

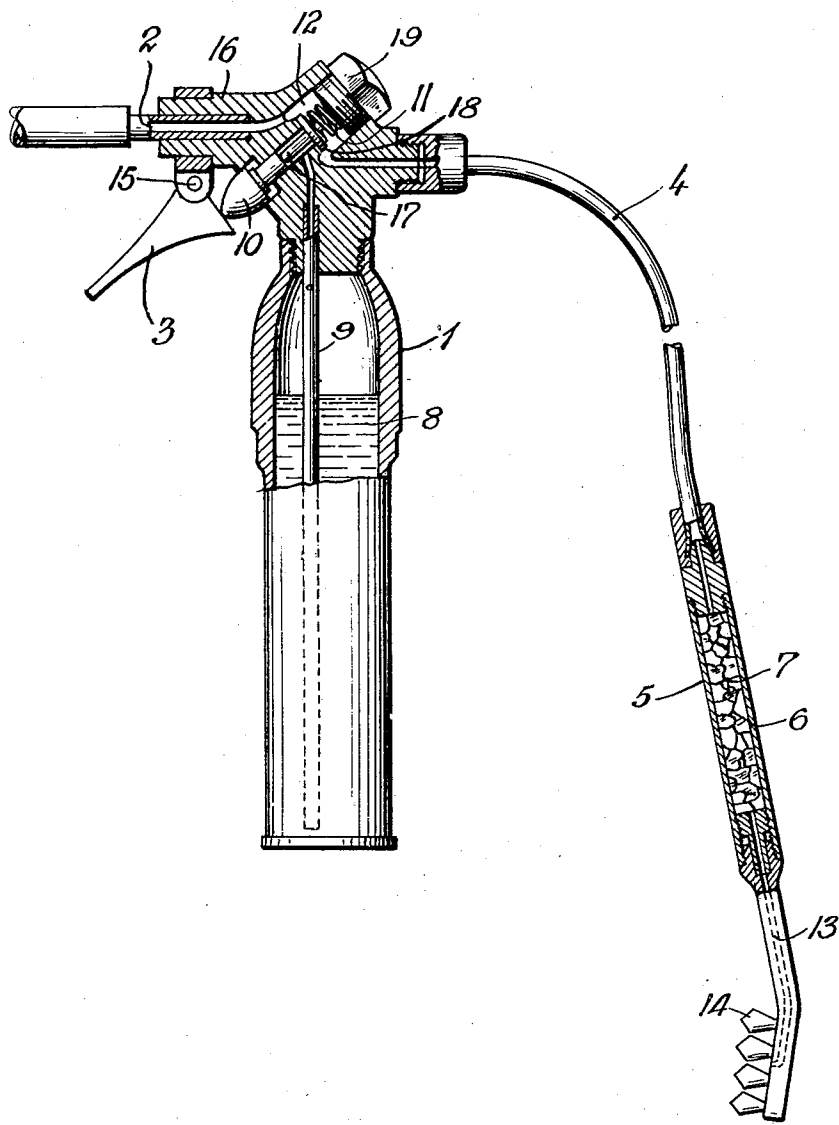
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TEETH CLEANSING APPLIANCE

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TEETH-CLEANSING APPLIANCE

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1 Claim. (Cl. 15—128)

The present invention relates to the kind of teeth cleansing appliances comprising an atomizer operated by pressure gas such as carbon dioxide.

In these devices the atomizer serves to produce a mixture of gas and dentifrice, which is conveyed under pressure to the teeth through a suitable mouthpiece.

In order that the mixture of liquid dentifrice and gas (such as carbon dioxide) shall have the right effect the jet during use should be directed at right angles to the surface of the teeth, and this is often very difficult to attain with the known mouthpieces.

In accordance with the present invention the jet mouthpiece for atomizers is made in the form of a tooth brush, having the outlet channel placed at right angles to the surface of the brush head which carries the brushes.

Tooth brushes provided with a channel for liquid under pressure as well as with a channel for dentifrice or the like opening in the face of the brush head are known, but the known types of tooth brushes have not proved practically useful, as the conveying of fluid alone through the brush head necessitates a very large amount of fluid and a very violent action if the velocity of the fluid is to be high enough for cleansing purposes.

By the use of tooth brushes of this kind in connection with an atomizer for supplying a mixture of a gas such as carbon dioxide and atomized liquid to the teeth a great advantage is obtained in connection with teeth cleansing atomizers, whereas the tooth brush in combination with an atomized liquid does not have the disadvantages of the tooth brushes which are adapted to carry liquid alone under pressure.

It has also been suggested to use this kind of tooth brush in connection with vessels containing liquid and in which carbon dioxide is developed by means of chemicals.

Even by this arrangement, however, it is not possible to produce liquid in finely divided or atomized form, but practically only a current of liquid, whereby it is made impossible to obtain the advantages which are obtained in accordance with the present invention.

In connection with the arrangement in accordance with the present invention it may in some cases be an advantage to provide in connection with the passage for atomized dentifrice a chamber adapted to contain a solid soluble disinfecting or taste giving material in order that the atom-

ized dentifrice may carry some of this material with it to the teeth.

This chamber may communicate with the passage by means of a branch conduit having a valve for controlling the amount of atomized dentifrice passing through the same, in order to regulate the strength of the solution.

On the drawing a form of the invention is illustrated in connection with a known atomizer.

1 is the atomizer vessel, in which the liquid dentifrice is atomized by means of a gas such as carbon dioxide supplied through conduit 2, the supply being controlled by means of a valve arrangement 3.

The atomized liquid passes through the flexible tube 4 to the tooth brush handle 5, which is provided in a known manner with a passage leading to the brush head and which is adapted to be connected with the flexible tube 4 in a suitable manner so as to be easily disconnected and replaced.

Referring more specifically to the figure, the conventional atomizer vessel is shown at 1, containing therein a liquid dentifrice 8 or the like, adapted to be atomized. An atomizing gas, such as carbon dioxide or the like, enters the atomizer through a conduit 2, into a mixing chamber 12. While any conventional type of valve mechanism may be employed, that of the atomizers shown, which may be purchased on the open market, has a trigger 3 pivoted at 15 to the head 16 of the atomizer and contacting with and tending to depress the cooperating head 10 of the valve stem 17, to which is secured at its inner end, in the mixing chamber 12, a valve body 18. Actuation of the trigger 3 causes the valve body 18 to be moved off of its seat, against the tension of a spring 11, the tension of which latter is shown as being adjustable by conventional means such as a threaded nut 19. When the valve body is moved off of its seat and the carbon dioxide gas passes through the conduit 2 into the mixing chamber 12, the dentifrice 8 is sucked up through the conduit 9, somewhat in the manner of a Venturi column, into the mixing chamber 12, wherein it is intermixed with and atomized by the gas already present therein. The atomized dentifrice then passes through the flexible tube 4 to the tooth brush handle 5, shown as being hollow at 6, and provided in that recess with a solid soluble disinfecting or taste giving material 5. As shown, the recess or hollow 6 is filled with solid crystals of some suitable material. After the atomized dentifrice has dissolved or otherwise absorbed and entrained a certain quantity of the material 7, it then passes through the conduit 13 with the

tooth brush proper, where it exits into the tufts or bristles.

I claim:

A tooth cleaning appliance, comprising an
5 atomizer containing a liquid dentifrice, a conduit
through which carbon dioxide passes under pressure, means for controlling the amount of carbon
dioxide flowing, a mixing valve by means of which
the carbon dioxide draws with it and atomizes in
10 finely divided particles a certain quantity of the

dentifrice, a mouth piece shaped as a tooth brush
and having a passage for conveying the stream
of atomized dentifrice and carbon dioxide to an
opening on the surface of the brush head and
a chamber in the handle of said mouth piece and
5 through which passes said atomized dentifrice
and carbon dioxide, the said chamber containing
a solid but soluble disinfecting material.

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