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G. STARRE

3,125,808

HEAD CONSTRUCTION FOR A DRY SHAVER

Filed May 17, 1960

2 Sheets-Sheet 1

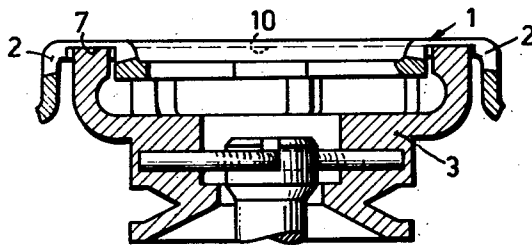


FIG. 1

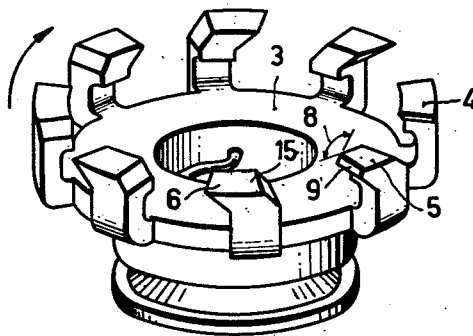


FIG. 2

INVENTOR
GERRIT STARRE

BY *Frank R. Linfer*
AGENT

March 24, 1964

G. STARRE

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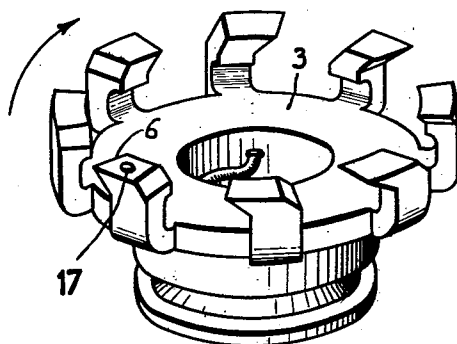


FIG. 3

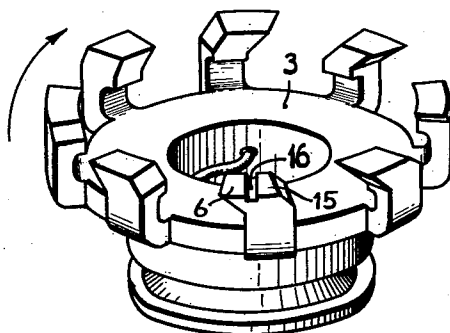


FIG. 4

INVENTOR

GERRIT STARRE

BY

Frank R. Trifari

AGENT

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3,125,808

HEAD CONSTRUCTION FOR A DRY SHAVER

Gerrit Starre, Drachten, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

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Claims priority, application Netherlands May 19, 1959
1 Claim. (Cl. 30—43)

The invention relates to a dry shaving apparatus comprising a cutting head which consists of an apertured shear plate and a cutting member movably arranged behind this plate, this member being provided with one or more cutting edges which co-operate with the boundaries of the apertures in the shear plate.

In the known dry shaving apparatus of the kind set forth the cutting edge(s) is (are) moved, during operation, along the surface of the shear plate and usually urged against this surface by means of a spring. Both the shear plate and the cutting member are made of metal, so that, in order to reduce the frictional losses and to avoid eating-in of the metal, it is desirable to provide a lubricant between the surfaces of the shear plate and the cutting edges. To this end the oil given off by the skin is satisfactorily suitable. However, owing to the shape of the known cutting edges, this oil is scraped off the skin and off the surface of the shear plate. This is due to the shape of the known cutting edges, which usually have an acute cutting angle.

The invention has for its object to utilize the available skin oil more completely for lubrication between the surfaces of the shear plate and the cutting edges.

In accordance with the invention the shape of one or more of the cutting edges arranged so as to be movable along the surface of the shear plate is such that the oil scraped off the skin penetrating through the apertures of the shear plate is smeared out over the surface of the shear plate.

It is true, the shape of the cutting edge(s) according to the invention will involve a certain reduction of the cutting effect, but this disadvantage is largely compensated by the advantage that an efficacious lubrication between shear plate and cutting member is automatically obtained. Moreover, it is possible to provide one or more additional cutting edges at the cutter to this end, so that additional cutting edges remain completely available for the cutting operation.

According to an advantageous embodiment of the invention at least one cutting edge on the front side is bevelled, so that the cross section of the material exhibits an obtuse angle.

In front of this obtuse angle the skin oil scraped off by the cutting edge accumulates, this oil being uniformly smeared over the surface of the shear plate owing to the shape of the front side of the cutting edge.

According to a further aspect of the invention the running surface of at least one cutting edge has an aperture which serves as a container for the skin oil during the operation of the apparatus.

The invention furthermore relates to a separate cutting member.

The invention will now be described more fully with reference to one embodiment.

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FIG. 1 shows, partly in a sectional view, a cutting head consists of a shear plate and a cutter.

FIG. 2 is a perspective view of the cutter shown in FIG. 1.

FIGS. 3 and 4 are perspective views of alternate constructions of the cutter illustrated in FIG. 1.

A shear plate 1 is provided with mainly radial slots 2. Behind the shear plate 1 is rotatably arranged a cutter 3, which is provided with cutting edges 4, 5 and 6. The direction of rotation with the shape of the cutting edges shown is indicated by an arrow. The cutting edges cooperate with the boundaries 7 of the slots 2 in the shear plate 1. The cutting edge 5 is bevelled on the front side, so that the cross section exhibits an obtuse angle 8. Thus the skin oil accumulates on the boundary 9 of this cutting edge and is smeared out by the movement of the cutter 3 over the shear plate 1 on the surface 10 thereof.

In FIG. 4, the cutting edge 6 is sharp on the front side. The running surface 15 of this cutting edge is, however, provided with a slot 16, which extends as far as in the boundary walls of the cutting edge 6. It is thus ensured that also the cylindrical, concentric centering walls of the shear plate are lubricated. As an alternative, the running surface of a cutting edge may be provided with a circular aperture, which is indicated in FIG. 3 by 17. The slot 16 or the aperture 17 does not affect adversely the cutting effect of the edge concerned, since the sharp front side of such an edge can be maintained.

What is claimed is:

30 A rotatable cutter for a dry shaver and operable with an apertured shear plate, said cutter comprising of plurality of cutting teeth projectingn from and circumferentially spaced around the cutter, said teeth including flat outer faces lying in a plane perpendicular to the axis of rotation of the cutter and providing top running surfaces, said teeth also including flat leading surfaces joining the flat outer faces at acute angles thereby providing cutting edges, at least one tooth having a bevelled leading surface between the outer face and flat leading surface, said bevelled surface extending at an obtuse angle relative to the outer face whereby the face skin oil penetrating through the apertures of said shear plate is scraped off the skin by said bevelled surface and deposited on the inner surface of said shear plate for lubrication purposes.

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