

J. P. LEONARD.
DENTAL APPLIANCE.
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Patented July 6, 1920.

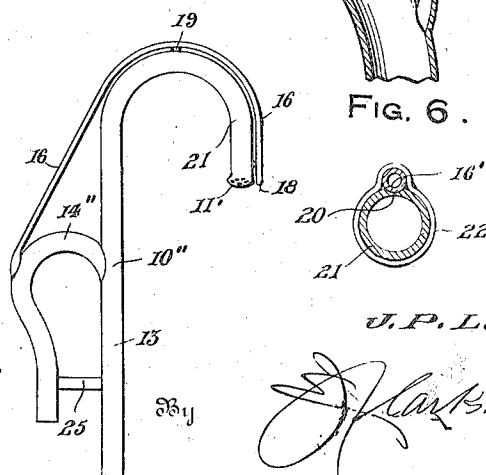
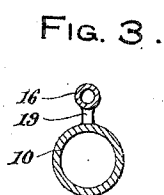
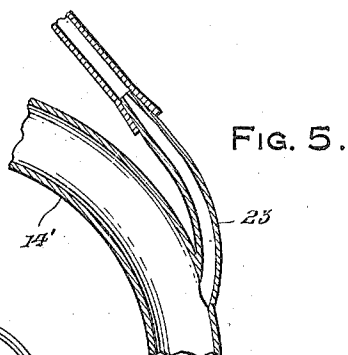
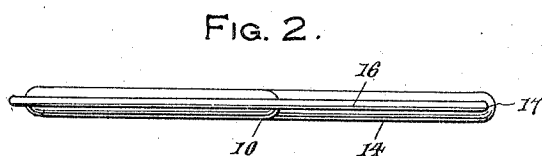
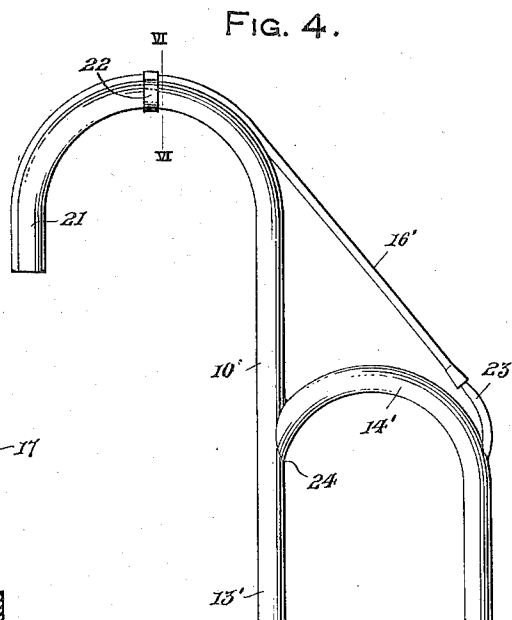
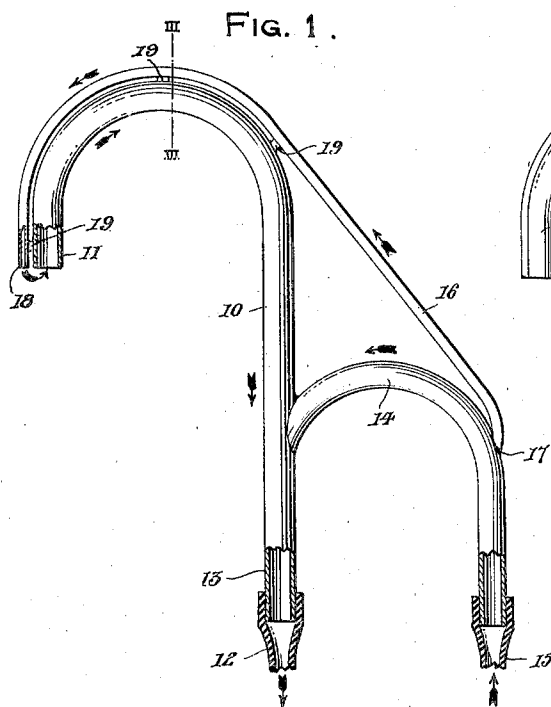


FIG. 7.

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To all whom it may concern:

Be it known that I, JAMES P. LEONARD, a citizen of the United States of America, residing at Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Dental Appliances, of which the following is a specification.

The primary object of the invention is the provision of a dental appliance adapted for removing saliva from the mouth of the patient during dental work, provision also being made for simultaneously flushing the mouth, the device being sanitary and light in weight so as not to be uncomfortable to the patient.

A further object of the invention is the provision of means for automatically removing saliva from a patient's mouth, the device being easy and inexpensive to manufacture, readily sterilized as well as connected up for use whenever desired.

Broadly considered, my device when positioned in the mouth draws off the saliva while operating similar to an ejector furnishing automatically a continuous small stream of fresh water into and out of the mouth, diluting the saliva and greatly facilitating its removal.

With these general objects in view, my invention consists of the novel combination and arrangement of parts hereinafter more fully described in connection with the accompanying drawing and in which like characters designate corresponding parts throughout the several views.

In the drawing,

Figure 1 is an elevational view of the device partially broken away, showing the same attached to the inlet and outlet tubes,

Fig. 2 is a top plan view thereof,

Fig. 3 is a transverse sectional view slightly enlarged taken upon line III—III of Fig. 1,

Fig. 4 is an elevational view of another form of the invention,

Fig. 5 is an enlarged detail sectional view through a portion thereof,

Fig. 6 is an enlarged transverse sectional view taken upon line VI—VI of Fig. 4, and

Fig. 7 is a side elevation illustrating a slight modification.

It will be understood that a saliva remover has been employed in dental use consisting of a hooked pipe 10 for positioning the inlet end thereof in the mouth of the

patient and attaching an outlet tube 12 to its opposite end 13, while a curved branch pipe 14 connects with an inlet tube 15 for supplying water to the pipe 10, thereby exhausting the saliva through the pipe 10 to the outlet tube 12. Besides these parts, which are old and well known, the invention includes certain other features which will now be described. A diluting tube 16 communicates with the pipe 14 at a point such as 17 for receiving water from the tube 15 for exhausting at its free open end 18 within the mouth of the patient adjacent the inlet 11 of the hooked pipe 10.

The tube 16 is preferably secured to the pipe 10 by connecting lugs such as 19 and the operation of the device will be apparent from this description thereof, it being seen that the water entering the branch pipe 14 from the tube 15 passes through said pipe to the pipe 10 and outwardly through the tube 12 exhausting the saliva in the mouth through the open end 11 of the pipe 10, the saliva having been diluted or flushed in the mouth by the small stream of water through the pipe 16 entering the mouth at 18.

In the form of my invention shown in Fig. 4, I provide a diluting tube 16' fitted into a groove 20 in the curved portion 21 of the hooked pipe 10' and resting loosely in said groove or secured therein by spot welding. One end of the tube 16' terminates at 18' adjacent the inlet end 11' of the pipe 10' while the opposite end of the diluting tube 16' is detachably connected with a curved nipple 23 carried by and communicating with the inlet or injector pipe 14' branching from the pipe 10' as at 24. It will be seen that the diluting tube 16' may be readily removed from the device by detaching the strap 22 and disconnecting the tube 16' from the nipple 23. The operation is the same as heretofore described, the inflowing water through the pipe 14' carrying a small stream through the tube 16' to the mouth of the patient while the diluted saliva is ejected through the outlet end 13' of said pipe 10'.

In Fig. 7 of the drawings, the device is shown the same as in Fig. 1, excepting the branch pipe 14'' is inwardly bent adjacent its free end and secured by a brace 25 with the hooked pipe 10'', while the inlet end 11' thereof is perforated in sprinkler-like formation for receiving saliva and water into the pipe 10''.

While the forms of the device herein set forth are believed to be preferable embodiments of the invention, it will be understood that minor changes may be made herein without departing from the spirit and scope of the invention.

What is claimed as new is:

1. A device of the class described comprising a hooked pipe adapted for resting in the mouth of a patient, a curved inlet pipe communicating therewith adapted for forcing fluid outwardly of the opposite end of said hooked pipe and a diluting tube communicating with the branch pipe and terminating adjacent the inlet end of the hooked pipe adapted for supplying water to the saliva being ejected.

2. A device of the class described comprising a saliva ejector, and a tube attached to the fluid inlet thereof terminating near and supplying water adjacent the saliva inlet of the device.

3. A device of the class described comprising a hooked saliva pipe, a curved branch supply pipe communicating therewith adapted for supplying water thereto, a water supply tube attached to the free end of the branch pipe, an outlet tube attached to the adjacent end of the hooked pipe and a tube for diluting water attached to the branch pipe adapted for receiving water therefrom and terminating adjacent the opposite inlet end of the hooked pipe.

4. A device of the class described comprising a hooked saliva pipe, a curved branch supply pipe communicating therewith adapted for supplying water thereto, a water supply tube attached to the free end of the branch pipe, an outlet tube attached to the adjacent end of the hooked pipe, a curved nipple extending from the branch pipe, the hooked pipe having a peripheral groove at its curved portion, a tube fitting within said groove with one end detachably connected to said nipple and its opposite outlet end terminating adjacent the saliva inlet end of the hooked pipe and securing means between said tube and hooked pipe.

5. A saliva ejector comprising a saliva discharge pipe, a curved branch pipe communicating therewith, the adjacent ends of the branch and hooked pipes being adapted

for connection with an inlet and an outlet tube respectively, and a saliva diluting tube carried by the hooked pipe, adapted for receiving water supply from the branch pipe and having its outlet end adjacent the saliva inlet end of the hooked pipe.

6. A saliva ejector comprising a saliva discharge pipe, a curved branch pipe communicating therewith, the adjacent ends of the branch and hooked pipes being adapted for connection with an inlet and an outlet tube respectively, a curved nipple carried by the branch pipe projecting from the hooked pipe and a relatively small tube detachably connected to said nipple and carried by the hooked pipe with the outlet end of the tube adjacent the inlet end of said hooked pipe.

7. A device of the class described comprising a hooked pipe having its curved portion provided with a receiving groove, a branch pipe curved similarly to the hooked pipe, communicating with the latter with a portion of the branch pipe parallel with the hooked pipe and the inlet end of the branch pipe positioned adjacent the outlet end of the hooked pipe and a diluting tube detachably secured within said groove in communication with the interior of the branch pipe whereby water from the branch pipe is adapted to pass through said diluting tube to the mouth of the patient during the operation of the device.

8. A device of the class described comprising a hooked pipe having its curved portion provided with a receiving groove, a branch pipe curved similarly to the hooked pipe, communicating with the latter with a portion of the branch pipe parallel with the hooked pipe and the inlet end of the branch pipe positioned adjacent the outlet end of the hooked pipe, a nipple communicating with the branch pipe intermediate its ends and extending substantially in the same direction as the curved portion of the branch pipe, a diluting tube mounted in the groove of the hooked pipe with its outlet end adjacent the inlet end of the hooked pipe and detachable connections between said tube and supply nipple.

In testimony whereof I affix my signature.
JAMES P. LEONARD.