

No. 887,657.

PATENTED MAY 12, 1908.

T. KRAEMER.
SOUND BOX FOR TALKING MACHINES.
APPLICATION FILED JULY 15, 1907.

Fig 1

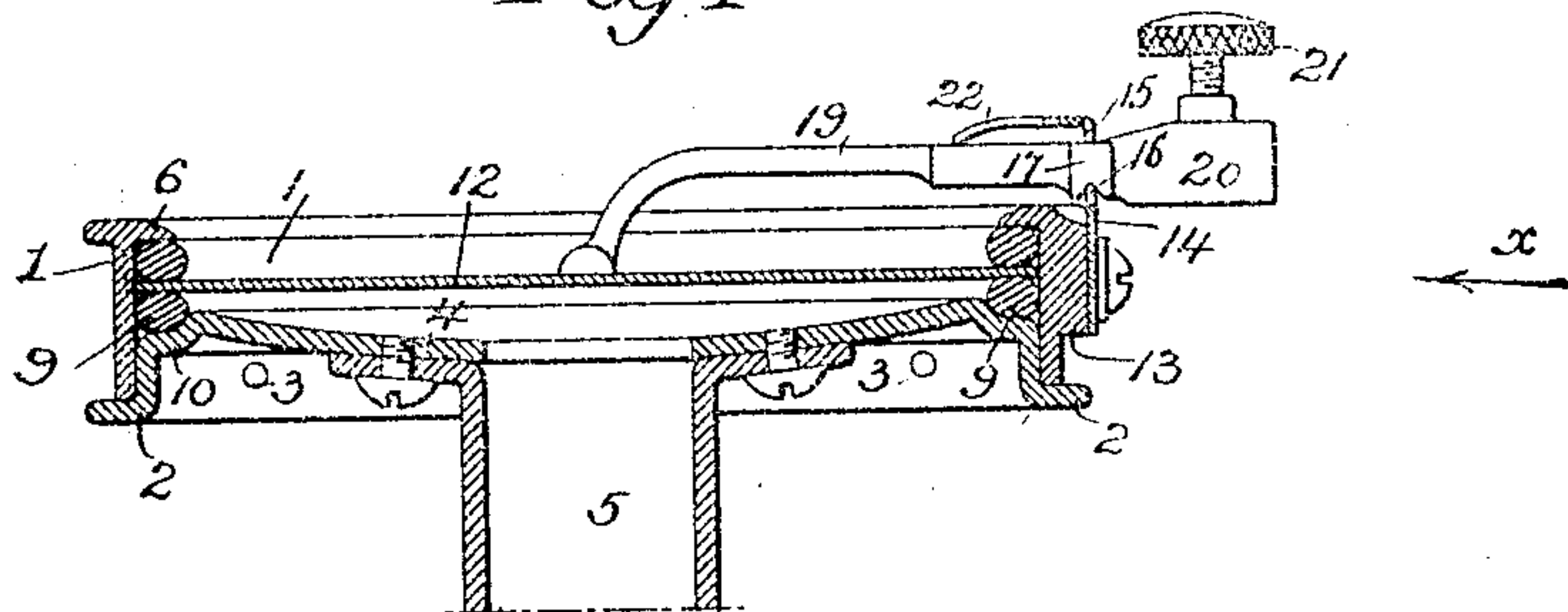


Fig 2.

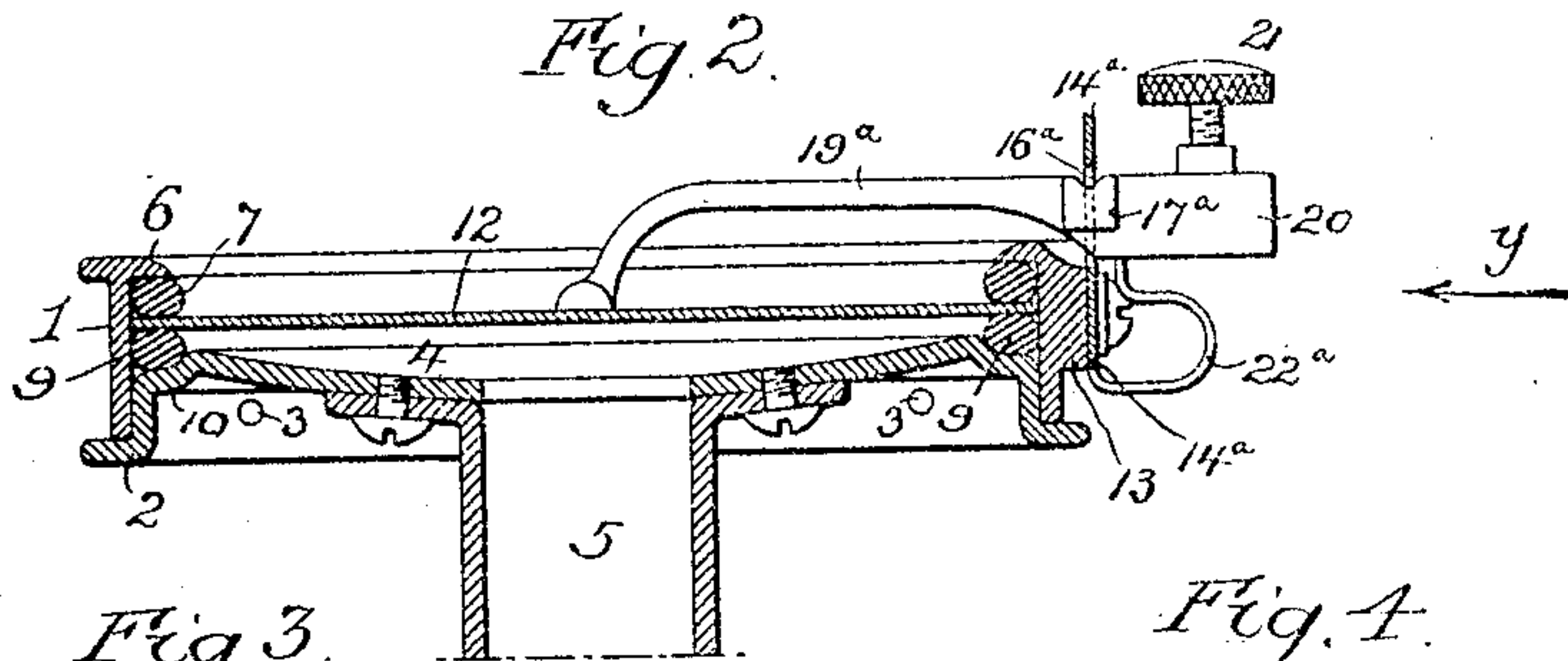


Fig 3.

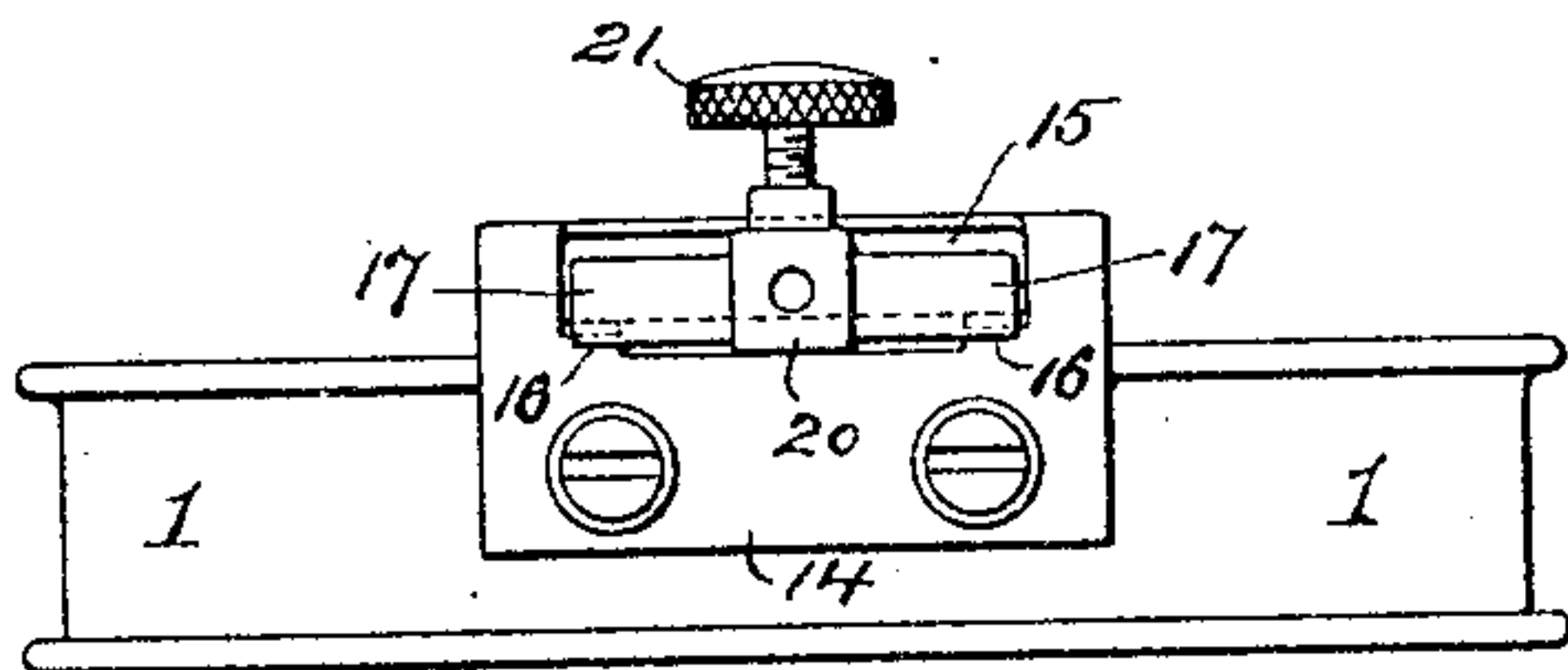


Fig 4.

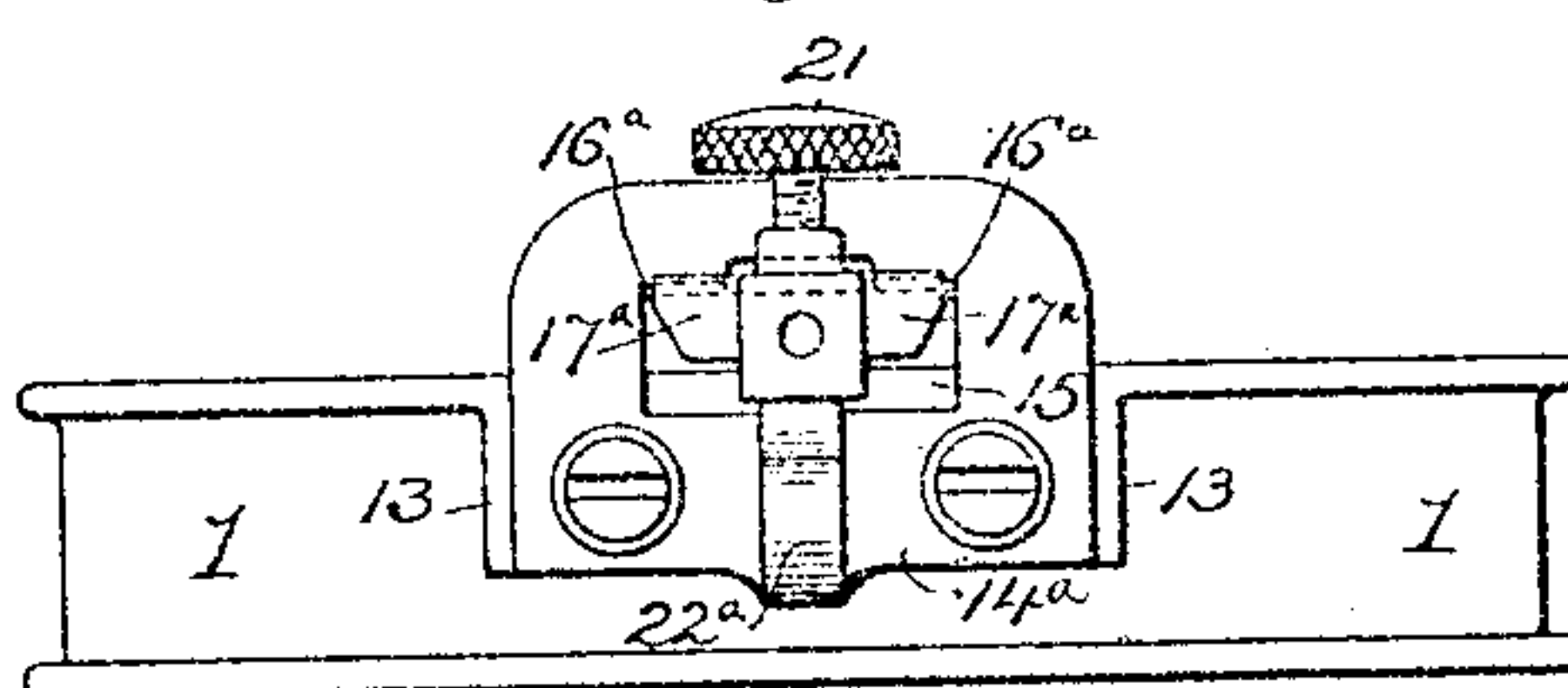


Fig 5.

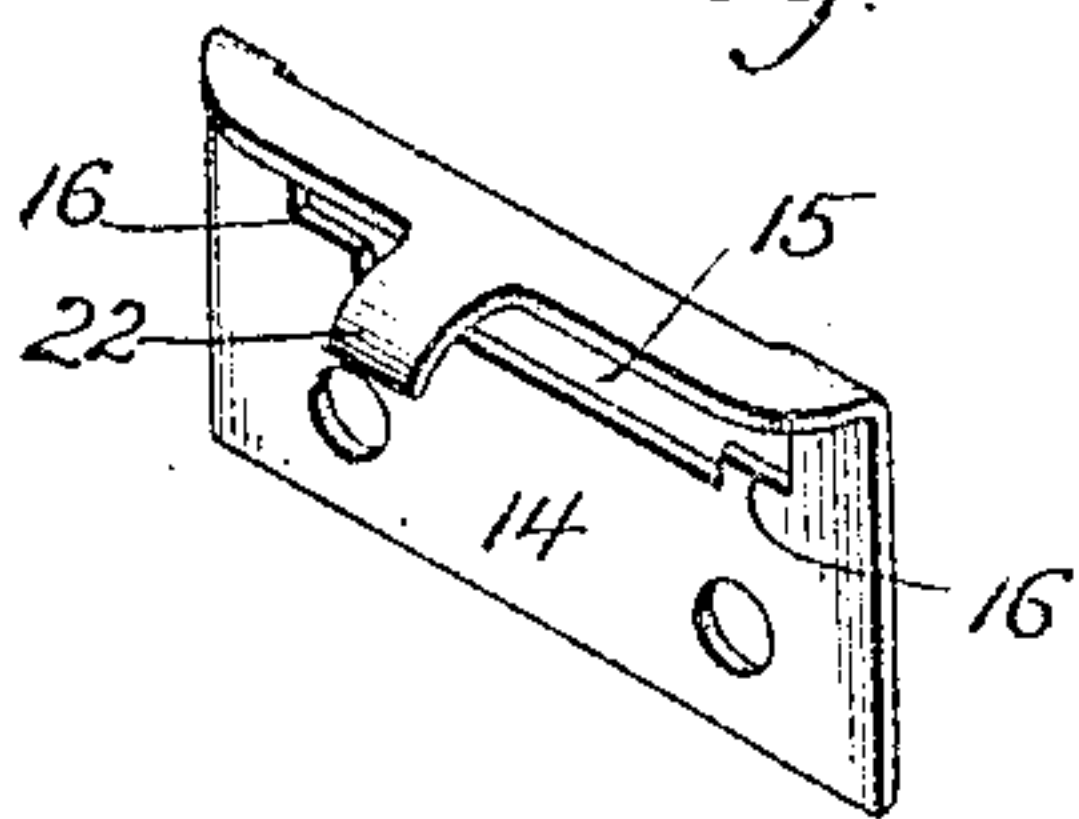


Fig 6.

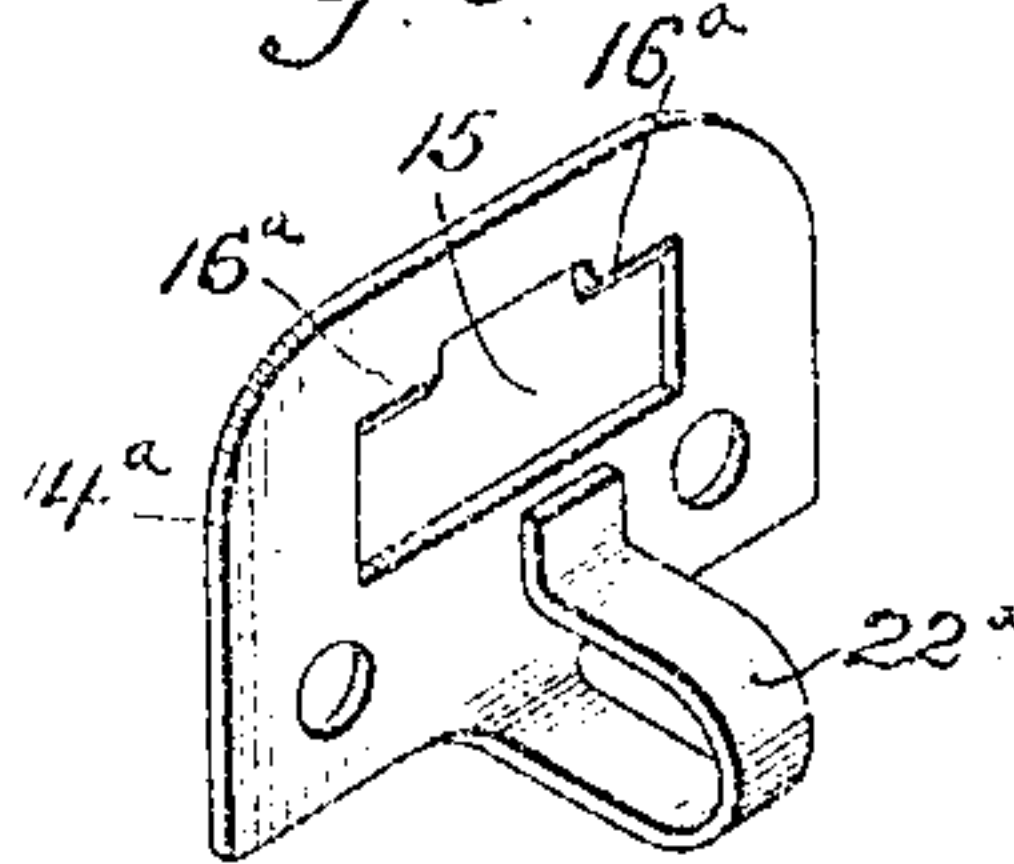
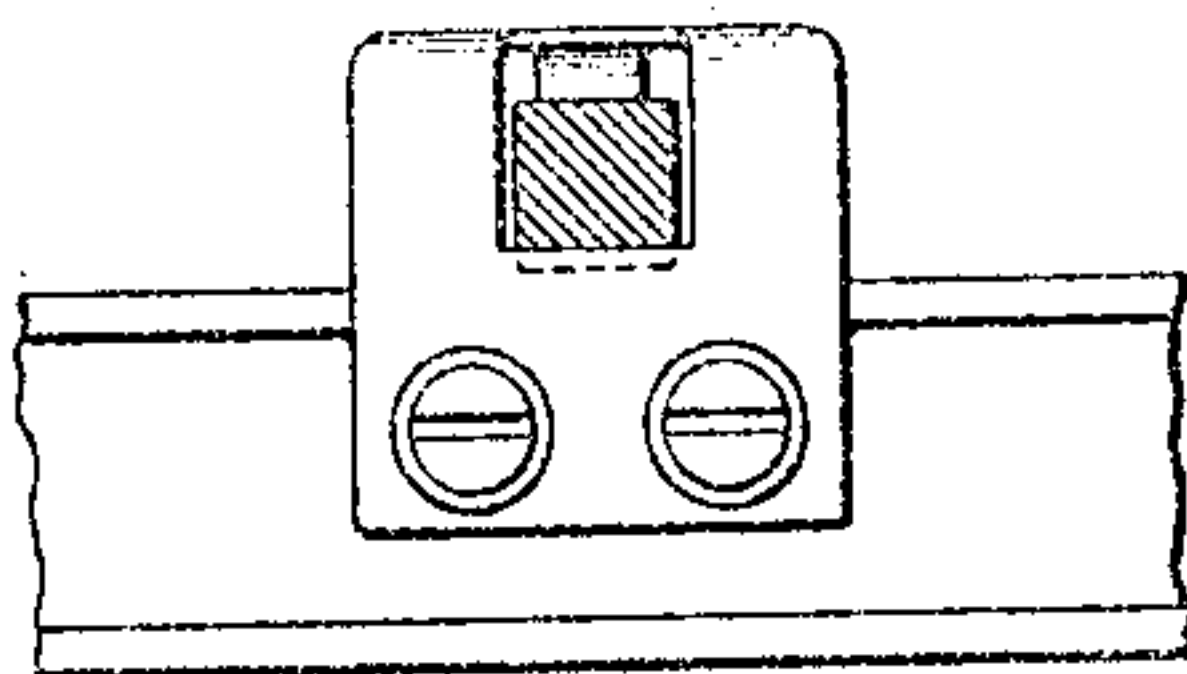


Fig 7.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS KRAEMER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HAWTHORNE & SHEBLE MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

SOUND-BOX FOR TALKING-MACHINES.

No. 887,657.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed July 15, 1907. Serial No. 383,720.

To all whom it may concern:

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

The object of my invention is to so construct a sound box for talking machines that it will comprise but few parts, each of simple and inexpensive construction. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawing, in which

Figure 1 is a transverse vertical section of one form of sound box constructed in accordance with my invention; Fig. 2 is a similar view of another form of sound box embodying the invention; Fig. 3 is a view of the sound box shown in Fig. 1, looking in the direction of the arrow *x*; Fig. 4 is a view of the sound box shown in Fig. 2 looking in the direction of the arrow *y*; Fig. 5 is a perspective view of one of the elements of the sound box shown in Fig. 1; Fig. 6 is a perspective view of the corresponding element of the sound box shown in Fig. 2, and Fig. 7 is a view illustrating a modification of my invention.

The casing of the sound box shown in Figs. 1 and 3 comprises a pair of rings 1 and 2 fitting snugly one inside of the other and secured in position by means of transverse screws or pins 3, the ring 2 having formed integral with it a centrally perforated disk 4, to which is attached the tube 5 of the sound box in the ordinary manner. The ring 1 has an inwardly projecting flange 6, which constitutes a seat for a ring 7 of rubber or other elastic material, and between the latter and a corresponding ring 9, adapted to an annular seat 10 on the disk 4, is confined the diaphragm 12 of the sound box.

To a boss 13 on one side of the ring 1 is secured a plate 14 of steel or other sheet metal, in which is formed a slot 15 whose bottom wall presents knife-edged lugs 16 which constitute pivotal bearings for oppositely projecting trunnions 17 on the stylus lever 19, the inwardly projecting arm of the latter being bent so as to bear upon the center of the diaphragm 12, and the outwardly projecting

arm of the lever presenting a socket 20 with set screw 21 for the reception and retention of the stylus.

The upper portion of the plate 14 is bent forwardly and terminates in a projecting central spring finger 22, which bears upon the back of the stylus lever 19 and serves to maintain its inner end positively in contact with the diaphragm 12. The only difference between the sound box shown in Figs. 2 and 4 and that shown in Figs. 1 and 3 lies in the conformation of the stylus lever trunnions and of the plate which serves as the fulcrum and spring for the stylus lever. This plate is shown at 14^a in Figs. 2 and 4, and it has the knife-edged lugs 16^a formed on the upper wall of the slot 15^a, the fulcrum notches of the stylus lever 19^a being formed in the upper faces of the trunnions 17^a instead of in the under faces of the same. The bent upper portion of the plate is dispensed with and the tension spring 22^a is projected from the lower edge of the plate 14^a and is bent so as to press upwardly upon the outwardly projecting arm of the stylus lever, as shown in Fig. 2, with the same effect as that exerted by the downwardly pressing finger 22 of the box shown in Fig. 1.

Although I prefer to provide the stylus lever with laterally projecting trunnions and the fulcrum plate with corresponding laterally separated fulcrum lugs, I may, in some cases, modify such construction by forming the fulcrum notch directly in the stylus lever and mounting the latter upon a wall of the slot, Fig. 7 illustrating such a modification as applied to a sound box of the type shown in Figs. 1 and 3, but it will, of course, be understood that like modifications can be made in the construction of a sound box of the type shown in Figs. 2 and 4.

I claim:—

1. The combination of a sound box casing, a plate secured thereto and having a slot therein, and a stylus lever passing through said slot and fulcrumed directly upon one of the walls of the same.

2. The combination of a sound box casing, a plate secured thereto and having a slot therein, a stylus lever passing through said slot and fulcrumed upon one of the walls thereof, and a spring on the plate bearing

upon but being disconnected from the stylus lever and serving to maintain said fulcrum bearing.

3. The combination of a sound box casing, 5 a plate secured thereto, and having a slot therein, a stylus lever passing through said slot and fulcrumed upon one of the walls of the same, and a spring constituting an integral part of said plate, said spring bearing 10 upon but being disconnected from the stylus lever and serving to maintain the fulcrum bearing of the latter.

4. The combination of a sound box casing, a stylus lever having notched trunnions, a 15 plate slotted for the reception of said trunnioned portion of the stylus lever and having projecting fulcrum lugs for said trunnions, and a spring constituting an integral part of said plate, said spring bearing upon the sty- 20 lus lever, and serving to maintain its notched trunnions in contact with said fulcrum lugs.

5. The combination of the sound box casing, its diaphragm and stylus lever, a plate secured to said casing and presenting a ful- 25 crum for said stylus lever, and a spring bearing upon but being disconnected from the back of the stylus lever and serving to press the same towards the diaphragm and fulcrum.

30 6. The combination of the sound box casing its diaphragm and stylus lever, a plate secured to said casing and presenting a fulcrum for said stylus lever, and a spring constituting an integral part of said plate, said 35 spring bearing upon the back of the stylus lever and serving to press the same towards the diaphragm and fulcrum.

7. A combined fulcrum and spring plate

for the stylus lever of a sound box, said plate having a fulcrum for the stylus lever, and a 40 projecting spring tongue for bearing upon the lever and pressing the same towards said fulcrum.

8. A combined fulcrum and spring plate 45 for the stylus lever of a sound box, said plate having a slot for the reception of the stylus lever, and a projecting spring tongue for bearing upon the lever and pressing the same towards one of the walls of the slot.

9. A combined fulcrum and spring plate 50 for the stylus lever of a sound box, said plate having a slot with laterally separated fulcrum lugs therein and a spring tongue for pressing the stylus lever towards said fulcrum lugs. 55

10. A combined fulcrum and spring plate for the stylus lever of a sound box, said plate having a slot whose bottom wall constitutes a fulcrum for the lever, and a bent top mem- 60 ber constituting a spring for bearing upon the back of the lever.

11. A combined fulcrum and spring plate for the stylus lever of a sound box, said plate having a slot whose bottom wall presents laterally separated lugs constituting a ful- 65 crum for the lever, and a bent top member constituting a spring for bearing upon the back of the lever.

In testimony whereof I have signed my name to this specification in the presence of 70 two subscribing witnesses.

THOMAS KRAEMER.

Witnesses:

HAMILTON D. TURNER,
KATE A. BEADLE.