May 19, 1970 W. G. JOHNSON 3,512,258

SUCTION CLEANING ATTACHMENT FOR DENTAL PROPHYLAXIS ANGLES

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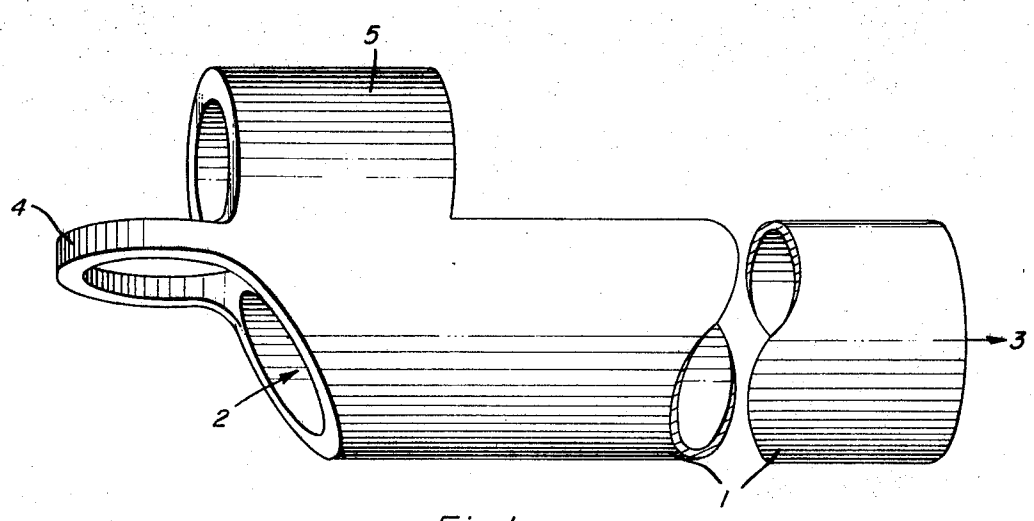


Fig. 1

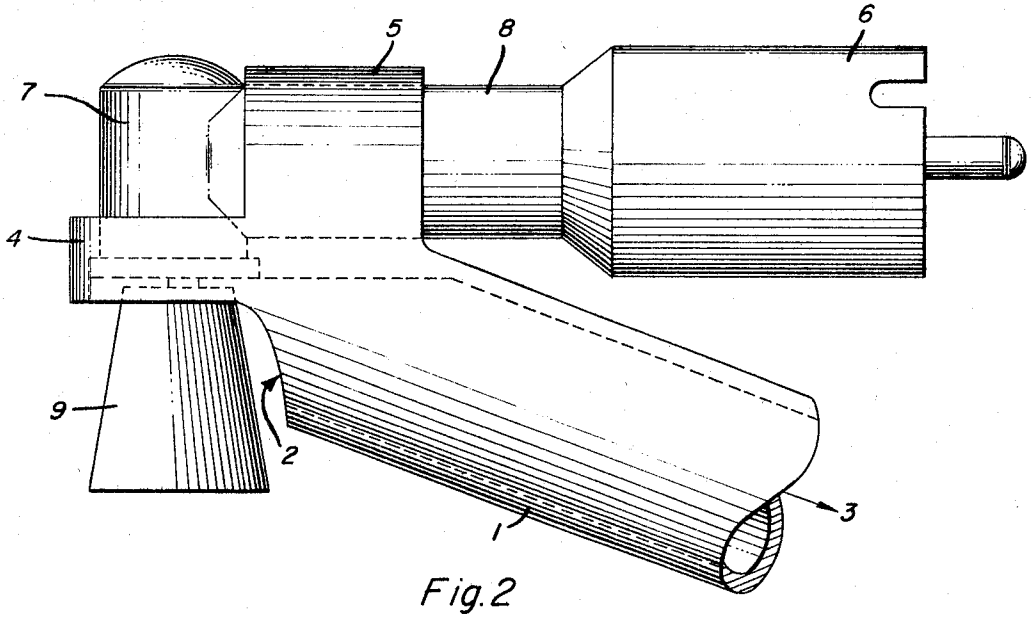


Fig. 2

INVENTOR.
WESLEY GRANT JOHNSON

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SUCTION CLEANING ATTACHMENT FOR DENTAL PROPHYLAXIS ANGLES

Wesley Grant Johnson, 3815 E. Casselle Ave., Orange, Calif. 92667

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ABSTRACT OF THE DISCLOSURE

A soft, pliable, elastic integrally molded shroud, mounting loops and suction tube for the removal of saliva-polishing compound slurries from the mouth during polishing procedures with a dental prophylaxis angle.

This invention generally relates to suction cleaning and more particularly to a suction cleaning attachment for dental prophylaxis angles.

An object of the invention is to provide a device which will remove the fluids and solids that collect in the mouth and on the polishing cup of the dental prophylaxis angle while it is being operated in the mouth.

Another object of the invention is to provide a suction cleaning attachment for dental prophylaxis angles which is adaptable to most makes of dental prophylaxis angles, simple in construction, easy to use and inexpensive to manufacture.

Still another object of the invention is to provide a suction cleaning attachment for dental prophylaxis angles with a soft, pliable, elastic shroud about the polishing cup which only slightly resists temporary deformation when brought in contact with the tissues of the mouth or the polishing cup and without injury or operational impairment to the above mentioned items.

Still another object of the invention is to provide a suction cleaning attachment for prophylaxis angles with a suction tube of sufficiently large diameter to permit the adequate flow of air necesary to remove slurries from the mouth aerodynamically.

Still another object of the invention is to provide a suction cleaning attachment for dental prophylaxis angles which has a soft, pliable, removable and depressible elastic suction tube and orifice of relatively large diameter which would occupy a variable non-rigid position and space beneath the neck of the prophylaxis angle, thereby restricting the working depth of the polishing cup only to the extent of the sum of the wall thickness of the top and bottom of the tubing.

Still another object of the invention is to provide a suction cleaning attachment for dental prophylaxis angles with an elastic mounting means which would flexibly affix the suction tube to the dental prophylaxis angle, thereby increasing the mobility of the suction tube in relationship to the prophylaxis angle while maintaining the intake orifice adjacent to the polishing cup as the suction tube flexed and compressed to accommodate to the varying space conditions around the structures of the mouth.

Still another object of the invention is to provide a suction cleaning attachment for dental prophylaxis angles that is attached in such a manner to the prophylaxis angle that it is not held in the fingers or hand of the operator

but hangs freely from the head and neck of the prophylaxis angle as the operator grips the handpiece to which the prophylaxis angle is attached.

Still another object of the invention is to provide a suction cleaning attachment for a dental prophylaxis angle that has an elastic suction tube which is only attached to the prophylaxis angle by its top edge near the intake orifice permitting the rest of the tube to partially collapse or move from side to side so as to accommodate and not to interfere with the movements of the polishing cup on and about the teeth.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawing forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 shows in perspective the attachment constructed in accordance with the invention, the attachment not being affixed to the dental prophylaxis angle.

FIG. 2 shows in side elevation the attachment affixed to a dental prophylaxis angle with a polishing cup in place.

In carrying out the invention, referring specifically to the drawing, there is provided an elastic tube **1**, with an intake orifice **2**, and an exhaust orifice **3**. The tube may be mounted to the dental prophylaxis angle in many ways. As shown, but not of necessity, the tube **1**, has as an integral part and arising from its top surface near the intake orifice **2**, two short tubular loops **4** and **5**. These loops encircle the dental prophylaxis angle head **7**, and neck **8**, respectively, whereby tube **1** is affixed to the dental prophylaxis angle (**7**, **8**, **6**), with the intake orifice **2** near the polishing cup **9**. The body of the dental prophylaxis angle **6** is an enlarged continuation of the neck **8**.

In operation of the suction cleaning attachment for dental prophylaxis angle, the elastic loop **5** is stretched to permit the head **7**, with cup **9** removed, to pass through loop **5** until loop **5** rests on neck **8**. Then the elastic loop **4** is stretched up and around the head **7**. The elastic tube **1**, from its attachment position on neck **8** and head **7**, is flexibly and separately displaced away from the neck **8** and body **6** of the prophylaxis angle (**7**, **8**, **6**) by gravitational and/or external forces. The tube is therefore free of the dental handpiece (not shown) to which the prophylaxis angle (**7**, **8**, **6**) is attached and the tube **1** is free of the operator's normal grasp of the handpiece. The exhaust end **3**, which is free, is connected to a suction pump. Upon completion of these steps, the tube's intake orifice **2**, because of its physical relation to the attachment means, will be adjacent to the polishing cup **9**. With the suction pump running, air is propelled into the intake orifice **2**, carrying with it any solids or fluids building up, on and around the polishing cup **9**.

Having thus completely and fully described the invention, what is now claimed as new is as follows:

1. A suction cleaning attachment for a dental prophylaxis angle having a head portion with a polishing cup attached thereon, a flexible elastic suction tube and mounting means, said suction tube having an intake orifice in the upper portion, said upper portion being adapted to be removably affixed to said dental prophylaxis angle, said intake orifice being positionable adjacent to said polishing cup, with said tube beneath the neck of the

dental prophylaxis angle, said mounting means being integral with said tube and elastic in nature, and being comprised of two short tubular loops extending from the top surface of said intake orifice, the first of said loops is axially parallel to the body of said tubes and is adapted to encircle the neck of said prophylaxis angle, the second of said loops is forward of and at right angle axially to said first loop, said second loop is adapted to encircle the head of the dental prophylaxis angle, the affixation and removal of said tube to and from said dental prophylaxis angle is facilitated by the elastic nature of said loops and the right angle axial relationship of said loops.

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ROBERT PESHOCK, Primary Examiner