June 30, 1931. T. L. SMITH 1,812,500

SAFETY RAZOR

Filed May 20, 1930

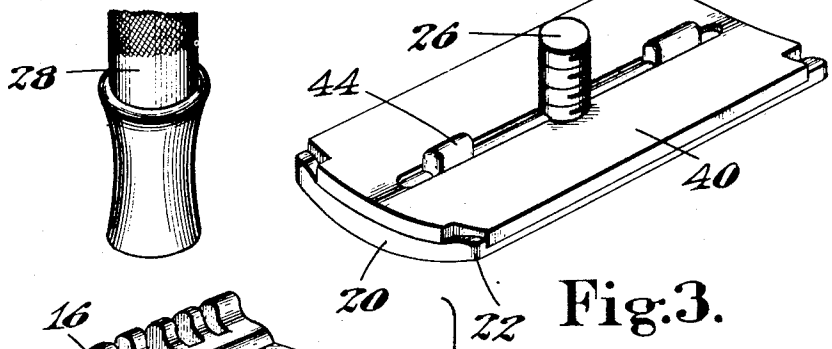


Fig.3.

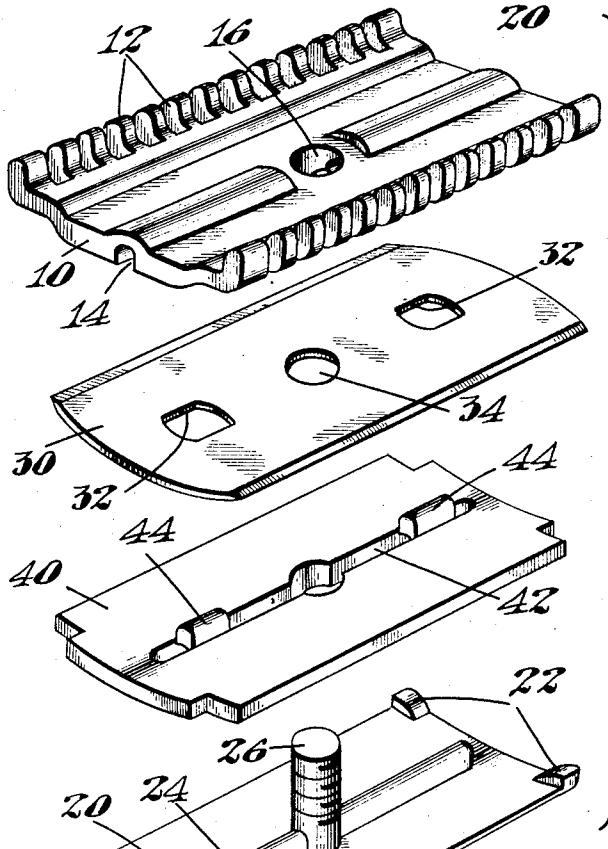


Fig.1.

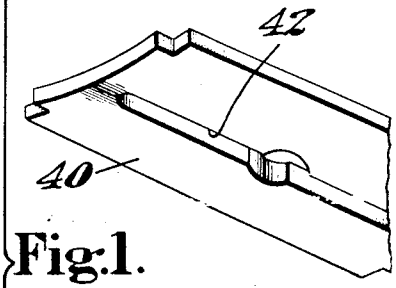


Fig.2.

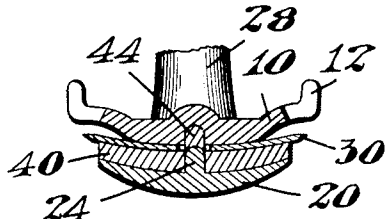


Fig.5.

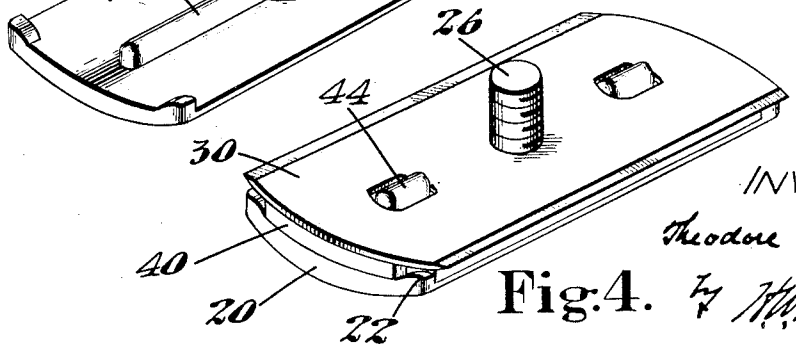


Fig.4.

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UNITED STATES PATENT OFFICE

THEODORE L. SMITH, OF CONCORD, MASSACHUSETTS, ASSIGNOR TO GILLETTE SAFETY RAZOR COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF DELAWARE

SAFETY RAZOR

Application filed May 20, 1930. Serial No. 454,115.

My invention relates to safety razors in which a thin flexible blade internally apertured to receive positioning means is removably secured in a holder adapted to support the blade adjacent to its longitudinal cutting edges. The positioning means commonly employed consist in projections of predetermined shape in the holder which are arranged to fit apertures of corresponding outline in the blade. Holders of different manufacture are provided with positioning projections of different shapes and accordingly there are on the market blades provided with apertures of these various corresponding outlines. Heretofore it has been impractical in most cases to employ a blade having apertures of one shape in a holder provided with positioning projections of another shape.

An important object of my invention is to provide for use with a razor holder a removable member adapting the holder to receive and position two or more styles of blade. To this end, therefore, a feature of the invention consists in a removable member, such as a plate, shaped upon one side to receive the locating projections of a holder of one style and having on its other face blade-locating projections of another and different style. For example, where the cap member of the holder is provided with a longitudinal rib for positioning a blade, the removable member may have in one face a corresponding groove and upon the other a pair of spaced studs adapted to position a blade provided with spaced apertures rather than a blade provided with an elongated slot to take which the cap may have been originally designed. A holder equipped with a removable member of this kind is thus adapted for an enlarged field of use in that it may be equipped for one style of blade by using the removable member and for a different style of blade when the removable member is not used. In one aspect therefore my invention consists in a holder comprising a cap and guard, together with a removable member having one face shaped to fit upon the cap member and another face provided with blade-positioning means of predetermined shape adapted to clamp and shape a flexible blade in cooperation with the guard member.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment thereof selected for purposes of illustration and shown in the accompanying drawings, in which

Fig. 1 is a view in perspective on an enlarged scale showing the complete razor assembly with the parts in separated relation.

Fig. 2 is a view in perspective showing the removable member from beneath.

Fig. 3 is a similar view showing the removable member positioned upon the cap.

Fig. 4 is a view similar to Fig. 3 showing the blade in position upon the removable member, and

Fig. 5 is a view in cross section of the assembled razor.

The blade-holding parts of the razor illustrated are all of well known commercial construction and comprise a guard member 10 provided at its opposite longitudinal edge with guard teeth 12 and, in the position shown, having a lower convex blade-shaping surface. A longitudinal central groove 14 is provided in the blade-shaping face of the guard for a purpose which will presently appear, and the guard is centrally perforated at 16 for the reception of the threaded stem of the cap.

The cap member 20, in the position shown, has an upper concave blade-shaping surface and straight parallel longitudinal edges which act normally to bend the blade into conformity with the face of the guard. The cap is provided at each corner with a reinforcing lug 22 and with a centrally disposed rib 24 which constitutes blade-positioning means for a blade having a centrally longitudinal slot. The cap is also provided with an upstanding threaded stem 26 which cooperates with the internally threaded end of the handle 28 in clamping the razor assembly together. As will be understood the construction above described may be of any preferred commercial type and in use heretofore has been limited to blades provided with an aperture having an effective area at least

equal to the cross sectional area of the rib 24.

In Fig. 1 I have illustrated one form of removable member by which the holder above described may be adapted for use with a blade 30, which is provided with a pair of spaced blade-positioning apertures 32 and a central opening 34 for the cap stem.

The removable member herein shown comprises a plate 40 similar in contour to the cap member 20 and having its lower face curved to correspond to the upper concave face of the cap. It is also notched or recessed at each corner to receive the reinforcing lugs 22 of the cap and provided with a central groove 42 for the reception of the rib 24 of the cap. As herein shown the groove 42 extends through the plate 40 but the depth of the groove need be only sufficient to enclose completely the rib 24 of the cap with which it is used. Upon its upper surface the plate 40 is provided with a pair of spaced blade-positioning projections 44. These are arranged in bridging relation to the groove 42 and correspond in length to the maximum longitudinal diameter of the apertures 32 of the blade 30. They are also of such a width as to permit them to enter freely the groove 14 in the lower face of the guard member 10. It will be noted that when the blade 30 is positioned upon the upper face of the removable blade 40 it is definitely located in a predetermined position upon the blade by the engagement of the projections 44 with the positioning apertures 32 of the blade.

The position of the blade upon the plate 40 when ready for assembling in the holder is shown in Fig. 4 and the clamped position of the razor assembled in Fig. 5. It will be apparent that the upper concave face of the plate 40 acts on the blade 30 to bend the latter in to conformity with the blade-shaping face of the guard 10 establishing the same relation between the shaving edges of the blade and the guard as would be effected by the blade shaping face of the cap 20 acting directly upon a slotted blade positioned thereon. The user of the razor therefore has his choice of at least two different styles of blade which are made available by inserting or not the removable member 40.

As thus described my invention what I claim and desire to secure by Letters Patent in the United States is:

1. A safety razor comprising a holder having a blade-positioning rib and a removable plate having in one face a groove to fit upon the rib and upon the other a blade-positioning projection of a shape different from said rib.

2. A safety razor comprising a cap having a concave blade-shaping face, and a blade-positioning projection of predetermined shape, a guard with a convex blade-shaping face, and a removable member having a convex blade-shaping face with a blade-positioning projection of another shape, said member being shaped to fit at its other face upon said guard member.

3. A safety razor comprising a holder having a blade-positioning rib and corner lugs, and a removable adapter plate having corner notches to receive said lugs and in one face a groove to fit over said rib and upon the other a blade-positioning projection of a shape different from said rib.

4. A safety razor comprising a cap having a concave blade-shaping face from which project a blade-positioning element and reinforcing corner lugs, a guard having a convex blade-shaping face, and an adapter plate recessed to receive the projecting element and lugs of the cap and having on one face a blade-positioning element of a different shape from that of the cap.

5. In a safety razor having a cap with reinforced corner lugs, an adapter plate with recessed corners to accommodate the lugs, a blade shaping surface and rib-like blade-locating projections rising above said surface.

6. In a safety razor having a cap with projecting rib and corner lugs, an adapter plate, slotted to receive the rib of the cap, recessed at its corners to receive the lugs and provided with raised projections of different contour than the rib of the cap.

Signed at Boston, Massachusetts, this fifteenth day of May, 1930.

THEODORE L. SMITH.