E. L. McCAIN.

SAFETY RAZOR.

APPLICATION FILED MAR. 2, 1917.

1,235,040. **Patented July 31, 1917.**

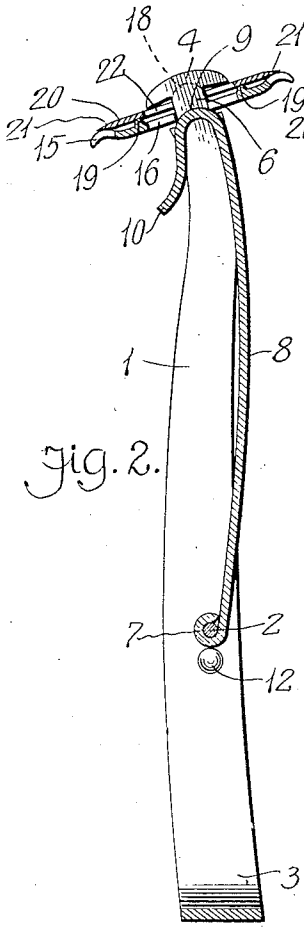


Fig. 2.

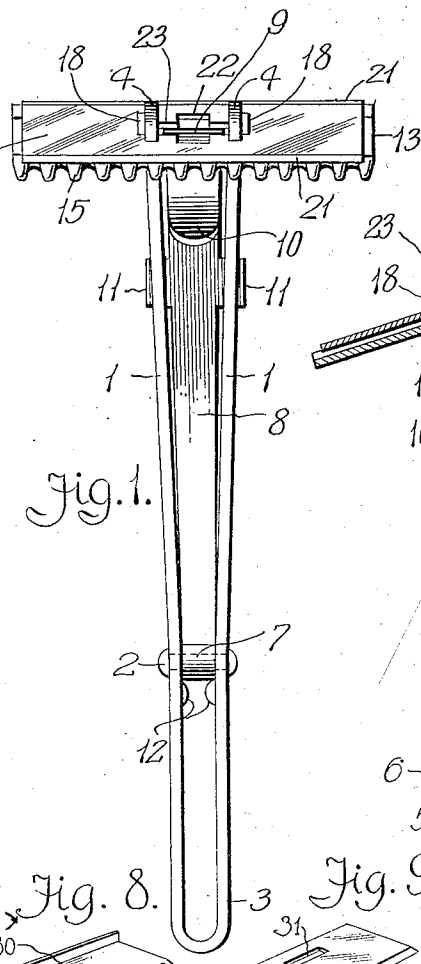


Fig. 1.

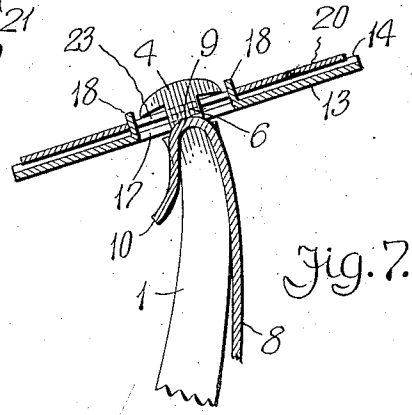


Fig. 7.

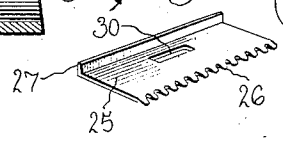


Fig. 8.

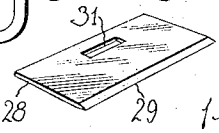


Fig. 9.

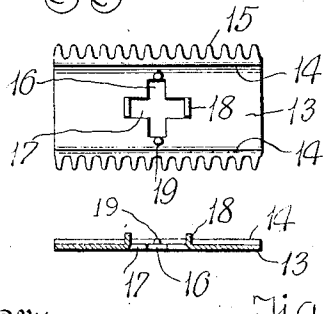


Fig. 3.

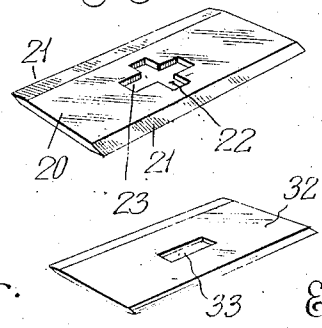


Fig. 5.

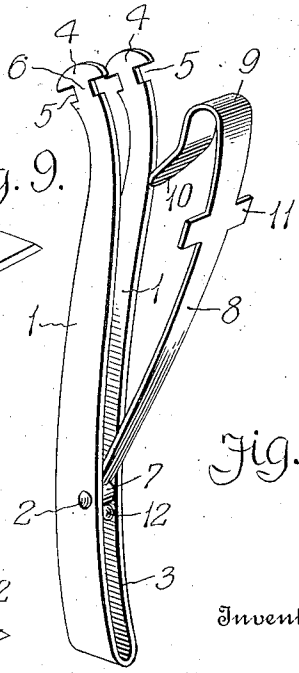


Fig. 6.

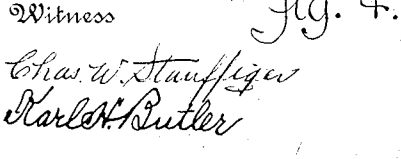


Fig. 4.

Fig. 10.

Witness

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UNITED STATES PATENT OFFICE.

ELLSWORTH L. McCAIN, OF DETROIT, MICHIGAN.

SAFETY-RAZOR.

1,235,040. Specification of Letters Patent. Patented July 31, 1917.

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To all whom it may concern:

Be it known that I, ELLSWORTH L. McCAIN, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to safety razors, and the primary object of my invention is to provide a razor consisting of comparatively few parts that can be easily and quickly assembled, maintained in a sanitary condition, permit the user to position the blade of the razor in a convenient position for shaving, and permit of a double edge blade being used so that if one edge of the blade is not sharp the blade holder may be positioned to present a sharpened edge of the blade for shaving purposes.

A further object of my invention is to provide a safety razor embodying a handle having resilient members adapted for connecting a blade holder and blade relative to the handle so that the blade holder and blade may be quickly assembled and safely used, the handle having means so that the resilient members thereof can be locked relative to the blade holder and blade to prevent accidental displacement of these parts during use.

The above are a few of the objects attained by my invention, and reference will now be had to the drawing, wherein—

Figure 1 is a front elevation of a safety razor;

Fig. 2 is a vertical sectional view of the same;

Fig. 3 is a plan of the blade holder;

Fig. 4 is a longitudinal sectional view of the same;

Fig. 5 is a perspective view of a detached blade;

Fig. 6 is a perspective view of the razor handle;

Fig. 7 is an enlarged vertical sectional view of the razor showing the blade holder in a different position from that illustrated in Figs. 1 and 2;

Fig. 8 is a perspective view of a modified form of blade holder;

Fig. 9 is a perspective view of a modified form of blade and

Fig. 10 is a perspective view of a further modified form of blade.

The handle of the razor is preferably made of a strip of metal bent intermediate the ends thereof to provide substantially parallel members and said members are connected by a transverse rivet or pin 2, thereby providing a rigid handle portion 3 between the rivet 2 and the bent or looped end of the handle. The members 1 have the upper ends thereof sprung outwardly and these members possess a degree of resiliency, somewhat similar to tweezers, so that said members may be sprung toward each other. The members slightly taper from the lower end of the handle to the upper end thereof and the upper ends of said members are provided with heads 4 and opposed slots 5, the opposed slots providing neck portions 6 between the heads 4 and the members 1. The heads 4 are in the same plane as the members 1 and the upper ends of said members are slightly curved so that the longitudinal axes of the heads 4 will be in an angle to the members 1, and this is best noted in Fig. 2.

Pivoted on the rivets 2 of the handle is a barrel 7 of a lock member 8. The upper end of said lock member terminates in a hook portion 9 and a bill or finger piece 10. The upper end of the locking member is adapted to swing between the members 1 and its closing movement is limited by side lugs 11 on said member and adapted to impinge against side edges of the members 1. The opening movement of the lock member is limited by protuberances on the inner side of the members 1.

The reference numeral 13 denotes a blade holder having the side edges thereof slightly curved to provide blade seats 14 and the edges of the blade holder are toothed or scalloped as at 15, to serve as guards for the sharp edges of the blade placed on the holder. Intermediate the ends of the blade holder 13 there are intersecting or communicating slots 16 and 17 providing an opening somewhat "Maltese cross" shaped and at the ends of the slot 17 there are struck up lugs 18 and at the ends of the slot 16 are protuberances 19.

The reference numeral 20 denotes a blade having side cutting edges 21 and intermediate the ends of said blade there are intersecting or communicating slots 22 and 23 similar to and adapted for registration with the slots 16 and 17 of the blade holder 13. The longitudinally disposed slot 23 is

slightly longer than the slot 17 of the blade holder, so that the ends of the slot 23 may receive the upstanding lugs 18 and permit alternately resting on the teeth 19 and the longitudinal seat 14, as best shown in Fig. 2.

With the blade and blade holder assembled, and the locking member 8 of the handle in an open position, the upper ends of the members 1 may be pressed toward each other until the heads 4 practically contact, then said heads can be inserted in the slots 16 and 22 and the members 1 released so that the neck portions 6 of said members will engage in the ends of the slots 17 and 23 especially against the lugs 18, as best shown in Fig. 1. The locking member 8 can then be swung to a closed position and the hook shaped end 9 spring under the blade holder 13. The hook shaped end 9 of the locking member 8 is of such curvature that the top thereof will spring into the slot 17 of the blade holder and in so doing force the blade 20 against the head 4 and the blade holder against the lower face of the blade. The teeth 19 and the seats 14 will prevent the blade 20 from being unduly flexed by contact with the ends of the heads 4 and the blades will be maintained evenly and properly seated upon the blade holder.

The razor is now ready for use with the blade disposed at a slight angle to the longitudinal axis of the handle and when it is desired to disassemble the parts it is only necessary to press upon the bill or finger piece 10 of the locking member to swing said member to an open position, compress the members 1 and then remove the heads 4 from the slots 16 and 22. The shape of the slots also permits of the neck portions 6 of the members 1 being placed in the ends of the slots 16 and 22, thereby positioning the blade holder and blades as shown in Fig. 7, and this position of the razor blade may be more convenient to the user than the position shown in Figs. 1 and 2.

It will be noted that the blade 20 is reversible and that either edge thereof may be used. As showing a single edge razor, see Figs. 8 and 9. The blade holder is designated 25 and has one end thereof toothed to provide a guard 26 and the opposite end thereof flanged, as at 27, to provide a back rail for a blade 28 having a single cutting edge 29. The holder 25 and the blade 28 have longitudinal slots 30 and 31 respectively adapted for registration when the blade 28 is positioned on the holder 25. The handle shown in Fig. 6 may be used by pressing the heads 4 together, inserting the heads through the slots 30 and 31, and then turning the handle a quarter of a revolution so that the neck portions 6 may engage in the ends of the slots 30 and 31. With the locking member 8 between the members 1, the blade holder 25 and the blade 28 thereof can be firmly held for shaving purposes.

In Fig. 10 is a blade 32 having a double edge and a single longitudinal slot 33, and a blade holder may be provided for the blade so as to be held by a handle in a manner similar to the blade 28 and holder 25.

The preferred embodiments of my invention have been illustrated and it is to be understood that the structural elements are susceptible to such variations and modifications as fall within the scope of the appended claims.

What I claim is:—

1. A safety razor comprising a blade holder, a blade thereon, a handle having compressible members adapted to engage in portions of said blade holder and blade to hold the blade cutting edge at the front side of said handle and in other portions of said blade holder and blade to hold a blade cutting edge at the side of said handle, and means adapted to extend into said blade holder to lock the members thereof in engagement with said blade holder and blade.

2. A safety razor comprising a blade holder, a blade seated thereon, said blade holder and blade having registering intersecting slots, a handle adapted to engage in opposed ends of one set of slots of said blade holder and blade to position a blade cutting edge to one side of said handle to engage in the opposed ends of the other set of slots to position a blade cutting edge at the side of said handle, and means carried by said handle adapted to lock said handle in engagement with said blade holder and blade.

3. A safety razor comprising a slotted blade holder, a slotted blade adapted to be seated thereon, a handle having compressible headed members adapted to engage said blade holder and said blade, and a locking member carried by said handle adapted to be swung between the members thereof and extend into a slot of the blade holder to lock said members in engagement with said blade holder and the blade seated thereon.

4. A safety razor comprising a blade holder, a blade seated thereon, a handle made of a single piece of material bent to provide compressible members adapted to have the ends thereof sprung into engagement with said blade holder and said blade, and a locking member having a limited movement relative to the handle and adapted to be swung between the members thereof and into the blade holder to lock said members in engagement with said blade holder.

5. A safety razor comprising a blade holder having toothed edges and upstruck lugs, a slotted blade adapted to be seated on said blade holder and be positioned thereon by the lugs of said blade holder, and a handle having compressible members adapted to

be placed in engagement with said blade holder and said blade and locked in engagement therewith by means carried by said handle and extending into said blade holder.

6. A safety razor comprising a blade holder provided with intersecting slots and upstruck lugs, a blade adapted to be seated on said blade holder and provided with intersecting slots in registration with the slots of said blade holder and to receive the lugs of said blade holder, a handle having compressible members adapted to be inserted in opposed ends of the slots of said blade holder and blade to position said blade holder and blade in a desired angle relative to said handle, and means carried by said handle adapted to be swung between said members and into a slot of said blade holder to lock said members in engagement with said blade holder and blade.

7. A safety razor comprising a slotted blade holder, a slotted blade adapted to be seated on said blade holder, a handle having neck portions adapted for engagement in the ends of the slots of said blade holder and blade, and means adapted to swing between the neck portions of said handle into the slot of said blade holder to lock said handle in engagement with said blade holder and blade.

8. A razor comprising a slotted blade holder, a slotted blade on said holder, a handle adapted to extend into the slots of said blade holder and blade to hold said blade holder and blade assembled relative to said handle, and means pivotally held by said handle adapted to be swung into the slot of said blade holder to lock said handle relative thereto.

In testimony whereof I affix my signature in the presence of two witnesses.

ELLSWORTH L. McCAIN.

Witnesses:
KARL H. BUTLER,
ANNA M. DORR.