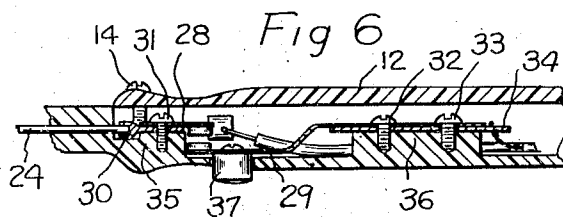
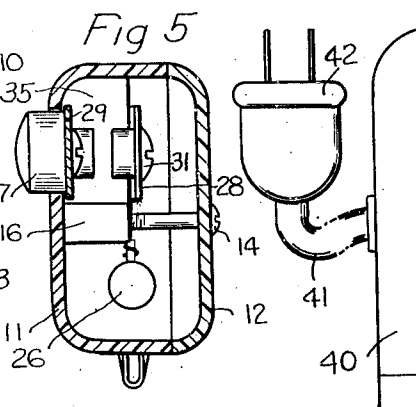
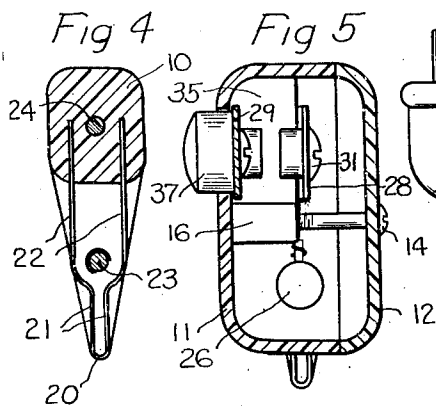
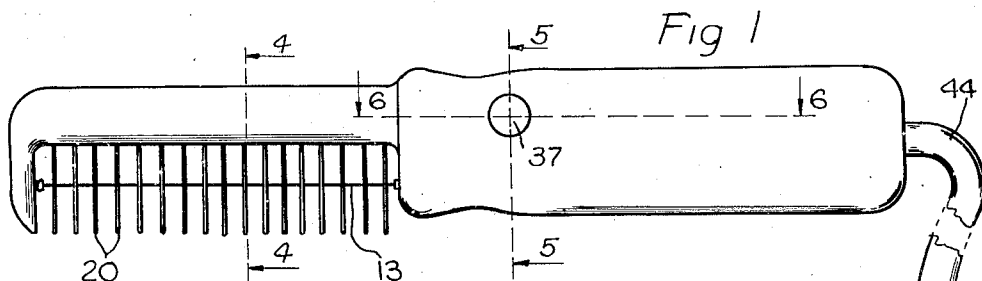
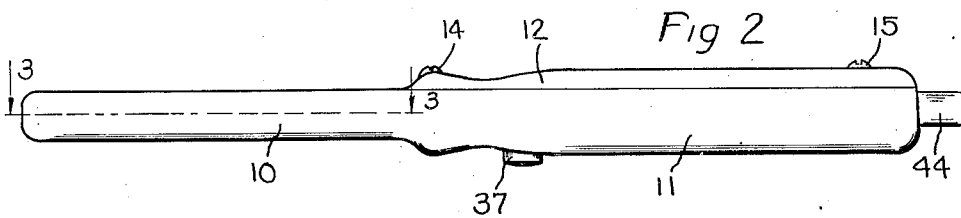
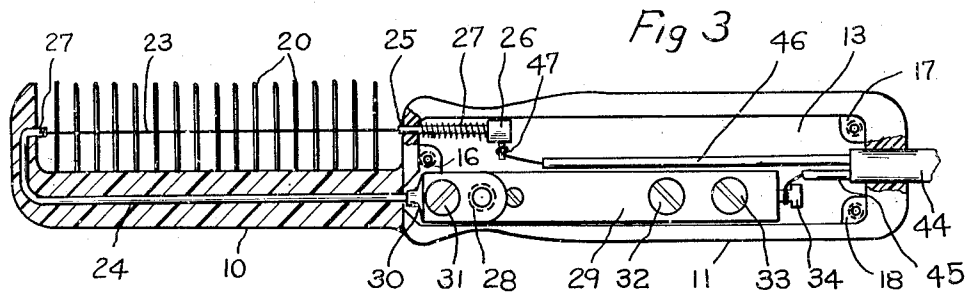


Dec. 20, 1949

G. H. BRADLEY
HAIR SINGEING DEVICE
Filed Oct. 2, 1947

2,491,708



INVENTOR.
GEORGE H. BRADLEY
BY *R. Y. Richardson*
ATTORNEY

UNITED STATES PATENT OFFICE

2,491,708

HAIR SINGEING DEVICE

George H. Bradley, Delavan, Wis., assignor of
one-half to H. L. Doudna, Delavan, Wis.

Application October 2, 1947, Serial No. 777,488

5 Claims. (Cl. 219—29)

1

The present invention relates to hair singeing devices, and the object of the invention is a new and improved device of this character.

According to the preferred embodiment of the invention it comprises a comb, molded of suitable plastic material and having a back or body portion with an integrally formed handle. Associated with the teeth of the comb, which may be made of stiff wire, there is a resistance wire adapted to be heated by low voltage current supplied from a stepdown transformer. The device is connected with the transformer by a flexible cord and the supply of power to the resistance wire is controlled by means of a switch located in the handle.

The invention and various features thereof will be described more in detail in the ensuing specification, reference being had to the accompanying drawing, in which

Fig. 1 is a side or plan view of the comb, showing also the transformer and connecting cords;

Fig. 2 is a top or back view of the comb;

Fig. 3 is a view taken from above in Fig. 2, with the cover for the handle cavity removed and the body of the comb shown in section;

Fig. 4 is a section on the line 4—4, Fig. 1;

Fig. 5 is a section on the line 5—5, Fig. 1; and

Fig. 6 is a partial section on the line 6—6, Fig. 1.

Referring to the drawing, the reference character 13 indicates the body of the comb, while the handle is indicated at 11. These parts are preferably molded in one piece from suitable synthetic plastic material. The handle 11 has a cavity 13 therein, as seen in Fig. 3, which is closed by a cover 12, Fig. 2. The cover 12 forms part of the handle and is held in place by means of a screw 14 and two screws such as 15, which are threaded into bosses 16, 17, and 18.

The teeth of the comb are indicated at 20 in Figs. 1 and 3. They are preferably made of stiff wire, such as piano wire, although other material could be used. As shown in Fig. 4, each tooth is formed of a single piece of wire and is shaped somewhat like a hairpin, except that the wire sections 21 are considerably closer together than the sections 22. The ends of the latter sections are embedded in the body 13 of the comb.

The hair singeing element 23 is a wire about .030 inch in diameter and made of Nichrome or other suitable resistance material. One end of the wire is secured to a tensioning device comprising a piece of tubing 25 inserted in a cylindrical head 26. The wire 23 extends into the tubing 25 and may be secured by soldering. The

2

tube 25 extends through the end of handle 11 and is provided with a spring 27 which is compressed between the inner wall of the recess in the handle and the head 26.

The other end of the wire 23 is secured to a heavy conductor 24 which is embedded in the body 13 of the comb. The projecting end 27 of conductor 24 preferably has a short longitudinal hole drilled therein intersected by a crossbore, thus providing for ready attachment of the wire 23. The connection should be soldered to insure good conductivity.

The conductor 24 not only provides a return connection for wire 23 but also acts as reinforcement for the body of the comb and renders the same less liable to breakage. It is large enough so that it is not perceptibly heated by the current which heats wire 23.

The switch by means of which the supply of current to the singeing wire 23 is controlled can be seen in Fig. 3, but is best shown in Fig. 6. It comprises a fixed contact member 28 and a movable contact member 29. The fixed contact member 28 and the terminal 30, to which conductor 24 is connected, are secured on the ledge 35 in the handle by a screw 31. The movable contact member 29 is secured on another ledge 36 by screws 32 and 33. The terminal 34 is clamped against ledge 36 underneath the contact member 29.

The movable contact member 29 is adjusted so that it normally assumes the position in which it is shown in Fig. 6. In this position the switch is open, that is, contact member 29 is out of engagement with contact member 28. The switch is closed by means of a button 37 secured to contact member 29 as shown and projecting through an opening in the handle.

The transformer for supplying current to the comb is indicated at 40 and comprises the usual iron core and primary and secondary windings enclosed in a suitable housing as shown. The primary winding will ordinarily be wound for operation on 110 volt commercial alternating current and is connected to a plug 42 by means of a two conductor cord 41. The secondary winding should be designed for an output voltage of about 6 volts and is connected to a pair of terminals such as 43. The comb is connected to the secondary winding of the transformer by the cord 44, comprising conductors 45 and 46, which at the transformer end are secured to the said terminals 43. At the other end of the cord, conductor 45 is connected to terminal 34 in the switch while conductor 46 is connected to a pin

47 projecting from the head 26 of the singeing wire tensioning device.

Before the comb is to be used for a hair singeing operation the plug 41 should be inserted in a convenient outlet so as to supply power to the transformer 48. The handle of the comb may then be grasped in the right hand, with the thumb on the button 37 for easy operation of the switch.

When the switch is closed a circuit is completed which may be traced from one terminal 43 of the transformer 48 by way of conductor 45, terminal 34, contact member 29, contact member 28, terminal 30, conductor 24, singeing wire 23, tensioning device 25—26, pin 47, and conductor 43 to the other terminal 43 of the transformer. Current flow over this circuit very quickly heats the wire 23, which assumes a bright red color within about 2 or 3 seconds. When the switch is opened the circuit is broken and wire 23 quickly cools. Needless to say the output voltage of the transformer should be of the correct value to quickly heat wire 23 to a singeing temperature but should not be high enough to overheat and destroy it. For a Nichrome wire having a diameter of .030 inch, an output voltage of 6 volts has been found to give satisfactory results.

The singeing operation is carried out by suitable manipulation of the comb through the hair of the customer, as will be readily understood. Where the hair is short the device is used much as an ordinary comb, holding it with the teeth perpendicular to the head of the customer, or at a slight angle thereto, and drawing the comb back and forth so as to bring the ends of the hairs in contact with the singeing wire. The operation is facilitated by the shape of the teeth, characterized by a constriction toward the lower end and a wide spacing in the vicinity of the singeing wire. As the hairs leave the constricted portions of the teeth the ends seem to separate and curl or bend into the space surrounding the wire and into contact with it. Where the hair is long an ordinary comb may be used to advantage with the left hand to raise the hair and bring it into position for application of the singeing comb. The operation will vary somewhat depending on the condition and texture of the hair of each customer, but with a little experience the operator will be able to adjust the procedure to each case and will have no difficulty in securing satisfactory results.

The invention having been described that which is believed to be new and for which the protection of Letters Patent is desired will be pointed out in the appended claims.

I claim:

1. A hair singeing device comprising a comb having a handle and a tooth supporting body, wire teeth supported on said body in parallel spaced relation, each tooth comprising a single wire folded at the center to form generally parallel side sections, the ends of which are embedded in said body, said side sections being close together near the end of the tooth and more widely spaced adjacent said body, a singeing wire supported on said body and handle and extending between the side sections of each tooth at points where said side sections are widely spaced, and means for supplying current to said wire to heat the same.

2. A hair singeing device comprising a comb having a handle and an integrally formed body

molded from plastic material, said handle having a cavity therein and said body having an offset at the end opposite said handle, a wire tensioning device located in said cavity, a singeing wire stretched between said offset and said tensioning device, wire teeth projecting from said body beyond said singeing wire and encompassing the same in front and rear, and a circuit for heating said wire including a switch located in the cavity in said handle, said circuit also including a conductor connected to said singeing wire at said offset and extending through said body to said switch.

3. A hair singeing device comprising a comb having a handle and a tooth supporting body molded of plastic material, a row of spaced wire teeth projecting from said body and individually supported thereon, each tooth being formed of a single piece of wire bent to the general shape of a hairpin, each tooth having its open end embedded in said body and insulated from the other teeth by the plastic material of which said body is composed, a singeing wire extending parallel to said body between the two side sections of each tooth, and circuit means including a switch in said handle for heating said wire.

4. A hair singeing device comprising a comb having a handle and an integrally formed solid imperforate body molded of plastic material, wire teeth embedded in said body and individually supported in spaced relation solely by the plastic material of which the said body is composed, each tooth being made of a single piece of wire and having two generally parallel sections projecting from said body and joined together outside said body by a curved section, a singeing wire extending parallel to said body and between the parallel sections of each tooth, means for supporting said singeing wire, including means for maintaining it under tension, and means for connecting said singeing wire in an electrical circuit.

5. A hair singeing device comprising a comb having a handle and a tooth supporting body, said body having an offset at the end opposite said handle, a wire tensioning device located in said handle, a singeing wire stretched between said offset and said tensioning device, a row of wire teeth projecting from said body, each tooth comprising a single wire folded to form a loop disposed beyond said singeing wire and side sections extending between said loop and body on opposite sides of said singeing wire to encompass the same in front and rear, a circuit for heating said wire including a conductor connected to the wire at said offset and extending through said body to said handle, and a switch located in said handle for closing said circuit, said handle being recessed to provide for enclosing said tensioning device and circuit elements including said switch.

GEORGE H. BRADLEY.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
539,445	Seide	Sept. 7, 1897
1,720,775	Welden	July 16, 1929
1,920,763	Barker	Aug. 25, 1931
2,112,068	Cole	Mar. 22, 1938
2,419,184	Young	Apr. 15, 1947