

Jan. 24, 1928.

1,657,148

DE FOREST B. CATLIN

THERAPEUTIC DEVICE FOR USE IN BUCCAL CAVITIES

Filed Nov. 4, 1924

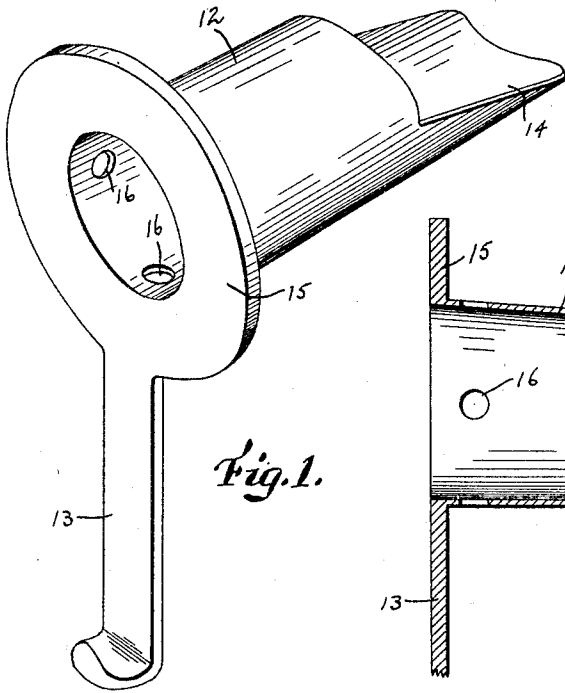


Fig. 1.

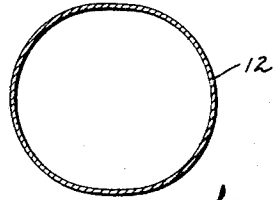


Fig. 6.

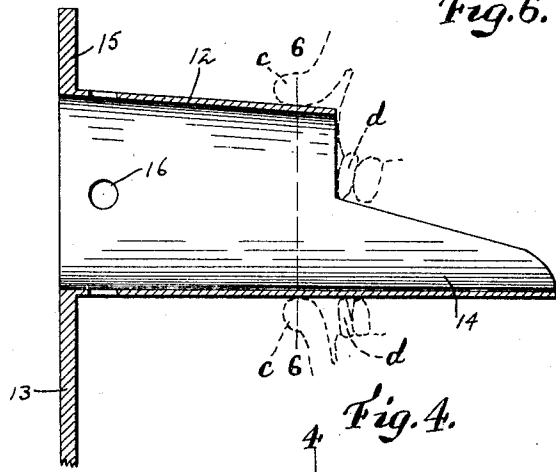


Fig. 4.

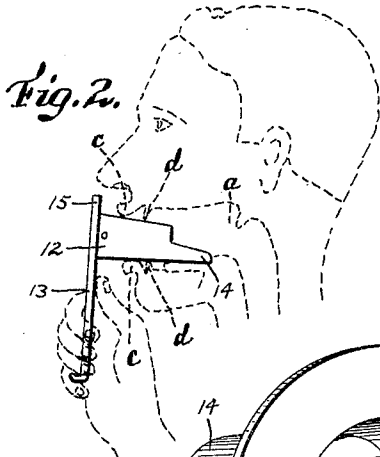


Fig. 2.

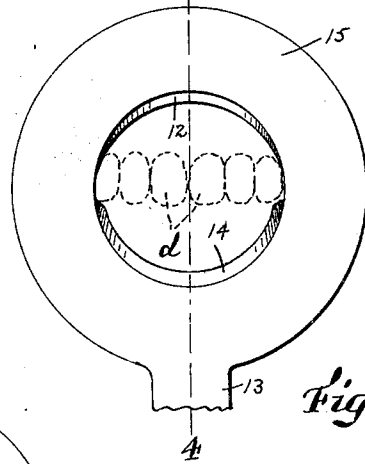


Fig. 3.

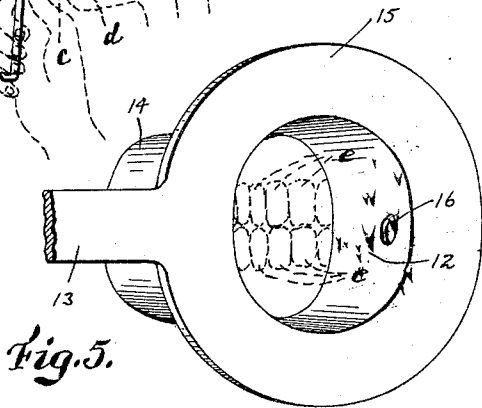


Fig. 5.

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# UNITED STATES PATENT OFFICE.

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THERAPEUTIC DEVICE FOR USE IN BUCCAL CAVITIES.

Application filed November 4, 1924. Serial No. 747,762.

The object of this invention is to provide a therapeutic device whereby a practitioner desiring to operate on various usually obstructed surfaces within a buccal cavity, may obtain direct and unobstructed access to such surfaces, for such treatment as may be required.

Of the accompanying drawings forming a part of this specification,—

Figure 1 is a perspective view of a therapeutic device embodying the invention.

Figure 2 is a side view of the same, on a reduced scale, illustrating by dotted lines one mode of application.

Figure 3 is an end view, illustrating another mode of application.

Figure 4 is a section on line 4—4 of Figure 3.

Figure 5 is a perspective view, illustrating another mode of application.

Figure 6 is a section on line 6—6 of Figure 4.

The same reference characters indicate the same parts in all of the figures.

My improved device, which is intended for use by surgeons, dentists, and other practitioners, comprises a tube 12, preferably of thin sheet metal, formed for insertion in the buccal cavity, and designed to hold the lips and jaws open and the tongue displaced, so that an unobstructed, direct passage is provided from the exterior of the cavity to various usually obstructed surfaces within the same, such surfaces being maintained in an unobstructed condition for treatment through the tube.

The outer end of the tube is provided with a handle 13, whereby the tube may be held by the patient in an operative position, as illustrated by Figure 2, so that the patient is enabled to so control the position of the tube as to prevent gagging or nausea, without interfering with the operativeness of the tube. The control of the device by the patient through the handle, has been found to give the patient a sense of security, which is very desirable, and enables the patient to assist the practitioner who has both hands free to operate, when the tube is controlled by the patient independently of the practitioner.

The tube is a length of straight tubing, one side of the inner end portion of which is cut away, so that the tube includes a tubular body portion 12, proportioned to hold the lips and jaws widely opened, and a semi-tubular trough-shaped extension 14, project-

ing from the inner end of the body portion, and proportioned to hold the jaws less widely opened.

The arrangement is such that when the tube is fully inserted, with the trough-shaped portion downward, as shown by Figure 2, the front teeth or incisors *d* bite on the body portion, so that the jaws and the lips *c* are held fully open, the extension 14 and the side of the body portion from which it projects, depress and shield the tongue, the opposite side of the body portion shields the roof of the buccal cavity, and a selected internal surface portion of the buccal cavity is exposed to actinic rays projected through the tube, all other internal surface portions being blocked out, or shielded by the tube.

When the tube is partly inserted, as shown by Figure 4, the front teeth bite on the trough-shaped portion 14, so that said teeth and a front surface portion of either jaw may be exposed to actinic rays projected into the tube.

To the outer end of the tube is fixed an annular outwardly projecting flange 15, constituting a seat for the quartz window of a water-cooled ultra-violet lamp, used to project actinic rays into the tube, said flange constituting also a shield preventing the impingement of any actinic rays on the lips. The handle 13 is fixed to and projects outwardly from the flange or shield.

To prevent clouding of said window by breath moisture, the tube is provided adjacent to the shield 15, with vents 16, through which a considerable portion of said moisture may escape, without contacting with and clouding the window.

The inner end portion of the tube is preferably rendered slightly elliptical, as shown by Figure 6, to reduce its diameter in one direction, and thus adapt the said portion to the general form of the buccal cavity.

Among the uses of the device are the following:

Actinic rays may be projected through the tube for impingement on the inner area *a* of the post buccal cavity, the lips *c* and incisors *d* being propped widely open by the body portion, as shown by Figure 2, and the tongue depressed by the extension 14, and the portion of the tube from which it projects.

A front surface portion of either the upper or the lower jaw, and the incisors *d* thereon, may be exposed to actinic rays at

the inner end of the bore of the body portion 12, by so inserting the tube that the incisors bite on the extension 14, as shown by Figures 3 and 4.

5 The tube may be held with its longitudinal axis oblique, and at one side of the longitudinal center of the buccal cavity, so that a lateral half of the upper and lower jaws and the upper and lower molars *e*, thereon, 10 may be exposed, as shown by Figure 5.

It is obvious that a medicament may be mechanically applied, as by a brush, to an exposed surface portion at the inner end of the tube.

15 It will be seen that the improved device is adapted to expose all areas requiring treatment by therapy or medically, and block out all surfaces not requiring treatment.

20 I claim:

A therapeutic device composed of a straight tube formed to be inserted in a buccal cavity and having at its outer end a

flat annular flange in a plane at right angles with the axis of the tube and forming a 25 seat on which the flat sided window of an ultra violet lamp may bear closely without separation therefrom at any point, so that the flange protects the lips from actinic rays projected into the tube, and a trough shaped 30 extension projecting from the inner end of the tube in alinement with one side thereof, whereby the device is adapted to direct actinic rays upon selected surfaces and block 35 out other surfaces from said rays, the major portion of the tube being circular in cross section so that it may be rotated in a buccal cavity, when the jaws are fully opened, to permit the extension to face in different di- 40 rections and block out actinic rays from various selected surfaces and permit the impingement of said rays on various other selected surfaces.

In testimony whereof I have affixed my signature.

DE FOREST B. CATLIN.