

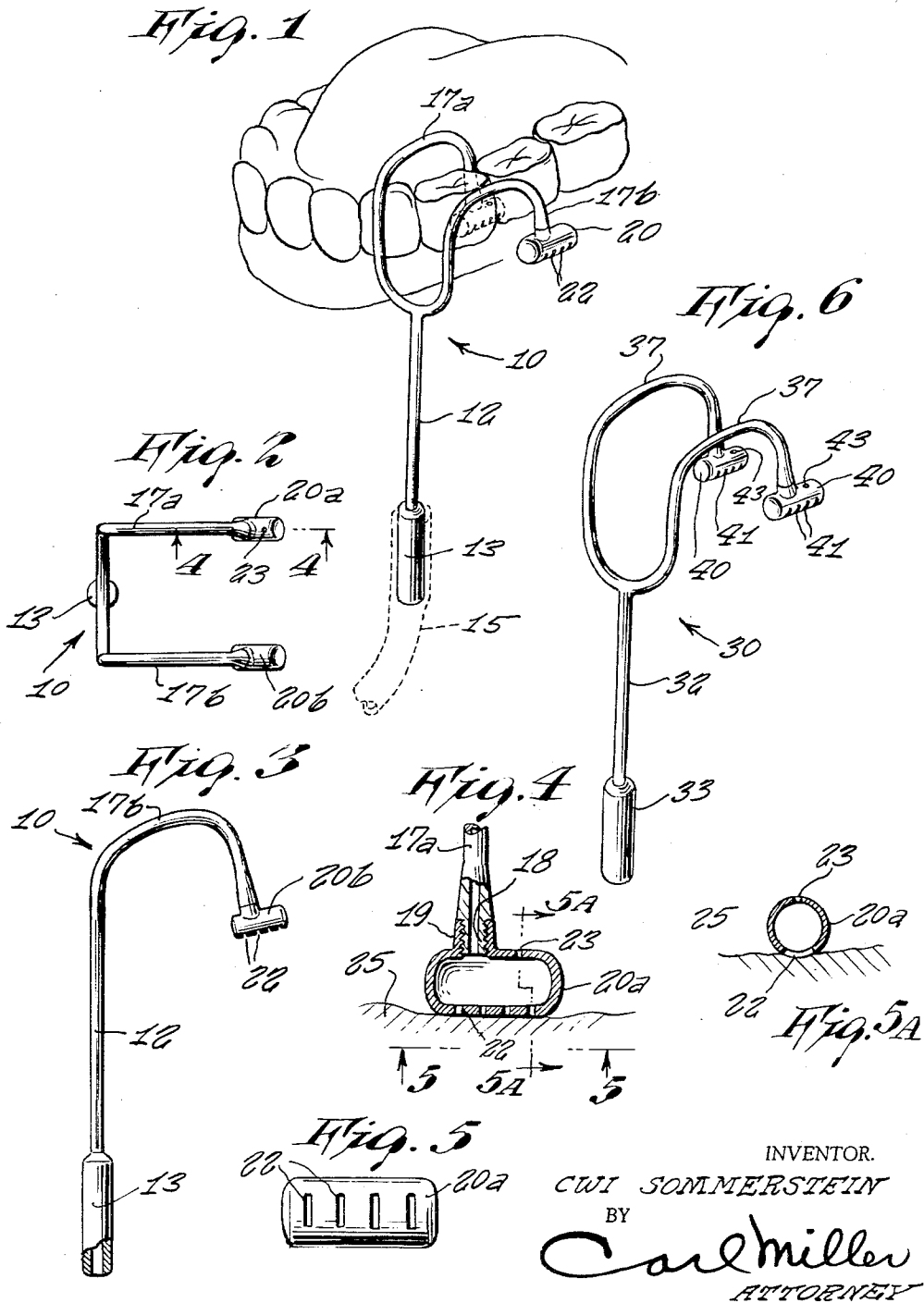
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DUAL SALIVA EJECTOR

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DUAL SALIVA EJECTOR

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5 Claims. (Cl. 32—33)

This invention relates to surgical instruments and, more particularly, to dental surgical instruments.

While various types of double saliva ejectors have been available, they have been only partially satisfactory. Many of these presently available ejectors are troublesome for the simple reason that as soon as all of the saliva has been removed from one side of the dental ridge, it loses the negative pressure so that saliva cannot be removed which has accumulated on the other side of the ridge. In other cases, as soon as all of the saliva has been removed from the mouth, the negative pressure draws portions of the tissue of the mouth into blocking engagement within the openings, whereby the passage of saliva therein is blocked even after saliva again begins to accumulate. Accordingly, it is an object of the present invention to provide a double saliva ejector that is simple in construction, efficient in operation, and which overcomes the aforementioned difficulties.

Still another object of the present invention is to provide a double saliva ejector for dental purposes which will continuously remove saliva from either or both sides of the dental ridge, continuously or intermittently, without interruption or failure.

Still a further object of the present invention is to provide a saliva ejector of the type described that can be manufactured in large quantities at relatively low cost.

All of the foregoing and still further objects and advantages of this invention will become apparent from a study of the following specification, taken in connection with the accompanying drawing, wherein:

Figure 1 is a perspective view of a saliva ejector made in accordance with one form of the present invention, in operative use;

Figure 2 is a top plan view of the device shown in Figure 1;

Figure 3 is a side elevational view of the device shown in Figure 1;

Figure 4 is an enlarged fragmentary cross sectional view taken along line 4—4 of Figure 2;

Figure 5 is a bottom plan view taken along line 5—5 of Figure 4;

Figure 5a is a transverse cross sectional view taken along line 5a—5a of Figure 4; and

Figure 6 is a perspective view of a modified form of construction.

Referring now to the drawing and more particularly to Figures 1 to 5 thereof, a double saliva ejector 10 made in accordance with one form of the present invention is shown to include a tubular base member 12 having a fitting 13 at the lowermost end for detachable engagement with a flexible supply line 15 that is associated with a source of negative or vacuum pressure, such as a water flow vacuum unit that is ordinarily found on conventional dental apparatus. The upper end of the tubular base 12 is separated into two identical arcuate branches 17a, 17b that lie in spaced parallel planes. The terminal of each of these branches is provided with a threaded stud

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portion 18 for threaded engagement within the internally threaded stems 19 of removable cylinders 20a, 20b.

As is more clearly shown in Figures 4 and 5 of the drawing, each cylinder 20a, 20b has a plurality of downwardly opening longitudinally spaced apart slots 22. Each slot has a length to be normally substantially closed by the gum tissue when the nozzle is supported thereby and as shown in Fig. 5a, each slot is substantially equal to one-sixth of the circumference of the associated cylinder. One of these cylinder heads 20a is also provided with an upwardly opening port 23 of very small diameter for purposes hereinafter described.

In actual use, the saliva ejector is placed in straddling relationship with the dental ridge with the nozzle supported on the gum of the patient in the manner shown in Figure 1. Any saliva contained within the oral cavity, on either side of the dental ridge, is immediately drawn upwardly through the slots 22 in the bottom of each cylinder 20a, b of the tubular branches. In the event that all of the saliva is removed from one side of the dental ridge, the tissue 25 within the mouth will effectively block the passage of air into the cylinder on the dry side of the ridge, whereby the cylinder on the wet side of the ridge can continue to function without a loss of vacuum pressure that might otherwise occur by air passing inwardly through the slots 22 of the cylinder on the dry side. If, on the other hand, the unit has effectively removed the saliva from both sides of the dental ridge, the negative pressure tending to draw the tissue of the patient's mouth into the slots 22 is effectively reduced by the single small port 23 in one of the cylinders 20a. However, because of the small diameter of this port 23, air generally will pass therein only in small quantities so as not to adversely affect the operation of the device when saliva is available within the mouth for withdrawal through the ejector.

In Figure 6 of the drawing, a slightly modified form of construction 30 is shown wherein the tubular base 32 has the fitting 33 at the lower end for association with the source of negative pressure, and a pair of identical branches 37 at the upper end. Each cylinder 40 associated with the free end of the branch 37 is provided with downwardly facing slots 41, as well as a single upwardly opening small diameter bore 43. This embodiment functions in much the same manner as that hereinbefore described in connection with Figures 1 to 5 of the drawing, except for the fact that a negative pressure relief port is provided in each of the cylinders so as to more effectively carry out the purposes thereof. It will be noted that in both of the embodiments of the present invention the longitudinal axes of the cylinders are parallel and substantially perpendicular to the plane of the base and associated ends of the arcuate branches 37, whereby the device can readily straddle the dental ridge without discomfort to the patient.

While this invention has been described with particular reference to the construction shown in the drawing, it is to be understood that such is not to be construed as imparting limitations upon the invention, which is best defined by the claims appended hereto.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A saliva ejector comprising, in combination, a tubular base having a fitting at one end for attachment to a source of negative pressure, the opposite end of said base being separated into a pair of identical arcuate tubular branches, and a hollow cylindrical member removably carried by the outer free end of each of said branches, the longitudinal axis of each said cylinder being substantially perpendicular to a plane containing said base and adjacent ends of said branches, each said cylinder member having a plurality of longitudinally spaced apart

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slots, all of said slots facing exclusively in a downward direction, and each said slot having a length substantially equal to one-sixth the length of the circumference of said cylinder.

2. A saliva ejector as set forth in claim 1, wherein each said cylinder includes an interior compartment for receiving saliva through said slots, and a relief port in the upper side of at least one of said cylinders.

3. A saliva ejector as set forth in claim 2, wherein one of said cylinders includes a relief port and the other one of said cylinders is otherwise imperforate except for said slots.

4. A saliva ejector as set forth in claim 2, wherein both of said cylinders include an upwardly opening relief port.

5. A dual saliva ejector comprising a tubular member adapted at one end for attachment to a source of negative pressure, the other end being bifurcated into a pair of substantially parallel goose-neck branches each having

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at its free end an elongate hollow nozzle having a substantially cylindrical surface adapted for support on the gum of a patient's mouth along either side of the alveolar ridge, each nozzle having extending through the wall of the cylindrical surface a plurality of transverse slots which are spaced longitudinally and are all directed downwardly and are of a size to normally seat on the gum tissue and to be substantially closed thereby when supported thereon.

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