March 7, 1961 P. KOBLER 2,973,574

SHAVERHEADS ON ELECTRICAL OR MECHANICAL SHAVERS

Filed Jan. 15, 1960

Fig. 1

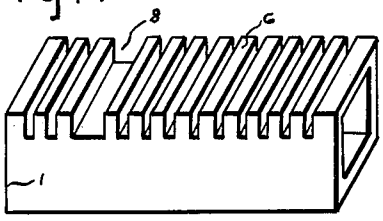


Fig. 4

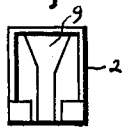


Fig. 5

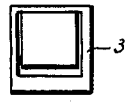


Fig. 2

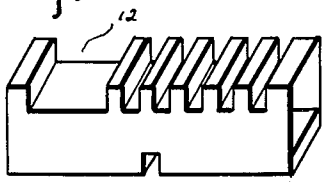


Fig. 6

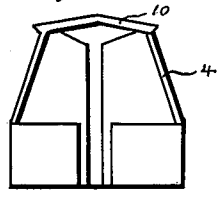


Fig. 3

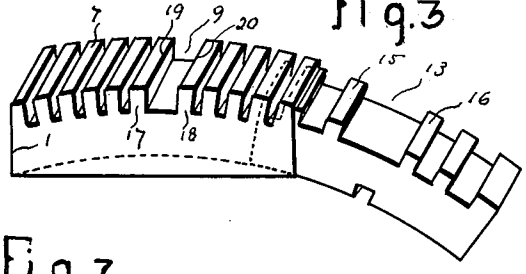
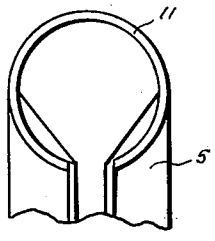


Fig. 7



INVENTOR

Paul Kobler

United States Patent Office 2,973,574 Patented Mar. 7, 1961

2,973,574

SHAVERHEADS ON ELECTRICAL OR MECHANICAL SHAVERS

Paul Kobler, 81 Fenimore St., Lynbrook, N.Y.

Filed Jan. 15, 1960, Ser. No. 2,618

1 Claim. (Cl. 30—43)

The present invention relates to apparatus, intended to be driven either electrically or mechanically, for cutting off or shaving hairs. This apparatus being of the kind including an outer stationary cutting head and an inner movable cutter element. One of the drawbacks of apparatus of this kind is, that when the apparatus is applied against the skin only the hairs that have penetrated between the teeth of the stationary shearhead are cut off, while remaining stubble are bent down against the skin. If at the same time the skin around the stubble is shaved off too close through previous motions of the apparatus, said skin has the tendency to grow over the bent stubble and we get, what is known as an ingrown hair. In other words like a scar forms over the bent down stubble. This scar, as thin as it is, is sufficiently strong to keep the hair from growing through, and outside the scar. The hair mostly curls together when it continues to grow underneath said scar and finally the scar has to be opened with a pin, in order that the hair can grow normally again. This procedure is rather unpleasant. The object of the present invention is to provide an apparatus of the kind above referred to, which obviates the drawback above mentioned.

The essential feature of the present invention consists in making the cutting elements of a razor of the type above mentioned with a special opening in the cutting surface of the outer stationary shearhead and a corresponding opening on the movable inner cutter. This opening in the cutting surface representing an inactive area in the cutting surface. The inactive area in the outer shearhead is bordered by two widely apart cutting edges. These widely apart cutting edges remove the scar above mentioned from the ingrown hair, when they are moved back and forth over the ingrown hair. As we shave mostly every day, the scar that might have developed over night is removed again the next day when we use this razor and the hair may grow out sufficiently before a new scar has formed.

Preferred embodiments of the present invention will be hereafter described, with reference to the accompanying drawings, in which—

Fig. 1 is a front view of an outer stationary shearhead.

Fig. 2 is a front view of an inner movable cutter.

Fig. 3 is a front view of an outer and inner cutter.

Figs. 4, 5, 6 and 7 are side views of different embodiments of shearheads.

The following description relates to the examples of shaving apparatus according to the invention for cutting off and shaving hairs and to avoid ingrown hair.

The shaving apparatus according to the invention includes a cutting head, designated in a general manner by reference characters **1, 2, 3, 4** or **5**.

These cutting heads are provided with a plurality of teeth or knives **6** seen in Figs. 1 and 7 seen in Fig. 3, forming fixed external combs mounted in a removable manner on the handle of the apparatus or attached to a hinge whereby they can be folded up for cleaning purposes. Usually these heads are elongated as seen in Figs. 1 and 3. However the cutting knives may also be arranged in a circle. According to the invention the shearheads have the teeth or knives separated by openings between these teeth and these openings at regular intervals all along the cutting surface of the shearhead. However somewhere along the cutting surface of these shearheads one opening is much wider than the other openings. The wider opening in Fig. 1 is designated by reference character **8** and in Fig. 3 by reference character **9**. The shape of the shearhead does not make any difference. As long as the regular intervals of the teeth spaces are interrupted by a larger interval the desired result will be achieved. Fig. 3 shows a lengthwise curved shearhead. Fig. 4 shows a shearhead in cross section like Fig. 1 however with a differently shaped inner movable knife **9**. Fig. 6 shows a roof shaped cutting surface **10** and Fig. 7 has a round cutting surface **11**. As shown in the modifications the shape of the inner movable knife may also be of any shape. The inner movable knife has also a wider opening between the regular intervals between the cutting teeth. This opening is designated in Fig. 2 by reference character **12** and in Fig. 3 by reference character **13**. It will be noticed that the openings **12** and **13** in Figs. 2 and 3 are wider than the openings in the outer shearhead, number **8** and **9** seen in Figs. 1 and 3. The location of the opening **8** in Fig. 1 corresponds to the location of the opening in the inner movable knife seen in Fig. 2. The same is seen in Fig. 3 where the opening of the inner movable knife, designated by reference character **13**, corresponds to the opening **9** seen in the cutting surface of the outer cutting surface of the shearhead. Opening **13** has to be wider than opening **9** because the inner knife with opening **13** moves back and forth, inside the outer stationary shearhead. The wider opening **13** prevents that the adjoining teeth **15** and **16** of the inner knife will not move into the opening **9** of the outer shearhead and not beyond the inner cutting edges **19** and **20** of the teeth **17** and **18** respectively, of the outer shearhead member. This invention works therefore with reciprocating motions of the inner cutter only. The wider opening on the inner cutter prevents that the skin gets hurt when the razor touches the face that is to be shaved. The inner movable knives are reciprocated in the usual manner, mostly driven by a pin activated by a motor or vibrator. With this arrangement, I obtain an electrical or mechanical shaving apparatus for cutting off the hairs, which apparatus complies with the conditions above referred to in that the cutting head includes on the cutting surface an inactive area. This inactive area is bordered by cutting edges on the outer stationary shearhead. And these cutting edges dig up any ingrown hair, when the razor is moved back and forth over the surface of the human skin. By means of the shaving apparatus according to the present invention it is therefore possible to shave the skin with an up and down motion of the razor and to open clogged up skin pores with crosswise motions of said razor. With lengthwise curved shearheads as seen in Fig. 3 the wide opening **9** may also be at the beginning of the outer stationary shearhead, as illustrated in Fig. 1. However a lengthwise curved shearhead would have the advantage, that the main pressure of the cutting surface on the human skin, is in the middle of the curvature of such a lengthwise curved shearhead. According to the toughness of the skin, the opening **9** could be varied in its position on different shearheads. For a very delicate skin the wider opening **9** would be preferably near one of the ends of the elongated curved shearhead.

The epidermis, that is the outer, non sensitive layer of the skin, is surely different with every person. Some people may have it very soft, others may have it very hard. With some persons the bending down of a stubble may be sufficient cause to have the outer layer of the skin, the epidermis, grow over it and cause an ingrown hair.

The present invention makes it possible to expose to the skin two very thin edges on the teeth bordering the wider opening in the shearhead shaving surface. A gentle motion of these thin edges over a bent down stubble, will straighten up said stubble and prevent an ingrown hair. With a hard epidermis, some more pressure on the skin, with the shearhead, may be needed.

In the above description I have disclosed, what I consider to be my invention. What I claim is:

In a shearhead for shavers a stationary member and an inner movable cutter member, the inner movable cutter with a reciprocating motion, and both, the outer

stationary cutter member and the inner movable cutter provided with cutting elements, said cutting elements comprising transverse teeth, transverse to the direction of the motion of the inner cutter, and arranged at equal intervals with at least one larger unequal distance between two teeth, said unequal distance being wider between two teeth of the inner, movable member, than the unequal distance, corresponding to it in the outer stationary member.

No references cited.