

June 23, 1931.

K. A. SIMON

1,811,833

CAPSULE TOOTHBRUSH

Filed March 1, 1930

2 Sheets-Sheet 1

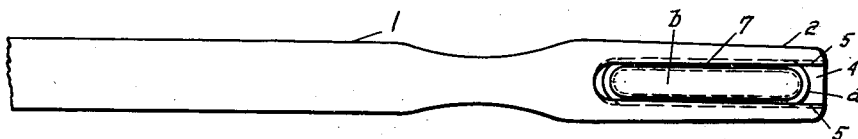


Fig. 2

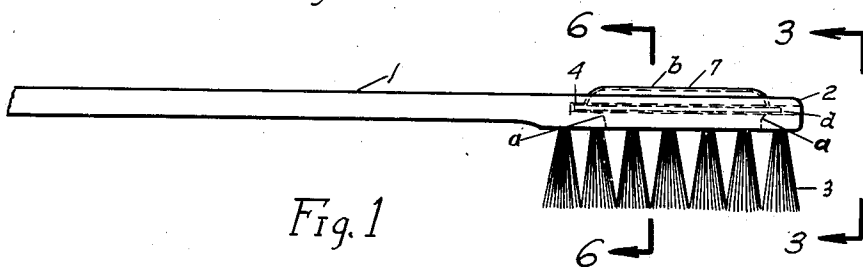


Fig. 1

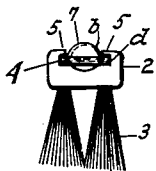


Fig. 3

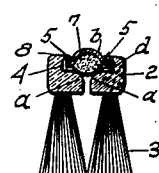


Fig. 6

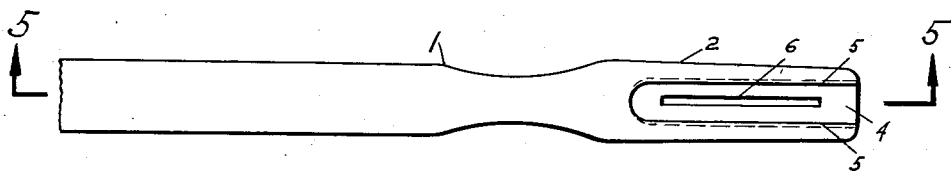


Fig. 4

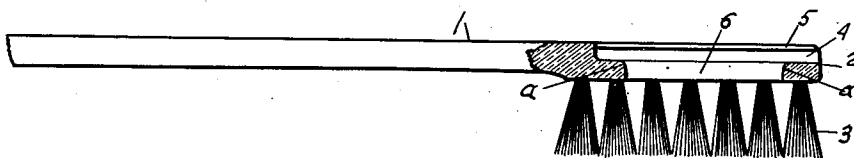


Fig. 5

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2 Sheets-Sheet 2

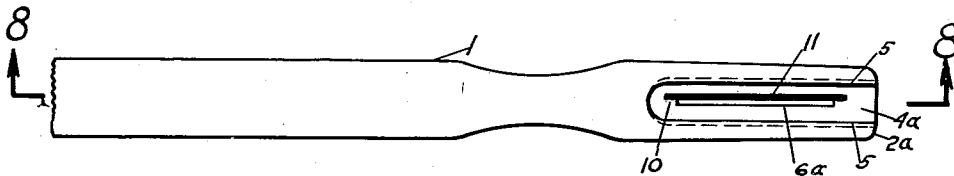


Fig. 7

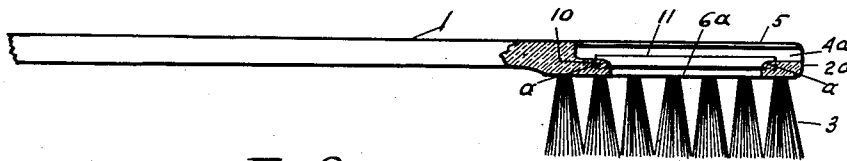


Fig. 8



Fig. 9

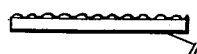


Fig. 10

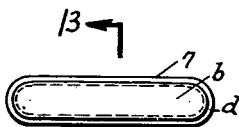


Fig. 11



Fig. 12



Fig. 13

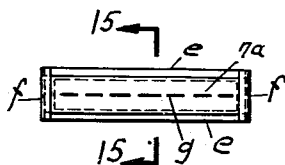


Fig. 14



Fig. 15

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UNITED STATES PATENT OFFICE

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CAPSULE TOOTHBRUSH

Application filed March 1, 1930. Serial No. 432,299.

The object of my invention is to produce a combination tooth brush provided with means for inserting a quantity of tooth paste therein, to be fed directly into the brush section at the time of using.

Another object is to produce an inexpensive tooth brush, suitable for dispensing in public wash rooms, or other public places where the article is generally used, and immediately discarded after using.

A further object is to produce a sanitary combination tooth brush with paste inserted therein at the time of manufacturing the brush, but then sealed and remaining sealed until applied by the user.

A still further object is to design an inexpensive sanitary tooth brush, containing samples of tooth paste for advertising purposes, and suitable for dispensing to the public through vending machines at a very low cost.

These several objects are attained in the preferred form by the construction and arrangement of parts more fully hereinafter set forth.

Similar parts on all drawings are marked by similar numerals or letters.

Fig. 1 is a side view of the assembled brush with capsule inserted therein.

Fig. 2 is a top view of the brush and tooth paste capsule showing the relative position of the inserted capsule.

Fig. 3 is an end view of the brush head showing the inserted paste capsule and means for retaining same therein.

Fig. 4 is a top view of the brush back showing the capsule recess and the position of the paste slot.

Fig. 5 is a sectional view of the brush taken on the line 5—5 of Fig. 4 showing the arrangement of the recess and slot within the brush head.

Fig. 6 is a cross sectional view taken on the line 6—6 of the Fig. 1 showing the recess formation and the curved slot walls designed for opening the paste capsule.

Fig. 7 is a back view of the brush without the capsule, showing an arrangement in an alternate form designed for mechanically

opening the paste capsule at the time of inserting same within the brush head recess.

Fig. 8 is a longitudinal sectional view taken on the line 8—8 of the Fig. 7 showing the knife blade as inserted therein for cutting the capsule wall.

Fig. 9 illustrates a straight edge blade as used in Fig. 8.

Fig. 10 illustrates a toothed blade edge which may be inserted in place of the straight blade for some types of capsules.

Fig. 11 is a top view of a capsule containing tooth paste, sealed and ready for inserting within the brush head recess.

Fig. 12 is an end view of the sealed capsule showing the edge strips as applied thereto.

Fig. 13 is a cross-sectional view taken on the line —13—13— of the Fig. 11 showing the two different sheets of capsule wall material and the means for joining them together for sealing.

Fig. 14 illustrates a modified form of capsule tube made of the same material and sealed at both ends but provided with a partially perforated section along one wall for severing an opening therein.

Fig. 15 is a cross-sectional view taken in the line 15—15 of the Fig. 14 showing the means for folding the tube walls to provide for side engaging ribs.

In general my tooth brush comprises a handle section made of some suitable material, and formed with a grooved back recess placed opposite the brush, and for inserting a small capsule of tooth paste therein. The brush being slotted along the bottom of the recess for allowing the paste from the inclosed capsule to be forced therethrough and into the brush bristles.

I will now describe more fully the detailed construction of my device, referring to the drawings and the marks thereon.

The handle —1— is preferably made of wood, wood pulp or papier-mâché, although it may be made of celluloid, or any other suitable material desired, and is formed with an approximately straight bar handle section, with rounded edges, and having an enlarged brush head section —2— formed on one end thereof. The head section —2— is preferably

made approximately a rectangular exterior design as shown in the Figs. 3 and 6 of the drawings, and is provided with two rows of ordinary brush bristles —3—, symmetrically placed along one side thereof. The bristles —3— being mounted therein in the ordinary manner used for making brushes of this type. Along the opposite side of the brush head —2— is formed a longitudinal T-shaped recess —4— extending nearly the entire length of the head section, said recess being open along the brush head back and end. The recess —4— is provided with overhanging slide edges —5— along the side wall opening. A narrow paste slot —6— is formed through the brush head body —2— positioned centrally along the recess bottom and opens within the brush bristles —3— between the two rows as mounted on the opposite side of the head. The slot —6—, may if desired be extended to the head end, although it will somewhat weaken the handle, and also allow a slight spreading of the paste outside the brush. The inner edges —a— of the slot —6— are preferably curved as is indicated in the Fig. 6 of the drawings. Within the recess —4— is inserted a small capsule —7—, formed of an exterior design to be fitted and retained fixedly within the grooved recess opening. The capsule —7— is preferably made of pliable material such as soft lead, pewter, or soft materials commonly used for tooth paste tubes &c., although other materials such as capsule gelatin, wax paper or glassine may be used if desired. The capsule —7— is preferably formed with two sheets of material —b— and —c—, both of the same dimensions and approximately that of the bottom of the brush head recess —4—. The sheet —b— is of a stronger material than the sheet —c—, the sheet —c— being sufficiently weak that it will tear along the paste slot —6— when the capsule is placed within the recess —4— an pressure is applied thereon. The sheets —b— and —c— being placed together flatwise, one over the other and with their edges coinciding, are sealed along their edges by a folded edge bar —d— securely clamped thereon as indicated in Fig. 13 of the drawings. The sheets —b— and —c— may be sealed together along their edges in any other manner that will provide a secure edge joint. Within the capsule —7—, between the wall sheets —b— and —c— is forced a small quantity of tooth paste —8— and which is inserted therein before the final sealing of the capsule edges. The capsule —7— is then inserted within the brush head recess —4—, through the end recess opening, and with the thin capsule sheet —c— placed on the recess bottom, over the paste slot —6—, the folded edge bars —d— along the sides of the capsule engaging the slide edges —5— for retaining the capsule fixedly within the brush head recess. When the paste capsule is fully insert-

ed therein, then by applying pressure on the capsule wall exposed through the side wall opening, the thin capsule sheet —c— will tear along the edges of the slot —6—, and the tooth paste —8— be forced through the slot and into the brush mounted on the opposite side of the handle.

The capsule may, if desired, be made of a single tubular section —7a—, and all of the same material, by slightly flattening and creasing the tube as along the edges —e— for engaging the brush head slides —5—, and as indicated in Figs. 14 and 15 of the drawings, and provided with folded edge bars —f— at both ends. The capsule side wall being partially perforated along a centerline —g— as indicated in Fig. 14, and so as to weaken the wall directly over the slot —6— and allowing same to tear at that point when inserted within the brush head recess —4— and pressure applied thereon as heretofore described. The capsule being previously filled with paste before sealing as in the former case, and is used in the same manner as heretofore described. In either case, the capsule may be made of a size for retaining sufficient tooth paste for several applications, or contain only sufficient quantity of the paste for once using, the latter being preferred for the inexpensive type of brush where made of papier-mâché, to be used only once and discarded. For better grades of brushes which may be retained for successive use, a larger capsule is more serviceable.

When desired, the capsule may be filled with a medicated paste prepared for tooth and gum treatment, and the brush used as a medical appliance also.

A modification of my brush is illustrated in Figs. 7, 8, 9 and 10 of the drawings, the handle and brush head —2a— with back recess —4a— being the same as heretofore described, while the paste slot —6a— is enlarged along one side thereof by an added knife slot —10—, and which is extended only partially through the brush head wall, the ends of the slot —10— being projected slightly beyond the ends of the paste slot —6a—. Within the knife slot —10— is placed a sharp knife blade —11—, either with a smooth edge as shown in Fig. 9 of the drawings, or a blade formed with a sharp toothed edge as illustrated in Fig. 10. The sharp edge of the blade —11— being projected slightly above the bottom of the back recess —4a—, and sufficient for slitting the bottom capsule wall when inserted within the recess. For this type of head, the capsule —7— may be made of uniform material throughout, and inserted within the brush recess either side up, said capsule being inserted therein only at the time of using, while in the former types of brush head, the capsule may be placed within the brush head recess at the time of its manufacture.

Having fully described my capsule tooth brush, what I claim as my invention and desire to secure by Letters Patent is:

1. A capsule tooth brush adapted for receiving and retaining tooth paste therein ready for use, comprising a suitable brush handle, rows of brush bristles set in one face of said handle at one end thereof, said brush handle being formed with an elongated back recess placed opposite the brush and having an elongated slotted passage leading from said recess directly into said brush, said recess and slot being extended nearly the full length of the head, and an elongated severable paste capsule inserted within said back recess adjacent the slotted passage.

2. A capsule tooth brush adapted for receiving and retaining a small quantity of tooth paste therein ready for use, comprising a suitable brush handle, two rows of brush bristles set in one face of said handle at one end thereof, said handle being formed with an elongated back recess placed on the side opposite the brush bristles and having an elongated slotted passage leading from said recess directly into the brush bristles, said recess and slot being extended nearly the full length of the head, and means formed on the back recess walls for retaining an elongated paste capsule therein.

3. A capsule tooth brush adapted for receiving and retaining a quantity of tooth paste therein ready for use, comprising a suitable brush handle, two rows of brush bristles set in one side of said handle at one end thereof, said handle being formed with an elongated back recess on the side opposite the brush bristles and having an elongated slotted passage leading from said recess directly into said rows of brush bristles, said recess and slot being extended nearly the full length of the head, an elongated filled paste capsule having one weakened side wall inserted within said recess and positioned therein with the weakened wall adjacent the slotted passage and means for retaining the paste capsule within the brush recess.

4. A capsule tooth brush adapted for retaining tooth paste therein ready for immediate use, comprising a suitable handle, two rows of brush bristles set in one side of said handle at one end thereof, said brush handle being formed with an elongated back recess on the side opposite the brush bristles, said back recess having slide retainers formed thereon, said handle also having an elongated slotted passage leading from said back recess directly into the brush bristles, said recess and slot being extended nearly the full length of the head, an elongated filled paste capsule inserted within said back recess retained therein by the slide retainers.

In witness whereof I sign these specifications.

KARL A. SIMON.