April 26, 1932. H. J. GAISMAN 1,855,478

SAFETY RAZOR

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Fig.1.

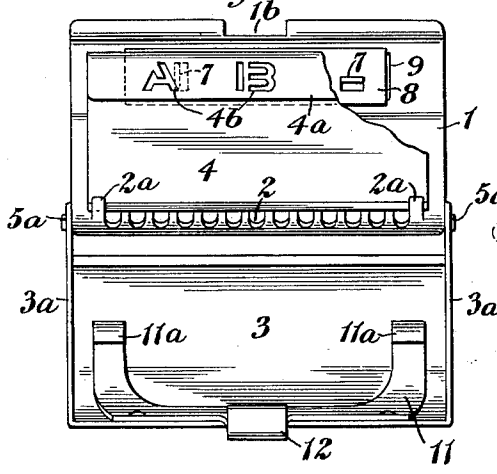


Fig.2.

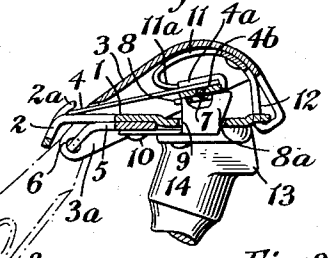


Fig.3.

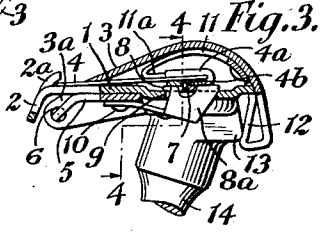


Fig.4.

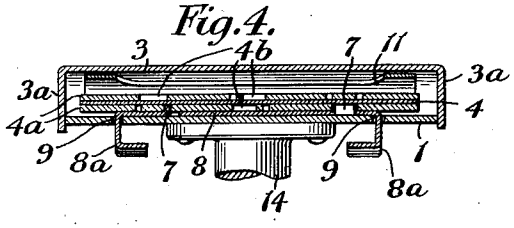


Fig.5.

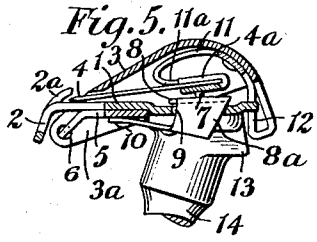


Fig.9.

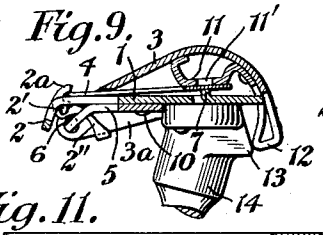


Fig.8.

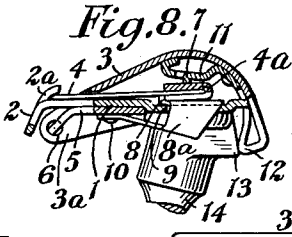


Fig.6.

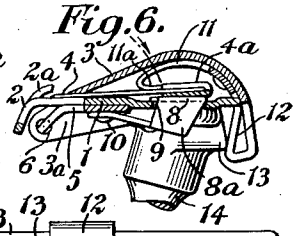


Fig.11.

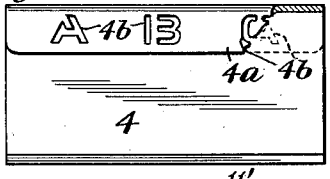


Fig.7.

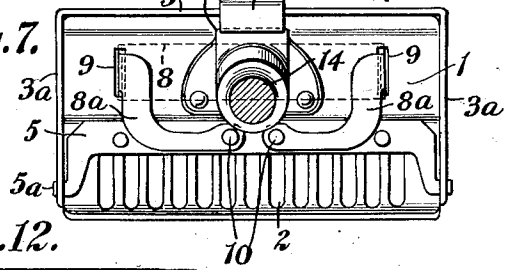


Fig.10.

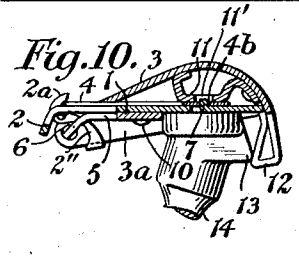
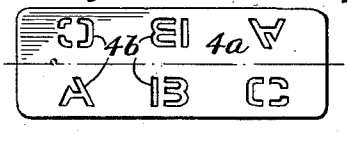


Fig.12.



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

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Fig. 13.

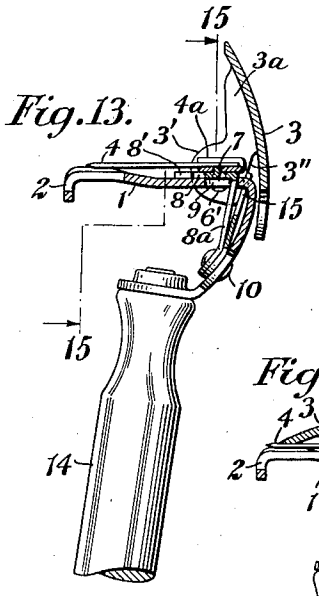


Fig. 14.

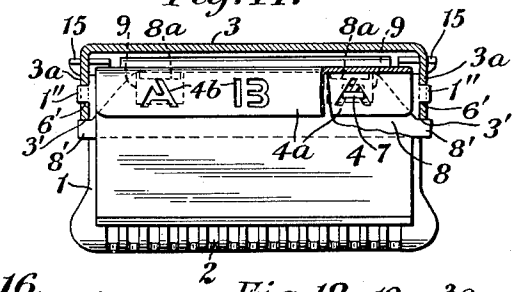


Fig. 16.

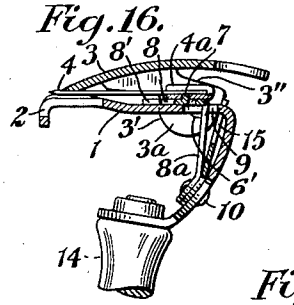


Fig. 18.

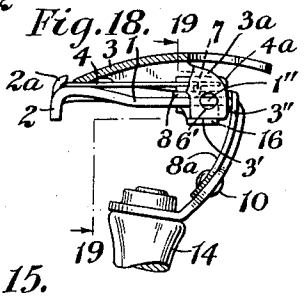


Fig. 17.

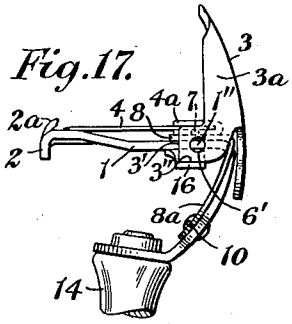


Fig. 15.

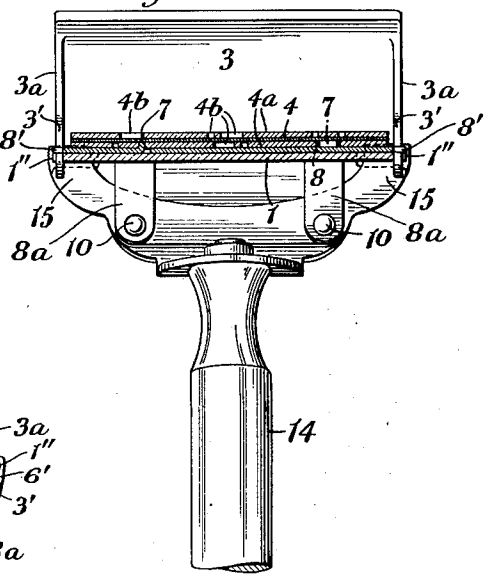
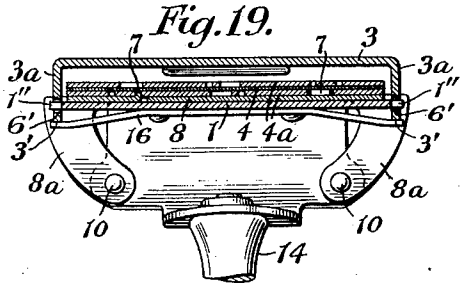


Fig. 19.



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

Patented Apr. 26, 1932 1,855,478

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 March 12, 1927. Serial No. 174,790.

The object of my invention is to provide means to prevent the use in a safety razor of a blade not manufactured by or under the authority of the manufacturer of the safety razor.

I have illustrated my invention in connection with a safety razor in which the blades are provided with apertures, one of the objects of my invention being to provide the blades and the razor with cooperative means to permit proper positioning of the blade in the razor for shaving and to prevent an unauthorized blade not equipped with my improvement from being used in the razor.

In carrying out my invention I provide a blade having a designation, to indicate the manufacture of the blade, such as a trademark, word or symbol, in the form of apertures or impressions in a backing on the blade or directly in the blade, to cooperate with complemental projections in or on the razor so related that the blade will be retained in shaving relation to the razor guard and whereby if a blade not provided with such designation be inserted in the razor it cannot be retained therein or thereon in shaving relation to the guard.

In the form of my invention illustrated in the accompanying drawings I provide a blade holder comprising a base or frame having a guard and a blade retaining member pivotally carried thereby adapted to receive therebetween a blade having a designation, and means upon the holder cooperative with the designation to retain the blade in shaving relation to the guard when the retaining member is in blade-retaining position and to prevent the retaining of a blade that is not provided with a proper designation. A further feature is to prevent the placing of the blade-retaining member in blade-retaining position in the event that a blade not provided with such a designation be inserted in the razor.

My invention 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, showing the parts in position for insertion or removal of a blade;

Fig. 2 is a cross section illustrating the parts before the final position for holding the blade;

Fig. 3 is a similar view showing the parts in blade-holding position for shaving;

Fig. 4 is a cross section substantially on the plane of line 4, 4, in Fig. 3;

Fig. 5 is a cross section illustrating the razor in which a blade is inserted not having a designation;

Fig. 6 is a cross section illustrating a razor without a projection to cooperate with a blade designation;

Fig. 7 is an underside view of the razor;

Figs. 8, 9 and 10 are cross sections of modifications;

Fig. 11 is a partly broken face view of a blade;

Fig. 12 is a face view of a blank for a blade-backing;

Fig. 13 is a sectional view of a modified form of razor showing the retaining member open;

Fig. 14 is a plan view of Fig. 13, partly in section;

Fig. 15 is a section substantially on the plane of line 15, 15, in Fig. 13;

Fig. 16 is a sectional detail showing the razor in shaving position;

Fig. 17 is a side view of a modified form of the razor shown in Figs. 13—16;

Fig. 18 is a sectional detail of the razor shown in Fig. 17, showing the parts in shaving position, and

Fig. 19 is a section substantially on line 19, 19, in Fig. 18.

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

The razor illustrated comprises a frame or base 1 provided with a guard 2 and a blade retainer 3 pivotally carried by the frame. In the form shown in Figs. 1 to 10 the retainer 3 is pivotally supported adjacent to the guard to swing forward and back respecting frame 1 and a blade 4 thereon. The frame 1 is shown provided with a spring member 5 having laterally projecting lugs 5a receiv-

ing holes 6 in the side webs 3*a* of the retainer 3, (Figs. 2 and 7). The blade 4 is shown provided with a backing 4*a* in the form of a strip folded and clamped upon the rear or heel portion of the blade along opposite sides thereof in a well known way in safety razor blades. The backing 4*a* is provided with a designation, such as a trade-mark, name, symbol or the like indicated at 4*b*, and which may be made in the backing in the form of apertures or impressions in the metal of the strip forming the backing. In the blank for the backing illustrated in Fig. 12 the designations 4*b* are shown so located as to be upon opposite sides of the blade, as illustrated in Fig. 11, so as to readably appear in any flatwise position of the blade. The blade holder portion of the razor is provided with one or more projections, indicated at 7, adapted to enter a properly arranged or corresponding designation or aperture 4*b* of a blade backing 4*a*, the projections being in such a position as to retain the blade with its cutting edge in shaving relation to the guard. There may be any desired number of projections 7 and any number of corresponding apertures or impressions 4*b* on the blade backing. Stops 2*a*, in some of the figures, are provided upon the guard in spaced relation near the corners of the cutting edge of the blade to be engaged thereby. In the form shown in Figs. 1 to 8 the projections 7 are carried by a resilient supporting blade rest 8 from which the projections may be stamped, which rest is shown in the form of a plate extending over the frame 1 and having arms 8*a* at its ends operable in slots 9 in frame 1 and extending along the under portion of the frame, to which the arms are riveted at 10. The normal spring tendency of the arms 8*a* is to raise the rest 8 to the position shown in Fig. 2. To the inner surface of the retainer 3 is attached a spring 11, the free end portion 11*a* of which spring is adapted to engage the forward edge of the upper portion of the backing 4*a* of the blade when said backing is upon the rest 8, as indicated in Figs. 1 to 5. The free edge of the retainer is provided with a spring-acting catch or finger 12 adapted to engage a lug or projection 13 shown extending from the handle 14 to keep the retainer closed, as in Fig. 3, the rear edge of frame or base 1 being shown provided with a recess 1*b* to receive said catch, (Fig. 1).

When the retainer is swung away from the frame 1 and a proper blade, whose backing has one or more designations or apertures 4*b*, corresponding to the projection or projections 7, is placed with its cutting edge against the stops 2*a* and the designations receiving the projections, the retainer may be closed and the free ends 11*a* of the spring 11 will engage the adjacent edge of the backing 4*a*, as indicated in Fig. 2. When the retainer is pressed to the closed position, as indicated in Fig. 3, the spring 11, by bearing upon the blade, will cause the rest 8 to be depressed and since the projections 7 enter the designations or apertures 4*b* the pressure of the spring 11 will cause the rest to be moved toward frame 1, the blade will not be displaced from the stops 2*a* and will be retained with its cutting edge in shaving position respecting the guard, and the catch 12 will snap against the stop or projection 13 to retain the parts in shaving relation, as illustrated in Fig. 3. In case a blade having a backing not provided with designations or apertures to engage the projection or projections 7 be placed within the blade holder with the backing resting upon the projections, as indicated in Fig. 5, the free end of the spring 11 will engage the adjacent edge of the backing 4*a*. The backing will be free to slide rearwardly with respect to rest 8, (Fig. 5), and the rest 8 will be pressed against the frame or base 1, but the retainer 3 will be prevented from being closed sufficiently to enable the catch 12 to snap against the projection 13 and the blade will not be retained in shaving position for use, (Fig. 5), since its edge will be drawn back from the guard by spring 11.

Fig. 6 illustrates that in the absence of a projection 7 from the rest 8 any blade having a backing that is engaged by the portion 11*a* of spring 11, would be pushed back along the rest 8 when the retainer 3 is closed to keep the blade edge from shaving position respecting the guard.

In the form shown in Fig. 8 the projection 7 is upon the spring 11 and the parts are so related that if a blade whose backing is provided with a proper designation or aperture to receive the projection 7 is placed upon the rest 8 the projection will enter such designation and the retainer 3 can be closed so that its catch will snap against the stop 13, but if a blade having a backing not provided with such a proper designation be inserted in the blade holder the projection 7 will engage the backing and prevent the retainer from being closed and the blade will not be retained for shaving.

In the form shown in Figs. 9 and 10 the projection 7 is formed directly on the frame or base 1, by stamping the projection from the metal thereof, with an aperture 11′ in spring 11 opposing projection 7. If a blade not provided with a proper designation or aperture 4*b* for the projection 7 be inserted in the blade holder the spring 11 will bear upon the blade or the backing, and as the same is opposed by the projection 7 the retainer 3 cannot be closed so that its catch will not engage the stop 13 and the blade will be loose, as illustrated in Fig. 9. In Fig. 10 the projection 7 upon the frame or base 1 is shown in position to enter the corresponding designation or aperture in the blade so that the

retainer can be swung to the proper position to enable its catch 12 to engage the stop 13 to hold the retainer closed with the spring 11 bearing upon the blade to retain the blade edge in shaving relation to the guard. In Figs. 9 and 10 the blade stops 2*a* are pivoted at 2′ upon the retainer and have resilient arms 2″ engaging the webs 3*a* of the retainer, so that if a blade without a designation for the projection 7 be inserted the stops 2*a* will engage the blade edge and push it back from the guard when the retainer is closed. If a blade provided with a designation be inserted the projection 7 will enter the designation and when the retainer is closed the arms 2″ may bend slightly, as required, by engagement of the stops 2*a* therewith. The construction applies to a blade with or without a backing.

In the form shown in Figs. 13 to 16 the retainer 3 is pivotally supported adjacent to the rear portion of frame or base 1, for which purpose the latter is provided with pivots 1″ on opposite sides, which may be stamped from the metal of the frame, and webs 3*a* of the retainer are provided with holes 6′ receiving said pivots. The rest 8 is supported by the spring arms 8*a* attached to the blade holder frame at 10 and have a spring tendency normally pressing the rest rearwardly or in a direction away from the guard, the spring arms 8*a* being shown operable in slots 9 in frame or base 1. The rest 8 is provided with laterally extending lugs 8′ located in opposition to the curved or cam-like edges 3′ of the webs 3. The relation of the parts is such that when the retainer is swung back from the blade the spring arms 8*a* will cause the rest 8 to move rearwardly respecting the guard, and when the retainer is swung down over the blade the edges 3′ acting against the lugs 8′ will force the rest 8 forwardly, and with the projections 7 of the rest entering the designations or apertures 4*b* of the backing 4*a* of the blade the cutting edge of the blade will be pushed forwardly in shaving relation to the guard. The engagement of the free edge of the retainer upon the adjacent edge of the blade in conjunction with the projections will keep the blade in shaving relation to the guard, as indicated in Fig. 16, since the rearward pressure of the spring links 8*a* respecting rest 8 tends to keep its projection 8′ against the cam portions 3′ of the webs 3*a* of the retainer. If a blade having a backing not provided with designations be applied in the blade holder it will not be retained in shaving position because it requires the cooperation of the projections 7 in the designations and the retainer upon the blade to retain a blade in shaving position. Spring arms 15 secured upon frame 1 are located in poistion to engage the edge portions 3″ of the webs 3*a* of the retainer to keep the latter open, (Fig. 13), and to engage the edge portions 3′ of said webs to keep the retainer closed upon the blade, (Fig. 16).

In the form shown in Figs. 17–19 spring arms 8*a* tend to force the rest 8 in the direction of the guard, and the frame is provided with the blade stops 2*a* so that if a blade having a backing provided with designations be placed upon the rest 8 with the projections 7 in the designations the spring arms will cause the blade to be pushed against the stops 2*a* to retain the cutting edge of the blade in shaving relation to the guard. The retainer 3 is pivotally supported by the pivots 1″ entering the holes 6′ in the webs 3*a*, and a spring 16, shown secured to the under side of frame or base 1, has its free ends bearing against the webs 3*a* of the retainer. The edges 3′ of the webs 3*a* engage the ends of the spring 15, whereby the retainer 3 is held bearing against the blade, as in Fig. 18, and the edges 3″ of the webs 3*a* engage said spring to keep the retainer 3 open, as indicated in Fig. 17. If a blade having a backing not provided with designations be placed in the blade holder it will not be retained in shaving position because the projections 7 will not cooperate with the blade to retain the latter against the stops 2*a*.

In accordance with my invention a manufacturer of the razor and the blades provided with designations or apertures, such as 4*b*, to receive the projections of the blade holder will be assured that blades not provided with such designations manufactured by an unauthorized manufacturer will not fit or be retained in the blade holder.

I use the term "aperture" herein to include such an element in or on the blade as will cooperate with the projection 7 for the purposes specified hereinabove.

Having now described my invention what I claim is:—

1. A safety razor comprising a frame having a guard and provided with a projection to cooperate with an aperture in a backing on a blade, a retainer pivotally carried by the frame, and a spring carried by the retainer to cooperate with the blade and having a portion to engage the backing of the blade to retain the latter in cooperation with the projection and to displace from the guard a blade having a backing not provided with an aperture to cooperate with the projection.

2. A safety razor comprising a frame having a guard and provided with a resiliently supported rest for a blade, said rest being movable toward and from the frame and having a projection to enter an aperture in a blade, and a retainer pivotally carried by the frame over the rest and projection and provided with inwardly extending means to bear against the blade to retain the latter upon the rest with the aperture of the blade in cooperation with said projection, the rest

being movable to permit closing of the retainer upon the blade.

3. A safety razor as set forth in claim 2, in which the blade rest extends over the frame and is provided with spring arms attached thereto, said arms normally keeping the rest and the blade thereon raised from the frame, whereby the rest will be depressed when the retainer is closed over the blade.

4. A safety razor as set forth in claim 2, in which the means to bear against the blade is resilient, the retainer being provided with a catch and the frame being provided with a projection to cooperate with the catch to keep the retainer closed upon the blade, the first named projection operating against a blade not having an aperture to prevent the catch from being retained by the second named projection.

5. A safety razor comprising a frame having a guard, and a blade retainer pivotally supported by the frame, said retainer having an inwardly extending projection positioned with respect to the pivot of the retainer to engage a backing on a blade to displace the blade from shaving position when the retainer is closed over the blade.

6. A safety razor as set forth in claim 5 in which the frame is provided with a projection to enter an aperture in a blade to prevent the blade from being displaced from shaving position by the inwardly extending projection.

7. A safety razor as set forth in claim 5 in which the pivotal support for the retainer is located on the side of the frame adjacent to the guard and the free end of the projection extends in a direction away from the pivot when the retainer in closed.

8. A safety razor comprising a frame having a guard, a blade retainer movably supported by said frame, a blade adapted to be mounted upon said frame provided with an aperture, a projection on said frame adapted to enter the blade aperture, and means carried by said retainer adapted to engage the blade and having a tendency to shift the latter transversely on said frame away from said guard, such movement being opposed by said projection when seated in the blade aperture.

HENRY J. GAISMAN.