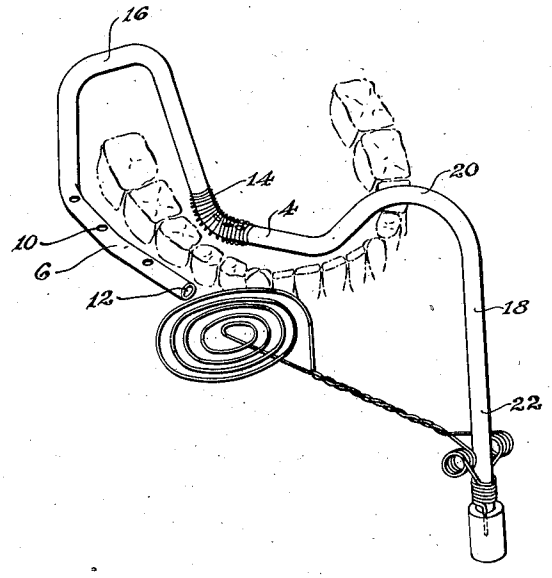
Jan. 21, 1936. W. P. DE WITT 2,028,381

SALIVA EJECTOR

Filed May 26, 1932

Fig. 1



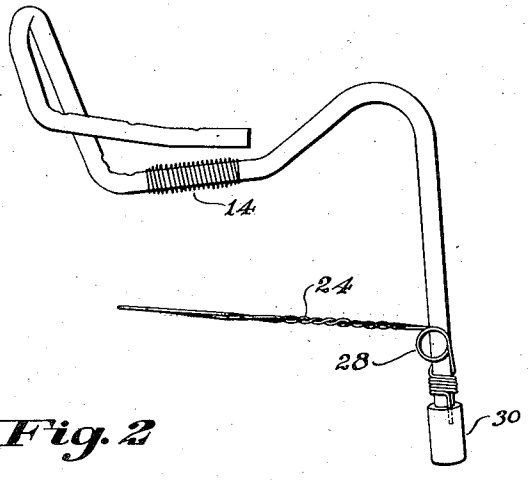


Fig. 2

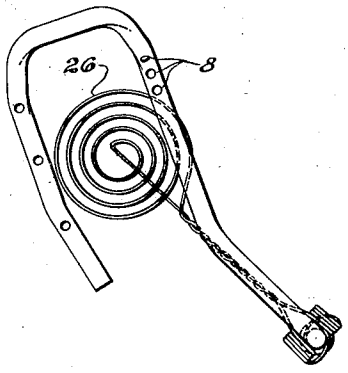


Fig. 3

Witness

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SALIVA EJECTOR

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8 Claims. (Cl. 32—33)

The present invention relates to saliva ejectors and more particularly to that type of ejector which is designed to drain the buccal as well as the lingual cavity of the mouth.

Saliva ejectors of this type as heretofore constructed have been objectionable for a number of reasons, such as discomfort to the user, difficulty of being maintained in position, and interference with the operator's vision and manipulations.

It is the object of the present invention to provide a saliva ejector of simple, inexpensive, and easily cleaned construction, which will be held securely in position without discomfort to the user, and which will not interfere with the manipulations of the operator or his view of the part being operated upon.

To the above ends the present invention consists in the saliva ejector hereinafter described and more particularly defined in the appended claims.

In the accompanying drawing which illustrates what is now considered the preferred form of the present invention, Fig. 1 is a perspective view of an ejector embodying the present invention, indicating diagrammatically its position in use; Fig. 2 is a side elevation of the ejector, and Fig. 3 is a top plan view of the same.

In the illustrated embodiment of the present invention the ejector is preferably formed as shown, of a single or continuous piece of metal tubing, bent into somewhat irregular shape. Briefly, the ejector comprises the two intake portions or sections 4 and 6, which are generally or approximately parallel to each other and are spaced apart to receive between them the teeth at the side of the lower jaw, so that one section or portion 4 will be positioned in and drain the lingual cavity, while the other section, 6, will be located in and drain the buccal cavity.

The ejector illustrated in the drawing is a right-hand ejector, that is, designed to be positioned in and to drain the right hand side of the mouth when the operation is on that side. For the left-hand side of the mouth a similar but reversely arranged ejector will be provided.

These intake sections 4 and 6 are provided with intake openings for the admission of saliva. In the lingual section 4, such openings are shown at 8, relatively close together and adjacent the rear end of such suction. The intake openings of the buccal section, indicated at 10, are spaced well apart and the front end of this section is left open at 12 to provide an additional opening. These openings are located in the top of the tubular sections so that they will not be closed by the tissues or membrane of the bottom of the mouth cavities. In order that the tongue may not rest upon and close the openings 8 in the lingual section, I have provided a guard 14 in the form of a coil of fine wire, the end coils being tight upon the tube while the intermediate coils are of somewhat larger diameter than the tube to provide an open space between the tube and the coils. The end coils grip the tube with sufficient tightness to prevent accidental displacement of the coil from its normal or protecting position, as shown in Fig. 1, but not so tight as to prevent the coil from being moved along the lingual section to the position shown in Fig. 2, to permit cleansing of this portion of the tube and its intake openings.

The rear ends of the sections 4 and 6 are connected by the arched member 16 which extends over and bridges the rear or back teeth or jaw.

The discharge section of the ejector, indicated generally at 18, leads from the front of the lingual section across and beneath the front of the tongue, and is arched at 20 to extend over the teeth at the front of the mouth, but on the opposite side from that occupied by the intake section. Thus, as shown in Fig. 1, while the lingual and buccal sections of the ejector are positioned in the right-hand cavities of the mouth to drain the same, the discharge section is arched over the teeth at the left-hand side of the front of the mouth, where it is out of the way and will not interfere with either the vision or the fingers or instruments of the operator.

The discharge section terminates in the straight, downwardly extending portion 22, adapted to be connected in the usual manner with a suction hose leading to the ordinary suction device.

It is very desirable that the ejector be held securely in position, yet without discomfort to the user, and for this purpose I have provided a yielding pressure arm or clamp to engage under the chin of the user with a light but effective pressure. This clamp is made from wire, two strands being twisted together to form the arm 24 and coiled as at 26 to form the chin-engaging piece or part. The spring pressure is created by the two coiled springs 28, each formed of a strand of the wire at the inner end of the arm, and positioned on opposite sides of the straight portion 22 of the discharge section. The ends of the coiled springs are in turn coiled to encircle the lower end of the portion 22, and are held from rotation by the end of one strand which is posi-

tioned in the recess in the sleeve or collar **30**, soldered or sweated onto the end of the discharge section.

This form of chin clamp has been found particularly convenient and comfortable, the coiled, chin-engaging portion **26** adjusting itself to the chin of the user, while the winding of the strands around the bottom of the discharge section permits a slight but sufficient amount of lateral adjustment of the arm. The coiled springs **28**, while applying a light pressure, are amply sufficient to prevent accidental dislodgment of the ejector while it is in use.

Owing to the fact that my ejector fits closely to the contour of the mouth and teeth, it may be worn without discomfort, and the user may even close his mouth and talk without difficulty. The construction of the ejector from a single length of tubing with no sharp bends or soldered joints facilitates the thorough cleansing and sterilizing after use, the movable guard **14** giving free access to the intake openings in the lingual section.

In order to provide for different sizes of mouths, as for children and adults, it will be desirable for the dentist to equip himself with two or three sets or pairs, a right and a left, of varying sizes. Preferably these ejectors will be made of metal, such as copper tubing, nickel or chromium plated, but if desired, other material may be employed, such as glass. The metal construction, however, is not liable to breakage, and may be used indefinitely.

While I have described the present invention in a particular form and arrangement, it is to be understood it is not necessarily limited to such details, but may be embodied in other forms and arrangements within the meaning of the accompanying claims.

Having thus described the invention, what is claimed is:

1. A saliva ejector comprising two intake sections, a connecting member, and a discharge section, the intake sections being spaced apart and one adapted to be positioned in and to drain the buccal cavity and the other the lingual cavity of the mouth, and provided with intake openings in the top thereof, a movable guard for the openings in the lingual section, the guard consisting of coils of wire, the end coils being tight and the intermediate coils being loose upon the section, the connecting member joining the rear ends of the intake sections and being arched to extend over the teeth at the back of the mouth, and the discharge section being connected to the front end of the lingual section and arched to extend over the teeth at the front of the mouth.

2. A saliva ejector comprising two intake sections, a connecting member, and a discharge section, the intake sections being spaced apart and one adapted to be positioned in and to drain the buccal cavity and the other the lingual cavity of the mouth, and provided with intake openings, the connecting member extending upwardly from the rear ends of the intake sections and arched over the teeth at the back of the mouth, an intake opening at the lingual section being adjacent the rear end of such section, and the discharge section being connected to the front end of the lingual section and arched to extend over the teeth at the front of the mouth, and a guard for the lingual opening consisting of a coil of wire, the convolutions at one end of the coil closely encircling the rear portion of the lingual section and those at the other end of the coil closely encircling the lower portion of the connecting member to hold the guard adjustably in position, and the intermediate convolutions of the coil being of larger diameter than the end convolutions and held by the latter spaced from said section and member adjacent the lingual opening.

3. A saliva ejector comprising two intake sections, a connecting member, and a discharge section, the intake sections being spaced apart and one adapted to be positioned in and to drain the buccal cavity and the other the lingual cavity of the mouth, and provided with intake openings, the connecting member joining the rear ends of the intake sections and being arched to extend over the teeth at the back of the mouth, the discharge section being connected to the front of the lingual section and arched to extend over the teeth at the front of the mouth, and means engaging beneath the chin of the user for holding the ejector in position, said means comprising a clamping arm formed of a pair of wires twisted together with their inner ends coiled to form springs positioned on opposite sides of the discharge section.

4. A saliva ejector comprising two intake sections, a connecting member, and a discharge section, the intake sections being spaced apart and one adapted to be positioned in and to drain the buccal cavity and the other the lingual cavity of the mouth, and provided with intake openings, the connecting member joining the rear ends of the intake sections and being arched to extend over the teeth at the back of the mouth, the discharge section being connected to the front of the lingual section and arched to extend over the teeth at the front of the mouth, and means engaging beneath the chin of the user for holding the ejector in position, said means comprising a clamping arm formed of a pair of wires twisted together with their inner ends coiled to form springs positioned on separate sides of the discharge section and the free ends of the coiled springs being coiled about said section.

5. A saliva ejector comprising two intake sections, a connecting member, and a discharge section, the intake sections being spaced apart and one adapted to be positioned in and to drain the buccal cavity and the other the lingual cavity of the mouth, and provided with intake openings, the connecting member joining the rear ends of the intake sections and being arched to extend over the teeth at the back of the mouth, the discharge section being connected to the front of the lingual section and arched to extend over the teeth at the front of the mouth, and means engaging beneath the chin of the user for holding the ejector in position, said means comprising an arm formed of a pair of wires twisted together with their outer ends formed into a flat coil and their inner ends into spring coils secured to the discharge section.

6. A saliva ejector comprising an intake section, a discharge section connected therewith and having an arched portion extending over the teeth at the bottom of the mouth, and a descending portion extending downwardly over the chin of the user, and means for holding the ejector in position, said means comprising a spring arm secured at one end to the descending portion and at the other end carrying a flat resilient coil of wire to engage beneath the chin of the user.

7. A saliva ejector comprising an intake section, a discharge section connected therewith and having an arched portion extending over the teeth at the bottom of the mouth, and a descending portion extending downwardly adjacent the chin of the user, and means for holding the

ejector in position, said means comprising an arm formed of wire with one end twisted tightly upon the descending portion of the discharge section to mount the arm thereon, a spring coil formed in the wire arm, and a chin engaging member carried by the other end of the arm and normally held pressed against the chin of the user by the action of the spring coil.

8. A saliva ejector comprising an intake section, a discharge section connected therewith and having an arched portion extending over the teeth at the bottom of the mouth, and a descending portion extending downwardly adjacent the chin of the user, and means for holding the ejector in position, said means comprising an arm formed of a pair of wires twisted together with the outer ends formed into a flat coil and with their inner ends twisted tightly upon the descending portion of the discharge section to mount the arm thereon, and each wire adjacent its twisted end being formed into a coil spring, said springs being positioned on opposite sides of the descending section and acting to press the coil upwardly against the chin.

WILLIAM P. DE WITT.