July 4, 1939. G. GREENSTEIN 2,165,046

SHAVING INSTRUMENT AND BLADE THEREFOR

Filed Aug. 12, 1936

Fig. 1.

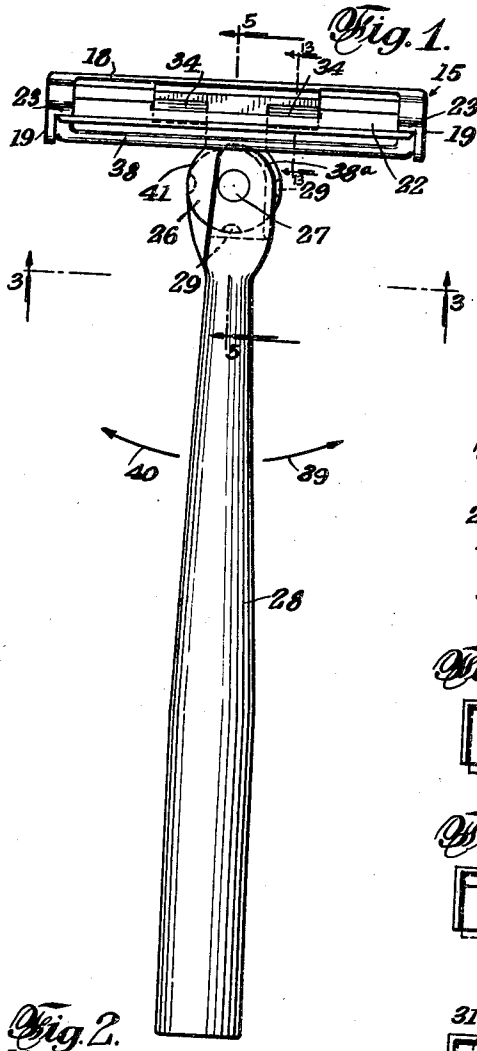


Fig. 4.

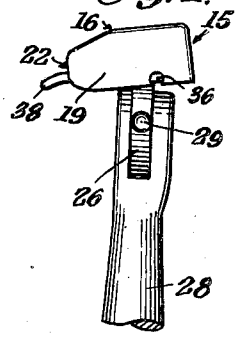


Fig. 5.

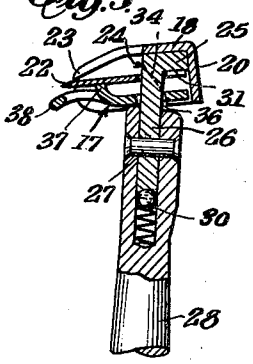


Fig. 6.

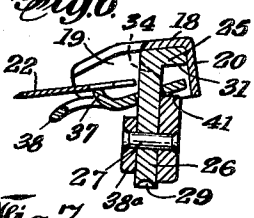


Fig. 10.

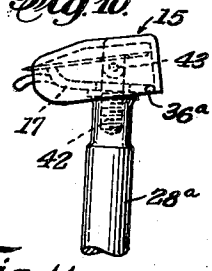


Fig. 7.

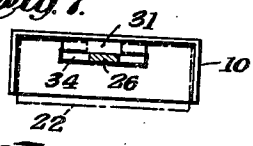


Fig. 8.

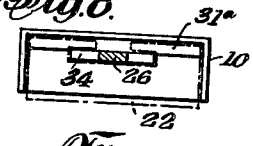


Fig. 11.

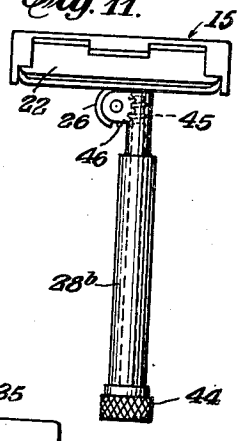


Fig. 9.

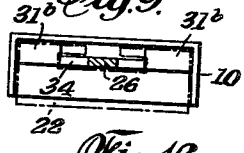


Fig. 2.

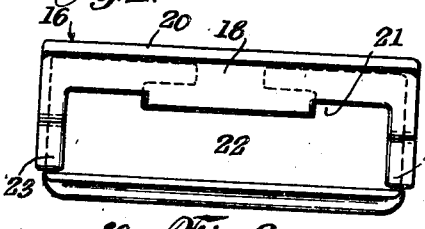


Fig. 12.

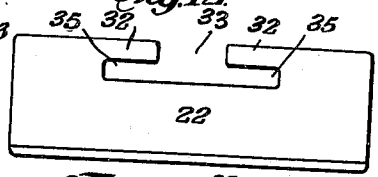


Fig. 3.

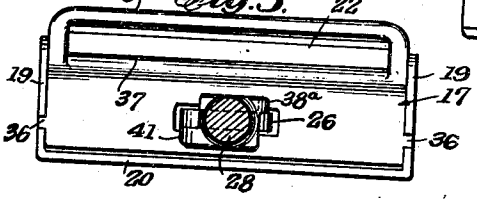
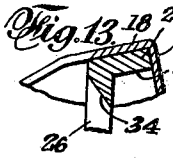


Fig. 13.



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SHAVING INSTRUMENT AND BLADE THEREFOR

George Greenstein, Nassau, N. Y.

Application August 12, 1936, Serial No. 95,529

5 Claims. (Cl. 30—51)

This invention relates to safety razors and is an improvement on my application filed November 4, 1935, Serial Number 48,067.

In addition to the objects and advantages set forth in that application, the present invention seeks to provide a razor having improved means for clamping a blade in the head thereof, an important feature residing in the provision of means for permitting ready insertion of the blade into the head and preventing inadvertent dislodgement of said blade when in said position.

Another contemplated feature resides in the provision of means for firmly positioning the blade in the razor head whereby the shaving edge of the blade is uncontacted and free of encumbrances.

Still another feature resides in the provision of means for gripping the underface of an intermediate portion of the blade, the rear of the upper face of the blade being in whole or in part in contact with a portion of the razor head, and the front of said upper face being contacted by portions of the razor head at or adjacent the lateral edges of the blade.

The foregoing objects, features, and advantages of the invention and others later apparent are incorporated in the instant disclosure comprising the following specification and the accompanying drawing which is illustrative of preferred embodiments of the invention as at present contemplated.

In the drawing:

Fig. 1 is a front view of a razor constructed in accordance with this invention.

Fig. 2 is a top plan view thereof.

Fig. 3 is a sectional view as taken along the line 3—3 of Figure 1 and looking in the direction of the arrows.

Fig. 4 is a side view, the razor handle broken away.

Fig. 5 is a vertical sectional view as taken on the line 5—5 of Figure 1.

Fig. 6 is a similar view with the handle swung to release the blade.

Figs. 7, 8, and 9 are semi-diagrammatic views showing various razor head structures.

Figs. 10 and 11 are respective side and front views of alternate forms of razor structures.

Fig. 12 is a plan view of a preferred form of a razor blade.

Fig. 13 is a fragmentary sectional view taken along line 13—13 of Figure 1.

Referring to the drawing in greater detail and with special reference to Figures 1 to 6 inclusive, and Figure 12, a head generally designated as 15 preferably comprises a housing 16 and a combined clamp and guard plate 17. The housing 16 is preferably formed with a top wall 18, lateral walls 19, and a rear wall 20. The top wall 18 is preferably cut out as at 21 so as to be substantially U-shaped and exposing the major portion of a blade 22. Thus the top 18 is provided with laterally opposed portions 23 adapted to overstand and contact commensurate portions of the blade at or near the front corners thereof.

To the housing 16 there is fixedly secured an angle shaped member 24 having one leg 25 arranged midway of the width of the housing and positioned in the corner between the top 18 and the rear wall 20, and a downreaching leg 26 forming a trunnion for the passage of a pivot rivet 27 secured with the handle of the razor 28. The mentioned downreaching portion is preferably substantially circular in outline as seen in Figure 1 and is provided on its peripheral face with a plurality of indentations 29 respectively associated with the spring pressed detent 30 carried by the handle to hold said handle in the three desired positions in relation to the head.

The portion 25 is thus provided with a face 31 adapted to be contacted by the portions 32 of the blade, the blade being cut away as at 33 to permit its insertion into the head past the downreaching extension 26.

The member 24 is also formed with portions 34 adapted to be arranged within the cutouts 35 in the blade, said portions extending for a short distance below the face 31 so that the blade may readily be inserted below said portions and forced upwardly so that the blade portions 32 assume a position to the rear thereof. The cut-outs 33 and 35 thus form a T-shaped slot opposite the shaving edge.

The clamp and guard member 17 is preferably pivoted as at 36 to the housing 16 and is adapted to be rocked about said pivots. The member 17 is formed with an upwardly extending longitudinal portion 37 adapted to contact a medial portion of the under face of the blade and with an extending guard portion 38 preferably out of contact of said blade.

As shown in the drawing (Figure 5) the plate 17 may be rocked to blade clamping position by means of a cam 38a on the handle 28, said clamping position being attained when the handle is at right angles to the head or when swung in the direction of the arrow 39 to a parallel relation to the head. The plate 17 is rocked as shown in

Figure 6 to a non-clamping condition when the handle **28** is rocked in the direction of the arrow **40** so the cam **41** on the handle engages a rear portion of said plate.

It will be noted from the above that the blade is contacted at the rear central portion and at the front lateral portions of its upper face by the housing or portions affixed thereto, and is contacted along a medial longitudinal portion of its lower face by the clamp plate. This assures proper non-displaceable relationship of the blade with the razor, and to further insure against inadvertent dislodgement of said blade, the blade portions **32** are caught behind the downreaching extensions **34** of the angle member **26**. This form is shown in the diagrammatic Figure 7 and can be varied as shown in Figure 8 so that the entire rear portion of the head is provided with a face or seat **31***a* for the blade; or as shown in Figure 9 with laterally spaced seats **31***b*. In all of these forms the rear portions of the blade is in contact in whole or in part with portions of the head.

While in the present case and in the previously mentioned application, cam means are described for operating the razor, it should be understood that other means than cam means can be employed, as for instance, in the showing of Figure 10, the handle **28***a* may be rotationally carried with the clamp plate **17** and have a screw thread engagement as at **42** with a stud pivoted at **43**. Thus the said clamp plate **17**, by rotational manipulation of the handle **28***a*, may be swung around its pivot **36***a*.

Another manner of accomplishing the movement of the head **15** in relation to the handle **28***b* is shown in Figure 11 where a thumb nut **44** through a worm **45** operates on a worm wheel sector **46** cut in the extension **26** of the head to rock said head to a right angle or parallel position with the handle.

The present illustration does not exhaust the variations in construction which may be employed in providing a razor as contemplated herein. For instance, linkage means may be utilized instead of the cam, screw, and gear means here illustrated, and therefore, the spirit and scope of the invention as hereinafter claimed should have a broader basis of interpretation than the present detailed disclosure which is intended only to describe the illustrated embodiments thereof.

I claim:

1. A razor comprising a head, a blade clamping guard plate pivoted to said head, said head having means for contacting the rear central area and the front lateral portions only of the blade, and said guard plate having means for contacting said blade along a medial longitudinal portion only thereof, and means for positively positioning said guard plate contacting means in relation to said head contacting means.

2. In a razor, a housing having a rear wall, a downreaching extension spaced from said rear wall, a blade adapted to be positioned in said housing and having a cut-out portion to accommodate said downreaching extension, seat means in said housing for engaging only the rear central portion of the upper face of said blade, means in said housing for engaging front lateral portions only of the blade, and means for pressing said blade against the last mentioned means and against said seat means.

3. In a razor, a housing having a rear wall, a downreaching extension spaced from said rear wall, a blade adapted to be positioned in said housing and having a cut-out portion to accommodate said downreaching extension, and seat means in said housing for engaging only a rear portion of the upper face of said blade and means for pressing said blade into yielding engagement against said seat means.

4. In a razor, a housing having a downreaching extension, a lateral downreaching portion of lesser extent than said extension on each side thereof, and a blade adapted to be positioned in said housing and having cut-out portions to accommodate all of the said downreaching members, a fourth downreaching portion of lesser extent than the lateral portions, said blade being provided with a portion adapted to be positioned behind each lateral portion and to be yieldingly pressed against the under face of the fourth portion.

5. In a razor, a housing having a T-shaped downreaching extension adjacent the rear wall of said housing, a blade having a cut-out portion to accommodate said downreaching extension, means in said housing for positioning the blade, seat means for engaging only a rear portion of the upper face of said blade and means for pressing said blade into yielding engagement against said seat means.

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