July 26, 1938. T. C. TRIPPE 2,125,135

SAFETY RAZOR

Filed Oct. 22, 1936

Fig. 1.

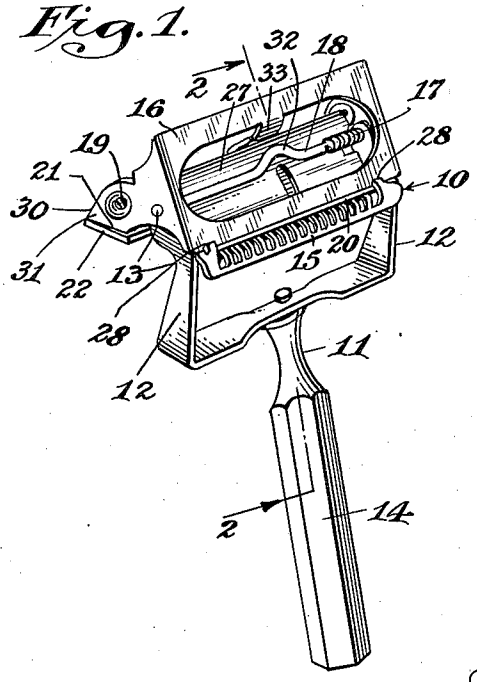


Fig. 3.

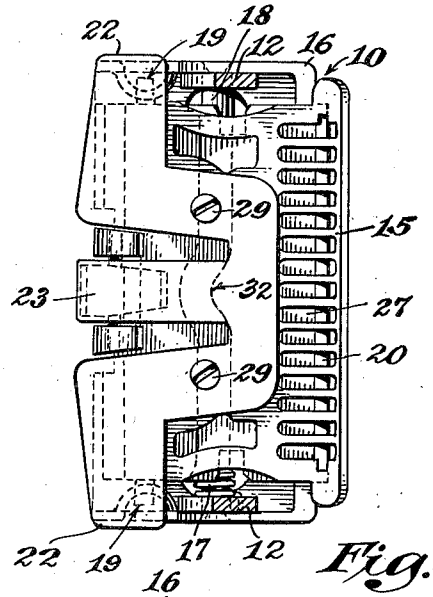


Fig. 4.

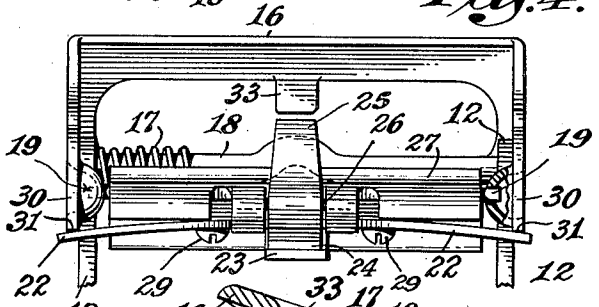


Fig. 2.

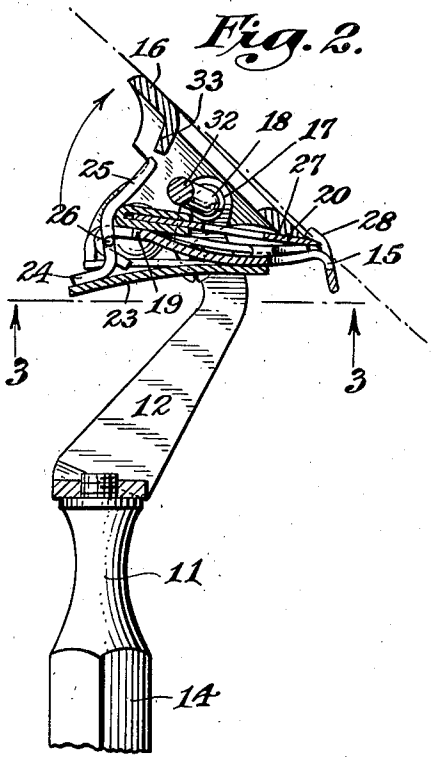
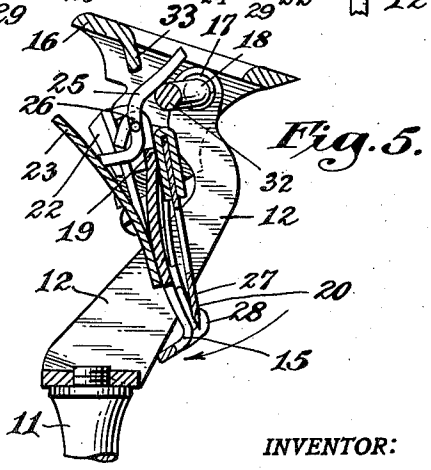


Fig. 5.



INVENTOR:

Thomas C Tripp

Patented July 26, 1938 2,125,135

UNITED STATES PATENT OFFICE

2,125,135

SAFETY RAZOR

Thomas C. Trippe, Maplewood, N. J.

Application October 22, 1936, Serial No. 106,932

4 Claims. (Cl. 30—87)

This invention relates to safety razors and has for its object to provide such a razor which is capable of being manipulated more quickly, easily and safely than the ordinary commercial razor today. Another object of the invention is to provide a razor in which the handle does not have to be held at a fixed angle but in which a rocking blade holder is provided that is free to automatically follow the contour of the face and therefore always insures the blade being held at the correct angle independently of the position of the handle without danger of cutting the user or of leaving portions which may not be satisfactorily shaved.

The electric or vibrating type razors on the market have simplified shaving by making it so easy that it may be done in the dark or blindfolded. An objection to the usual safety razors has been the need of holding the handle at a particular angle to the surface being shaved in order to get the best results. Due to the unique pivotal construction of the blade holder of this invention the handle may be held at any convenient angle without affecting the inclination of the cutting blade, whereby the razor of this invention possesses the advantage of electric razors in speed and ease of operation as well as the advantages of the blade type razor in ability to get a close shave.

Referring to the drawing, Fig. 1 is the perspective of one embodiment of this invention.

Fig 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Fig. 4 is a view from the left side of the device of Fig. 2.

Fig. 5 is also a section on the line 2—2 of Fig. 1, but with the guide trail raised from the guard for insertion or removal of a blade.

From Fig. 1 it may be seen that the device comprises essentially a blade holder 10 and a handle portion 11. The handle portion includes a yoke, 12, pivotally secured at 13, at each side of the blade holder, so that the blade holder may tip or have limited rotation with respect to the handle portion. The lower part of the handle portion constitutes a grip, 14. The blade holder includes a guard, 15, and a guide trail, 16, is provided having a surface adapted to slide over the surface being shaved so that the blade illustrated may always be held at the desired fixed acute angle, irrespective of the angle at which the handle may be held. A spring, 17, wound around the non-rotatable rod, 18, or pivotal axis of the blade holder, cooperates with both the blade holder, 10, and the handle, 11, for biasing the holder to a position like that illustrated in Fig. 1 with the trail surface, 16, nearly parallel with the gripping portion of the handle.

The guide trail, 16, is secured to the holder by the pivot pins, 19, so that the front portion, 20, of the blade may be clamped by the guide trail. Adjacent the pivots, 19, are cam surfaces, 21, which are so arranged that the leaf spring portions, 22, may bias the guide trail forwardly against the front portion of the blade edge. The material of the leaf springs, 22, is also provided with an intermediate leaf spring portion, 23, adapted to engage the rear portion, 24, of the arm, 25, pivoted at 26 to the blade holder as shown in Figs. 2 and 4 so that this portion, 25, may engage the rear edge of a cutting blade, 27, for urging the blade forwardly against the front stops, 28, of the guard. In the form illustrated the guide trail engages one side of the yoke, 12, as shown in Fig. 1, whereas the spring, 22, engages the other side of the yoke, 12, to limit the relative pivotal movement between the handle and blade holder.

The leaf spring, 22, is secured to the body of the guard or blade holder by means of screws, 29.

To open the razor for changing a blade the guide trail, 16, is rotated about its pivot, the cam surfaces, 21, flexing the leaf spring portions, 22. It will be seen that the point, 31, flexes the leaf spring, 22, as the guide trail surface is raised from the blade, but as soon as the point, 31, has moved far enough it will cause the leaf springs, 22, to be engaged by the cam surfaces, 30, for urging the guide trail to its full open position. As the guide trail, 16, is swung open, the bent portion, 32, in the pivotal axis, 18, engages the arm, 25, for releasing the rear portion of the cutting blade, 27. As the guide trail, 16, is swung still further, the arm, 25, flexing the leaf spring portion, 23, moves far enough to an over-center position beyond that illustrated in Fig. 5 so that the leaf spring portion, 23, is not flexed so much and the bent-in lip portion, 33, engages the part, 25. After a new blade has been inserted the guide trail is swung back to the position shown in Fig. 2, in which the leaf spring portions, 23 and 22 respectively, urge the blade forwardly against the stops, 28, and the guide trail, 16, down on the blade adjacent the cutting edge.

In use, the handle of the razor may be held at any desired angle and if the guide trail surface, 16, is not flat against the surface to be shaved, such guide trail will tilt on its axis, 13, against the action of the spring, 17, until such surface, 16, is flat against the surface to be shaved.

Among the advantages of this invention may be

mentioned the speed and ease of shaving because no effort or precision is required to hold the cutting blade at a required angle to the surface being shaved. For this reason the device of this invention is adapted for shaving in the dark or without a mirror with ease and facility.

From the drawing and foregoing description it will be seen that if pressure is applied to the trail, pressing it against the surface to be shaved, the trail may be rotated slightly about its pivot in a counter-clockwise direction in Figs. 2 and 4 against the action of the spring 22 whereby the inclination of the blade to the surface being shaved is slightly lowered.

I claim:

1. A safety razor comprising a blade holder, a handle having a yoke pivotally connected to the blade holder, a spring for biasing the blade holder to a predetermined position, a guard for the fore part of a blade, a trail pivoted to the blade holder and adapted to be held against the surface to be shaved, a spring for clamping the trail against the fore part of said blade, said trail spring also urging a blade forwardly against said guard, said blade holder and trail being movable to freely oscillate as a unit about the pivotal connection between the blade holder and handle to conform to the contour of the surface being shaved, the application of pressure to said guard and trail being capable of effecting a slight change in the inclination of a blade by slight rotation of the trail with respect to the blade holder.

2. A safety razor comprising a blade holder, a handle having a yoke pivotally connected to the blade holder, a spring for biasing the blade holder to a predetermined position, a guard for the fore part of a blade, a trail pivoted to the blade holder and adapted to slide over the surface being shaved, a spring for clamping the trail against the fore part of a blade, the pivot of said trail being in rear of the pivot between the blade holder and handle, spring means for urging a blade forwardly against said guard, said blade holder and trail being movable to freely oscillate as a unit about the pivot between the blade holder and handle to conform to the contour of the surface being shaved.

3. A safety razor comprising a blade holder, a handle having a yoke pivotally connected to the blade holder, a spring for biasing the blade holder to a predetermined position, a guard for the fore part of a blade, a trail pivoted to the blade holder, a spring for clamping the trail against the fore part of a blade, the pivot of said trail being in rear of the pivot between the blade holder and handle, spring means for urging a blade forwardly against said guard, said blade holder and trail being movable to freely oscillate about the pivot between the blade holder and handle to conform to the contour of the surface being shaved, a blade being removable by rotation of said trail against its spring and away from said guard to a position in which said trail spring is then effective in an opposite direction to maintain the trail in a fully open position for blade replacement.

4. A safety razor comprising a blade holder, a handle having a yoke pivotally connected to the blade holder, a spring for biasing the blade holder to a predetermined position adjacent said yoke, a front portion of the blade holder being shaped to engage said yoke, a trail pivoted to the blade holder adjacent the rear portion thereof, spring means for clamping the trail against a blade held in said blade holder and for holding the trail raised off a blade, a rear portion of the blade holder being shaped to engage the opposite side of said yoke from that engaged by the front portion of said blade holder, said trail and blade holder being movable to freely oscillate about the pivot between the handle and blade holder to conform to the contour of the surface being shaved, said free oscillation being limited in each direction by said yoke.

THOMAS C. TRIPPE.