

Nov. 3, 1931.

E. G. TORNKVIST

1,830,576

SAFETY RAZOR

Filed April 9, 1931

FIG. 1.

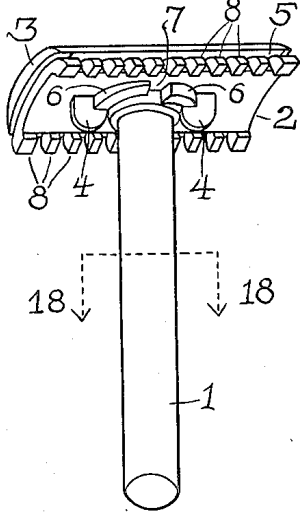


FIG. 2.

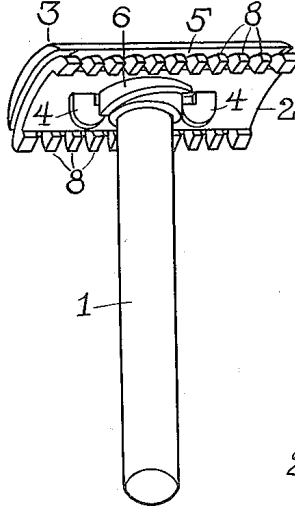


FIG. 7.

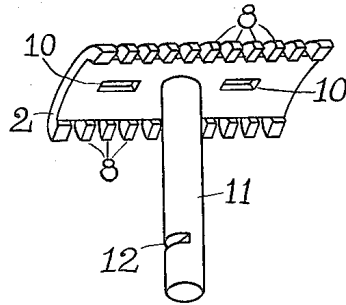


FIG. 5.

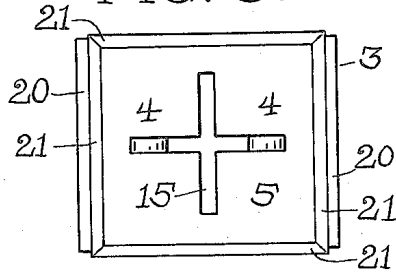


FIG. 11.

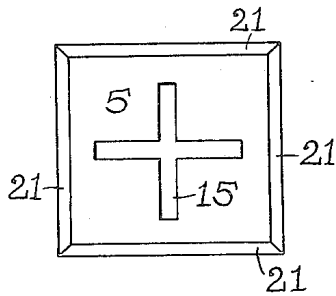


FIG. 3.

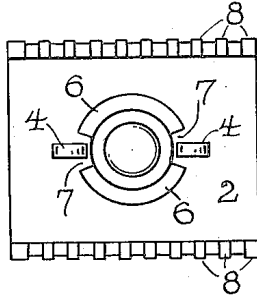


FIG. 6.

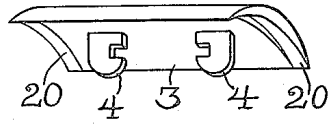


FIG. 12.

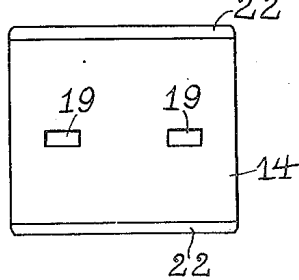


FIG. 8.

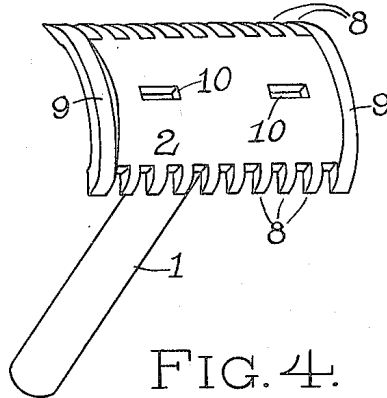
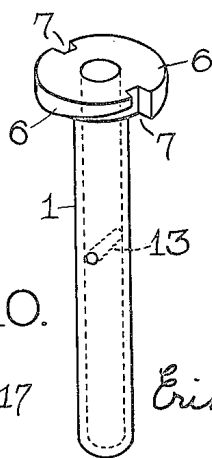
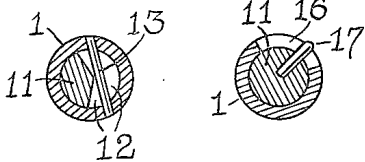


FIG. 4.

FIG. 9. FIG. 10.



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By His Attorney Frank Carlsson

UNITED STATES PATENT OFFICE

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SAFETY RAZOR

Application filed April 9, 1931. Serial No. 528,815.

This invention relates to the hoe type of razors in which the blade guard is permanently assembled with the handle and a cap plate has a pair of hooks projecting down through the razor blade and blade guard, while the handle is partly rotatable in order to engage a pair of inclined flanges thereon with the cap plate hooks or disengage them therefrom.

10 The main object of my invention is to render the assembling of a razor and renewal of the blade thereof instantaneous and convenient, and to obsolesce threads and similar structures of fine and easily worn detail.

15 Another object is to provide a razor of the type indicated with a handle of such construction that a mere twist of the wrist will either assemble and lock the whole razor into a rigid unit, or release the blade and blade guard at will.

20 A further object is to provide a blade, when desired, which has four edges and corresponding holding slots which renders said blade twice as useful as the usual two edge types, and readily shifted for using either pair of opposite edges.

25 Still another object is to provide a razor of this class which comes apart into merely two parts, aside from the blade, which particularly renders the handling and replacement of the blade very easy.

30 Other objects and the various advantageous features inherent in the novel structure involved in my invention will appear more fully in detail as this specification proceeds.

35 In the accompanying drawings, Fig. 1 is a perspective view of a razor made according to my invention and held a little above the line of vision.

40 Fig. 2 is a similar view with the handle turned into released position wherein the razor is ready to be taken apart.

45 Fig. 3 is a view of the razor of Fig. 2, as seen directly from below.

Fig. 4 is a view of the handle and blade guard as seen from above, after the blade and cap plate have been lifted off.

50 Fig. 5 is a view of the cap plate and blade as seen from below.

Fig. 6 is a view of the cap plate alone.

Fig. 7 is a view of the blade guard and its stud which normally projects into the handle.

Fig. 8 is a view of the handle alone.

Fig. 9 is a transverse section of Fig. 1 on line 18, 18.

Fig. 10 is a similar section of a modification.

Fig. 11 is a view of the razor blade alone.

Fig. 12 illustrates another form of the blade.

Throughout the views, the same reference numerals indicate the same or corresponding parts.

In well known forms of hoe type razors it is customary to unscrew the handle proper from a threaded stud projecting through the blade guard and blade from the cap plate, and this both consumes time and entails rapid wear of the threads, and is inconvenient in addition. It was therefore proposed to eliminate threads, while retaining the locking effect of a thread, and also designed to include the aforesaid objects to furnish a basis for the present invention.

75 Hence, in the practice of my invention, a hollow handle 1 supports a blade guard 2 which is rigidly secured to a stud or shank 11 normally extending down into the handle. The blade guard has the usual teeth 8 upon its two opposite main edges and is adapted to bear a razor blade 5 upon the same while a cap plate 3 is adapted to hold the blade down on the guard. Upon the cap plate are located a pair of facing hooks 4, 4 which project down through the blade and through a pair of slots 10, 10 in the guard plate.

80 The handle proper is provided with a pair of similar inclined flanges 6, 6 which are spaced at their ends from each other by a pair of clearance spaces or gaps 7, 7. The hooks of cap plate 3 normally engage the handle flanges 6, 6 but during assembly of the razor for blade replacement, the handle may be turned so that gaps 7, 7 correspond with slots 10, 10 in the guard, when the hooks will be free to be withdrawn from or thrust through slots 10, 10. If the blade 5 and cap-plate 3 have been placed upon the blade guard 2, and hooks 4, 4 passed down through guard 100

slots 10, 10 and into gaps 7, 7 on the handle the latter, being rotatable upon the guard shank 11, it is but necessary to turn the handle a little while holding the guard and cap-plate, and the inclined flanges 6, 6 will catch under hooks 4, 4 and quickly bind with the same locking the parts together.

In order to release the blade and cap-plate, it is only necessary to turn the handle a little in the reverse direction till the gaps 7, 7 again register with guard slots 10, 10 and the hooks are no longer engaged when they may be freely withdrawn through the guard slots and the cap plate thus lifted off. The inclined flanges 6, 6 therefore act coarsely in the same manner as a thread, except for the gaps and hold the hooks normally very tightly.

The handle and guard are preferably permanently assembled so as to accompany each other in all manipulations of the razor, and for this reason the stud or shank 11 has a slot 12 and the handle 1 a pin 13 corresponding with said slot, which latter is cut sufficiently to allow partial rotation of the handle upon said shank, as evident upon examining Fig. 9. In Fig. 10 a reversed condition is shown with the same purpose in view and here the handle has a slot 16 while a pin 17, secured to the inner shank projects out into the slot. This holds the parts in assembly as before and also allows partial rotation of the handle.

However, the blade 5 may preferably have four cutting edges 21, 21, 21, 21 and in order to permit the hooks 4, 4 to pass through the blade in any position which will register two of the edges with the rows 8 of the guard. On the other hand a blade 14 may have but two cutting edges 22, 22 and the hook slots 19, 19 which located the blade and serve to hold it when assembled upon the razor. In the case of the first blade, the two unused edges which are adjacent to the ends of the guard and cap-plate are protected from injury through contact with said parts and also from coming in contact with all outside objects by first making the guard and cap-plate longer than the blade, at both ends, and then providing clearance grooves 9, 9 in the guard ends and 20, 20 in the cap-plate ends respectively.

The razor blade 5 is practically square, while blade 14 need not be so, for a more narrow form of razor can be utilized with a double edge blade. This is, of course, a mere matter of dimensions and within the scope of my invention.

Having now fully described my invention, I claim:—

1. A razor including the combination, with a blade guard and a blade, of a shank rigid upon said guard, a handle partly rotatable upon said shank and provided with an inclined flange thereon, there being a slot in said guard shank and a corresponding in-

terior projection in said handle to limit rotation thereof and retain said shank and guard in assembly therewith, and a cap-plate having means normally projecting through said blade and guard and arranged to be engageable by said inclined handle flange, whereby to retain said razor in assembled condition.

2. A razor including the combination, with a blade and a guard, of a shank rigid upon said guard, a handle partly rotatable upon said shank and provided with an inclined flange thereon, means for limiting the rotation of said handle upon the shank and for retaining the same in assembled association therewith, and a cap plate provided with means normally projecting through said blade and guard and arranged to be engaged by said inclined handle flange, whereby to retain said razor in assembled condition.

3. A razor including the combination, with a blade and a guard, of a shank rigid upon said guard, a handle partly rotatable upon said shank and provided with a pair of inclined flanges thereon, means for limiting the rotation of said handle upon said handle upon said shank disposed within the general outline of said handle and also serving to retain the shank in assembly with said handle, and a cap plate having plural means normally projecting through said blade and guard and arranged to be individually engaged by said inclined handle flanges, whereby to retain as a whole said razor in assembled condition.

Signed at 132 Nassau Street, in the county of New York and State of New York, this 7th day of April, A. D. 1931.

ERIK G. TORNKVIST.

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