July 26, 1927. 1,637,249

B. AMES

COMB AND METHOD OF MAKING THE SAME

Filed Sept. 15, 1926

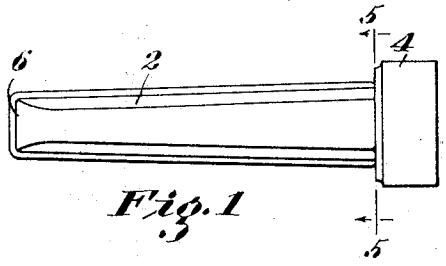


Fig. 1

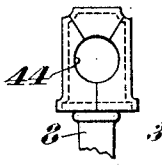


Fig. 5

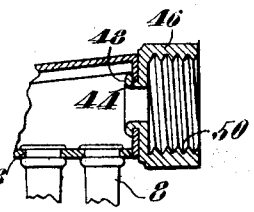


Fig. 6

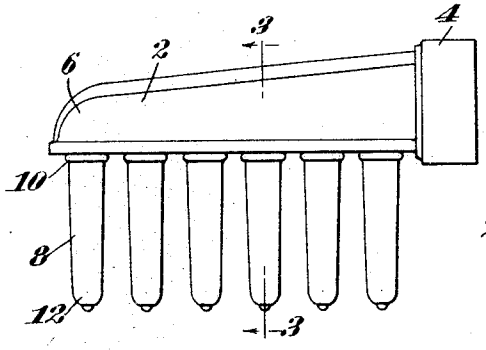


Fig. 2

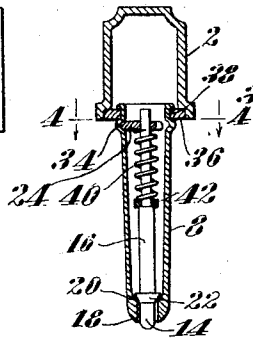


Fig. 3

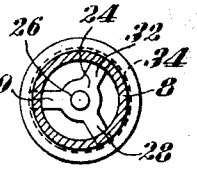


Fig. 4

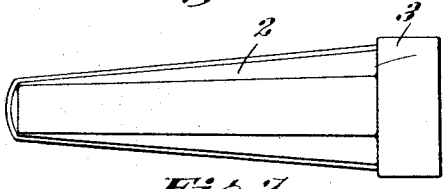


Fig. 7

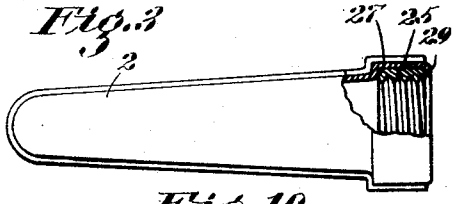


Fig. 10

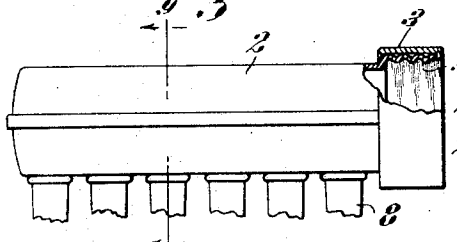


Fig. 8

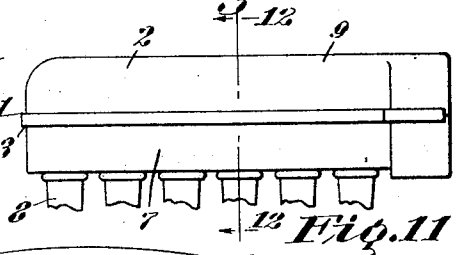


Fig. 11

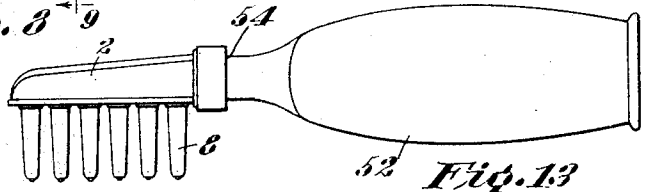


Fig. 13

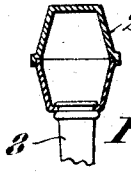


Fig. 9

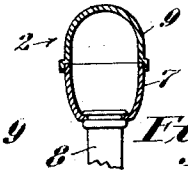


Fig. 12

Inventor
Butler Ames
by Roberts, Cushman & Woodberry.
Att'ys.

Patented July 26, 1927. 1,637,249

UNITED STATES PATENT OFFICE.

BUTLER AMES, OF LOWELL, MASSACHUSETTS.

COMB AND METHOD OF MAKING THE SAME.

Application filed September 15, 1926. Serial No. 135,561.

The present invention relates to combs and more particularly to a scalp treating comb adapted to convey tonics or other preparation to the roots of the hair, and which is also adapted to be used for massaging the scalp.

One of the objects of my invention is to provide means for applying tonics or massage cream or other liquid or semi-solid preparations to the scalp at the roots of the hair without wetting the hair or contacting therewith to any substantial extent, and without soiling the hands of the operator.

Another object of the invention is to provide a new form of apparatus adapted for massaging the scalp and which will serve to feed massage cream or other preparation to the scalp automatically during the massage treatment.

Another object of the invention is to provide an apparatus for the purposes above set forth which may be made from pressed sheet metal in a manner such that it may be readily assembled and may be produced at a low cost.

With these and other objects in view, which will be apparent from the following description, the invention comprises the various features hereinafter described, and particularly defined in the claims.

The invention is illustrated in its preferred form and in various modifications thereof in the accompanying drawings, in which:

Fig. 1 is a plan view of the preferred form of the invention;

Fig. 2 is a view in elevation of the form of the invention shown in Fig. 1;

Fig. 3 is a vertical section of the device taken on the line 3—3 of Fig. 2;

Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 3;

Fig. 5 is an end view of the body portion in a plane at the line 5—5 in Fig. 1 showing the body portion in the process of manufacture before the connecting member or screw collar has been attached to the body portion;

Fig. 6 is in elevation partly in section showing a portion of the body of the device with the connecting member or threaded collar attached thereto;

Fig. 7 is a plan view of a modification of the device in which a different form of attaching or connecting means is employed;

Fig. 8 is a view in elevation partly in section of the form of the device shown in Fig. 7, in which the body portion is made in two sections, a portion of the device being shown removed to indicate the manner in which the collar is expanded over the screw-threaded connecting portion of the device;

Fig. 9 is a section taken on the line 9—9 of Fig. 8;

Fig. 10 is a plan view partly in section of a form of the invention in which a portion of the connecting member or collar is made integral with the body portion, a screw-threaded portion being inserted within the member;

Fig. 11 is a view in elevation of the form of the device shown in Fig. 10;

Fig. 12 is a transverse section taken on the line 12—12 of Fig. 11; and

Fig. 13 is a view in perspective of the preferred form of the invention applied to a bottle to illustrate the manner in which material may be fed to the device during use.

The comb or massage device constituting my invention comprises a body portion which is made up preferably of two sections, the tines or teeth of the comb being attached to one of the sections before the sections of the body portion are joined. When the device is assembled the body portion is formed by uniting the sections longitudinally so that the body portion formed therefrom has a longitudinal seam along the connected portion. In each of the teeth of the comb is a valve which is mounted independently of the body portion of the device so that the valves may be independently attached and adjusted.

A comb or massage device of this form if made from solid metal would be exceedingly heavy and would be very difficult to assemble because of the manner of mounting the valves, whereby the cost of the device would be substantially prohibitive. The method of manufacture which I have discovered, however, permits manufacture of the device at a low cost and produces an article which is comparatively light and may be easily manipulated. Moreover, the method of manufacture permits the adjustment of the valves in the device while they are readily accessible, before the assembling of the parts, so that after the various sections or parts of the device have been soldered or expanded or otherwise connected, there will be no occasion for further adjustment of the valves. The device may be easily manufactured from sheet metal which may be pressed into the desired form; and in order to connect the

device to a bottle or other container, a screw-threaded connector, at least a portion of which is circumferentially continuous, is employed which may be soldered in place or expanded therein to prevent the longitudinally divided body from opening when the connector is attached to the body portion.

Referring more in detail to the drawings, the numeral 2 designates a casing or body portion of the device which is preferably made of pressed sheet metal, and which is preferably of a form tapering from the feed end 4 of the device toward the nose portion 6. Attached to the body portion 2 of the device are a series of hollow teeth or tines 8 which have an opening extending therethrough and are preferably made of pressed sheet metal of a form tapering inwardly from the end 10 connected to the body portion to the outer end 12 of the teeth. The ends 12 of the teeth are rounded so that when the teeth are moved over the scalp coming into contact therewith at the roots of the hair, a massaging action will take place serving to rub in the preparation supplied through the teeth.

In order to control the feed of material passing through the teeth 8, valves 14 are provided to which valve stems 16 are connected to hold the valves in position. The valves 14 may be held in position by an outwardly extending portion which normally projects through openings 18 in the ends of the teeth and has a sufficient clearance so that when the valves are opened the material or preparation within the teeth will be permitted to escape. At the inner side of the openings 18 are valve seats 20 on which the corresponding portions 22 of the valves 14 are adapted to seat. The upper portions of the valve stems 16 connected to the valves are held in place by means of centering devices 24, which are preferably in the form of a spider, and in which are openings 26 through the central portions thereof.

The spiders or centering members have outwardly extending arms 28, 30 and 32 which are adapted to fit into grooves 34 in the interior of the teeth and at the upper portions thereof, the corresponding outwardly extending projections extending around the periphery of the upper portion of the teeth, shown more particularly in Fig. 3 of the drawings, serving as guides in assembling or attaching the teeth to the body portion of the device. The teeth 8 are preferably connected to the body portion by inserting them through corresponding openings 38 in a metal plate 36, the openings 38 therein corresponding substantially in diameter to the external diameters of the upper portions of the teeth, whereby the teeth may be inserted through the openings and may be connected in place in any suitable way, although I preferably expand the ends of the teeth so as to form a tight fit in the openings. After the teeth have been attached in the metal base or plate 36 the body portion 2 may be connected to the base portion either by welding or brazing, or in any other suitable manner so as to prevent leakage between the body portion and the plate.

In order to force the valves or massaging ends 14 into contact with the lower ends of the teeth so as to prevent leakage of material through the ends when the device is not in use, I preferable employ spring members adapted to force the valves into contact with their seats 20, and for this purpose I may employ helical spring members 40 around the stem 16, the spring members being held in place at one end by abutting on the spider member 24, through which the stem slides, and at the other end by a bracket 42 attached to the stem, whereby when the valve 14 is lifted from its seat 20, and the stem 16 is moved upwardly, the spring 40 will be compressed by the upward movement of the support 42. While the valve 14 is lifted from its seat, the material within the teeth is free to pass outwardly through the openings 18 until the valve is again closed. During the assembly of the parts of the device the valves and the parts directly connected therewith are fastened in place in the base member 36 before the base member is attached or connected to the body portion 2, the inner ends of the teeth being expanded so as to firmly hold the teeth in place.

After the plate 36 has been connected to the body portion the ends of the body portion at the section 5—5 of Fig. 1 are preferably folded over as shown in Fig. 5, leaving an opening 44 through the central portion thereof through which material may be passed from a bottle or collapsible tube through the connection or screw collar 46, for example, into the body portion of the device.

The bent portions at the end of the device, as shown in Fig. 5, forming the opening 44 may be soldered together or brazed in any suitable manner so as to firmly connect the parts, and the connecting member or screw collar is then connected thereto by expanding a part 48 connected thereto through the opening 44 as is shown more particularly in Fig. 6 of the drawings. The connecting member 46 is preferably screw-threaded as at 50 so that the device may be connected to a bottle or any other suitable container. In the preferred form of the device the cross section of the body portion is preferably substantially rectangular as shown in Fig. 3 of the drawings, although obviously the contour may be modified more or less to provide for ornamentation.

In Figs. 7, 8 and 9 a form of the device is shown in which the body portion is made

up of two sections which may be substantially halves, the sections being soldered or brazed together along the central, longitudinal plane of the body, and the feed end of the body portion being made integral therewith. The threads in the end portion may be pressed therein to provide means for connecting the device to a bottle or collapsible tube. In order that the screw threads may not be exposed to view at the ends of the device a collar or ring 3 may be mounted over the end threaded portion 5, the ends of the collar being preferably expanded or bent over around the ends of the threaded portion so as to firmly hold the collar in contact therewith.

In Figs. 10, 11 and 12 is shown a second modification of the device in which the body portion 2 comprises two halves or sections having outwardly extending flanges 21, 23, the teeth 8 being preferably attached to the lower section by expanding the teeth through openings therein, the lower section 7 being then connected to the upper section 9 by brazing, soldering, or in any other suitable manner. In this form of the device in order to provide attaching means for a bottle or a collapsible tube or coupling member, I preferably form the feed end slightly enlarged and insert an internally threaded ring 25 in the feed end of the device, the ring being of such a size as to abut against an inner shoulder 27 of the body portion, the outer periphery 29 of the body portion being spun or flanged over the end of the ring 25 so as to form a rigid connection therewith.

In Fig. 13 of the drawings the device is shown connected to a bottle 52 having a screw-threaded neck 54 fitting into the collar or connecting member 46 of the device. It is to be understood that although the device is illustrated in connection with a bottle it may be attached to a collapsible tube, for example, or to a tank or other means for holding the preparation to be supplied to the comb. The material to be supplied may, if desired, be held under pressure so that as the valves 14 are lifted the material will be forced out through the openings 18 in the ends of the teeth.

In the operation of the device the apparatus is first connected to the container holding the material which is to be applied to the scalp; the teeth of the apparatus are then pressed gently against the scalp with sufficient pressure to lift the valves, whereby the material within the teeth will flow outwardly through the ends thereof into contact with the roots of the hair. As the ends of the teeth are rounded, as are also the projecting ends of the valves, the device may be employed for massaging the scalp while massage cream or hair tonic or other material is applied to the scalp.

It is to be understood that various changes or modifications may be made in the parts of the device or in the form thereof without departing from the spirit or scope of the invention as defined in the claims.

I claim:

1. A comb comprising a body portion divided longitudinally, a series of hollow teeth secured to one of said portions, a spring pressed valve mounted in each tooth independently of said body, each hollow tooth having a rib near its base constituting an exterior shoulder abutting against the body section and an abutment for the spring held by the interior of said rib in each tooth.

2. A comb comprising a body portion divided longitudinally, a series of hollow teeth secured to one of said portions, a spring pressed valve mounted in each tooth independently of said body, each hollow tooth having a rib near its base constituting an exterior shoulder abutting against the body section and a combined guide for the valve and abutment for the spring held by the interior of said rib in each tooth.

3. In a device of the character described for applying preparations to the scalp from a connected source of supply, a sheet metal body divided longitudinally and having at its end adjacent said source of supply a connector at least a portion of which is circumferentially continuous to prevent the divided body from opening longitudinally when the connector is attached.

4. A device of the character described comprising a sheet metal body formed of longitudinal sections having junctions at intervals around its periphery, a threaded connector at one end of the body extending circumferentially past said junctions, at least a portion of said connector being integrally continuous circumferentially, whereby when the connector is threaded on a complementary part said portion restrains said body from opening at said junctions.

5. A comb comprising a hollow pressed metal body portion, an opening in one end of the body portion for the reception of a connecting member adapted for connection to a bottle or other container, a series of hollow tapering teeth rounded at one end connected to said body portion and having a valve unit within each of said teeth comprising a valve having a portion adapted to project through the said rounded ends, a valve stem, centering means for the valve and valve stem, springs for holding said valves in pressure contact with their seats, one end of each of the springs abutting against a stop member connected to the valve stem and the other abutting against a stop member rigidly connected to the teeth and through which said valve stem passes, whereby when the valves are pressed into contact with a surface valves will open and the material

contained in the body portion will issue through the ends of the teeth.

6. A method of making a scalp treating comb which comprises forming a pressed metal body portion having one side thereof open for the insertion of a base plate, expanding hollow metal teeth containing valves into a base plate and connecting the said base plate having the metal teeth connected thereto to said metal body portion, and connecting a screw-threaded member to one end of the body to permit passage of a preparation to be used thereto.

7. A method of making a scalp treating comb which comprises forming a pressed metal body portion with one end and one side thereof open, forming hollow pressed metal teeth having a rounded end and a valve seat in the teeth adjacent the rounded end thereof, placing a valve and valve stem in each of said teeth adapted to seat upon the valve seats, and a helical spring around each of the stems to normally hold the valves in pressure contact with their seats, expanding the said teeth into a base plate member, connecting the said base plate member into the open side of said body portion, and expanding a screw-threaded member into the open end of the body portion whereby the comb may be connected to a source of supply of material to be used therein.

8. In a method of making a scalp-treating comb the steps which comprise shaping a metal body portion by a pressing operation so as to leave one side thereof open for the insertion of a base member, connecting hollow metal teeth containing valves to a base member by expanding the said teeth into the said member, and thereafter inserting the said base member into the open side of the said metal body portion and forming a tight joint between the said body portion and the said plate.

Signed by me at Lowell, Massachusetts, this 4th day of August, 1926.

BUTLER AMES.