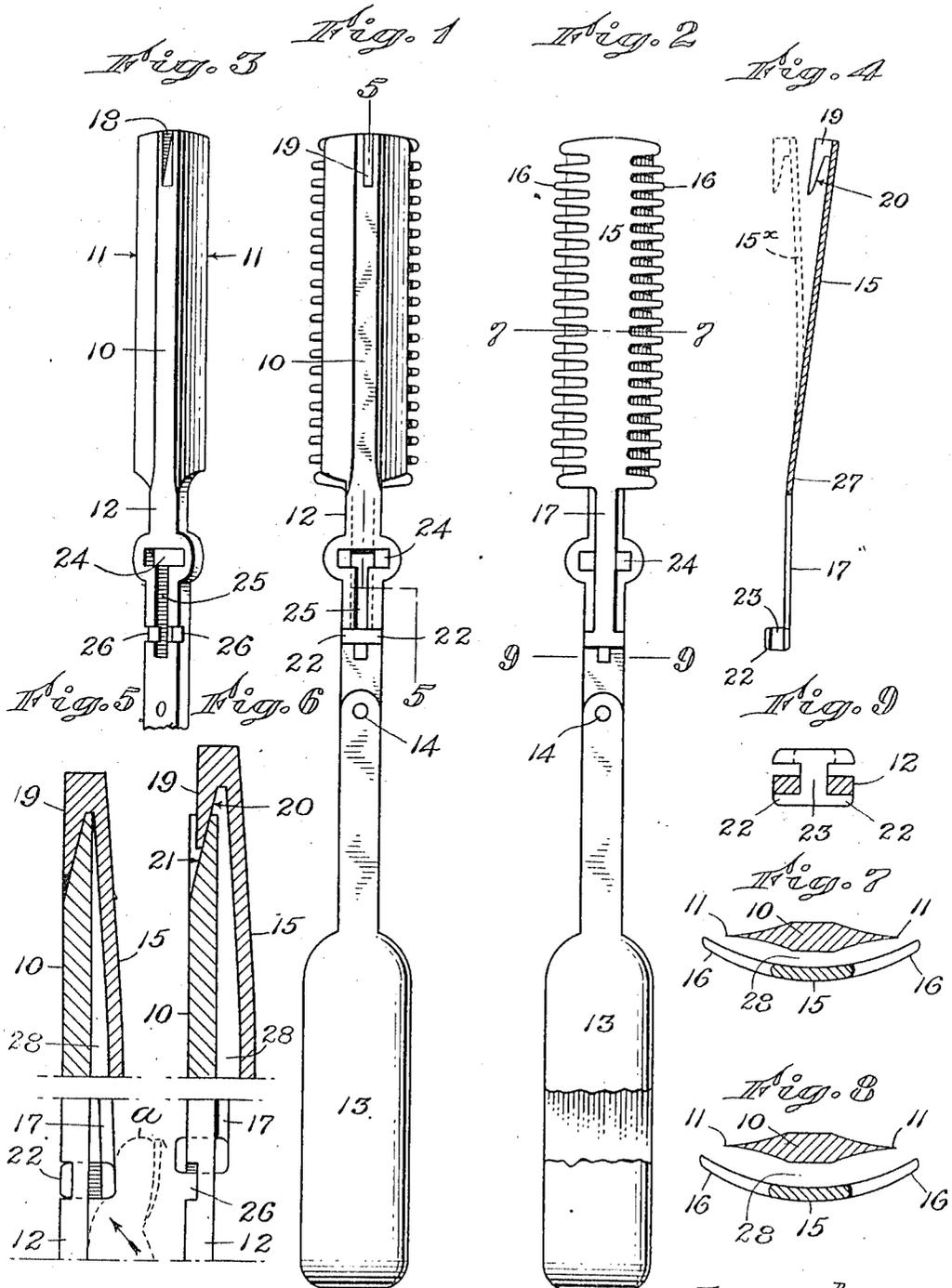


D. BEARD.  
SAFETY RAZOR.  
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1,079,095.

Patented Nov. 18, 1913.



Witnesses:  
Walter P. Abell  
P. H. Pezzetti

Inventor  
Daniel Beard  
by Leigh Brown Durbey llay  
Attorneys

# UNITED STATES PATENT OFFICE.

DANIEL BEARD, OF NEWPORT, RHODE ISLAND.

SAFETY-RAZOR.

1,079,095.

Specification of Letters Patent.

Patented Nov. 18, 1913.

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To all whom it may concern:

Be it known that I, DANIEL BEARD, a citizen of the United States, and resident of Newport, in the county of Newport and State of Rhode Island, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification.

This invention relates to safety razors, the preferred embodiment thereof being illustrated by the accompanying drawings.

Figure 1 represents a side elevation of the razor in one of its operative positions. Fig. 2 represents an elevation of the opposite side of the razor in the same position. Fig. 3 represents a perspective view of the blade, the lower end of the shank being broken away. Fig. 4 represents the safety guard, the guard portion thereof being shown in longitudinal section and the shank thereof being shown in elevation. Fig. 5 represents a longitudinal section, on a larger scale, of interlocking portions of the blade and guard, the interlocking portions of the blade shank and guard shank being shown in elevation, and the intermediate portions being broken away. (See line 5—5 of Fig. 1.) Fig. 6 represents a view similar to Fig. 5, showing the blade and guard adjusted to a different position whereby a greater space is left between the blade and guard. Fig. 7 represents a cross section in the plane indicated by line 7—7 of Fig. 2, showing the blade and guard in the relation corresponding to the adjustment shown by Fig. 5. Fig. 8 represents a cross section similar to Fig. 7 but showing the blade and guard in the relation corresponding to the adjustment shown by Fig. 6. Fig. 9 represents a cross section in the plane indicated by line 9—9 of Fig. 2.

The same reference characters indicate the same parts wherever they occur.

The blade comprises a longitudinal central body portion 10 and two oppositely disposed cutting edges 11, 11. The blade is provided with a shank 12 whereby the blade may be attached to a handle 13. As shown by Figs. 1 and 2 the shank and handle are connected by a pivot 14 in such manner that the blade may swing into and out of the handle as in the case of an ordinary single-edge razor. When the blade is without a guard it may be honed and stropped in the usual manner, as in the case of the ordinary old-fashioned razor, the body portion 10 be-

ing relatively thick, as shown by Figs. 7 and 8, to engage the hone or strop to determine the desired bevel or angle given to the cutting edges and also to stiffen the blade.

The blade has suitable provisions whereby a guard may be attached. As shown by Fig. 2, the guard comprises a longitudinal central body portion 15, guard fingers or projections 16, and a shank 17. The fingers or projections 16 are disposed in two series oppositely disposed so as to cooperate respectively with the two cutting edges of the blade in the well-known manner. The toe of the blade is provided with a notch 18 (see Figs. 3 and 6) for the reception of a hook 19 of the guard. The hook is inserted in the notch by moving the guard from the toe toward the heel of the blade. The inner surface 20 of the hook is inclined, and the co-operative surface 21 of the blade is likewise inclined so that the confronting surfaces of the guard and blade will be drawn toward each other as the guard is moved toward the heel of the blade. The shank of the guard is provided with a head which comprises ears 22 and a neck or web 23, the ears extending laterally in opposite directions from the neck, and the neck connecting the ears with the shank.

The shank of the blade is provided with a keyhole slot for the reception of the head of the guard. The enlarged portion 24 of this keyhole slot is large enough to enable the head to pass through, after which the neck 23 of the guard is adapted to traverse the narrow elongated portion 25 of the keyhole slot. The blade shank 12 is provided with notches 26 adapted to receive the ears 22, said notches being disposed between the ends of the elongated portion of the keyhole slot.

The operation of assembling the guard and blade is as follows:—The head at the lower end of the guard shank is first passed through the portion 24 of the keyhole slot. The guard is then free to slide toward the pivot 14, and when so moved the neck 23 enters the elongated portion 25 of the slot. During this movement the point of the hook 19 at the outer end of the guard is inserted in the notch 18 of the blade. When the ears 22 of the guard head register with the notches 26 in the blade shank, the ears snap into these notches as shown by Fig. 5 and the guard and blade are thus completely assembled, the confronting faces of the

guard and blade being drawn together during such movement by the inclined surfaces 20 and 21 of the guard and blade respectively.

5 Referring to Fig. 4, the normal shape of the guard when detached is shown by solid lines. It will be observed that there is a bend at 27 whereby the body portion of the guard and the shank normally stand at an angle to each other. This bend is preferably located at the junction of the shank and body portion. When the head of the guard is fully inserted into the enlargement 24 of the keyhole slot, the shank 17 lies in contact with the flat surface of the blade shank 12, and the bend 27 causes the body portion of the guard to diverge with relation to the body portion of the blade. It is therefore necessary to spring the free end of the guard toward the blade in order to insert the hook 19 into the notch 18. When the guard is so sprung, its body portion becomes curved, as indicated by dotted line 15'. The normal angular relation of the body portion 15 and shank 17 causes the ears 22 to spring into the notches 26 and also causes the body portion of the guard to stand away from the body portion of the blade as shown by Fig. 7, thus leaving a clear space 28 between the two body portions. This space 28 is desirable because it enables the lather to pass through, so that the lather will not all collect upon the operative edge of the blade. This space also facilitates the removal of the lather, because water may be freely circulated between the blade and guard either by immersion or by holding the razor under a running stream.

The guard is adjustable toward and from the cutting edges and its adjustment is effected by relative longitudinal movement of the blade and guard. For example, Figs. 1, 2 and 5 show the guard in such position that the ears 22 occupy the notches 26, and show the hook 19 inserted into the notch 18 as far as it will go. In this position the space 28 between the guard and blade is relatively narrow. If it be desired to increase the space 28 as shown by Fig. 8, so as to shave more closely, the desired adjustment is obtained by springing the guard shank 17 so as to remove the ears 22 from the notches 26 and by then moving the guard slightly toward the toe of the blade, provided it is not moved so far as to entirely withdraw the hook 19 from the notch 18.

Fig. 6 shows an intermediate adjustment of the guard. As the guard is moved toward the toe of the blade, the body portion 15 springs laterally away from the blade as far as the inclined surfaces 20 and 21 will permit, and it is due to the inclination of these surfaces and to the longitudinal relative movement of the guard and blade that the space 28 between the guard and blade

may be varied. The unlocking of the shanks 12 and 17 and the adjusting movement may be easily effected by a single pressure of the thumb, as indicated by Fig. 5, dotted line  $a$  representing the end of a thumb, and the arrow representing the direction of pressure. By grasping the razor at the junction of the shank 12 and handle 13, the operative pressure and movement of the thumb may be readily imparted to the guard, the handle of the razor acting then as an abutment for bracing the hand against slipping backward. One hand is therefore sufficient for unlocking and adjusting the guard, and as the hand is at such time at a safe distance from the cutting edges, and as the reaction upon the hand tends to move the hand away from the cutting edges, there is no possibility of the hand coming in contact with the cutting edges. The friction of the shank 17 upon the shank 12, due to the springiness of the guard, is sufficient to hold the guard at any desired intermediate position. The handle 13 is similar to the handle of an ordinary old-fashioned razor, having two side pieces, as shown by Fig. 2, suitably spaced to receive between them the blade and attached guard.

It is obvious that the blade may be turned to any desired angle relatively to the handle and that the razor may be used in exactly the same way as an ordinary old-fashioned razor, but that in addition to such use it is capable of cutting in opposite directions, provided the blade is rocked upon its body portion when the direction of cutting movement is reversed. Such rocking of the blade does not necessitate any other change in the position of the razor relatively to the hand.

I claim:

1. A safety razor comprising a blade and a springy guard therefor having integral interengaging connecting portions at one end and contacting portions at the opposite end, and extensions beyond said contacting portions, said extensions having integral interengaging connecting portions whereby said contacting portions are brought to bear against each other and whereby the guard, between said contacting portions and the first-mentioned connecting portions, is sprung away from the blade.

2. A safety razor comprising a blade and a guard adjustable longitudinally of the cutting edge, said blade and guard having cooperative portions whereby their confronting surfaces are variably spaced one from the other in consequence of adjusting the guard as aforesaid.

3. A safety razor comprising a blade and a guard having an unobstructed space between them for the passage of lather, and having cooperative connecting portions adapted to slide relatively upon each other, one of said parts having an inclined surface

engaging the other of said parts for variably spacing said parts one from the other when moved relatively as aforesaid.

4. A safety razor comprising a blade and a guard each having a shank, said blade shank having a keyhole slot and said guard shank having a flanged head adapted to slide on the blade shank in interlocked relation with said slot.

5. A safety razor comprising a blade and a springy guard, said members having cooperative portions for connecting the blade and guard and being capable of relative longitudinal movement, said portions having cooperative surfaces which are held in contact by the springiness of said guard, one of said surfaces being inclined to enable the guard to spring away from the blade in consequence of relative longitudinal movement of the blade and guard.

6. A safety razor comprising a blade and a guard each having a shank, said shanks having cooperative interlocking portions, the toe of the blade and guard also having

coöperative portions for holding the blade and guard connected, the guard being bowed longitudinally so that it is spaced apart from the blade to provide a passageway for lather between the blade and guard.

7. A safety razor comprising a blade and a guard each having a shank, said shanks having cooperative interlocking portions, the toe of the blade and guard having cooperative portions for holding the blade and guard connected, the guard being bowed longitudinally so that it is spaced apart from the blade to provide a passageway for lather between the blade and guard, the coöperative connecting portions of the blade and guard having provisions for varying the distance between the intermediate portions of the blade and guard.

In testimony whereof I have affixed my signature, in presence of two witnesses.

DANIEL BEARD.

Witnesses:

WALTER P. ABELL,  
P. W. PEZZETTI.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."