May 3, 1932. H. J. GAISMAN 1,856,329

SAFETY RAZOR

Filed Feb. 9, 1928

Fig. 1

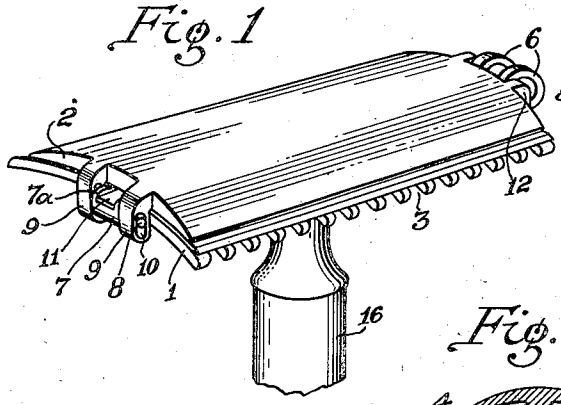


Fig. 2

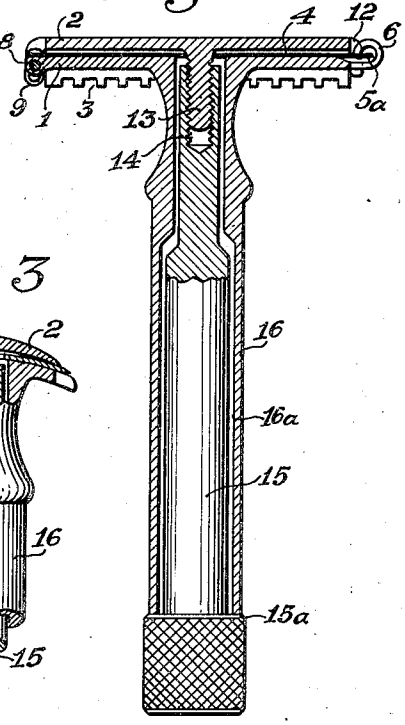


Fig. 3

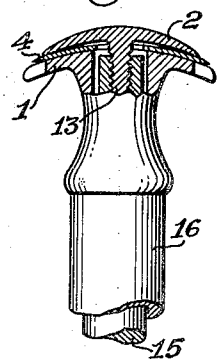


Fig. 4

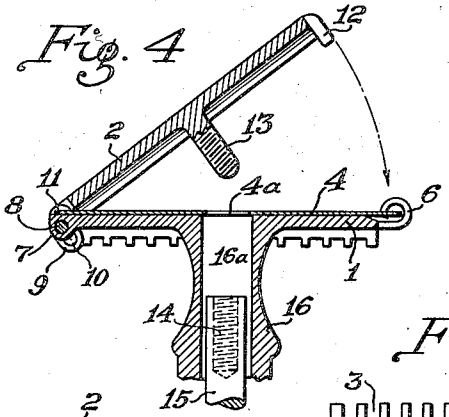


Fig. 5

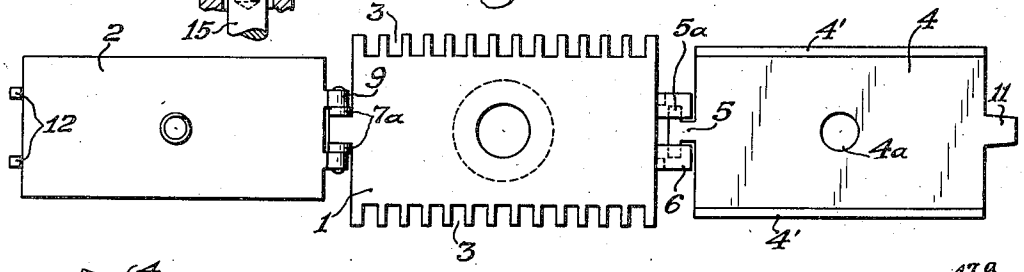


Fig. 6

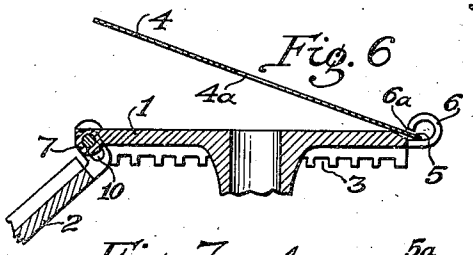


Fig. 8

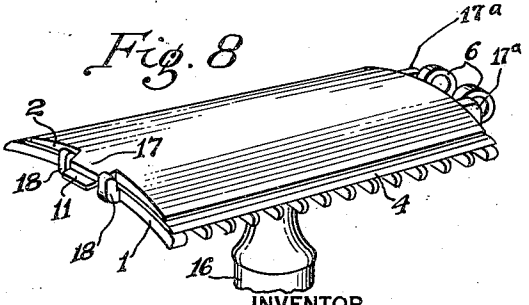
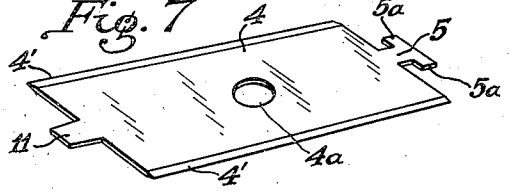


Fig. 7



INVENTOR
H. J. Gaisman
BY
T. F. Bourne
ATTORNEY

Patented May 3, 1932 1,856,329

UNITED STATES PATENT OFFICE

HENRY J. GAISMAN, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO GILLETTE SAFETY RAZOR COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF DELAWARE

SAFETY RAZOR

Application filed February 9, 1928. Serial No. 252,996.

Safety razors of the well known Gillette type are provided with a guard member, a backing member and a blade between said members, and with means to detachably clamp the blade between the two members with the edges of the blade in shaving relation to the guard. The aforesaid parts of the razor are detachable so that when it is desired to clean the blade the members are separated and the blade is removed, washed and wiped, which requires individual handling of the blade entirely separate from any of the other razor parts.

An object of my invention is to provide a safety razor of the class having two clamping members to retain a blade between them with means pivotally connecting the blade with one of said members so that when the razor is to be cleaned the clamping members may be separated and the blade may be swung on its pivot or hinge to one side of the member to which it is pivoted in position to be washed and wiped while retained by said member, and whereby the blade may be swung back on its supporting member and the other member may be applied upon the blade, means being provided to retain the blade clamped between the members.

Another object of my invention is to provide means cooperative between the blade and one of its members for detachably pivotally connecting the blade with said member to permit ready replacement of blades in the razor.

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

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

Fig. 1 is a perspective view of a safety razor embodying my invention, showing the parts in shaving relation;

Fig. 2 is a vertical cross section of the razor;

Fig. 3 is a detail sectional view at right angles to Fig. 2;

Fig. 4 is a sectional detail showing the parts partly separated;

Fig. 5 is a plan view showing the parts opened out, as in position for cleaning the razor;

Fig. 6 is a sectional detail illustrating the manner of pivotally connecting the blade with the guard member;

Fig. 7 is a perspective view of the blade, and

Fig. 8 illustrates a modified form of the razor.

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

The numerals 1 and 2 indicate the main blade clamping members of the razor, the member 1 being shown provided with guard teeth 3 on opposite sides, said parts being mainly substantially in the form of the well known Gillette razor, adapted to clamp a blade 4 therebetween. The blade 4 is pivotally detachably attached to one of the members 1, 2 and of such dimension as to lie properly between said members with the cutting edges of the blade in shaving relation to the guard teeth. The blade is shown provided at one end with a projection 5 having laterally disposed pivotal portions 5*a*, shown in T-head form, the narrow portion being between the blade and the lateral portions 5*a*, (Fig. 8). One of the clamping members, by preference the guard member 1, is provided with keepers 6 for the projecting portions 5, 5*a* of the blade, which keepers are shown in the form of eyes which may be formed on or secured to member 1 and are curled so as to form pivotal connections for the blade. Said keepers are shown spaced apart to permit the narrow shank portion of projection 5 to operate between the keepers with the lateral portions 5*a* within the eyes of the keepers, whereby the blade is pivotally attached to the blade clamping member. To permit ready connection of the pivotal portions 5, 5*a* of the blade with the keepers 6 the inner edges of the latter are shown slotted at 6*a*, which enables the blade to be attached to the keepers by tucking one of the portions 5*a* through the space between the keepers and into the eye of one of the keepers, when the blade is positioned at an angle to the plane of member 1, and then the blade

may be straightened out over said member and the other portion 5*a* will pass through the slot 6*a* of the other keeper and enter the eye of the latter, whereby the blade will be pivotally attached to member 1. To remove the blade from member 1 the blade may be turned edgewise to withdraw one of the portions 5*a* through a slot 6*a* of a keeper, and then the other pivotal portion 5*a* of the blade may be detached from the other keeper.

By preference the members 1 and 2 are pivotally connected together at their ends opposite the keepers 6. For such purpose I have shown the guard member 1 provided with a hinge extension 7 through which a pivot pin 8 passes, and the member 2 is provided with spaced hinge-like projections 9 located on opposite sides of the extension 7 and provided with openings 10 receiving the pivot pin 8, whereby the members 1 and 2 are hinged together and kept from lateral displacement. By preference the openings 10 are elongated in slot-like form, to permit the members 1 and 2 to have adjustment more or less closely with respect to one another and with relation to blade 4 therebetween. To keep the free end of blade 4 from lateral movement between members 1 and 2 said blade is provided with a projection 11 extending from one end of the blade between its two cutting edges 4′, which projection is adapted to enter the space between the hinge-like projections 9 and to engage the same to keep the blade edges aligned with respect to the guard teeth 3 when member 2 is closed upon the blade, (Fig. 5). The end of member 2, opposite the pivot 7, is shown provided with spaced fingers or lugs 12 that are adapted to pass over the adjacent ends of the blade and the member 1 and to bear against the outer sides of the keepers 6 to retain the member 2 from lateral movement respecting the blade when the parts are clamped together.

Any suitable means may be provided for clamping the members 1 and 2 against blade 4. For such purpose I have shown member 2 provided with a threaded stud 13 adapted to pass through an opening 4*a* in the blade and to be engaged by an internally threaded bore 14 in a rod 15 that is operable in a bore 16*a* in handle 16 that is attached to member 1, a shoulder 15*a* on rod 15 being adapted to engage the outer end of handle 16, whereby when the parts are assembled, as shown in Fig. 2, and the rod 15 is rotated to engage the threads at 13 and 14 the members 1 and 2 may be clamped upon the blade to retain the latter in shaving relation to the guard teeth, in a well known way.

In the modification shown in Fig. 8 the members 1 and 2 are not hinged together, although the blade 4 is pivotally and detachably connected to member 1 in the manner previously described. In this form of my invention the member 2 in addition to the threaded stud 13 is provided with projections 17 and 17*a* that respectively engage keepers 18 and hinge members 6*a* on member 1, to retain member 2 from lateral displacement, the stud 13 and threaded rod 15 cooperating, as before described, to retain the members 1 and 2 clamped upon the blade, in the manner of the well known Gillette razor.

When the parts are in the position shown in Figs. 1 and 2 and it is desired to clean and dry the blade the rod 15 is unscrewed from the stud 13 and the member 2 is removed from over the blade, either by swinging out on its hinge, as in Figs. 1 to 7, or by removing member 2 entirely, as in Fig. 8, and then the blade 4 may be swung to one side of member 2, as illustrated in Fig. 5, without detaching the blade from the razor frame. The blade may then be washed and wiped and swung over upon member 1 to be clamped between members 1 and 2, as before set forth. When the blade is to be replaced it is merely necessary to detach its pivotal projections 5, 5*a* from the keepers 6 and re-attach another blade.

An advantage of my invention is that it is not necessary to manually lift the blade for cleaning and replacement and thereby danger of cutting the fingers attendant upon such operations is reduced.

Changes may be made in the details of construction and arrangement of parts set forth, within the scope of the appended claims, without departing from the spirit of my invention.

Having now described my invention what I claim is:—

1. A safety razor comprising a pair of blade clamping members, means pivotally connecting said members at adjacent ends, one of the members having guard teeth, means to detachably clamp the members upon a blade, and means pivotally attaching the blade to one of said members at its end opposite the first named pivotal connection.

2. A safety razor as set forth in claim 1, in which the means pivotally attaching the blade to one of the members includes means for detachably connecting the blade to said member.

3. A safety razor comprising a pair of blade clamping members, means pivotally connecting said members at adjacent ends, one of the members having guard teeth, and means to detachably clamp the members upon a blade, the guard member having keepers at its end opposite the first named pivotal connection to detachably and pivotally retain a blade in connection with said member.

4. A safety razor comprising a pair of blade clamping members, one of the members having guard teeth, means to detachably clamp the members upon a blade, one of said

members having spaced keepers, and a blade having a portion extending transversely of the blade to co-operate with the keepers for pivotally connecting the blade with said keepers.

5. A safety razor comprising a pair of blade clamping members, one of the members having guard teeth, means to detachably clamp the members upon a blade, one of said members having spaced keepers, and a blade having a projection provided with lateral portions pivotally operable in said keepers with the projection between said keepers to limit lateral movement of the blade relatively to the clamping members.

6. A safety razor comprising two clamping members including a blade backing member and a guard member to receive a blade therebetween, said members being pivotally connected together at adjacent ends, a blade to fit between said members, means pivotally connecting said blade with the guard member at its end opposite the first named pivotal connection, and means to clamp the members upon the blade.

7. A safety razor as set forth in claim 6, in which said blade is provided with a projection at the end opposite the pivotal means adapted to cooperate with the pivotal connection between the members to limit lateral displacement of the blade with respect to the members.

8. A safety razor comprising a pair of members adapted to clamp a blade therebetween, a pivot pin carried by one of said members, spaced hinge-like projections having slots receiving said pin for pivotally connecting the members together and to permit said members to have adjustment relatively one toward another in a lateral direction at the hinge, a blade, means pivotally and detachable connecting the blade with one of said members at the end opposite the pivot pin to fold toward said pin between said members, and means to clamp the members upon the blade.

9. A safety razor comprising a pair of members adapted to clamp a blade therebetween, a pivot pin carried by one of said members, spaced hinge-like projections having slots receiving said pin for pivotally connecting the members together and to permit said members to have movement relatively one toward another in a lateral direction at the hinge, one of said members having spaced keepers, a blade provided with a portion cooperative with the keepers to provide a pivotal connection between them at the end opposite the hinge to permit the blade to swing toward and from said member, the other member having spaced fingers at the end opposite the hinge to oppose the keepers to resist lateral movement of the members relatively one to another when clamped upon the blade, and means to clamp the members upon the blade.

10. A flexible razor blade adapted to be bent transversely when clamped in its holder, comprising integral projecting means spaced from an end of the blade and extending transversely thereof, and a projection at the blade end opposite said projecting means located in the longitudinal axis of said blade and in alignment with said projecting means.

HENRY J. GAISMAN.