

Oct. 6, 1936.

W. I. OHMER

2,056,408

RAZOR AND RAZOR BLADE

Filed Nov. 14, 1934

2 Sheets-Sheet 1

FIG. 1

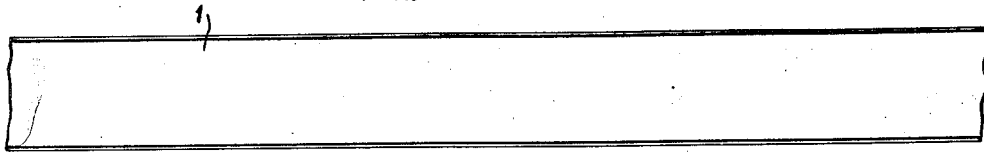


FIG. 2.

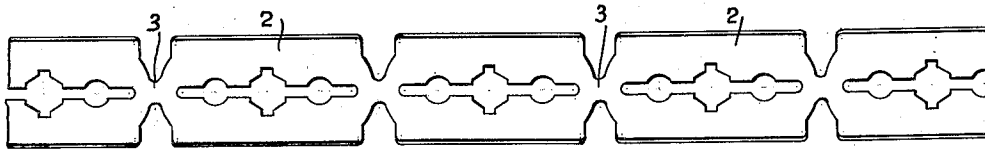


FIG. 3.

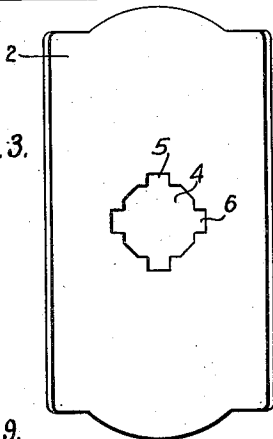


FIG. 4.

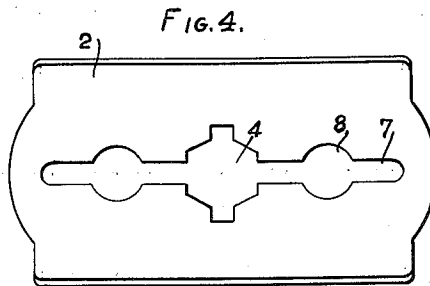


FIG. 5.



FIG. 9.

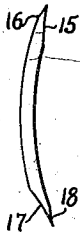


FIG. 8.

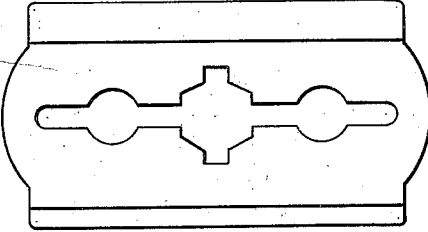


FIG. 7.

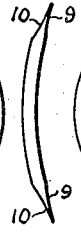


FIG. 6.

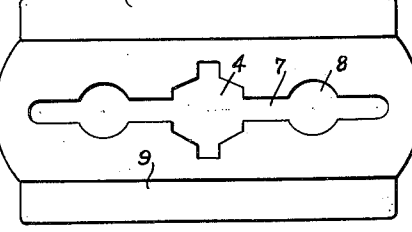


FIG. 11A.



FIG. 11.

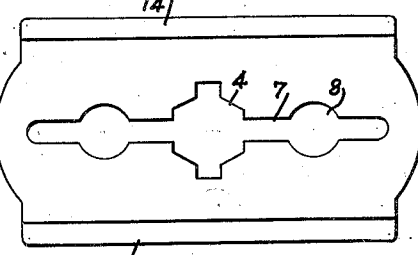
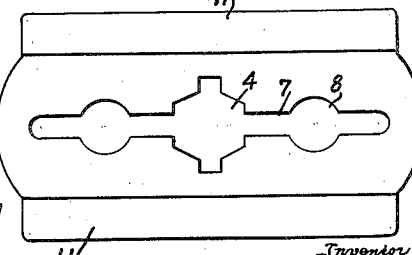


FIG. 10A.



FIG. 10.



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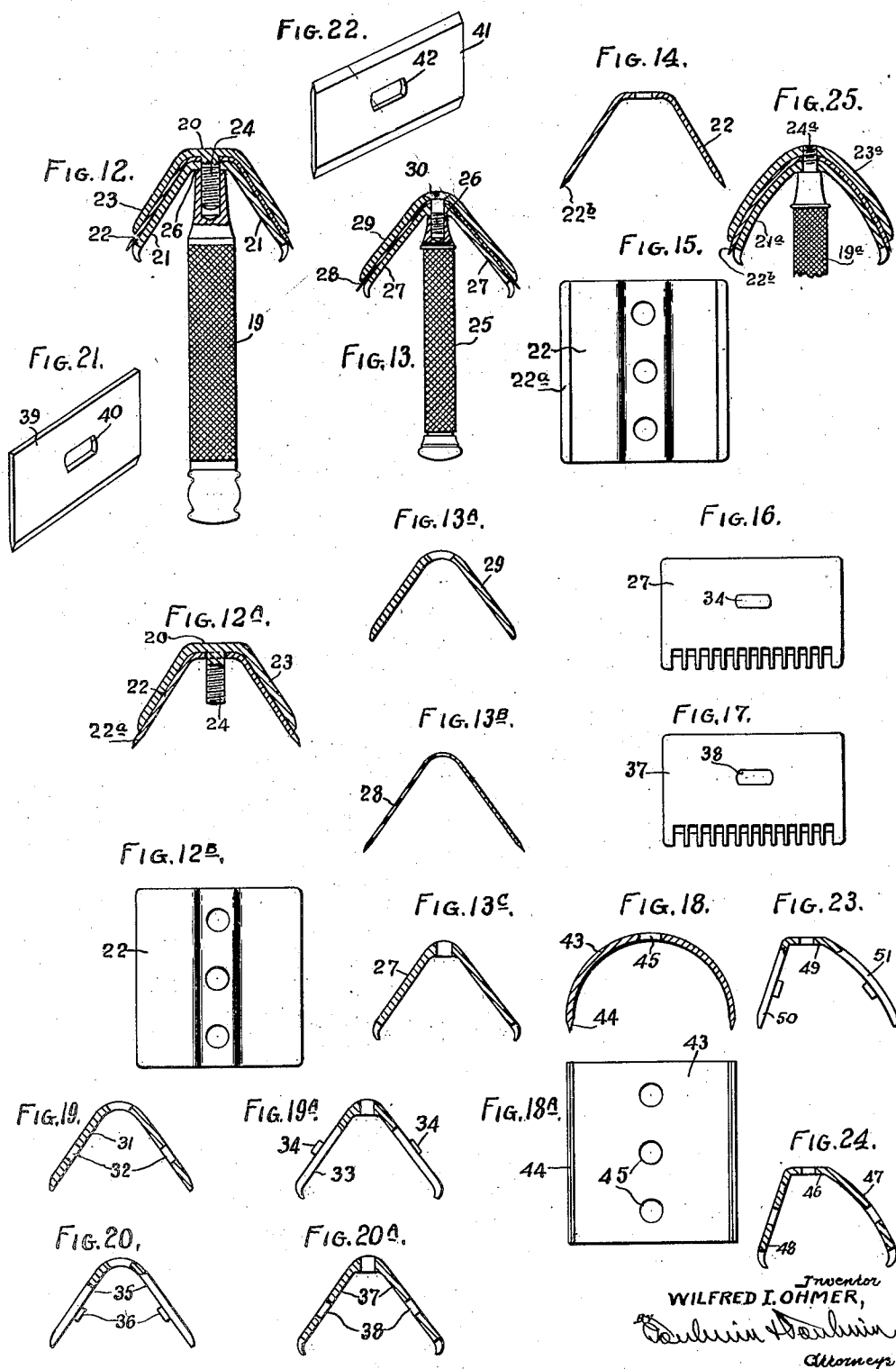
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2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE

2,056,408

RAZOR AND RAZOR BLADE

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Application November 14, 1934, Serial No. 753,044

4 Claims. (Cl. 30—50)

This invention relates to improvements in razors and razor blades, and has for its object to provide a safety razor blade that is adapted for coarse shaving or shaving a heavy beard, and for fine and close shaving. For that purpose the edges of the blade are peculiarly formed and may be differently formed so that any blade may be used for both purposes. For providing such a blade the blade must be sufficiently thick that each edge may be deep ground on one side of the blade and shallow ground on the other side.

It is an object of this invention to provide a rigid, arcuate safety razor blade having one edge on its concave side ground deep so that the edge of the blade is away from the guard and the other edge on the convex side ground deep so that its edge is nearer the guard.

It is an object of the invention to provide a razor blade consisting of a central part and laterally extending plane surfaced diverging arms with cutting edges thereon, together with supports similarly shaped for supporting the blade.

It is an object of this invention to form a blade strip having the shape and the edge configuration of the finished blade. Or, the individual blank forming a single blade may be of the configuration just above stated.

It is also an object of the invention to provide a razor composed of a pair of similarly shaped support members, each having a central part and plane surfaced diverging arms, the arms of the support members having means thereon for holding blades interposed between the support members.

It is a further object of the invention to provide a rigid safety razor blade, semi-circular in cross section, with straight cutting edges.

These and other objects and advantages will appear from the following description taken in connection with the drawings.

Referring to the drawings:

Figure 1 shows part of a strip of metal from which the blades are formed.

Figure 2 shows the strip after it has been partly severed and formed in blade blanks.

Figure 3 shows a blade in which there is an octagonal hole with laterally and longitudinally disposed slots.

Figure 4 shows a blade with a central hole therein and longitudinally disposed slots extending from the hole.

Figure 5 shows an end view of a blade such as that shown in Figures 3 and 4. The blade of

Figure 5 has not been ground to provide cutting edges.

Figure 6 shows one side of a blade in which the edges are deep ground on each side, thereby centralizing the cutting edges.

Figure 7 shows an end view of the blade shown in Figure 6.

Figure 8 shows in plan view a razor blade being deep ground on its concave side at one edge, and deep ground on its convex side at the other edge.

Figure 9 shows an end view of the razor blade shown in Figure 8.

Figure 10 shows an arcuate razor blade having its edges deep ground on its concave side and shallow ground on its convex side.

Figure 10A is an end view of the blade shown in Figure 10.

Figure 11 is a plan view of a rigid, arcuate safety razor blade having its edges deep ground on its convex side.

Figure 11A is an end view of the blade shown in Figure 11.

Figure 12 shows a razor having a blade and supporting members therefor, with substantially plane surfaced central parts and diverging plane surfaced lateral arms with a handle attached thereto, parts of the razor being in section.

Figure 12A is a transverse section of the blade and the head shown in Figure 12.

Figure 12B is a top plan view of the blade of the razor shown in Figure 12.

Figure 13 is a view similar to Figure 12 but showing a blade and supports therefor, having arcuate central parts and diverging plane surfaced arms.

Figure 13A is a cross section of one of the support members of the razor shown in Figure 13.

Figure 13B is a cross section of the blade shown in Figure 13.

Figure 13C is a transverse section of the other support member of the razor shown in Figure 13.

Figure 14 is a transverse section of a blade having symmetrical edges.

Figure 15 is a top plan view of the blade shown in Figure 14.

Figure 16 shows a support member in the form of a guard, on the inner surfaces of which may be formed a lug for supporting blades.

Figure 17 shows a support or guard member similar to that shown in Figure 16 but with a hole to receive a lug on a cooperating member.

Figure 18 is a cross section of a semi-circular rigid blade.

Figure 18A is a bottom plan view of the blade shown in Figure 18.

Figure 19 shows a head or support member having an arcuate part and plane surfaced diverging arms with holes therein.

Figure 19A shows a guard or support member, similar in shape to the support member shown in Figure 19, with lugs thereon to project into the holes of the support member shown in Figure 19.

Figure 20 shows a head or support member similar to that shown in Figure 19 with the exception that it has lugs instead of holes and is partly in section to show a hole therein for receiving a supporting member.

Figure 20A shows in section a support or guard member similar to that shown in Figure 19A with the exception that it has holes instead of lugs.

Figure 21 shows a single-edged blade adapted to be used with the blade supports shown in Figures 19, 19A, 20 and 20A.

Figure 22 shows a double-edged blade adapted to be used with the supports shown in Figures 19, 19A, 20 and 20A.

Figure 23 shows a rigid head member having a straight arm and an arcuate arm.

Figure 24 shows a guard for use with the head member shown in Figure 23, having a straight arm and an arcuate arm.

Figure 25 is a transverse section of the complete razor, but showing the head and the guard in operative form, and the blade between them bent in corresponding form by the clamping action of the threaded projection on the handle, which screws into the head.

Figure 1 shows a part 1 of a strip of metal from which blades are made. Figure 2 shows this same strip of metal after it has been stamped and partly separated into blades. These blanks are indicated by the numeral 2, and are connected by means of necks 3 which may be broken and pressed out to provide the finished blades, which are sufficiently thick to give a rigid blade and to provide for a proper grinding of the edges. The central part of each blade is provided with a suitable hole or opening, preferably irregular and longitudinal or merely longitudinal 4. In Figure 4 this hole is hexagonal, with longitudinally extending slots 7, each of which has therein a circular enlargement 8. In the blade shown in Figure 3 the central hole is octagonal and has laterally disposed notches 6 and longitudinally disposed notches 5. These holes, notches and slots receive correspondingly shaped parts of support members, such as a head and a guard.

The words "deep ground" mean that the blade has been cut-away a portion of its thickness along its edge; and the words "shallow ground" mean that the blade has been beveled or cut-away the remainder of its thickness. Or the bevels or cut-away portions may be of equal angle and equal width.

The blades are rigid and arcuate and have their edges shaped to suit different shaving purposes. In Figures 6 and 7 the blade has each edge on each side deep ground. The deep ground parts on the concave side of the blade are indicated by the numeral 9, while the deep ground parts on the convex side of the blade are indicated by the numeral 10. This blade has similar and centrally disposed edges and is adapted for general use.

In Figures 10 and 10A the blade is deep ground at each edge on its concave side, as indicated by the numeral 11, while it is shallow ground at each

edge on its convex side, as indicated by the numeral 12. This blade with its cutting edges thus formed is adapted to be used for shaving a heavy beard or for a shave that is not close by providing a greater space between the edges of the blade and the guard.

The blade shown in Figures 11 and 11A has its edges deep ground on its convex side, as indicated by the numeral 13, and has its edges on the concave side shallow ground, as indicated by the numeral 14. This blade is adapted to be used for close shaving and for a beard that is not stiff and heavy.

Figures 8 and 9 show a combination blade. This blade has one edge formed for close shaving and the other one for shaving not so close. On the concave side of this blade at one edge it is deep ground at 15, while on the other edge it is shallow ground at 18. On the convex side it is deep ground at one edge, as indicated by the numeral 17, opposite the shallow ground part 18, while on the edge opposite the deep ground 15 it is shallow ground, as at 16.

By using one edge of a blade such as that shown in Figures 8 and 9 the razor may be used for heavy shaving or for a beard that is heavy and where close shaving is not desired. The other edge may be used with light beards and where close shaving is desired. By means of this blade a single razor gives the advantage of a duplicate or double razor. The same razor may be used with heavy beards where close shaving is not desired, and with lighter beards where close shaving is desired.

In Figure 12 there is shown a razor and its composite parts. This razor is composed of the usual handle 19. There is a V-shaped guard or support member which has a plane surfaced central part 20 and oppositely disposed diverging arms 21. This member forms a guard and has the usual teeth on its edges. Associated with this guard or support member is a similarly shaped blade 22, which has cutting edges 22a. There is also associated with the guard or support member and the blade a head or support member 23 shaped similarly to the blade and the guard. These members and blade are supported upon the handle by means of a stud 24, attached to the head and adapted to have the handle screwed on it when the razor is to be used.

The razor shown in Figure 13 is slightly different from that shown in Figure 12. This razor has a handle 25 to which the blade and the blade supports are attached. In this form of razor the guard or inner support member has an arcuate central part 26 and diverging plane surfaced arms 27, with the usual guard teeth on the edges thereof. The blade 28 is similar in shape to the guard 27 and is held upon the guard 27 by a cooperating support or head member 29 through the instrumentality of a screw 30 which passes through the support members and the blade and is threaded into the handle 25.

In Figure 19 there is shown in cross section a form of support member or head in which there is an arcuate central part and diverging plane surfaced arms 31, each arm having therein an oblong hole 32. Cooperating with the head member shown in Figure 19 is another support or guard member 33. This guard member has thereon oblong lugs 34 adapted to fit in the oblong holes 32 of the support or head member 31 for the purpose of supporting blades.

The blades used in connection with the support members shown in Figures 19 and 19A are

shown in Figures 21 and 22. The blade 39 shown in Figure 21 is a single-edged blade with an oblong hole 40 for receiving the lug 34. The blade 41 shown in Figure 22 is a double-edged blade and is provided with an oblong hole 42 adapted to receive one of the lugs 34. The oblong lugs are one means of supporting the blades in proper alignment. Other means may be used for thus supporting the blades.

When the support members 31 and 33 are properly assembled the blades shown in Figures 21 and 22 may be supported therebetween, with one lug 34 in the hole of one blade and the other lug 34 in the hole of the other blade. The support members shown in Figures 20 and 20A are similar in all respects to those shown in Figures 19 and 19A, with the exception that the head 35 has thereon oblong lugs 36 adapted to fit in oblong holes 38 of a guard or cooperating support member 37 shown in Figure 20A. These two support members when properly assembled are adapted to support and align the blades shown in Figures 21 and 22 in the same manner that these blades are supported by the members shown in Figures 19 and 19A.

Figure 16 shows a guard similar to that shown in connection with the razor of Figure 19A. Figure 17 shows a guard similar to that shown in Figure 20A, in which there is an oblong hole 38. Figures 18 and 18A show a semi-circular rigid blade 43, which has straight cutting edges 44 and a central longitudinally arranged series of holes 45 for receiving supporting and aligning members. The number of holes may be varied or other means used for aligning the blade with relation to its supports.

Figures 23 and 24 show blade support members for supporting on one side a blade, such as that shown in Figure 21 or Figure 22, and to support on the other side a blade such as that shown in Figures 6 to 11.

The guard shown in Figure 24 has a straight part 46, to which a handle may be attached. Extending from one side of the part 46 is an arcuate arm 47, while extending from the other side is a straight arm 48. Cooperating with this guard support member is a head support member, which has a straight part 49, from which a straight arm 50 extends at an obtuse angle thereto. There is also extending from the part 49 an arcuate arm 51.

These support members are adapted to support between the arms 48 and 50 a blade such as that shown in either Figure 21 or Figure 22, and between the arms 47 and 51 an arcuate blade such as that shown in Figures 6 to 11. The arms 47 and 51 may be used for supporting a flexible blade that may be bent to conform to the shape of these arms. The arms 48 and 50 may be made arcuate so that the support members will take two arcuate blades.

It will be observed from Figure 25 that the head 23a and the guard 21a are arcuate or curved. The blade 22b is placed between the head and the guard, and may be so thin and flexible that it can be bent if normally flat, or can be further bent if normally arcuate, when the handle 19a has its threaded projection 24a screwed into the head to clamp the head and guard together

and at the same time acting to make the parts clamp and bend more or less, the blade 22b.

In Figure 16 I have shown a lug 34 on the outer face of the guard 27. (See Figure 13.) See also Figure 19A, where the guard has these lugs 34 adapted to enter the openings 32 in the head 31 shown in Figure 19. Of course, as the blades intervene between the guard and head, the lugs 34 would pass through openings in the blade suitable for the passage of the lugs 34.

Figure 17 shows a guard with a slot 33 instead of lugs 34. This slot would receive lugs 36, such as shown in Figure 20. In Figure 20A a cross section is given of the guard 37, showing the slots 38, while in Figure 17 an elevation or side view of the guard is shown.

It will be understood that I desire to comprehend within my invention such modifications as come within the scope of my claims and my invention.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a safety razor, a pair of V-shaped support members, each support member being formed of a plate bent along the central line to form faces inclined to each other at an angle of approximately 60 degrees, studs on one of said support members perpendicular to the faces thereof to position and support a pair of razor blades, said studs extending through the blades, and means to hold the two members together and cause the blades thus positioned and supported to be clamped.

2. In a safety razor, a pair of V-shaped plate members having faces inclined to each other at an angle of approximately 60 degrees, studs on one of said members perpendicular to the faces thereof to position razor blades, said studs extending through the blades and cooperating with the other member to hold the blades against movement in any direction, and means to clamp the members together, said means comprising a handle.

3. In a safety razor, a pair of V-shaped support members, each support member being formed of a plate shaped along the central line to form faces inclined to each other at an angle of approximately 60 degrees, projections on the faces of one member substantially perpendicular thereto to position and support a pair of razor blades, said projections extending through the blades, and means to hold the members together and cause the blades thus positioned and supported to be clamped.

4. In a safety razor, a pair of V-shaped plate support members having faces inclined to each other at an angle of approximately 60 degrees, projections on one of said members substantially perpendicular to the faces thereof to position razor blades, said projections being greater in extent than the thickness of the blades, the other of said members being formed to accommodate said projections, and means to hold the members together and cause the blades to be clamped.

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