Dec. 5, 1933. W. H. BLACK 1,938,481

SAFETY RAZOR

Filed March 29, 1933

Fig. 1.

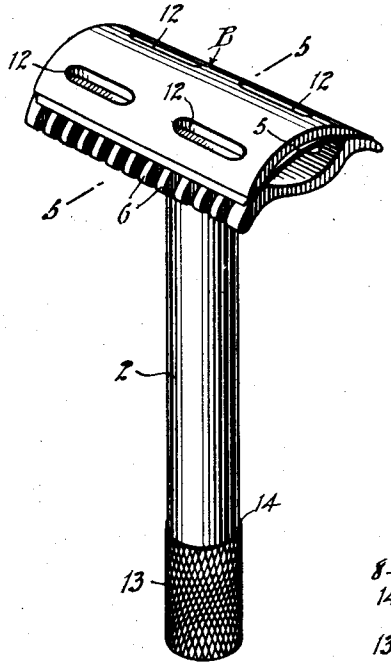


Fig. 2.

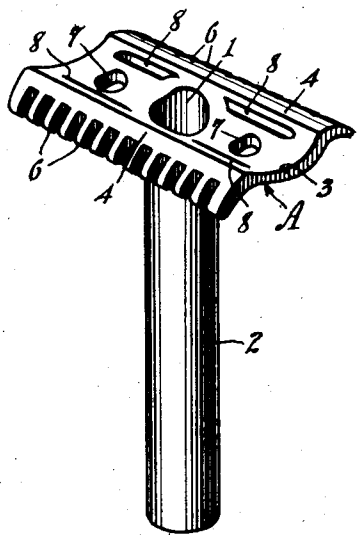


Fig. 3.

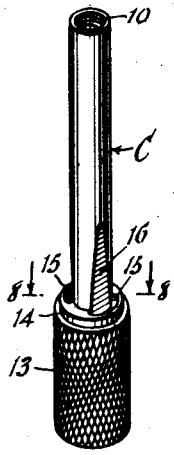


Fig. 4.

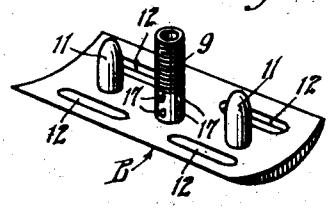


Fig. 5.

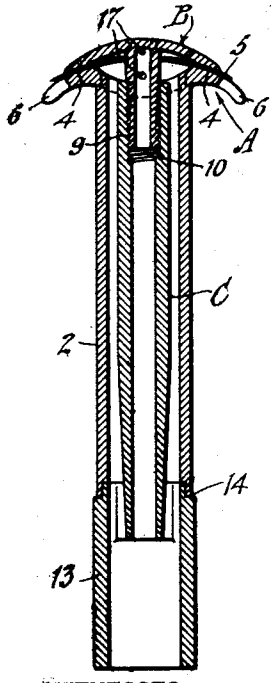


Fig. 6.

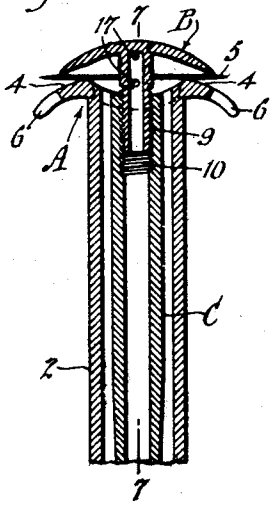


Fig. 7.

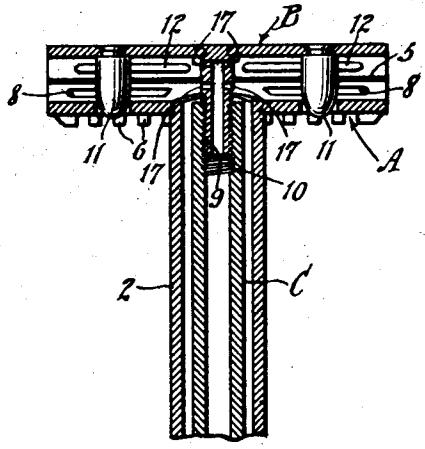
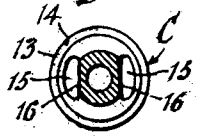


Fig. 8.



WITNESSES

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SAFETY RAZOR

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7 Claims. (Cl. 30—12)

This invention relates to a safety razor, an object of the invention being to provide a safety razor, the blade and other parts of which can be thoroughly cleaned by passing air, water, or other liquid through the handle of the razor and to both sides of a blade between the guard and clamp of the razor, thus thoroughly freeing the razor from lather and hair, and which also facilitates the entrance of air through the handle to effectually dry the blade and razor, and the object of which is to provide a safety razor, the blade, clamp, and guard of which can be thoroughly cleaned by blowing lengthwise between the guard and the clamp along both sides of the blade.

Another object of the invention is to provide a safety razor which can be cleaned in a hurry while the guard, clamp and blade are in tight assemblage without necessarily having to unscrew or undo any part, this facility being due to the double-channeled handle the fluid channels of which communicate separately with spaces on opposite sides of the blade, these spaces being definitely provided by oppositely bowing the guard and clamp, as well as providing openings in the latter in order that there may be a copious outflow of fluid.

My improved razor has many advantages, some of which may be enumerated as follows: The razor guard has a recessed or concaved portion on one side of the blade, while the arched clamp provides a recess or chamber at the opposite side of the blade, and the walls of the guard and clamp are both provided with openings so that when air, water, or other liquid is forced through the holes in the inner tube, or the stud, inside the hollow handle of the razor, or lengthwise between the guard and the clamp, it will have free circulation at both sides of the blade and a free discharge from the guard and clamp so that a thorough cleaning can be had.

The razor can be readily taken apart for introduction of new blades or for more thorough cleansing of the individual parts, as may be desired from time to time.

The guard and clamp bend the blade so that the edges of the blade are properly positioned relative to the teeth of the guard for best results in shaving; the razor is neat and attractive in appearance and can be used over and over again without the necessity of taking the razor apart, as the cleaning operation can be effected as above explained.

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 a perspective view of my improved razor with the blade in operative position thereon;

Figure 2 is a perspective view of the guard;

Figure 3 is a perspective view of the removable inner tube;

Figure 4 is an inverted perspective view of the clamp;

Figure 5 is a view in longitudinal transverse section on the line 5—5 of Figure 1;

Figure 6 is a fragmentary view similar to Figure 5 but showing the clamp spaced from the guard;

Figure 7 is a view in longitudinal section on the line 7—7 of Figure 6; and

Figure 8 is a view in transverse section on the line 8—8 of Figure 3.

My improved razor comprises three parts, namely, a guard A with hollow handle 2, clamp B and an inner tube C. The handle and tube actually comprise interfitted tubes with fluid passages as shown, (Fig. 5) providing a double-channeled handle. The guard A is formed with a central opening 1, registering with the hollow tubular handle 2, the latter being preferably integral with the guard. The intermediate or central portion of the guard is made concavo-convex in transverse section forming a recess 3 which extends throughout the length of the guard. The side edges of the guard curve or taper away from the recessed central portion forming inclined faces 4, against which a blade 5 is secured by the clamp B, and the extreme edges at both sides of the guard are provided with spaced teeth 6 to prevent the user of the razor from cutting himself, as is common with razors of this type.

The guard A is also provided with openings 7 adjacent its respective ends, and with slots 8 in the walls of the recessed portion 3 to permit a free exit of water and air when the razor is assembled. The clamp B is arched or concavo-convex in transverse section and is provided with a central tubular screw-threaded stud 9 which is provided with openings 17 and which is adapted to engage the screw-threaded end, either on the inside as shown by 10 of the inner tube C, or threaded on the outside of C, to clamp the blade 5 between the guard and the clamp with the blade bent or curved transversely, as indicated in Figures 1 and 5 of the drawing. The

respective channels of the double-channeled handle separately communicate with the spaces which the recess or concavity 3 of the guard and the concavity of the clamp afford. It is to be noted that these concavities, bowed in opposite directions as they are, provide definite fluid spaces.

The clamp B also has a pair of pins 11 adapted to project through openings in the razor blade 5 and through the openings 7 in the guard. Furthermore, the clamp is provided with relatively large openings preferably in the form of slots 12 for the free escape of water and air in cleansing the razor either while in tight assemblage (Fig. 5) or not (Fig. 6).

The inner tube C is formed with a milled or fluted outer end 13 which is of larger diameter than the tube, and at the point of juncture of the tube and end 13 an annular shoulder 14 is provided to engage against the end of the handle 2 and to allow air, water or other liquid to pass freely through the tubular end 13. Around the inner end C openings 15 are formed. The sides of the tube C are preferably flattened, as shown at 16.

The openings 17 previously referred to, are so located they will direct water and air into the spaces at opposite sides of the blade 5 and against the inner surfaces of the guard and clamp. Furthermore, as the inner tube C is of appreciably smaller diameter than the internal diameter of the tubular handle 2 a large quantity of water and air will be directed between the handle and tube into the recessed portion 3 of the guard.

The operation of the razor is as follows: When it is desired to insert a new blade 5, the milled or fluted end 13 of the inner tube C is turned to unscrew the tube from the tubular stud 9 so that the clamp may be removed. The blade 5 is then inserted on the clamp with the latter in inverted position and the openings in the blade will receive the stud 9 and the pins 11. The guard is then placed against the razor with the tubular stud projecting into the hollow handle, and the inner tube C is inserted in the handle and screwed to the threaded stud 9, thus bringing the clamp B down against the blade and forcing the blade to assume a bent or curved position transversely, as clearly indicated in Figures 1 and 5 of the drawing.

When it is desired to clean the razor it is simply necessary to insert the razor under a faucet, leaving the razor parts in tight assemblage and allowing the water to enter the open end 13 of the inner tube C and flow freely through the inner tube and around the inner tube to the blade, the guard and clamp. A portion of this water escapes through the openings 17, other portions through the openings 7, 8 and 12 in up and down directions generally matching the line of the handle and the remainder at both ends of the blade above and below, thus thoroughly cleansing the blade, the guard and the clamp. If desired, the inner tube may be slightly unscrewed so as to permit a freer escape of water at the edges of the blade between the guard and clamp, as indicated in Figure 6. After the razor has been thoroughly flushed air may be blown through the handle of the razor to effectually dry the same or to dislodge any particles which may be obstinate in their adherence to the different parts, and air may also be blown along the sides of the blade lengthwise between the guard and the clamp.

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.

What I claim is:

1. In a safety razor having a guard and clamp each reversely curved and adapted to hold a blade therebetween, said blade defining two spaces with the concaves, and a tubular handle attached to the guard being substantially unobtsructed for the free passage of cleansing fluid therethrough, said handle having outlets to the two spaces; said guard and clamp having unobstructed openings therethrough intermediate their ends for the escape of the cleansing fluid in up and down directions generally matching the line of the handle.

2. A safety razor including a guard having a concaved or recessed central portion extending throughout the length thereof, a tubular handle integral with the guard and communicating with the said recessed portion, an arched clamp adapted to clamp a blade against the guard, said guard and clamp having openings therein for the escape of water and air directed through the handle to opposite sides of the blade, or for the escape of air and water lengthwise between the guard and the clamp, a tubular screw-threaded stud on the clamp adapted to be projected through the blade and to engage with a screw-threaded inner tube adapted to be positioned in the handle, said tube having an enlarged outer end fitting against the end of the handle, the inner portion of said enlarged end having openings therethrough for the passage of air, water and other liquid around the inner tube to the guard, blade and clamp.

3. A safety razor including a guard having a concaved or recessed central portion extending throughout the length thereof, a tubular handle integral with the guard and communicating with the said recessed portion, an arched clamp adapted to clamp a blade against the guard, said guard and clamp having openings therein for the escape of water and air directed through the handle to opposite sides of the blade, or directed lengthwise between the guard and the clamp, a tubular screw-threaded stud on the clamp adapted to be projected through the blade and engaged with a screw-threaded inner tube adapted to be positioned in the handle, said tube having an enlarged outer end fitting against the end of the handle, the inner portion of said enlarged end having an opening therein for the passage of air, water and other liquid around the inner tube to the guard, blade and clamp, said tubular stud having openings therein at opposite sides of the blade.

4. A safety razor including a guard having a hollow handle thereon, constituting a water and air passage to the guard, a clamp adapted to clamp a razor against the guard, said clamp and guard being transversely curved in opposite directions throughout their length and forming lengthwise spaces or chambers at both sides of the blade, said guard at its side edges presenting surfaces to the blade which ensure the bending of the blade when the clamp is in operative position, said guard and clamp having openings therein for the escape of water and air directed through the handle, or directed between the guard and the clamp along the sides of the razor blade.

5. A safety razor including a guard having a hollow handle thereon constituting a water and air passage to the guard, a clamp adapted to clamp a razor against the guard, said clamp and guard curved transversely in opposite directions throughout their entire length, so as to provide spaces extending throughout the length of the razor at both sides of the blade when the blade is in clamped position, said spaces being adapted to permit a free flow of water and air throughout the length of the razor at both sides of the blade, said guard and clamp having openings intermediate their ends for the escape of water and air.

6. A razor comprising a blade, a guard and a clamp respectively on opposite sides of the blade, said guard and clamp being oppositely bowed thereby to provide spaces adjacent to the opposite sides of the blade when the blade, guard and clamp are in tight assemblage, and a doubde-channeled handle the respective channels of which are open at the free end of the handle and have openings at the opposite end to communicate separately with the respective spaces at the other end of the handle.

7. A razor comprising a blade, a double-channeled handle comprising two interfitted tubes both channels of which are open at one end, a guard underlying the blade, being carried by the outer tube at the other end of the handle and having a space coextensive with the blade and in communication with the outer channel, and a clamp overlying and tightly pressing the blade down on the guard, said clamp being carried by the inner tube also at said other end of the handle and having a space coextensive with the blade and in communication with the inner channel.

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