April 18, 1939. G. H. HEYMANN ET AL 2,154,846

MASSAGE DEVICE

Filed April 8, 1938

FIG. 1.

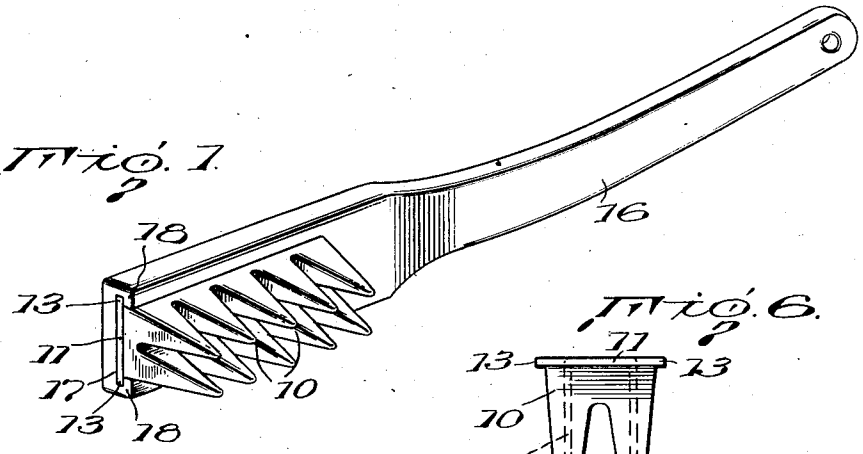


FIG. 6.

FIG. 2.

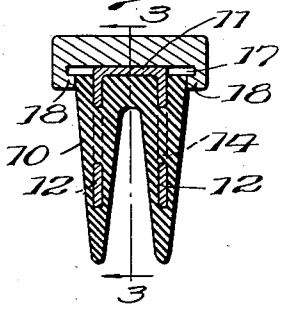
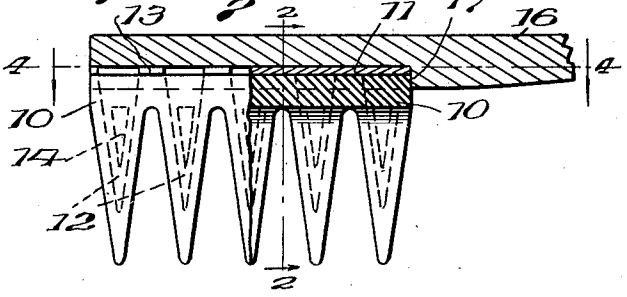


FIG. 3.



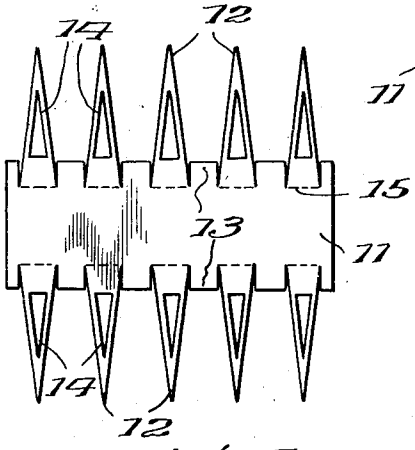


FIG. 5.

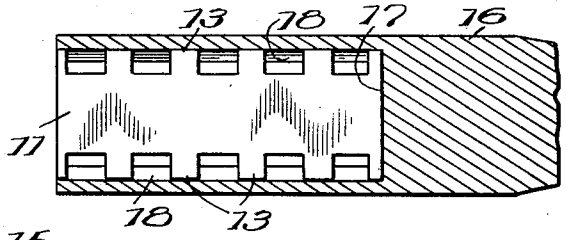


FIG. 4.

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MASSAGE DEVICE

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Application April 8, 1938, Serial No. 201,004

4 Claims. (Cl. 128—62)

This invention relates to massage devices of the type which employ rubber projections for stimulating the gum tissue by frictioning action, and it comprises a molded soft rubber head with massage tips which are internally reinforced and stiffened to prevent their flattening and spreading out in use, the cores of such projections being integral with a rigid backing plate from which tongues extend laterally to provide a wide base for secure and stable attachment to a handle.

Massage devices which have soft rubber projections are desirable in that they do not have the same tendency as hard rubber to lacerate and injure the gums, but on the other hand they are so flexible that the frictioning tips collapse under slight pressure and are not sufficiently stiff to enter the interproximal spaces of the teeth. Furthermore, a soft rubber massage head is of such resilience through its thickened center portion that adequate stability is not afforded and it is likely to twist upon the handle or to pull from it.

One of the objects which is achieved by our invention is to provide a massage device with projections of soft rubber which, however, are internally reinforced to prevent their collapse in use.

Another object is to provide a soft rubber massage head with a rigid backing plate secured to it by means of integral projections which are embedded in the rubber massage tips thereof, and which has lateral tongues extending from the backing plate to provide a wide and stable base for attachment to a handle.

A further object is to bond the rubber of the massage tips securely and permanently to the embedded cores by forming the latter of sheet metal which is slotted so that the rubber will interlock therewith in the molding operation.

A still further object is to form the reinforcing cores with their flat surfaces parallel to the side edges of the head in order to impart greater flexibility to the massage projections in lateral than in longitudinal direction.

Other and further objects will be apparent from the following description which has reference to the drawing, in which

Figure 1 is a perspective view of the implement which comprises the assembled head and handle.

Figure 2 is a sectional view, taken along the line 2—2 of Figure 3.

Figure 3 is a fragmentary sectional view, the right of which is taken along the line 3—3 of Figure 2, and the left to one side of that line.

Figure 4 is a sectional view along the line 4—4 of Figure 3.

Figure 5 is a plan view of the backing plate and integral cores before the latter are bent to final position.

Figure 6 is an end view of the massage head detached from the handle, showing the reinforcing cores in dotted lines.

Referring more particularly to the various figures of the drawing:

The soft rubber massage head 10 carries a backing plate 11 of stainless steel or other suitable material which is first cut as by die stamping to the shape shown in Figure 5, with a plurality of spaced projections 12 serving as cores for the rubber massage tips, and laterally extending tongues 13. The projections or cores 12 are slotted as at 14 so that the rubber which is molded upon them will flow through the slots and, as shown in Figure 2, will be securely bonded to the embedded metal.

At their bases the cores are scored along the lines 15 and are thus more readily bent to upstanding position wherein they extend parallel in rows with their flat surfaces opposed and presented transversely of the backing plate. The structure bent to shape in this manner is then subjected to a spring tempering process to render the projections resilient, and finally, soft rubber is molded and vulcanized upon the core projections and upon the surface of the backing plate.

The laterally extending tongues 13 are left exposed at the sides of the molded rubber head whereby, with the backing plate, they provide a base which is wider than the area occupied by the massage tips and which consequently projects beyond the head as shown more particularly in Figure 6.

A handle 16 has a groove 17 and overhanging flanges 18 which are spaced apart a distance slightly less than the width of the molded rubber head. The latter must therefore be compressed slightly to enter the tongues in the groove 17 and slide the head into position for use. When it is afterwards released and expanded the rubber is forced into frictional contact with the flanges 18 and the parts are held in assembled position.

The up-and-down motion which is preferably employed in massaging the gums serves to stimulate the gingival margin but not destroy or injure it as is likely to occur with cross brushing.

To this end the massage tips are somewhat more flexible in a direction transverse of the handle due to the positioning of the embedded spring metal cores. However, where the use of the implement requires greater rigidity, as for example in entering the massage tips in the interproximal spaces of the teeth, the handle may be turned and held in vertical position and the end tips used for this purpose. Regardless of the position in which it is held, however, the rubber tips will not lacerate the gums since they are soft and elastic, but notwithstanding this they will not spread or collapse, due to their internal reinforcement. At the same time, the wide and rigid base of the massage head furnishes a stable support for securing it to a handle and holding it fixedly in place until such time as the user wishes to remove it for cleaning or replacement.

What we claim as our invention is:

1. A massage device comprising a metal plate with integral cores projecting therefrom at an angle to its surface and a plurality of laterally extending tongues, a rubber covering for said cores of such thickness as to leave substantial portions of said tongues exposed, and a handle member formed with an open groove for receiving said device and retaining it by slidably interlocking with said tongues.

2. A massage implement comprising a metal plate with upstanding flat cores covered with soft, yieldable rubber, a plurality of tongues extending laterally from the plate, the rubber covering of the cores being of such thickness as to leave substantial portions of said tongues exposed, and a grooved handle in which said tongues are slidably received to retain the assembled parts from accidental separation.

3. A massage implement comprising a rubber massage head having a sheet metal backing plate with a plurality of spaced core elements and intermediate tongues extending laterally beyond the sides of said rubber head, the said core elements being bent from the plane of the plate and covered with soft rubber to constitute massage tips of such yielding character as to obviate injury to the gums but so reinforced internally as to prevent their collapse in use, and a handle having an undercut groove therein for slidably receiving said laterally extending tongues whereby the parts are retained in assembled position and the massage head is supported upon a broad, rigid base.

4. A massage implement comprising a rubber massage head having a sheet metal backing plate, metal cores projecting from said backing plate and embedded in the rubber of said head to constitute a plurality of massage tips, tongues carried by said backing plate and extending therebeyond, a handle formed with an undercut groove in which the tongues are received, the overhanging flanges of said groove being spaced apart a distance slightly less than the span of the rubber head, whereby the rubber will be compressed when the parts are assembled and will frictionally hold them from accidental displacement.

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