No. 862,480. PATENTED AUG. 6, 1907.

W. S. HOPKINS.

SAFETY RAZOR.

APPLICATION FILED APR. 19, 1907.

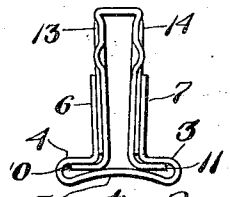


Fig. 2.

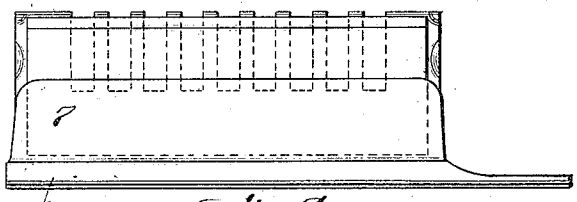
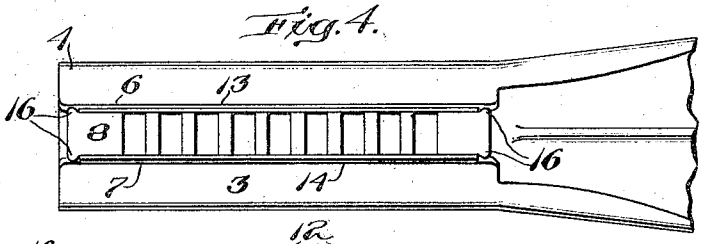


Fig. 3.

Fig. 4.



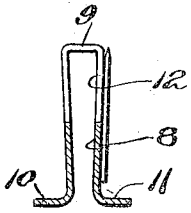


Fig. 5.

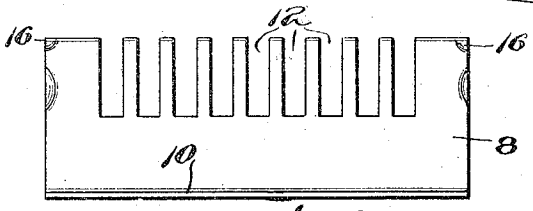


Fig. 6.

Fig. 7.

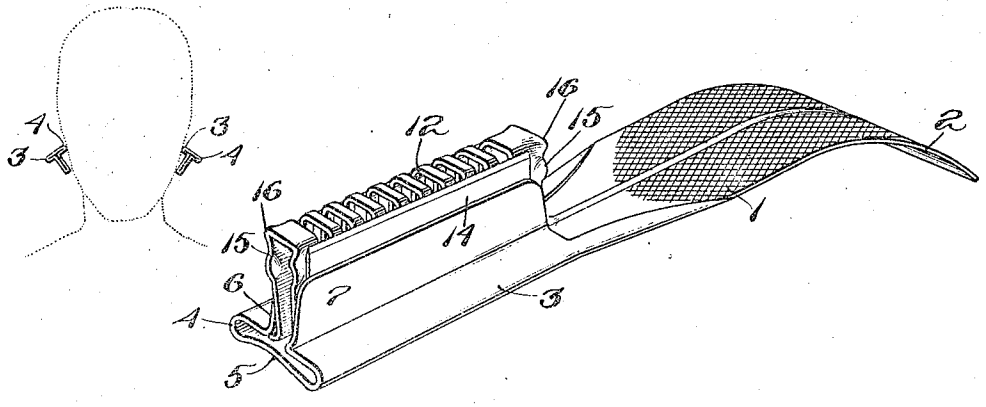


Fig. 1.

Witnesses:

Arthur L. Rundell

Wm. J. Pike.

Inventor:

William S. Hopkins,

by Geo. S. Maxwell

Atty.

UNITED STATES PATENT OFFICE.

WILLIAM S. HOPKINS, OF WALTHAM, MASSACHUSETTS.

SAFETY-RAZOR.

No. 862,480. Specification of Letters Patent. Patented Aug. 6, 1907.

Application filed April 19, 1907. Serial No. 369,062.

To all whom it may concern:

Be it known that I, WILLIAM S. HOPKINS, a subject of Great Britain, residing at Waltham, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Safety-Razors, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The average user finds the common type of safety razor inconvenient and awkward, largely because it requires a straight-down pull in use, and also because it is so shaped that the hand is always in an awkward position with relation to the face, and accordingly one of the principal objects of my invention is to provide a razor which is operable on the safety principle and yet is constructed for use with a lateral or oblique drawing movement, the same as the previous type of old-fashioned razor. Also I provide for using the opposite sides of the razor and to this end I provide two blades and have laterally extending means for maintaining the blades at the right angle with relation to the face when in the act of shaving.

A further novel feature resides in providing means permitting the blades to be freely moved by hand on their carrier into the desired adjustment before they are placed in clamped position in the holder or handle. The holder and handle are made in one piece and the handle is so shaped as to conform exactly to the position naturally assumed by the fingers in holding an ordinary razor. In other words, I have succeeded in providing a safety razor free from the objections of awkwardness, etc., commonly found in safety razors and having all the advantages of safety, use of thin blades, etc., of said safety razor, as well as the advantages of convenience, facility of use and natural position of the ordinary razor. There are no adjusting devices in the sense of screws, etc., in my construction, but the carrier and blades are automatically clamped simply by their insertion in the handle.

Further advantages of construction and use will be made apparent in the course of the following description taken in connection with the accompanying drawings, in which I have shown one of many embodiments of which my invention is capable.

In the drawings, Figure 1 is a perspective view of the preferred construction of my safety razor; Fig. 2 is an end view thereof; Fig. 3 shows the same in side elevation; Fig. 4 is a view in top plan; Fig. 5 is a cross-sectional view of the blade carrier; Fig. 6 shows the latter in side elevation, and Fig. 7 is an illustrative view showing the position assumed by the razor against the face in the operation of shaving.

Among the objects of my invention are to provide a safety razor of such shape and arrangement that the user's hand is not in his way and that he can see what he is doing, also such shape and arrangement that he can take hold of the handle firmly and naturally about the same as he would with an old-fashioned razor, and can also draw the razor with a shearing or oblique movement, thereby getting better execution. Accordingly I have provided a flat handle 1, outwardly bent at 2 to pass outwardly between the fingers while the opposite end of the handle is grasped between the thumb and the first two or three fingers of the hand. The forward end of the handle verges into a holder portion having laterally projecting flanges 3, 4 formed by bending the metal of the back 5 over at its edges and inwardly, as clearly shown in Figs. 1 and 2 and thence upwardly so that the two edges of the metal 6, 7 extend upwardly approximately parallel to form clamping members of a comparatively narrow receiving trough for the razor blades and their carrier. The carrier 8 consists of a U-shaped central portion 9 having its lower edges outwardly flared at 10, 11 to enter within the flanges 3, 4 of the holder, as most clearly shown in Fig. 2. The body part or upper portion of the carrier 8 is transversely slitted as shown at 12 where it bridges across between the blades to receive the lather scrapings from the face and enable the razor blades to cut more efficiently, in the well-known safety razor manner.

Safety razors, so far as I am aware, have heretofore been capable of having one cutting position only, and the position of their single blade has been determined by the mounting of the handle, which has been detachable. My invention departs radically in all these particulars. Instead of a single blade I employ two blades, 13, 14, the carrier 8 having exactly similar opposite sides for this purpose, said sides verging slightly toward their lower or inner ends as clearly shown in Figs. 2 and 5, and the operating angle of the blade against the face is determined by the adjacent flange 3 or 4 as the case may be, as clearly shown in Fig. 7. By having two blades, the user shaves the right-hand side of his face with the blade 14 and the left-hand side of his face with the blade 13, the flange 3 coöperating with the blade 14 to prevent the blade 14 from getting into wrong position. Then when the opposite side of the face is to be shaved, the user shifts the razor so as to bring the opposite blade 13 and its gaging flange 4 into position against the cheek. In each instance the angle of the blade, the height and position of the carrier and guard, and the length and position of the directing flange combine to position the blade exactly right for shaving when the razor is held by the handle, grasped in the ordinary natural manner.

Safety razors heretofore have usually had positioning devices or adjusting devices for controlling the position of the cutting edge with relation to the guard end of the carrier at the edge of the blade, and I consider that one of the important and valuable features of my invention resides in making the blade freely

movable into any desired adjustment simply by the pressure of the thumb of the operator, and clamping means for holding it in said position simply by the mounting of the blade and carrier in proper operative position in the holder. To this end the carrier 8 is made of spring metal under normal tendency to spread slightly wider than the opening in the holder for receiving the same, so that when the blades have been shoved by the thumb and finger into exactly correct position with relation to the guard edge of the carrier the latter and the two blades are pinched together and then slid endwise into the holder, the opposite flaring edges 10 and 11 of the carrier entering snugly the cavities in the opposite flanges 3, 4 and the opposite blades 13, 14 passing in freely between the upright clamping members 6, 7, and when fully inserted they are gradually released, permitting the leg portions of the carrier to move outwardly under their strong spring action and clamp the blades immovably in position. The blades are prevented from moving endwise by any suitable means, as by stops 15 formed in the carrier. The ends of the guard portion of the carrier flare slightly at 16 to shield the corners of the blades.

In use let it be supposed that the razor is not in correct adjustment. If either blade is too high, the operator simply springs the carrier together and slightly lowers the blade with his thumb, or if it is too low he simply raises it with his thumb and then permits the carrier to spring back into clamping position, the broad flat face of the carrier coöperating with the broad flat face of the clamping member 6, or 7, to hold the blade rigidly and immovably in its adjustment. If either blade needs sharpening or a new blade is to be put in position, the carrier and blades are pinched together slightly and then pulled out endwise from the holder, the new blade is put in position and freely adjusted by sliding it up or down on the carrier and then the carrier and blades are pinched together and slid back endwise into the holder, which clamps them in rigid position when they are released. The handle is then grasped in natural manner by the user, the handle then extending transversely over the first two or three fingers against which it is held by the thumb pressing on the inside of the handle adjacent the holder end thereof while the curved free end of the handle passes out preferably between the last two fingers. Held in this position, the razor is then applied to the face at an angle as shown in Fig. 7, one blade being used for one side of the face and the opposite blade being used for the other side of the face, and the general angle of the razor being controlled by the adjacent flange 3 or 4. These flanges serve the double purpose of controlling the cutting angle of the razor and also retaining the blade carrier. The T-shaped holder is simply to make it easy to keep clean. This applies also to the U-shape of the carrier. The extreme simplicity of my razor is also of importance, consisting as it does of only two parts besides the blades, and said parts are simply struck up and do not require any special fasteners or adjustable parts or the like. Also the formation of the handle and holder in one integral piece is of practical value.

While I have herein shown the preferred construction of my invention, I wish it understood that it is capable of a wide variety of modifications and changes in form, relation, and arrangement of parts, especially as defined in certain of the broader of the claims hereinafter contained.

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

1. A safety razor, having a central guard bridging across between the blades at their cutting edges, and two cutting blades arranged respectively on the opposite sides of said guard.

2. A safety razor, having a central inverted U-shaped guard transversely slitted at its upper portion which is arranged to bridge across the space between the blades approximately at their cutting edges, and two cutting blades arranged respectively on the opposite sides of said guard, said blades having their cutting edges close to the adjacent guard surface and being independently adjustable.

3. A safety razor, having central shaving means, one side being arranged for use on one side of the face and the opposite side of the razor being arranged for use on the opposite side of the face, and opposite angle-controlling means for automatically controlling the angle of said central shaving means with relation to the face.

4. A safety razor, having a holder provided with a central longitudinal aperture, and a combined carrier and guard and cutting blade slidingly mounted in said longitudinal aperture, said holder and carrier having coöperating lateral offsets for automatically locking the parts in operative position.

5. A safety razor, comprising a holder having a central receiving aperture, an expansible spring carrier normally tightly fitting said aperture, and a blade clamped between said holder and carrier by the spring action of the holder.

6. A safety razor, comprising a holder having a trough-shaped receiving aperture, a carrier fitting said aperture, one of said parts having normal spring action tending to move it toward the other part, and a cutting blade mounted between said parts and clamped in position by said spring action.

7. A safety razor, comprising a holder having a trough-shaped receiving opening and a lateral offset opening thereinto, combined with a carrier having an upright portion fitting said opening and an out-turned lateral portion fitting said offset, and a cutting blade carried by said carrier.

8. A safety razor, comprising a holder T-shaped in cross section, provided with a central receiving opening and opposite lateral offsets therefrom, a central carrier fitting said receiving opening, having opposite lateral retaining projections fitting said offsets, and a cutting blade mounted between said holder and carrier.

9. A safety razor, comprising a holder having a central receiving aperture, a U-shaped carrier having resilient sides capable of being sprung into retained position in said aperture, and a cutting blade adapted to be clamped by said resilient carrier in position between the carrier and holder.

10. A safety razor, comprising a holder having upwardly extending clamping members forming between them a narrow receiving trough, a U-shaped carrier adapted to fit in clamping position between said members, and a cutting blade mounted in said trough against said carrier.

11. A safety razor, comprising a holder having upwardly extending clamping members forming between them a narrow receiving trough, a U-shaped carrier adapted to fit in clamping position between said members, and a cutting blade mounted in said trough against said carrier, said carrier at its opposite ends having stops for longitudinally positioning said blade.

12. A safety razor, comprising a holder having upwardly extending clamping members forming between them a narrow receiving trough, a U-shaped carrier adapted to fit in clamping position between said members, and a cutting blade mounted in said trough against said carrier, said carrier at its opposite ends having stops for longitudinally positioning said blade, said blade being otherwise freely adjustable up and down on said carrier.

13. A safety razor, comprising a holder, a carrier, cutting blade and handle, said carrier and holder having coöperating retaining means for detachably maintaining the

carrier and cutting blade in standing position edgewise with relation to the holder and handle, and the handle extending rearwardly endwise from the end of said holder, flatwise transversely to the operative position of said carrier and blade at the base of the latter.

14. A safety razor, comprising a holder, a carrier, cutting blade and handle, said carrier and holder having cooperating retaining means for detachably maintaining the carrier and cutting blade in standing position edgewise with relation to the holder and handle, and the handle extending rearwardly endwise from the end of said holder, flatwise transversely to the operative position of said carrier and blade at the base of the latter, and thence at its free end being curved backwardly in a direction away from the cutting edge of the blade.

15. A safety razor, having a one-piece member consisting of a wide flat handle verging at one end into a holder having a flat back part whose opposite edges are bent over inwardly thereon and thence upwardly to form a central receiving trough, a carrier fitting within said trough and back in clamping position, and a cutting blade adapted to be clamped between said carrier and holder.

16. A safety razor, having a one-piece member consisting of a wide flat handle backwardly curved at its free end, and verging at its opposite end into a holder having a flat back part whose opposite edges are bent over inwardly thereon and thence upwardly to form a central receiving trough, a carrier fitting within said trough and back in clamping position, and a cutting blade adapted to be clamped between said carrier and holder.

17. A safety razor, having a one-piece member consisting of a wide flat handle verging at one end into a holder having a flat back part whose opposite edges are bent over inwardly thereon and thence upwardly to form a central receiving trough, a U-shaped spring carrier fitting within said trough and back in clamping position, and a cutting blade adapted to be clamped between said carrier and holder.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WILLIAM S. HOPKINS.

Witnesses:
GEO. H. MAXWELL.
WM. J. PIKE.