

Aug. 10, 1954

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2,685,733

BLADE AND GUARD ADJUSTING MEANS FOR SAFETY RAZORS

Filed April 1, 1953

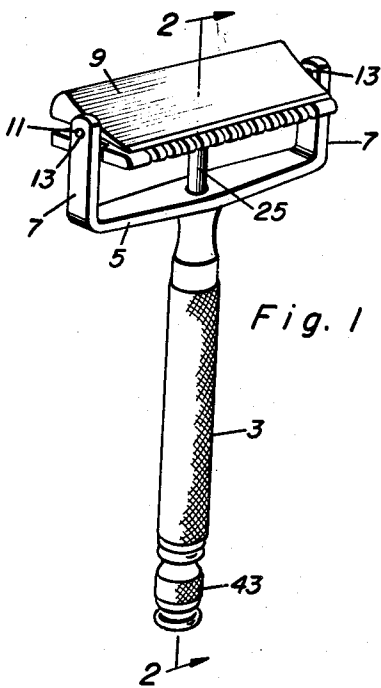


Fig. 1

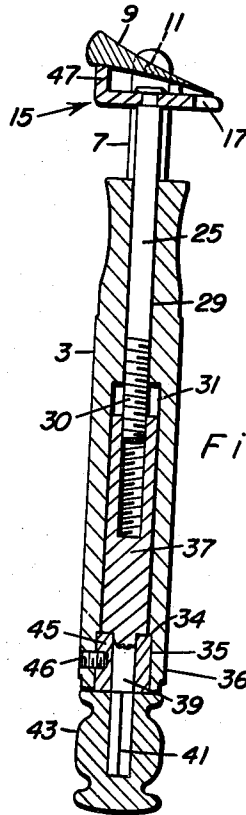


Fig. 2

Fig. 4

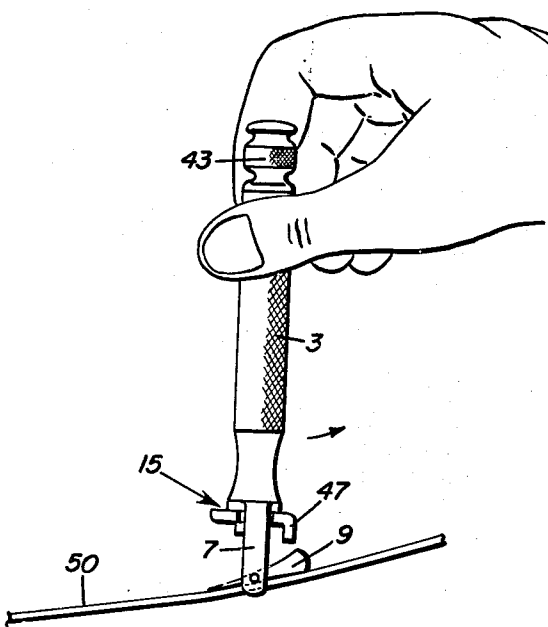
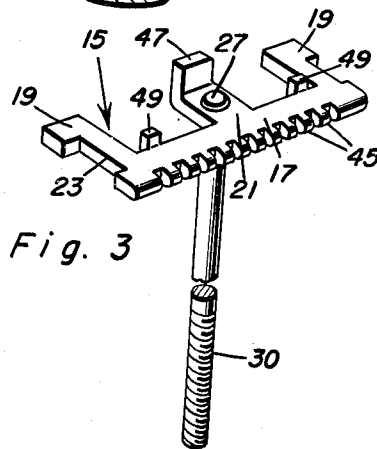


Fig. 3

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UNITED STATES PATENT OFFICE

2,685,733

BLADE AND GUARD ADJUSTING MEANS
FOR SAFETY RAZORSHarry B. Carter, Austin, Tex., assignor of forty-
nine per cent to John W. Kokernot, Austin,
Tex.

Application April 1, 1953, Serial No. 346,220

1 Claim. (Cl. 30—57)

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My invention relates to blade and guard adjusting means for safety razors of the tiltably adjustable blade type, and is designed as an improvement over the safety razors of my U. S. Patent No. 2,482,152 dated September 20, 1949, and U. S. Patent No. 2,657,459 dated November 3, 1953.

The primary object of this invention is to provide efficient means operative from the butt end of the razor handle for tilting the blade into engagement with a guard at an efficient shaving angle relative to the axis of the handle and to the plane of the guard and so that ample clearance is provided between the blade and guard, for lather, or shaving cream, and whereby a cleaner easy shave may be obtained than with safety razors as now constructed.

Another object is to provide for accomplishing the above by screw feed means operative to adjust the guard into clamping engagement with a blade to tilt and hold a blade in tilting position.

Another object is to provide screw feed means for the above purpose which is operative to disengage the guard from the blade so that the blade may tilt freely and be stropped while in the razor by sliding the blade over a strop so as to present opposite sides of the blade to the strop.

Still another object is to provide for accomplishing the foregoing objects in a razor which is of simple construction and adapted for manufacture at a low cost.

Other and subordinate objects, together with the precise nature of my improvements will be readily understood, when the succeeding description and claim are read with reference to the drawing accompanying and forming part of this specification.

In said drawing:

Figure 1 is a view in perspective of a safety razor embodying my improvements;

Figure 2 is an enlarged view in longitudinal section taken on the line 2—2 of Figure 1;

Figure 3 is a further enlarged view in perspective of the guard and male shaft, and

Figure 4 is a view in side elevation illustrating the manner in which the blade may be stropped.

Referring to the drawings by numerals, the safety razor with which my invention is concerned comprises, as in my aforesaid patents, a cylindrical handle 3 provided on its front end with a U-shaped cross yoke 5 having resilient forwardly extending legs 7, and the blade 9, which is of single edge hollow ground construction, provided with end trunnions 11 in substantially its longitudinal center rotatable in aper-

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tures 13 in said legs 7 so that said blade is tilt-
able between said legs about an axis transverse
to the handle 3 and may be removed for replace-
ment purposes by spreading the legs apart to
free the trunnions 11.

Coming now to my improvements, a skeleton
guard 15 is slidably mounted between the legs 7
on the same and in back of the blade 9 for
adjustment forwardly and rearwardly into and
from clamping engagement with said blade 9.

The guard 15 is substantially E-shaped to
provide a toothed front guard bar 17, rearwardly
extending end arms 19 at a right angle to said
front bar 17, and a rearwardly extending center
lug 21 coplanar with said arms 19. The end arms
19 are recessed, as at 23, to straddle and slid-
ably engage the legs 7 for slidably mounting the
guard 15 on said legs.

Screw feed means is provided for adjusting the
guard 17 comprising a front, male shaft 25 riv-
eted to the ear 21, as at 27, and slidable forwardly
and rearwardly of the handle 3 in an axial, front
counterbore 29 in said handle 3. The rear end
of the male shaft 25 is threaded, as at 30, and
extends into a larger axial bore 31 in the handle
3 having an enlarged rear end portion 35 at the
butt end 36 of said handle forming an annular
internal shoulder 34 in said handle adjacent said
butt end. A rotary, axially bored female shaft
37 in the bore 31 is threaded onto the rear end
of the shaft 25 and is provided with a reduced
rear end 39 extending out of the butt end 33 of
the handle 3 with a squared portion 41 having a
hand grip knob 43 suitably fixed thereon for
rotating said shaft 37. A collar 45 on the re-
duced end 39 of said shaft 37 is fixed thereto by
an "Allen" screw 46 in the enlarged portion 35
of the bore 31 and locks said shaft 37 in the
bore 31.

Means are provided on the guard 17 for clamp-
ingly engaging the rear side of the blade 9 on
opposite sides of its longitudinal center to tilt
said blade 9 into angular position relative to the
axis of the handle 3 with its cutting edge over-
lapping the toothed bar 17. This means com-
prises a right angled forwardly extending termi-
nal stud 47 on the lug 21 adapted to engage the
rear side of the blade 9 at one side of the axis of
tilting movement of said blade, and a pair of
shorter forwardly extending studs 49 on the bar
17 adjacent its ends adapted to engage the rear
side of the blade 9 on the other side of its axis
of tilting movement and adjacent the front cor-
ners of said blade.

As will now readily be seen, the female shaft

37 may be rotated by the knob 43 in opposite directions to feed the male shaft 25 and guard 15 forwardly to clampingly engage the studs 47, 49 with the blade 9, as shown in Figures 1 and 2, or rearwardly to disengage said studs from said blade and adjust said guard away from said blade against the front end of the handle 3 as shown in Figure 4. When clampingly engaged, the studs 47, 49 will tilt the blade 9 so that it slants downwardly and rearwardly relative to the axis of the handle 3 and the plane of the guard 15, in effective shaving position with its cutting edge slightly spaced by the studs 49 forwardly of the toothed bar 17 and said blade slanting from its cutting edge away from the guard to provide a clearance between said cutting edge and guard, and between the blade and guard for lather to pass behind the blade 9 and rearwardly out of the skeleton guard. When the guard 15 is adjusted away from the blade 9, said blade may be tilted freely on its trunnions 11 so that the razor may be held upside down to position the blade on a strop 50, as shown in Figure 4, and the blade stropped by moving it back and forth on the strop so that said blade will be rotated by frictional engagement of its rear edge with said strop to present its sides alternately to the strop for stropping of said blade on both sides thereof.

With the blade 9 removed, in the manner previously described, the screw 46 may be removed or loosened to free the collar 45 so that the female shaft 37 may be unscrewed from the male shaft 25 and removed out of the handle 3 together with the collar 45. The male shaft 25 and guard 17 may then be removed. Thus, the razor may be taken apart for cleaning and oiling if necessary.

The foregoing will, it is believed, suffice to

impart a clear understanding of my invention, without further explanation.

Manifestly, the invention, as described, is susceptible of modification without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claim.

What is claimed as new is as follows:

In a safety razor including a cylindrical handle provided on its front end with a yoke having a pair of forwardly extending legs, a single edge blade having ends pivoted to said legs for tilting of the blade therebetween and a rotary knob at the rear end of the handle, a blade guard slidably mounted on said legs for adjustment between said legs into and from clamping engagement with the blade to adjust the blade into a tilted shaving position, and screw feed means for adjusting said guard operative by said knob and extending axially through said handle and operatively connected to said guard, said guard having relatively long and short studs thereon for engaging the blade upon opposite sides of its axis of tilting movement and tilting said blade at an angle to the axis of the handle and the plane of the guard into shaving position.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
914,957	Kiam	Mar. 9, 1909
2,657,459	Carter	Nov. 3, 1953

FOREIGN PATENTS

Number	Country	Date
219,318	Great Britain	1926
527,523	France	July 27, 1921