J. A. RABBITT.

TALKING MACHINE.

APPLICATION FILED FEB. 28, 1910.

1,041,871.

Patented Oct. 22, 1912.

3 SHEETS—SHEET 1.

Fig. 1,

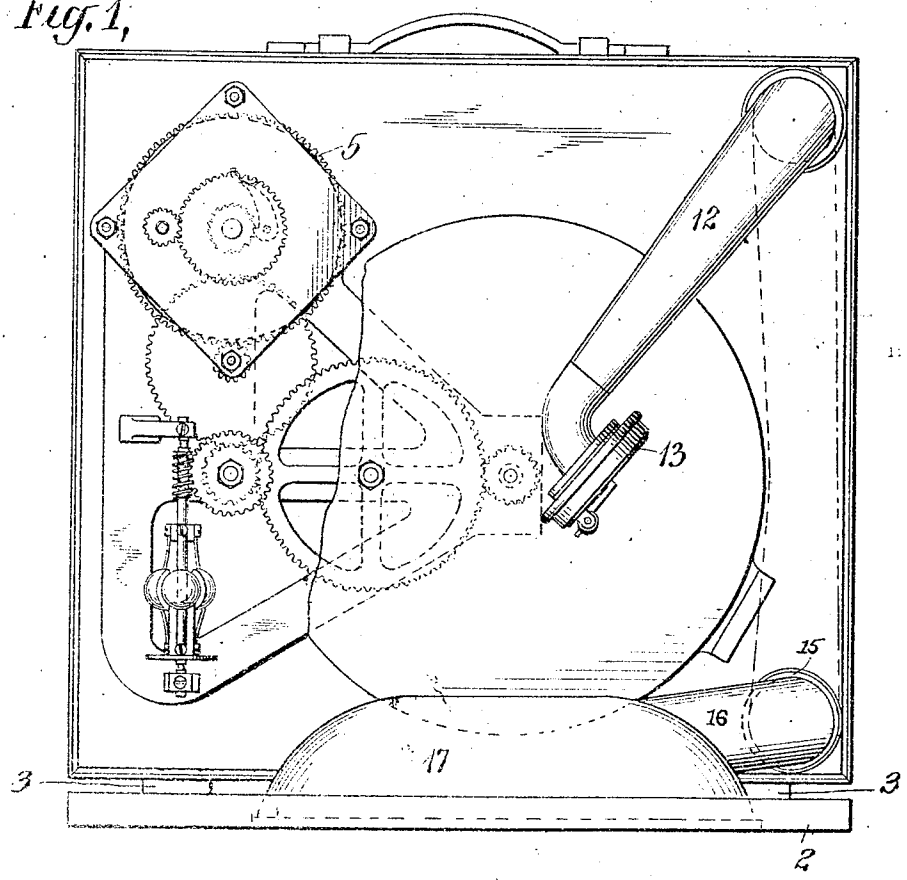
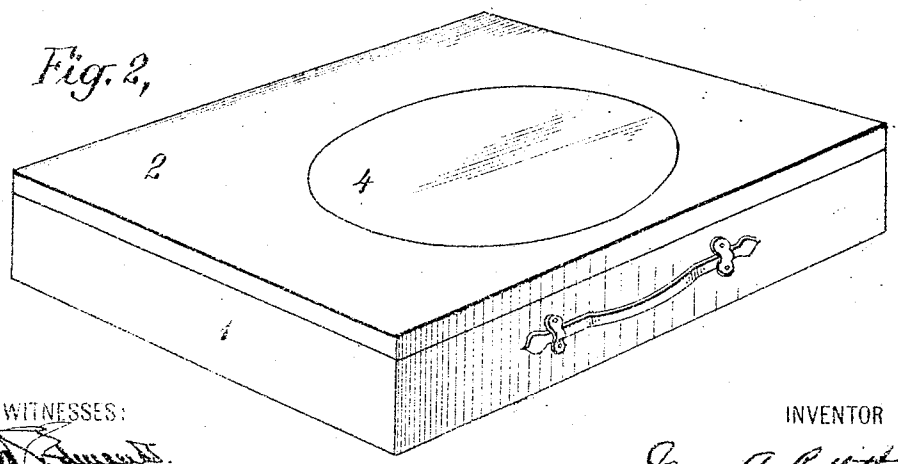


Fig. 2,



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3 SHEETS—SHEET 2.

Fig. 3,

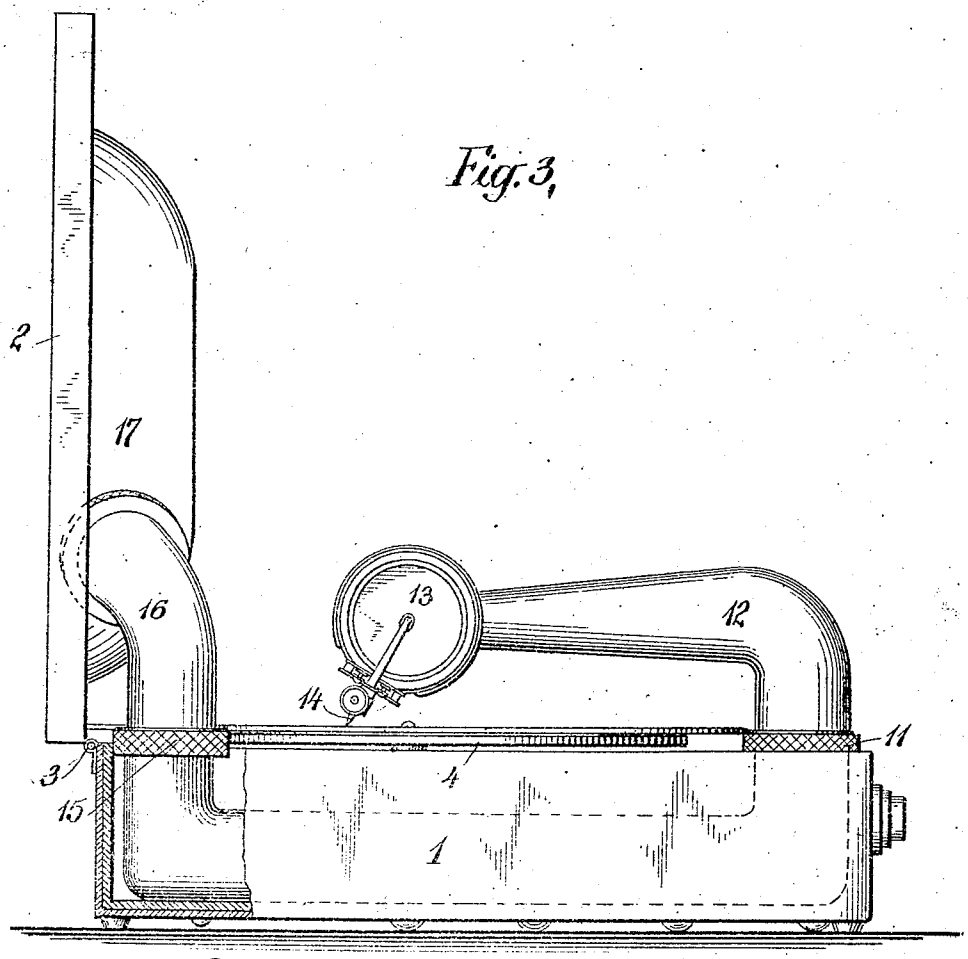
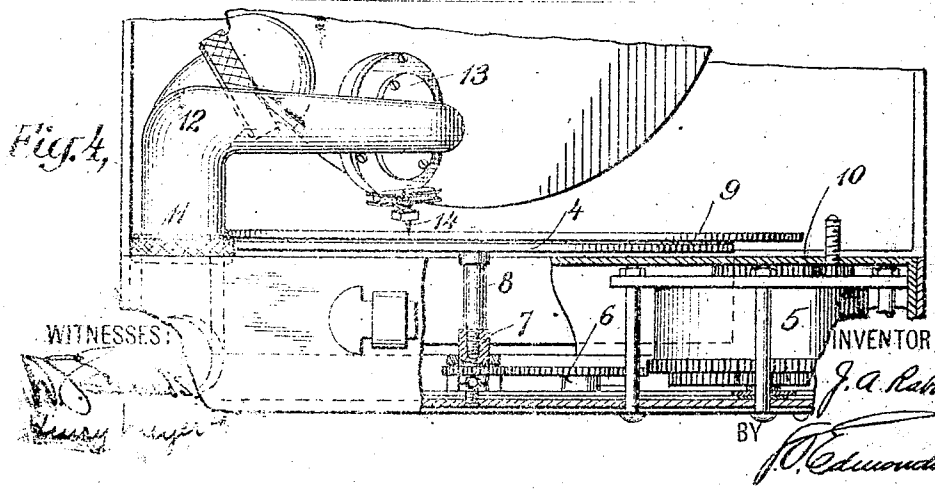


Fig. 4,



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3 SHEETS—SHEET 3.

Fig. 5,

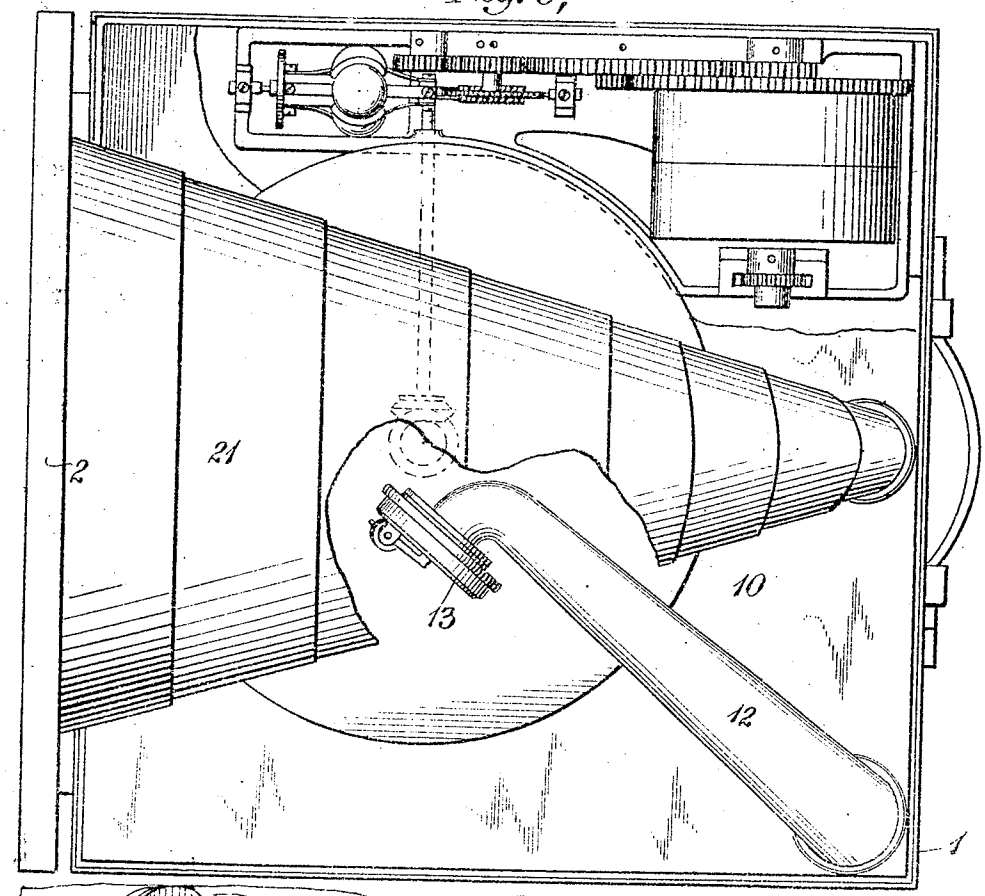
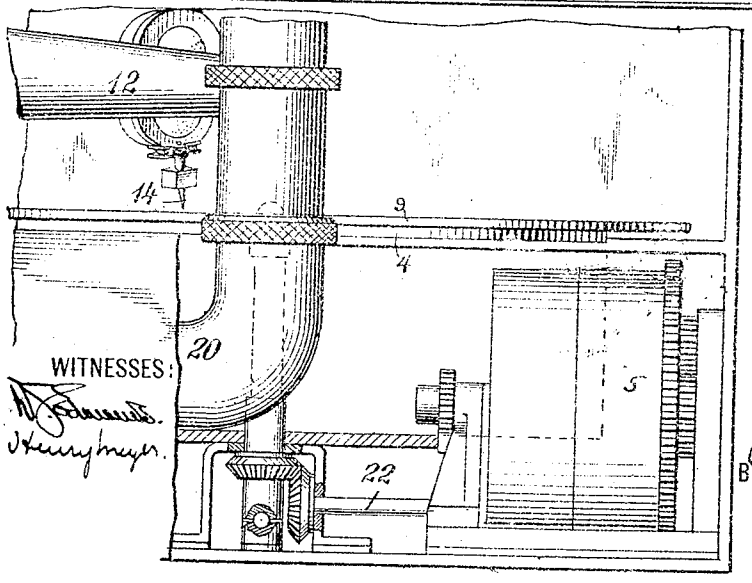


Fig. 6,



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UNITED STATES PATENT OFFICE.

JAMES A. RABBITT, OF YOKOHAMA, JAPAN.

TALKING-MACHINE.

1,041,871. Specification of Letters Patent. Patented Oct. 22, 1912.

Application filed February 28, 1910. Serial No. 546,269.

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 is directed to the provision of a machine which is exceedingly light and the parts of which may be conveniently and compactly arranged within a suitable casing, so that the machine may be readily carried by hand from place to place.

My improved machine preferably comprises a casing, one side of which is hinged to the body portion of the casing, this hinged side having an opening therein adapted to receive the end of an amplifying-horn to support the latter. When the machine is not in use, this opening is closed by a circular metallic plate, and this plate forms the turntable for receiving the disk sound-record. The amplifying-horn may be made sufficiently shallow to fit within the relatively small casing of the machine, or, if desired, a collapsible horn of ample size may be employed which can be folded so as to occupy but little space.

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

Figure 1 is a top view of the machine, broken away in part; Fig. 2 is a perspective view, showing the casing closed; Fig. 3 is a side elevation, partly in section; Fig. 4 is a front view, partly in section; Fig. 5 is a top view, broken away in part, illustrating a modification; and Fig. 6 is a side view, broken away in part, showing the construction illustrated in Fig. 5.

Referring first to Figs. 1 to 4, the casing for the machine consists of a body portion 1 and a top 2 hinged at 3 to the body portion 1. In the removable side 2 of the casing is a circular opening, and this opening is closed by a circular metallic plate 4 secured to the removable side 2 in any suitable manner. Within the body portion of the casing 1, is mounted a suitable spring-motor having a windable spring within the barrel 5, operating through gearing 6 to rotate a central shaft 7. This shaft has a threaded opening therein adapted to receive the threaded end of a short shaft 8. When the machine is in use, the plate 4 is secured upon the upper end of the short shaft 8, as shown in Fig. 4, and receives the disk sound-record 9. The body portion 1 of the casing of the machine may have an inner cover-plate 10 secured thereto, covering the motor 5 and having an opening in it through which the winding-shaft of the motor extends. Secured to this cover-plate 10 at one corner of the casing is a tubular member 11, upon which is pivotally mounted a tapering tone-arm 12 having its larger end turned downwardly and entering the member 11. To the smaller end of this tone-arm is secured a sound-box 13 having its stylus 14 adapted to track in the groove of the record upon the turn-table 4. The tone-arm 12 is adapted to turn relatively to the tubular member 11 about a vertical axis, or if desired the connection of the tone-arm 12 to the tubular member 11 may be such that the tone-arm can turn freely about both vertical and horizontal axes. The tubular member 11 is extended along one side of the casing 1 from the corner thereof where the tone-arm is mounted to the adjacent corner, as indicated by the dotted lines in Fig. 1, and at this corner it is turned upwardly and passes again through the plate 10, as shown at 15. The end 15 of this tubular sound-conveying passageway is adapted to receive one end of a tubular coupling 16 which connects with a sound-amplifying device. In the drawings I have shown the coupling 16 as a short tube connected at one end to the end 15 of the sound-conveying passageway and at the other end to a shallow amplifying-horn 17. This amplifying-horn preferably has the form of a metallic pan with its larger end received in the opening in the removable side 2 of the casing, the latter forming a support for the horn 17. In the side of the horn is an opening, formed to facilitate connecting the tubular member 16 to the horn 17.

It will be seen that the major portion of the mechanism of the spring-motor is arranged within the casing beyond the periphery of the turn-table 4, and that the connec-

tion from this portion of the motor mechanism to the central shaft of the machine is effected by means of gears lying close to the bottom of the casing. For this reason, when the turn-table 4 is removed from the shaft 8, ample space remains for the reception of the shallow horn 17, by placing the horn in an inverted position over the shaft 8. If desired, however, the short shaft 8 may be readily disconnected from the shaft 7, and in this way even greater space is provided. The joints connecting the tubular member 16 and the tone-arm 12 with the sound-conveying passageway 11 and the joint between the tubular member 16 and the horn 17 are such that these parts may be readily disconnected, and they may be arranged within the casing 1, in the space therein beyond the periphery of the turn-table. Preferably the sound-box is so arranged that it may be disconnected from the tone-arm 12, and supporting devices may be provided within the casing of the machine to hold these more delicate parts and thus avoid injury thereto while transporting the machine.

Referring to Figs. 5 and 6, I have shown a somewhat different construction, whereby the same results are obtained and an amplifying-horn of very much greater size may be used. In this form of my invention, the amplifying-horn consists of a collapsible horn, one end of which enters the opening in the removable side of the casing, so that the horn is supported thereby. In this form of my invention, the sound-conveying passageway 20 within the casing of the machine extends from the tone-arm 12 along the side of the casing opposite that to which the removable cover 2 is hinged, to a point at about the middle of that side, where it is turned upwardly and passes through the inner cover-plate 10 of the machine. A collapsible horn is shown at 21, consisting of a plurality of sections which when extended form a tapering horn of the form shown. This horn at one end connects with the upwardly turned end of the tubular sound-conveying passageway 20, and at its other end enters the opening in the hinged cover-plate 2. In this form of my invention, I have shown the spring-motor as somewhat differently arranged, the connection from the motor to the shaft of the turn-table being formed by a shaft 22. This shaft, however, is arranged at the bottom of the casing of the machine, so that when the turn-table is removed from its shaft ample space is provided for the reception of the horn 21 when the latter is in its collapsed condition.

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

1. A portable talking-machine comprising the combination of a motor-box having a body and a top which is hinged to the body and which has an opening therethrough, a motor mounted within the box, a turn-table detachably mounted on a shaft of the motor and adapted to be secured to said top in position to close said opening therethrough, an amplifying device adapted to lie in inoperative position within the box, means for removably supporting the amplifying device in operative position upon the body of the box and upon said hinged top in which position it directs sound through said opening in the top, and sound-reproducing mechanism adapted to be connected to said amplifying device, substantially as set forth.

2. A portable talking-machine comprising the combination of a motor-box provided with a cover-plate and with a hinged top which has an opening therethrough, a motor mounted within the box, a turn-table detachably mounted on a shaft of the motor and adapted to be secured to said top in position to close said opening therethrough, an amplifying device adapted to lie in inoperative position within the box, means for removably supporting the amplifying device upon said cover-plate and said top in position to direct sound through the opening in the top, a tone-arm pivotally mounted on said cover-plate, a reproducer carried thereby, and a sound-passageway below the cover-plate connecting the tone-arm and amplifying device, substantially as set forth.

3. The combination of a casing comprising a body and a cover therefor having an opening therethrough and movable to closed and open positions, a motor mounted within the body, a turntable driven thereby, a tone-arm pivotally mounted on the body adjacent to the turntable, a sound-box carried by the tone-arm and movable across the record on said turntable, and a tubular amplifying horn supported at one end upon said body and near the other upon said cover when the latter is in the open position, in position to direct sound passing therethrough through said opening in the cover, substantially as set forth.

4. A portable talking-machine comprising a motor-box, a hinged wall for the box having an opening therethrough, a motor mounted within said box adjacent to one of the side walls thereof, a shaft distant from the motor, gearing between the motor and said shaft located adjacent to the bottom of the box, a turntable mounted on said shaft, a sound-box, and a sound-amplifying device connected to said sound-box and supported in operative position by said hinged wall when the latter has been turned relatively to the box, in position to direct sound passing therethrough through the opening in said wall, said turntable being removable from the shaft on which it is mounted to provide space above said gearing for the re-

ception of said sound-amplifying device, and said turn-table being adapted to be secured to the hinged wall of the box in position to close the opening therethrough when the amplifying device has been detached from the hinged wall and is in inoperative position, substantially as set forth.

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

JAMES A. RABBITT.

Witnesses:
GENJI KURIBANE,
MASATARO O'KASAVA.