

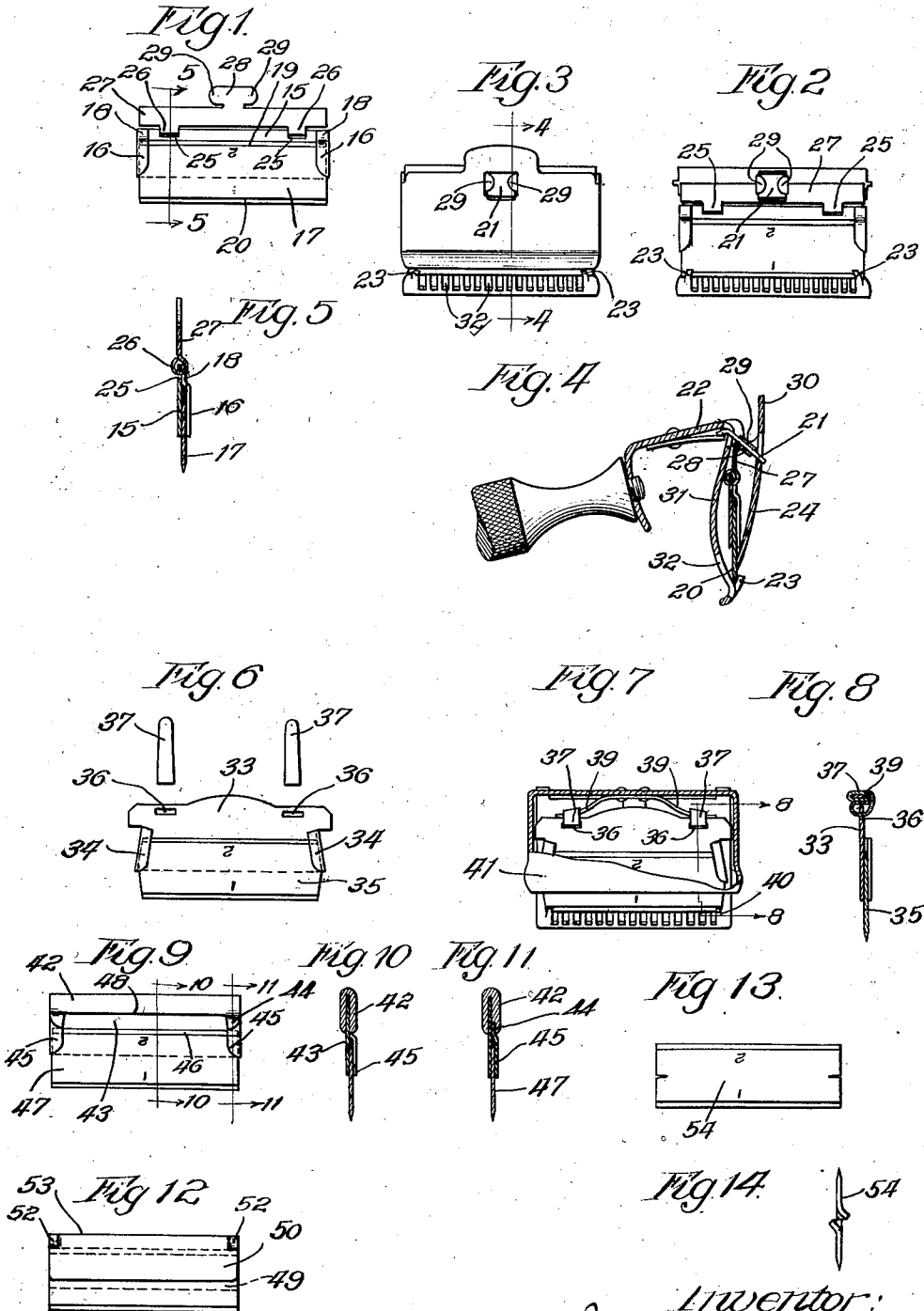
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SAFETY RAZOR

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UNITED STATES PATENT OFFICE.

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SAFETY RAZOR.

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This invention relates to safety razors but more particularly to blade holders for the same and has for its primary object to provide a structure which is simple, durable and efficient.

Another important object is to provide a form of blade holder which will permit the use of a double edged blade in types of safety razor frames now capable of using only a single edged blade.

Further objects of the invention are to save materials, to facilitate cleaning, and to provide a separable blade holder.

The many other objects and advantages of the present invention will be better understood by reference to the following specification in connection with the accompanying drawings disclosing certain selected embodiments thereof in which:

Fig. 1 is a front elevation of my invention.

Fig. 2 is the same as Fig. 1 with the holder mounted in a safety razor frame, the cover being removed.

Fig. 3 is the same as Fig. 2 with the cover in place.

Fig. 4 is a section on the line 4—4 of Fig. 3.

Fig. 5 is a section on the line 5—5 of Fig. 1.

Fig. 6 is a front elevation of a modified form of the invention.

Fig. 7 is the same as Fig. 6 with the holder mounted in a safety razor guard, a portion of the cover being removed.

Fig. 8 is a section on the line 8—8 of Fig. 7.

Fig. 9 is a front elevation of another modification of the invention.

Figs. 10 and 11 are sections on the lines 10—10 and 11—11 respectively of Fig. 9.

Fig. 12 is a front elevation of a modification of the invention.

Figs. 13 and 14 are respectively front and end elevations of a modified form of the invention.

Referring to the drawings the invention is shown to comprise a base plate 15 provided with inwardly turned portions 16 on opposite ends thereof forming a channel to receive the end edges of a blade 17. The lower portion of these end portions 16 are spaced sufficiently from the body of the base plate to permit the blade 17 to be slid upwardly therebetween to the desired position.

The upper edge part 18 of each of these end portions is indented to press against the base plate to form stops to engage the upper corners of the blade. The blade 17 has oppositely disposed sharpened edges 19 and 20.

In order to enable the user to distinguish between these edges and thus permit him to hold one edge in reserve until the other edge has become dull, I have placed identification marks on each sharpened edge which here consist of the numerals 1 and 2. The base plate preferably extends beyond the rear edge of the blade and thus protects this edge when the holder is used in most of the present types of safety razors. In these razors the blade has usually been dropped into place on the guard and some means has been provided to press against the rear edge of the blade to force the forward sharpened edge against the stops on the frame. In the form of safety razor illustrated in Figs. 2, 3 and 4 the rear edge of the blade is engaged by the holder support comprising the spring pressed arm 21 on the frame 22 and pressed against the stops 23 on this frame as the cover 24 was lowered into contact with the blade. With my holder this pressure would be exerted against the rear projecting edge of the holder, thus protecting the rear edge of the blade.

Single edge blades now in general use either have a thickened rear edge to provide the necessary rigidity or, in the case of the sheet steel blade, a rigid head is pressed over the rear edge and permanently attached thereto. The thickened blade requires the use of considerable steel and is expensive to produce so that the sheet metal blade has largely superseded it. When the single sharpened edge becomes dull, the blade must be resharpened or the blade and head discarded as they are not separable. With the blade holder of the present invention the proper reinforcing is procured and the same holder may be used with an indefinite number of blades of either the single or double edge type.

The holder may be free within the frame in the manner described but I have found it advantageous to connect it to the frame permanently. The form of connecting means would naturally vary with the construction of the frame or might be varied in

any particular type of frame. In the type of frame shown in Figs. 2, 3 and 4 the base plate 15 of the blade holder is provided with a pair of slots 25 which receive projections 26 on the connecting plate 27. These projections 26 pass through the slots 25 and are bent into ring form to provide a hinge connection between the parts 15 and 27. A projection 28 on the upper or rearward edge of the plate 27 is bent forwardly and the ears 29 thereon folded about the spring pressed arm 21 on the frame 22 to connect the holder to the frame when the cover 24 is raised by pressing on the outer extremity 30 thereof, the spring pressed arm 21 swings rearwardly, causing the plate 27 to swing away from the base 31 of the frame 22, and drawing the edge 20 of the blade 17 upwardly and away from the guard teeth 32 and the stops 23. This enables the lather collecting between these teeth to be removed and the blade easily cleaned. The blade may now be removed from the holder and either reversed to utilize the reserve edge or a new blade inserted. The holder would remain permanently within the frame.

In Figs. 6, 7 and 8 is shown a modified form of the invention comprising a base plate 33 provided with inturned end portions 34 to overlap the edges of the blade 35. The end edges of the blade are bevelled from the center and the end portions 34 are bent angularly to fit these bevelled edges. This form is advantageous as the holder engages the blade only at its ends. The angularity of the end portions 34 prevents the blade advancing too far into the holder.

This holder may be used within a frame without attachment thereto in the same manner as the previous embodiment but in order to illustrate the application of my holders to another well known form of frame, I have provided the base plate 33 with slots 36 to receive strips 37 of metal which have their lower portions bent into a loop 38 and their upper extremities folded about the spring arms 39 in the frame as shown in Fig. 8. These spring arms 39 form the holder support which yieldingly presses the blade against the usual stops 40 on the frame. Lifting of the cover 41 draws the blade away from the stops 40 and exposes the guard teeth 32 in the manner described in connection with the previous embodiment. In this construction also it will be noted that the pressure usually exerted against the rear edge of the blade is taken by the holder.

In Figs. 9, 10 and 11 is shown a modified form of holder practically identical with the base plate of Fig. 1 except that a rigid head 42 is fitted over the upper edge portion of the base plate 43 and the depending projections 44 on the forward edge thereof are depressed to bind the upper part of the end portions 45 against the base plate and to re-

tain the head on the holder. These depressions in the end portions perform the stop action on the blade described in connection with the embodiment shown in Fig. 1 and prevents the rear edge 46 of the blade 47 contacting with the lower edge 48 of the holder.

In Fig. 12 of the drawing is shown a modified form of holder in which the base plate 49 has its upper portion 50 folded forwardly over the remaining portion and sufficiently spaced therefrom to admit a blade 51 therebetween. The folded corners 52 are indented to form a stop for the upper edge 53 of the blade to prevent contact of other than the extreme corners of the sharpened edge of the blade with the plate. The remaining portion of this sharpened edge is held away from the fold 53 of the base plate by these stops.

The channels 16, 34 and 45, as well as the folded over portion 50 of Figure 12, constitute a seat in which the blade is inserted edgewise from front to rear of the device, and in each instance the insertion of the blade is limited to position its active edge projecting forwardly beyond the front edge of the holder and its rear edge short of the rear edge of the holder and protected thereby.

Figs. 13 and 14 show a modified form of blade 54 which is slitted at both ends and the edges of each slit bent outwardly in opposite directions to engage with the bottom edge of a base plate to prevent the blade sliding upwardly too far between the retaining portions of the holder. Such slits in the blade would accomplish the same object as the indentations 18 on the flanges 16 of the embodiment shown in Fig. 1 and such indentations could be omitted when a blade of the kind shown in Fig. 13 was used. With this construction all pressure is removed from the rear cutting edge as in the modification shown in Fig. 6.

From the foregoing description, it will be understood that the present invention provides a cutting unit for safety razors, and that this cutting unit is made up of a double edged razor blade and a holder therefor, these two parts of the cutting unit being so associated that they may be placed as a unit in or upon different types of safety razor frames which are originally constructed for using single edged blades only.

It will therefore be seen that my improved blade holder is simple in construction, durable and efficient. It permits the use of double edged blades in safety razors now only capable of using a single edge blade. The holder is readily separable from the blade so that one holder may be used with an indefinite number of blades and will provide the proper protection and reinforcement. The holder makes possible

a considerable saving in materials because the base plate will strengthen the entire blade, and enable an exceedingly narrow blade to be used. This holder is capable of use unattached to the safety razor or it may be attached thereto permanently. The attaching of the holder to the frame greatly facilitates the cleaning of the frame and the blade. The marking of the edges of a double edge blade makes it possible for the user to continue to use one edge until this has become dull and then to use the other edge.

I am aware that many changes in construction and in arrangement of parts may be made without departing from the invention and I reserve the right to make all such changes as fairly fall within the scope of the following claims.

I claim:—

1. A razor blade holder comprising a base plate, the ends of said base plate being bent over to form channels to receive the ends of a razor blade inserted therein edgewise, parts of said bent over ends being depressed to form stops in the channels to engage the edge of a razor blade inserted therein and to limit its edgewise movement.

2. A razor blade holder comprising a base plate, portions of said base plate being bent over to form channels to receive a razor blade inserted edgewise therein, parts of said bent over portions being depressed to form stops engaging the extreme ends of the edge of a razor blade in said channels and to limit its edgewise movement therein.

3. In combination, a razor blade holder comprising a base plate, having a channel to receive a razor blade inserted edgewise therein, said channel provided with means to limit the movement of said blade in said channel by engagement with the extreme ends of said blade, a razor frame having a blade holder support, and means for hingedly connecting said holder to said blade holder support.

4. In combination, a razor blade holder comprising a base plate, the end portions of said base plate having channels to receive the ends of a razor blade inserted edgewise therein, said channel provided with means to limit the movement of said blade in said channels, a portion of said base plate extending rearwardly of said channels, a razor frame having a blade holder support, said rearwardly extending portion of said razor blade being hingedly connected to said blade holder support.

5. A razor blade holder comprising a base plate having a portion thereof, bent over to form a channel to receive a razor blade inserted edgewise therein, a part of said bent over portion being depressed to form

a stop to limit the edgewise movement of said blade.

6. A cutting unit for safety razors comprising a double edged razor blade and a holder therefor, said holder having channels receiving the ends of the blade and extending in a direction from front to the rear of the holder, the blade being inserted from the front towards the rear of the holder and limited in its insertion to a position with its active edge projecting forwardly beyond the front edge of the holder and its rear edge between its end portions short of the rear edge of the holder and protected thereby.

7. A razor blade holder comprising a base plate having channels adapted to engage the ends of a razor blade inserted edgewise therein, and stops in said channels positioned to engage the extreme ends of the cutting edge of a blade inserted in said channels.

8. A razor blade holder comprising a base plate having a channel adapted to receive a razor blade inserted edgewise therein, and a stop in said channel positioned to engage the extreme end of the cutting edge of a blade inserted in said channel.

9. A razor comprising a frame having guard teeth, a blade holder provided with channels to receive a razor blade, means securing said holder to said frame and permitting movement of said holder to and from said guard teeth to permit insertion of said blade in said holder by movement of the blade from the guard teeth towards the rear of the holder.

10. A cutting unit for safety razors, comprising a double edged razor blade and a holder therefor provided with a seat having the blade inserted edgewise therein from front to rear of the holder and limited in its insertion to a position with its active edge projecting forwardly beyond the front edge of the holder and its rear edge between its end portions short of the rear edge of the holder and protected thereby.

11. A cutting unit for safety razors, comprising a double edged razor blade and a holder therefor, said holder having channels receiving the ends of the blade and extending in a direction from front to rear of the holder, the blade being inserted from the front towards the rear of the holder, and means, other than the side walls of the channel, to limit the insertion of the blade to a position with its active edge projecting forwardly beyond the front edge of the holder and its rear edge between its end portions short of the rear edge of the holder and protected thereby.

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