E. R. JOHNSON.

TALKING MACHINE.

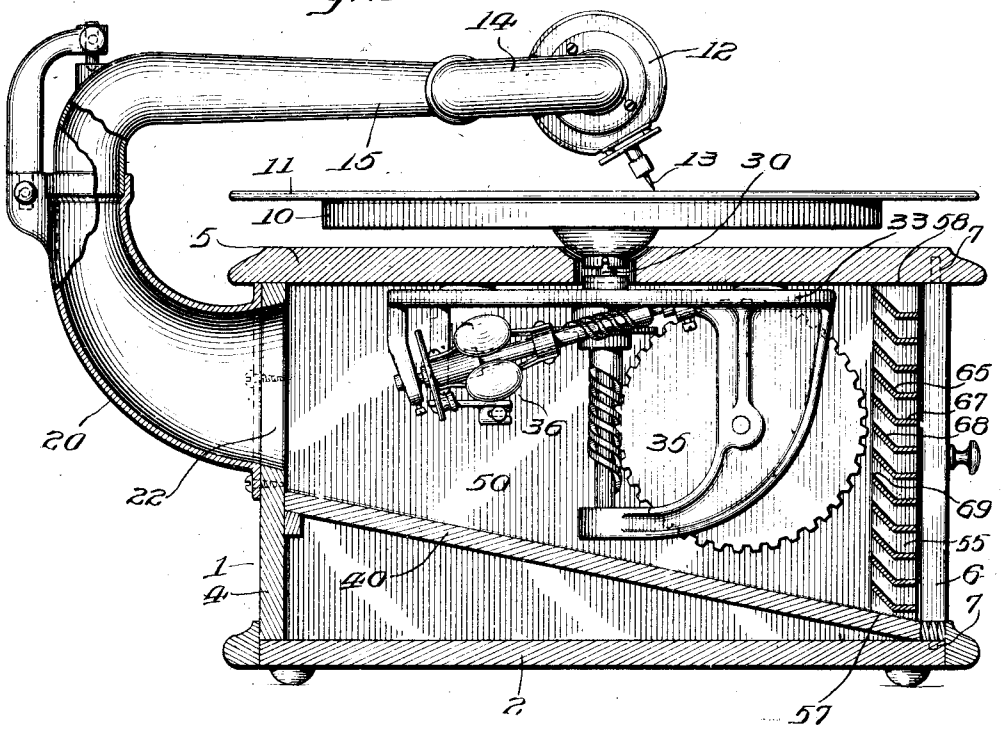
APPLICATION FILED JAN. 28, 1911.

1,068,591.

Patented July 29, 1913.

2 SHEETS—SHEET 1.

Fig. 1



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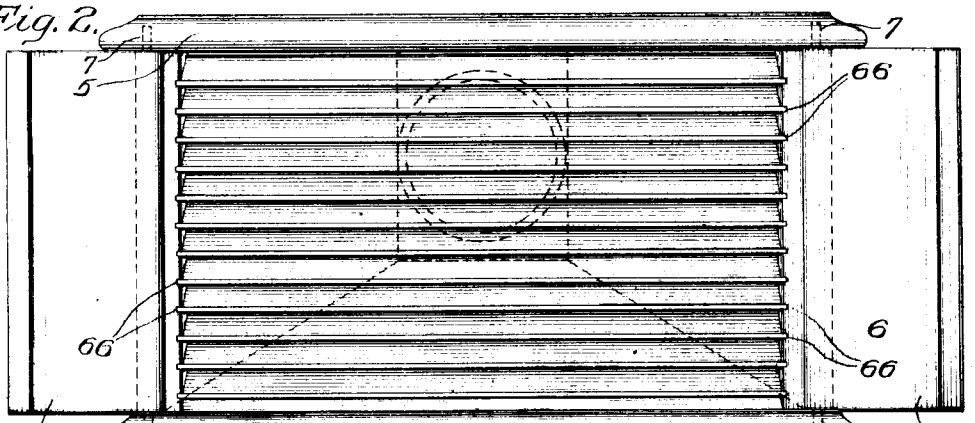
2 SHEETS—SHEET 2.

Fig. 2.



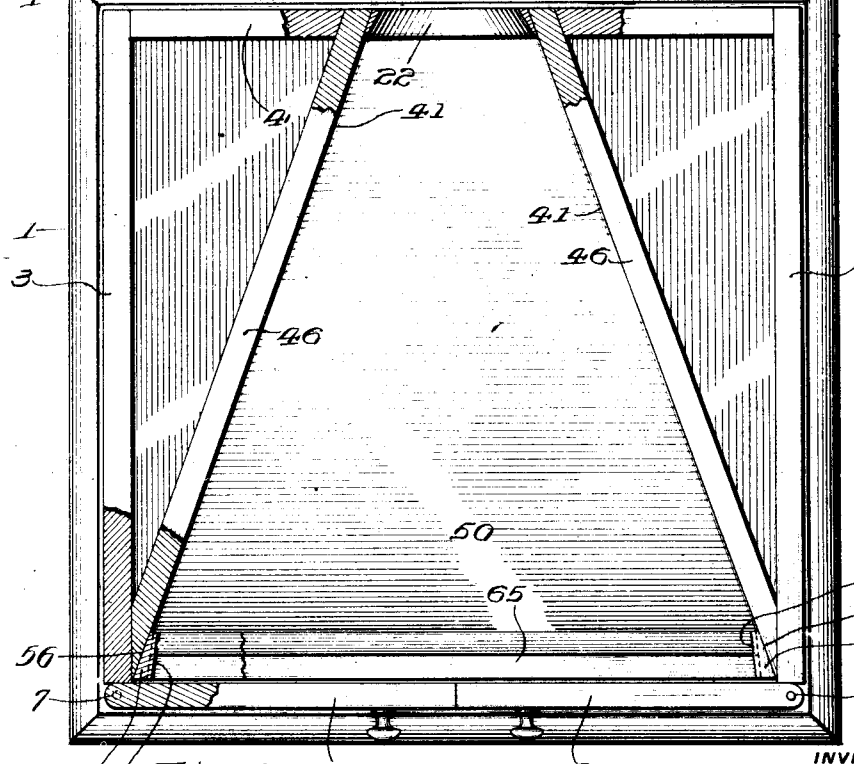


Fig. 3.

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UNITED STATES PATENT OFFICE.

ELDRIDGE R. JOHNSON, OF MERION, PENNSYLVANIA, ASSIGNOR TO VICTOR TALKING MACHINE COMPANY, A CORPORATION OF NEW JERSEY.

TALKING-MACHINE.

1,068,591. Specification of Letters Patent. Patented July 29, 1913.

Application filed January 28, 1911. Serial No. 605,150.

To all whom it may concern:

Be it known that I, ELDRIDGE R. JOHNSON, a citizen of the United States, and a resident of Merion, county of Montgomery, and State of Pennsylvania, have invented certain new and useful Improvements in Talking-Machines, of which the following is a full, clear, and complete disclosure, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to certain new and useful improvements in talking machines, as will be hereinafter fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation, partly in vertical central section of a talking machine constructed in accordance with this invention; Fig. 2 a front elevation of the same, but with the doors open; and Fig. 3 a top plan view partly in horizontal section of the same with the top portion and reproducing and actuating mechanism omitted, and the doors closed.

Referring to the drawings, one embodiment of this invention comprises a substantially rectangular casing 1, having a bottom wall 2, side walls 3—3, a rear wall 4, a top or cover 5, which may or may not be made removable, and two movable doors or inclosures 6, mounted upon pintles 7, between the top and bottom of the casing, and forming the front of the casing.

Mounted upon the casing 1, is a turntable or rotary record support 10, for supporting the usual disk record 11, and arranged above the turntable in coöperative relation therewith is the usual sound box 12, or other suitable sound reproducing means carrying a stylus 13, adapted to coöperate with the record 11.

The sound box 12, is carried by and communicates with a U-tube 14, which is pivotally supported upon the free smaller end of a hollow tapering tone arm 15, with which it communicates. The outer and larger end of the tone arm 15, curves downwardly and engages rotatably in the upper free end of a downwardly extending and downwardly flaring hollow curved bracket 20, the lower end of which is rigidly secured to the back 4 of the casing and registers with an aperture 22, provided in the back of the casing through which it communicates with the interior of the casing.

The turntable 10 is removably mounted upon the upper end of a spindle 30, which projects downwardly through the cover 5 of the casing, and the spindle is rotatably supported in a plate 33, which is secured to the under side of the cover 5. A suitable motor or actuating mechanism 35, depends downwardly within the casing from the plate 33 and is operatively connected to rotate the spindle 30. A suitable governor 36 also depends in the casing from the plate 33 for controlling the speed of the motor.

For amplifying and deflecting the sound waves in the casing 1, one or more sounding boards may be arranged in the casing, for instance, one sounding board 40 may be inclined from the front edge of the bottom 2 of the casing, rearwardly and upwardly to the back 4 of the casing, abutting against the inner surface of the back in a horizontal line slightly below the sound conducting opening 22, through the back of the casing, the front edge of this board resting upon the upper surface of the bottom 2, of the casing, and the side edges 41 of the board converging rearwardly.

Other sounding boards, in addition to the sounding board 40 already described, may be arranged within the casing, for instance, two rearwardly converging vertical boards 46 may be located upon opposite sides respectively of the downwardly inclined sounding board 40, and in abutment with the rearwardly converging edges 41 thereof, the top and bottom edges of these vertical boards abutting against the top and bottom walls of the casing, and the rear ends of these vertical boards either extending through or abutting against the rear wall 4 of the casing and being arranged upon opposite sides respectively and adjacent to the sound conveying opening 22, in the rear wall of the casing. The forward ends of these vertical boards are preferably beveled and abut against the inner surfaces of the side walls of the casing respectively.

In the above described embodiment of this invention, the motor or actuating mechanism and its governor are suspended in a sound conduit or sound amplifier 50, formed by the sounding boards 40 and 46, and the cover 5 of the casing, and this conduit or amplifier is in communication with the sound reproducer 12, through the opening 22, in the rear wall of the casing, the hollow bracket 20, the tone arm 15, and the U-tube 14.

For concealing the actuating mechanism of the machine from view when the doors 6 are open, a deflecting screen is arranged across the delivery end or mouth of the conduit or amplifier 50, and in the rear of the doors 6. One form of this screen comprises two oppositely disposed vertical end pieces 55, the outer vertical walls 56 of which converge rearwardly and fit snugly against the outer ends of the inner walls 41, of the vertical sounding boards 46, the lower ends 57 of these end pieces being beveled to fit snugly against the upper surface of the forward end of the downwardly inclined sounding board 40, and the upper ends 58 of these end pieces being rectangular and fitting snugly against the under surface of the top 5 of the casing. Each of these end pieces 55 preferably converges rearwardly in horizontal section and their inner walls 59 preferably diverge forwardly to give the proper outward deflection to the sound waves.

Extending between the vertical end pieces 55 of the screen are a plurality of spaced fixed strips or slats 65, which are preferably parallel and horizontally arranged, the spaces between the slats forming passages for the exit of sound waves from the amplifier. The ends of these slats are secured to the end pieces 55 respectively, in any suitable manner, for instance, the end pieces 55 may be provided with spaced grooves 66 to receive the ends of the slats. These slats 65 may be made of wood or metal or any other suitable material, and each slat preferably comprises a front substantially flat horizontal portion 67, and a rear substantially flat portion 68, inclined rearwardly and upwardly from the front portion 67 and oblique to the longitudinal axis of the delivery end of the amplifier, the rear upper edge 69 of each slat being preferably slightly above the lower surface of the horizontal portion 67 of the next slat above, and the front upper edge of each slat being preferably slightly above the inclined plane of the lower surface of the rear portion of the next slat above. The passages between the slats are thus made tortuous and the slats thus effectively screen the actuating mechanism from view. Each of these slats may be made of a single piece of wood or other material or may be made of two or more strips or pieces of material glued or otherwise secured together.

Any suitable number of slats 65 may be used, the dimensions and shape, however, of each slat being varied to suit the number of slats used in each instance. The transverse sectional shape of the slats may be varied to suit various purposes, the slats, however, being preferably so shaped as to screen the actuating mechanism of the machine from view and at the same time to deliver the sound waves in a substantially horizontal direction, or in a slightly upwardly inclined direction from the machine.

The slats 65, together with their end pieces 55, constitute a frame or screen or closure which is retained in the casing, and, therefore, readily removable therefrom when the doors are open, the doors being pivoted on axes spaced away from the ends of the screen in a direction longitudinal of the screen, so that when the doors are open, a free space will be left for the withdrawal of the screen.

In the operation of this form of the invention, the sounding boards 40 and 46 forming the bottom and sides of the sound conduit or amplifier 50 act to amplify and to deflect the sound waves which are transmitted and delivered from the reproducer 12 through the amplifier 50 in a given direction, and the sound waves are further deflected downwardly at the mouth of the amplifier by the slats 65 and again horizontally by the portion 67 thereof to deliver the sound in the original direction from the machine while at the same time screening the interior of the amplifier from view and easy access thereto.

The doors 6 forming the front of the casing may be opened outwardly to any extent desired to vary the intensity of the sound issuing from the casing or to deflect it after amplification in any desired direction, but the doors may obviously be omitted if preferred, and the front of the casing left permanently open, and the screen also may be easily removed when desired.

The casing used in applying this invention may obviously be modified from that described above, to suit various purposes, and the invention might also be applied to any sound conduit or amplifier either containing or not containing actuating mechanism.

Although only a single form has been shown in which this invention has been embodied, it is obvious that various changes might be made in the details of construction without departing from the spirit of this invention, or the scope of the appended claims.

Having thus fully described this invention, I claim and desire to protect by Letters Patent of the United States:

1. In a talking machine, the combination with sound reproducing means, of a sound conduit communicating therewith, and a screen for said conduit comprising a series of slats spaced apart and extending transversely of said conduit to provide sound exits and arranged to coöperate to deliver substantially all of the sound from said conduit outwardly in the general direction of the longitudinal axis of said conduit and to simultaneously render the interior of said

conduit invisible in the direction of said axis.

2. In a talking machine, the combination with sound reproducing means, of a sound conduit communicating therewith, and a screen for said conduit comprising a series of stationary slats spaced apart and extending transversely of said conduit to provide sound exits and coöperating to deliver substantially all of the sound from said conduit outwardly in the general direction of the longitudinal axis of said conduit and to render the interior of said conduit invisible in the direction of said axis.

3. In a talking machine, the combination with a sound conduit, of actuating means for said machine located in said conduit, and a screen for said conduit comprising a series of stationary slats spaced apart and extending transversely of said conduit to provide sound exits and coöperating to deliver substantially all of the sound from said conduit outwardly in the general direction of the longitudinal axis of said conduit and to render the said actuating means invisible in the direction of said axis.

4. In a talking machine, the combination with sound reproducing means, of a sound conduit communicating therewith, and a screen for said conduit comprising a series of stationary slats spaced apart and extending transversely of said conduit to provide sound exits and coöperating to deliver substantially all of the sound from said conduit outwardly in the general direction of the longitudinal axis of said conduit and to render the interior of said conduit invisible in the direction of said axis, each of said slats comprising a plane outer portion and an inclined plane inner portion.

5. In a talking machine, the combination with sound reproducing means, of a sound conduit communicating therewith, and a screen for said conduit comprising a series of stationary slats spaced apart and extending transversely of said conduit to provide sound exits and coöperating to deliver substantially all of the sound from said conduit outwardly in the general direction of the longitudinal axis of said conduit and to render the interior of said conduit invisible in the direction of said axis, each of said slats comprising a plane horizontal outer portion and an inclined plane inner portion.

In witness whereof, I have hereunto set my hand this 13th day of January, A. D. 1911.

ELDRIDGE R. JOHNSON.

Witnesses:
FRANK B. MIDDLETON, Jr.,
RALPH L. FREEMAN.