June 13, 1933. J. W. CALDWELL 1,914,240

COMBINED GUM MASSAGER AND TOOTH BRUSHER

Filed Feb. 4, 1932

Fig. 1.

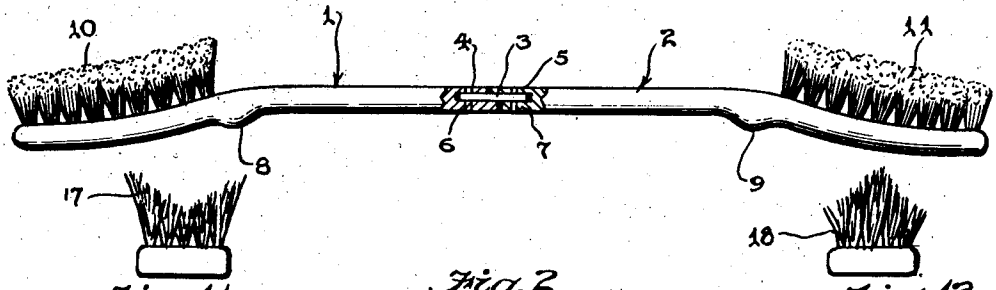



Fig. 11.

Fig. 2.

Fig. 12.

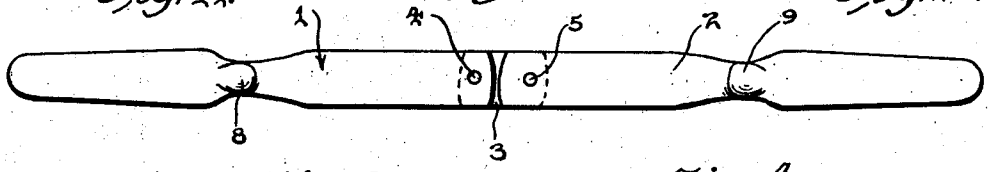



Fig. 3.

Fig. 4.

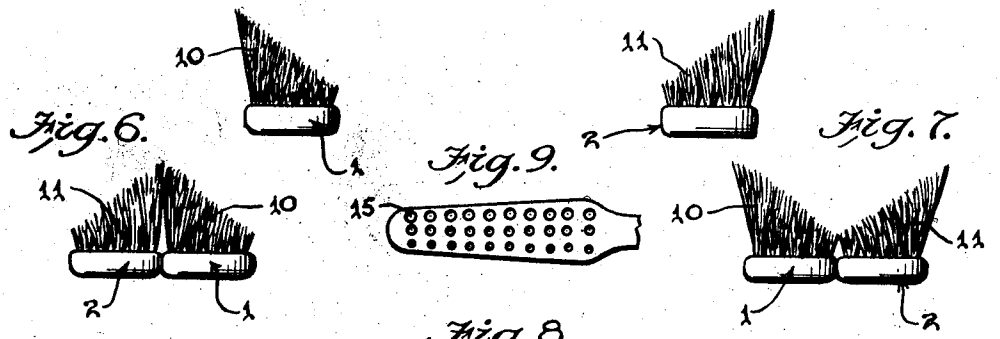



Fig. 6.

Fig. 9.

Fig. 7.

Fig. 8.

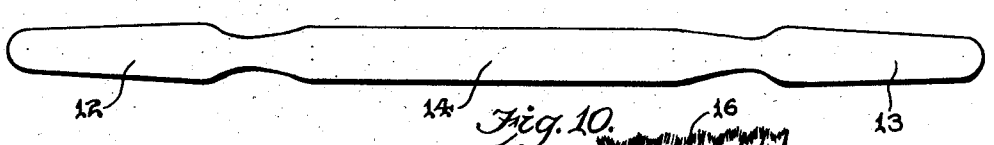
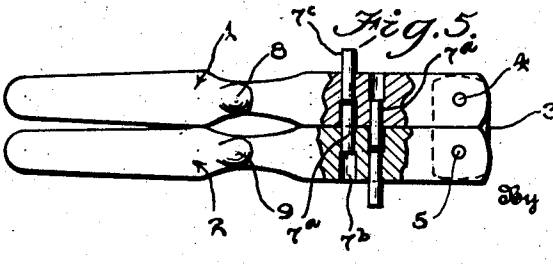



Fig. 10.




Fig. 5.




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# UNITED STATES PATENT OFFICE

JOHN W. CALDWELL, OF ST. ALBANS, WEST VIRGINIA

## COMBINED GUM MASSAGER AND TOOTH BRUSHER

Application filed February 4, 1932. Serial No. 590,974.

My invention relates to brushes, more particularly to combination gum massaging and tooth cleaning brushes, and it consists in the combinations, constructions, and arrangements herein shown and described.

A primary purpose of my invention is to provide a gum massaging and tooth cleaning brush that enables the operator to progressively increase the force of the massaging and brushing operation during the brushing stroke without changing the relative position of the brush during the stroke.

A second object of my invention is to provide a brush of the type described that is capable of presenting a plurality of arrangements of short and long bristles for variable brushing operations in the mouth of the operator at the will of said operator.

A third object of my invention is to provide a brush of the type described that will accomplish its function of progressively increasing the brushing force without alteration of the relative position of the brush during the stroke, whether used in the right or left hand of the operator, or on opposite sides of the teeth or jaw.

A fourth object of the invention is to provide a brush of the type described that may be folded away when not in use for compact storage.

A fifth object is to provide a device of the type described that has few parts, does not get out of order easily, and is simple to manufacture.

Other objects and advantages will appear as this specification proceeds and the invention will be more particularly defined in the appended claims.

My device is illustrated in the accompanying drawing forming a part of this application, in which

Figure 1 is a side elevational view of the device,

Figure 2 is a bottom plan view of the invention,

Figure 3 is an end view of the device,

Figure 4 is an end view opposite to that of Figure 3,

Figure 5 is a view illustrating the device in another operative position,

Figure 6 is a view in end elevation of the device in this operative position,

Figure 7 is an end elevational view of the device in a further operative position,

Figure 8 is a top plan view of a modified form of my invention,

Figure 9 is a modified form of stock used in my device,

Figure 10 is an elevational view of a further modified form of the invention, and

Figures 11 and 12 are opposite end views of a further modified form of my invention.

My brush comprises a pair of handles 1 and 2. These handles are pivoted to a small link 3 by the swivel means shown at 4 and 5. Each of these swivels passes through bifurcated portions 6 and 7 respectively of the handles 1 and 2 respectively. One tyne of the bifurcated portion 6 extends above the link 3, while a tyne of portion 7 extends below the same. It can easily be understood from the above description that the two handles may be turned relative to the link and to one another to parallel positions as shown in Figure 5 or be positioned co-axially with one another as appears in Figures 1 and 2. When positioned as shown in Figure 5, the parts may be secured together by pins 7A, which project into slots 7B. The pins 7A may be moved to their operative and inoperative positions by means of pins 7C in a manner easily discernible from an examination of Figure 5.

Each of the handles is equipped with a protuberance 8 and 9 respectively, which serves as a rest for the thumb or finger of the operator, when the brush is in use.

The handles 1 and 2 are equipped with similarly formed and oppositely disposed bristle-fields 10 and 11. The bristles of field 10 are graduated downwardly as to height at a normal to the axis of the handle, while the bristles of field 11 are graduated in an opposite direction, that is, upwardly, at a normal to the axis of the handles.

In Figure 8 I show a modified form of my invention in which the fields of bristles are formed similarly to fields 10 and 11. They are mounted on a single handle 14, however, of rigid construction, which allows of their

use in a more limited manner than that of the first form of the invention.

In that form of the invention shown in Figure 9 I show another means for securing an increase in the pressure exerted on the gums and teeth with the brushing stroke without changing the relative position of the brush during said stroke. In this modification the seats or holes 15 supporting the tufts of bristles are graduated downwardly as to size in a direction at a normal to the axis of the brush stock, so that the quantity of bristles per unit area of the bristle-field is decreased in a downward direction. This method of increasing the pressure exerted by the field may be utilized on either end of the stock of the brush in either direction laterally relative thereto.

In Figure 10 I show a form of brush in which the field is so arranged that laterally extending ridges 16 are provided therein. These ridges may be provided either as shown in Figure 10 or in conjunction with the modifications shown in Figures 3, 4, and 9.

In Figures 11 and 12 the fields 17 and 18 are depressed and ridged respectively in the direction of the axis of the stock. The form of Figure 11 may be used on both ends of the stock or the form of Figure 12, or one form may be used on one end and the other on the opposite end as desired.

From the foregoing description the use and operation of my device may be easily understood. When the operator desires to massage his gums and brush his teeth with a progressively increasing brushing action he places the brush in extended position in his hand, that is the position shown in Figure 1, and applies the bristle field to the gums and teeth with the side of the brush having the short bristles downward and draws the brush downwardly. This action brings the longer bristles into contact with the surface being worked upon to increase the brushing action thereon. The operator can brush the teeth on both sides of his jaw without the necessity of changing the brush from one and to the other merely by using the bristle fields at either end of the handle in a manner easily understood.

If, for some operations such as brushing the grinding surfaces of molar teeth or other similar surfaces, the operator desires a bristle field of different arrangement, he has only to turn the handle portions about their pivots on the link to the position shown in Figures 6 or 7.

The modification of Figure 8 can be used as that of Figure 1 when the said device of Figure 1 is extended.

The modification of Figure 9 can be used in a manner similar to that of Figures 3 and 4.

That form of the invention shown in Figure 10 can be utilized as desired by the operator, for instance, to clean the surfaces of molar teeth or like operations, while the devices of Figures 11 and 12 can be used in a manner similar to the first form of the device when operatively positioned as shown in Figures 6 and 7 respectively.

It is thus seen that I have provided a brush for massaging gums and cleaning teeth that enables the user to apply a progressively increasing pressure to the gums and teeth without shifting the brush about during the stroking operation, and that enables the operator to so brush his teeth without changing the implement from one hand to the other.

It is also seen that I have provided a brush that enables the operator to use bristle fields of several forms as desired.

What I desire to claim and secure by Letters Patent is:

1. A brush comprising a pair of handle portions, and bristle fields on each of said handle portions, a link interconnecting said handle portions at their extremities for turning motion relative to one another, and means for securing said handle portions together, when placed in parallel position relative to one another said means comprising slotted portions in said handles and pins for engagement in said slotted portions.

2. A brush comprising a handle portion and a field of bristles, the density of said field of bristles being graduated from one side of said field to the other in a direction transverse to the major axis.

3. A brush comprising a pair of handle portions, bristle fields on each of said handle portions and a link connecting said handle portions, said bristle fields being adjacent to each other when in the folded position.

4. A brush comprising a pair of handle portions, bristle fields on each of said handle portions, said handles having bifurcated extremities, and a common link pivoted within said bifurcated portions.

JOHN W. CALDWELL.