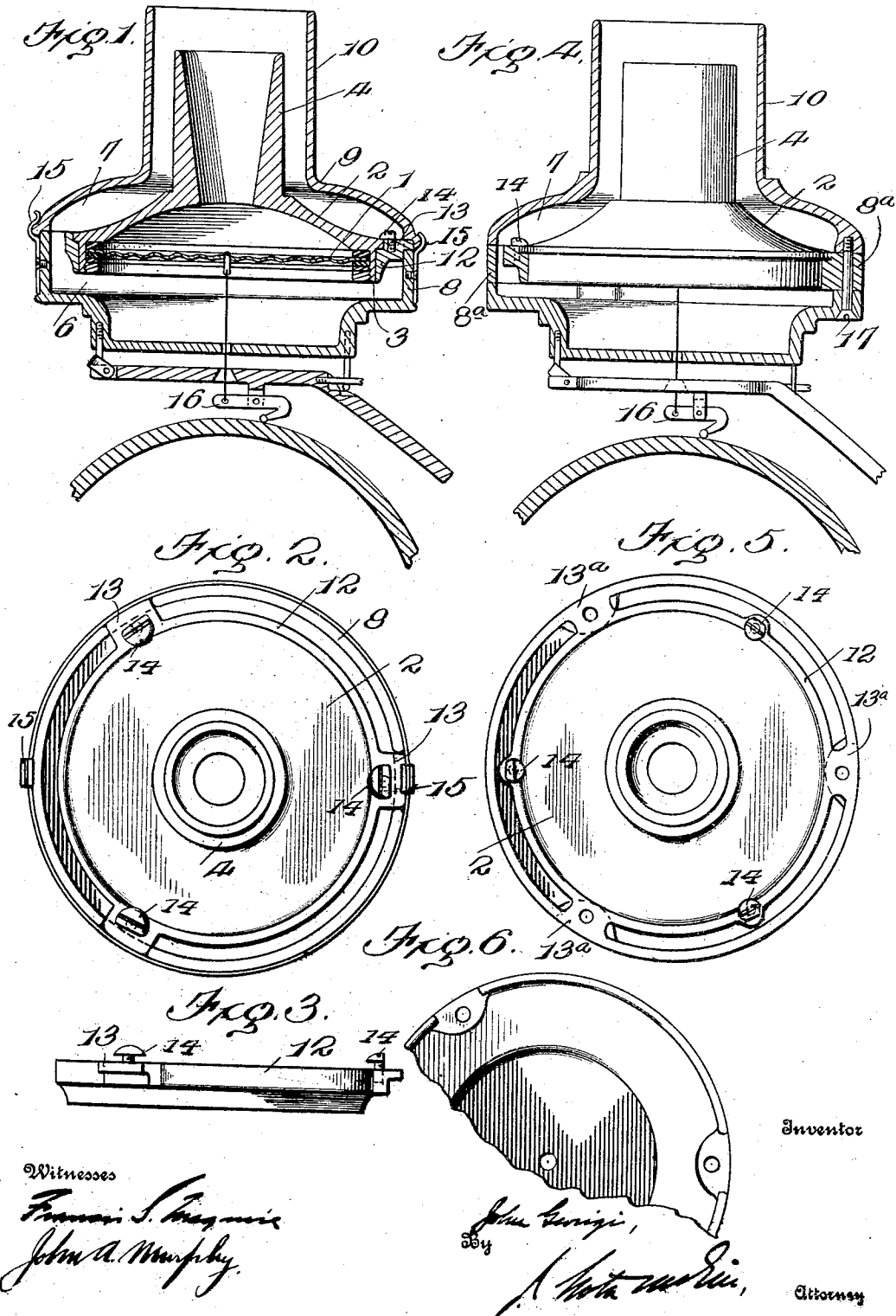


J. GEORIGI.
ATTACHMENT FOR PHONOGRAPHS.
APPLICATION FILED NOV. 7, 1908.

936,115.

Patented Oct. 5, 1909.



UNITED STATES PATENT OFFICE.

JOHN GEORIGI, OF PHILADELPHIA, PENNSYLVANIA.

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Specification of Letters Patent.

Patented Oct. 5, 1909.

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To all whom it may concern:

Be it known that I, JOHN GEORIGI, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Attachments for Phonographs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The primary object of this invention is to provide a simple device for increasing the volume of sound waves in reproducers of talking machines. Ordinarily the sound waves are collected only from above the diaphragm from which the stylus is suspended, sound from beneath the diaphragm being lost. By means of my invention the ordinary diaphragm and the sound wave collector are inclosed in a casing having a chamber for collecting the sound waves from beneath the diaphragm and transferring them independently of the sound waves of the upper collector to a common point where the conjoint sound waves of greatly increased volume may be transmitted through a tube or horn.

A further object of my invention is to provide a device of this character which may be applied to reproducers now in general use.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional view. Fig. 2 is a plan view with the top and the ordinary reproducer removed. Fig. 3 is a detail. Fig. 4 shows a slight modification. Fig. 5 is a plan view of the form shown in Fig. 4 with top removed. Fig. 6 is an inverted fragmentary view of the top shown in Fig. 4.

Referring to the drawings, 1 designates the diaphragm of an ordinary reproducer of the type employed in connection with the well-known Edison phonograph. This diaphragm is covered by a sound wave collector 2 having a ring 3 which encircles and extends beneath the diaphragm, and also having a tube-like extension 4 to which a flexible tube or a horn may be secured. By this device all the sound waves from above the diaphragm are collected. Ordinarily

the stylus arm is located immediately beneath the diaphragm and at one end is connected to the latter at the center thereof.

According to my invention the reproducer as a whole is located wholly within a casing 60 having a lower chamber 6 beneath the diaphragm and an upper chamber 7; the two chambers being in communication with each other but not with the interior of the sound collector 2. This casing is shown in Fig. 1 65 as being composed of a lower cup-like portion having a circumferential ring 8 of greater diameter than the ordinary reproducer, and an upper top-piece 9 terminating in a tubular extension 10 which incloses the 70 tubular extension of the ordinary reproducer. The latter is shown as fitted in a ring 12 having a series of peripheral lugs 13 which fit in seats in ring 8. It is held to reproducer 2 by screws 14. The spaces thus 75 formed between ring 12 and ring 8 of the casing form passage-ways for the sound waves from beneath the diaphragm to the top-piece of the casing. In this way the full volume of sound waves produced by 80 the vibratory action of the diaphragm is collected, the sound waves from beneath the diaphragm being transferred to a point some distance above the diaphragm before intermingling with the sound waves collected 85 through the ordinary collector. The top-piece is shown in Fig. 1 as being detachably held by retainers 15 secured to ring 8.

In the use of my invention the stylus arm 16 is located beneath the inclosing casing, 90 and is connected in the usual manner to the center of the diaphragm.

It is manifest that the inclosing casing may be constructed in any preferred manner. For instance, the ring 8 instead of being 95 formed integral with the bottom member of the casing may be formed independently thereof, as shown at 8^a in Fig. 4, and it and the top-piece may be held in place by the screws 17 passed through lugs 13^a. In 100 this form the lugs carrying screws 14 may be smaller and arranged intermediate the lugs 13^a. Other changes may be made without departing from the scope of my invention.

To those skilled in the art the advantages of my improvement will be readily appreciated. It may be applied to ordinary reproducers, of the type now in general use, without necessitating any change in the con- 110

struction thereof other than the employment of a link of greater length for connecting the stylus to the diaphragm.

I claim as my invention:—

5 1. The combination with a reproducer having a vibratory diaphragm, and a sound-collector for receiving all the sound-waves from above the diaphragm and discharging the same at a certain point, of a casing in-
10 closing such diaphragm and sound-collector and having a chamber for collecting all the sound-waves from beneath said diaphragm and also having an independent passage-way leading from said chamber to about the
15 point of discharge from the first mentioned sound collector.

2. The combination with a reproducer having a vibratory diaphragm, and a sound-collector for receiving all the sound-waves
20 from above the diaphragm and discharging the same at a certain point, of a casing inclosing such diaphragm and sound-collector and having a lower chambered portion for collecting all the sound-waves from beneath
25 said diaphragm, and a top-piece extending around said sound-collector, said chambered portion being in communication with said top-piece, which latter discharges the sound
30 waves from the lower chamber upward beyond the point of discharge from the first mentioned collector.

3. The combination with a reproducer having a vibratory diaphragm, and a sound-collector for receiving all the sound-waves
35 from above the diaphragm and concentrating said sound waves at a single point, of a casing inclosing such diaphragm and sound-collector comprising a chambered portion encircling said diaphragm, a top-piece above
40 said sound-collector, said chambered portion and top-piece being in communication out-

side of said diaphragm and sound-collector, and means for uniting said chambered portion and top-piece.

4. The combination with a reproducer 45 having a diaphragm and an imperforate sound-collector, of a ring secured to the exterior of said reproducer, a casing in which said ring is mounted having a chambered portion beneath said diaphragm, and a top-
50 piece surrounding said sound-collector, said chambered portion being in communication with said top-piece on the outside of the reproducer.

5. The combination with a reproducer 55 having a vibratory diaphragm and a sound-collector for receiving all the sound waves from above the diaphragm, said collector having a tubular extension, of a casing inclosing said reproducer and having a cham-
60 ber for collecting all the sound-waves from beneath said diaphragm, and a top-piece having a tubular extension surrounding the tubular extension of the sound-collector, said chamber and top-piece being in communica-
65 tion with each other.

6. The combination with a reproducer having a diaphragm and a sound-collector, of a ring secured to said reproducer and having a series of lugs projecting therefrom, 70 a casing having a ring-like portion of greater diameter than the first mentioned ring, a top-piece surrounding said sound-collector, and means for securing said top-piece.

In testimony whereof, I have signed this 75 specification in the presence of two subscribing witnesses.

JOHN GEORIGI.

Witnesses:

GODFREY S. THEISEN,
PATRICK J. O'BRIEN.