Nov. 5, 1935. W. H. BLACK 2,020,233

SAFETY RAZOR

Filed Dec. 19, 1934

Fig. 1.

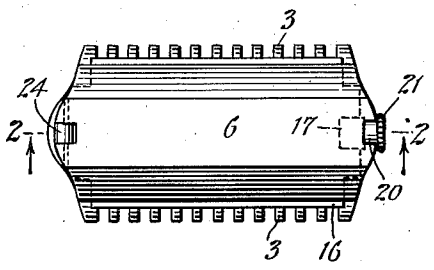



Fig. 6.

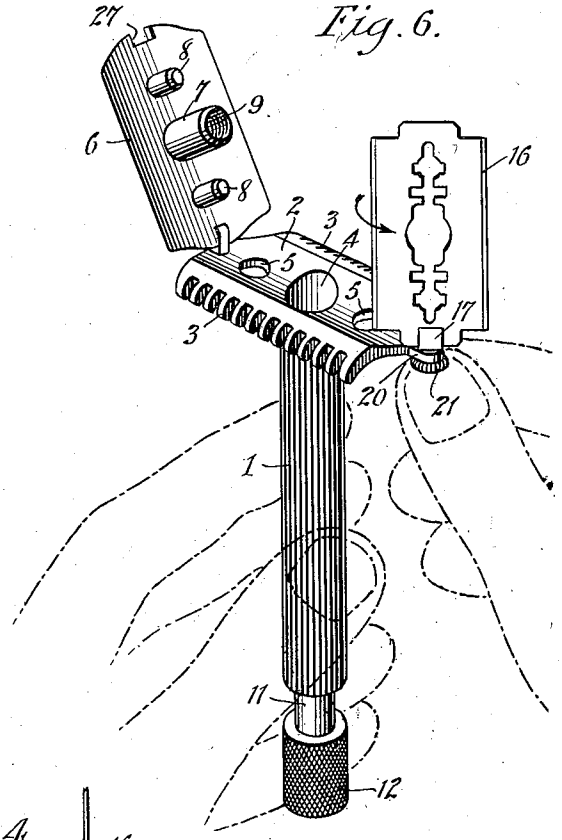



Fig. 2.

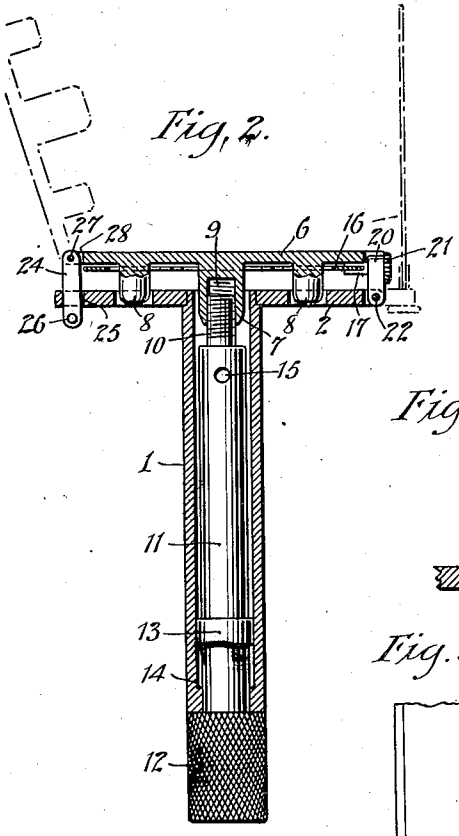



Fig. 4.

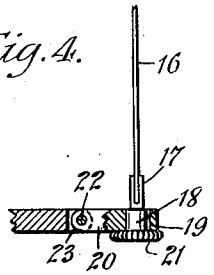



Fig. 3.

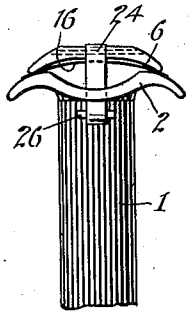
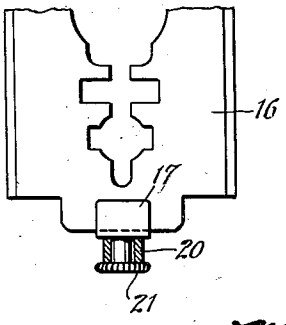



Fig. 5.




WITNESSES

Edw. Thorpe.

A. W. Porter

INVENTOR

William Harman Black

BY

Munn, Anderson & Liddy

ATTORNEYS

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# UNITED STATES PATENT OFFICE

2,020,233

## SAFETY RAZOR

William Harman Black, New York, N. Y.

Application December 19, 1934, Serial No. 758,302

2 Claims. (Cl. 30—61)

This invention relates to safety razors, and the primary object of the invention is to provide means whereby the blade may be turned over so that the edges of first one side and then the other can be used as often as it is desirable to change them. I have discovered that a blade rests if you change the side every time you shave, and this invention facilitates such manipulation.

A further object is to provide a safety razor in which all parts thereof are connected so that the guard and the clamp may be moved away from their normal positions when screwed together, to a position which will allow the blade to be turned over and provide means for permitting the turning of the blade, said means also constituting an attached part of the razor assemblage, so that it is not necessary to touch the blade with the operator's fingers or thumb on turning the blade over from side to side, and in assembling or separating the parts.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, all of which will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawing—

Figure 1 is an end view of the safety razor looking down upon the clamp or cap, and guard;

Figure 2 is a view in longitudinal section on the line 2—2 of Figure 1, illustrating in dotted lines raised positions of the clamp and blade;

Figure 3 is a fragmentary view in side elevation of Figures 1 and 2;

Figure 4 is an enlarged fragmentary detail view illustrating the blade holder and its mounting;

Figure 5 is a fragmentary plan view partly in section, illustrating the blade holder with the blade in position thereon; and

Figure 6 is a perspective view illustrating the position of the parts and the manner of manipulating the same to turn the blade over.

In Figures 2, 3 and 6, 1 represents the tubular handle of the razor to one end of which a toothed guard 2 is fixed. This guard 2 has teeth or notches 3 at both side edges, as is customary in the manufacture of safety razors, and is provided with a central opening 4 registering with the tubular handle 1 and with openings 5 at opposite ends thereof. 6 represents a clamp which is provided with a central pin 7 to enter the central opening 4 and with other pins 8 to enter the openings 5. The center pin 7 is illustrated with a screw threaded socket 9 to receive a threaded stud 10 upon the inner end of a tubular stem 11 located in the tubular handle 1. The stem 11 has an enlarged milled outer end 12 and is formed with a collar 13 within the handle 1, which engages an annular internal shoulder 13 to limit the longitudinal movement of the stem but permit the free turning movement thereof. This hollow stem 12 has one or more openings 15 therein through which water or air can pass so that when the end of the stem is subject to a flow of water or a blow of air the water or air will pass between the guard and clamp to clean the razor.

In the particular illustration I show a razor having a transversely arched or channeled guard and clamp for the free passage of air and water, but it is to be distinctly understood that this particular invention is not limited to the particular form of guard, clamp, handle and stem, and these parts can be varied in construction and the invention still apply.

The reference character 16 is employed to indicate a razor blade which has a plurality of cutting edges and which is flexible and which may be provided with holes through which pins 7, 8 and 9 may go, so that it may take proper shape between the guard and clamp. At one end of the guard I provide what I term a blade reversing holder which constitutes a clip or clamp 17 in which one end of the blade 16 or any part of blade 16 can be positioned and securely held. This clip or clamp may be longer or shorter than the one shown and may have holes through which pins 7, 8 and 9 may go. It may be of any shape which may be necessary to hold the blade in position, whether lying between the guard and the clamp or whether it is being lifted when the blade is to be turned over. This holder 17 also has a journal 18 mounted to turn in a bearing 19 in a bracket 20, and a milled head 21 is formed on the holder at the outer end of the journal 18 to facilitate the manipulation thereof. The bracket 20 is pivoted, as shown at 22, within a slot 23 at one end of the guard so that when the clamp is sufficiently elevated the operator can grasp the milled head 21 between the thumb and finger, raise the blade to an elevated position, as indicated in Figures 2 and 6 of the drawing, and then turn the blade so as to present another side of it to the guard and the blade put into proper position thereon for shaving. The clamp 6 is formed with a recess 27 at one end to accommodate the bracket 20 when the parts of the razor are in normal position for shaving.

The clamp 6 is connected to one end of the guard 2 in such a manner as to not only permit the clamp to be hinged or pivoted but also to

permit a certain amount of longitudinal movement or play of the clamp relative to the guard to insure an easy release or tightening of the pins 7 and 8 between the blade and guard. In order to accomplish this I have illustrated one means which includes the provision of a link 24 which extends through an opening 25 in the guard, and has a cross pin or stop 26 at its lower portion limiting the upward or outward movement of the link. The other extremity of the link is pivotally connected to one end of the clamp, as shown at 27, and is preferably located within the slot 28 in the clamp.

Figures 1 and 2 of the drawing illustrates the normal position of the parts with the razor in condition for use. When it is desired to turn over or reverse the blade 6 it is simply necessary to unscrew the stem 12 to release the stud 10 and pin 7, or in the alternative to unscrew the stem 12 to release the pin 7 from the stud 10 in case it is decided to put the threads on the outside of the pin 7 and on the inside of the stud 10. The clamp can then be first moved in parallelism with the guard sufficiently to release the pins 7, 8 and 9 from the blade and guard, and then the clamp can be swung upwardly or away from the blade and the guard and be disposed at an angle thereto, as indicated in Figure 6 of the drawing. The operator can then grasp the milled end 21 between the thumb and finger and raise the blade 16 up from out of contact with the guard, and can then turn the milled end of the blade holder so that an opposite or reverse side of the blade can be presented to and positioned upon the guard. The clamp can then be returned downward to its position parallel with the guard and be secured by means of the stud 10 at the end of the stem 12, as can be readily understood.

In the drawing I have illustrated a razor and blade having a particular type of opening or slot therein which accommodates the pin 7, 8 and 9, but it is to be distinctly understood that this invention is not limited to any particular arrangement of openings except that it is, of course, necessary that the razor and blade have openings through which the pins can project.

While I have illustrated what I believe to be the preferred embodiment of my invention, it is to be distinctly understood that various slight changes may be made with regard to the form and arrangement of parts without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the claims, especially as to the means of opening or closing the parts so as to leave the blade free to be reversed or turned from side to side.

What I claim is:

1. A safety razor including a guard having teeth at both longitudinal edges, a cap pivoted to one end of said guard, a blade clamp pivoted to the other end of said guard and adapted to receive and clamp one end of a two edge blade, said clamp having rotary mounting in its pivotal support so that when said cap is moved away from the blade and the guard and the blade moved at an angle to the guard the blade may be manually turned.

2. A safety razor including a guard having teeth at both longitudinal edges, a cap pivotally connected to one end of the guard, a bracket pivotally connected to the other end of the guard, a razor clamp having rotary mounting in the bracket and adapted to clamp one end of a two edge blade and a milled head on the blade clamp adapted to be grasped between the thumb and fingers of an operator's hand to turn the clamp and blade when the blade is moved at an angle to the guard.

WILLIAM HARMAN BLACK.