

(No Model.)

C. C. CARROLL.
VOCAL SOUNDING BOARD.

No. 475,928.

Patented May 31, 1892.

Fig. 1.

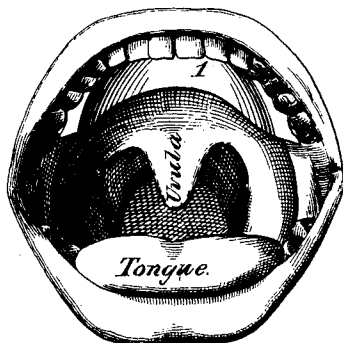


Fig. 2.

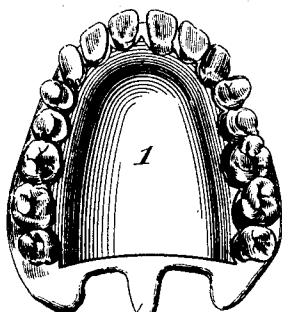
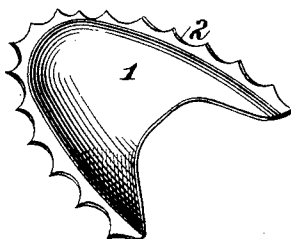


Fig. 3.



WITNESSES:

William Goebel.
C. L. Davis

INVENTOR

Craft C. Carroll
BY
W. W. Canfield
ATTORNEY.

UNITED STATES PATENT OFFICE.

CRAFT C. CARROLL, OF NEW YORK, N. Y.

VOCAL SOUNDING-BOARD.

SPECIFICATION forming part of Letters Patent No. 475,928, dated May 31, 1892.

Application filed October 8, 1891. Serial No. 408,130. (No model.)

To all whom it may concern:

Be it known that I, CRAFT C. CARROLL, a citizen of the United States, and a resident of the city and county of New York, in the State of New York, have invented a certain new and useful Improvement in Vocal Sounding-Boards, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide a plate adapted for insertion in the mouths of singers, public speakers, &c., so shaped as to act as a vocal sounding-board to intensify the volume, quality, and musical effect of the voice of the wearer, and this I accomplish by means of the device described in the following specification, of which the accompanying drawings form a part, wherein similar numerals of reference designate like or equivalent parts wherever found throughout the several views, and in which—

Figure 1 is a view of an open human mouth, showing my improved vocal sounding-board in position therein. Fig. 2 is a view of a human upper jaw inverted with said sounding-board in position therein, and Fig. 3 is a view of the sounding-board removed.

Referring to the drawings, the numeral 1 designates a thin plate of any hard resonant material, preferably of metal, concaved, as shown, so as to fit in the upper jaw of the wearer, and provided with serrations 2 along the sides and front end thereof, which correspond to and register with the teeth in the upper jaw and the spaces between the same, and by such contact with the teeth when in position assist in keeping said plate in place in the mouth. This plate 1 extends back from the front teeth sufficiently far to cover all of the hard and a portion of the soft palate, as shown in Figs. 1 and 2, the upper or convex side of said plate being so shaped as to accurately fit the roof of the wearer's mouth; and in order to obtain a perfectly-fitting plate a wax cast of the mouth of the person desiring to wear the same should be taken and a mold of the roof and upper jaw thereof made from such wax cast in the usual manner, after which the plate may be cast therein from

molten metal in any desired manner, and after being polished will be ready for use.

The sounding-board is placed in position by inserting the same in the mouth and pressing it against the roof thereof, where it is held partly by suction and partly by the pressure of the serrations 2 against the inner sides of the upper teeth in the manner well known and usual with dental plates, and is removed by a reversal of such process.

When in operation, the voice coming from the throat strikes against the resonant surface of my improved vocal sounding-board, has its vibrations increased and intensified thereby, and issues from the mouth with its volume, carrying power, and musical effect much increased over what it would have been had the sounding-board not been used and had it been deflected by the softer surfaces of the hard and soft palates instead of by the more sonorous sounding-board.

The advantages of this device are many. Singers and public speakers whose natural voices have not sufficient carrying power to allow them to sing or speak in large halls may by its use make themselves heard with ease to the farthest corners thereof. Persons whose palates are so malformed as to interfere with the proper deflection of the vocal sound-waves from the mouth may have the under and sound deflecting surface of the sounding-board so shaped as to overcome this difficulty. Where any of the upper teeth are missing and in consequence the articulation and vocalization are interfered with, this difficulty may be overcome by attaching artificial teeth to the sounding-board at the appropriate points in the same manner as is usual in ordinary dental plates, and many advantages to be gained by the use of this device, too numerous to mention herein, will at once suggest themselves to those familiar with vocal music and elocution.

While, as hereinbefore stated, I can make my improved sounding-board of any hard resonant material, preferably of metal, the substance which I have found best adapted for that purpose is aluminum, either pure or alloyed with other metals. However, I do not limit myself to any particular substance out of which to make the same, nor to any par-

ticular form thereof, nor manner of making the same; but,

Having now fully described my invention, its construction and operation, what I claim, and desire to secure by Letters Patent, is—

1. A vocal sounding-board adapted to be inserted in and held in the mouth, substantially as shown and described.
2. A vocal sounding-board adapted to be inserted in the mouth and provided with serrations, as 2, upon the edge thereof, substantially as shown and described.
3. A vocal sounding-board adapted to be inserted in the mouth and held in contact with the palatine surface of the upper jaw, substantially as shown and described.
4. A vocal sounding-board adapted to be inserted in the mouth, consisting of a thin plate of resonant material made to fit the roof of the

mouth and provided with serrations, as 2, upon the edge thereof, substantially as shown and described.

5. A vocal sounding-board adapted to be inserted in the mouth and composed of aluminum or its alloys, substantially as shown and described.

6. A vocal sounding-board adapted to be inserted and held in the mouth, consisting of a thin plate of resonant material made to fit the roof of the mouth, substantially as shown and described.

Signed at the city and county of New York, in the State of New York, this 6th day of October, A. D. 1891.

CRAFT C. CARROLL.

Witnesses:

H. S. LATHROP,
C. L. DAVIS.