Dec. 10, 1935. T. E. WINN 2,023,564

SAFETY RAZOR AND BLADE THEREFOR

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Fig. 1.

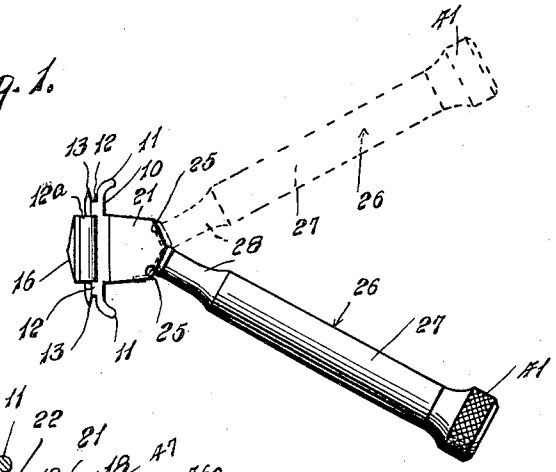


Fig. 2.

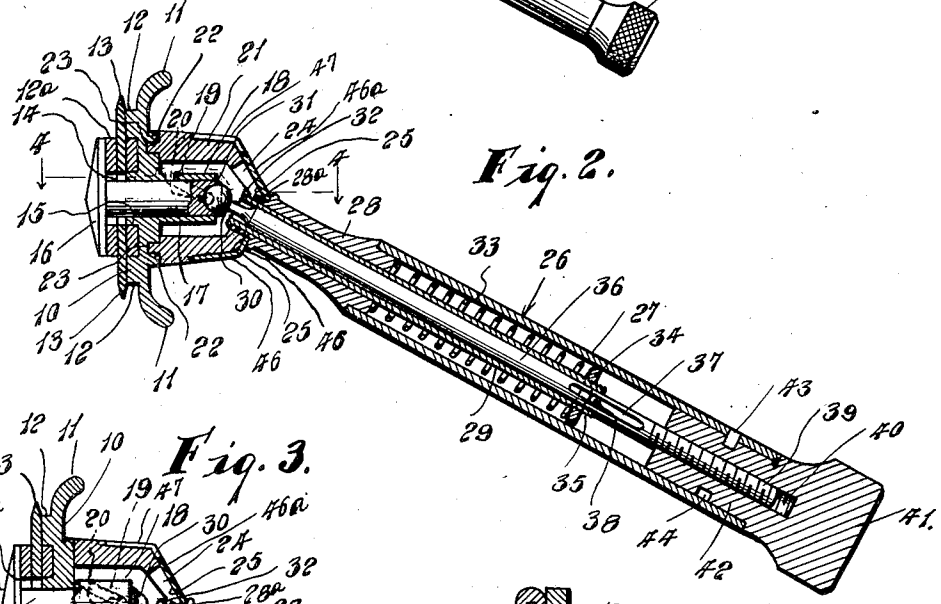


Fig. 3.

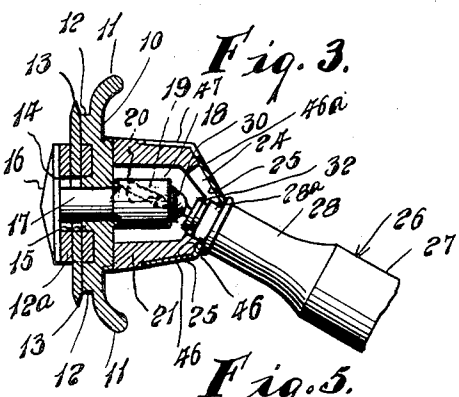


Fig. 4.

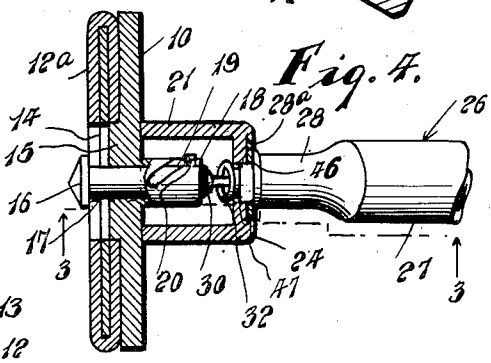
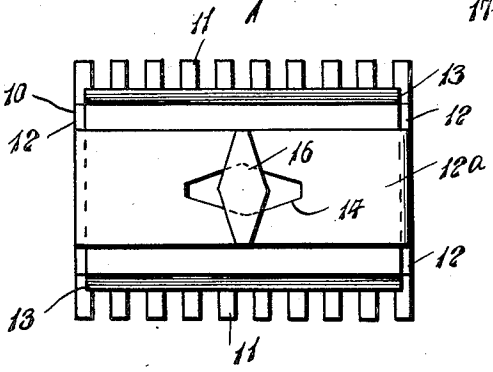


Fig. 5.



Inventor

T. E. Winn.

By L. F. Randolph Jr.

Attorney

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Fig. 6.

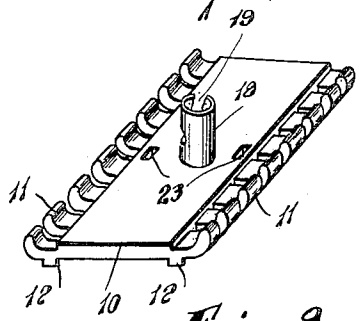


Fig. 7.

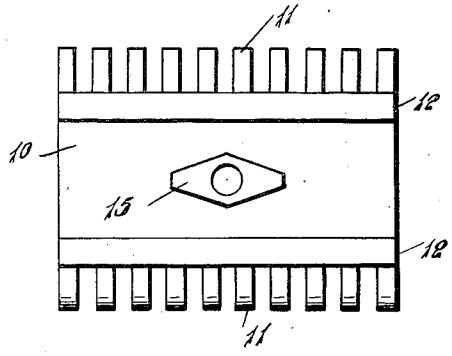


Fig. 8.

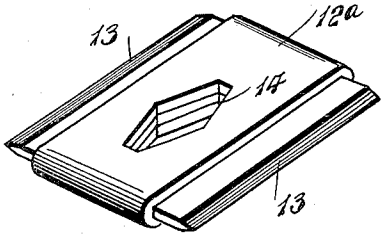


Fig. 9.

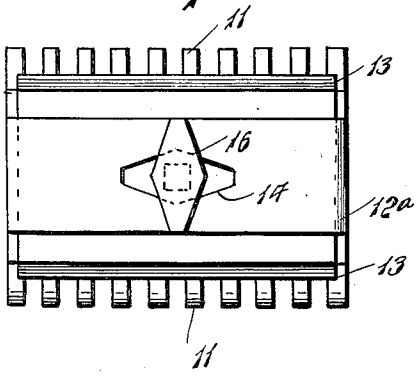


Fig. 10.

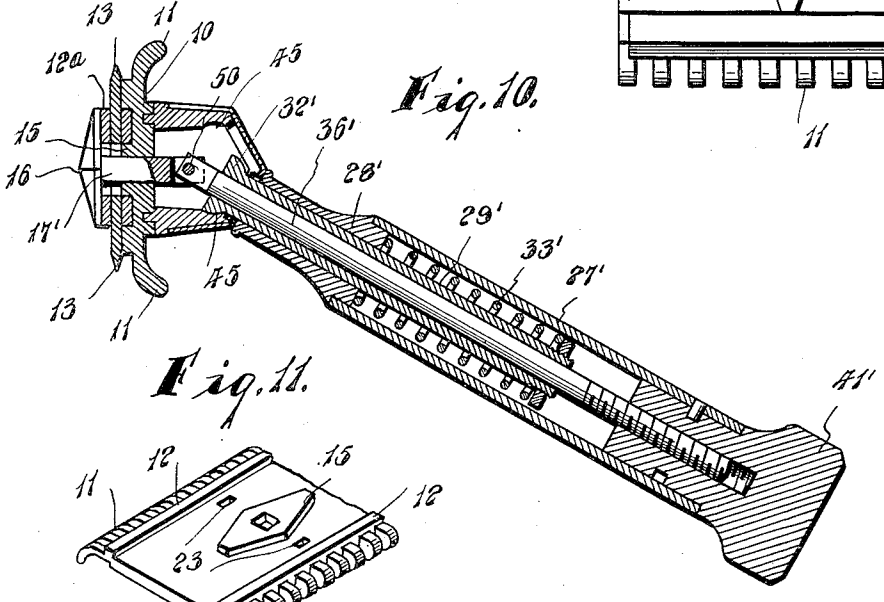


Fig. 11.

Inventor

T. E. Winn.

By L. F. Randolph, Jr.

Attorney

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UNITED STATES PATENT OFFICE

2,023,564

SAFETY RAZOR AND BLADE THEREFOR

Thomas E. Winn, Jackson Springs, N. C.

Application September 20, 1934, Serial No. 744,832

4 Claims. (Cl. 30—51)

This invention relates to a safety razor and to the blade used therein.

It is aimed to provide an efficient, simple, and durable construction enabling the use of a relatively non-flexible double edged blade in such a manner that both edges may be used in succession, without removal of the blade from the razor, and while the handle and blade relatively are at the proper angle.

It is also aimed to provide a novel type of razor having a backing or covering which disposes both cutting edges of the blade and which in effect is an integral part of the razor construction or unit.

The more specific objects and advantages will in part be pointed out and otherwise become apparent from a consideration of the description following taken in connection with accompanying drawings illustrating operative embodiments thereof.

In said drawings:

Figure 1 is a view of the razor in side elevation,

Figure 2 is an enlarged longitudinal sectional view through the complete razor,

Figure 3 is a sectional view on a plane indicated by the line 3—3 of Figure 4,

Figure 4 is a sectional view on a plane indicated by the line 4—4 of Figure 2,

Figure 5 is a front elevation of the razor,

Figure 6 is a detail perspective view of the guard section of the razor,

Figure 7 is a plan view of the guard section of the razor,

Figure 8 is a detail perspective view of the razor blade,

Figure 9 is a front elevation of a second form of razor,

Figure 10 is a longitudinal sectional view through the said second form of razor, and

Figure 11 is a detail perspective view of the guard section, which may be used with both forms of the razor.

Referring specifically to the drawings, wherein like reference characters designate like or similar parts, and first to the form illustrated in Figures 1 to 8, the razor comprises a guard plate as at 10 along opposite longitudinal edges of which guard fingers 11 are provided, and adjacent the inner ends of which, longitudinally extending, parallel, offset ribs 12 are preferably formed integral with the guard plate.

The razor blade as detailed in Figure 8 has a central enlarged portion or backing 12a along opposite edges of which cutting edge portions 13 are provided. Said edge portions 13 may be the opposite sides of a usual razor blade, or they may be individual sections suitably fastened in the backing 12a. Centrally of the blade, a suitably shaped, non-circular slot 14 is provided which removably fits over a boss 15 of corresponding shape, provided centrally of the guard, thus enabling the blade to be applied to the guard with the cutting edges in parallelism with the longitudinal axis of the guard.

A clamping head 16 removably secures the blade to the guard, with the backing or enlarged portion 12a at one side thereof snugly but removably interfitted between the ribs 12. Said head 16 has a stud 17 extending therefrom, through the slot 14, and through the guard 10, into a sleeve or barrel 18 integral with or otherwise provided on said guard. Outward movement of the head 16 and stud 17 is necessary to enable turning of the head at a right angle to the slot 14 and to permit attachment and removal of the blade. To this end, the sleeve 18 is provided with a helical groove 19 engaged by a pin 20 on the stud 17.

A detachable hollow housing 21 surrounds the sleeve 18 and it has a pair of lugs at 22 removably disposed in slots or notches 23 in the back of the guard plate 10, on opposite sides and equidistant from the axis of the sleeve 18. The rear end of said housing 21 is inclined or cam-shaped oppositely from said axis and a slot 24 extends across both inclined portions, opposite cam surfaces or inclined surfaces 25 thus being provided.

A handle is provided at 26 comprising a tube 27 fastened to a neck 28 which at its free end abuts the surfaces 25. Slidable in the neck 28 is another tube 29 in which a clamping rod 36 is slidable having a ball 30 engaged in a socket 31 of the stud 17, thus providing a ball and socket joint. Said sleeve 29 extends through the slot 24 and has a flange at 32 overlapping the inner wall of the housing 21, and an expansive coil spring 33 surrounds said tube 29, abutting the neck 28 at one end, and at its other end abutting an adjustable nut or stop 34, secured on said sleeve 29 as at 35. Said rod 36 has an elongated slot 37 longitudinally thereof in which a pin 38 on sleeve 29 is disposed, to prevent turning of such rod 36 while permitting longitudinal movement thereof. The outer end of said rod 36 is screw-threaded as at 39 and it is engaged in a screw-threaded socket 40 of a nut 41 having a reduced portion 42 journaled in the tube 27, and held against longitudinal displacement by means of a pin or lug 43 on the tube 27 engaged in an annular groove 44 of each nut.

It will thus be seen that when nut 41 is turned

in a clockwise direction the head 16 will be moved and held in engagement with the backing 12a of the razor blade and transversely relatively to the slot 14. By turning the nut 41 in a counterclockwise section rod 36 will be actuated away from the nut 41, stud 17 will be moved outwardly of the sleeve 18 and head 16 away from the backing 12a. At the same time the pin 20 by riding in helical groove 19, stud 17 and head 16 will be turned through an arc of 90 degrees with the head alined with slot 14 for removal of the blade and its backing. Also when the parts 36 and 17 are loosened, as above described, handle may be swung from one side to the other of the longitudinal axis of stud 17 as suggested in full and dotted lines in Figure 1 to enable use of the opposite edges 13 of the razor blade.

To hold the handle 26 from rotation in turning nut 41, neck 28 is provided with a reduced polygonal extension 28a that engages the side walls of slot 24. Also to cover slot 24 a cover member 46 of resilient material is provided and having angularly related end portions 46a that accommodate themselves to the sides of housing 21 and the cam or inclined surfaces 25 thereof as shown. The sides of housing 21 and cam or inclined surfaces 25 are provided with a continuous groove 47 to seat cover member 46 and end portions 46a.

A second form of the invention is shown in Figures 9, 10 and 11, although the guard of Figure 11 is identical with that of the first form. Aside from the handle used in this form of the invention, it is identical with the previous form with the exception that the sleeve 18 and pin 20 are dispensed with, and a pin 50 connects a clamping rod 36' to the stud which is here designated 17'. In this form, a sleeve 27', neck 28', tube 29', spring 33', rod 36' and nut 41' correspond to the parts 27, 28, 29, 33, 36 and 41 of the previous form. However, the tube 29' has an enlarged head 32' provided with a spherical surface at 44, engaging a curved or spherical surface 45 within the housing. The necessity for the slot 37 and pin 38 in this form, does not exist. In this form, however, it is necessary that the stud 17' and rod 36' be axially alined while removing or replacing a blade, but the handle may be adjusted to an angle to the head as shown in Figure 10 after the blade has been secured in position in the head.

The form last described, may be operated in substantially the same manner as pointed out with respect to the first form.

Various changes may be resorted to provided they fall within the spirit and scope of the invention.

I claim as my invention:

1. A razor having a guard provided with ribs, a blade having a backing fitting between said ribs and at the cutting edge adapted to project beyond the ribs, means to secure the blade to the guard comprising a head, a stud on said head extending through the blade and guard, a sleeve on the guard engaged by the stud, a pin and helical slot connection between the stud and sleeve, and clamping rod means flexibly connected to the stud.

2. A razor having a guard provided with ribs, a blade having a backing fitting between said ribs and at the cutting edge adapted to project beyond the ribs, means to secure the blade to the guard comprising a head, a stud on said head extending through the blade and guard, a sleeve on the guard engaged by the stud, a pin and helical slot connection between the stud and sleeve, clamping rod means flexibly connected to the stud, a housing about the sleeve interengaged with the guard provided with oppositely disposed inclined surfaces selectively engageable by the handle according to the edge being used, said handle including a portion slidable relatively to the rod and directly engageable with said inclined portions, and a spring within the handle maintaining said engagement.

3. A safety razor according to claim 2 wherein the connection between the clamping rod and the stud is a ball and socket joint.

4. A razor having a guard provided with ribs, a blade having a backing fitting between said ribs and at the cutting edge adapted to project beyond the ribs, means to secure the blade to the guard comprising a head, a stud on said head extending through the blade and guard, a housing interfitted with the guard having oppositely inclined surfaces, a handle having a clamping rod pivoted to said stud, a sleeve about the clamping rod having an enlargement with a spherical surface engaging the interior of said housing, sleeve means on the handle about the sleeve selectively engageable with said surfaces, and spring means within the handle to normally maintain the sleeve means in engagement with one of said inclined surfaces.

THOMAS E. WINN.