

No. 705,398.

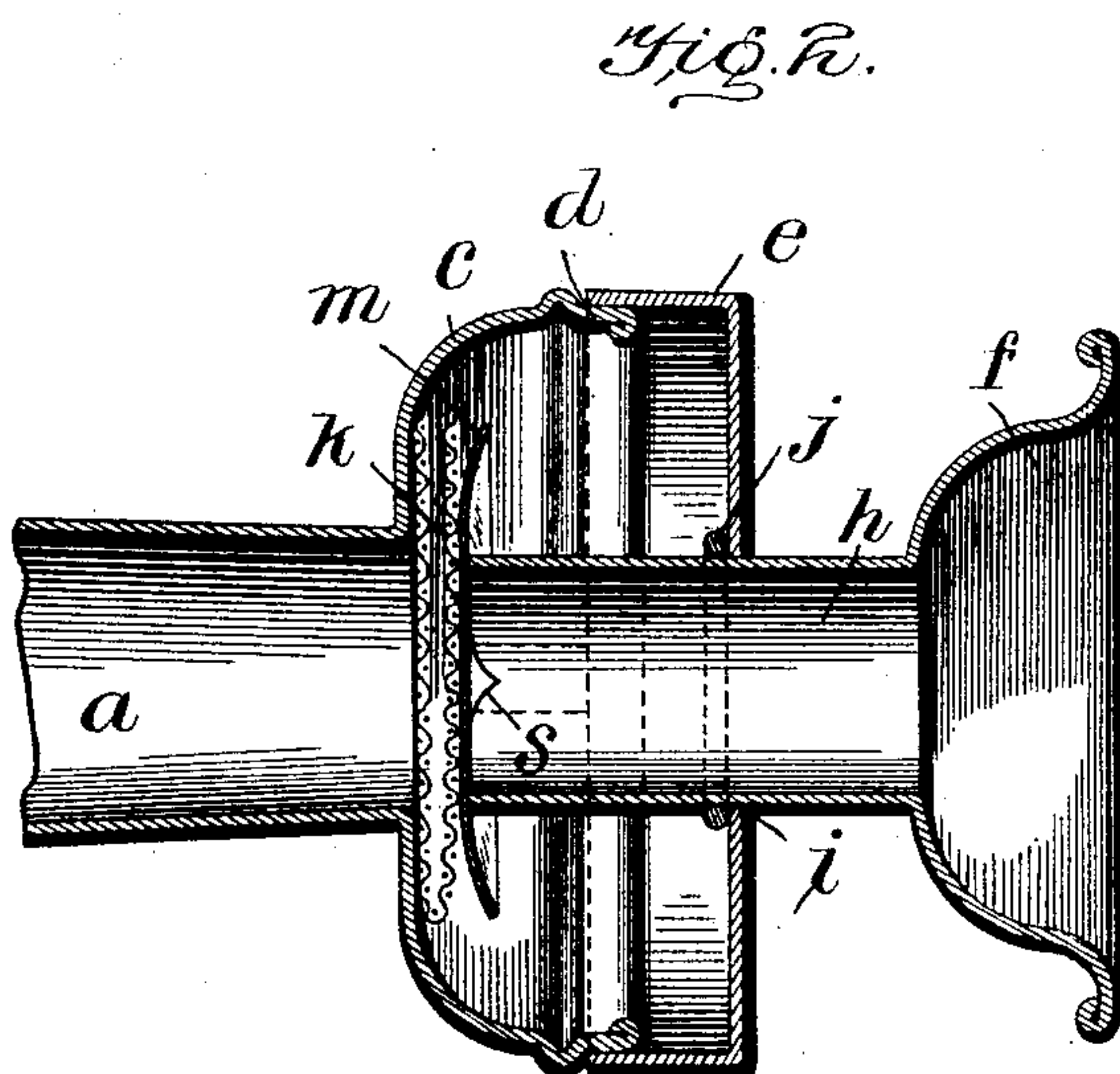
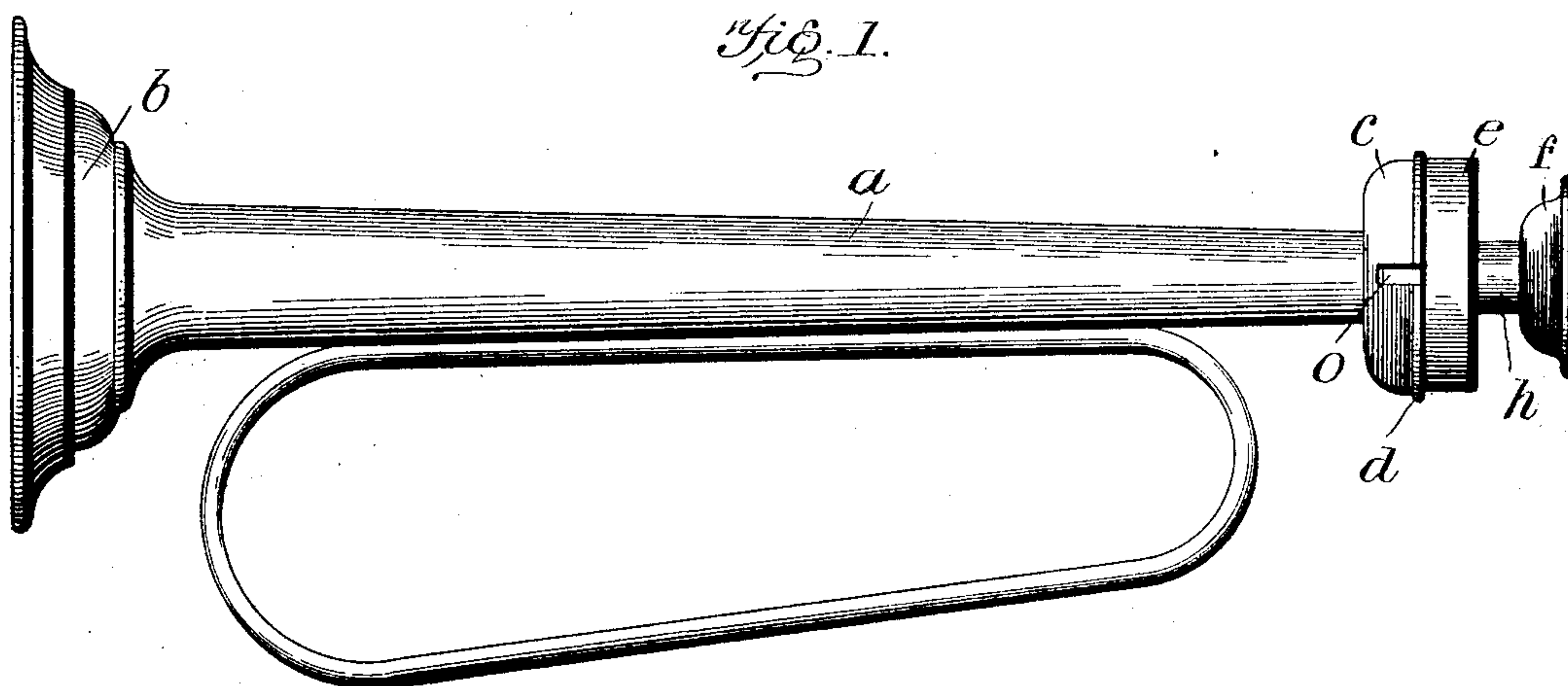
Patented July 22, 1902.

F. J. GUSTINE.

TOY HORN.

(Application filed Dec. 20, 1901.)

(No Model.)



Inventor

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UNITED STATES PATENT OFFICE.

FRANKLIN J. GUSTINE, OF NEW ORLEANS, LOUISIANA.

TOY HORN.

SPECIFICATION forming part of Letters Patent No. 705,398, dated July 22, 1902.

Application filed December 20, 1901. Serial No. 86,696. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN J. GUSTINE, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Toy Horns; 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.

My invention relates to improvements in toy horns, and more particularly to that class in which the sound is produced or amplified through the medium of a vibrating diaphragm of some thin flexible material.

In order that my said invention may be more fully described, reference will be had to the accompanying drawings, wherein—

Figure 1 is a side view of the device; and Fig. 2 represents a detail sectional view, enlarged, of the mouthpiece and the vibrating diaphragm.

a represents the body of the horn, tapered, as usual, and flared out into a bell *b* at one end. Upon the small end of the body portion is provided an enlargement *c*, slotted at *o o* and provided with the flange *d*.

e is a cap adapted to fit tightly upon the flanged portion *d* of the enlargement *c*. *f* represents the mouthpiece of the horn, provided with the cylindrical portion *h*, which passes through a perforation *i* in the cap *e*, said mouthpiece being free to move back and forth in said cap *e*, the outward movement of the mouthpiece being limited by the stop-collar *j* upon the cylindrical portion *h*. *k* is a wire screen or netting secured in the said enlarged portion *c* of the horn, said screen or netting being doubled upon itself and interposed between the inner end of said mouthpiece and the opening in the horn, the free portion of this screen acting as a self-adjusting spring and normally pressing against the inner end of the cylindrical portion *h* of the mouthpiece. This screen or netting is so arranged that the side adjacent the inner end of the mouthpiece is free to vibrate back and forth.

Between the mouthpiece and the adjacent screen or netting is placed a flexible diaphragm of any suitable material, such as

thin paper or the like, said diaphragm being normally held against the inner end of said mouthpiece by the said screen acting as a spring, the screen being flexible, so as to press the diaphragm evenly upon said mouthpiece. This diaphragm may be renewed when desired by removing the cap *e*, which provides free access to the screen and diaphragm. One or more recesses *s* are preferably provided in the inner edge of the mouthpiece adjacent the diaphragm *m* in such position as to allow a portion of the air to escape from said mouthpiece, setting said diaphragm *m* into vibration.

By providing a movable mouthpiece upon the horn a perfect contact is always insured between the inner end of said mouthpiece and the flexible diaphragm *m*, which is constantly pressed against the inner end of said mouthpiece by the screen or netting *h*, the pressure being increased and diminished by the inward and outward movement of the mouthpiece.

The operation is as follows: When a humming sound is directed into the mouthpiece, the diaphragm *m* is set in a state of vibration in sympathy with the original sound, producing a sound in most respects like the original sound, but being much multiplied in volume. The vibration of the diaphragm *m* will set the air in the body of the horn into vibration, and as the horn is preferably made of some good sound-conducting metal a metallic tone will be imparted to the sound, enriching the quality of the tone produced.

While I have shown my invention as embodied in the particular form shown and described, it will be understood that I do not limit myself to the form shown, as the same may be applied to various forms of musical and sound-producing devices.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a device of the character described, the combination, with the body of the horn, of a diaphragm, a movable mouthpiece and a screen or netting attached to said body and adapted to press said diaphragm with spring-pressure against said mouthpiece.

2. In a device of the character described,

the combination, with the body of the horn, of a diaphragm, a screen or netting attached to said body behind said diaphragm and bent on itself to form a spring and a mouthpiece
5 in proximity to said screen.

3. In a device of the character described, the combination with the body of the horn, of a screen or netting fastened at one end to said body and bent upon itself to form a
10 spring, a mouthpiece and a diaphragm yieldably held against the end of said mouthpiece by said screen.

4. In a device of the character described, the combination with the body of the horn,
15 of a screen or netting fastened at one end to said body and bent on itself to form a spring, a movable mouthpiece, means to limit the amount of its movement and a diaphragm held by said screen against said mouthpiece.

20 5. In a device of the character described, the combination with the body of the horn, of a screen or netting attached thereto, a movable hollow mouthpiece cut away at one

end and a diaphragm yieldingly held by said screen against one end of said mouthpiece. 25

6. In a device of the character described, the combination with the body of the horn, bell-shaped at one end and provided with an open-ended perforated enlargement at the other end, a cap for closing the open end of
30 said enlargement, a mouthpiece movably mounted in said cap and provided with means for limiting the extent of the movement of said mouthpiece, said mouthpiece being hollow and cut away at one end and enlarged
35 at the other end, a screen or netting attached at one end to said body and bent upon itself to form a spring and a diaphragm yieldably held between said screen and one end of said
40 mouthpiece.

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

FRANKLIN J. GUSTINE.

Witnesses:

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