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C. McLELLAN
AIR-PRESSURE TEETH CLEANER

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Fig. 1.

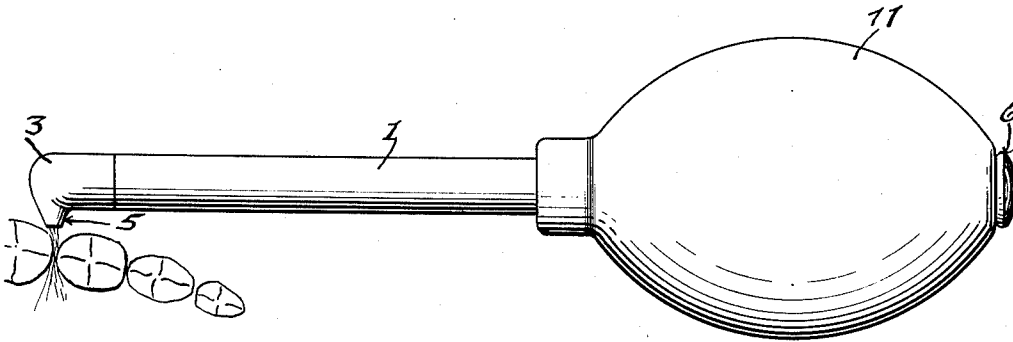


Fig. 2.

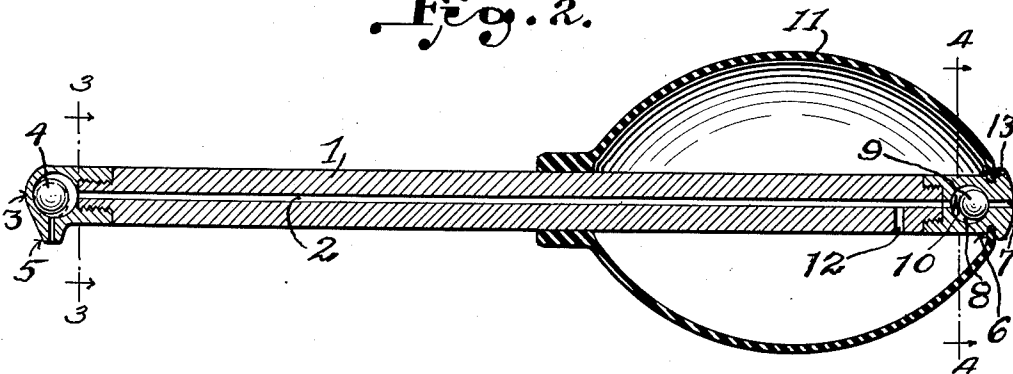


Fig. 3.

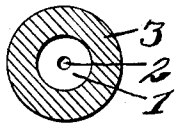
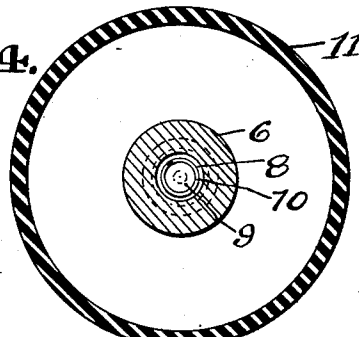


Fig. 4.



INVENTOR,
Charles Mc Lellan.

BY

E. C. Vrooman & Co.,
ATTORNEYS.

UNITED STATES PATENT OFFICE

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AIR-PRESSURE TEETH CLEANER

Charles McLellan, Los Angeles, Calif.

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1 Claim. (Cl. 128-232)

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This invention relates to an air-pressure teeth-cleaner.

An object of this invention is to provide an efficient device for using air to clean teeth, and particularly between the teeth.

Another object of this invention is to provide a device durable in construction, easy to operate, and which will blow away any accumulation between the teeth, such as particles of food.

With the foregoing and other objects in view, this invention comprises certain novel constructions, combinations, and arrangements of parts as will be hereinafter fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claim.

In the drawings:

Figure 1 is a view in side elevation of a device constructed in accordance with this invention; while

Figure 2 is a vertical, longitudinal, sectional view of same.

Figure 3 is an enlarged, sectional view, taken on line 3-3, Figure 2, and looking in the direction of the arrows.

Figure 4 is a sectional view, taken on line 4-4, Figure 2, and looking in the direction of the arrows.

Referring to the drawing in which the preferred embodiment of this invention is illustrated, 1 designates a tube provided with a central primary passage 2 extending throughout its length. A nozzle 3 is threaded on the outer end of said tube 1. The nozzle 3 is provided with a ball valve 4. The discharge end 5 is formed at right angles to the body of the nozzle so that air can be discharged between the teeth as shown in Figure 1.

A cap 6 is threaded on the inner end of tube 1. Cap 6 is provided with a passage 7 communicating with the valve chamber 8. In valve chamber 8 is a ball valve 9 and coil spring 10. Spring 10 normally exerts outward pressure on ball valve 9, thereby normally closing passage 7 (Figure 2).

A large compressible self-restoring bulb 11 is mounted on the tube 1 and cap 6. This bulb is of ovate form and is highly elastic. At one end the bulb is provided with an opening of less diameter than the cap 6. This cap is provided with a circumferential groove 13 so that the open end portion of the bulb may be expanded to pass over the cap 6 and engage in the groove 13 thus forming an air-tight joint between the bulb and cap and securing the bulb in place. At the other end of the bulb is a thick walled tubular extension tightly gripping the tube 1 and forming an air-tight joint therewith.

An auxiliary passage 12 opens at its outer end into bulb 11 and at its inner end into central passage 2, Fig. 2; this passage 12 is at right angles to passage 2, Fig. 2.

In operation, when the device is as shown in Fig. 2, the bulb 11 is filled with air. When the

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bulb 11 is compressed, air will pass through passage 12 into passage 2, and as ball valve 9 is closed, the air will be forced into the nozzle 3 and discharged between the teeth, Fig. 1. When pressure is removed from the bulb, air will enter through the cap 6, passage 2 and passage 12 until the bulb 11 is filled. During this inflation of bulb 11, the ball valve 4 closes the outer end of primary passage 2, thus shutting off any mucus or saliva entering the device. At the same time air pressure will be lowered throughout the forward portion of the passage 2 and the suction thus produced on the ball 4 will cause that ball to seat on the end of passage 2 thereby preventing air from entering through the discharge end 5.

While I have described the preferred embodiment of the invention and illustrated the same in the accompanying drawings, certain minor changes or alterations may appear to one skilled in the art to which this invention relates during the extensive manufacture of the same, and I, therefore, reserve the right to make such changes or alterations as shall fairly fall within the scope of the appended claim.

What I claim is:

In an air-pressure teeth cleaner, an elongated tubular member having reduced and threaded ends and having a lateral opening adjacent one end, a cap screwed on the end adjacent said opening and constituting an intake valve body admitting air to the tubular member and provided with an intake opening axially aligned with said tube, a check-valve in said body opening away from said intake opening, an elastic compressible and self-restoring bulb having the tube and intake cap extending therethrough from end to end, said bulb having an opening at one end of less diameter than said cap and the cap having a circumferential groove into which engages the material of the bulb around said opening, said bulb having a thick tubular projection at the end remote from the cap, said projection gripping tightly on said tube, a discharge cap constituting a valve casing screwed on the remaining end of the tube and having a lateral discharge opening, and a check-valve in the discharge cap opening away from said tube.

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