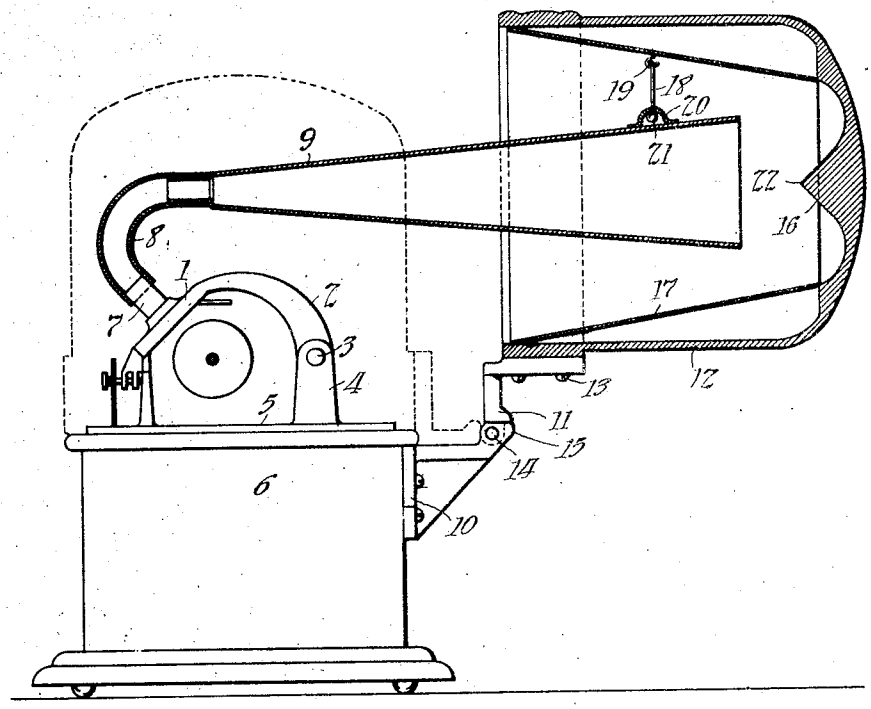
P. WEBER.

PHONOGRAPH.

APPLICATION FILED JULY 22, 1909.

1,081,352.

Patented Dec. 16, 1913.



Witnesses:
Frank D. Lewis
Dyer Smith

Inventor:
Peter Weber
by Frank L. Hoen
Atty.

UNITED STATES PATENT OFFICE.

PETER WEBER, OF ORANGE, NEW JERSEY, ASSIGNOR TO NEW JERSEY PATENT COMPANY, OF WEST ORANGE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

PHONOGRAPH.

1,081,352. Specification of Letters Patent. Patented Dec. 16, 1913.

Application filed July 22, 1909. Serial No. 509,061.

To all whom it may concern:

Be it known that I, PETER WEBER, a citizen of the United States, and a resident of Orange, in the county of Essex and State of New Jersey, have made a certain new and useful Invention in Phonographs, of which the following is a description.

My invention relates to phonographs, and the object thereof is, broadly speaking, the production of a compact and efficient device for the conveying and dissemination of sound in the reproduction thereof.

More specifically, I provide a structure wherein the cover for the phonograph is pivoted, and when in open position may be supported in such position that a sound conveying tube connected with the neck of the reproducer may deliver the sound waves set up by the vibration of the reproducer diaphragm into the interior of the said cover. The cover is provided in its interior with sound deflecting means, and means for conveying the sound so deflected smoothly to the open or bottom end of the cover, this sound conveying means within the body of the cover being of such a character as to amplify the sound. Preferably, the open end of the cover, when the latter is in its open position, is forwardly directed, the cover being supported in a position at right angles to that in which it is placed when the cover is closed. The sound conveying tube connected to the reproducer is preferably supported within the cover and directs the sound waves against the inner side of the top of the cover whence they are deflected forwardly with amplification to the open end of the cover and thence to the audience. By this construction, sound conveying and amplifying means of sufficient amplification are provided in a less space than would be necessary if the sound amplifying horn were all in one structure, as is common, and a compact structure is thereby attained.

Other objects of my invention will appear in the following specification and appended claims.

For a more perfect understanding of my invention, attention is hereby directed to the accompanying drawing forming part of this specification, and representing an end elevation of a phonograph equipped with my device, the sound conveying tube and the cover being shown in section.

Referring to the drawing, the sound box 1 of the reproducer is carried by the traveling arm 2 which slides upon guide rod 3 mounted in bracket 4, which is supported upon bed plate 5 carried by the supporting cabinet 6, as is common. The neck 7 of the reproducer is connected by a rubber or other elastic connection 8 to the sound conveying tube 9, the end of connection 8 fitting over a reduced diameter at the small end of the sound conveying tube 9 to form a flexible or telescoping connection thereby. The bracket 10 is suitably secured preferably to the rear side of casing 6. Upon this bracket 10 the bracket 11, to which the cover 12 is rigidly secured as by screws 13, is pivoted, as shown at 14. The cover 12 is adapted to swing through a right angle about pivot 14, the cover being shown in its closed position in dotted lines and in its open position by the full line structure. The outer end of bracket 10 carrying pivot rod 14 is provided with a nose 15 upon which a corresponding lug on bracket 11 rests when the cover is in open position, a supporting means for the cover being thus provided when the cover is moved through approximately 90 degrees from its closed position. It is, of course, obvious that if desired, additional supporting means for the cover when in open position might be provided. The inside of the top of the cover is provided with a sound deflecting surface 16 against which the sound waves conveyed by tube 9 are adapted to be directed and smoothly deflected therefrom to the sound conveying and amplifying surface 17 within the cover by which the sound waves are directed to the open end of the cover. The surface 17 may be tapered as shown, or of a bell shape or other desired conformation and extends with its axis in a substantially horizontal position when the cover 12 is open. The tube 9 is preferably supported when the cover is in open position, with the large end thereof inserted within the open cover, but in spaced relation thereto and in position to direct the sound waves against the surface 16. The tube 9 may be detachably supported in such position by any convenient means, as, for example, by means of the supporting rod 18, which is provided at its upper end with an eye through which the hook 19 secured to the upper surface of amplifying tube 17 is passed. Member 18 is shown in the drawing as extending through the hollow semi-

spherical lug 20 secured to the upper side of tube 9, member 18 having a ball 21 formed on its lower end and retained within member 20. By this means, a ball and socket or universal mounting for the tube 9 is provided. The link 18 also permits translatory movement of the tube 9; so that the sound box 1 is permitted to move in a straight line, as is common in phonographs of the Edison type. Deflecting surface 16 on the inner side of the cover may be of any desired conformation for smoothly guiding the sound waves to the mouth of the cover without loss of the same. As shown in the drawing, this surface preferably consists of smooth and similar curves extending from a central elevated apex 22 opposite the axis of tube 9 and delivering sound waves therefrom to the surface 17.

Having now described my invention, what I claim and desire to protect by Letters Patent is as follows:

1. In a phonograph, the combination of a movable reproducer, a pivoted cover for the same, the interior of which forms a deflector and sound amplifier, a tube connected to the reproducer and suspended within the cover with its open end opposite the center of the deflector when the cover is open, the suspending means permitting the tube to partake of the motion of the reproducer, substantially as described.

2. In a sound reproducing apparatus, the combination with a reproducer, of a cover therefor movable into open and closed positions with respect to the same, means for supporting said cover in open position, said cover being provided in the interior thereof with sound deflecting and amplifying means, and a sound conveyer in communication with said reproducer and adapted to extend into said cover through the exit of said sound deflecting and amplifying means when the cover is in open position, substantially as described.

3. In a sound reproducing apparatus, the combination with a reproducer, of a pivoted cover therefor movable into open and closed positions with respect to the same, means for supporting said cover in open position, said cover being provided in the interior thereof with sound deflecting and amplifying means, and a sound conveyer in communication with said reproducer and adapted to extend into said cover through the exit of said sound deflecting and amplifying means when the cover is in open position, substantially as described.

4. In a sound reproducing machine, the combination with a reproducer and a support for the same, of a cover for the reproducer, a bracket mounted upon the side of the support, a hinged connection between said bracket and cover, constructed to support said cover in open position at an angle to its closed position, said cover being provided with a sound amplifier in the interior thereof, and means for conveying and directing sound from said reproducer to said amplifier, said means comprising a sound conveying tube connected at one end to the reproducer and having its other end directed at the center of the amplifier when the cover is open, and means within said cover for supporting said tube, said last named means permitting movement of the tube relatively to said cover, substantially as described.

5. In a sound reproducing machine, the combination with a reproducer and a support for the same, of a movable cover for the reproducer, the interior of which is provided with a deflector and sound amplifier, said deflector having inwardly tapered sides, the inner surfaces of which terminate in a central elevated apex, a connection between said cover and support, said connection being constructed to support said cover with the axis of said amplifier in a substantially horizontal plane, and means for conveying and directing sound from said reproducer to said deflector, said means comprising a sound conveying tube connected at one end to the reproducer and having its other end directed at the center of the deflector when the cover is open, substantially as described.

6. In a sound reproducing apparatus, the combination with a reproducer, of a hollow cover therefor movable into open and closed positions with respect to the same, said cover having an open bottom, and a sound conveyer in communication with said reproducer and adapted to communicate with said cover through the bottom thereof when the cover is in open position, said conveyer being in spaced relation with respect to said cover when in operative position with respect thereto, and said cover having deflecting and conveying means for discharging sound waves from said conveyer through the bottom of the cover, substantially as described.

7. In a sound reproducing apparatus, the combination with a reproducer, of a pivoted hollow cover therefor movable into open and closed positions with respect to the same, said cover having an open bottom, and a sound conveyer in communication with said reproducer and adapted to communicate with said cover through the bottom thereof when the cover is in open position, said conveyer being in spaced relation with respect to said cover when in operative position with respect thereto, and said cover having deflecting and conveying means for discharging sound waves from said conveyer through the bottom of the cover, substantially as described.

8. In a sound reproducing apparatus, the combination with a reproducer, of a hollow sound deflecting cover therefor movable into open and closed positions with respect to the

same, said cover having an open bottom, and a sound conveyer in communication with said reproducer, and means for detachably suspending said conveyer from said cover with its exit portion extending into said cover in spaced relation to the walls thereof when said cover is in open position, substantially as described.

9. In a sound reproducing apparatus, the combination with a reproducer, of a cover therefor movable into open and closed positions with respect to the same, said cover having a sound deflecting inner surface, a sound conveyer in communication with said reproducer, and means for suspending said conveyer within said cover with its exit end directed toward said sound deflecting surface when the cover is in open position, said means permitting translatory movement of said conveyer with respect to said cover, substantially as described.

This specification signed and witnessed this 21st day of July, 1909.

PETER WEBER.

Witnesses:
DYER SMITH,
ANNA R. KLEHM.