July 15, 1924. 1,501,450

H. S. HASSELQUIST

RAZOR

Filed April 26, 1920

Fig. 1.

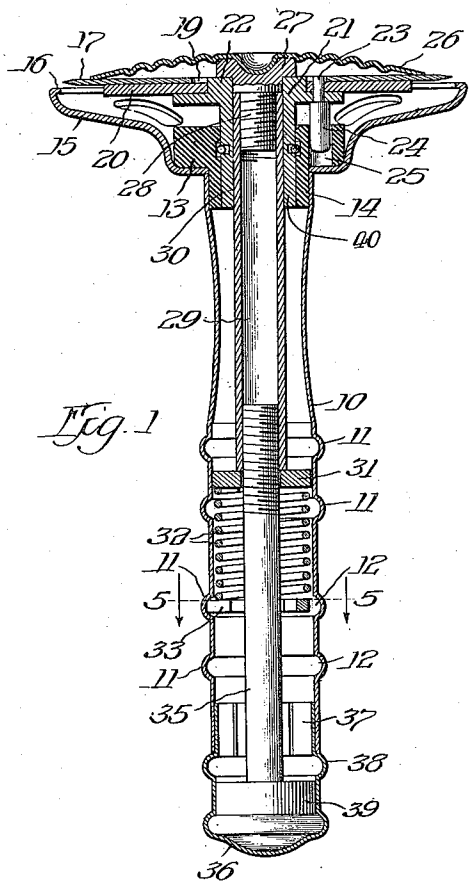


Fig. 2.

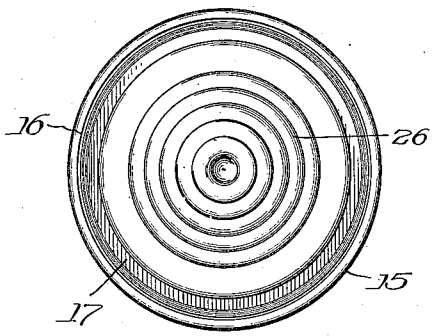


Fig. 3.

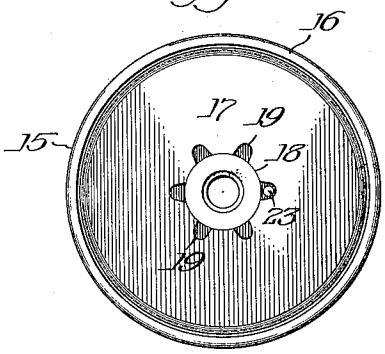


Fig. 4.

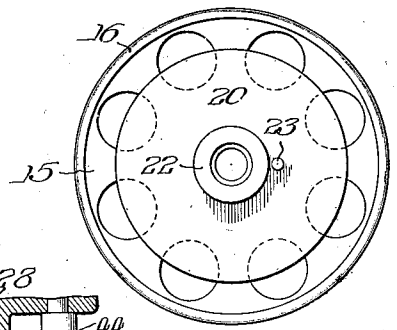


Fig. 5.

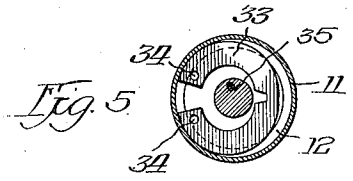
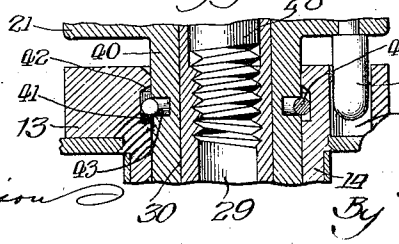


Fig. 6.



Witness:
Geo. A. Dorion

Inventor
Hugo S. Hasselquist
By Walter M. Fuller
Atty.

Patented July 15, 1924. 1,501,450

UNITED STATES PATENT OFFICE.

HUGO S. HASSELQUIST, OF OAK PARK, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO COLLINS SAFETY RAZORS, OF CHICAGO, ILLINOIS, A COMMON LAW BUSINESS TRUST.

RAZOR.

Application filed April 26, 1920. Serial No. 376,563.

To all whom it may concern:

Be it known that I, HUGO S. HASSELQUIST, a citizen of the United States, residing at Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Razors, of which the following is a specification.

This invention pertains to various features of novelty and advantage in razors, and concerns more particularly those of the safety type having suitable guards or shields associated with the sharp edge of the razor-blade.

One object of the invention is to provide a razor and its blade of such shape and form that a sheer or glancing cut will be effected, although the razor is drawn or operated in a substantially straight line.

A further object of the invention is to supply a razor of a shape adapted to more conveniently and effectively conform to the shapes of those parts of the body on which it is used, and, accordingly, in the preferred embodiment of the invention, the razor-blade is of flat, circular, disc form and is mounted in a round, enlarged head on the end of a suitable elongated handle. It will be appreciated, therefore, that all active portions of the circular blade edge except one theoretical point will have a slicing or diagonal cutting action on the hairs. Furthermore, all parts of the blade may be employed in the cutting or shaving operation since its edge is sharp around its entire periphery.

Other features of novelty also reside in the manner of adjusting the blade and its guard relatively to one another to vary the depth of cut or closeness of shave.

The manner of accomplishing these several advantages and other benefits in accordance with the principles of this invention will be readily understood by those skilled in this art from the following detailed description of a preferred and desirable embodiment of the invention illustrated in the several views of the accompanying drawing, forming a part of this specification, and throughout the figures or views of which like reference characters refer to the same parts.

In this drawing:

Figure 1 is a central, longitudinal section through the improved razor;

Figure 2 is a top plan view of the structure;

Figure 3 is a top plan view of the appliance with the corrugated convex face-plate removed;

Figure 4 is a similar view of the structure with the face-plate and razor-blade removed;

Figure 5 is a cross-section on line 5—5 of Figure 1, the parts being viewed in the direction indicated by the arrows; and

Figure 6 is an enlarged detail section of a portion of the head of the razor.

The appliance includes a round, elongated, hollow handle 10 of the shape illustrated in Figure 1, having a plurality of external knurled ribs 11, 11 providing a number of spaced, circular grooves 12, 12 inside of the handle. At its top end such handle is equipped with a block 13 having a cylindrical portion 14 of reduced size fitted and fixedly held therein, and a flaring, apertured, enlarged, circular blade-guard 15 with a small or narrow, inturned, marginal flange 16 providing a guard with an active, smooth, external, circular edge.

The flat, round, disc, sharp-edged blade 17 having a central aperture 18 with radiating recesses 19 rests on a circular blade-support 20 mounted on a hub-member 21 having a round, center boss 22 over which the blade fits, and which centers it. Element 21 has a projecting pin 23 mounted therein adapted to fit in any one of the cavities 19 to prevent rotation of the razor-blade, the under, enlarged part 24 of the pin slidingly engaging a hole 25 in the block 13, thus preventing turning of the blade-support, but permitting its longitudinal or axial shifting.

Externally, the blade is covered by a circularly-corrugated, convex face-plate 26 mounted on a block 27 having a threaded shank 28 screwed into the threaded bore of a tube or stem 29 fixed or soldered in the central aperture 30 of the element 21 and its tubular extension 40 and bearing at its inner end against a perforated, slidable collar 31

pushed or forced outwardly by a coil-spring 32 bearing at one end against the element 31 and at its other end against a split, spring, expansible and contractible disc 33 residing in one of the circular grooves 12. To permit temporary contraction of such spring-disc retainer to permit its removal or insertion, its adjacent ends are supplied with holes 34, 34 for the reception of the prongs of a contracting-tool, not shown.

To adjust the position of the blade-support, the blade, and its associated face-plate, the razor includes a threaded rod 35 extended through the aligned apertures of the parts 33 and 31 and screwed into the inner end of the tube or hollow stem 29. The outer end of this rod has a hollow or manipulating knob 35 secured thereto by a body of solder 39 in the interior of such metal-head. This metal head or knob has a circular, embossed rib 38 adapted to bear against the end of handle 10, thus limiting the extent of insertion of such head or knob in the handle. In order to give such end member 36 a suitable bearing in the handle, it is desirably provided with a longitudinally-split skirt or sleeve 37 snugly, but rotatably fitting in the end of the handle. It will thus be apparent that the spring 32 tends to force the razor-blade outwardly away from the guard 15 and that it may be readily adjusted with respect to such guard by rotary manipulation of the readily-accessible head or knob 36.

The screw-threaded connection between the parts 28 and 29 is right-handed, whereas, the threaded connection between the parts 35 and 29 is left-handed so that the manipulation of either of these two in no way affects or disturbs the adjustment or position of the other. Thus the face-plate 26 may be readily removed without modifying the adjustment of the blade with respect to the guard, and on the other hand, the relation of the blade and face-plate to the guard may be modified or adjusted by turning the part 36 without loosening the face-plate or changing its position with respect to the blade with which it is associated.

As has been clearly indicated, the pin 24 by engagement with the hole 25, prevents the blade-support, the blade, and the face-plate from turning, but, nevertheless, permits axial adjustment of these elements through the instrumentality of the screw-threaded rod 35 and its associated head or knob.

To normally prevent the blade-holder from being detached from the razor during adjustment as described, but yet permitting its intentional removal, the following described construction is provided. The block 13 internally has an annular groove 41, the outer wall 42 of which is beveled or flared as shown most clearly in Figure 6. Also the outer surface of the tubular extension 40 has a normally-registering, circular or annular groove 43 with straight end-walls, the mating grooves accommodating a split spring-ring 44 of a diameter substantially the same as the length of groove 43 and acting by reason of its partial occupancy in the two grooves to lock the companion parts together. As is clearly illustrated, the length of groove 41 is greater than that of groove 43 and determines the extent of permissible adjustment of the razor-blade support and the razor-blade by handle 36. In case it is desired to remove the blade-support from the razor, the screw 35 is partially unscrewed from the stem 29 and then the handle 36 is struck on a table or other stationary support, thereby forcing the blade-support outwardly, carrying the split-ring beyond groove 41, the beveled end-wall of which during such action contracts the ring into groove 43 and permits its outward passage. The two parts 13 and 40 having been thus unlocked, the blade-support may be readily removed, but after such removal the lock-ring does not expand enough to leave the groove 43, being retained therein. To facilitate the replacement of the blade-support in the razor, the outer end of member 13 is chamfered at 45 which beveled surface contracts the ring into groove 43, thus permitting assembly of the parts, and, as soon as the ring reaches groove 41, it automatically expands thereinto, as shown in Figure 6, thus retaining the elements in their assembled relation.

Although in this application only one desirable embodiment of the invention has been presented, it will be understood by those skilled in this art that it is susceptible of a variety of embodiments and is, therefore, not limited or restricted to the precise and exact mechanical details of structure illustrated and described. Stated somewhat differently, the appliance presented may be more or less modified in structure without departure from the substance of the invention and without the sacrifice of any of its substantial benefits and advantages.

I claim:

1. In a razor of the character described, the combination of a hollow handle fitted with a blade-guard at one end, a blade-support having a grooved stem in said handle, a grooved member in said handle having a beveled end wall, a split spring-ring in said grooves, and an adjustable retainer having threaded engagement wth said stem and having an accessible head by which it may be turned, substantially as described.

2. In a razor of the character described, the combination of a hollow handle fitted with a blade-guard at one end, a blade-support having a grooved stem in said handle, means to prevent turning of said blade-support, a grooved member in said handle hav-

ing a beveled end wall, a split spring-ring in said grooves, spring means tending to move said blade-support axially, and an adjustable retainer having threaded engagement with said stem and having an accessible head by which it may be turned, substantially as described.

3. In a razor of the character described, the combination of a hollow handle fitted with a blade-guard at one end, a blade-support having a grooved stem in said handle, means to prevent turning of said blade-support, means to prevent turning of the blade on said support, a face plate for the blade having detachable threaded engagement with said blade-support, a grooved member in said handle having a beveled end wall, a split spring-ring in said grooves, spring means tending to move said blade-support axially, and an adjustable retainer having threaded engagement with said stem and having an accessible head by which it may be turned, the threaded engagement of the retainer with said stem being the reverse of that of the face plate with said blade-support, substantially as described.

HUGO S. HASSELQUIST.