

March 27, 1951

F. C. HUNT

2,546,541

COMB AND COMB-LIKE DEVICE

Filed Nov. 18, 1946

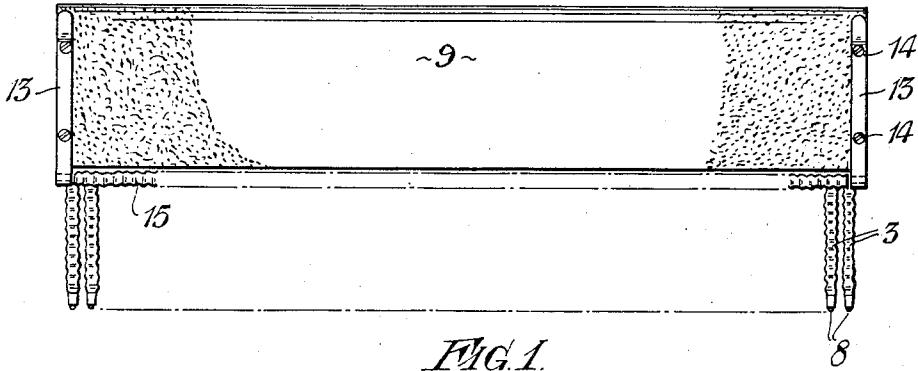


FIG. 1

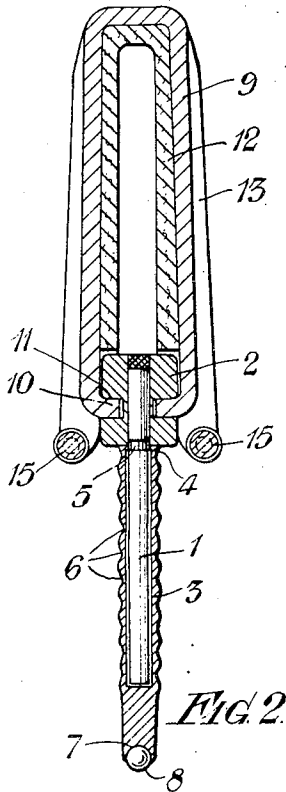


FIG. 2

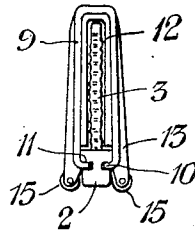


FIG. 3

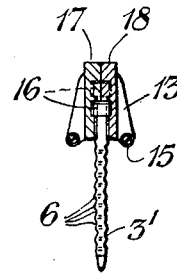


FIG. 4

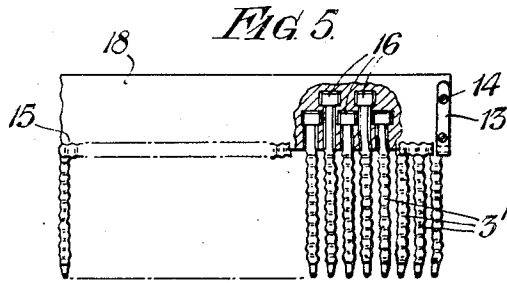


FIG. 5

Inventor  
Francis Charles Hunt  
by Sommers & Young  
Attorneys

# UNITED STATES PATENT OFFICE

2,546,541

## COMB AND COMBLIKE DEVICE

Francis Charles Hunt, London, England

Application November 18, 1946, Serial No. 710,549  
In Great Britain November 29, 1945

6 Claims. (Cl. 132—15)

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This invention concerns improvements relating to combs and comb-like devices, hereinafter referred to as combs.

In a comb in accordance with the invention, the teeth, preferably round in cross-section, are mounted so as to be capable of rotating in either direction about their axes and are formed with circumferential rills. Such a comb has, it is believed, the advantage that less friction is set up during relative movement between the comb and the filamentary material upon which it acts. Consequently not only is less work involved, but also there will be less tendency to produce or release frictional electricity. In the case of a hair comb, the rotatable teeth allow the comb to be drawn more easily through the hair in any direction and with less danger of damaging or breaking the hair. Furthermore, it is believed that the reduced release of electricity and development of heat resultant upon the reduced friction should have a beneficial effect upon the hair, permitting more natural growth of strong lustrous hair and encouraging any tendency to curl. In the case of curly or permanently waved hair, the comb according to the invention, whilst equally or more effective in disentangling the hair, has less tendency to straighten the curls or damage the wave than has an ordinary comb. With all kinds of hair, in addition to the combing effect, there is a polishing or sheen-producing effect upon the hair.

The circumferential grooves or rills assist in separating the hair during combing and in preventing the bunching of the hair against the spine of the comb.

Advantageously the free ends of the teeth of the comb, particularly a hair comb, are provided with small freely rotatable balls. This provision avoids the scratching or inflammation to which sensitive scalps are liable when a comb with pointed teeth is used.

In an advantageous arrangement, rollers, preferably also provided with circumferential rills or grooves, are disposed longitudinally on both sides of the spine of the comb at or slightly below the lower edge thereof, i. e. the edge from which the teeth project. These rollers may thus mask the roots of the teeth and assist in preventing hair from being caught there. Also they act upon the hair to assist in producing a sheen.

Two embodiments of the invention by way of example will now be described with reference to the accompanying drawings, in which:

Fig. 1 is a side elevation of a comb and case,

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the comb being shown fitted into the case ready for use,

Fig. 2 a transverse cross section thereof to a larger scale, and

Fig. 3 an end view of the same comb and case, the comb being shown accommodated in the case in the position occupied when it is not in use.

Fig. 4 is a side elevation, partially in section, of a portion of a rather simpler form of comb, and

Fig. 4 is a side elevation, partially in section, of a portion of a rather simpler form of comb, and Fig. 5 a cross-section thereof.

In the form of comb illustrated in Figs. 1-3, a series of pins 1 is fixed in the spine or back 2 of the comb and the teeth proper 3, which are hollow over a greater or less fraction of their length, are rotatably mounted upon the said pins. The teeth are prevented from becoming detached from the pins by turning in a very fine flange 4 at the top of each tooth so that it engages an annular groove 5 in the pin. The teeth are formed with small circumferential grooves or rills 6 over the whole or a substantial part of their length. The free ends of the teeth are formed with sockets 7 in which freely rotatable balls 8 are fitted.

A flat open-ended case 9 for this comb has in-turned flanges 10 at its lower edges which can be slidably engaged with longitudinal grooves 11 in the spine 2 so as to hold the comb either with its teeth projecting (Fig. 2) or with the teeth housed (Fig. 3). In the former position, the case serves as the part to be held by the user whilst combing the hair. The case 9 has a lining 12 of felt which has a cleaning action upon the teeth 3 whenever they are inserted in or removed from the said case. Brackets 13 attached to the case 9 by screws 14 support rotatable longitudinal rollers 15, rilled like the teeth 3, at or below the level of the roots of the said teeth.

The particular design shown in Figs. 1-3 was devised for manufacture wholly of metal. Combs in accordance with the invention can, however, be made wholly or in part of other materials, particularly plastics, papier-mâché and so forth, particularly attractive results being obtainable by the use of coloured and/or transparent plastics.

The somewhat simpler comb shown in Figs. 4 and 5 may be made largely of plastic. In this case, the roots of the solid teeth 3' provided with enlargements 16 are received in complementary recesses formed in the two halves 17, 18 of a longitudinally divided spine, the said halves being

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stuck together (as shown) or hinged or otherwise secured together so as to permit replacement of broken teeth. Alternate long and short teeth permit of the enlargements 16 being staggered and the teeth arranged closer to each other. In this example, the balls 8 may be dispensed with and the brackets 13 for the longitudinal rollers 15 mounted directly upon the spine parts 17, 18.

I claim:

1. A comb comprising a spine, comb teeth formed with circumferential rills and mounted on the spine so as to be capable of rotation about their axes, and freely rotatable balls mounted in the free ends of the teeth.

2. A comb according to claim 1 and comprising rotatable rollers arranged to extend longitudinally on both sides of the spine of the comb slightly below the lower edge thereof.

3. A comb comprising a spine, comb teeth mounted on the spine so as to be capable of rotation about their axes, and rotatable rollers arranged to extend longitudinally on both sides of the spine slightly below the lower edge thereof.

4. A comb according to claim 3, wherein the rollers are provided with circumferential rills.

5. A comb comprising a spine, rotatable teeth mounted on the spine, a case having formations

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engageable with the spine so that the case can be slid longitudinally thereon with the teeth either housed within the case or projecting therefrom, and longitudinal rollers mounted upon the case so as to extend on both sides of the spine.

6. A comb comprising comb teeth mounted so as to be capable of rotating about their axes and formed with circumferential rills, the free ends of the teeth being provided with small freely rotatable balls.

FRANCIS CHARLES HUNT.

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