

E. D. GLEASON.
SOUND BOX FOR TALKING MACHINES.

APPLICATION FILED JULY 29, 1902.

NO MODEL.

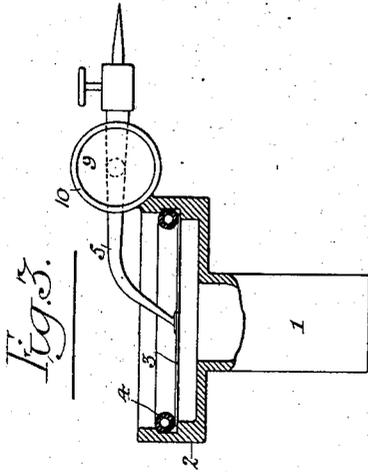


Fig. 3.

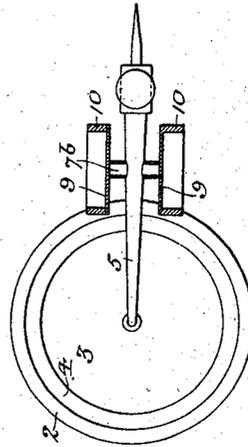


Fig. 6.

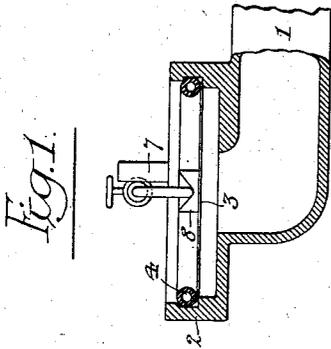


Fig. 1.

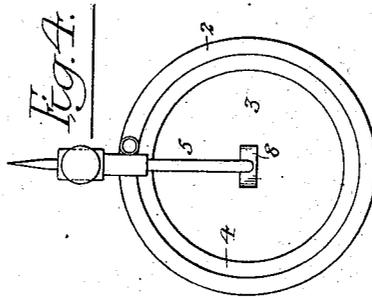


Fig. 4.

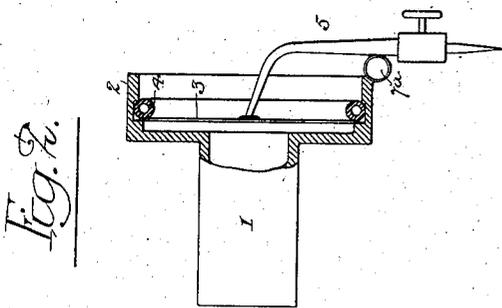


Fig. 2.

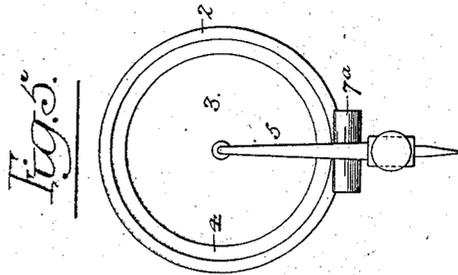


Fig. 5.

Witnesses:-
Frank L. Graham.
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Howard Howson

UNITED STATES PATENT OFFICE.

EDWARD D. GLEASON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
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SOUND-BOX FOR TALKING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 730,109, dated June 2, 1903.

Application filed July 29, 1902. Serial No. 117,495. (No model.)

To all whom it may concern:

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

One object of my invention is to provide a simple and efficient form of elastic mounting
10 for the stylus-lever of the sound-box; and another object is to provide for the action of the stylus-lever upon the diaphragm by movement of said stylus-lever in the plane of the diaphragm instead of in a plane at right angles thereto, as usual. These objects I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional view of a sound-box
20 constructed in accordance with my invention. Figs. 2 and 3 are sectional views of other forms of sound-box embodying some of the features of my invention; and Figs. 4, 5, and 6 are face views, respectively, of the sound-
25 boxes shown in Figs. 1, 2, and 3.

1 represents the tubular stem of the sound-box, and 2 the enlarged or cup-shaped portion of the same, which receives the diaphragm 3, the latter being mounted in this
30 portion of the sound-box in any available manner. In the present instance the diaphragm rests upon an internal annular shoulder in the enlarged portion 2 of the casing and is retained in position thereon by an elastic ring 4, engaging an internal annular
35 groove in the casing.

The stylus-lever 5 is secured to one side of a tube 7, projecting outwardly from the rim of the casing 2 at one side of the same, so
40 that vibrations of the lever under the action of the walls of the undulating groove of the record upon the stylus 6 will cause torsional strain upon the tube 7. Hence the tendency of the latter is to maintain the stylus-lever
45 constantly in a neutral intermediate position and to restore it to this position when it is vibrated in either direction therefrom.

The stylus-lever in the sound-box shown in Figs. 1 and 4 vibrates in a plane parallel with
50 the diaphragm, and in order that this move-

ment may cause the desired vibrations of the diaphragm the latter is provided with a duplex wedge-block 8, engaging with the bent inner end of the stylus-lever, as shown in Fig. 1, said lever when in this normal or neutral position being centrally disposed between the
55 wedges, but when moved in either direction from this central position acting upon one or other of the wedges, so as to cause vibration of the diaphragm to an extent dependent upon
60 the extent of this lateral deflection.

My improved method of mounting the stylus-lever may, however, be adopted in that class of sound-boxes in which the stylus-lever vibrates in a plane at right angles to the plane
65 of the diaphragm and acts directly upon the latter, Figs. 2 and 3 illustrating two different embodiments of my invention as applied to that type of sound-box.

In the construction shown in Fig. 2 the
70 stylus-lever is connected to a tube 7^a, which is secured to the sound-box casing 2, and in the construction shown in Fig. 3 the stylus-lever is secured to a tube 7^b, which instead
75 of being connected directly to the sound-box casing 2 is connected at its opposite ends to diaphragms 9, carried by short tubes or rings
10, secured to said casing 2.

It will be observed that in the different forms shown the tube has a different axis
80 from that of the stylus.

A tubular mounting of the character described absorbs to a considerable extent those tremors or infinitesimal vibrations imparted to the stylus-lever by reason of the scraping
85 or scratching of the stylus against the walls of the undulatory grooves of the record. Hence the vibrations of the diaphragms correspond more closely than in constructions employing solid bars or strips to the actual
90 vibrations represented by the undulatory grooves, and the reproduction is consequently sharp and clear.

Having thus described my invention, I claim and desire to secure by Letters Pat-
95 ent—

1. A talking-machine sound-box having a diaphragm, a casing therefor, and a stylus-lever mounted upon said casing through the medium of an interposed tube whose axis is
100

different from the axis of the stylus, substantially as specified.

2. A talking-machine sound-box having a diaphragm, a casing therefor, and a stylus-lever mounted upon said casing through the medium of a tube to whose peripheral portion the stylus-lever is directly secured, substantially as specified.

3. A talking-machine sound-box having a diaphragm, a casing therefor, a stylus-lever mounted so as to vibrate in a plane parallel to the plane of the diaphragm, and a wedge-block through the medium of which the stylus-lever acts upon the diaphragm, substantially as specified.

4. A talking-machine sound-box having a diaphragm, a casing therefor, a stylus-lever mounted so as to vibrate in a plane parallel to the plane of the diaphragm, and a duplex wedge-block through the medium of which the stylus-lever acts upon the diaphragm, substantially as specified.

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

EDWARD D. GLEASON.

Witnesses:

F. E. BECHTOLD,
JOS. H. KLEIN.