June 24, 1930. W. E. BLELOCH ET AL 1,768,307

SAFETY RAZOR

Filed July 12, 1928

FIG. 1.

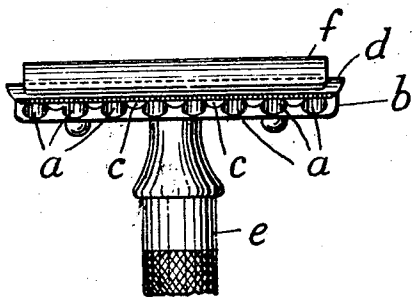


FIG. 2.

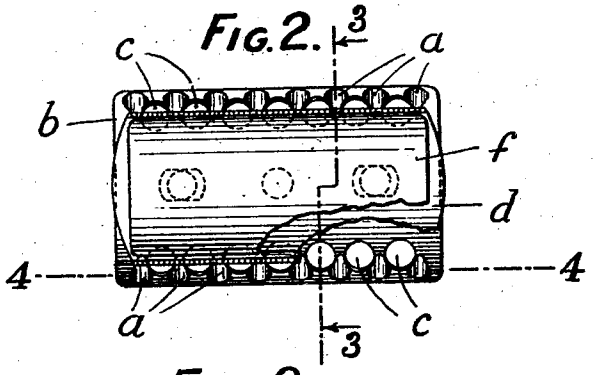


FIG. 3.

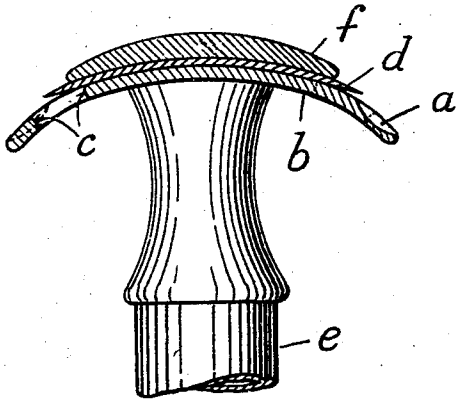
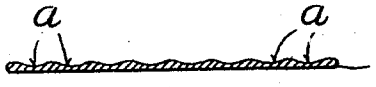


FIG. 4.



Inventors:
W. E. Bleloch and
Wm. Bleloch
By Watson E. Coleman Atty

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UNITED STATES PATENT OFFICE

WILLIAM EDWIN BLELOCH, OF JOHANNESBURG, SOUTH AFRICA, AND WILLIAM BLELOCH, OF EPSOM, ENGLAND

SAFETY RAZOR

Application filed July 12, 1928, Serial No. 292,203, and in Great Britain June 23, 1928.

This invention relates to safety razors of the kind in which a blade is clamped or otherwise secured upon a guard plate.

More particularly stated the invention relates to razors of this type in which the guard plate is formed with a row of perforations or apertures adjacent each longitudinal edge, said edges being straight or unbroken.

The object of the present invention is to provide an improved construction of safety razor which shall enable an unobstructed action of the cutting edge of the blade to be obtained along practically its whole length with a greater degree of safety and smoothness as compared with known razors.

Accordingly the present invention provides a safety razor of the kind indicated wherein the guard plate is formed with shallow basin or shell-like depressions located in the solid outer portion of the guard plate in front of and in staggered relation to the apertures and extending inwards on the portions of the guard plate intervening between the apertures.

Said depressions preferably each extend from a point on or near the medial line of the row of apertures to the adjacent edge of the guard plate, said medial line being parallel to and adjacent to the respective longitudinal cutting edge of the blade.

The accompanying drawings illustrate the invention as applied to a safety razor of the kind employing a flexible blade.

Fig. 1 is a front elevation of the safety razor, part of the handle being broken away.

Fig. 2 is a plan view thereof, the cover plate and blade being shown partially broken away for the sake of clearness.

Fig. 3 is a transverse vertical section on the line 3—3 of Fig. 2, drawn to a larger scale, and

Fig. 4 is a longitudinal section on the line 4—4 of Fig. 2 illustrating the form of the guard plate surface immediately in front of the edge of the blade.

The depressions *a* are preferably shell-like in form as aforesaid that is their width is greater at their outer ends, i. e. towards the edge of the guard plate *b* than at the points where they are formed in the metal separating the apertures *c* in said plate.

The depressions *a* are so formed that they will form a very gently undulating surface (see Fig. 4) immediately in front of the edge of the blade *d*, gradually becoming shallower until the outline merges into a straight line along the rounded edge of the guard plate *b* where it first comes into contact with the skin in shaving.

The apertures *c* in the guard plate may be of any suitable shape such as, for example, circular or oval, or semi-circular, semi-oval or semi-elliptical.

Sufficient material is left in the metal strips on each side of the apertures *c* to form a plane of support along their upper surfaces sufficient to support the blade *d* close to its thin edge and thus secure the necessary tension or rigidity.

In the case of the semi-circular holes the construction provides such a plane of support which is continuous. This provision of a sufficient and correctly placed plane of support for the blade close to each cutting edge is for the purpose of preventing the thin flexible edges of the blades from bending away from stiff hairs when brought into contact with them in shaving.

The arrangement of shallow basin-like depressions *a* in front of and in staggered relation to the apertures *c* in the guard plate *b*, according to this invention, enables a firm and unobstructed action of the cutting edge of the blade *d* to be secured along practically the whole of its length, with the greatest degree of safety and smoothness.

It will be understood that the present invention is applicable to all types of safety razors employing a guard plate, for example, razors such as illustrated in which the guard plate is detachably secured to the handle portion *e*, in a plane at right angles to the latter, by means of a screw-threaded boss on the cover-plate *f* or those razors in which the guard plate forms an integral extension of the handle portion.

It will be seen that we have provided a guard whose blade confronting surface is

gently undulated with the hollows wide and shallow at the outside edges while the crests between them are of rounded form.

The hollows provide clearance spaces for the operating edge of the blade and at the inner end of the crests there are apertures which also provide clearance spaces. These two sets of clearance spaces overlap each other so that the blade edge is operative along its entire length. At its edge the guard is straight and unbroken and there are no teeth. The undulations begin almost imperceptibly, and become more and more pronounced as the blade edge is neared. This construction gives a razor a peculiarly smooth and gliding effect while shaving.

This construction of the razor with its progressively deepening inward undulations makes it possible for the user, without having to unscrew the handle or without having to release the necessary tension of the blade, to secure any desired closeness of shaving, by simply changing at will the angle at which the edge of the guard is held and the pressure with which it is applied to the surface being shaved. The undulating surface protection is particularly smooth in operation and does not roughen or irritate the surface of the skin, as razors with toothed guards do, and inasmuch as the edge of the guard is untoothed, there is no chance of material collecting between the teeth which is bad from a hygenic point of view. The margin of the guard being corrugated permits the guard to be made of much thinner material than is necessary with toothed guards.

We claim;—

1. In a safety razor, a guard plate having a straight, unbroken operative edge, a blade detachably secured on said guard plate, the guard plate being formed with a row of apertures adjacent each of said edges so that the medial line of the row of apertures is parallel to and slightly inward of the respective longitudinal cutting edges of said blade, the guard plate having shallow depressions located in the solid outer portion of the guard plate in front of and in staggered relation to the said apertures and extending inward on the portions of the guard plate intervening between the apertures so as to provide a very gently undulating surface in front of and beneath the cutting edge of the blade.

2. In a safety razor, a guard plate coacting therewith having straight, unbroken, operative edges, the guard plate being formed with a row of apertures adjacent each of said edges so that the medial line of the row of apertures is parallel to and slightly inward of the respective longitudinal cutting edges of the said blade, the guard plate being formed with shallow depressions located in the solid outer portion of the guard plate in front of and in staggered relation to said apertures and extending inward on the portions of the guard plate intervening between the apertures, said depressions being of greater width at their outer ends adjacent the respective edges of the guard plate than at their inner ends adjacent the respective edges of the blade so as to provide a gently undulating surface to the guard plate in front of the cutting edge of the blade.

3. In a safety razor, a blade, a guard plate having straight, unbroken operative edges, and formed with a plurality of circular apertures disposed so that their centers fall on a line parallel to and slightly inward of the respective longitudinal cutting edges of the said blade, the guard plate having shallow semi-ovoidal depressions with their wider ends located in the solid outer portion of the guard plate in front of and in staggered relation to the said apertures and extending inward and narrowing on the portions of the guard plate intervening between the apertures to thereby provide a gently undulating surface to the guard plate in front of the cutting edges of the blade.

4. In a safety razor, a guard plate adjacent which the edge of the blade is disposed, the guard plate having a straight edge from end to end, the plate inward of the straight edge having a series of apertures extending in a line parallel to the edge and adapted to be intersected by the edge of the blade, the blade confronting face of the guard plate having shallow depressions extending inward from and opening upon the edge of the guard plate, one of said depressions being disposed intermediate each two apertures, and each depression at its outer end overlapping two adjacent apertures.

5. In a safety razor, a back, a guard, a handle holding the guard to the back, and a blade disposed between the guard and the back, the guard having a straight edge and inward of the edge having a series of apertures extending in a line parallel to the straight edge, the blade confronting face of the guard having shallow depressions extending inward from and opening upon the face of the guard, each depression at its outer end overlapping two adjacent apertures, the adjacent edge of the back being disposed to intersect the apertures, the blade extending beyond the back and having its edge intersecting the apertures.

6. In a safety razor, a back, a guard, and means for holding the guard to the back, and a blade disposed between the guard and back, the guard having a straight edge and inward of the edge having a series of apertures extending in a line parallel to the edge, the blade confronting face of the

guard having a series of shallow depressions disposed intermediate said apertures, and each extending inward from and opening upon said edge, each depression being transversely concave and overlapping the adjacent apertures and intersecting the same, the depressions between the apertures extending inward beyond the edge of the blade.

In testimony whereof they have affixed their signatures.

WILLIAM EDWIN BLELOCH.
WILLIAM BLELOCH.