

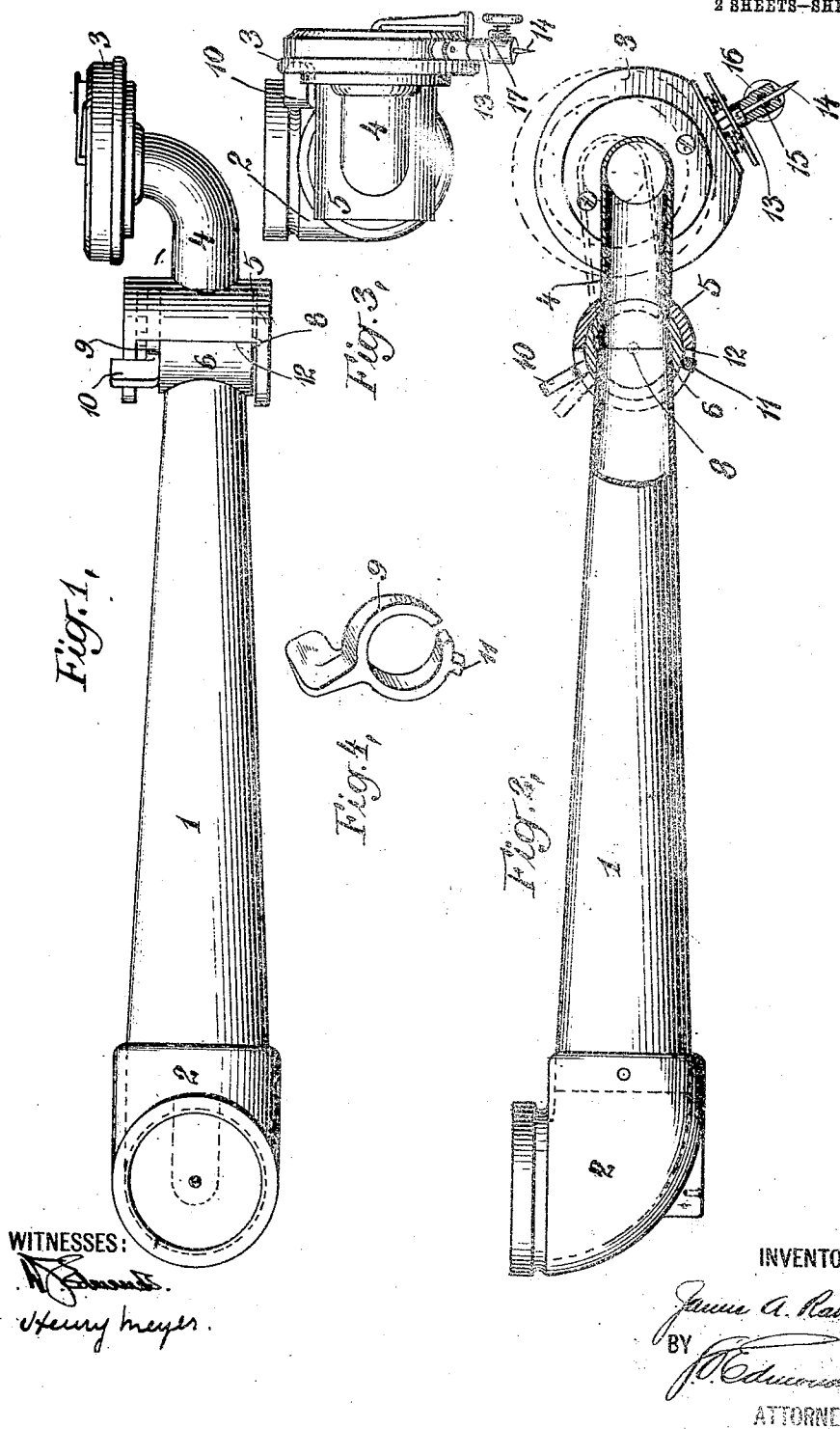
J. A. RABBITT.
TALKING MACHINE.

APPLICATION FILED FEB. 23, 1910.

1,037,983.

Patented Sept. 10, 1912.

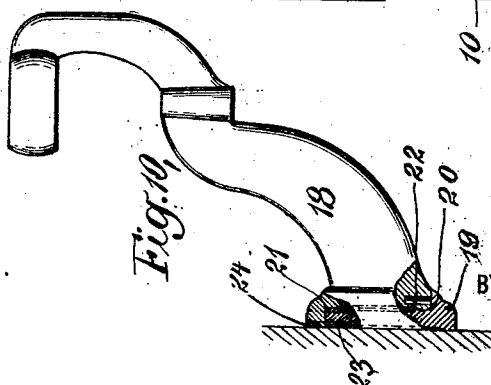
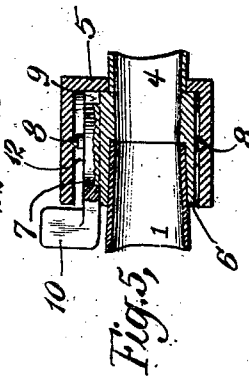
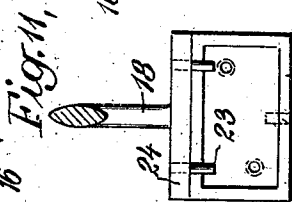
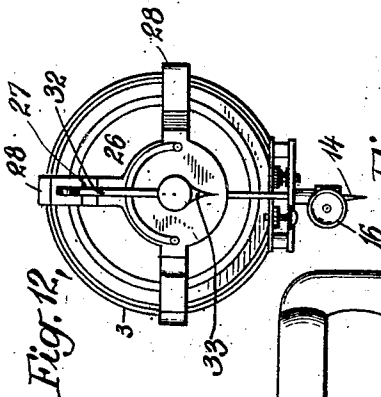
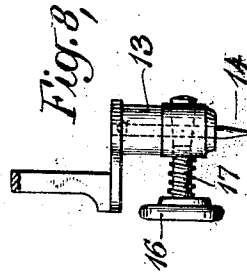
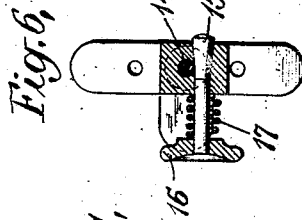
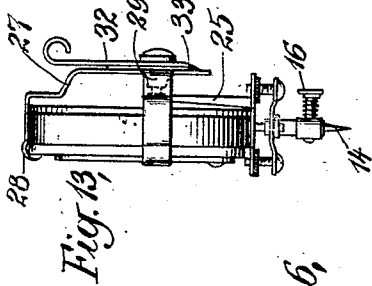
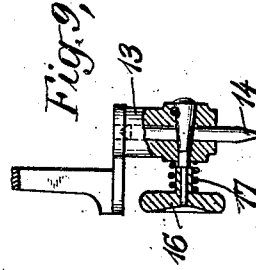
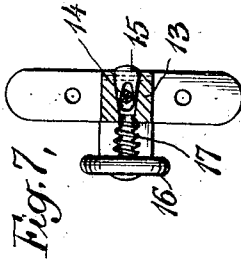
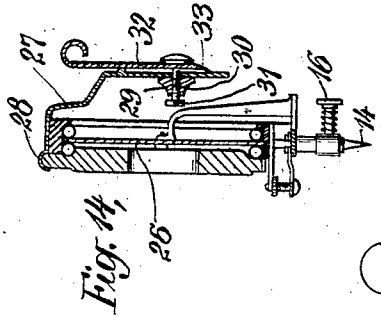
2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES A. RABBITT, OF YOKOHAMA, JAPAN.

TALKING-MACHINE.

1,037,983.

Specification of Letters Patent.

Patented Sept. 10, 1912.

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To all whom it may concern:

Be it known that I, JAMES A. RABBITT, a citizen of the United States, residing in the city of Yokohama, Empire of Japan, have invented certain new and useful Improvements in Talking-Machines, of which the following is a specification.

This invention relates to talking-machines, and its object is to effect certain improvements in the construction of these machines whereby they are made more convenient to use, whereby a faithful reproduction of the recorded sounds is obtained, and whereby the tone of the reproduced sounds may be modified as desired.

I have illustrated the preferred embodiment of my invention in the accompanying drawings, in which—

Figure 1 is a top view of the tone-arm; Fig. 2 is a side view of the same, broken away and sectioned in part; Fig. 3 is a front view of the sound-box and tone-arm; Fig. 4 is a perspective view of the lifting device for the sound-box; Fig. 5 is a sectional view, illustrating the connection between the sound-box and tone-arm; Figs. 6, 7, 8 and 9 are detail views, illustrating the holder for the stylus; Fig. 10 is a sectional elevation of the supporting arm for the tone-arm; Fig. 11 is a view of one of the parts of this supporting arm; Fig. 12 is a side view of the sound-box, showing the sound-modifier applied thereto; Fig. 13 is an end view of the sound-box, and Fig. 14 is a sectional view of the sound-box.

Referring first to Figs. 1 to 5 inclusive, 1 indicates the tapering tone-arm, having its larger end secured to a coupling-member 2, which supports the tone-arm so that the latter and the sound-box secured thereto may turn freely about a vertical axis. The sound-box is shown at 3. This sound-box is connected to a short tube 4, the end of which enters and is secured within an opening in the cylindrical shell 5. The smaller end of the tone-arm 1 enters and is secured within an opening in a cylindrical piece 6, which is adapted to be received within the shell 5. When the sound-box is in operative position, the tube 4 is in axial alignment with the openings through the piece 6 and the tone-arm 1, so that a passageway for the sound-waves free from obstructions is provided. On one side of the cylindrical piece 6, is a cylindrical extension 7 of somewhat smaller diameter than the body of the

piece 6, and at opposite sides of the piece 6 are provided pivot-pins 8 extending into depressions in the shell 5, so that the latter may turn freely upon the piece 6. A split clamping-ring, preferably of the form shown in Fig. 4, is provided upon the cylindrical extension 7 of the piece 6. This ring 9 has a fingerpiece 10, whereby it may be turned relatively to the piece 6, and also it has a projection 11 adapted to engage the wall 12 of the shell 5. Normally the ring 9 clamps the extension 7 so tightly that it will not move thereon, but by applying a small amount of pressure to the fingerpiece 10 the grip of the split ring upon the extension 7 may be relieved somewhat and the ring turned thereon. When the ring is so turned, the projection 11 engages the wall 12 and turns the shell 5 upon the piece 6, thereby raising the sound-box 3 so as to lift the stylus from the sound-record, as indicated by the dotted lines in Fig. 2. When the sound-box has been so raised and the finger-piece 10 released, the split ring 9 will grip the extension 7 so tightly that it will not move thereon, and the sound-box will be supported in this raised position, due to the fact that the wall 12 of the shell 5 bears against the projection 11 of the clamp.

Referring to Figs. 6, 7, 8 and 9, the means employed for securing the stylus in its holder will be described. The stylus-holder 13 has a lengthwise opening therein to receive the stylus 14, and it also has a transverse opening which is tapered at one end and which is adapted to receive a pin 15 correspondingly tapered at one end. At its opposite end, the pin 15 has a head 16 secured thereto and a spiral spring 17 is coiled about the pin 15. In order to secure the stylus 14 in the opening in the holder 13, it is only necessary to move the pin 15 in the direction of its axis by pressing upon the head 16; then insert the stylus 14 in its opening, and then release the pin 15, whereupon the spring 17 will move the pin in the direction of its length until the tapered side thereof engages the stylus 14 and holds it firmly in its opening.

The construction illustrated in Fig. 7 is similar to that illustrated in Fig. 6, except that the pin 15 has an opening formed therein, the side walls of which are inclined relatively to the length of the pin. The stylus 14 is adapted to pass through this opening in the pin 15, and when the head 16

is released and the pin is moved by the spring 17, the stylus 14 will be gripped on opposite sides by the converging walls of the opening in the pin 15.

5 The tone-arm is pivotally mounted upon a supporting arm 18 constructed as shown in Figs. 10 and 11. In securing this arm to the motor-box of the machine, I provide a metallic plate 19 adapted to be perma-
10 nently secured to the motor-box of the machine and so arranged that the arm 18 may be readily mounted thereon or detached therefrom. To this end, I provide upon the member 19 horizontal supporting surfaces
15 20 and 21, the former having a pin 22 projecting upwardly therefrom and the latter having two openings extending downwardly therefrom. The lower end of the arm 18 is formed to coact with this member
20 19, and for this purpose has an opening formed in the bottom thereof adapted to receive the pin 22 and two pins 23 extending downwardly from a projecting portion 24.

Referring now to Figs. 12, 13 and 14, I
25 will describe the means employed for modifying the tone of the reproduced sounds. The sound-box has a stylus-lever 25 of the usual or any suitable construction, adapted to be operated by the diaphragm 26 of the
30 sound-box. To provide for modifying the sounds, I employ a sheet-metal support 27 having three arms which may be carried over and folded upon the sound-box, as shown at 28. Secured to this frame 27, is a
35 stud 29, having a threaded opening therein adapted to receive a threaded pin 30. At its inner end, this pin carries a pad 31 of soft material, such as felt. To the outer end of the pin 30, is secured an operating handle
40 32, and this handle may be extended to form an index 33 coöperating with a suitable scale on the frame 27. By turning the handle 32, it will be seen that the pad 31 will be moved more or less into coaction with
45 the stylus-lever 25, so as to dampen the movements thereof in response to the vibrations of the diaphragm 26. By moving the handle 32 in this way, such an adjustment of the position of the pad 31 may be ob-
50 tained as will make the reproduced sounds of the desired amplitude.

Having now described my invention, what I claim as new therein and desire to secure by Letters Patent is as follows:—

55 1. In a talking-machine, a tubular sound-conveyer, a sound-box, a tubular extension on the sound-box, means for connecting the end of said extension to the end of said con-

veyer and in axial alinement therewith, comprising a cylindrical member secured 60 to one of said parts and a shell secured to the other and having said member pivotally mounted therein, and a clamp movable upon said member adapted to grip the same and also adapted to coact with a part on said 65 shell to position the shell relatively to the member, substantially as set forth.

2. In a talking-machine, a tubular sound-conveyer, a sound-box, a tubular extension on the sound-box, means for connecting the 70 end of said extension to the end of said conveyer and in axial alinement therewith, comprising a cylindrical member secured to one of said parts and a shell secured to the other and having said member pivotally 75 mounted therein, a clamp on said member adapted to grip the same, a handle on the clamp, and coacting engaging projections on the clamp and said shell, substantially as set forth. 80

3. In a talking-machine, a tubular sound-conveyer, a sound-box, a tubular extension on the sound-box, means for connecting the 85 end of said extension to the end of said conveyer and in axial alinement therewith, comprising a cylindrical member secured to one of said parts and a shell secured to the other and having said member pivotally 90 mounted therein, a split ring on said member adapted to grip the same, a handle on said ring for opening the latter and moving it upon the member, and coacting engaging portions on the ring and on said shell, substantially as set forth.

4. In a talking-machine, a tubular sound- 95 conveyer, a sound-box, a tubular extension on the sound-box, means for connecting the end of said extension to the end of said conveyer and in axial alinement therewith, comprising a cylindrical member secured 100 to one of said parts and closed at its ends, and a shell secured to the other of said parts, having an opening on one side and having said member pivotally mounted therein, and a clamp movable upon said member pro- 105 jecting through said opening in the shell and adapted to be moved about said member and to engage and actuate said shell, substantially as set forth.

This specification signed and witnessed 115 this 5th day of February, 1910.

JAMES A. RABBITT.

Witnesses:

GENJI KURIBARA,
MUSATUO O. KASAVA.