(No Model.)

C. L. MITCHELL.

DEVICE FOR AID IN VOCAL CULTURE.

No. 291,071. Patented Jan. 1, 1884.

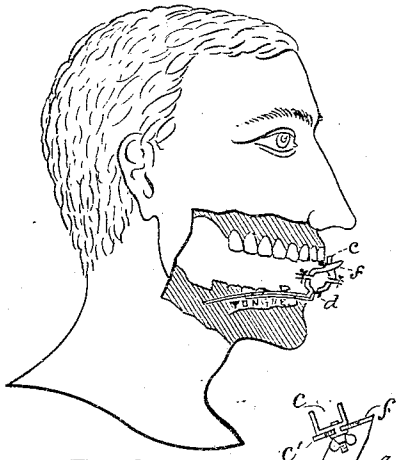

Fig. 1.

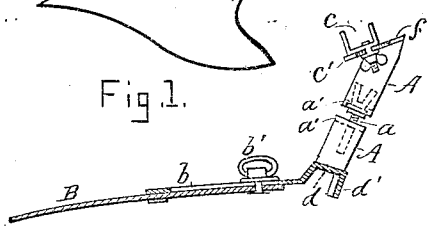

Fig. 2.

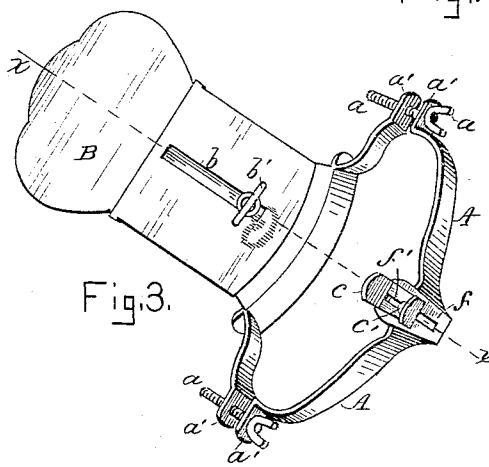

Fig. 3.

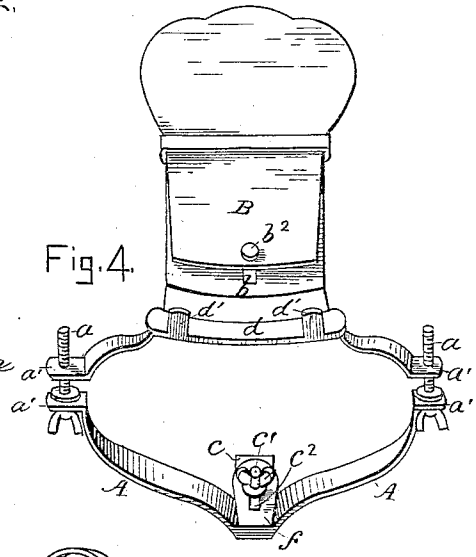

Fig. 4.

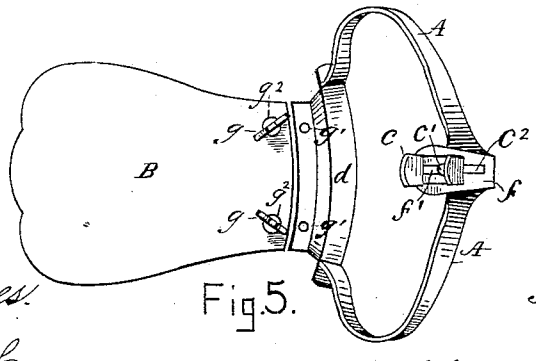

Fig. 5.

Witnesses.
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CHARLES LEWIS MITCHELL, OF BOSTON, MASSACHUSETTS.

DEVICE FOR AID IN VOCAL CULTURE.

SPECIFICATION forming part of Letters Patent No. 291,071, dated January 1, 1884.

Application filed June 30, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LEWIS MITCHELL, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improved Device for Aid in Vocal Culture and for other Purposes, which device I will describe as follows, reference being had to the accompanying drawings, which form a part of this specification, like letters indicating like parts in the different figures thereof.

Figure 1 of the drawings shows the human mouth cut so as to exhibit the inside thereof with the tongue pressed down into the bottom of the mouth, as it is by the tongue-plate of the instrument. The manner in which the teeth are placed in the device is also here shown. Fig. 2 is a longitudinal section of the instrument, cut upon the line *x x* in Fig. 3. Fig. 3 is a top, and Fig. 4 a bottom, plan. The first four figures show an adjustable device, and Fig. 5 shows a non-adjustable construction of the mouth-holder, with a detachable non-adjustable tongue-plate.

My invention consists in an adjustable or non-adjustable mouth holder or supporter, said holder being so shaped as to hold the mouth open, and at the same time give the jaw a natural and comfortable position. A tongue-plate either adjustable or not, and capable of being detached or not from the mouth-holder, is designed to hold the tongue down upon the bottom of the mouth, for it has been found that pupils in vocalizing who are yet unskilled are often unable to so control the tongue as to prevent that organ from interfering with the emission of a full tone. The service of the device is often also of value for holding the mouth and tongue during a dental or surgical operation.

The mouth-holder or supporter A is made in the form illustrated in Figs. 3, 4, and 5, and the adjustable construction thereof fully shown in Figs. 3 and 4, and partially seen in Figs. 1 and 2, is so shaped as to form the lips *a' a'* at each end thereof, there being a screw-hole in each of said lips to admit the set-screw *a* at each end of the mouth-holder A, by which the holder is adjusted to suit the mouth to which it is applied, and there held.

The tooth-holder *c*, in which the upper teeth are placed, as shown in Fig. 1, is set upon the plate *f*, which plate forms a part of the holder A. The tooth-holder *c* is provided with the elongated slot *f'*, as clearly seen in Fig. 5, and the plate *f* should be provided with the elongated slot c^2, so that the tooth-holder *c* can be properly adjusted to suit the mouth of the user by moving said tooth-holder laterally of the mouth-holder A, and then holding the tooth-holder in the desired position by means of the set-screw *c'*.

Fig. 4, being, as it is, a bottom plan, shows the construction of the under side of the tongue-plate B of my adjustable device. An examination of Fig. 4 shows the surface *d*, upon which surface the edges of the lower front teeth bear when the instrument is in use, and the two lugs *d' d'* bear against the outside of two of said lower teeth. The tongue-plate B is made in two parts, as shown in the drawings, the upper lapping section thereof being provided with the elongated slot *b*, (shown fully in Fig. 3,) running longitudinally of said upper section. The lower lapping section of the tongue-plate may be provided with an ordinary screw-hole at the point b^2; or it may have an elongated slot to correspond with the slot *b*. The tongue-plate B may then be adjusted longitudinally to suit the depth of mouth and length of tongue of the user, and held when adjusted by means of the set-screw *b'*.

The construction shown in Fig. 5 is without most of the adjustable appliances before described, and shown in the first four figures of the drawings; but this figure does show the tongue-plate B detached from the mouth-holder A. Said tongue-plate can be attached by removing the screws *g g*, then sliding the tongue-plate either over or under the plate in which the screw-holes *g' g'* are seen, and when these screw-holes correspond with the screw-holes g^2 g^2 the screws *g g* are inserted, and the attachment is complete. The adjustable construction can be made detachable as well, if desired, in the same manner. The non-adjustable construction may sometimes be preferred, because of the obvious fact that the cost of making would be less than of the adjustable device.

My instrument is valuable for dental and surgical operations, and also, when made of a larger size, it is useful for surgical operations in the mouths of animals, and in administering medicine to them. Its value for these pur-

poses is largely increased, because of the fact that there is nothing to obstruct free access to the inside of the mouth.

The instrument can be made of any suitable material, but, obviously, metal is preferable.

The mouth-holder detached from the tongue-plate may often be useful both in vocal practice and in the case of operations performed in the mouth.

Having fully described my invention and the mode of carrying the same into effect, what I claim as new, and desire to secure by Letters Patent, is—

A device for aid in vocal culture, composed of the adjustable mouth-holder A, provided with the adjustable tooth-holder *c*, and combined with the adjustable detachable tongue-plate B, the whole constructed, arranged, and combined substantially as described and shown, and for the purposes set forth.

CHARLES LEWIS MITCHELL.

Witnesses:
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