

G. W. DUNCAN.  
 PHONOGRAPH HORN.  
 APPLICATION FILED MAY 28, 1908.

914,934.

Patented Mar. 9, 1909.

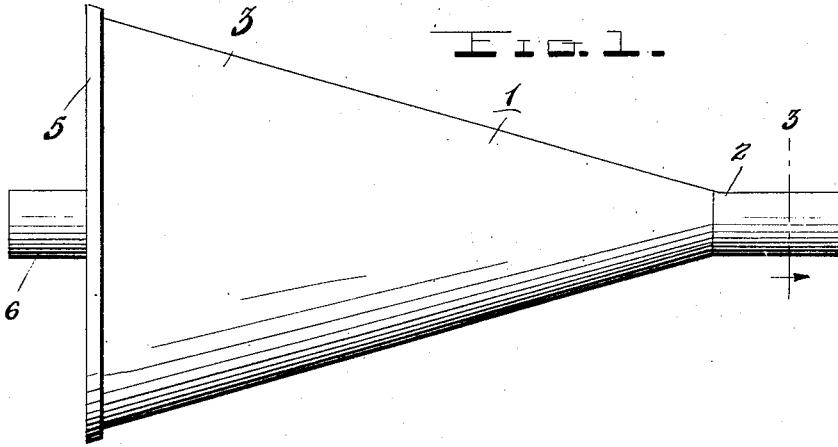


FIG. 1.

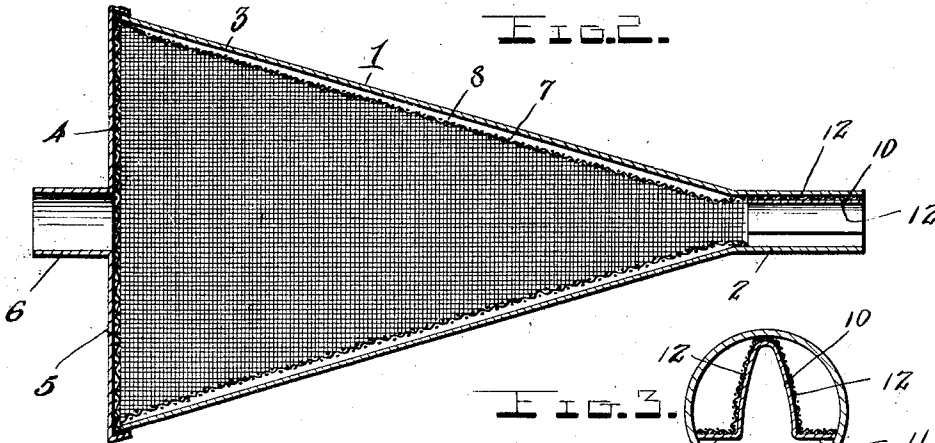


FIG. 2.

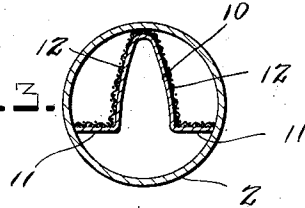


FIG. 3.

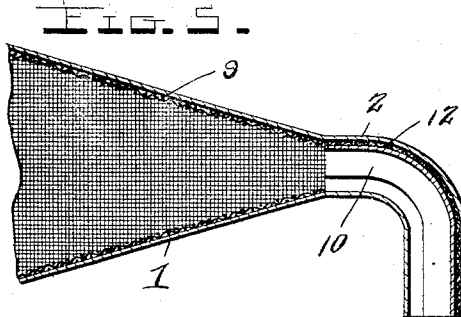


FIG. 4.

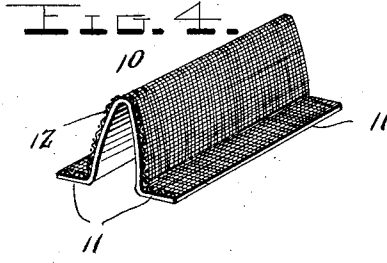


FIG. 5.

Witnesses  
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# UNITED STATES PATENT OFFICE.

GEORGE W. DUNCAN, OF CHICAGO, ILLINOIS.

## PHONOGRAPH-HORN.

No. 914,934.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed May 28, 1908. Serial No. 435,484.

*To all whom it may concern:*

Be it known that I, GEORGE W. DUNCAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Phonograph-Horns; and I do 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.

My invention relates to acoustics, and is particularly directed to the improvement in the acoustic products of phonograph or graphophone horns, speaking tubes or megaphones.

The object of the invention is to provide a device of this character which will be efficient in operation and cheap to manufacture; which will have its tone properly modulated to eliminate all harsh, squeaky and unpleasant noises so that the pure mellow notes of the voice or instrument are reproduced approximately in the form and tone of their original production.

Heretofore to the best of my knowledge there has been no horn produced which does not at some time give forth blares which usually spoil the whole rendition.

It is the object of my invention to obviate this difficulty and others inherent in the present type of graphophone horns, and broadly speaking consists in applying to the horn a dampening device and an accentuator or tone reproducer in the form of a rib or partition placed in the horn in the form of the human vocal cords.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation, Fig. 2 is a longitudinal section therethrough, Fig. 3 is a transverse section on the line 3-3 of Fig. 1, Fig. 4 is a detail perspective view of the vocal piece removed from the horn, and Fig. 5 is a fragmentary section showing the modification.

Referring more especially to the drawings, 1 represents the horn which as is usual has a reduced end 2, and a flared end 3. In the proposed improvement I provide a covering 4 for the flared end 3, which is preferably made of some textile fabric and is held in

place by gluing to the outside of the horn, or by a suitable clamping frame 5, as is shown, which supports an exhaust tube 6 for the sound to which may be connected the ear tubes for use in connection with slot machines. As shown in Fig. 2 the inner side of the horn is lined with a fabric 7, which is held to the tube by being cemented at the flared end and at the reduced end 3 and 2 respectively, thus allowing the intermediate space or channel 8, which acts as a deadener for overtone vibration in the horn.

In Fig. 5 the fabric 9 is secured to the horn by being cemented throughout its length so as to leave no space between the fabric and the horn, and it will be understood that either method may be adopted and that the fabric may be cemented to the horn throughout a portion of its length and left loose for the remainder of its length, it being of course secured at the inner and outer ends. The extension from the horn to the reproducer or sound box may also be treated in a like manner.

In order to accentuate and render clear the sound caused by the diaphragm of the reproducer I insert into the small end of the horn, or the connecting tube from the reproducer to the horn as is shown in the several different figures a device which comprises a substantially U-shaped member 10, having its extremities flared out at right angles into lateral flanges 11, which engage the interior of the horn or extension and act in connection with the apex of the member to support the device in the horn or extension. The sound waves from the diaphragm act upon the member 11 in the same manner as the human vocal cords are operated and thus produce a clearer and more vibrant sound than could otherwise be obtained. This device accentuates and clarifies the notes from the sound box, and the dampening effect of the fabric within the horn and extension modifies the tone so that there is no harshness of the resultant product. The clarifying device 11 is preferably lined or covered with a suitable fabric 12, as is shown.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the

principle or sacrificing any of the advantages of this invention as defined in the appended claims.

5 Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

10 1. A phonograph horn having a foraminous fabric arranged over the mouth thereof, means to hold said fabric in place upon the horn, and a sound tube carried by said means and communicating with the interior of the horn through the foraminous fabric.

2. A phonograph horn having a U-shaped longitudinally disposed accentuating and clarifying device located therein, and a dampening fabric covering said device. 15

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE W. DUNCAN.

Witnesses:

H. A. WHITE,  
E. MIDILMAN.