September 1, 1903.

Application filed February 9, 1903. Serial No. 142,469. (No model.)

To all whom it may concern:

Be it known that I, EDWARD D. GLEASON, a citizen of the United States, residing in the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Sound-Boxes for Talking-Machines, of which the following is a specification.

My invention relates to sound-boxes for talking-machines, and has for its object to provide a simple structure by which the sound will be reproduced with great clearness and loudness.

To this end I employ a specific novel construction of the sound-box proper or casing, and I also provide improved means for supporting the arm which transmits the vibrations of the diaphragm to the stylus.

The invention will be fully described hereinafter, and the features and novelty pointed out in the appended claims.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a face view of a sound-box provided with my improvement. Fig. 2 is a longitudinal section of the same on line 2 2 of Fig. 1. Fig. 3 is a cross-section on line 3 3 of Fig. 2. Fig. 4 is a longitudinal section, and Fig. 5 a face view, of another form of my invention. Fig. 6 illustrates the stylus-arm and its support. Fig. 7 is a face view of the sound-box proper. Fig. 8 is a longitudinal section of still another form of my invention, and Fig. 9 is a face view thereof.

As illustrated in Figs. 1, 2, and 3, the sound-box proper, A, with its tubular extension A′, is made of glass, as I have found that this material possesses marked advantages in the production of a clear non-metallic sound. B is the diaphragm, which, as usual, is set between rubber rings C, fitted into a corresponding recess in the face of the sound-box proper or casing, A. With the center of the diaphragm is connected the stylus-arm D, which has a plate or bracket D′, through the medium of which it is connected with an elastic stylus-support F. This support, as shown, consists of a spring-band laid into a groove on the outer surface of the casing A and provided at its ends with suitable means for fastening it and for varying the tension. As a convenient means for this purpose I have shown a clamping-screw *f*, preferably located at a point diametrically opposite to that at which the connecting-plate D′ is arranged. From this connecting-plate extends outwardly the stylus-holder D^2, adapted to receive the stylus E, held in position by a set-screw d^2 or other suitable means.

In the form of construction illustrated by Figs. 4 to 7, inclusive, the casing A^2, with its tubular extension A^3, is again preferably made of glass and is provided with a number of slots A^4, arranged radially and adapted to receive the stems of screws G, the inner ends of which screw into an annular spring F′. It will be understood that as the heads of the screws abut against the outer surface of the casing A^2 the tension of the spring may be varied by turning said screws. The spring surrounds the diaphragm B and its holding-rings C and acts, moreover, as a support for the stylus-arm D^3, which is connected with said spring at D^4. The stylus-holder D^3 may be of substantially the same construction as hereinbefore described.

In Figs. 8 and 9 the spring F^2, which forms the support for the stylus-arm D^5, is an integral part of the casing A^5, the outer edge of said casing being bent into the shape of a concave ring, so that it may have an elastic action. The connection of the stylus-arm D^5 with the spring F^2 is effected in any suitable manner—for instance, by means of a pin D^6.

It will be seen in each case the stylus-arm is supported upon a spring, which spring is of annular shape and surrounds the diaphragm, being either directly adjacent thereto, as in Figs. 4 and 8, or separated therefrom by a portion of the casing, as in Fig. 2. In Figs. 1 to 7 provision is made for varying the tension of the spring-support. Furthermore, in these constructions the spring-support is removable from the sound-box, together with the stylus-arm.

My improved sound-box is very efficient in rendering sound with great distinctness and free from unpleasant metallic noise.

While I prefer to make the sound-box proper of glass, it will be understood that

some of the features of my invention are applicable to sound-boxes made of other material.

I claim as my invention—

1. A sound-box for talking-machines, provided with a diaphragm, an annular spring elastic in a plane parallel to that of the diaphragm, and a stylus-arm supported on said spring and connected with the diaphragm.

2. A sound-box for talking-machines, comprising a diaphragm, an annular spring located in the same plane with the diaphragm and elastic in said plane, and a stylus-arm supported on said spring and connected with the diaphragm.

3. A sound-box for talking-machines provided with a diaphragm, an annular spring located in substantially the same plane as the diaphragm and adapted to yield elastically in said plane, and a stylus-arm supported on said spring and connected with the diaphragm.

4. A sound-box for talking-machines provided with a casing, an annular spring, means for adjusting the tension of said spring, a diaphragm, and a stylus-arm supported on said spring and connected with the diaphragm.

5. A sound-box for talking-machines provided with a diaphragm, an annular spring surrounding the same, and a stylus-arm supported on said spring and connected with the diaphragm.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD D. GLEASON.

Witnesses:

JAMES S. PHILLIPS,

JOHN P. JONES.