Aug. 28, 1928.

1,682,462

F. A. ALVARADO

SAFETY RAZOR

Filed Feb. 5, 1927

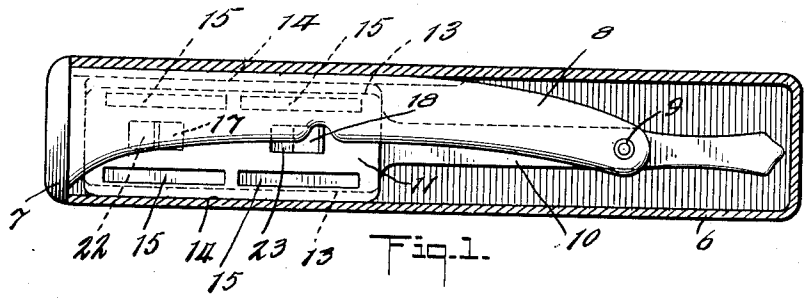

Fig. 1.

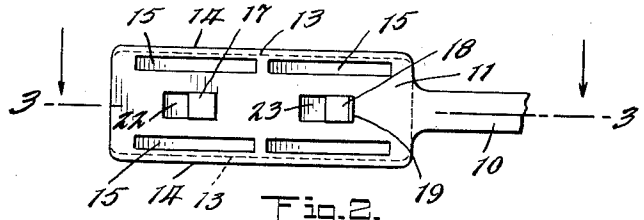

Fig. 2.

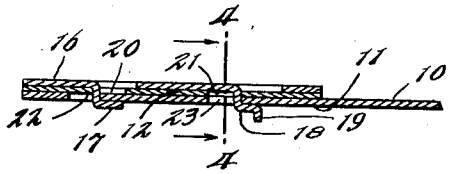

Fig. 3.

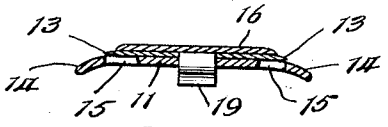

Fig. 4.

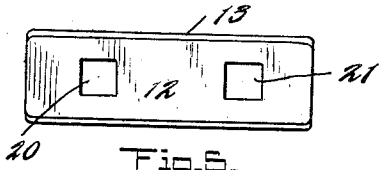

Fig. 5.

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UNITED STATES PATENT OFFICE.

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SAFETY RAZOR.

Application filed February 5, 1927. Serial No. 166,088.

This invention relates to an improvement in safety razors.

Ordinary safety razors of most types are provided with guards contacting with the blade behind the cutting edge of the latter. The majority of these guards are of the toothed or comb type. In using such razors, the lather and the hair removed from the face therewith accumulate in the space between the cutting edge of the blade and the guard and become packed therein to such an extent that they interfere with the proper action of the instrument. Some of this lather and hair escapes forwardly between the teeth of the guard, but about half of it remains. The lather and hair removed from the face should freely pass rearwardly from the cutting edge of the plate to avoid any accumulation between said edge and the guard, but this is impossible in the commercial razor now in use. One of the objects of the present invention is the production of a razor so constructed that the lather and hair removed from the face will be free to pass rearwardly away from the cutting edge of the blade and through what may be termed a perforated zone in the guard immediately behind the cutting edge of the blade, for the escape of lather and hair as fast as they are removed from the face. In some of the safety razors now in use, the blade is positioned between two members, one of which is a guard and one a clamp. The two members and the blade are held together by offset lugs formed on one of the members and passing through apertures in the blade and the other member and engaging said other member by a limited sliding movement. In some of such razors, a lug is formed on one of the members for manipulation in assembling and dismantling the members and blade, but it is located out near an edge of the blade and a user sometimes cuts himself in using it. A further object of the invention therefore is to provide a projection on one of the blade fastening lugs for such manipulation, the lug being located at the middle of the blade where there is not only no danger but no possibility of the user cutting himself in using it. A further object of the invention is the production of a razor of the offset lug fastening type in which the blade is provided with two rectangular apertures, and one of the members is provided with two similar rectangular lug apertures, one of the blade apertures being in register with one of the member apertures, and the other blade aperture being overlapped with the other member aperture, and the lugs being flat, so that in dismantling the parts the lugs are first slid along the member apertures and then passed through them, and a blade is subsequently swung off of the lugs on the other member. Still another object of the invention is the production of a sheath having an open end and a razor slidable in said sheath and provided with a member closing the open end of said sheath to encase said razor, thus providing a case in which the razor may be kept and in which it may be shipped without further packaging if desired. With these and other objects not specifically mentioned in view, the invention consists in certain combinations, constructions and parts which will be hereinafter fully described and then specifically set forth in the claims hereunto appended.

In the accompanying drawings, in which like characters of reference indicate the same or like parts, Fig. 1 illustrates a razor in position in a sheath, the latter being shown in section; Fig. 2 is a plan view of a part of the razor shown in Fig. 1; Fig. 3 is a longitudinal sectional view taken on the line 3—3 in Fig. 2; Fig. 4 is a cross-sectional view on an enlarged scale taken on the line 4—4 in Fig. 3; and Fig. 5 is a plan view of the blade used in the razor shown in Figs. 1 to 4.

In carrying the invention into effect, there is provided a flat razor blade having a cutting edge, a rigid guard having a perforated zone immediately behind said edge for escape of lather and hair removed from the face by said edge, and means for clamping said blade and said guard together. In the best constructions, the guard also has a protective bar ahead of said edge in place of the usual teeth or comb; the means for clamping the blade and the guard together is operative behind the perforated zone; an apertured blade and an apertured guard are used and the clamping means consists of a clamp having offset lugs passing through the apertures of the blade and the guard and engaging the latter to clamp the blade thereto, one of said lugs having a projection for manipulation in assembling and dismantling the blade and the guard. Changes and varia-

tions may be made in the construction of these various parts within the scope of the claims, for the specific structure selected to illustrate the invention is but one of numerous possible concrete embodiments of the same. The invention therefore is not to be restricted to the precise details of the structure shown and described.

Referring to the drawings, 6 indicates a sheath open at one end and in which a razor may be stored or carried. The open end of the sheath 6 is closed by a member of a razor, in the present instance by the enlarged head 7 of the razor handle 8 which is pivoted at 9 to a tang 10, the latter being formed integrally with a guard 11. The guard 11 is rigid and somewhat wider than the blade 12 which has oppositely disposed cutting edges 13. The guard has protective edges in the form of bars 14 lying ahead of the blade edges 13, i. e., ahead as the razor is used in the shaving operation. For the purpose of providing for the escape of lather and hair removed from the face in the shaving operation, the guard 11 is provided with a perforated zone immediately behind the cutting edges of the blade 12, and as shown this perforated zone has two slots 15 each nearly half as long as the guard 11 and blade 12. By an inspection of Fig. 4, it will be seen that lather and hair removed from the face by either of the cutting edges 13 are free to pass rearwardly through the slots 15 to the other side of the guard where they cannot clog or interfere with the efficient operation of the cutting edges of the blade.

For the purpose of holding the parts in assembled relationship, there is provided a clamp 16 having two offset lugs 17—18, the latter being provided with an outstanding projection 19 for manipulation in assembling or dismantling the parts. The clamp lugs 17—18 respectively pass through apertures 20 and 21 in the blade 12 and through apertures 22 and 23 in the guard. By an inspection of Fig. 3, it will be noted that the blade aperture 21 and the guard aperture 23 are in register, while the blade aperture 20 and guard aperture 22 are overlapped. When the projection 19 is manipulated to dismantle the razor, it is pushed as toward the left in Fig. 3, the guard apertures 22 and 23 permitting this movement. During this movement, however, the blade 12 is carried to the left with the clamp 16 so that at the end of the movement the blade 12 and clamp 16 will project to the left beyond the end of the guard 11. It can then be lifted up readily and the blade and clamp dismantled from the guard by the passage of the lugs through the guard apertures 22 and 23. Then, the blade may be dropped over the lug 17 and then slid out from underneath the lug 18. The assemblage of the parts is of course accomplished in a reverse order of movements.

The blade apertures 20 and 21 and the guard apertures 22 and 23 are preferably made rectangular and the lugs are of course of flat stock punched out from the body of the clamp 16, as clearly shown in Fig. 3. This construction prevents any relative movement of the blade and the guard in any direction when the parts are assembled. The apertures 20 and 21 of the blade 12 are symmetrically positioned in the blade midway between its cutting edges, so that the latter may be assembled with the guard and clamp with either end toward the handle of the razor, but only one of its apertures registers with one of the apertures of the guard, the purpose of making the blade aperture 20 and the guard aperture 22 overlap just enough to permit the passage of the lug 17 through the two apertures where they overlap being to prevent movement of the blade when in assembled position in any direction, but to cause it to move with the guard during the dismantling operation.

While the tang 10 is shown as integral with the guard 11, it can be made integral with the clamp 16. Also the lugs can be made on the guard 11 to pass through suitable apertures in the blade 12 and the clamp 16 and engage the latter to hold the parts together. Also, instead of a tang 10 projecting endwise from the guard 11, a handle projecting from the guard at right angles to its plane may be used when a razor of the hoe type is preferred.

What is claimed is:

1. The combination with a razor blade having a cutting edge and two rectangular apertures spaced from said edge. of a rigid guard having a perforated zone behind said edge for escape of lather, said guard also having two rectangular apertures behind said zone one of which registers with one blade aperture and the other of which overlaps the other blade aperture, and a clamp having two flat offset lugs passing through said apertures and engaging said guard to clamp said blade thereto.

2. The combination with a razor blade having a cutting edge and two apertures spaced from said edge, of a rigid guard having a perforated zone immediately behind said edge for escape of lather, said guard also having two apertures behind said zone, and a clamp having two offset lugs passing through said apertures and engaging said guard to clamp said blade thereto, one of said lugs having a projection for manipulation in assembling and dismantling said blade and said guard.

3. The combination with a razor blade having apertures, of a rigid guard having apertures, and a clamp having offset lugs passing through said apertures and engaging

said guard to clamp said blade thereto, one of said lugs having a projection for manipulation in assembling and dismantling said blade and said guard.

4. A safety razor clamp having offset lugs for fastening a blade and a guard together, one of said lugs having a projection for manipulation in assembling and dismantling the blade and the guard.

5. A safety razor blade having two cutting edges, and also having two apertures transversely located midway between said edges and adapted for engagement with means for clamping said blade to a guard, one of said apertures being longitudinally located to register with one aperture in the guard and the other being longitudinally located to overlap another aperture in the guard.

6. The combination with a razor blade having apertures, of guarding and clamping members one of which is provided with apertures and the other with offset lugs passing through said apertures and engaging the apertured member, one of said lugs having a projection for manipulation in assembling and dismantling said blade and members.

7. The combination with a razor blade having two rectangular apertures, of guarding and clamping members one of which is provided with two rectangular apertures one of which registers with one blade aperture and the other of which overlaps the other blade aperture, the other member having two flat offset lugs passing through said apertures and engaging the apertured member to hold said blade thereto.

In testimony whereof, I have signed my name to this specification.

FERNANDO A. ALVARADO.