

W. P. DE WITT.
SALIVA EJECTOR.
APPLICATION FILED MAR. 4, 1911.

1,012,613.

Patented Dec. 26, 1911.

Fig. 1.

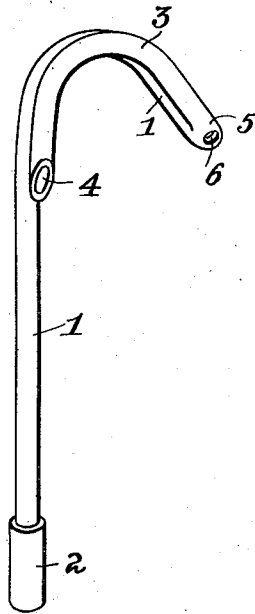


Fig. 2.

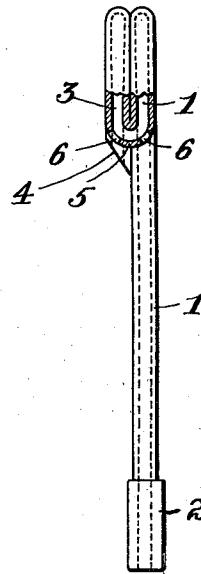


Fig. 3.

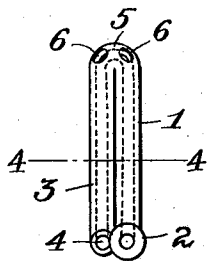


Fig. 4.



Witnesses.

Wm. M. Rheem.

George L. Stebbins.

Inventor

William P. De Witt

by his attorneys

Phillips, Van Orman & Smith.

UNITED STATES PATENT OFFICE.

WILLIAM P. DE WITT, OF SOMERVILLE, MASSACHUSETTS.

SALIVA-EJECTOR.

1,012,613.

Specification of Letters Patent.

Patented Dec. 26, 1911.

Application filed March 4, 1911. Serial No. 612,203.

To all whom it may concern:

Be it known that I, WILLIAM P. DE WITT, a citizen of the United States, residing at 15 Day street, Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Saliva-Ejectors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to mouth-pieces for saliva ejecting apparatus commonly employed by dentists for removing saliva from the mouth of a patient. Heretofore mouth-pieces for such apparatus have usually comprised a suction tube bent into the form of a hook, the longer arm or shank of which is adapted to be connected to the suction device, while the shorter arm, which is inserted in the patient's mouth, is provided with one or more openings through which the saliva is drawn. These devices are objectionable in that the tissues of the mouth are apt to be drawn so strongly by the suction against or into the inlet openings, and more especially when the mouth has been practically freed of saliva, that the openings become tightly closed and the device is rendered inoperative. As a result saliva accumulates in the mouth of the patient, not only causing physical discomfort to the latter but often interfering seriously with the dental operation. Furthermore, the tissues may be held so firmly by the suction that they will be irritated and sometimes torn and caused to bleed, particularly when it is attempted to remove the mouth-piece or to readjust it for the purpose of rendering the apparatus again operative.

The object of the present invention is to improve these prior devices and to produce a mouth-piece through which the saliva may be removed from the mouth in an effective and expeditious manner but without danger of drawing the tissues so forcibly against the inlet openings as to close them or to cause discomfort to the patient or injury to the tissues.

With this object in view the present invention consists of the mouth-piece herein-after described and more particularly defined in the claims.

In the accompanying drawings which illustrate what is now considered the preferred form of the present invention, Figure

1 is a perspective view of my improved mouth-piece; Fig. 2 is a front view with a portion of the inner end, *i. e.* that which enters the mouth of the patient, broken away to show the internal construction thereof; Fig. 3 is a bottom plan view of the device shown in Fig. 2; and Fig. 4 is a cross section on line 4—4, Fig. 3.

As shown in the drawings, the device comprises a suction tube 1 having provision on its lower or outer end 2 for connection to the suction device, and an air tube 3 having its outer end 4 open to permit the free ingress of air. The suction tube and the air tube 3 are bent, as shown in Fig. 1, into the form of a hook which is adapted to be hung over the teeth of the lower jaw of the patient in the customary manner. The inner ends of the two tubes are connected by a bent portion 5 which is provided with the inlet openings 6 for the saliva. In the preferred construction the mouth-piece is formed of a single length of metal or glass tubing which is bent back upon itself at a point intermediate its ends to form the suction and the air tubes, and two saliva inlet openings are provided which are substantially in line with the axes of the inner ends of these tubes. Such an arrangement of openings facilitates the insertion of a wire or other device for the purpose of cleaning or clearing the interior of the tubes, as well as of the connecting portion 5.

The operation of my improved mouth-piece is as follows:—Connection having been made to the suction device, the mouth-piece is placed in the patient's mouth, and saliva is drawn through the openings 6 and up through the suction tube 1 in the usual manner. So long as there is sufficient saliva in the mouth of the patient to seal the inner end of the air tube 3, the device will continue to operate as above described. As soon, however, as the level of the saliva falls sufficiently low to uncover the end of the air tube, the latter will supply air freely, and the suction at the inlet openings will practically cease so that the apparatus will be rendered incapable of sucking or drawing the soft tissues of the mouth against or into the openings. Even after the seal at the inner end of the air tube has been once broken, the device will continue to draw away the saliva, although probably at a somewhat reduced rate, the air in its passage from one tube to the other picking up

and carrying along saliva which has flowed through the inlet openings. If sufficient saliva collects to seal the air tube, the suction at the openings will be automatically reestablished. In the event that both of the openings 6 should accidentally be closed by contact with the tissues, air will immediately be drawn through the air tube 3 and the suction at the openings will stop so that no discomfort to the patient or injury to the tissues will result, even when the mouth-piece is removed or altered in position.

Having thus described the present invention, what I claim is:—

15 1. A mouth piece for saliva ejecting apparatus comprising a suction tube provided with a saliva intake opening and an air supply tube having its air intake opening located beyond the normal level of the saliva in the mouth of the user, and communicating with the intake end of the suction tube for supplying air freely to the suction tube, substantially as described.

25 2. A mouth piece for saliva ejecting apparatus consisting of an integral tubular

structure comprising a suction tube and an air tube having its intake opening located to be when in use beyond the normal level of the saliva, said tubes connected at their inner ends and having an intake opening adjacent the point of connection, substantially as described.

3. A mouth-piece for saliva ejecting apparatus comprising a suction tube and an air supplying tube having their inner ends adjacent to one another, and a connection between said tubes provided with intake openings in line with the axes of the inner ends of said tubes, substantially as described.

4. A mouth-piece for saliva ejecting apparatus comprising an integral tube bent backward upon itself at a point intermediate its ends to form a suction tube and an air tube, and having an opening at the point of bending, substantially as described.

WILLIAM P. DE WITT.

Witnesses:

ALFRED H. HILDRETH,
GEORGE E. STEBBINS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."