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2,823,455

DENTAL INSTRUMENT

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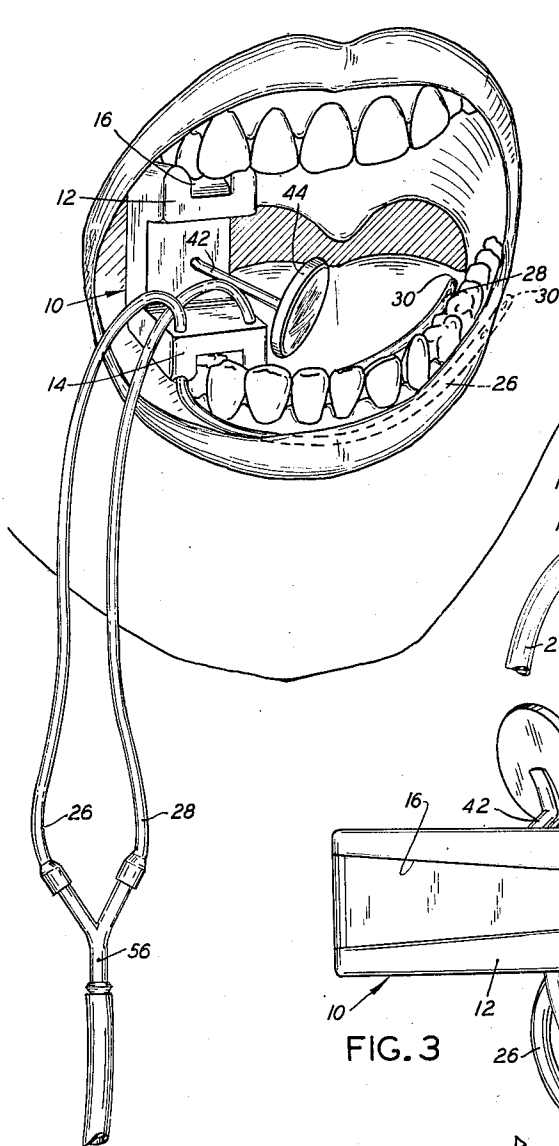


FIG. 1

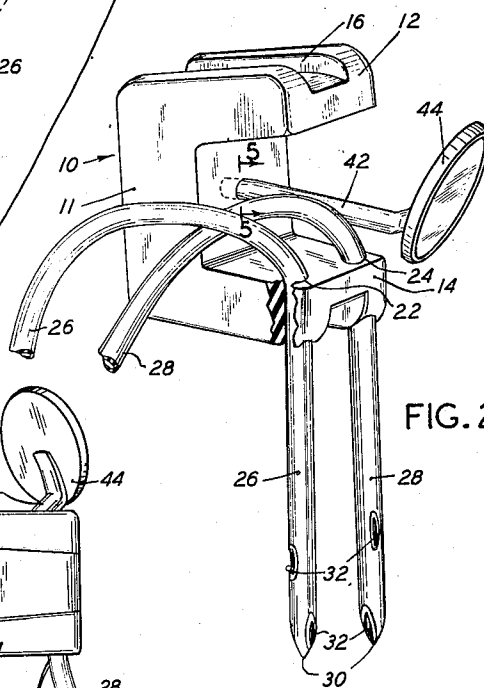


FIG. 2

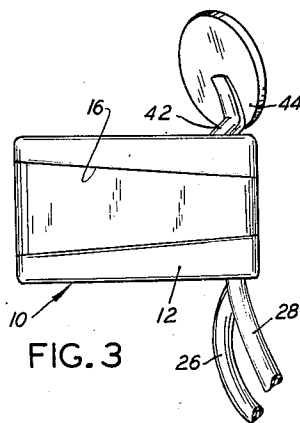


FIG. 3

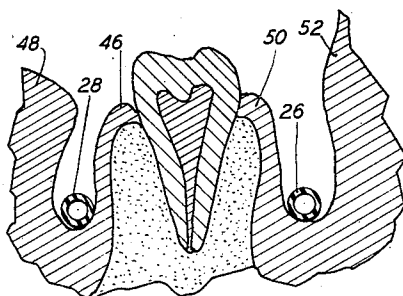


FIG. 4

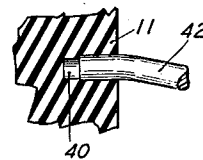


FIG. 5

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DENTAL INSTRUMENT

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3 Claims. (Cl. 32—33)

The present invention relates to dental apparatus, and more particularly to apparatus and arrangements for holding accessory dental instruments in position within the mouth of a patient.

A dentist or oral surgeon works under a severe handicap because of the restricted access available for performing work in the mouth or throat of a patient. It is frequently desirable and often necessary that accessory instruments be positioned in the mouth of a patient. Hereofore, it has generally been required that a dental assistant hold such accessory instruments in the proper position, but this is undesirable, first because the assistant is frequently in the way of the dentist and, secondly, if the assistant is holding an accessory instrument in position, the assistant is not available to perform other tasks and duties.

It is, therefore, an object of the present invention to provide a new and improved arrangement for mounting and positioning a dental instrument within the mouth of the patient.

It is a more particular object of the invention to provide an instrument holding base which is adapted to be held between the teeth of the upper and lower jaws of a patient and to support accessory dental tools therefrom.

Another object is to provide a tool supporting base of the type mentioned above which may be held between the teeth of the upper and lower jaws at one side of the mouth of the patient and away from the immediate area in which a dentist desires to work.

A specific object of the invention is to provide a new and improved arrangement for holding and directing saliva aspirating tubes within the mouth of a patient.

Other objects and advantages of the invention will become more apparent hereinafter.

In accordance with an illustrated embodiment of the present invention, a tool mounting base is provided in the form of a U-shaped rest or bite block which is adapted to be positioned between the upper and lower teeth at one side of the mouth with the portion of the block positioned posteriorly and with the foot portions extending anteriorly with one resting on the lower teeth and the other inverted foot supporting the upper teeth to hold the patient's mouth open. Means are provided on the bite block for supporting a dental instrument within the mouth. Since the bite block will be held in position by the pressure of the patient's bite, a tool supported by the rest will, in turn, be securely held in position by the clamped jaws.

For a more detailed description of the invention, reference is made to the following specification and the accompanying drawings wherein:

Fig. 1 is a fragmentary, perspective view showing a bite block positioned within the mouth of a patient and holding in position in the mouth a mirror and a pair of aspirating tubes for draining liquid from the patient's mouth;

Fig. 2 is an enlarged, perspective view of the bite block partially broken away to show details of the invention;

Fig. 3 is a top plan view of the bite block;

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Fig. 4 is a fragmentary, cross sectional view through the molar region of the lower jaw of a mouth showing the arrangement therein of the aspirator tubes; and

Fig. 5 is a sectional view taken substantially along line 5—5 of Fig. 2.

The invention is shown as utilizing a bite block 10 as a tool supporting base, the bite block including a bight portion 11 from which extend integral feet including an upper inverted foot 12 and a lower foot 14. Preferably, the bite block 10 is made of semi-hard rubber having a durometer hardness of about 75 or other suitable material which will stand repeated hot water sterilization and has sufficient rigidity to hold the jaws of a patient apart, as shown in Fig. 1. The foot projections 12, 14 are formed with teeth receiving channels 16 which converge towards the free end of the respective foot. The bite block 10 is thus adapted to be inserted in the mouth of a patient as shown in Fig. 1 with the bight portion 11 toward the rear of the mouth and with the free ends of the feet pointing toward the anterior portion, the wider parts of the channels 16 accommodating the wider molar teeth and the narrower parts closely fitting the smaller, anterior teeth of the mouth, whereby the block remains in position by reason of the engagement of the same with the teeth.

Means are provided on the bite block for supporting dental instruments in a patient's mouth. In the embodiment shown, the lower foot 14 is formed with two vertically extending, transverse openings 22, 24 on the opposite sides of the channels 16 for receiving the aspirating tubes 26, 28 formed of a semi-soft rubber or similar flexible material. The tubes 26, 28 preferably are of such diameter that normally they are frictionally engaged by the sides of the openings 22, 24 and held against accidental movement, though the fit between the tubes and the bite block is preferably such that the tubes can be moved to adjust their position relative to the block. The tubes 26, 28 are sealed at one end, indicated at 30, and are provided with a number of suitable perforations 32 adjacent the sealed end 30.

The bite block may also be formed with additional instrument mounting means. In the illustrated embodiment, an opening 40 (Fig. 5) is provided in the bight portion of the block and into which may be thrust a tool part such as an arm 42, having a diameter slightly greater than that of the opening 40 of dental mirror 44, whereby the mirror may be supported in the mouth and out of the way of the dentist.

With reference to Fig. 1, the bite block 10 is placed between the upper and the lower teeth of the patient on the side of the mouth opposite to that on which the dentist desires to work on the teeth. The tube 28 which passes through the foot 14 on the inner side of the teeth is adjusted so that it is of sufficient length to extend down to the floor of the mouth and to pass posteriorly along the gum on the opposite side of the mouth to the roof of the tongue, thus to lay between the lingual gum surface 46 and the tongue 48 adjacent the portion of the mouth on which the dentist desires to work. The other tube 26 is adjusted in length so that it will extend down anterior to the lower incisor gum area and to the rear of the mouth between the gum 50 and inner lip and cheek surface 52. The free portions of the tubes 26, 28 extend out of the mouth and are adapted to be connected to an aspirating apparatus, as through a Y-connection 56. It will be observed that the bite block, in addition to holding the mouth of the patient open, serves to anchor the aspirating tubes 26, 28 in position in the patient's mouth and prevents them from being pulled out of position accidentally. Furthermore, liquids may be continually aspirated from both sides of the teeth and the end result is that the dentist has much less difficulty in keeping the working area completely dry, as is so necessary in so many classes of dental work.

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Having illustrated and described a preferred embodiment of the invention, it should be apparent to those skilled in the art that the invention permits of modification in arrangement and detail. I claim as my invention all such modifications as come within the true spirit and scope of the appended claims.

I claim:

1. Dental mouth aspirating apparatus comprising a pair of limp tubes each sealed at one end thereof and open at the other end for connection to a suction device and each being perforated along a length of the tube adjacent said sealed end, said tubes being adapted to lead into a patient's mouth and to be positioned at one side thereof with said perforated lengths extending anteriorly one along the inner side of the gum of the lower jaw at said one side, and the other along the outer side of said gum whereby liquids may be aspirated through said tubes from both sides of said gum, and means secured to said tubes and formed for attachment to the patient's teeth at the opposite side of the mouth from said one side thereof for supporting said tubes in the mouth, said means comprising a U-shaped bite block having upper and lower feet, said tubes extending through openings in the lower of said feet and being frictionally engaged therein.

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2. Dental apparatus comprising a U-shaped bite block including a pair of spaced apart feet, and a body integral with and connecting said feet at a corresponding end thereof, a pair of elongate perforated tubes of limp material, and means adjacent the end of one of said feet for supporting said tubes in a patient's mouth.

3. Dental apparatus comprising a U-shaped bite block including a pair of spaced apart feet to be gripped between the teeth of a patient at one side of the patient's mouth, and a tube for aspirating liquids from the mouth of a patient, the tube being secured at an intermediate point thereof to one of said feet of said block whereby a portion of such tube may be positioned within a patient's mouth to collect fluids and a further portion led outwardly of the mouth and connected to a suction device, the connection of said tube to said block preventing strain on said tube from pulling the tube out of the mouth.

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