

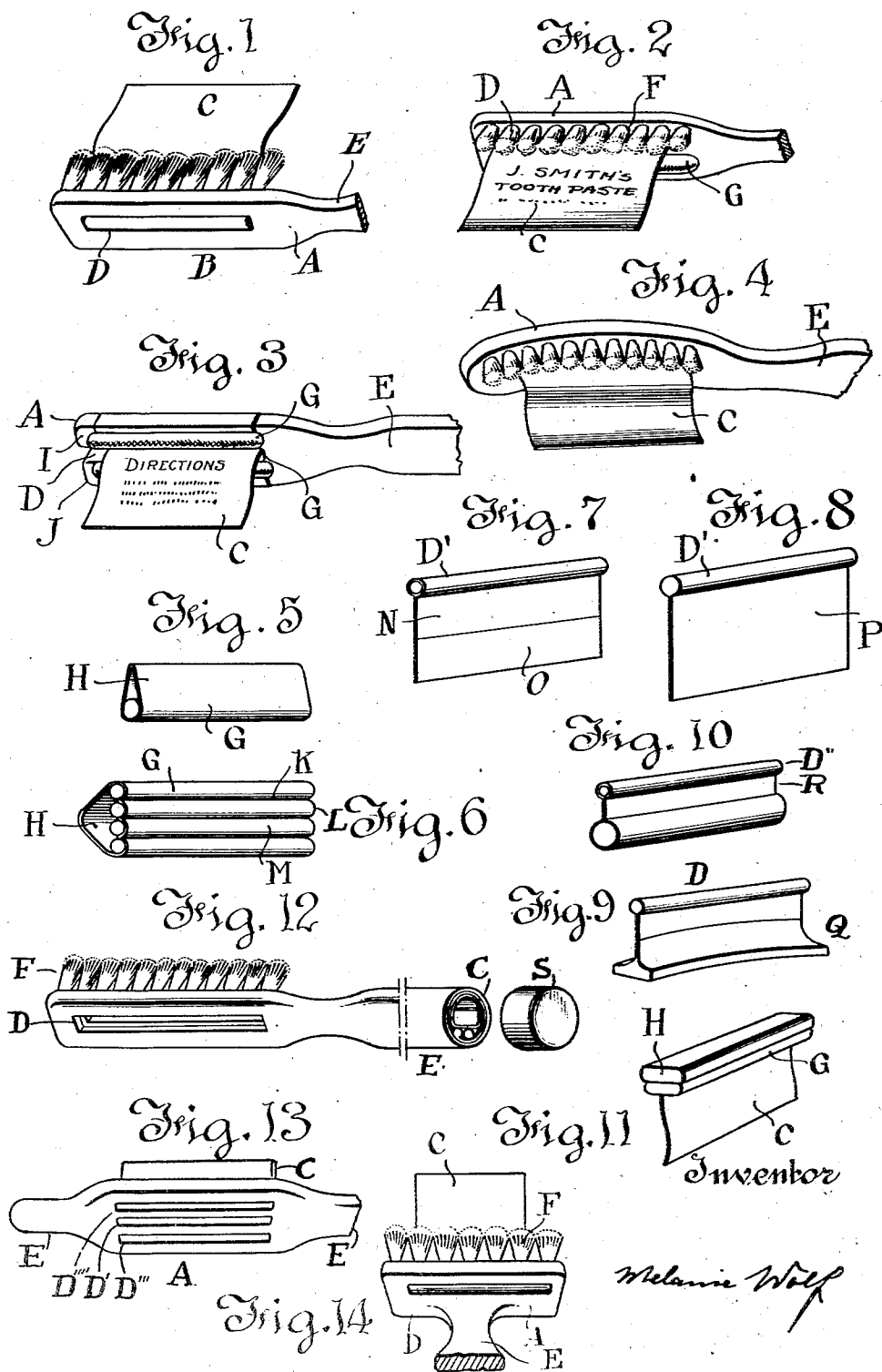
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TOOTH CLEANSING AND GUM MASSAGING DEVICE

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TOOTH-CLEANSING AND GUM-MASSAGING DEVICE.

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To all whom it may concern:

Be it known that I, MELANIE WOLF, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Tooth-Cleansing and Gum-Massaging Devices, of which the following is a specification.

The object of the present invention consists in providing an appliance for the purpose of cleansing the teeth properly without injuring the gums, as well as for massaging the gums properly so as to improve the circulation in the same, at the same time pressing out of the gums diseased material or pus whenever such is present if the gums are diseased; it will also be greatly useful for stimulating and medicating the gums and teeth; and also for serving as a guide for cleansing the teeth and gums in the proper manner; the device is also adapted to display printed directions for the proper cleansing or treating of the teeth and gums; it will also guard against waste of medicinal substances, tooth cleansing material or the like, as the same may be deposited and re-deposited on the sheet while in use instead of being washed away immediately.

In the accompanying drawings forming part of this specification, similar letters denote corresponding parts.

Fig. 1 represents a tooth brush with my sheet device attached to it; Fig. 2 shows my device designed to be used for cleaning the teeth and massaging the gums; Fig. 3 represents my device to be used for massaging the gums; Fig. 4 shows my device having a curved base; Figs. 5 and 6 show the construction of a pad to be used in connection with my device; Figs. 7, 8, 9 and 10 show detail drawings of the sheet used in connection with my device; Fig. 11 shows the sheet attached to a tube; Fig. 12 shows a detail drawing of a brush with a countersunk slot for the sheet to pass through; Fig. 13 shows my device with two handles; Fig. 14 shows my device with the handle attached at right angles to the base.

In Fig. 1, A denotes a tooth brush provided with a slot B through which the pliable sheet C passes. This sheet is made preferably of chamois or leather, but may be made of any material desired. Sheet C is provided with a cylindrical thickening D to prevent the sheet from passing clear through

the slot B; it is obvious that the sheet may be attached in any other suitable manner. E denotes the handle of my device, F indicates the bristles. Detailed drawings of the sheet in various forms are shown in Figs. 5, 6, 7, 8, 9 and 10.

When my device is used, sheet C is held between the teeth, or teeth and gums in cases where some teeth are missing, or it may be held between the upper and lower gums, thus fixing the free end of the sheet temporarily while the device is being used, and the bristles then brought in contact with the gums of the upper or lower jaws, as the case may be, and carried, while in contact, to the biting edges of the teeth where teeth are present; when carried further, the bristles would slide over the surface of the sheet without doing any harm, as it would not strike the opposite teeth or gums at all; when the remaining portion of the device is used, that is, the portion beyond the other surface of the sheet, it would be used in a corresponding manner without the sheet being presently released and the procedure being essentially the same as just described. After this particular section of the dental arch is brushed and massaged sufficiently, the teeth, or teeth and gums or opposing gums are slightly parted, the device together with the sheet is shifted to the next section to be brushed and massaged—this is repeated until all teeth and gums are sufficiently brushed and massaged.

A very important feature of my invention is the fact that when my device is used, as described, the lips and cheeks may be tightened while the device is being used and thus convey a considerable pushing and pressing motion against the base of the device which will be extremely useful in the majority of cases as if, for instance, pyorrhea alveolaris or other serious gum diseases are present, as the diseased excretion, or puss, when present, will be squeezed out of the gums and thus removed.

Another important feature of the usefulness of the sheet of my device is the fact that a medicinal substance may be deposited on the sheet and gradually taken up by the bristles while the device is being used, thus taking care of proper medication of the periodental membrane, the gums or roots or both. The sheet may be roughened or deepened on the surfaces or otherwise suitably

prepared for the reception and retention of medicines, medicated substances, drugs or tooth cleansing materials as shown in Fig. 6.

6. If the device is to be used on teeth and gums where no opposing teeth are present, or where the opposing teeth are very weak or it is for some reason not feasible or desirable to use the opposing gums for holding the sheet, the latter may be held in position by using a finger for pressing the edge of the sheet against the biting edge of the teeth to be brushed and holding it there while the rest of the device is used as described above.

In Fig. 2, A denotes the base of the device, this base carrying bristles F on one side of slot D, and having a pad G, which may contain drugs, medicated substances, cleaning material for the teeth or the like attached on the other side of slot D. C denotes the flexible sheet to be used in the same manner as described and shown in Fig. 1; said sheet may also be used for displaying advertisements, printed directions for use, as shown, which may be applied with indelible ink or other suitable manner. E indicates the handle. The method for using this device is similar to that described and shown in Fig. 1; the pad when charged with a medicinal substance may be used effectively for massaging and treating diseased gums, the medicine or medicated substance passing through the porous material when such is used for the pad, and being deposited on the gums while the device is used and the bristles cleansing and massaging the teeth and gums of the opposite jaw. This device would be greatly useful in cases where the teeth or gums of one jaw are diseased in a manner so as to require massaging and medication, while the teeth and gums of the opposite jaw would be in a comparatively healthy condition.

Fig. 3 shows my device supplied with 2 pads G and G', one on each side of slot D, which slot is cut clear through the tip of the base A, forming two extensions, I and J, each one adapted to receive a medicated or non-medicated pad which is slipped over the free ends of the extensions I and J respectively. It is obvious that the base may present three, four or more extensions or divisions for receiving one, two or more pads in addition to the sheet instead of the two extensions or divisions shown in the drawing. C indicates the sheet being removably inserted in slot D, and displaying printing on its surface. Detailed drawings of the medicated or non-medicated pad are shown in Figs. 5 and 6. This device will be greatly useful in cases when the upper as well as the lower gums are diseased, and when it is not desired to expose the gums to the harsher massaging of the brushing device, at the

same time insuring proper massaging as the sheet, when held between the teeth or teeth and gums, will serve as a guide for the proper massaging, at the same time preventing the device being moved in the wrong direction, i. e., sidewise.

Fig. 4 shows a similar device as Fig. 1, but its base A is curved to somewhat conform to the shape of the dental arch and thus facilitate the use of my device, at the same time rendering its use more effective in a number of cases. C represents the pliable sheet, F denotes the bristles, E indicates the handle. The use of this device is similar to that described previously.

Fig. 5 shows a medicated pad G, having a tube H arranged to be slipped over the portion I or J shown in Fig. 3. In the preferred arrangement the pads are manufactured of a fabric which will shrink when being wetted, and are filled with a medicated or non-medicated material, as desired, the fabric also being porous so as to allow part of the medicinal or tooth cleansing substance to pass through if such is present; or it may be made of a non-porous material, like sheet-rubber if only the massaging action is wanted. That side of the cushion which is designed to face the teeth or gums or both may be covered with bristles in the form of a brush, if desired, and slipped on extension I or J as described above. When the pads made of the shrinkable material, as described above, are used, they are slipped, while dry, over the extensions mentioned above, are wetted when used which causes them to shrink and surround tightly extensions or divisions I or J respectively. These extensions or divisions may be roughened, if desired, to assist in preventing the pads from slipping off. It is understood that any material for the pads as well as any suitable method for fastening them to my device may be used as these would be details incident to the proper manufacture of my device or part of my device.

Fig. 6 shows a similar device as the one shown in Fig. 5, but having corrugations K, L, M, etc., on its facing surface to increase the friction during massaging of the gums. H is a tubular portion of the pad intended to be slipped over the portion I or J shown in Fig. 3. Whatever is mentioned above when describing Fig. 5, applies also to this pad shown in Fig. 6. This pad may also be medicated or non-medicated.

The sheet may consist of one continuous sheet of material or may be divided lengthwise or consist of a number of strips forming the sheet, if the case so requires to make the sheet more pliable or more easily adaptable as shown in Fig. 15, the main purpose of my device being to have part of it held fixed during its use while the rest of the device is movable with reference to the

part held temporarily stationary, so that the gums and teeth may be properly massaged and cleansed.

Fig. 7 shows one construction of the sheet. D' is a thickened portion intended to prevent the sheet from completely passing through the slot D of the device shown in Figs. 1, 2, 3, 4, 12, 13, and 14, after having passed through said slot D. Instead of the thickened portion D', the same may be formed into a tube through which a rigid or semi-flexible flat strip of material is passed, which, when the sheet is drawn through slot D shown in various figures of my drawings, will rest flat against the back of the base of my device, and prevent said sheet from slipping entirely through slot D. Part O indicates that part of the sheet which is designed to be held between the teeth when my device is properly used; said part O may be roughened on one or both sides to facilitate its being held between the teeth. N indicates a flexible fabric to allow an easy up and down motion of the entire device to which the sheet is attached, with the exception of one free edge of said sheet which is to be held fixed between the teeth, or teeth and gums, or upper and lower gums. O indicates the stiffened free edge of the sheet designed to be held between the teeth or gums. The sheet may also be formed by parallel running strips of tape, which tends to make the device to which it will be attached more adaptable for cleaning the teeth and massaging the gums when used as shown in detail in Fig. 15.

Fig. 8 shows another construction of the sheet. D' is a thickened portion of the flexible but semi-stiff sheet P which is preferably made of thin celluloid sheet, but may be made of any suitable material. The thickened portion D' prevents the sheet from passing entirely through the slot D of my device, the free end of the sheet to be held between the teeth or gums or both. This free end may be thickened to facilitate its being held by the teeth, the gums or both.

Fig. 9 shows a construction of the sheet having a thickened portion D' to prevent the sheet from passing entirely through the slot D of my device while being slipped to position; the other edge Q is curved into upward and downward extensions respectively, said extensions being preferably at right angles to the plane of the sheet and being curved, as shown so as to conform approximately to the shape of the dental arch. This manner of construction of the sheet will be especially useful where the condition of the gums and teeth do not permit of any tight closing of the teeth, on account of pain, loose teeth, diseased gums or roots, or for similar reasons. When this construction is used, the sheet D is passed through slot D, as usual, and, when the device is used,

the free end Q is inserted in the mouth a little beyond the biting edges of the teeth and the latter loosely closed over the flat plane of the sheet, and the rectangular portion Q preventing the sheet from slipping out from between the teeth. The device is used as described previously. Another manner of attaching the sheet to the base of the device would be to use a flat strip of rigid or semi-rigid material for insertion through the tube D' if the same is made of pliable material, which strip then will lay flat against the back of the base of my device when the sheet is drawn tight, as also described in Fig. 7. The free end of this sheet may also be shaped to conform to the shape of the ridge of the jaw to allow of the proper grasping of the sheet, and to be used for a case where no teeth are present in the upper or lower jaw but where it is desired to treat the teeth or gums or both of the opposite jaw.

Fig. 10 shows a pad which may be medicated or non-medicated, connected to a sheet R which ends in a hollow tube D'' intended to be passed through the slot together with the sheet C of my device; or the base shown in Fig. 1 may be provided with two or more slots to accommodate one or more cushions in addition to the sheet, if desired; a wooden pin or any other suitable pin may be passed through the tube D'' after the same has been passed through the slot provided for it, to prevent it from passing entirely through the slot while the device is used. The pad may also be attached in a similar manner as the sheet and as described in Fig. 9, by inserting a flat strip of rigid or semi-rigid material into the tube D'' if the same is made of pliable material and the sheet then drawn tight to bring the tube containing the strip flat against the back of the device. It is obvious that any suitable contrivance may be used to keep the pad in position, and that one, two or more of these cushions may be used on one base either in conjunction with bristles or without them.

Fig. 11 shows a pad G to which sheet C is attached in such a manner that by means of it the facing surface of said pad is divided into two portions, an upper and a lower one, as shown; the rear surface of the pad carries a tube, as shown, designed to be slipped over the finger. When this device is used, the free end of sheet C is grasped between the teeth, or gums, or both, the finger, preferably the index finger, inserted into the tube H, and the pad G, which may be medicated or non-medicated, used for massaging or medicating the gums, similar to the use device described previously. This device will be greatly useful in a number of cases as the pressure exerted against the teeth and gums can be easily regulated.

Fig. 12 shows my device with the slot D

for receiving the sheet, said slot D being countersunk to receive the thickened edge D' of the sheet C shown in Figs. 7 and 8. The fact that the slot will be countersunk will be particularly useful in cases whenever the portion D' has to be considerably thickened on account of the slot D being widened in cases when the free end of the sheet of my device which is to pass through the slot is made quite bulky to facilitate its being grasped by the teeth or gums or both during use. This thickening will facilitate its being held between the teeth, particularly when the teeth are loosened or weak, as less pressure of the teeth or teeth and gums will be required when the said edge is bulky. As shown in the drawing, the handle is hollowed out to hold reserve sheets C or also reserve pads or similar articles, and is provided with a cap S to cover and protect the sheets, pads or other articles contained in the handle.

Fig. 13 shows my device provided with one handle on each end of the base A, the handles E and E', the handle E' being shortened to permit the device to be also used on the posterior teeth and gums, and the handle E being of the usual length, as shown. The handle E may also be shortened to be of the same length as handle E' so as to permit both ends of the appliance to be moved backwards while it is used on the posterior teeth and gums on each side. It will be noted that this mode of construction is also applicable to other forms of my device shown in Figs. 1, 2, 3, 4, 12, and 13. C represents the sheet, D' the thickened portion of the same, which latter covers the slot through which it has been slipped. D''' and D'''' show two additional slots for giving attachments to medicated or non-medicated pads of which some are shown in detail in Figs. 6 and 10. Any additional number of slots may be provided and used for similar attachments.

It is obvious that the sheet may be attached to my device in different ways as the ones shown in the drawings, as the sheet, for instance, may be clamped to position, or it may be provided with a tube passing over the entire base and leaving corresponding openings for bristles and pads to pass through; I am also aware of the fact that some other contrivance may be used in place of the sheet for the same purpose the sheet of my device is serving, for instance, instead of the sheet some other flexible extension may be attached to the device for being held between the teeth while the device is being used to allow a greater latitude in brushing or massaging, like a section of tape or cord or a series of cords or wire adapted to be held temporarily fixed between the teeth or gums or both while the device is being used—the main purpose of my device

to be accomplished consisting in the fact that some part of the tooth cleaning or gum massaging device is being held temporarily in a fixed position when my device is being used, while the rest of the device is movable in reference to the part held fixed.

It will be gathered from the foregoing that in addition to the new and practical advantages ascribed to my novel device, it will, when not medicated stimulate and improve the circulation of the gums when properly used; when medicated it will be greatly useful in the treatment of diseases of the teeth and gums, like pyorrhea alveolaris, for instance. My device also presents an economical feature by discouraging waste of tooth cleansing or medicated substances; it will also promote the proper care of the teeth and the proper care and treatment of the gums.

I do not wish to restrict myself to the particular construction and arrangement shown, as I realize that some changes can be made in the details of construction without departing from the scope of the invention, but—

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

1. A device of the kind described, comprising a body having a rubbing surface and a flexible sheet connected to said body extending beyond the rubbing surface and adapted to be held between the teeth of the user, as and for the purpose described.
2. A device of the kind described, comprising a body having a rubbing surface and flexible means connected to said body extending beyond the rubbing surface and adapted to be held between the teeth of the user, as and for the purpose described.
3. A device of the kind described, comprising a brush head, a handle connected thereto, said brush head being provided with an elongated slit, and a flexible sheet extending through said slit and beyond the brushing surface.
4. A device for use with tooth brushes of the kind described, comprising a flexible sheet of a size to extend through a slitted tooth brush back with the free end extending beyond the bristles and adapted to be held between the teeth of the user, the inner end of said sheet being provided with anchor means cooperating with the brush back to prevent said sheet from being drawn through the brush back.
5. A device for use with tooth brushes of the kind described, comprising a flexible sheet of a size to extend through a slitted tooth brush back with the free end extending beyond the bristles and adapted to be held between the teeth of the user, the inner end of said sheet being provided with anchor means cooperating with the brush back to

prevent said sheet from being drawn through the brush back, the free end of said sheet being provided with suitable means for facilitating its being held between the jaws of the user.

6. A device of the kind described, comprising a body having a rubbing surface and a flexible sheet connected to said body at one end and with the other end extending beyond the rubbing surface and adapted to be held between the teeth of the user, the free end of the sheet being provided with means for facilitating its being held between the teeth of the user.

MELANIE WOLF.