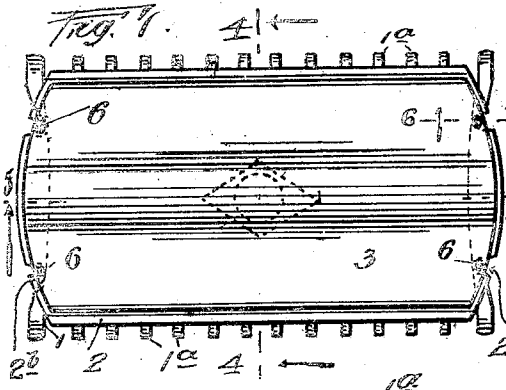
June 28, 1927. 1,633,739

H. J. GAISMAN

SAFETY RAZOR

Filed Nov. 21, 1922

Fig. 1.



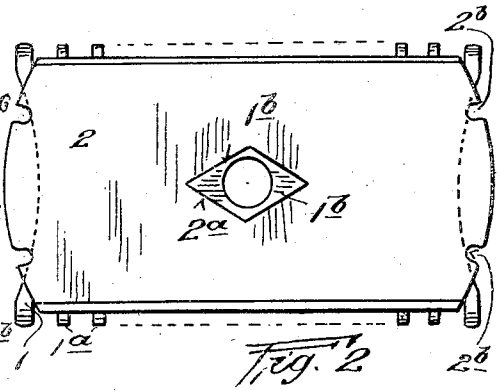


Fig. 2

2b

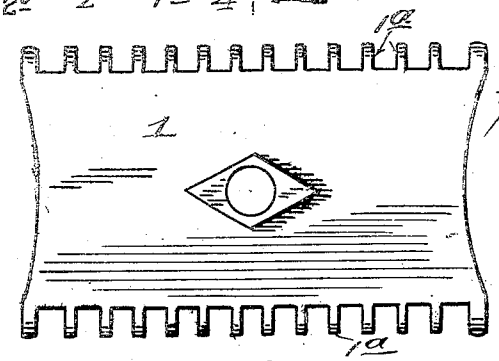


Fig. 3

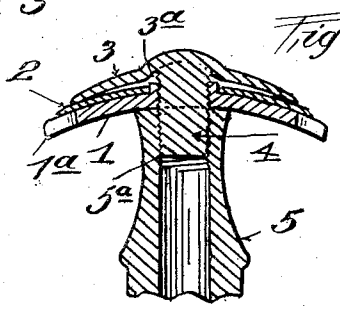


Fig. 4.

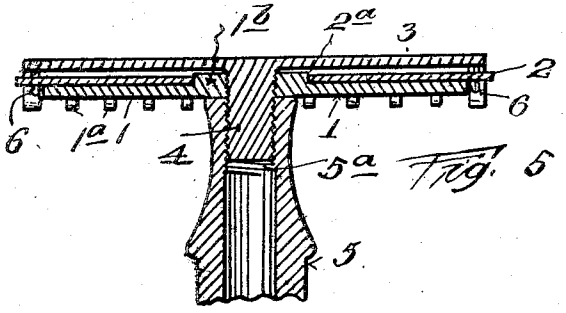


Fig. 5

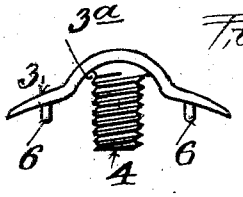


Fig. 9

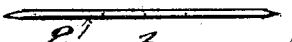
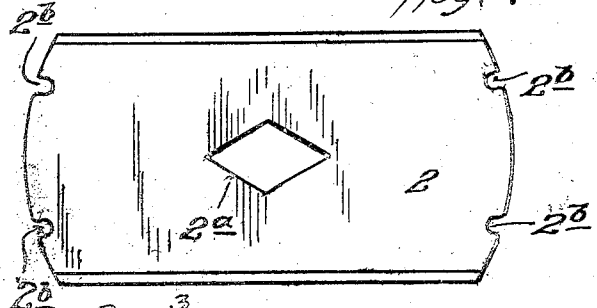


Fig. 8

Fig. 7



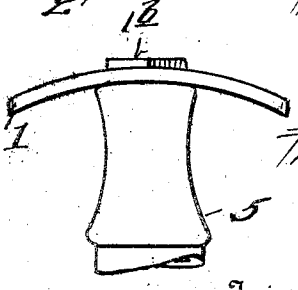


Fig. 10.

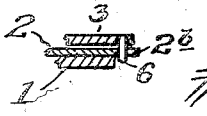


Fig. 6.

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UNITED STATES PATENT OFFICE.

HENRY J. GAISMAN, OF NEW YORK, N. Y.

SAFETY RAZOR.

Application filed November 21, 1922. Serial No. 602,378.

My invention relates to safety razors and is particularly applicable to the class of safety razors comprising a guard, a backing and a thin flexible blade clamped between the guard and the backing to retain the cutting edge of the blade in shaving relation to the guard teeth. In the class of razors described it has been customary, so far as I am aware, to provide the backing member with pins that project through holes in the blade and into holes in the guard member, whereby the blade and the backing are retained from rotation on the guard by the cooperation of said pins with the guard and the clamping of the blade between the guard member and the backing member, so that the blade performs no function in retaining any of said parts with relation one to another.

The object of my invention is to provide a safety razor wherein a blade will cooperate with a guard member to retain the blade in shaving relation thereto and the blade will also cooperate with a backing member to retain the latter in proper relation to the blade for shaving purposes, so that the position of the backing member with regard to the guard member is maintained by the blade and not by the cooperation of said members together in the well known manner I have described above.

In carrying out my invention I provide a guard member and a blade having cooperative means to retain the blade in shaving position on the guard, a backing member for the blade, means cooperative between the blade and the backing member whereby the blade retains the backing member in operative relation to the blade and the guard, and means to cause the guard member and backing member to clamp the blade therebetween.

My invention also comprises novel details of improvement that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part hereof, wherein,

Fig. 1 is a plan view of a safety razor embodying my invention;

Fig. 2 is a similar view, the backing member being removed;

Fig. 3 is a plan view of the guard member;

Fig. 4 is a cross section on line 4, 4 in Fig. 1;

Fig. 5 is a longitudinal section on line 5, 5 in Fig. 1;

Fig. 6 is a detail section on line 6, 6 in Fig. 1;

Fig. 7 is a plan view of the blade;

Fig. 8 is an edge view of the blade;

Fig. 9 is a detail end view of the backing member, and

Fig. 10 is a detail end view illustrating the guard member.

Similar numerals of reference indicate corresponding parts in the several views.

The guard member is indicated at 1, the blade is indicated at 2, and at 3 is a backing member, so organized that the blade may be clamped between said members. The guard member is shown of the variety having guard teeth 1^a on opposite sides along which the cutting edges of the blade may extend in an ordinary way for shaving. Any suitable means may be provided for causing the blade to be clamped between the guard member and the backing member. In the example illustrated the backing member 3 is provided with a threaded projection 4 adapted to pass through a centrally disposed hole in the guard member to receive the internal portion 5^a of a suitable handle 5 to clamp the parts together for shaving. The blade is provided with a substantially centrally disposed opening 2^a through which the projection 4 of the backing member may pass when the blade is between the members 1 and 3. Heretofore, so far as I am aware, the opening in the blade for the projection from the backing for clamping the parts together has been circular so that reliance was had upon spaced pins projecting from the backing to pass through spaced holes in the blade and into holes in the guard member to keep the blade and backing in position on the guard member. In accordance with my invention I provide cooperative means between the blade and the guard member to keep the blade from rotating on said member. For such purpose I provide a projection 1^b on the blade side of the guard member adapted to enter an opening 2^a in the blade. By preference I make the opening 2^a in the blade of non-circular shape, preferably having straight sides, the opening 2^a in the drawing being shown in so-called diamond shape, and the projection is of non-circular shape, as shown in so-called diamond shape, (Fig. 3), adapted

snugly to receive the metal at the sides of opening 2^a so that the blade will, by said projection, be retained upon guard member 1 with its cutting edges in shaving relation to the guard teeth when the parts are assembled. Means are provided between the blade and the backing member to cause the blade to retain the backing in operative relation to the blade and the guard, for which purpose I have shown the blade provided with recesses or openings 2^b, preferably at its ends, adapted to receive projections or pins 6 extending from the backing member toward the blade, but not to cooperate with the guard member to retain the backing. The backing member is provided with means to receive the projection 1^b of the guard member, for which purpose I have shown the backing member provided with an outwardly disposed depressed or recessed portion 3^a which will receive the projection 1^b while the side portions of the backing member bear upon the blade for clamping it against the guard member.

When the parts are to be assembled for use the blade may be placed upon the guard member so that the projection 1^b of the latter will enter the opening 2^a of the blade and thereby the blade is positioned in proper relation to the guard, and the backing member 3 will be applied upon the blade so that its projection 4 will pass through the blade and the guard member and the projections 6 will enter the openings or recesses 2^b of the blade, whereby the backing, by means of the blade, is properly positioned upon the blade with respect to its cutting edges and with respect to the guard teeth, whereupon the handle 5 will be screwed upon the projection 4, the handle engaging the guard member, to clamp the parts firmly together for shaving, (Fig. 5). The projections or pins 6 do not cooperate with the guard member to retain the backing member 3 with respect to the guard member, the guard member being shown shorter, where the projections 6 extend through the blade, than the distance between said projections in the direction of the length of the guard member, so that the latter does not interfere with the projections 6. The guard member 1 and backing member 3 are shown curved in a transverse direction whereby a thin blade 2 may be clamped therebetween in a curved shape to stiffen the blade in a well known manner, although the guard member and backing member may have other shape if desired.

In accordance with my invention the blade is retained upon the guard member in the proper position by means of the cooperation of the projection 1^b and the sides of opening 2^a of the blade irrespective of the backing, so that when the blade is placed upon the guard member said parts will be in proper position to receive the projection 4 of the backing without the inconvenience sometimes experienced of having to manipulate the blade to register its holes with spaced holes of the guard, as heretofore known, and when the backing is applied upon the blade it will immediately be positioned and retained by reason of the projections 5 entering the openings or recesses 2^b in the blade, so that the parts are conveniently retained to receive the handle for clamping the parts together, the blade performing a new function in retaining the backing member with relation to the blade and to the teeth of the guard member.

Having now described my invention what I claim is:

1. A blade having a non-circular opening substantially centrally disposed to retain the blade in shaving relation to a guard member, said blade having means spaced from said opening to cooperate with a clamping member to retain the latter in shaving relation to the blade independent of the guard member.

2. A blade having an angularly shaped opening disposed substantially centrally in the blade to cooperate with a guard member to retain the blade in shaving position thereon, and said blade being provided with means spaced from said opening to cooperate with a backing member to retain the latter in shaving relation to the blade and to the guard member.

3. A safety razor comprising blade clamping members, a blade, means cooperative between one of said members and said blade to retain the latter in shaving relation to said member, said blade and the other member having cooperative means whereby the blade will retain said member in an operative position respecting the blade, and means to detachably clamp the blade between said members.

4. A safety razor comprising blade clamping members, a blade adapted to fit between said members, and means to clamp said members upon said blade, one of said members having means cooperative with the blade to retain the blade in operative relation to said member and the other member having means cooperative with the blade independent of the first named means whereby the blade will retain said member in operative relation to the blade independent of the first named means.

5. A safety razor comprising a guard member having a projection on one side, a blade to fit upon said side of said member, said blade having an opening to receive said projection, said projection and the opening of the blade being cooperative to retain the blade from rotation on said member, a backing member for the blade, and means to clamp said blade between said members, said blade and backing member having coopera-

tive means independent of the guard member whereby the blade will retain the backing member in shaving relation to the blade.

6. A safety razor comprising a guard member provided with an opening and having projecting means on one side adjacent to said opening, a blade having an opening to receive said projecting means, said blade opening and projecting means being cooperative to retain the blade in shaving position upon the guard member, a backing member having a projection to extend through said openings in the blade and the guard member, and a handle cooperative with said projection to retain said members clamped upon the blade, said backing having projections and the blade having openings to receive said projections independent of the guard member whereby the blade will retain the backing member in shaving relation to the blade.

7. A safety razor comprising a guard member provided with a non-circular projection on one side, a blade having a non-circular opening to receive said projection and having other openings spaced from the first named opening, a backing member having projections to receive said other openings for retaining the backing member in shaving relation to the blade, and means for detachably clamping said members upon the blade.

8. A safety razor comprising a guard member provided with a projection on one side, a blade having an opening to receive said projection, said projection and opening having a cooperative contour to retain the blade in shaving position on the guard member, said blade having openings spaced from the first named opening, a backing member having a depressed portion to receive said projection of the guard member, said backing having projections to cooperate with the second named openings of the blade independently of the guard member whereby the blade will retain the backing in shaving relation to the blade and the guard member, and means for detachably clamping said members on the blade.

HENRY J. GAISMAN.