

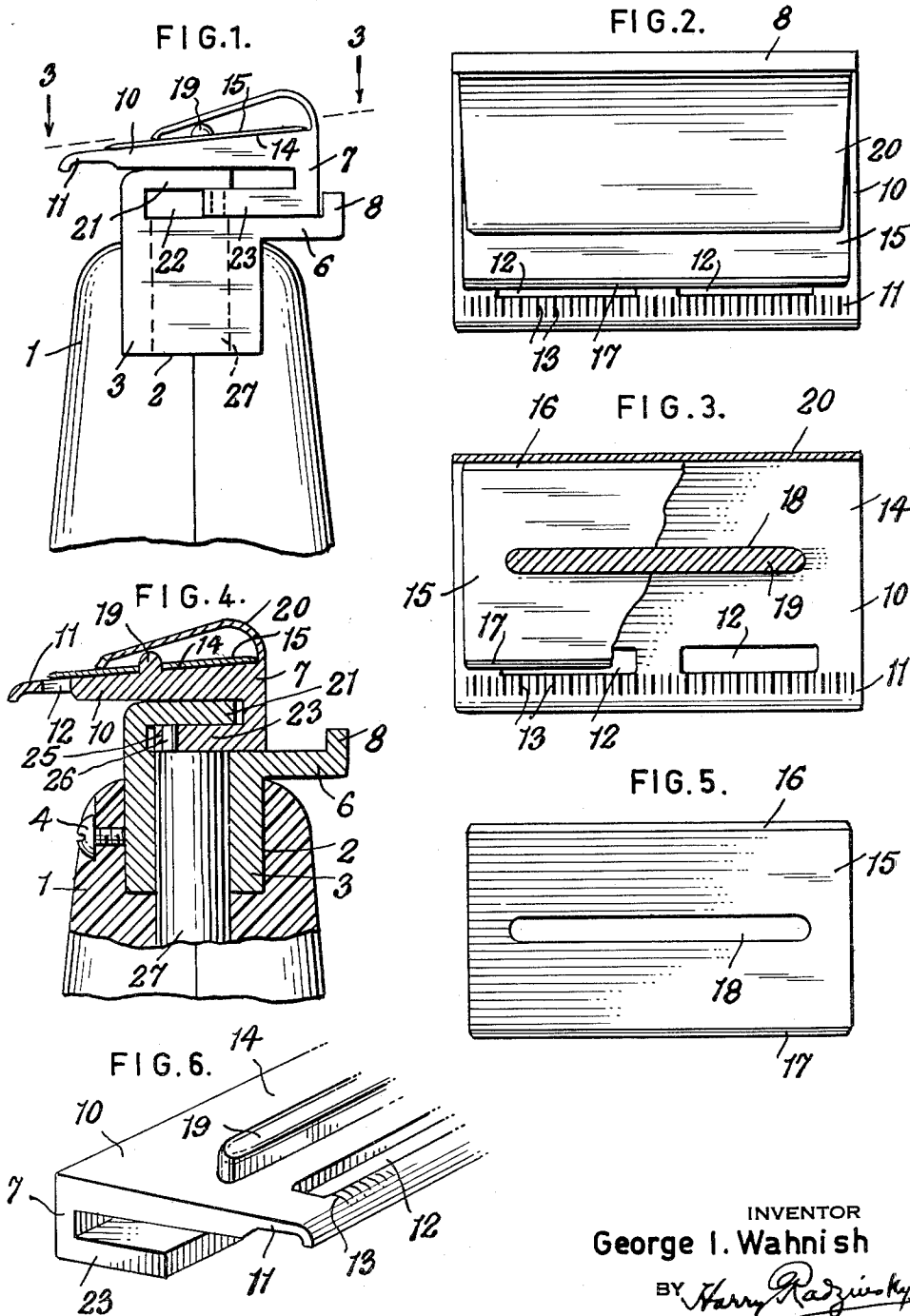
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RAZOR WITH RECIPROCATING SHAVING HEAD

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RAZOR WITH RECIPROCATING SHAVING HEAD
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1 Claim. (Cl. 30—45)

This invention relates to shaving devices of the electrical or mechanical type and more particularly to the type disclosed in my Patent No. 2,510,612, dated June 6, 1950

In that patent is disclosed a shaver or razor in which the blade or cutting element is moved relatively to a perforated or apertured plate or so-called guard, and by which a shearing operation is attained. I have ascertained that improved shaving results are possible by means of a razor or shaver construction in which the entire head of the razor, consisting of or including the blade and guard, is moved with an oscillating, or reciprocating movement during the shaving operation. That is to say, with the construction herein described there is no relative movement of the blade with respect to the guard, both the blade and guard being very rapidly vibrated, oscillated or reciprocated together as a unit and at the same speed.

It is therefore an object of the present invention to provide a razor which will operate as above described; which can utilize conventional types of razor blades of either the double-edge or single-edge type; and which will afford all of the facilities of the conventional wet or dry shaver while permitting a ready and inexpensive blade change when required, and which will produce a rapid, close and eminently satisfactory shave.

With these and other objects to be hereinafter set forth in view, I have devised the arrangement of parts to be described and more particularly pointed out in the claims appended hereto.

In the accompanying drawing, wherein an illustrative embodiment of the invention is disclosed

FIG. 1 is a side elevational view of a portion of a razor or shaver constructed according to the invention;

FIG. 2 is a top plan view of the same;

FIG. 3 is a sectional view, taken substantially on the line 3—3 of FIG. 1, looking in the direction of the arrows and with a portion of the blade fragmentarily shown to disclose construction;

FIG. 4 is a transverse sectional view through the cutting head and associated parts, with the head shown in its forward position;

FIG. 5 is a face view of a type of double-edged blade which can be used in the shaver, and

FIG. 6 is a perspective view of one end portion of the guard member, with the blade-clamping means omitted therefrom.

Referring to the drawing, 1 indicates the conventional casing or housing in which an electric motor, a spring motor, or other power source is contained. The casing or housing may be made in various shapes for convenience in handling or using the shaver. The source of power may be any one of those now presently known and used in electric or mechanical shavers and hence the details of the power unit are omitted from the drawing.

At the top, the casing or housing 1 is provided with a groove 2 in which the base portion of the head-guide 3 is received and is maintained by any suitable retaining means, such as the set screw 4. At its top, the head-guide 3 is formed with a rearwardly-extending horizontal flange 6, the upper surface of which constitutes a supporting shelf for the slidably-mounted shaving head, including a combined blade carrier and guard generally indicated at 7. At the rear end of the flange 6 is an up-

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standing wall 8 constituting a rear stop for the shaving head 7.

The shaving head 7 includes a plate 10 having its forward edge portion 11 shaped to constitute a blade-guard resembling that generally employed in the conventional safety razor. Slots 12 are formed in the guard portion 11 and forwardly of the slots are serrations 13. The guard portion 11 may be made in other forms known in razor construction, such as for example, that which is in toothed or comb-like formation.

The upper surface 14 of the plate 10 constitutes a table or supporting surface for the blade 15, and said surface 14 may be inclined in the manner shown in the drawing or it may be arched or curved or otherwise suitably shaped in any manner known in razor construction. The blade 15 may be any known type of safety razor blade, such as the type having two cutting edges 16 and 17 or the thicker, single-edge type. The drawing illustrates the conventional double-edge type provided with a central, longitudinally-extending elongated slot 18 into which a positioning rib 19, provided on the surface 14 of the plate 10 is fitted to retain the blade properly seated on the surface 14. It will be understood that the slot in the blade may be otherwise shaped and the rib which fits within it may similarly be shaped to fit it.

The blade 15 is clampingly held against its seat, consisting of the surface 14, by suitable clamping means, such as the spring finger or leaf shown at 20. In the drawing, the finger or leaf 20 is shown as being formed integrally with the head 7, but in actual commercial production said finger or leaf will probably be a separate element suitably attached to the head in any manner to exert the required clamping pressure on top of the blade 15 to flex it if necessary, to cause it to conform to the upper surface 14 of the plate 10. In FIG. 6 the shaving head 7 is shown with the clamping finger or leaf omitted.

Provided on the head-guide 3 is a flange 21 co-operating with the surface of the flange 6 in forming a channel 22 (FIG. 1) into which a bottom flange 23, formed on the head 7 enters. Flange 23 on the head 7 is thus guided between the top surface of the flange 6 and the lower face of the flange 21 and is permitted to have the required sliding movement while being oscillated or reciprocated and while being restrained from any movement axially of the operating shaft.

The flange 23 is provided with a central hole 25 which receives the eccentrically-positioned pin 26 on the end of the motor-driven drive shaft 27 of conventional construction. This engagement of the shaving head 7 by the pin 26 is such as to cause the shaving head, including both the plate 10 the guard 11 formed thereon and blade 15, to be rapidly oscillated. Since the guard and blade are rigidly but detachably connected together in the manner described, they will be oscillated together at the same speed and with no relative movement between them.

The oscillating movement of the shaver head, including both the blade and guard, produces a slicing operation on the hairs when the blade is moved over the face during the rapid oscillations. While the shaft 27 and its eccentrically-positioned pin 26 impart an oscillatory movement to the shaver head, it will be understood that a reciprocating movement, or one in which the head including both blade and guard, is moved back and forth parallel to the longitudinal axis of the blade and transverse to the direction of movement of the razor during shaving, may be readily secured by the use of a vibratory motor and reciprocated element driven therefrom and connected to the shaver head in the manner presently known in electric razor construction.

While I have herein described a single embodiment of the invention, it is obvious that various changes may be

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made in the illustrated structure without departing from the spirit of the invention. The shape and thickness of the blade may be varied, and the means for holding the blade and guard together in shaving relationship may also be altered, the primary feature of the present invention residing in the rapid movement of both the blade and guard together as a unit during the shaving operation.

What I claim is:

A razor having a driving shaft, a support through which the shaft extends, said support having a channel, a shaving head movable on the support and having a flange fitting in the channel, the support having a flange fitting over that on the shaving head and confining the flange of the shaving head in the channel, the head including

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a blade guard extending over and riding on top of the flange on the support, the guard having a forward portion extending forwardly of the support, and a blade fixedly mounted on the guard and carried along with the guard when the head is reciprocated in a direction longitudinally of the blade, the blade and guard being moved together as a unit in a direction transverse to the longitudinal axis of the drive shaft.

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