June 5, 1928. 1,672,310

E. L. EDGAR

SAFETY RAZOR

Filed March 22, 1927

Fig. 1.

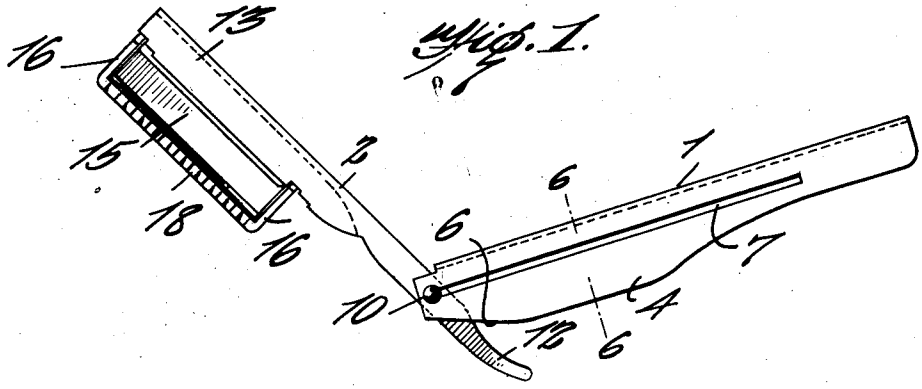


Fig. 2.

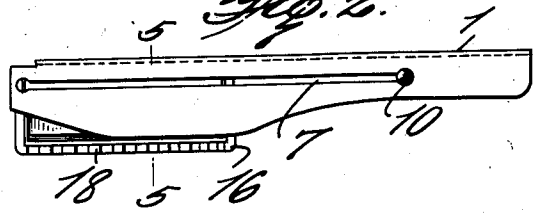


Fig. 3.

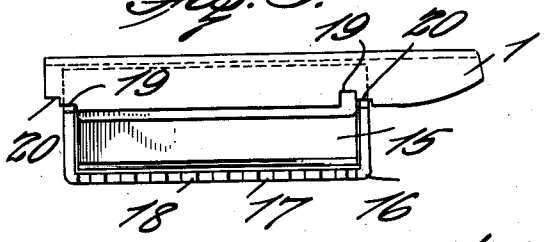


Fig. 4.

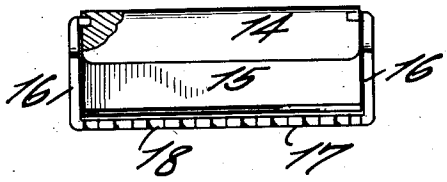


Fig. 5.

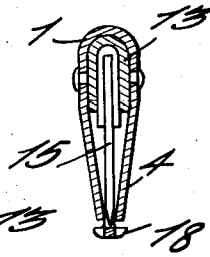


Fig. 9.

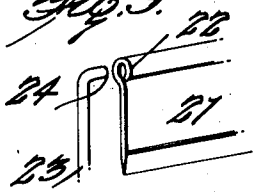


Fig. 6.

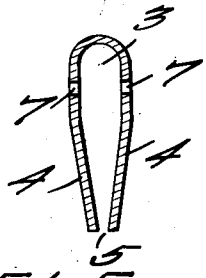


Fig. 7.

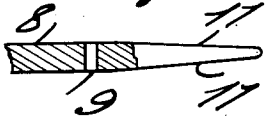


Fig. 8.



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UNITED STATES PATENT OFFICE.

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SAFETY RAZOR.

Application filed March 22, 1927. Serial No. 177,402.

This invention relates to an improvement in safety razors wherein the handle portion is made up of two sections adapted for relative sliding cooperation to permit the parts to be arranged in compact, completely protected condition when not in use, with said handle parts arranged for pivotal or swinging cooperation when extended to permit the razor to be handle in a manner corresponding to the old type of razor.

An important object of the present invention is the provision of a handle part in which a combined blade holder and guard is slidably and removably mounted, the guard being adapted to form a more or less permanent part of the blade holder and being held in its relation to the blade by the handle part, the latter being formed to permit a particular play of the guard relative to the blade when the blade is being sharpened or honed, and a further and particular play of the guard relative to the blade when the latter is being used for shaving.

The invention is illustrated in the accompanying drawings in which:

Figure 1 is a view in side elevation of the improved razor, the handle parts being shown extended and adapted for relative pivotal or swinging movement in the use of the razor for shaving or honing purposes.

Figure 2 is a similar view, the handle parts being collapsed in the positions occupied when the razor is not in use.

Figure 3 is an enlarged broken elevation, showing particularly the means for permitting different movements of the guard relative to the blade as desired in the shaving or honing use of the razor.

Figure 4 is a view in elevation of the blade holder and guard, the blade being shown in position therein.

Figure 5 is a section on line 5—5 of Figure 2.

Figure 6 is a section on line 6—6 of Figure 1.

Figure 7 is a broken edge view of the connected end of one of the handle parts.

Figure 8 is an end view of the razor illustrating the play of the guard.

Figure 9 is a broken perspective detail of a modification.

The improved safety razor comprises a handle portion made up of a housing section 1 and a bar section 2, the parts corresponding in length preferably though not necessarily to the handle and blade portion of the old type of razor. The housing section 1 of the handle is a metallic strip of inverted U-form, as at 3, having the side walls extended from a point about substantially mid-length the section toward the bar section connected end to provide lips 4, the latter converging downwardly to provide an outlet 5 of somewhat less transverse dimensions than the normal similar dimensions of the housing proper.

The lower edges of the lips 4 incline upwardly toward the bar connected end of the section, as at 6, for a purpose which will later appear. The walls of the housing section defining the U-shaped form are longitudinally slotted, as at 7, the slots being closed at their respective ends and terminating immediately adjacent the bar section connected end of the housing section.

The bar section of the handle comprises a bar-like rear end 8 formed with an opening 9 to receive a headed pivot pin 10 which slidably cooperates with the slots 7 in the housing section. That portion of the bar 8 in rear of the pivot pin 10 has its sides rearwardly convergent, as at 11, to provide a substantially wedge portion and the upper surface of this bar portion 8 may, if desired, be slightly concaved, as at 12, throughout the length in rear of the pivot pin 10. In advance of the bar portion 8, the bar section of the handle is of inverted U-form, as at 13, having a dimension to more or less snugly fit within the U-form portion 3 of the housing section.

A blade holder 14 is designed to fit snugly within and be frictionally held by the U-form end 13 of the bar section of the handle. This blade holder is, of course, formed in a manner to receive and securely hold a razor blade 15 in order that the same may project laterally of the bar section of the handle. In this connection, it is to be understood that the blade holder may be formed in any appropriate manner to cooperate with and hold the particular blade for which the razor may be designed, and it is to be understood that the blade holder here shown is merely a conventional illustration of any structure designed particularly for holding a special type or well known type of razor blade, so that such may be readily replaced in the holder when desired.

Secured to and carried by the holder 14 is a guard for the blade comprising a U-shaped member, the side bars 16 of which are piv-

otally mounted in the respective ends of the blade holder and, of course, are designed to extend longitudinally of the end of the razor blade when the latter is in the holder. The guard also includes a cross-bar 17 formed with the usual guarding projections 18 by which the guarding function is carried out as is usual in safety razors.

As previously stated, the guard is pivotally mounted in the blade holder and, therefore, in the absence of restriction is capable of being freely swung relative to the blade holder. With the blade holder in position in the U-shaped end of the handle bar section, the guard is, of course, held by the side walls of the bar section in direct line with the blade and, therefore, acts as a complete protector for the edge of the blade.

It is apparent that a limited movement must be permitted the guard relative to the blade in order to permit a shaving operation of the blade and that the guard must also be permitted a limited movement relative to the blade when the blade is being honed or sharpened. Experience has demonstrated, however, that if the movement permitted the guard relative to the blade necessary for the shaving operation is permitted the guard during the honing operation, there will be a tendency to round the edge of the blade due to the fact that the movement permitted the latter with respect to the hone or strop is too great.

Therefore, the present invention makes provision for two distinct permissible movements of the guard relative to the blade, one when the razor is being used for shaving purposes and another when the razor blade is being honed or sharpened. Obviously, when the guard is confined between the outer walls of the U-portion of the bar section 2, the guard is held against practically any movement relative to the blade, and therefore to provide for the desired movements of the guard, the free edges of the walls of the U-shaped portion of the bar section 2 are provided with notches 19 and 20, the former being of greater height than the latter.

The notches 19 which are, of course, disposed apart a distance to simultaneously cooperate with the side bars 16 of the guard are of greater height vertically of the side bars of the U-portion 13 than are the notches 20. Therefore, when the blade holder 14 has been moved longitudinally of the bar section to arrange the side bars 16 of the guard in alignment with the notches 19, the cross-bar 17 of the guard is permitted a necessary play relative to the edge of the blade as will permit a proper shaving operation of the blade without liability of cutting the face. When the blade holder has been moved, however, to a position to align the side bars 16 of the guard with the notches 20, a somewhat less play is permitted the cross-bar 17 of the guard relative to the edge of the razor blade. This latter play is such, however, as is sufficient to permit a sharpening or honing action of the blade without permitting such angular relation of the blade and hone as will tend to round the edge.

The razor, when not in use, is arranged as shown in Figure 2 in which the bar section 2 is disposed wholly within the housing section 1. In this position of the parts, the extended lips 4 of the housing section snugly embrace the guard and blade and prevent any relative movements of the parts and maintain the guard in position to hold the edge of the blade inaccessible for cutting. When desired for use, the bar section is moved longitudinally of the housing section through the cooperation of the pivot pin 10 and the slots 7. During this movement, the extended end or bar portion 8 of the handle section 2 bears against the upper wall of the housing section and prevents any pivotal movement of the bar section 2. When the pivot pin has reached the ends of the slots 7, the bar section 2 may be turned into the position indicated in Figure 1. In this movement, the wedge-shaped end 11 of the bar section 2 is forced between the converging lips 4 of the housing section, thereby exerting a frictional resistance to the free pivotal movement of the handle parts and insuring that the razor will temporarily remain in any pivoted position in which it may be placed. When in the operative position as illustrated in Figure 1, the bar end 8 of the handle section 2 serves as the usual finger bearing for the manipulation of the razor similar in all respects to this detail in the old style razor.

The improved razor, therefore, is a safety razor which in operative position may be manipulated and handled as an old style razor. The parts of the improved razor are collapsible into compact form, in which form the guard for the blade is held in such position as to absolutely prevent any possibility of cutting action by the blade. Furthermore, the razor, in addition to permitting a shaving operation, is designed to permit a proper honing of the blade without change in parts or without removal of the blade from the holder or handle. This function is gained through providing a means by which the guard is permitted a less movement relative to the blade than when the parts are arranged for shaving, this capability of controlling the relative movement of the guard and blade being an important one as it adapts the razor for proper shaving functions and also controls the position of the blade on the hone or strop to prevent any possibility of rounding the blade during such operation.

It is to be further noted that the wedging

cooperation between the housing section and bar section of the handle insures that the parts will be retained in collapsed or housed relation against accidental opening and that when opened, the parts may be retained at desired angular relation without liability of slipping.

It is to be understood that if desired and as illustrated more particularly in Figure 9, the blade 21 may be formed at its non-sharpened edge in a rolled or sleeve-like formation indicated at 22, and the guard here indicated at 23 will have pintle projections 24 to rotatably seat in the sleeve 22. This construction tends to economy in manufacture.

What I claim to be new is:

1. A safety razor comprising a housing section, a bar section slidably cooperating therewith, said bar section being arranged for pivotal movement relative to the housing section in one position of the parts, a blade holder removably carried by the bar section, a guard carried by the blade holder, and means on the bar section to cooperate with the guard to limit the play of the guard relative to the blade.

2. A safety razor comprising a housing section, a bar section slidably mounted therein, a blade holder slidably mounted in the bar section, a guard carried by the blade holder, and means on the bar section to limit the play of the guard relative to the blade and the holder to either of two predetermined positions.

3. A safety razor comprising a housing section, a bar section slidably mounted therein, a blade holder slidably mounted in the bar section, a guard carried by the blade holder, means on the bar section to limit the play of the guard relative to the blade and the holder to either of two predetermined positions, and means on the housing section to hold the guard in fixed position relative to the blade when the bar section is in collapsed relation to the housing section.

4. A safety razor comprising a hollow housing section, a bar section mounted for sliding and pivotal movement relative to the housing section, said bar section having a U-shaped terminal portion to receive a blade holder, a blade holder slidable in said portion, and a guard carried by the blade holder, the side walls of the hollow portion of the bar section being formed with notches to permit a limited play of the guard.

5. A safety razor comprising a hollow housing section, a bar section mounted for sliding and pivotal movement relative to the housing section, said bar section having a U-shaped terminal portion to receive a blade holder, a blade holder slidable in said portion, and a guard carried by the blade holder, the side walls of the hollow portion of the bar section being formed with notches of different lengths to permit different limited plays of the guard.

6. A safety razor comprising a hollow housing section, a bar section mounted for sliding and pivotal movement relative to the housing section, said bar section having a U-shaped terminal portion to receive a blade holder, a blade holder slidable in said portion, a guard carried by the blade holder, the side walls of the hollow portion of the bar section being formed with notches of different lengths to permit different limited plays of the guard, and depending lips on the housing section to hold the guard in fixed relation to the blade holder when the bar section is within the housing section.

In testimony whereof I affix my signature.

ERNEST L. EDGAR. [L. S.]