

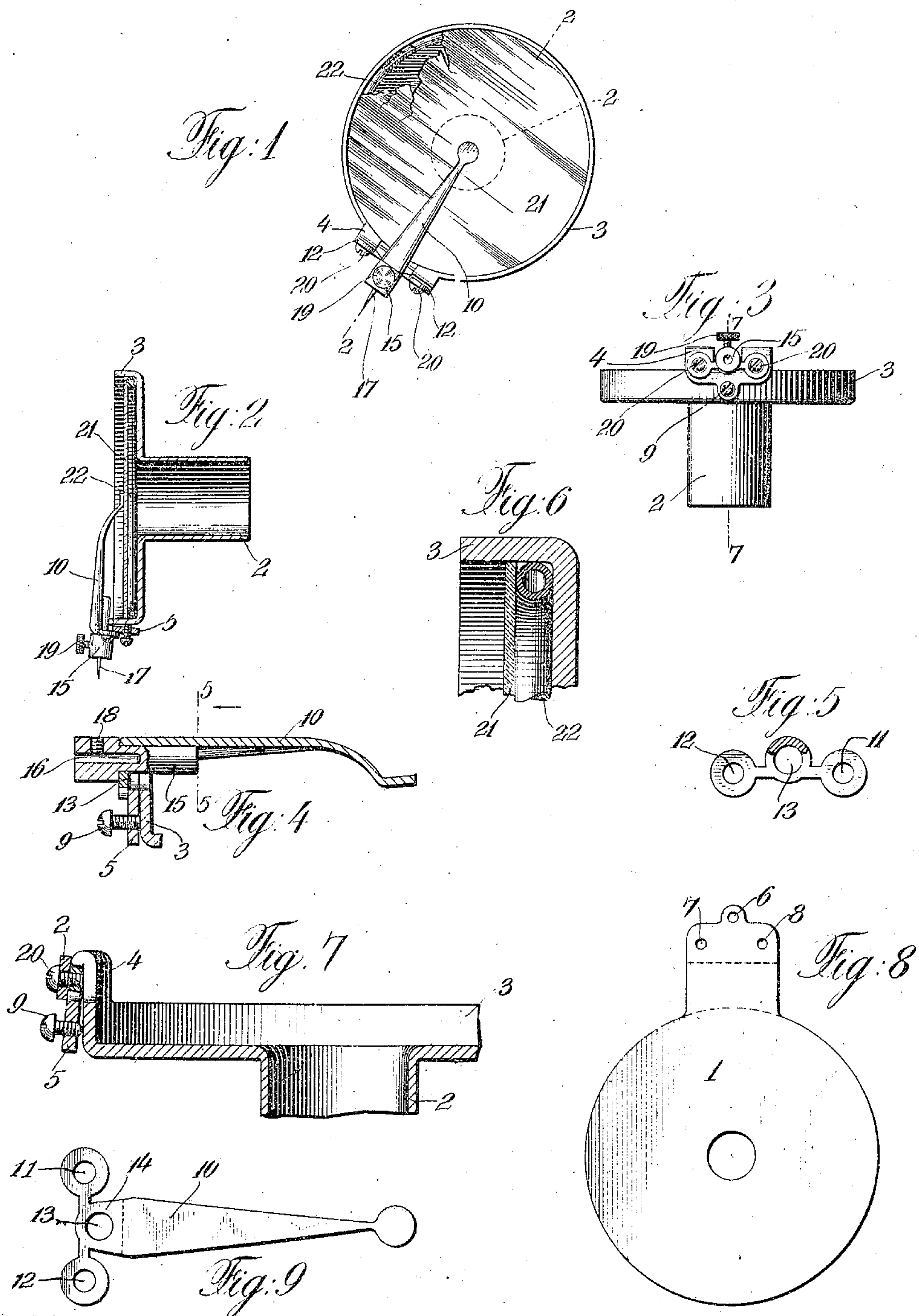
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L. P. VALIQUET.

SOUND BOX.

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Witnesses
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UNITED STATES PATENT OFFICE.

LOUIS P. VALIQUET, OF NEWARK, NEW JERSEY.

SOUND-BOX.

No. 840,974.

Specification of Letters Patent.

Patented Jan. 3, 1907.

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To all whom it may concern:

Be it known that I, LOUIS P. VALIQUET, a citizen of the United States of America, and a resident of Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Sound-Boxes, of which the following is a specification.

My invention relates to talking-machines generally, and more specifically consists of a cheap and easily adjustable form of sound-box for use therein.

The purpose of my invention is to produce a sound-box out of the smallest possible number of pieces of material by stamping and bending same into shape and at the same time produce a construction in which the stylus-arm may be easily and permanently adjusted so as to leave the diaphragm free to vibrate under the best possible conditions.

The best form of apparatus embodying my invention at present known to me is shown in the accompanying sheet of drawings, in which—

Figure 1 is a front view of a sound-box comprising my invention with part of the diaphragm broken away. Fig. 2 is a cross-section on line 2 2 of Fig. 1. Fig. 3 is a side elevation of a sound-box looking along the axis of the stylus-holding arm. Fig. 4 is a detail sectional view of the stylus-holding arm, needle-holder, and lug of the diaphragm-holder, to which it is attached. Fig. 5 is a cross-section of the stylus-arm taken on line 5 5 of Fig. 4. Fig. 6 is a detail sectional view showing the diaphragm and dampening-ring assembled in the diaphragm-holder. Fig. 7 is a detail sectional view of the diaphragm-holder and stylus-holding-arm lug in position thereon, said section being taken on broken line 7 7 of Fig. 3. Fig. 8 is a view of the blank out of which the diaphragm-holder is stamped, and Fig. 9 is a view of the blank out of which the stylus-holding arm and its attaching-lugs are stamped.

Throughout the drawings like reference-figures indicate like parts.

The blank 1 (shown in Fig. 8) is stamped or drawn so as to form the sound-conveying tube 2, the circumferential rim 3, and the stylus-holding lug 4, projecting from said rim. (See Fig. 7.) This stylus-holding lug has a portion 5, in which screw-holes 6, 7, and 8 are punched and stamped, which is bent outwardly and downwardly, as shown in Figs. 3 and 7 and in which is mounted the adjusting-

screw 9, which bears upon the main portion or rim 3 of the diaphragm-holder.

The stylus-holding arm is formed of the blank 10, which has the laterally-extending perforated lugs 11 and 12 and the perforation 13, all formed on the part 14, which is bent downwardly along the dotted line shown in Fig. 9, so as to bring such lugs at right angles to the main body of the stylus-holding arm and the axes of the perforations 11, 12, and 13 in line with the main portion of said arm. Into the perforation 13 is forced a needle-holder 15, which is a cast or otherwise formed body of metal having a perforation 16 for receipt of the needle or stylus 17, and a threaded opening 18, in which the clamping-screw 19 may be inserted. The needle-holder thus formed, as shown in Fig. 4, is mounted on the lug 5 by means of clamping-screws 20, passing through the perforated lugs 11 and 12 and into the threaded openings 7 and 8 in said lug. (See Figs. 3 and 7.)

21 represents any suitable diaphragm, and 22 a rubber tube or other gasket placed under the same in the usual way to serve as a dampening-ring.

Such being the construction of my invention, the mode of operation is as follows: The parts being assembled, as shown in Figs. 1, 2, 3, and 4, the stylus-holding arm may have its inner end attached to the diaphragm 21 by any convenient body of cement in the usual way, being properly adjusted thereto by manipulating the adjusting-screw 9, which bends the portion 5 of the supporting-lug 4 in or out and varies the normal position of the stylus-holder accordingly.

The advantages of my invention comprise the cheapness of construction which results from stamping or forming the entire apparatus out of only three parts of metal, the non-liability of same falling apart or out of adjustment by reason of the few fastenings required, the ease of adjustment and the high quality of sound reproduction which results from faithful transmission of all vibrations through the practically integral structure which connects the stylus with the diaphragm and from the absence of any rattling or other disturbing noises which tend to be produced by joints, especially when the parts so connected together come loose at such joints.

It is evident of course that various changes could be made in the shape and configuration

of the parts disclosed in the drawings without departing from the spirit and scope of my invention so long as the principle of construction therein described is preserved.

5 Having therefore described my invention, I claim—

1. In a reproducer for talking-machines, a diaphragm-holder, sound-conveying tube and stylus-holding lug all stamped up out of one
10 piece of metal, said lug being bent outward and downward through an angle of about one hundred and eighty degrees to form a tension-adjusting member.
2. In a reproducer for talking-machines, a
15 diaphragm-holder, sound-conveying tube and stylus-holding lug all stamped up out of one piece of metal, said lug being bent outward and downward to form a tension-adjusting member and combined with an adjusting-
20 screw mounted in one portion of said lug and bearing on the other portion.
3. In a reproducer for talking-machines, a stylus-holding arm having perforated lugs bent at right angles to the arm for attach-
25 ment to the diaphragm-holder, the arm and lugs being all stamped out of one piece of metal.
4. In a reproducer for talking-machines, a stylus-holding arm having perforated lugs
30 bent at right angles to the arm for attachment to the diaphragm-holder, and a central perforation for the stylus, the arm and lugs being all stamped out of one piece of metal.
5. In a reproducer for talking-machines, a
35 stylus-holding arm having perforated lugs bent at right angles to the arm for attachment to the diaphragm-holder, and a central perforation for the stylus, combined with a needle-holder inserted in said central perfora-
40 tion.
6. In a reproducer for talking-machines, a diaphragm-holder having an outwardly and downwardly bent lug, a stylus-holding arm

fastened thereto and means for adjusting the position of said downwardly-bent portion of
45 the lug.

7. In a reproducer for talking-machines, a diaphragm-holder having an outwardly and downwardly bent lug, a stylus-holding arm fastened thereto and means for adjusting the
50 position of said downwardly-bent portion of the lug, said means comprising a set-screw mounted in the downwardly-bent portion of the lug and bearing on the diaphragm-holder.

8. In a reproducer for talking-machines, a
55 diaphragm-holder having an outwardly and downwardly bent lug, a stylus-holding arm fastened thereto by means of perforated lugs on said stylus-carrying arm bent at right angles thereto, all in combination. 60

9. In a reproducer for talking-machines, a diaphragm-holder having an outwardly and downwardly bent lug, a stylus-holding arm fastened thereto by means of perforated lugs
65 on said stylus-carrying arm bent at right angles thereto, all in combination with a needle-holder inserted in a central perforation in the bent portion of the stylus-carrying arm.

10. In a reproducer for talking-machines, a
70 diaphragm-holder having an outwardly and downwardly bent lug, a stylus-holding arm fastened thereto by means of perforated lugs on said stylus-carrying arm bent at right
75 angles thereto, all in combination with a needle-holder inserted in a central perforation in the bent portion of the stylus-carrying arm and means for adjusting the position
80 of the downwardly-bent portion of the diaphragm-holder.

Signed at New York, N. Y., this 31st day
of March, 1906.

LOUIS P. VALIQUET.

Witnesses:

FRANK O'CONNOR,
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