J. WOLFF.

AMPLIFYING DEVICE FOR TALKING MACHINES.

APPLICATION FILED APR. 13, 1918.

1,289,065. Patented Dec. 24, 1918.

Fig. 1

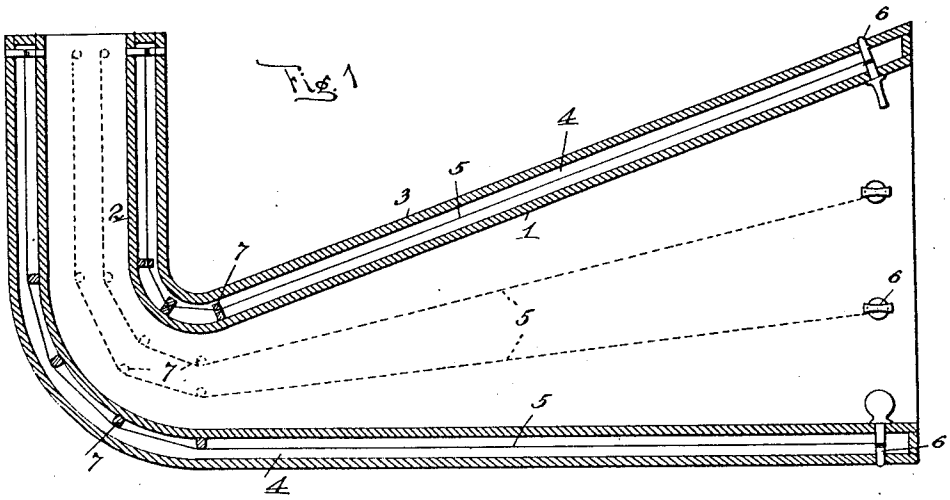


Fig. 2

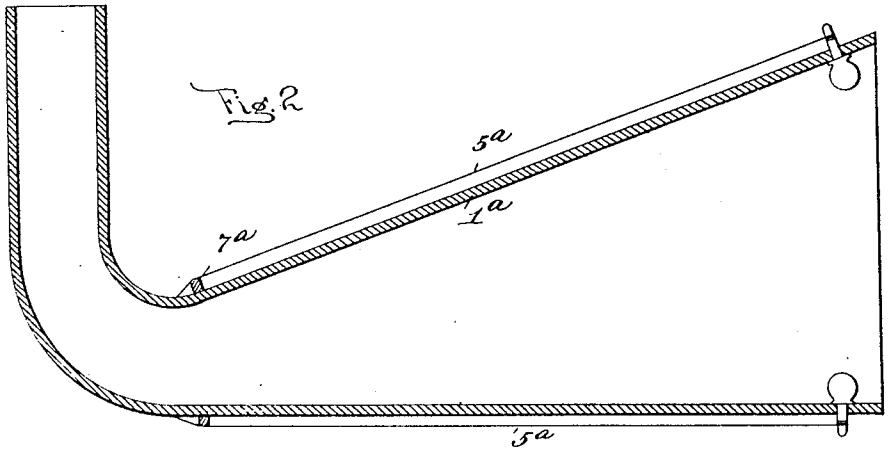
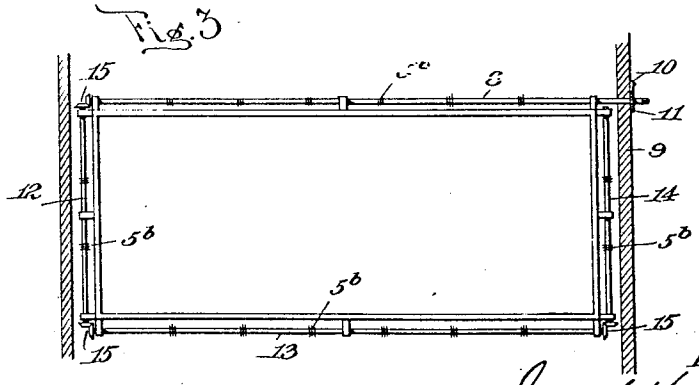


Fig. 3



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UNITED STATES PATENT OFFICE.

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AMPLIFYING DEVICE FOR TALKING-MACHINES.

1,289,065. Specification of Letters Patent. Patented Dec. 24, 1918.

Application filed April 13, 1918. Serial No. 228,464.

To all whom it may concern:

Be it known that I, JOSEPH WOLFF, a subject of the King of Great Britain and Ireland, and residing at Brooklyn, in the county of Kings, city and State of New York, have invented certain new and useful Improvements in Amplifying Devices for Talking-Machines, of which the following is a specification.

My invention relates to amplifying devices for talking machines, and more particularly to that class of amplifying devices as are concealed within the talking machine cabinet.

The object of my invention is to make the sound boards used in connection with my sound amplifying device resonant by placing the boards constituting the walls of the amplifying device under tension in order to cause the same to readily vibrate in sympathy with the air inclosed between the same.

Another object of my invention is to provide improvements in apparatus for reproducing sound; by means of which the quality and naturalness of the recorded sounds are reproduced with greater faithfulness, and to impart resonance to the reproduced sounds.

Another object of the invention is to so improve and construct the amplifying device that the resonance and quality of the reproduced sound will be increased, and intensified.

A further object is to provide means whereby the tension of the amplifier may be varied.

A further object of the invention is the provision of means of the character described, which are extremely simple in construction, neat and attractive in appearance, thoroughly reliable and efficient in its purpose, and inexpensive to manufacture.

With these and other objects in view to be more fully set forth hereinafter, the invention consists in the novel construction, combination of elements, and arrangement of parts which will be exemplified in the construction hereinafter described in the specification and illustrated in the accompanying drawings considered together or separately.

The inventive idea involved is capable of receiving a variety of mechanical expressions, some of which for the purpose of illustrating the invention, are shown in the accompanying drawings.

The invention will be first described in connection with the accompanying drawings, wherein similar reference characters are used to designate corresponding parts throughout the several views, and then more specifically defined and indicated in the appended claims.

In the drawings,—

Figure 1 is a longitudinal sectional view of a double walled amplifier embodying my invention;

Fig. 2 is a similar view of a modification; and

Fig. 3 is a detail front elevation of a further modification.

In carrying out the preferred embodiment of my invention, I provide an amplifier having an inner wall 1, having a neck 2, and an outer wall 3. The outer wall surrounds the entire exterior of the inner wall and neck, and produces an inclosed air space 4 entirely surrounding the amplifier.

To give great resonant quality to the amplifier, I provide a series of filamentous tensioning devices, such as cords or wires 5 which preferably extend longitudinally the entire lengths of the walls and neck and follow the contour thereof. The wires are disposed between the walls of the amplifier within the inclosed dead air space, and are secured therein at one end, preferably at the neck end. The wires extend nearly to the front or mouth of the amplifier, and are attached to rotatable pins or pegs 6, similar to violin pegs mounted in the walls of the amplifier, whereby the tension of the wires may be adjusted.

The wires are capable of independent adjustment, so that the tension of different parts of the amplifier may be varied as desired.

Where the wires pass around curves or corners, they engage bridges 7 which act as guides for the wires and serve to support the wires away from the walls of the amplifier. The cords or wires may be so arranged as to surround the entire amplifier, by being placed on all sides thereof; or the cords or wires may be arranged on only part of the amplifier if desired.

I have found that a sound amplifying device constructed and arranged in this manner, gives added strength to the device as a resonator, produces great efficiency and tone reproduction, that the quality and naturalness of the recorded sound are reproduced with greater faithfulness, and that the reproduced sound will be increased and intensified.

In the modification illustrated in Fig. 2, I show a single walled amplifier 1^a, having wires 5^a extending along part of its length only and on the outside of the amplifier. In some cases the neck of the amplifier is a solid, heavy block, and the form of the invention shown in Fig. 2 is particularly applicable to amplifiers of this type. The amplifier of Fig. 2 can also be constructed so that it will be a double wall amplifier as in Fig. 1, with the neck thereof of a single thickness.

In Fig. 3 is shown a modification in which all of the wires 5^b may be adjusted at the same time. A shaft 8 extends across the amplifier near the mouth thereof, and through the side of the cabinet 9, where it is squared to receive a key or crank. A pawl 10 and ratchet 11 are provided to retain the parts in position. Shafts 12, 13 and 14 extend across the other sides of the amplifier, and are driven from the shaft 8 through bevel gearing 15. The ends of the wires 5^b are wound upon the shafts.

The amplifier may be made of any desired material, but I preferably employ wood or other fibrous material for this purpose. The parts may be made of a single thickness of material, or they may be laminated.

By tightening the wires the material of the amplifier may be put under tension to such an extent as desired.

I desire it understood that I do not limit my invention to an amplifier of rectangular form, but that the same may be of any form, such as cylindrical, conical, octagonal, or otherwise.

In accordance with the provisions of the patent statute, I have described the principle of my invention together with the apparatus which I now consider to represent the best embodiment thereof, but I desire it understood that my invention is not confined to the particular form of apparatus herein shown and described, the same being merely illustrative, and that the invention can be carried out in other ways without departing from the spirit of my invention, and, therefore, I claim broadly the right to employ all equivalent instrumentalities coming within the scope of the appended claims, and by means of which objects of my invention are attained, and the new results accomplished, as herein set forth, as it is obvious that the particular embodiments herein shown and described are only some of many that can be employed to attain these objects and accomplish these results.

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

1. A sound amplifier for talking machines, comprising a shell, a plurality of filamentous tensioning members arranged upon and extending over the outer surface of the shell, said members being secured at both their ends to the shell, means for supporting the tensioning members away from the shell, and means mounted on the shell for adjusting the tension of said tensioning members.

2. A sound amplifier for talking machines, comprising a shell, a plurality of filamentous tensioning members arranged upon and extending over the outer surface of the shell and following the contour thereof, said members being secured at both their ends to the shell, means for supporting the tensioning members between their ends away from the shell, and means for adjusting the tension of said tensioning members.

3. A sound amplifier for talking machines, comprising a shell, a plurality of filamentous tensioning members arranged upon and extending longitudinally over the outer surface of the shell and following the contour thereof, said members being secured at both their ends to the shell, means for supporting the tensioning members between their ends away from the shell, and means for adjusting the tension of said tensioning members.

4. A sound amplifier for talking machines, comprising an inner and an outer shell, a plurality of filamentous tensioning members arranged between the shells and secured at both their ends to the shells, means for supporting the tensioning members away from the shells, and means mounted on the shells for adjusting the tension of the tensioning members.

5. A sound amplifier for talking machines, comprising an inner and an outer shell, a plurality of filamentous tensioning members arranged between the shells and following the contour thereof, and secured at both their ends to the shells, means for supporting the tensioning members away from the inner and outer shells, and means for adjusting the tension of the tensioning members.

6. A sound amplifier for talking machines, comprising an inner and an outer shell, a plurality of filamentous tensioning members arranged between the shells and extending longitudinally and following the contour thereof, said members being secured at both their ends to the shells, means for supporting the tensioning members away from the shells, and means for adjusting the tension of said tensioning members.

7. A sound amplifier for talking machines, having tension devices, and means coöperating with the tension devices to adjust them simultaneously to any desired extent with one operation.

8. A sound amplifier for talking machines, comprising an inner and outer shell, tension devices between the shells, and means coöperating with the tension devices to adjust them simultaneously to any desired extent with one operation.

9. A sound amplifier for talking machines, comprising a shell, a plurality of filamentous members secured at their ends to the shell, means between the members and the shell for supporting the members, and means for simultaneously adjusting the length of the members.

10. A sound amplifier for talking machines, having a plurality of shafts surrounding the edges of the amplifier, bevel gearing connecting said shafts to drive the shaft, wires wound upon the shafts, means coöperating with one of the shafts to simultaneously adjust the wires at the same time.

This specification signed and witnessed this 11th day of April, 1918.

JOSEPH WOLFF.

Witnesses:
JOHN L. LOTSCH,
MAY JONES.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."