June 19, 1934. E. D. CHADWICK 1,963,649

SAFETY RAZOR BLADE

Filed Nov. 19, 1930

Fig. 1.

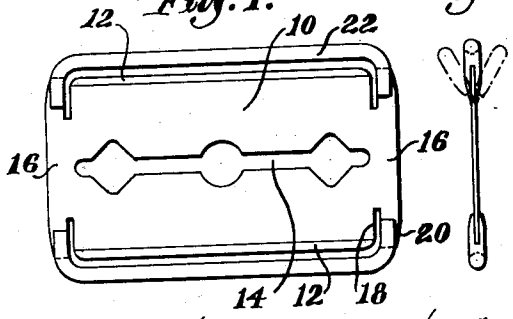


Fig. 2.

Fig. 3.

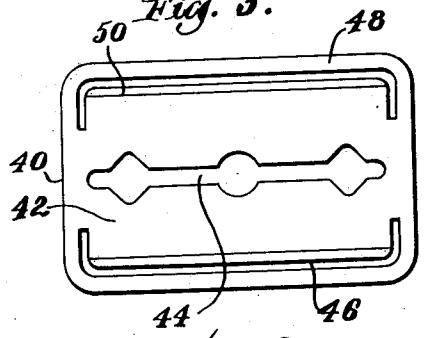


Fig. 4.

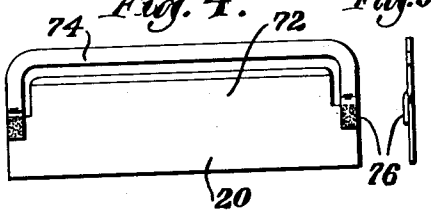


Fig. 5.



Fig. 7.

Fig. 6.

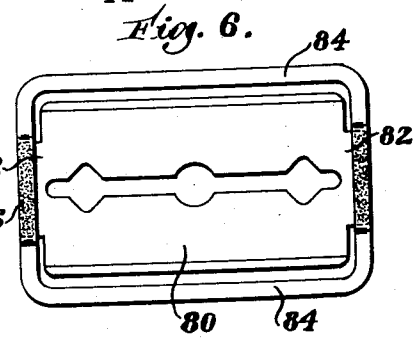


Fig. 8.

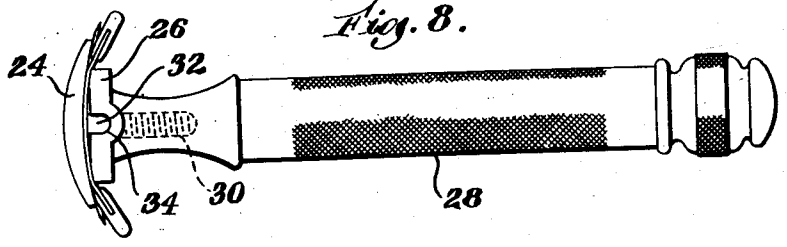
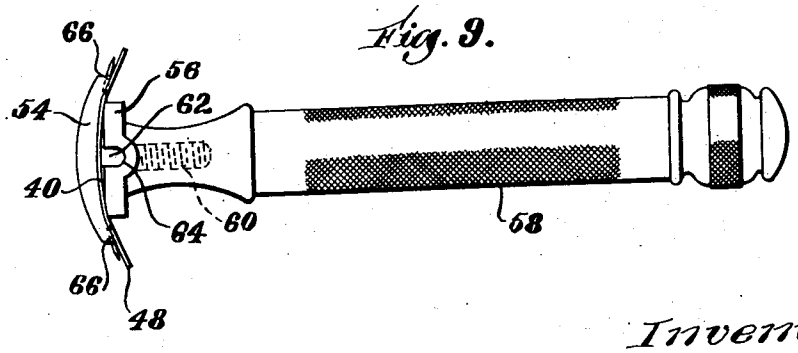


Fig. 9.



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SAFETY RAZOR BLADE

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Application November 19, 1930, Serial No. 496,757

3 Claims. (Cl. 30—12)

This invention relates to safety razor blades and more particularly to a new and improved safety razor blade which has provided thereon self guarding means adjacent to its cutting edge or edges. Safety razor blades as commonly known and used have their sharpened edge or edges fully exposed and these edges are protected in the shaving operation by being clamped in shaving position closely adjacent to the protecting guard of a holder or razor. One of the objects of my invention is to provide a new safety razor blade on which is mounted as a part thereof a guard or guards adapted to serve the double purpose of a protection to the blade edge or edges and as a guard in the shaving operation.

The ordinary unprotected safety razor blade is a dangerous instrument and must be handled with great care, and even when such care is taken, the blade may accidently cause serious injury. Furthermore, the cutting edge of a safety razor blade is honed and stropped to such a fine degree that it is very readily damaged by coming into contact with objects during ordinary handling thereof. My invention contemplates the elimination of both these objections by providing the blade with a guard for each cutting edge, the guards preferably being resilient and so mounted that they normally project into a protecting position relative to the cutting edges of the blade and preferably in the plane of the blade. These guards as hereinafter more fully described may be of any suitable material and may be secured to the blade in any convenient manner and the guards and blades may furthermore be formed from a single sheet of metal and therefore integral. In the blade edge treating operations and the shaving operation the guards may be held laterally to one side to permit access to the edge. The provision of a new and improved safety razor blade of this type and embodying these novel features comprises a further object of my invention.

In the accompanying drawing I have illustrated certain specific embodiments of my invention but it will be understood that the invention can can be otherwise embodied and that the drawing is not to be construed as defining or limiting the scope of the invention, the claims appended hereto being relied upon for that purpose.

Referring to the figures of the drawing:

Fig. 1 is an elevation of a double edged safety razor blade constructed in accordance with my invention.

Fig. 2 is an end view thereof.

Fig. 3 is a view similar to Fig. 1 but illustrating a modified form of the invention.

Fig. 4 illustrates an application of my invention to a single edged blade.

Fig. 5 is an end view thereof.

Fig. 6 illustrates a double edged blade similar to the blade of Fig. 4.

Fig. 7 is an end view thereof.

Fig. 8 is a side elevation of a razor holding the blade of Fig. 1 in shaving position therein.

Fig. 9 is a like view of a razor holding the blade of Fig. 6 in shaving position therein.

As above stated, the main object of my invention is to provide a new and improved safety razor blade with guard means carried on the blade and so located relative to the cutting edge or edges thereof as to both protect such edges from being injured and from doing injury. In the preferred form of my invention as illustrated, I provide a guard for each blade edge of a length at least equal to such edge and I support the guard preferably at its ends on the razor blade and in such position relative to the cutting edge that it extends along and provides the protection above mentioned. The guard may be normally located in the plane of the cutting edge and spaced outwardly therefrom in such manner that any objects which would ordinarily engage the blade edge will engage the guard instead. As thus constructed, the guard or its support on the blade is so flexible that the guard may be moved laterally out of the plane of the edge when the edge is to be operated upon or used. I will now proceed to describe the invention as illustrated in the accompanying drawing wherein I have for convenience more particularly shown my invention as applied to a blade of the new Gillette type, it being understood however that this particular construction of blade is shown for illustrated purposes only.

Referring first to the form of my invention shown in Figs. 1 and 2, the blade 10 has oppositely disposed cutting edges 12 and a centrally disposed aperture 14 therethrough substantially as long as the cutting edges of the blade, the ends 16 of the blade projecting outwardly for some distance beyond the aperture 14 and cutting edges 12. The edges of the blade adjacent to its ends are slotted at 18 in a manner separating the cutting edge portions from the ends 16 and thereby forming resilient tabs 20 at opposite sides of the ends 16. The guards 22 are secured to these tabs. As illustrated in Figs. 1 and 2, I may conveniently form this guard of wire and secure the ends thereof to the tabs 20 by slitting the guard ends

and crimping them into tight engagement with the tabs.

As more particularly illustrated in Fig. 2, the tabs 20 and guards 22 are normally located in the plane of the blade and the guards extend outwardly beyond, somewhat spaced from and along the cutting edges of the blade. In such position the guards may be said to provide a protecting bumper for the blade edges 12 and to fully serve the purpose of preventing injury to the cutting edges and preventing injury thereby. The resiliency of the tabs 20 is such that while the guards are normally held in the plane of the blade they may be moved laterally to the position shown in broken lines in Fig. 2. The manner of thus using the blade as shown in Fig. 8 will now be described.

The razor illustrated in Fig. 8 comprises a cap 24, a cooperating backing plate 26 and a clamping handle 28 in threaded engagement with a stud 30 on the cap. The cap 24, plate 26 and blade 10 are relatively located by means of a rib 32 on the cap extending through the aperture 14 in the blade and extending into a groove 34 in the plate. The blade engaging face of the cap is convexly curved transversely, the outer side portions of the cap engaging directly against the cutting edge portions of the blade and engaging against the relatively thicker ends of the guards 22. The guards are thereby held in a position slightly offset with respect to the blade edges 12 whereby they serve as guards thereto in the shaving operation.

In Fig. 3, I have illustrated a form of my invention wherein the blade and guard are made from a single piece of material. In making this blade the blank 40 is struck out from a sheet of material to the shape illustrated and having a blade portion 42 with an aperture 44 therein, and slots 46 providing the integral guards 48, the entire blank being in a single plane. The cutting edges 50 are sharpened, honed and stropped by pressing the guards 48 laterally to one side in the same manner as when using the blade for shaving, as shown in Fig. 9.

The razor illustrated in Fig. 9 comprises a cap 54, a cooperating backing plate 56 and a clamping handle 58 in threaded engagement with a stud 60 on the cap. The cap 54, plate 56 and blade 40 are relatively located by means of a rib 62 on the cap extending through the aperture 44 in the blade and extending into a groove 64 in the plate. The blade engaging face of the cap is convexly curved transversely, the outer side portions of the cap engaging directly against the cutting edge portions of the blade. The end portions 66 of the cap are thickened at their guard engaging corner surfaces whereby to depress the guard to a position slightly lateral to the blade edges 50 whereupon the portions 48 serve as guards thereto in the shaving operation.

In Figs. 4 and 5, I have illustrated an application of my invention to a single edged blade 70. In this construction the blade edge portion 72 is shorter than and located intermediate the length of the body portion of the blade. The guard 74 may be a strip of flat material substantially of the thickness of the blade and the ends thereof may be somewhat offset at 76 and secured to the blade ends 78 as by spot welding.

The form of my invention shown in Figs. 6 and 7 is broadly the same as that shown in Figs. 4 and 5 but applied to a double edged blade. In this construction the blade 80 has its ends projecting outwardly at 82 and the guards 84 may be spot welded thereto. The two guards for this blade may be conveniently formed in one piece which is substantially a rectangular ring having the intermediate portions of its ends offset at 86. These offset portions may be spot welded to the blade ends at 82 as illustrated.

While the integral form of blade and guard shown in Fig. 3 has various advantages, so also does the form shown in Figs. 4–7. Primarily among the advantages of this latter form it may be mentioned that the guard portions thereof can be made of a cheaper material than that from which the blade is constructed, thereby making a considerable saving in the cost of material. The razor or holder for the blade shown in Figs. 4–7 will have their blade engaging faces recessed to receive the offset portions 76 and 86 at the blade ends where the guards are secured thereto. The use of this form of blade is substantially the same as the forms shown in Figs. 3 and 9 and it is therefore believed that the same will be clear without further description herein.

I claim:

1. A guarded safety razor blade comprising a body portion sharpened on two opposite edges thereof, and a pair of wires secured at their ends to resilient tabs on the blade ends, and their intermediate portions normally extending along and spaced from the sharpened edges outwardly of the body portion in position to protect such edges, the resilient tabs permitting movement of the wires laterally of the blade to expose the cutting edges.

2. A safety razor comprising cooperating blade clamping members, in combination with a flexible blade having a cutting edge and a resilient guard normally lying in the plane thereof and having relatively thick end portions, the clamping members being shaped to engage said end portions and displace the guard laterally with respect to the cutting edge of the blade.

3. A safety razor comprising co-operating blade-clamping members in combination with a flexible blade having a cutting edge and a resilient guard united with the blade and normally lying on the plane thereof and having a thick portion therein, one of the clamping members being shaped to engage said thick portion and displace the guard laterally with respect to the cutting edge of the blade.

EVERETT D. CHADWICK.