March 15, 1932. H. J. GAISMAN 1,849,919

SAFETY RAZOR

Filed Feb. 11, 1929

Fig. 1

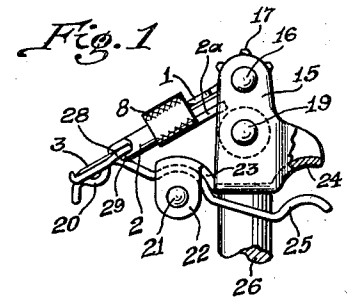


Fig. 2

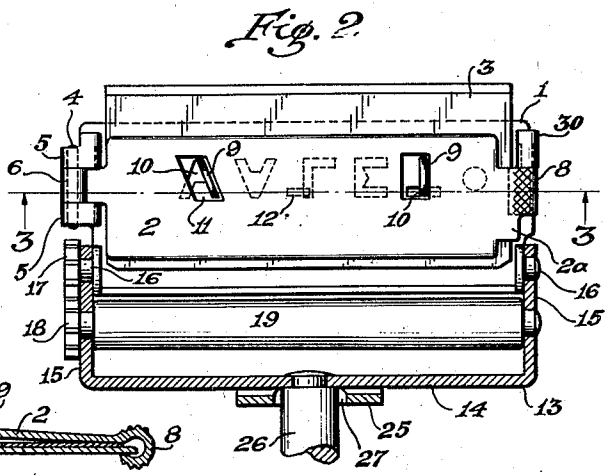


Fig. 3

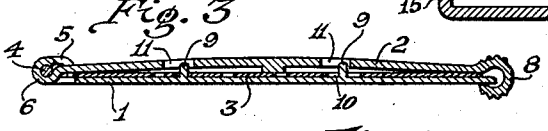


Fig. 4

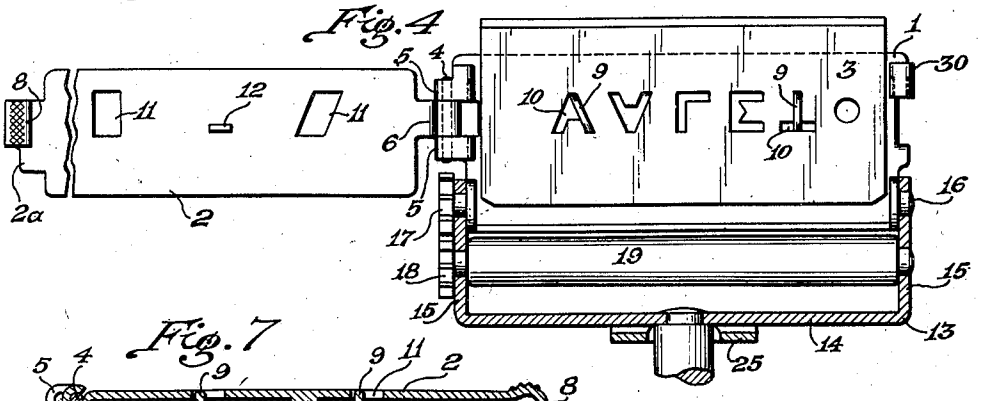


Fig. 7

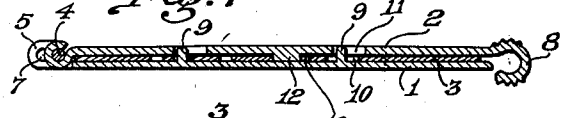


Fig. 5

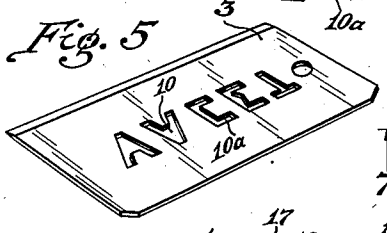


Fig. 6

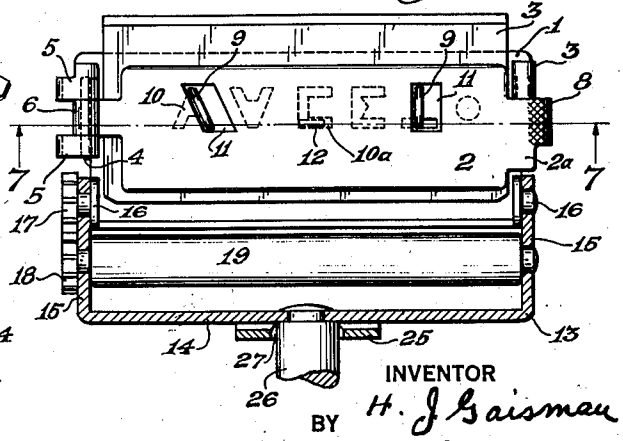
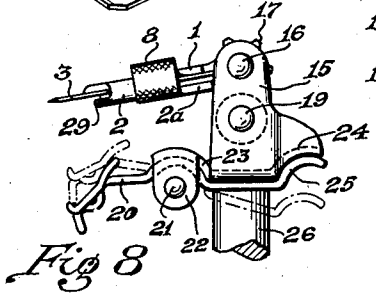


Fig. 8



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

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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 11, 1929. Serial No. 338,965.

An object of this invention is to provide a blade holder so organized that it will retain for shaving a blade that is provided with means to co-operate with parts of the holder and will not retain for shaving a blade that is made differently from the first named blade.

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

Reference is to be had to the accompanying drawings in which

Fig. 1 is a side view of a safety razor embodying this invention.

Fig. 2 is a partly sectional front view showing the blade holder in a raised position.

Fig. 3 is a section on line 3, 3 in Fig. 2.

Fig. 4 is a view similar to Fig. 2 with the blade holder members separated.

Fig. 5 is a perspective view of a modified blade.

Fig. 6 is a view similar to Fig. 2 including the blade of Fig. 5.

Fig. 7 is a section on line 7, 7 in Fig. 6, and Fig. 8 is a side view of the razor of Fig. 6.

The blade holder illustrated comprises two members 1 and 2 movably connected together to receive a blade 3 therebetween. The members 1 and 2 are shown pivotally connected together by a pivot pin 4 at one end of member 2 journaled in spaced hinge parts 5 on member 1 on opposite sides of projection 6 or member 2 that carries the pin 4. The spaces 7 within the hinge parts 5 are elongated to permit the pin 4 within said spaces to move laterally a limited distance whereby the member 2 may be slid or adjusted lengthwise relatively to member 1 and blade 3, (Figs. 3 and 7). At the end opposite the hinge the member 2 is provided with a keeper 8, shown in the form of a hook, adapted to engage the adjacent end of member 1 to keep the members 1 and 2 clamped or locked upon the blade for shaving, (Figs. 2, 3 and 6). The member 2 may be slid or adjusted from the position shown in Fig. 3 to the position shown in Fig. 7 to release the blade.

The member 1 is provided with one or more projections 9, suitably spaced apart, to enter appropriate openings 10 in blade 3, to retain the blade in shaving position, preventing lateral shifting of the blade between members 1 and 2. The member 2 is provided with openings 11 adapted to receive the projections 9 when the members 1 and 2 are closed against the blade, (Figs. 3 and 7). The openings 11 are sufficiently wide to permit the member 2 to move from the position shown in Fig. 3 to the position shown in Fig. 7, and vice versa. The openings 10 in the blade may be cut through the metal of the blade, or may be in the form of depressions stamped or embossed in the blade. The term "opening" is used to include either of the forms mentioned. The member 2 is provided with a projection 12 adapted to bear against a proper blade when the members are closed against the blade without entering one of the openings 10 in the blade, (Fig. 3). This arrangement permits the member 2 to be slid or adjusted lengthwise to engage the keeper 8 with the member 1, or to be slid reversely to disengage the members for removal and replacement of a blade. The member 2 is somewhat resilient so that when projection 12 bears on the blade, with the keeper 8 engaging the member 1, the member 2 will be bent, thereby retaining the keeper 8 in resilient engagement with member 1, (Fig. 3).

The blade holder described is shown pivotally mounted in a frame 13 having a base 14 and spaced uprights 15. Near its rear corners the member 1 is shown provided with pivots 16 journaled in the uprights 15, between which the blade holder is adapted to rock or rotate. The blade holder member 1 is shown provided with a gear 17 (shown attached to one of the pivots 16), which gear is in mesh with a gear 18 secured to a roller or shaft 19 journaled in and operative between the uprights 15. When a strop is passed through the frame 13 in engagement with the under side of roller 19 and the razor is reciprocated along the strop the roller and gears will rotate and cause the blade holder and blade to rock back and forth for stropping the blade edge. The razor frame and

operating devices are similar to the well known Autostrop safety razor.

A guard for the blade edge is indicated at 20, and shown pivotally supported by pivots 21 (at both ends) that are carried in ears 22 suspended from an extension 23 of the frame base 14. An extension 24 on the side of base 14 serves, with extension 23, as strop tensioning members when the razor is reciprocated along the strop. The guard has a projection 25 extending beyond handle 26 for manipulating the guard, the handle being shown in an opening 27 in said projection, (Fig. 2).

When a blade is used having proper openings 10 so that the member 2 of the blade holder can assume the positions shown in Figs. 2 and 3 the end portion 2*a* of member 2 will be in a position within the frame 13 enabling the blade holder to be adjusted relatively to the guard for shaving, with the end portion 2*a* between the uprights 15, and free from the adjacent upright, as shown in Fig. 1, so that the guard may be adjusted relatively to the blade. In the example illustrated, the guard is shown provided with a projection 28 adapted to enter a recess 29 in an extension 30 on member 1 of the blade holder to retain the latter with the blade in shaving relation to the guard, (Fig. 1).

In the event that a blade is inserted in the blade holder that is not provided with openings in the proper positions, but with an opening 10*a* in position to receive the projection 12, when member 2 is closed against the blade, and with projections 9 in any other openings 10 of the blade, the member 2 cannot be slid or adjusted along the blade because the projection 12 will abut against the wall of opening 10*a*, with the parts in the position shown in Figs. 6 and 7. In such position of the parts the portion 2*a* of member 2 will be in register with the adjacent upright 15 of the razor frame, (Fig. 6), and the keeper 8 will not be in engagement with member 1, so that the members 1 and 2 will be unlocked and the blade will be loose between them. If an attempt is made to adjust the blade to the guard the portion 2*a* of the blade holder will engage the adjacent upright 15 and prevent the blade holder from being set in shaving relation to the guard, the blade holder being stopped as in the position shown in Fig. 8.

The arrangement described is adapted to be used in connection with openings in blades in the form of a designation to indicate the original manufacturer of the razor and its proper blades, so that the latter may be used in the blade holder described. Should an unauthorized manufacturer of blades make and sell blades having an opening that will receive the projection 12 such blades cannot be used in the blade holder. For instance, the proper blade shown in Figs. 2 and 4 has the letter L cut in the middle of the designation and the projection 12 will not enter such letter opening, so that the members 1 and 2 can be adjusted to operative position, whereas in Figs. 5 and 6 a spurious blade is illustrated having the letter C cut in the middle of the designation so that the projection 12 can enter the portion 10*a* of such letter opening to prevent the members 1 and 2 from being adjusted to operative position. Hence, such spurious blades cannot be used in the blade holder described.

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

Having now described my invention what I claim is:

1. A blade holder having a pair of members movably connected together to receive a blade therebetween, a blade having openings, one of said members having one or more projections to enter corresponding openings in the blade to position the blade in the holder, the other member having openings to receive the first-named projections and having a projection to bear against said blade at a distance from the openings and means cooperative between said members to keep said members locked to retain the blade therebetween when said projection bears against said blade.

2. A blade holder as set forth in claim 1 in which the second named member is resilient to permit its projection to bear against a blade and to enter an opening in a blade, the means to keep said members locked together including a keeper on the second named member to co-operate with the first named member.

3. A blade holder having a pair of members pivotally and slidably connected together, one of said members having one or more projections to enter corresponding openings in a blade, the other member having a projection to bear against a blade and permit said member to slide in blade retaining position, said projection when in an opening in a blade engaging the latter to keep said member from sliding, and means to keep said members locked to retain the blade therebetween.

4. A blade holder as set forth in claim 3 in which the second named member is resilient to bend when its projection bears on the blade and the means to keep said members locked includes a keeper on the second named member to co-operate with the first named member when said projection bears on the blade.

5. A blade holder as set forth in claim 3 in which the second named member is flexible and the projection on the second named member bearing against the blade bends said

member and a keeper on said member adapted to resiliently co-operate with the first named member for locking said members to retain a blade therebetween.

6. A safety razor comprising a frame, a blade holder movably carried thereby, said blade holder including a pair of members to receive a blade therebetween, said members being pivotally and slidably connected together, one of said members having one or more projections to enter a blade, the other member having a portion to register with the frame when in one position and having a projection to bear on the blade to permit said member to be moved out of register with the frame, said projection being in position to enter an opening in an unauthorized blade to engage the latter and prevent the last named member from being moved out of register with said frame to prevent retaining the blade in shaving position, means to retain the members locked and a guard for the blade.

7. A blade holder as described in claim 6 in which one of the members has a keeper to co-operate with the other member when said members have been adjusted to blade retaining position, said keeper being retained out of engagement with said other member when its projection engages an opening in a blade.

8. A blade holder comprising a pair of clamping members to retain a blade therebetween, a hinge connecting said members including a pintle on one of said members and a pintle-bearing on the other one of said members, said pintle-bearing being elongated in the direction of the length of said members and thereby permitting the member bearing said pintle to slide in longitudinal direction in relation to the other member, and a keeper on one of said members adapted to co-operate with the other member to keep said members locked against the blade, one of said clamping members being resilient and provided with a projection to bear and slide against a face of the blade to retain said keeper in co-operation with the adjacent clamping member.

HENRY J. GAISMAN.