

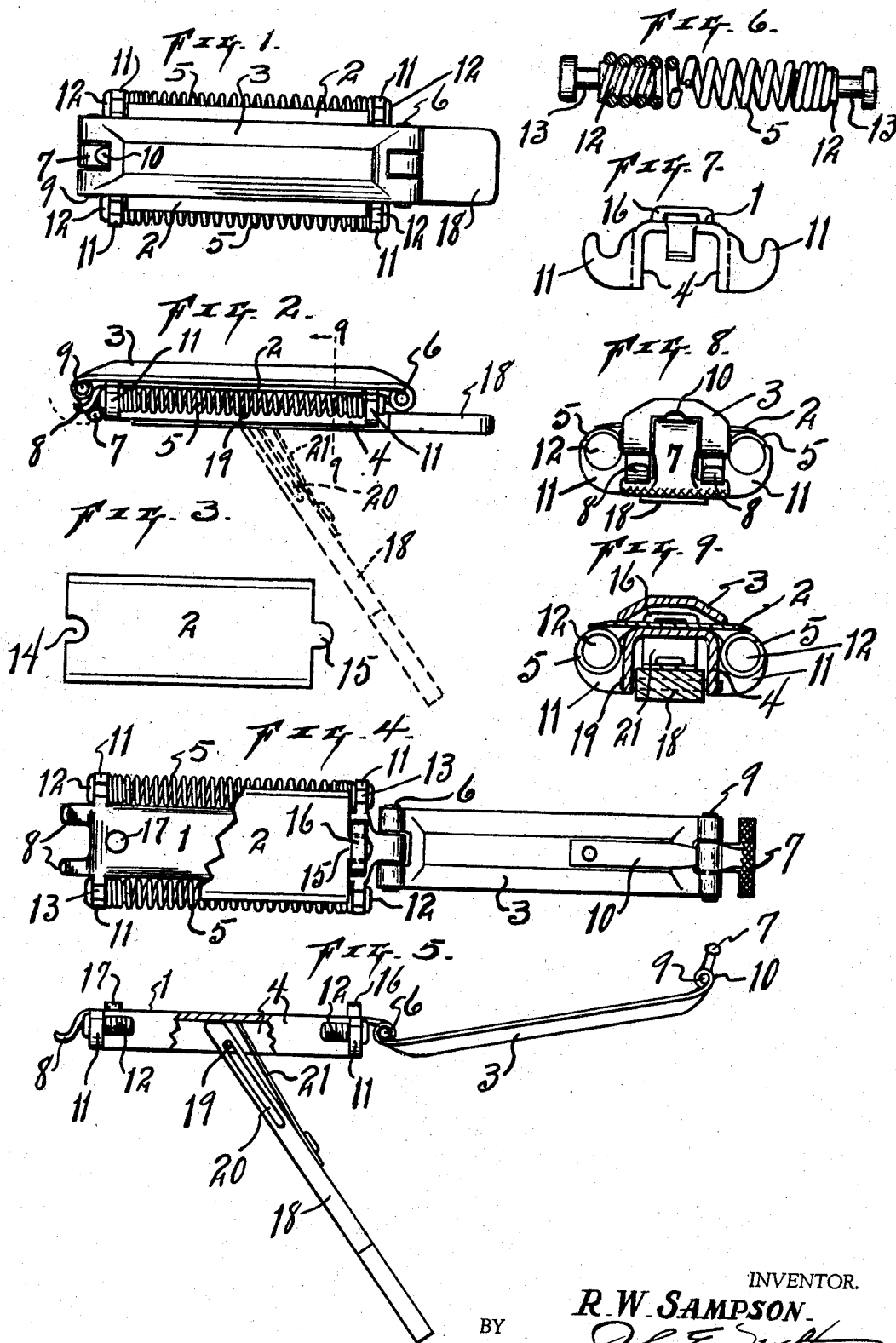
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SAFETY RAZOR

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# UNITED STATES PATENT OFFICE

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## SAFETY RAZOR

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11 Claims. (Cl. 30—47)

My invention relates to razors, and more specifically to a safety razor of a compact, unitary structure that combines the modern safety features with the virtues of the old fashioned hollow ground hand razor. Those experienced with the old fashioned straight edge razor find that the conventional type of safety razor will not permit them to shave with a shearing action which is very desirable when shaving a stiff heavy beard. They also find that the guards of the conventional safety razor tend to remove the soap or shaving cream from the beard before the cutting edge of the blade reaches the beard. These objections, and many others, may be overcome by the structure I present in this application.

An object of the invention is to provide a resilient guard means for the cutting edges of the safety razor blade which will function to permit a close shave, if desired, as well as a guard that will not scrape the soap away from the beard.

Another object is to provide a safety razor that may be held in the hand similar to the use of the old fashioned straight edge razor, thus permitting the user to shave with a shearing action.

An advantage of this razor is that it may be made in an extremely compact, inexpensive form that may be folded and conveniently carried in the pocket of a vest without apparent bulk.

Another advantage of this invention is that the structure does not consist of separate parts that may be removed and misplaced.

Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawing which forms a part of this application:

Fig. 1 is a plan view of the safety razor, showing the same in folded position.

Fig. 2 is a side elevation of the razor, showing the operative position of the handle in dotted outline.

Fig. 3 is a plan view of the razor blade, showing a suggested form of male and female portions of the blade for securing the same to the body of the razor.

Fig. 4 is a plan view of the safety razor, showing the blade keeper positioned for removing and replacing the blade; and showing the blade partially broken away to illustrate the position of the blade guards relative to the body of the razor.

Fig. 5 is a side elevation of the razor, showing the blade and the blade guard removed, and the blade keeper in open position. A portion of the razor body is broken away to illustrate the resili-

ent method of holding the razor handle at an angle to the body.

Fig. 6 is an enlarged detail view of one of the blade guards.

Fig. 7 is an end view of the body of the razor, on an enlarged scale.

Fig. 8 is an enlarged end view of the razor, showing the same in its compact folded form.

Fig. 9 is a similar view, showing a sectional view taken on the line 9—9 of Fig. 2.

Similar characters of reference are used to indicate the same parts throughout the several views.

The razor consists of a body member which is formed in an elongated rectangular manner having a top surface 1 which is adapted to support a razor blade 2. A blade keeper 3 is pivotally disposed on one end of the razor body and adapted to swing over and press the blade 2 against the surface 1 of the body.

The longitudinal edges of the body 1 are extended and bent downwardly at right angles thereto to form side walls 4. These two walls 4 serve as guides or abutments for the razor blade guards 5 which consist of coil springs which are carried on the razor body and positioned slightly in advance of the cutting edge of the blade 2. The springs 5 are carried at a sufficient tension on the razor body to permit a slight resiliency, thus permitting the user to secure a close shave by exerting a little extra pressure. This feature overcomes one of the objections to the conventional type of safety razor, especially among those with a heavy stiff beard.

The blade keeper 3 is formed in cup-shape and is elongated so that one end is pivotally anchored to one end of the body of the razor by means of a pivotal pin 6. The other end of the keeper 3 is provided with a pivotal T shaped member 7 which is pivoted at its base to the member 3 by means of a pivotal pin 9. The upper portion of the T shaped member 7 is adapted to swing and pass over a pair of fingers 8 which are elongations of the surface 1 and disposed thereon at the end opposite the pivotal connection 6. When the keeper 3 is swingingly moved to position for holding the blade 2 (shown in Figs. 1 and 2), it is in inverted position. The T shaped member 7 is then moved into frictional engagement with the fingers, as shown in Fig. 2, for wedging and securing the keeper in position for holding the blade 2 in operative position. One end of a leaf spring 10 is secured within the cup-shaped keeper 3 and positioned so that its free end will resiliently bear against the pivotal portion of the T

shaped member and hold the member against free movement. The resiliency of the spring 10 eliminates free swing of the member 7 which would hinder ease of fastening the keeper 3 over the blade 2.

Each end of the side walls 4 of the body of the razor is extended and bent at right angles thereto and formed into hooks 11 for anchoring the coil spring guards 5. These spring anchoring means are so positioned as to align the coil springs 5 in position relative to the blade 2 that they may serve as guards for the cutting edges of the blade. The ends of the springs 5 are telescopically disposed over threaded lugs 12 which are anchored in the hooks 11 of the razor body. The exposed end of each lug 12 is provided with an annular groove 13 which is adapted to normally rest in its respective hook 11 of the body of the razor. This form of anchorage of the blade guards 5 insures the desired alignment of the same relative to the cutting edge of the blade 2. When the spring guards 5 are positioned in the razor, they are stretched to sufficient tension to permit only slight resiliency when the user exerts pressure on the razor during shaving. That portion of the spring that passes over the lug 12 is adjacent the corners of the blade 2 and the rigidity of the lug overcomes all resiliency of the spring at that point, thus providing a rigid guard for the blade corners and protecting the user from nicking his face. This is one of the hazards of the conventional type of safety razors.

It is obvious that various designs of double edged blades may be used in this new type of razor. A suggested form of blade 2 is shown in Fig. 3 and its method of anchorage on the surface 1 is shown in Fig. 4. In this instance, the blade 2 may be made with an indentation or slot 14 in one end and an extension or projection 15 on the other end. The indentation 14 and the extension 15 are disposed in the longitudinal center of the blade 2 so that they will cooperate with the elements 17 and 16 of the surface 1 respectively. The extension 15 of the blade 2 is adapted to pass under a bridge type of projection 16 which is rigidly disposed on the surface 1 adjacent the hinged portion of the keeper 3. The slot 14 of the blade 2 will then pass over and be held by the projection 17 which is also made rigid with the surface 1 and disposed on the end thereof, opposite the bridge type member 16. It will be noted that the slot 14 and projection 15 are identical in shape and size and, in the construction as shown in Fig. 3, are located diametrically in the median line of the blade. This form of blade 2 and its anchorage is very simple and inexpensive. It serves to cooperate with the keeper 3 in holding the blade 2 in the desired relation with the spring guards 5.

The handle for the razor may be an elongated flat piece of material 18 which is operatively carried by the body of the razor so that it may be folded into the confines of the body structure or it may be moved to and be held in the desired angle for a shearing action in shaving. One end of the handle 18 is anchored to the razor body by means of a pin 19 which passes through the two walls 4 and is disposed in the approximate longitudinal center of the razor body. The handle member 18 is provided with an elongated slot 20 for the pin 19. This slot 20 permits the handle 18 to be either folded into the razor body, as shown in Figs. 1 and 2, or be moved to shaving position, as shown in Fig. 5 and in dotted outline in Fig. 2. The end of the handle, extending into the body

and between the walls 4, may be cut at an angle so that the cut surface may have frictional engagement with the inner surface of the portion of the razor body, as shown in the portion broken away in Fig. 5. Resilient means may be provided for holding the handle 18 at the desired angle to the body of the razor, as well as for holding the handle in its folded position. This means consists of a leaf spring 21 which is carried on the handle 18 so that its free end will rest against and have frictional tension with the under surface of the portion 1 of the razor body.

The coil spring blade guards 5 are preferably constructed of relatively small spring wire which will pass through the beard in a manner so as to remove a minimum of the soap and offer a minimum of interference with the cutting edge of the blade reaching the beard. When the springs 5 are positioned in the body of the razor, they are stretched a sufficient degree to permit the coils to act as a receiver and retainer of an amount of soap that will assist the coils to carry considerable moisture. In actual use of this razor, I have found that it is possible at all times to have a sufficient amount of water in the guards to insure a more perfect and faster shave than could be obtained by the use of a safety razor having the conventional blade guard. When using the conventional razor, I must insert it into the water many times during a shave. With this razor, I can maintain the desired amount of moisture in the guards by inserting it once or twice in the water, thus I am able to shave more uniformly and in less time than with a razor with the conventional blade.

It is obvious that many changes may be made in the size, shape and general arrangement of the structure shown in this application without departing from the scope of the invention or discovery. The method of anchoring the coil spring guards 5 with a medium that will automatically align itself with the longitudinal center of the spring, insures installation of the spring in alignment with the cutting edge of the blade 2. The tension of the springs 5, as well as its relation with the walls 4 and the blade 2, insures perfect function of the same without danger of throwing out and injuring the user. This flexible safety means permits the use of a safety razor for a clean close shave that heretofore could be obtained only by the old fashioned straight edge razor.

What I claim is:

1. A safety razor consisting of a body member comprising a top and side walls and adapted to operatively support a razor blade thereon, coil springs carried by said body and guided by the side walls thereof for guarding the cutting edges of said blade, said springs being under tension to permit resiliency in the use of said razor for close shaving, and means coacting with said body and its side walls for alignment of said springs relative to said blade.

2. A safety razor consisting of a body member comprising a top and side walls and adapted to rigidly support a razor blade thereon, blade guards disposed on said body member and guided by the side walls of said body member, said guards being adapted to serve as moisture holders, and a folding handle carried by said body member and adapted to be positioned at a predetermined angle to said member for securing a shearing action with said blade.

3. A safety razor consisting of a body member comprising a top and side walls and adapted to operatively support a blade thereon, resilient

blade guards disposed on said body member and guided by means of the side walls of said body member, and said guards being adapted to serve as containers for moisture.

4. In a safety razor, a blade supporting body member provided with a bridge member adjacent one end and a lug adjacent its opposite end, said bridge and lug adapted to sustain a blade provided with a slot at the end and a projection at its opposite end.

5. In a safety razor, a blade supporting body member comprising a top portion and a side wall; a blade guard comprising a coiled spring; and means for attaching said spring guard under tension to the body in proximity to said side wall.

6. In a safety razor, a blade supporting body member comprising a top portion and side walls; blade guards comprising coiled springs; and means for attaching said springs under tension at each side of the body member in proximity to said side walls.

7. In a safety razor, a blade supporting body member; a blade guard comprising a coil spring; means for attaching the blade guard to the body member comprising hooks on the body member and threaded lugs engaging the coils of the spring

guard, said lugs adapted to engage the hook member on the body to tension the spring guard in operative position.

8. In a safety razor, a blade supporting body member, said body member comprising a top wall and side walls forming a recess below the top wall, a handle pivoted within said side walls and adapted to be folded into said recess.

9. In a safety razor, a blade supporting body member, said body member comprising a top wall and side walls forming a recess beneath said top wall; a handle pivoted within said side walls and adapted to be folded into said recess; and resilient means for securing the handle at an angle to said body member.

10. A razor blade provided with a slot at one end and a projection at the opposite end, said slot and projection being identical in shape and size.

11. A razor blade provided with a slot at one end and a projection at the opposite end, said slot and projection being identical in shape and size and located diametrically in the median line of the blade.

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