Sept. 20, 1938. R. C. ANGELL 2,130,406

SALIVA EJECTOR

Filed April 18, 1935

FIG. 2.

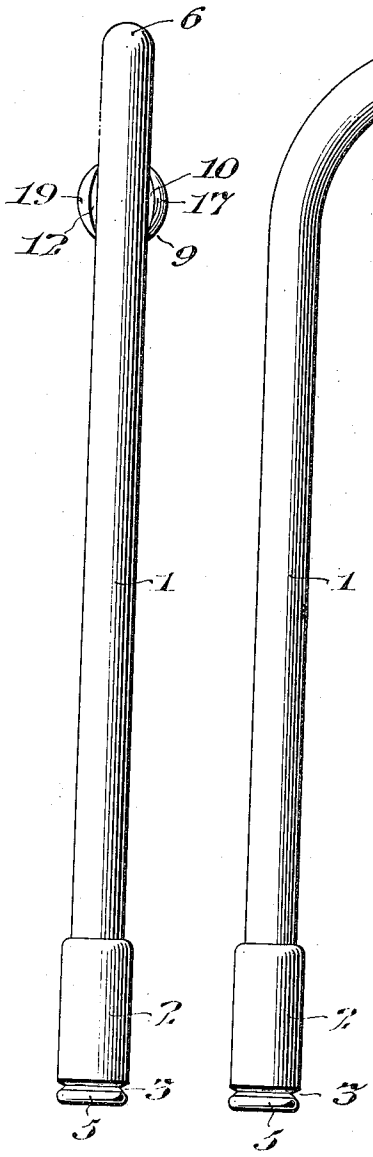


FIG. 1.

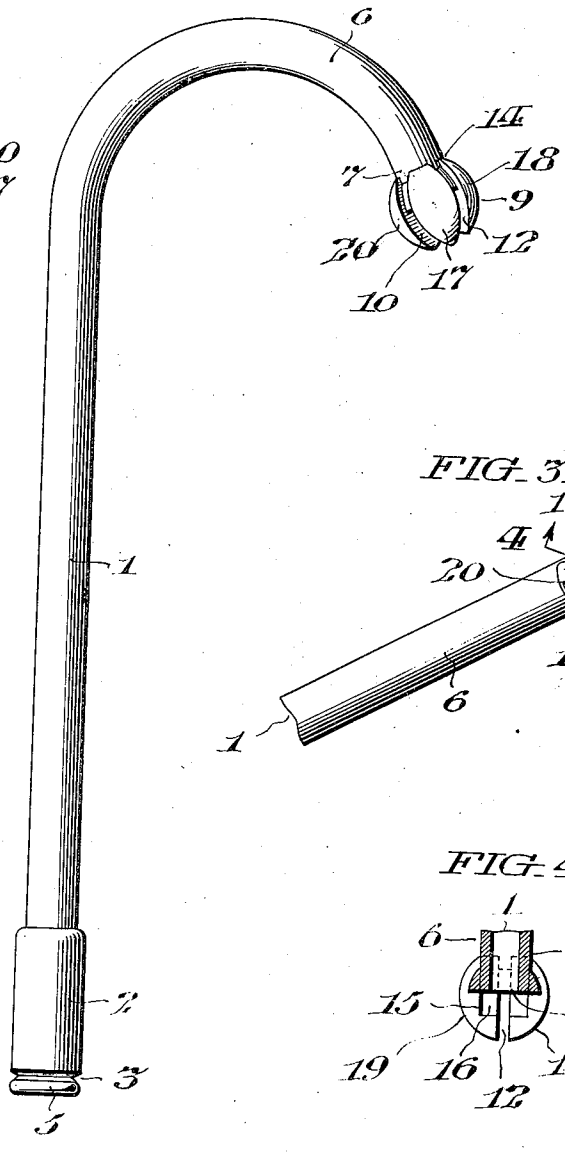


FIG. 3.

FIG. 4.

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Patented Sept. 20, 1938 2,130,406

UNITED STATES PATENT OFFICE

2,130,406

SALIVA EJECTOR

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Application April 18, 1935, Serial No. 16,966

2 Claims. (Cl. 32—33)

My invention relates particularly to that class of devices that are commonly termed saliva ejectors and that are employed in the practice of dentistry for the purpose of extracting from the patient's mouth, during the period of operation, any accumulation of saliva or other fluids that cannot well be swallowed, and is especially directed to the formation of the saliva intake end, whereby the unimpeded flow of saliva is insured.

It has been found in practice that the chief difficulty with devices of this type is that the intake orifice becomes clogged or dammed by a tendency of the soft or flaccid tissues to obstruct the passageway and thereby prevent the free exit of the saliva accumulated in the mouth of the patient, thus defeating the purpose of the device and rendering it inefficient.

The principal objects of my invention are to provide a saliva ejector having its intake end so formed as to maintain the mouth tissues distended whereby they are prevented from damming or otherwise clogging the intake orifice of said saliva ejector.

Other objects of my invention are to provide a saliva ejector having fluid channels so disposed and extended beyond the soft or flabby tissues of the mouth as to insure freedom of flow of saliva to the exhaust or outlet conveyer tube whereby the formation of vacuum by clogging the inlet orifice is prevented.

Further objects of my invention are to provide a saliva ejector constructed with a view to avoiding sharp angular corners, to affording comfort for the patient, to facilitating cleansing and sterilization, and to providing maximum efficiency of operation.

My invention comprehends a saliva ejector in which its intake end is provided with a tissue distending body having saliva conducting channels extending beyond the softer mouth tissues and thereby insuring freedom of flow of fluids from the mouth.

Specifically stated, the form of my invention as hereinafter described comprises a saliva ejector having a saliva conveyer tube forming a gooseneck and terminating in a globate body embracing the inlet orifice and having radially disposed peripheral slots or grooves communicating with said intake orifice and extending parallel with the axis thereof, and intersecting at said axis.

My invention also includes all of the various novel features of construction and arrangement as hereinafter more definitely specified.

In the accompanying drawing, Figure 1 is a side elevational view of a saliva ejector constructed in accordance with my invention; Fig. 2 is a rear elevational view of the saliva ejector shown in Fig. 1; Fig. 3 is an inverted plan view of a fragment of the forward or free end of said saliva ejector as viewed along the axis of the inlet orifice and looking toward said end; and Fig. 4 is a fragmentary sectional view taken on line 4—4 in Fig. 3.

The saliva ejector illustrated in said figures is adapted to be connected with any suitable and well known suction means by a flexible fluid conveyer in a manner well known to those skilled in the art.

In said figures, the saliva ejector comprises a tube 1, having a ferrule 2 at its lower end for the convenient attachment of a flexible fluid conveyer not shown, and provided with a circumferential groove 3 forming the bead 5 adjacent to said end and facilitating the retention of said flexible conveyer with said tube.

The tube 1 has its upper portion curved or bent to form a hook 6, commonly termed a gooseneck, and serving as a convenient means to support the saliva ejecting structure on the lower lip or jaw of the patient, with its free end 7 directed in a downwardly inclined direction into the saliva containing channel formed between the tissues of the lower dental arch and the opposed lip or cheek tissues.

The free end 7 terminates in a spheroidal or globate tissue distending head 9 having relatively transverse slots 10 and 12 extending across the inlet orifice 13 of the tube 1 and preferably intersecting at the axis thereof but extended along the wall of the tube end 9 back of said orifice 13, and terminating in the circular channel 14 formed at the intersection of the cylindrical surface of the tube 1 and the convex surfaces of the head 9.

As best shown in Fig. 4, the bore 15 of the spheroidal head 9 extends well beyond the orifice 13 and terminates in close proximity to the substantially spherical outer surface of said head 9, thereby affording a recess 16 in which saliva entering through the radial channels formed by the transverse slots 10 and 12 may be collected before entering the orifice 13.

As best shown in Fig. 3, the relatively transverse slots 10 and 12 divide the spheroidal head 9 into four spheroidal sectors 17, 18, 19, 20, the spheroidal cheek surfaces of which are arranged to bear against the mouth tissues and maintain them so distended as to leave the channels formed by the slots 10 and 12 free to convey

the saliva from the mouth to the inlet orifice 13.

It may be here noted that as illustrated the slots 10 and 12 are each disposed at an angle of forty-five degrees (45°) to the plane of the gooseneck or hook 6, so that, when the saliva ejecting device is operative in its conventional position, with the plane of the gooseneck disposed radial to the axis of the dental arch, the cheeks of the spheroidal sectors 18 and 20 will tend to bear against the opposed normally approaching gingival and labial tissues.

If, however, the head 9 is placed further back in the mouth, the plane of the gooseneck will tend to assume a position transverse to a radius of the axis of the dental arch and in that event the cheeks of the spheroidal sectors 17 and 19 will tend to bear against the normally approaching gingival and buccal tissues, and thereby maintain said tissues so distended as to tend to prevent clogging or damming of the orifice 13.

Under any circumstances, the definite relation of the slots 10 and 12 to the plane of the gooseneck 6 affords a convenient means whereby the operator may determine the position of the ejector to most efficaciously drain the mouth of excess fluids.

My invention is advantageous in that the globate terminal not only distends the mouth tissues but provides a plurality of saliva conveying channels that intersect a saliva receiving recess adjacent to the inlet orifice and extend along the tube back of said inlet orifice, and connect with a circular saliva conveying channel. This structure has a decided advantage for the reason that when the ejector is pressed into contact with the tissues of the mouth between the cheeks and the gums by the weight of the ejector and its attached tubing, the grooves extending up to the junction of the tube cannot be closed by any movement of the patient's lips or cheeks. As a consequence, there is an unrestricted influx of air which prevents the formation of a vacuum of a sufficient amount to draw the tissues into tight engagement with the opening through which air is being drawn and which would prevent any removal of saliva so long as the openings are closed. The openings adjacent to the tube are those which are provided to prevent the formation of this undesired vacuum.

Although I have shown and described two relatively transverse slots, extended at a definitely prescribed angle to the plane of the gooseneck, more or less saliva ejecting channels may be employed and otherwise disposed if desired, and therefore I do not desire to limit my invention to the precise details of construction and arrangement as herein set forth, as it is obvious that various modifications may be made therein without departing from the essential features of my invention as defined in the appended claims.

Having thus described my invention, I claim:

1. A saliva ejector comprising a suction tube in the form of a gooseneck having an inlet orifice and terminating in a globate tissue distending head embracing said orifice and having a plurality of saliva conveying slots intersecting at the axis of said orifice and extending throughout said head along said tube back of the plane of said orifice, and affording open grooves for facilitating the free and direct flow of saliva to said orifice.

2. A saliva ejector comprising a suction tube in the form of a gooseneck, having an inlet orifice and terminating in an enlarged tissue distending head having a plurality of saliva conveying slots and connecting peripheral grooves disposed in relatively oblique angular planes with respect to the plane of said gooseneck.

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