No. 811,295. PATENTED JAN. 30, 1906.

J. O. HOUSER.

ATTACHMENT FOR MUSICAL INSTRUMENTS.

APPLICATION FILED MAR. 29, 1905.

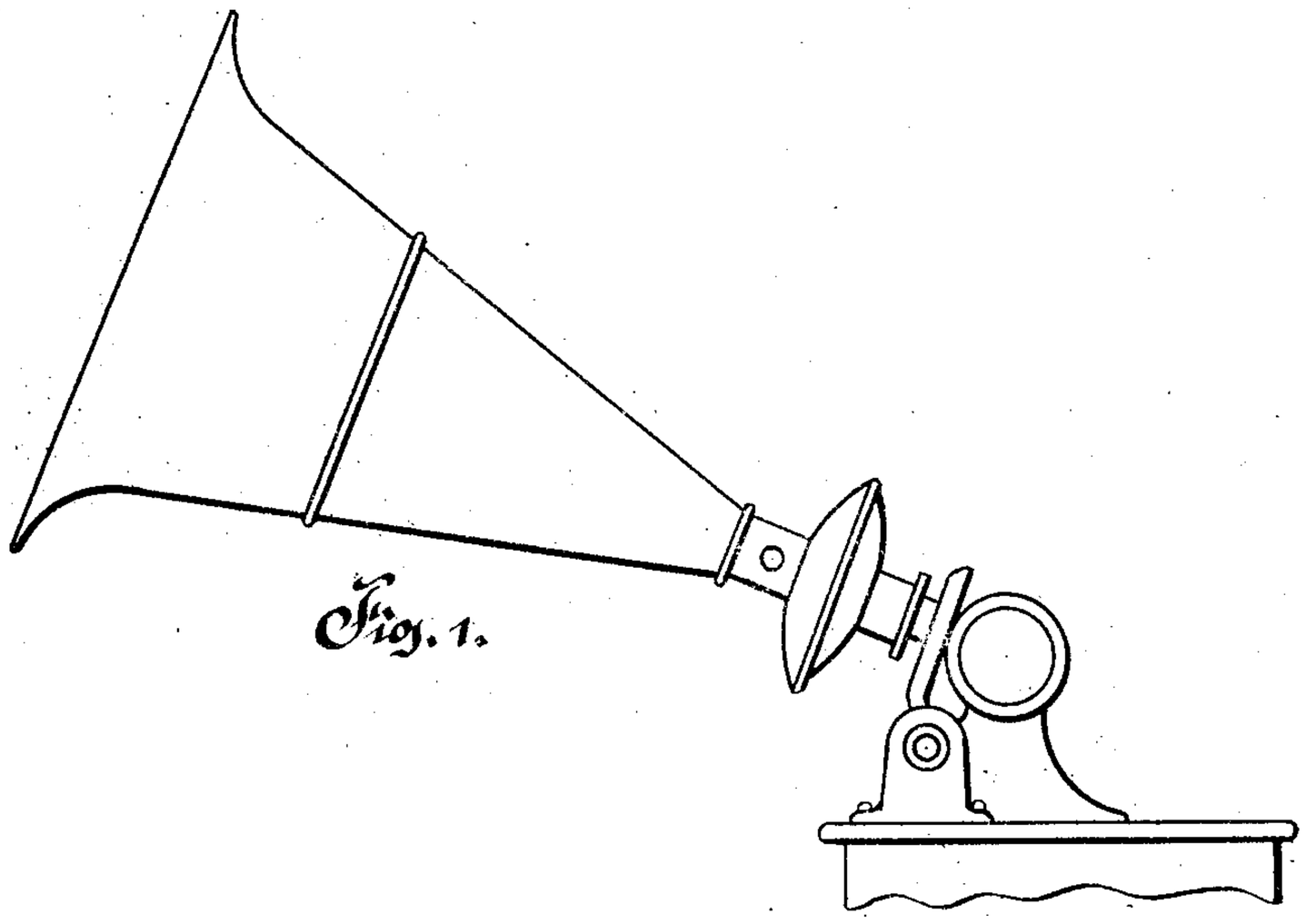

Fig. 1.

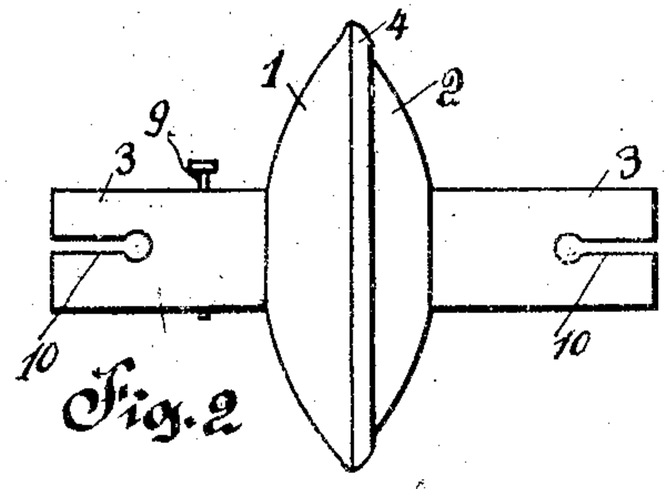

Fig. 2

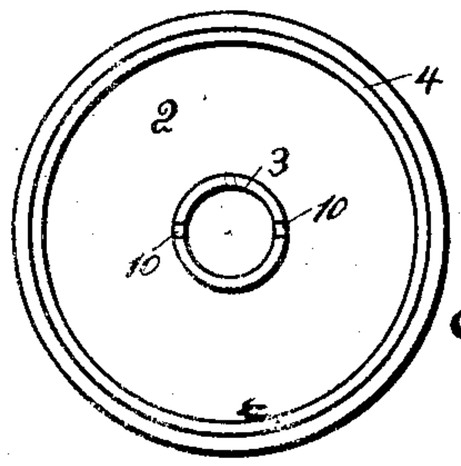

Fig. 3.

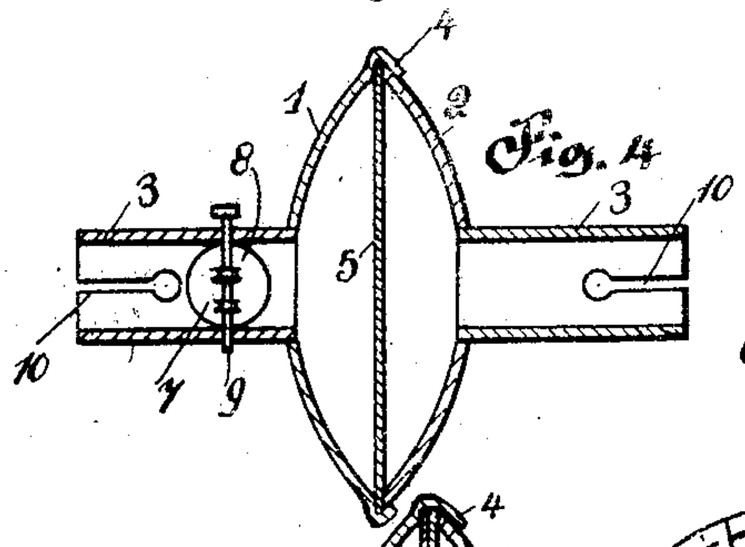

Fig. 4

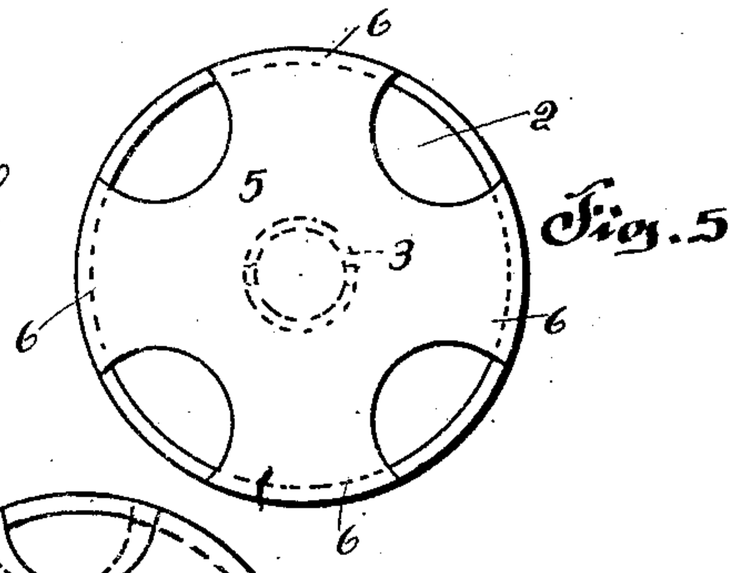

Fig. 5

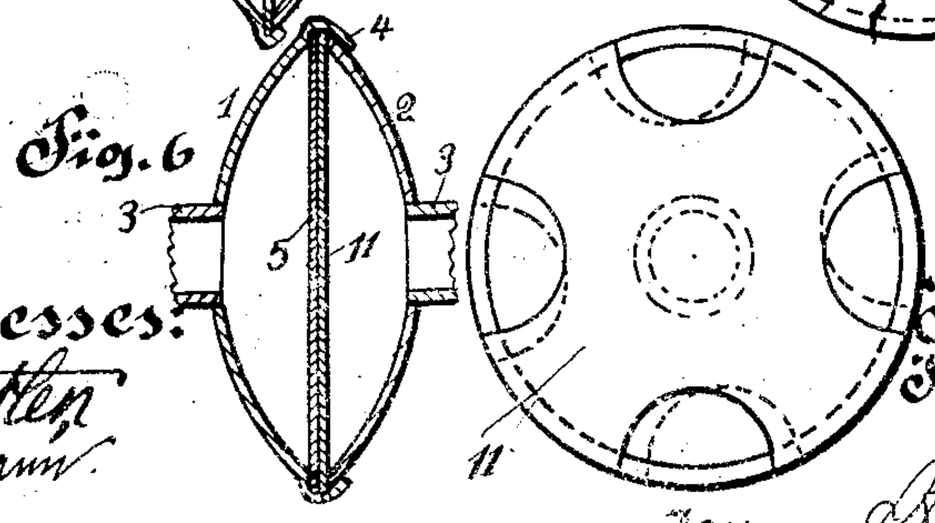

Fig. 6

Fig. 7

Witnesses:
H. A. Butler
C. Klostermann.

Inventor.
John. O. Houser.

By
A. C. Ewert & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN O. HOUSER, OF PITTSBURG, PENNSYLVANIA.

ATTACHMENT FOR MUSICAL INSTRUMENTS.

No. 811,295. Specification of Letters Patent. Patented Jan. 30, 1906.

Application filed March 29, 1905. Serial No. 252,719.

To all whom it may concern:

Be it known that I, JOHN O. HOUSER, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Attachments for Musical Instruments, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in attachments for musical instruments, and more particularly to an attachment adapted to be used in connection with graphophones, phonographs, and the like reproducing musical instruments.

The primary object of my invention is to provide an attachment for improving the sonorous qualities of an instrument and to regulate the volume of tone produced by an instrument, at the same time maintaining a mellow and soft sound.

It is a well-known fact that some musical instruments, such as graphophones, at times produce harsh and penetrating sounds which are disagreeable to the ear and at other times produce sounds that are hardly audible, the tones of which are indistinct and cannot be appreciated. My attachment aims to eliminate the harsh notes or sounds produced by the musical instrument and to improve the indistinct and inaudible sounds or notes of an instrument. To this end I have devised an attachment which can be used in connection with different types of musical instruments, such as horns, and the construction of the attachment enables me to manufacture the same at a comparatively small cost, at the same time maintaining a construction of durable nature.

With the above and other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts, which will be hereinafter more fully described and then specifically pointed out in the claims, and, referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of a graphophone equipped with my improved attachment. Fig. 2 is a side elevation of the attachment. Fig. 3 is an end view of the same. Fig. 4 is a vertical sectional view of the attachment. Fig. 5 is an end view of a portion of my improved attachment, illustrating a diaphragm used in connection with the attachment. Fig. 6 is a vertical sectional view of a modified form of construction that may be used in connection with the attachment, and Fig. 7 is an end view of a portion of the same.

In the accompanying drawings I have illustrated the attachment as applied to a graphophone simply to show the manner in which it is used with such an instrument.

The attachment proper, which is illustrated in Figs. 2 to 5, inclusive, consists of two members 1 and 2, each of which is provided with an outwardly-extending tube or pipe 3. These members 1 and 2 are substantially in the form of segments of spheres, preferably of different peripheral diameters for a purpose as will presently appear. The periphery of the member 1 is preferably of a greater diameter than the periphery of the member 2, whereby when these members are placed in engagement with one another the periphery 4 of the member 1 can be bent inwardly or reamed to engage the member 2 and form a casing for a diaphragm 5. This diaphragm is preferably made of thin sheet steel, rubber, or the like resilient metal or material, and the diaphragm is substantially the shape in top plan view of a Maltese cross, the peripheral edges 6 6 of the diaphragm being retained between the peripheries of the members 1 and 2.

One of the tubes or pipes 3 is provided with a regulator 7 substantially of a damper form, this regulator consisting of a circular plate 8, mounted upon a rod 9, journaled transversely of the pipe 3. The ends of the pipes 3 3 are slotted, as indicated at 10 10, to permit of the ends being contracted or expanded, as it may be desired, when securing my improved attachment upon an instrument.

In Figs. 6 and 7 of the drawings I have illustrated a slight modification of my improved attachment, which resides in dispensing with the form of regulator illustrated in Fig. 4 of the drawings and employing an auxiliary or secondary diaphragm 11, similar in construction to the diaphragm 5 heretofore described. The diaphragm 11 coincides with the diaphragm 5 and is rotatably mounted between the members 1 and 2.

I have employed the regulators for improving and controlling the volume of sound passing through my improved attachment, it being possible by the adjustment of the regu-

lators to limit or confine the sounds emitted from a musical instrument equipped with my improved attachment.

The vibrations of the diaphragm are adapted to improve weak and inaudible sounds and to reduce the harsh and penetrating sounds to mellow tones pleasant to the ear. My improved attachment serves as a mute for instruments and when properly regulated is capable of regulating the sound facilities of any instrument to which it is applied.

What I claim, and desire to secure by Letters Patent, is—

1. An attachment for musical instruments consisting of two members, an outwardly-extending pipe carried by each member, the ends of said pipes being slotted, a regulator mounted in one of said pipes, a diaphragm interposed between said members, and means to secure said members together, substantially as described.

2. An attachment for musical instruments consisting of two members substantially in the form of segments of spheres, a diaphragm interposed between said members, a regulator carried by one of said members, and means to secure said members together, substantially as described.

3. The combination with a musical instrument, adapted to produce sounds, of an attachment consisting of two members substantially in the form of segments of spheres, a diaphragm mounted between said members, means to secure said members together, and means to regulate the sounds passing through said attachment, substantially as described.

4. In an attachment for musical instruments, the combination with an instrument capable of producing a sound, of two members, a diaphragm mounted between said members, means to secure said members together, means to regulate the sounds passing through said members, and means to secure said members to said musical instrument, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN O. HOUSER.

Witnesses:

H. C. EVERT,

E. E. POTTER.