March 1, 1932. N. TESTI 1,847,146

SAFETY RAZOR

Filed April 18, 1931

Fig. 1

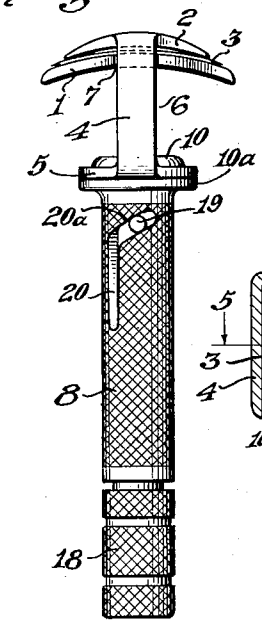


Fig. 2

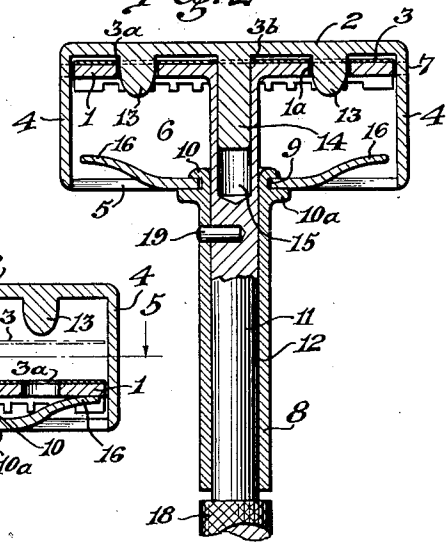


Fig. 3

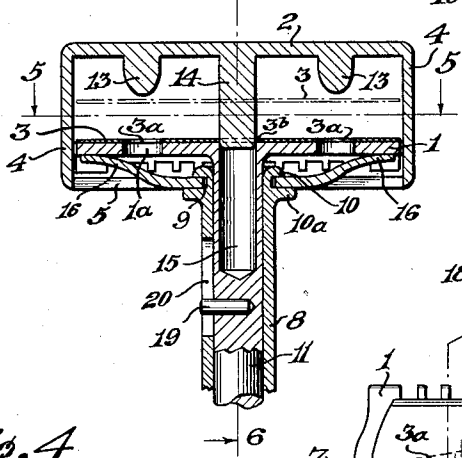


Fig. 4

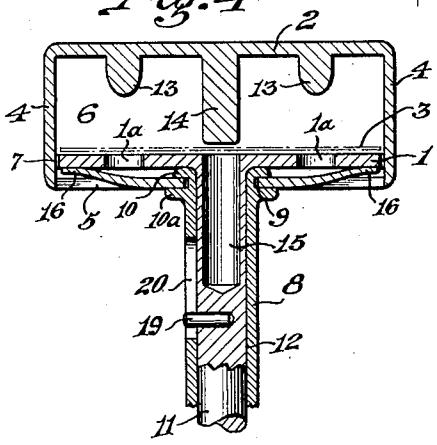


Fig. 5

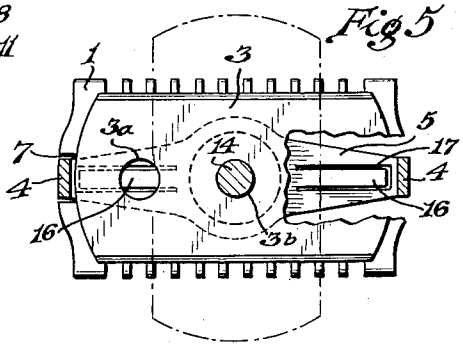
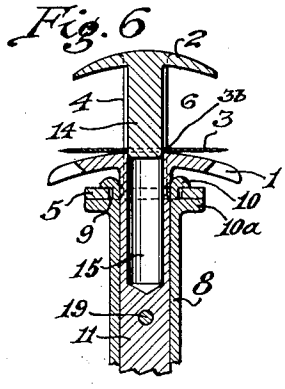


Fig. 6



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UNITED STATES PATENT OFFICE

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SAFETY RAZOR

Application filed April 18, 1931. Serial No. 531,122.

My invention relates to improvements in safety razors, and is particularly applicable to razor blades of the double edge variety.

An object of my invention is to clamp a blade in shaving position with respect to a guard member and to permit separation of the parts from the shaving position without releasing the blade from the holder, to permit cleaning of the parts without handling the blade, and to permit ready removal and replacement of a blade when desired.

My invention comprises blade clamping members, including a guard member and a blade cap or backing member, means guiding said members to move toward and from one another to clamp and release a blade, means to retain the blade loosely between said members when they are separated from shaving relation, to permit cleaning of said parts, and means to permit appropriate separation of the guard and cap members to enable removal and replacement of a blade.

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, wherein

Fig. 1 is a side view of my improved safety razor in shaving position;

Fig. 2 is a vertical section of Fig. 1;

Fig. 3 is a view similar to Fig. 2, showing the parts separated for cleaning;

Fig. 4 is a similar view, illustrating the parts separated sufficiently to permit removal and replacement of a blade;

Fig. 5 is a section on line 5, 5, in Fig. 3; and

Fig. 6 is a section on line 6, 6, in Fig. 3.

Similar numerals indicate corresponding parts in the several views.

The blade clamping members illustrated comprise a guard member 1 and a blade cap or backing member 2, adapted to clamp a blade 3 therebetween in shaving position. The cap or backing member 2 is shown provided with spaced arms or bars 4 at its ends connected together, at a distance from the cap 2, by a base or transverse member 5, providing a space 6 between said cap and base in which the guard member 3 is operative. The guard member 1 is shown provided with recesses 7 at its ends that receive the arms 4, whereby the guard member is guided to move toward and from the cap member 2. The base 5 is connected to a handle 8. The base is shown provided with a central hole 9 receiving the adjacent end of the handle, the outer end of which is shown riveted over the base, at 10, over a shoulder 10*a* on the handle, in such a way that the handle is pivotally connected with the base and retained in proper alignment therewith. The guard member 1 is shown provided with a rod 11 slidable longitudinally in a bore 12 in the handle 8, whereby the guard member is guided to move relatively to the cap member 2, and the cooperation of the arms 4 with the recesses 7 of the guard member keep the latter from rotation relatively to the cap member.

The cap 2 is shown provided with projections 13, which may be of any desired shape, adapted to enter corresponding apertures 3*a* in the blade 3. The guard member 1 is shown provided with apertures 1*a*, with which the apertures 3*a* of the blade register when the blade is upon the guard, whereby when the parts are in the position shown in Fig. 2 the blade will be in shaving position between the guard member and the cap 2, with the projections 13 extending into the apertures 1*a*. The cap 2 is also shown provided with a projection 14 that is longer than the projections 13, and substantially centrally located between the projections 13. The projection 14 is adapted to enter an aperture 3*b* in the blade, shown centrally located between the spaced apertures 3*a*. The guard member 1 and the rod 11 are shown provided with a bore or recess 15, in register with and adapted to receive

the projection 14, to retain the blade on the guard member, as in Fig. 3.

In order to retain the guard member 1 in appropriate position, when it has been separated from the cap 2, to retain the blade freely for cleaning the blade and other parts, I provide spring means against which the guard member may bear, as in the position shown in Fig. 3. For such purpose I have shown springs 16 against which the guard member is adapted to rest. Spring means for opposing the guard may be provided in any desired way. I have shown springs 16 as formed from the metal of the base 5, by means of slits 17 therein, Fig. 5. The springs 16 are normally extended or bent toward the cap member 2 so as to resiliently engage the guard member with the outer end of projection 14 projecting into the bore or recess 15, whereby the blade 3 will be retained on the guard member, (Fig. 3). When a blade is to be removed and replaced the guard member 1 will be moved against the tension of the springs 16 to withdraw the projection 14 from the bore or recess 15, and release the blade, as illustrated in Fig. 4. For convenience in operating the guard member the rod 11 is shown extending through and beyond the handle 8 and provided with a finger piece 18. By grasping the handle 8 and pushing the finger piece 18 the rod 11 and the guard member, with the blade 3 on the latter, may be pushed to the shaving position, with the blade clamped between the guard and the cap, as in Fig. 2. The parts may be retained in the last named position in any desired way. I have shown the rod 11 provided with a pin or projection 19 slidable in a slot 20 in the handle 8. Said slot is longitudinally disposed for a suitable distance and provided with an inclined portion, at 20*a*, in the nature of a bayonet slot, (Fig. 1), whereby when the blade is being clamped between the guard and the cap the rod 11 may be held and the handle 8 rotated to cause the pin and slot to retain the blade clamped between the guard and the cap.

The blade is shown provided with curved ends, which may be on radii described around the axis of projection 14, whereby the blade may be inserted endwise on the guard, as the dotted lines in Fig. 5, and after said projection enters the blade the latter may be rotated, between the arms 4, to shaving position.

When the razor is to be cleaned the handle 8 will be rotated to permit the guard member to be drawn away from the cap 2, to release the blade, which will be loose between the guard and the cap but retained by the projection 14, whereby the parts may be immersed in water for cleaning, and the blade may freely move to different positions, as indicated in dotted lines in Fig. 3. Thereafter the guard and the blade may be pushed toward the cap to clamp the blade therebetween for shaving, as before stated. When the blade is to be replaced the guard and the rod 11 are pulled away beyond the position shown in Fig. 3, as to the position shown in Fig. 4, to release the projection 14 from the blade and the guard. With the parts in the last named position the blade may be dropped out of the holder without handling the blade, and a new blade may be placed on the guard member. By next releasing either the handle 8 the part 18 the springs 16 will push the guard member and the blade toward the cap sufficiently far to enter the projection 14 in the aperture 3*b* of the blade and in the bore or recess 15 of rod 11, in position for use.

My improvements are simple, convenient and effective, and enable cleaning of the parts without displacing the blade from the holder, access to the blade while in the holder for wiping the blade being readily had.

Having now described my invention what I claim is:

1. A safety razor comprising guard and cap members, one of said members having means to position a blade between said members for shaving, means movably guiding said members to move toward and from one another, means to retain a blade on the guard member when said members are separated, and resilient means against which said guard member is adapted to rest in blade-retaining position and operative to permit the guard member to move away from said position to release the blade.

2. A safety razor comprising guard and cap members, means to position a blade between said members, means movably guiding said members to move toward and from one another, the cap member having a projection to enter an aperture in a blade on the guard member, the guard member having an opening to receive said projection, and means to oppose said guard member to retain the blade in cooperation with said projection, said means being movable to release the blade from said projection.

3. A safety razor as set forth in claim 2 in which the means to oppose the guard member includes spring means movable by the guard member to permit release of the blade from said projection.

4. A safety razor comprising a cap having spaced arms and a base spaced from the cap, said base having spring means, a guard member between the cap and the base, a tubular handle connected with the base, a rod slidable in said handle and connected with the guard member, the cap having a projection to enter an opening in a blade on the guard member, the guard being adapted to engage the spring means to retain the blade on the guard when spaced from the cap, said spring means being operative to permit the guard to move to release the blade from said projection.

5. A safety razor as set forth in claim 4, in which the rod is provided with a recess to receive said projection to permit the rod and the guard to move toward the cap.

6. A safety razor as set forth in claim 4 in which the handle is rotatively connected with the base, and means to retain the guard and the cap clamped against a blade on the guard.

7. A safety razor as set forth in claim 4 in which the handle is rotatively connected with the base, the handle being provided with a slot having an offset portion and the rod having a pin operative in said slot to retain the guard and the cap clamped against a blade therebetween.

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