

Dec. 5, 1933.

C. SWOPE ET AL

1,937,857

DENTAL BRUSH

Filed May 13, 1932

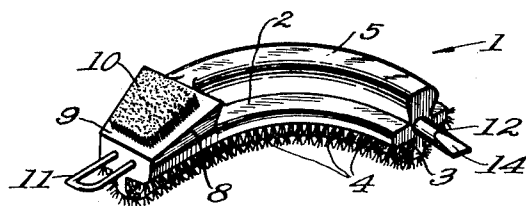


Fig. 1.

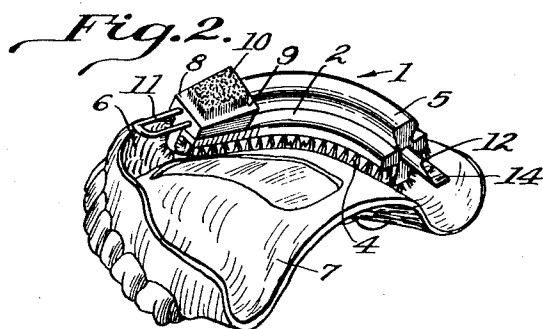


Fig. 2.



Fig. 3.

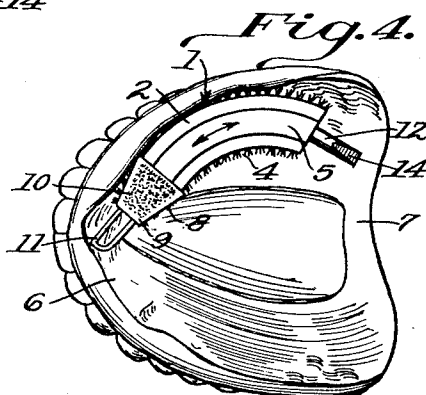


Fig. 4.

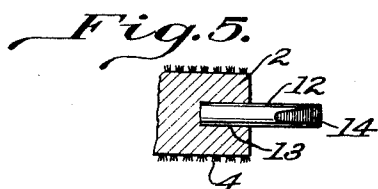


Fig. 5.

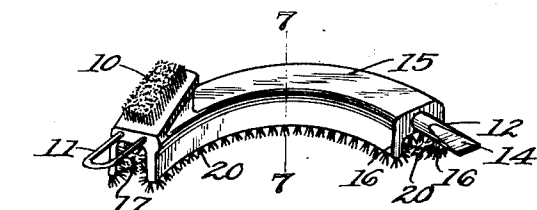


Fig. 6.

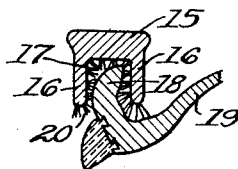


Fig. 7.

Inventors

C. Swope
L. D. Laird

By

W. S. McNeill
Attorney

UNITED STATES PATENT OFFICE

1,937,857

DENTAL BRUSH

Charles Swope and Lou Dunlap Laird, Columbus,
Ohio

Application May 13, 1932. Serial No. 611,131

5 Claims. (Cl. 15—167)

This invention relates to an improved cleaning appliance in the form of a brush particularly designed for use in maintaining artificial teeth, plates, bridges, or other dentures in a cleanly and sanitary condition.

It is well known to dentists and users of removable artificial teeth that the latter require, and should be given at frequent intervals, considerable care and attention in the matter of completely and thoroughly cleaning or removing various deposits of food, film and undesired foreign matter from their surfaces. Such thorough cleaning is not a simple matter since artificial teeth, when mounted on a plate or the like are so disposed as to present numerous relatively inaccessible crevices, pockets and interstices in which foreign particles readily lie and form tenacious film which ordinary cleaning with accepted appliances does not remove.

The present invention, therefore, has for an outstanding object to provide a cleaning appliance for the purpose set forth constructed to possess unusual configuration and arrangement of bristles adapting the brush to the curvature of dental plates and, further, permitting the brush or the bristles thereof to reach the above stated inaccessible regions of the teeth and their mountings, to the end of readily maintaining the teeth in a cleanly state free from foreign particles and objectionable and unsanitary matter.

For a further understanding of the invention, reference is to be had to the following description and the accompanying drawing, wherein:

Fig. 1 is a perspective view of a dental brush formed in accordance with the present invention;

Fig. 2 is a similar view disclosing the brush in use in the cleaning of a dental plate;

Fig. 3 is a transverse vertical sectional view disclosing the brush in a position to effect the cleaning of the gingival pocket of a dental plate;

Fig. 4 is a plan view of a dental plate showing the brush in a cleaning position thereon;

Fig. 5 is a detail sectional view taken through one end of the brush and illustrating the removable stick member;

Fig. 6 is a perspective view of a modified form of the invention;

Fig. 7 is a transverse sectional view on the line 7—7 of Fig. 6.

Referring more particularly to the drawing, the numeral 1 designates the improved dental brush comprising the present invention in its entirety. The brush is formed to comprise an arcuately shaped body or head 2 which may be

formed from any suitable material used in brushes for the mounting and support of bristles, such as molded composition materials, wood, metal, bone and the like. In this instance, the body is formed with a depending curvilinear rib 3 of reduced thickness which integrally depends from the transversely widened body portion 2, the surfaces of the rib and the under surfaces of the body 2 having projecting therefrom perpendicularly disposed bristles 4. The upper part of the body 2 includes a segmental manipulating or gripping portion 5, disposed above and lying substantially within the confines of the body or head 2. The portion 5 is constructed so that it may be gripped by the fingers of the brush user, whereby oscillatory or other cleaning motion may be imparted to the brush and the denture undergoing cleaning. By locating the manipulating portion in the position disclosed, pressures applied to the brush are directly brought to bear on the denture plate, so that there is little likelihood of the denture or plate slipping from the hand of the user during cleaning operation, as is the case when such a denture is cleaned with the ordinary long handled tooth brush. In fact, it has been observed by dentists that the greater majority of plate fractures are due to the operation of cleaning the plate with the ordinary tooth brush, since the latter requires a punching or jabbing motion to be imparted to the plate which frequently dislodges the latter from the hand of the user, causing the dropping of the plate on hard surfaces with deleterious results.

In the form of the invention disclosed in Fig. 1, the single arcuate rib 3 and the rather short bristles 4 projecting therefrom provides a construction admitting of the ready insertion of the rib and the bristles into, for example, the gingival pocket 6 of a dental plate 7 and, moreover, due to the curvature of the rib 3, the cleaning appliance as a whole may be oscillated, as shown in Fig. 4, along the length of said pocket in order that the bristles may with facility reach all of the inaccessible surfaces of this particular portion of the dental plate so that such surfaces may be completely and satisfactorily cleaned. It is well known that the surfaces of the pocket 6, of the ordinary dental plate, are rough, uneven and contain a multiplicity of irregularities and depressions which produce conditions making it extremely difficult to secure satisfactory removal of foreign matter, however, by the curvature of the rib 3 and its general shape and dimensions, as well as the location and length of the bristles 4 thereon, results in providing an

effective cleaning means for reaching these inaccessible regions with a considerable degree of facility. One end of the brush body is provided with an enlargement 8 having the upper surface 9 thereof formed to be substantially flat and arranged at an acute angle to the horizontal. This upper surface is also provided with perpendicularly disposed bristles 10 which permit the brush to be reversed in position, from that disclosed in Fig. 3, in order that the bristles 10 may be brought to bear on other surfaces of a given plate which can be cleaned more advantageously with bristles of the kind disclosed at 10 rather than of the type and form as disclosed at 4. Also, one of the ends of the body is provided with a wire loop or bale 11 formed with wire round in cross section. If for any reason cleaning with the bristles of the brush does not result in the desired dislodgement of the foreign matter or film, the same may be removed by scraping with the loop 11. Other types of film may be removed more advantageously by means of a removable stick member 12 received within the socket 13 formed in the end of the brush body opposite to that to which the loop 11 is secured. The stick member may be formed from a material such as orange wood and provided with a beveled outer edge portion 14, which may be used to scrape the surfaces of a denture to assist, for instance, in film removal.

As a modification of the above structure, there has been disclosed in Figs. 6 and 7 a brush possessing all of the essential attributes of the brush disclosed in Fig. 1 but wherein a slightly different cross sectional formation is provided. In this form of the invention, the body 15 of the brush is provided with a pair of transversely spaced depending ribs 16, instead of the single centrally disposed rib 3 set forth in Fig. 3. By the use of a plurality of ribs 16, an arcuate groove 17 is formed between said ribs and the body 15 which, as shown in Fig. 7, is of such width as to receive within it the gingival flange 18 of the plate 19, and bristles 20 project inwardly and perpendicularly from the inner surfaces of the ribs 16 and the lower surface of the body 15 in order that both the inner and outer surfaces of the flange 18 may be simultaneously cleaned by the operation of the brush.

In view of the foregoing, it will be seen that the present invention provides a cleaning appliance which has been particularly constructed and designed for facilitating thorough and efficient cleaning of artificial tooth dentures. The appliance involves in a single instrumentality all of the features necessary to reach and clean the surfaces, both accessible and relatively inaccessible, of a dental plate and avoids specifically the use of a multiplicity of separate instru-

mentalities heretofore largely used in operations of this kind such, for example, as the employment of separate sticks, wire members and various types of brushes. While the invention has been described in considerable detail, it will be understood that it is subject to variation or modification without departing from the scope of the appended claims.

What is claimed is:

1. A cleaning appliance for artificial teeth comprising an arcuate body shaped to conform substantially to the marginal curvature of a dental plate, bristles projecting from the lower surfaces of said body, and a manipulating member integrally formed with said body arranged above and possessing substantially the curvature thereof, said manipulating member being of such height that it can only be held by the finger tips of the operator.
2. A dental brush comprising a body of arcuate formation shaped to conform substantially to the curvature of the marginal portion of a dental plate, a flange of arcuate form depending from the under surface of said body, brush bristles embedded in said flange and extending outwardly therefrom, and an arcuately shaped manipulating handle formed with the upper portion of said body and arranged in vertical alignment with said flange, said manipulating handle together with said body and flange produces a cross shaped transverse sectional formation of the brush.
3. A dental brush comprising an arcuate body having a cross-shaped transverse sectional formation with the upper end of the cross forming the handle for the brush, and brush bristles carried by the under surface of the cross arms and with bristles extending outwardly from the surfaces of the lower member of the cross.
4. A dental brush comprising an arcuate body shaped to conform substantially to the curvature of the gingival regions of a dental plate, flanges formed with said body having substantially the curvature of the latter and forming with said body vertical and horizontal faces, brush bristles carried by said flanges and extending from said faces and a manipulating portion formed with said body and lying in a curvature above the latter.
5. A dental brush comprising a body of arcuate formation shaped to conform substantially to the curvature of the marginal portion of a dental plate, a pair of transversely spaced flanges of arcuate formation depending from said body, and integrally projecting bristles carried by the inner surfaces of said flanges.

CHARLES SWOPE.
LOU DUNLAP LAIRD.