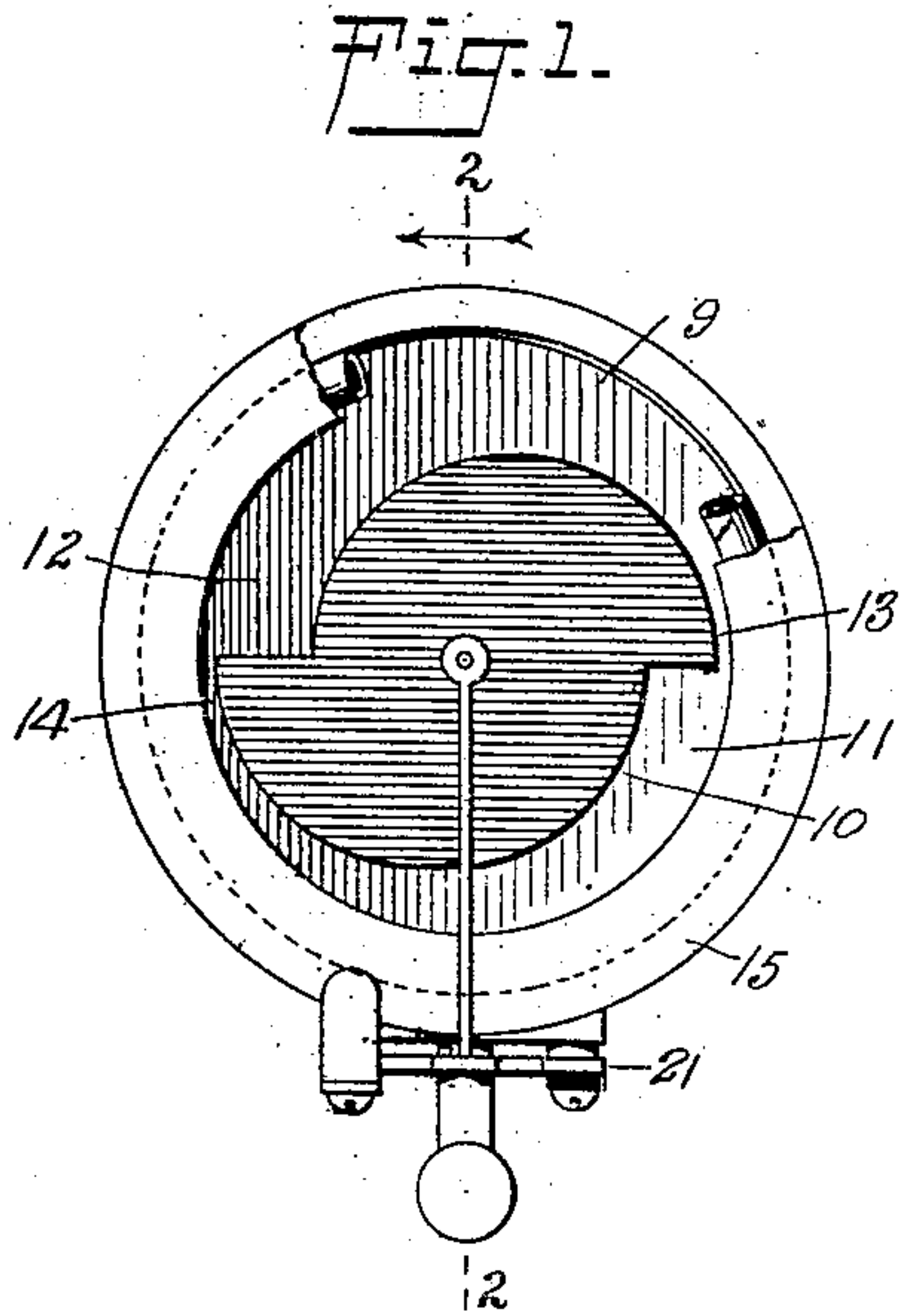
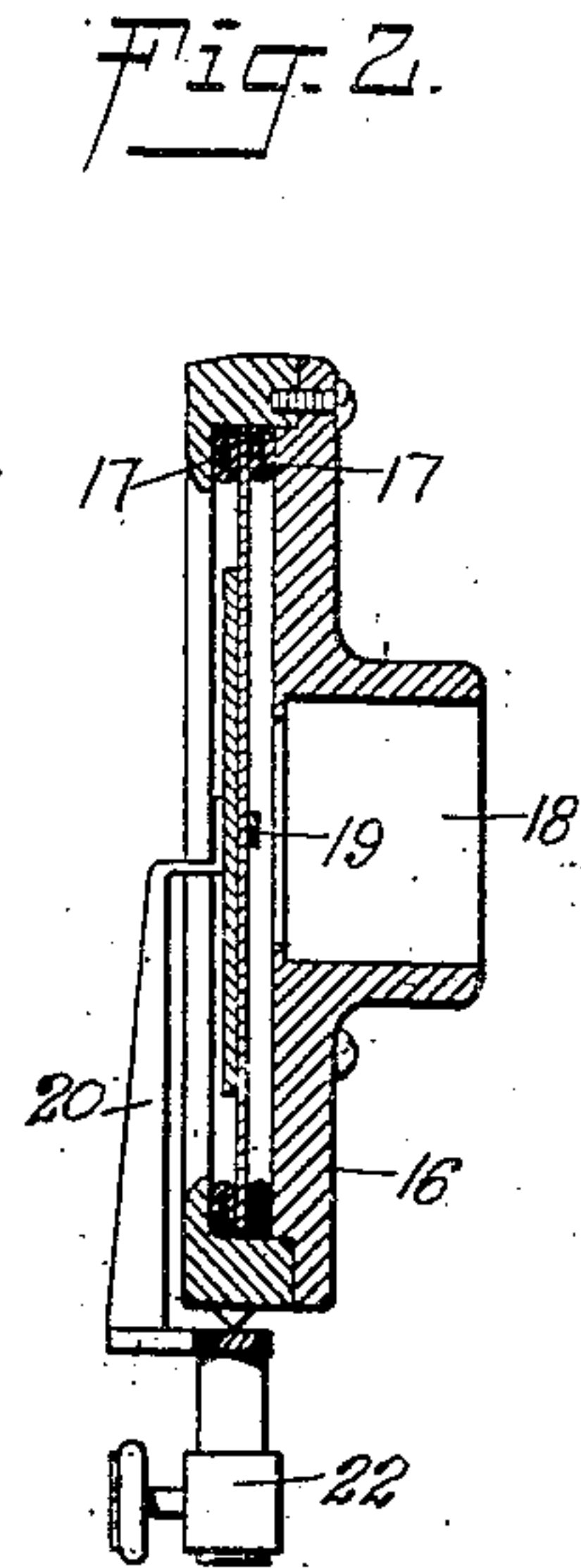


F. V. VAN DE MYER.
DIAPHRAGM FOR TALKING MACHINES.
APPLICATION FILED JUNE 20, 1918.

1,291,663.

Patented Jan. 14, 1919.



WITNESSES

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FRANK VICTOR VAN DE MYER, OF NEW YORK, N. Y.

DIAPHRAGM FOR TALKING-MACHINES.

1,291,663.

Specification of Letters Patent.

Patented Jan. 14, 1919.

Application filed June 20, 1918. Serial No. 240,984.

To all whom it may concern:

Be it known that I, FRANK V. VAN DE MYER, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Diaphragm for Talking-Machines, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to adapt a diaphragm of the character mentioned for vibrating in sympathy with a variety of tones; to avoid mechanical or foreign over-tone in reproducing sound vibrations; to provide a reproducer sympathetic with the human voice; and to provide a vibrator unaffected by climate.

Drawings.

Figure 1 is a face view of a phonograph reproducing sound box having a diaphragm constructed and arranged in accordance with the present invention, portions of the box being cut away to show the construction of the diaphragm;

Fig. 2 is a section of the same, the section being taken as on the line 2—2 in Fig. 1.

Description.

As seen in the drawings, the improved diaphragm embodies a circular disk 9. The disk 9 is preferably constructed of a pliable material, and is provided with a damper pad 10. The pad 10 is preferably shaped to form two distinct sound areas 11 and 12. The areas 11 and 12 are of different size and consequently are sympathetic to tone vibrations of relatively different ranges, that is, the area 11 being smaller than the area 12, it is sympathetic to tone vibrations of relatively shorter wave lengths, and these areas are tapered respectively to the contracted spaces 13 and 14. The spaces 13 and 14 are disposed between the edges of the damper 10 and of the cover frame 15 of sound box 16.

The diaphragm is held between the gaskets 17 as in the usual constructions. The

damper and diaphragm are both perforated, said perforations being disposed at the center of the diaphragm and concentric with the passage 18 of the sound box leading to the tone arm of the horn of a phonograph. A pin 19 holds the diaphragm and damper mounted thereon in service relation to the arm 20, which is extended from the rocking table 21 on which the needle chuck 22 is also mounted. With a diaphragm thus constructed, the various areas accommodate the various tone waves and by conforming thereto give a power quality to the various tones of the sounds being reproduced.

While I have herein shown and described the diaphragm as having dampers shaped to certain forms, it will be understood that I do not wish to be considered as limiting myself to the forms shown. Any suitable form of damper could be employed which produces in the diaphragm a variety of surface areas to accord with sound waves of various qualities.

While the invention has been disclosed as applied to the diaphragm of a reproducer, it will be understood that it may be applied with equal benefit to a recording mechanism and its employment in such service I consider as falling within the scope of the present claim.

Claim.

A diaphragm for talking machines, comprising a circular vibrant disk, and a rigid damper permanently attached to said diaphragm, said diaphragm having a plurality of semi-circular areas joined at the center of said diaphragm, said areas having relatively unequal diameters, one end of the diameter of each area being equi-distant from the perimeter of said disk for forming a plurality of exposed disk areas on said vibrant disk, said exposed disk areas being each progressively and continuously enlarged, the rate of progression in each exposed disk area being different from the other exposed disk area.

FRANK VICTOR VAN DE MYER.