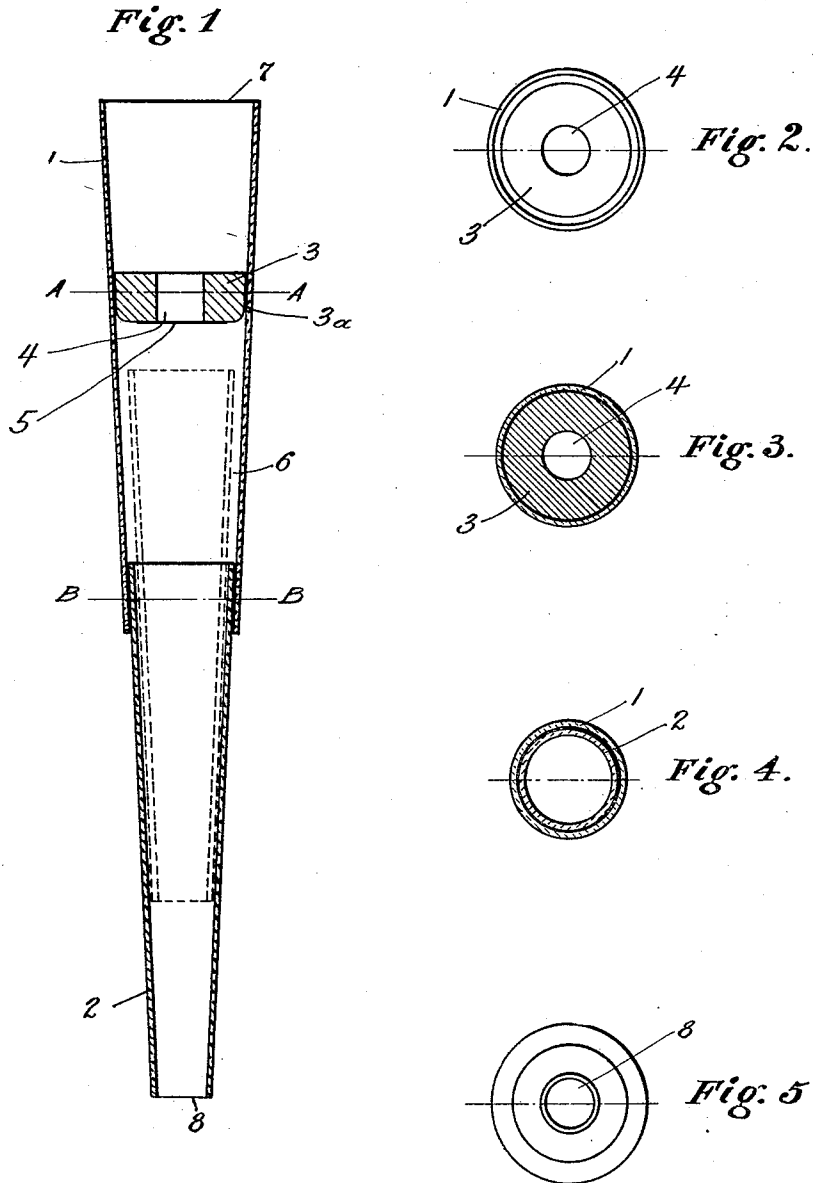


M. A. W. PARMETER.
SOUNDING TOY.
APPLICATION FILED DEC. 10, 1913.

1,118,223.

Patented Nov. 24, 1914.



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SOUNDING TOY.

1,118,223.

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To all whom it may concern:

Be it known that I, MARGARET A. W. PARMETER, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Sounding Toys; 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.

This invention relates to musical instruments and has for an object to provide a horn of resonant material for increasing the volume of sound produced by the player humming or singing thereinto, having a diaphragm therein for transmitting said humming or singing and for changing the quality of the tone thereof. Also to provide a construction by which said diaphragm may be easily removed and replaced.

A further object is to provide, in such an instrument, means for varying the increase of volume of sound by varying the size of the opening for letting air therefrom.

A further object is to provide, in such an instrument, a readily removable diaphragm and a sound volume varying means, so arranged that said varying means may also be used for ejecting the diaphragm when desired.

With these and other objects in view the invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings, in which similar characters refer to corresponding parts throughout the several views, Figure 1 is a longitudinal section of my invention. Fig. 2 is a view looking into the sound emitting end thereof. Fig. 3 is a cross section on line A—A of Fig. 1. Fig. 4 is a cross section on line B—B of Fig. 1. Fig. 5 is a view looking at the sound receiving end of my invention.

More specifically, my invention consists of a horn or tube of two overlapping parts 1 and 2 of conical form, part 2 being smaller than part 1 and adapted to fit therein, all as clearly indicated in Fig. 1. The parts 1 and 2 are not joined in any manner but are left free to move or collapse upon and within each other as clearly indicated in dotted

lines in Fig. 1. Part 1 is provided with a ring 3 of suitable material and having the hollow or passage 4 therethrough. Diaphragm 5, of suitable vibrating material, is mounted upon said ring 3 covering the hollow or passage 4. Ring 3 is provided with slanting or wedged sides or edges as at 3^a corresponding to the slant of the sides of part 1 of the horn, so that said ring may be inserted and wedged into said part 1 by slight pressure and thus caused to retain its position therein. It will be apparent that the farther part 2 is moved toward ring 3, the larger will be the space 6 between the walls of parts 1 and 2. It will also be apparent that the ring 3 carrying diaphragm 5, may be ejected from part 1 by collapsing parts 1 and 2 until part 2 comes into contact with said ring 3 and by thereafter exerting pressure upon the ring 3 by means of part 2, as such pressure would move the ring toward the larger portion of part 1 and thus unwedge it.

In use, the player sings or hums into the small end 8 of the instrument and the sound waves of the voice pass through part 2 and strike against diaphragm 5, causing it to vibrate and create sound waves at its opposite side which waves in turn cause vibration of the resonant walls of part 1, thus enlarging the volume of sound.

It will be apparent that the tone produced by the diaphragm will be of a quality determined largely by the material of which it is made and not by the quality of the voice of the player so that the diaphragm changes the quality of the tone of the voice it transmits and its vibrations together with those of the resonant horn enlarge the volume thereof. It will also be apparent that the further part 2 is advanced into part 1 the nearer its inner end will be to diaphragm 5 and consequently the more directly and forcibly will the sound waves within part 2 strike the diaphragm, also the larger will be the space 6 and therefore the freer will be the movement of the air in through part 2 and out through space 6. It will therefore be apparent that the farther part 2 is advanced toward diaphragm 5 the larger will be the volume of sound emitted from end 7 of the horn in proportion to the volume of the player's voice.

Conversely the farther part 2 is withdrawn from diaphragm 5 the less will be the volume

of sound emitted from end 7 of the horn in proportion to the volume of the player's voice.

It will, of course, be understood that the volume of sound would not increase after part 2 is advanced so close to diaphragm 5 as to shut off or substantially impede the movement of air from within part 2 to space 6, which would occur when part 2 comes into contact with ring 3 or into very close proximity thereto.

I claim:

1. In a musical instrument a conical shaped horn formed in two telescoping sections, a diaphragm of vibratory material positioned

in the larger of said sections and adapted to be removed therefrom by pressing thereon with the smaller section.

2. In a musical instrument, telescoping conical shaped members; a diaphragm located in the larger of the conical members and adapted to be approached by the smaller member upon telescoping within the larger.

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

MARGARET A. W. PARMETER.

Witnesses:

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