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C. I. STOLOFF

SALIVA EJECTING DEVICE

Filed Dec. 11, 1924

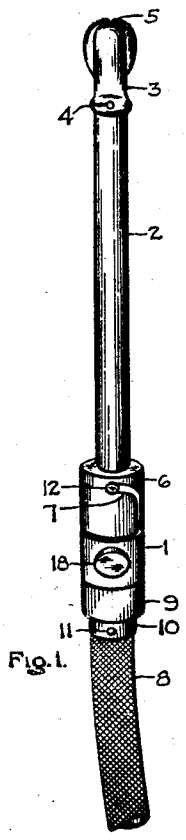


Fig. 1.

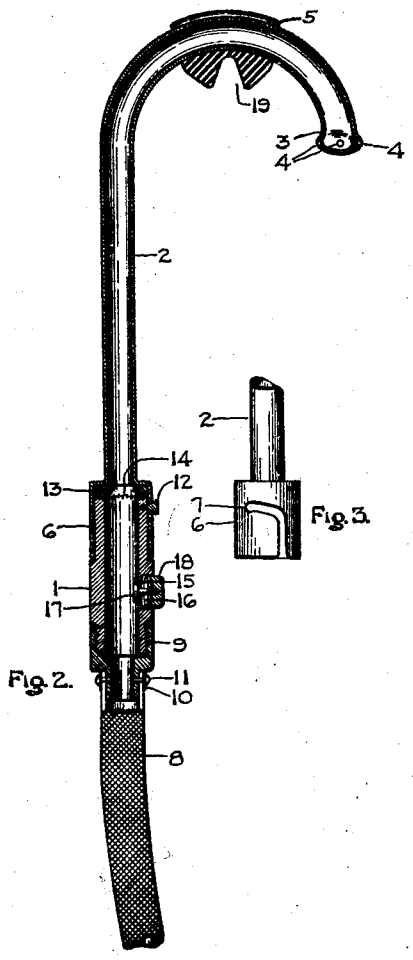


Fig. 2.

Fig. 3.

INVENTOR.
Charles I. Stoloff
BY
Nathan I. Adler
ATTORNEY

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UNITED STATES PATENT OFFICE.

CHARLES I. STOLOFF, OF NEW YORK, N. Y.

SALIVA-EJECTING DEVICE.

Application filed December 11, 1924. Serial No. 755,250.

To all whom it may concern:

Be it known that I, CHARLES I. STOLOFF, a citizen of the United States, and resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Saliva-Ejecting Devices, of which the following is a specification.

This invention relates to improvements in the means for ejecting saliva from the mouth during dental and surgical operations, and more particularly to that type of saliva-ejecting device wherein the suction pressure created by a vacuum producing apparatus is utilized as the ejecting medium.

An object of my invention is to provide a saliva-ejecting device of improved construction, affording the highest efficiency of functioning for the existent suction pressure. That is, by reason of its refinement and simplicity of construction, the loss of suction pressure, when this pressure is weak, is a minimum. Furthermore, through the provision of a pressure regulating attachment, the suction pressure may also be decreased, at will, should it prove great enough to cause discomfort.

Another object of my invention is the provision of a positive means of connection between the mouth-piece and main body of the device, which means also provides against unintentional disengagement of the said mouth-piece and body. A further object is the provision of a rubber guard to eliminate the unpleasant feeling caused by the direct contact between the mouth-piece and teeth.

Other objects of this invention, not hereinafter particularly enumerated, will become apparent from the detailed description following and from the accompanying drawing, setting forth and illustrating the novel construction and arrangement and combination of parts of a preferred embodiment of my invention.

In the accompanying drawing:

Figure 1 is a perspective view showing an embodiment of the saliva-ejecting device forming the substance of my invention.

Fig. 2 is an elevational view in section of the device.

Fig. 3 is a fragmentary view in elevation of the mouth-piece of the device.

The saliva-ejecting device herein described and illustrated is of the style especially applicable for use in dental operations. The device comprises two sections, a mouth-piece, forming the upper portion of the device, and the main body 1. The mouth-piece, referring to Fig. 2, is formed of a tube 2, terminating in the usual beak-shape 3 at the top, adapted to rest generally in the region of the mouth beneath the tongue. The extremity of the beak 3 is provided with the inlet openings 4, herein shown arbitrarily, four in number, through which the saliva is drawn from the mouth. About that portion of the beak 3 that would come in contact with the teeth, is positioned the grooved flexible rubber guard 5, provided as a means for diminishing the discomfortable feeling caused by the contact of the mouth-piece against the teeth, and for preventing undue sliding of the beak in the mouth. The groove 19 is provided in the formation of the guard 5, to co-operate with the contact teeth of the lower jaw. The guard 5 is here shown of slit construction, permitting it to be readily slipped over or removed from the mouth-piece.

The tube 2 terminates, at its lower extremity, in the sleeve 6, adapted to engage in a sliding fit over the upper portion of the body 1, here shown shouldered, referring to Fig. 2. The sleeve 6 is provided with the angled slot 7, which forms the pathway for the pin of a bayonet-clutch, this acting as the means for joining the mouth-piece to the body of the device.

The body 1 is formed of a short tubing connecting at its lower end to the flexible tubing 8 from the suction pressure apparatus, referring to Fig. 2. The lower end of the body 1 is externally threaded and adapted to be coupled to the corresponding internally threaded male member 9 of the coupling. The lower end of the male member 9 terminates in a nipple extension, which in turn is adapted to be coupled to the flexible tubing 8, and is permanently attached thereto by the securing collar 10 and rivets 11.

The pin 12 of the clutching means is shown, reference being had to Fig. 2, fixedly mounted in the body of the device, proximating the top. An ordinary screw, round or filistered head, may be used for this purpose, the joint being preferably soldered.

On the top of the body 1, reference being had to Fig. 2, there is firmly positioned a

compression-straining member, formed of the rubber washer 13 attached over the strainer 14, the strainer 14 being fixed on the seat provided for it on top of the body 1. Although the strainer and washer may be permanently attached together, it would be more preferable however, to adapt the strainer to be permanently seated on the body 1 using solder or a screw securing means, and to adapt the rubber washer to snugly fit against the shoulder of the sleeve 6 of the mouth-piece, thereby simplifying the construction. The purpose of the strainer 14 in the position as shown, is to act as a means for catching any solid substance that may be drawn in through the inlets 4.

To connect the mouth-piece with the body 1 of the device, the mouth-piece is manipulated so that the slot 7 is brought in engagement with the pin 12, and the mouth-piece twisted around so that the pin rests at the topmost extremity of the slot. It will be perceived, reference being had to Fig. 3, that the slot 7 is angled obtusely, and terminates in a nest-like rest. The engagement of the slotted portion of the mouth-piece with the pin in the body will cause, at the commencement of the twisting action of the mouth-piece, a compression of the rubber washer 13 between the opposing shouldered portion of the mouth-piece and the top of the body 1. This compression pressure of the rubber washer 13, when the mouth-piece and body of the device are locked in engagement, is equivalent to the force tending to hold the mouth-piece and body in this relationship. By proportioning the degree of angularity of the angled slot 7 with the value of thickness and quality of the rubber washer 13, this force tending to hold the mouth-piece and body locked, can be varied to suit.

The suction pressure relieving arrangement, here assumed of the character of a tappet valve, is shown disposed, referring to Fig. 2, centrally in the wall of the body 1. The opening positioned through the wall of the body is shouldered to provide the seat 15 for the spiral spring 16. The valve actuating means comprises the tappet 17, threaded to the push-button 18. When the push-button is actuated it will act, against the tension of the spring 16, and force the tappet 17 from its seat. This will result in the introduction of a bypath for drawing air into the passageway through the body 1, and so relieve, i. e., decrease, the suction pressure acting at the inlet openings 4.

From the construction of the device, reference being had to the drawing, it will be noted how readily both the mouth-piece and body of the device may be disassembled and sterilized.

Although there has been described in the foregoing, a practical construction embodying the principles of my invention, various modifications in detail will be apparent to those skilled in the art without departing from the scope of the invention, as set forth in the appended claims.

What I claim as new, and desire to secure by Letters Patent is:

1. The combination in a saliva-ejecting device of a mouth-piece terminating at the lower extremity in a sleeve, a single unit body member, a bayonet-clutch means for joining and securing the said mouth-piece and body in engagement and comprising an angularly slotted sleeve provided with the said mouth-piece, a pin co-operatively positioned in the wall of the said body and a flexible rubber washer, and a coupling means for connecting the said body to a flexible tubing leading from the suction pressure apparatus.

2. The combination in a saliva-ejecting device of a mouth-piece terminating at the lower extremity in a shouldered sleeve having disposed therethrough an angled slot, a single unit body member, a pin permanently positioned in the wall of the said body and adapted to engage within the slotted portion of the said mouth-piece, a flexible rubber washer adapted to be disposed between the opposing surface of the shoulder of the said mouth-piece sleeve and the upper surface of the said body, a suction pressure decreasing means positioned in the wall of the said body, and a coupling means between the said body and flexible tubing leading from the suction pressure creating apparatus.

3. The combination in a saliva-ejecting device of a mouth-piece provided with an angularly slotted shouldered sleeve at one end and one or more openings at the other end, a single unit body member, a pin positioned permanently in the wall of the said body, a flexible rubber washer, a strainer member, a manually operated suction pressure relieving means comprising a spring element seated in the shouldered opening in the wall of the said body and a tappet valve and actuating push-button therefor, and a coupling means between the said body and flexible tubing leading from the suction pressure apparatus.

4. The combination in a saliva-ejecting device of a mouth-piece, a single unit body member, a bayonet clutching means for yieldingly joining the said mouth-piece to the said body, a strainer disposed between the said mouth-piece and body, a suction pressure relieving means disposed in the wall of the said body; and a coupling for yieldingly connecting the said body member to the flexible tubing from the suction pressure creating apparatus and comprising a nipped threaded member adapted to threadingly engage with a co-operatively threaded lower extension of the said body member, a securing collar for permanently joining

the said nippled member to the said flexible tubing and means for securing the said collar in position.

5. The combination in a saliva-ejecting device of a mouth-piece, a single unit body member, a bayonet clutching means for the engagement of the said mouth-piece and body member, a strainer member, a washer element, a suction pressure relieving means, a split rubber guard member provided with a grooved construction adapted to co-operate with the contact teeth, and a coupling means between the said body and flexible tubing leading from the suction creating apparatus.

Signed at New York city, in the county of New York and State of New York this 21st day of November A. D. 1924.

CHARLES I. STOLOFF, D. D. S.