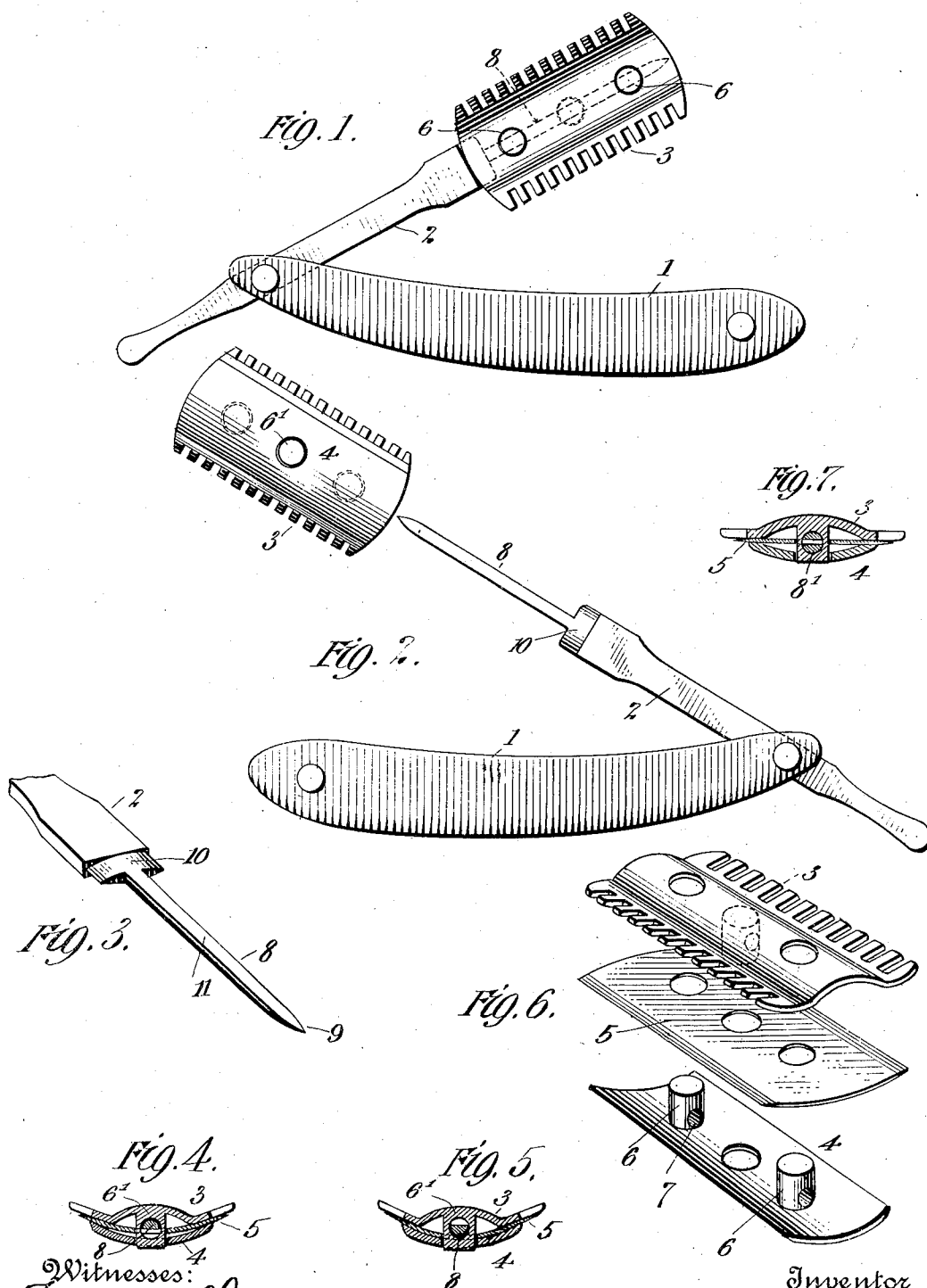


A. W. PROCTOR.
 RAZOR.
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Patented Mar. 25, 1913.



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UNITED STATES PATENT OFFICE.

ALFRED WATERS PROCTOR, OF NEW YORK, N. Y., ASSIGNOR TO GILLETTE SAFETY RAZOR COMPANY, A CORPORATION OF MAINE.

RAZOR.

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To all whom it may concern:

Be it known that I, ALFRED WATERS PROCTOR, a citizen of the United States, residing at New York, in the county of Kings and State of New York, have invented a new and useful Improvement in Razors, of which the following is a specification.

This invention relates to razors of the type originated by K. C. Gillette, U. S. Patent 775,134, having a removable, discardable, cheap sheet-metal blade thin enough to be made a proper razor cutter by simply sharpening or grinding an edge or edges thereof, and combined with a holder which supplies that particular rigidity for shaving which the blade inherently lacks by reason of its thinness. In the present application the above same general purposes or results are attained in a holder of the same general kind, but by improvements exclusively directed to the tang or ordinary razor type thereof, the invention consisting in the features of construction hereinafter pointed out. The present invention also secures that symmetry which is made an additional subject of the said patent, and, as disclosed in the patent, by having a handle located midway between the edges of the guard and symmetrically arranged with respect thereto. The main end of the present invention is to secure the above and other general Gillette purposes in a cheap, easy and convenient and satisfactory way, particularly adapted to the tang type of razor.

To this end the invention consists in the features of construction and combination as hereinafter set forth and claimed.

In the drawings: Figure 1 is a side view of a safety razor embodying the principles of my invention. Fig. 2 is a similar view from the opposite side, showing the parts partially separated. Fig. 3 is a perspective view showing the forward end of the tang. Fig. 4 is a transverse section through the guard and backing. Fig. 5 is a similar view showing a different adjustment. Fig. 6 is a perspective view showing the guard blade and backing, slightly separated. Fig. 7 is a sectional view illustrating a modification.

Constructions embodying the invention will include a tang, by which is meant a bar or member to support the cutter and extending in or substantially in a plane thereof and parallel to and equi-distant between the

cutting edges. This tang therefore corresponds generally to what is known as the tang in an ordinary old fashioned razor and as distinguished from a handle which extends as shown in the Gillette patent referred to. In the drawings 2 designates such a tang which is pivoted to a handle 1. The tang as above defined will have supported thereon a bolt 8 for the purpose of attaching together the guard 3 and backing 4. In the best constructions embodying the invention, the bolt will enter between the guard and backing and will constitute substantially the main support for holding the guard and backing to the tang. In other words, the bolt in the best constructions embodying the invention will have two functions, first to hold the guard and backing together and clamp the blade 5, and second to hold the guard and backing firmly on the tang. To these functions are added others which are preferably also utilized as later described. It is part of the invention to have all the foregoing functions provided for by means which is substantially concealed and which is furthermore very thin and compact so that the complete razor will be thin, delicate and wafer like.

The particular form of bolt on the guard may vary somewhat in practice, and it may further be arranged so as not to discharge all of the manifold functions which it performs in the particular construction illustrated. In the approved form however it comprises a slender needle-like rod 8 pointed or wedge shaped at its outer extremity and merging into a flattened portion of the tang 2.

The guard may have any suitable toothed or other edge or edges which form no part of the present invention. The backing will also have an edge or edges to support the blade 5 and will cooperate with the guard to clamp the blade between the two. In accordance with the present invention, the guard and backing have cooperating lugs provided with bolt receiving apertures 6, 6', the essential purpose of which is to cooperate with the bolt 8 to lock the guard and backing together. In the approved construction the lugs will serve a further purpose of positioning the blade. The manner of engagement of the bolt with the lugs 6, 6' will vary according to the character of the

bolt. Where a slender needle-like rod 8 is employed the lugs 6, 6¹ will have holes suitable to receive the rod.

It is part of the idea of the foregoing construction to have the locking engagement between the guard and the backing very compact, and this is satisfied by the use of a slender needle-like rod 8 which will pass through exceedingly small holes 7 in the lugs 6, 6¹, so that the combined thickness of the blade portion of the razor will only be the thickness of the rod 8 plus that of the blade plus that of the guard and backing. As the latter may be made of thin sheet metal, and since the blade is very thin, the combined thickness may be made as little as three thirty-seconds or one-eighth of an inch. In the drawings the proportions are exaggerated for clearness.

There are several other characteristics, attributes or services secured by the present invention, the first of which is complete reversibility in every sense. It is part of the idea of the present invention to have the guard symmetrical so that it may be assembled with either end forward on the backing, and to have the backing correspondingly symmetrical so that it may be assembled with either end forward on the guard, and the guard and backing assembled with either end forward on the tang. Not only this, but the flattened portions 10 of the tang are adapted to receive the guard and backing with either face up. The importance of the foregoing characteristics lie in the ease of manipulation for cleaning and assembling which is secured thereby. A second idea or purpose or service in the best constructions embodying the present invention is to have a clamping force put upon the blade by the resiliency of the rod 8, and which arises from the fact that the rod is drawn in one direction at its ends and at the opposite direction at its center. A third characteristic of the best constructions embodying the invention is that the pointed end 9 of the rod 8 acts as a wedge to draw or clamp the guard or backing together. A final characteristic of the best constructions embodying the invention is that an adjustment is secured for fine and coarse shaves, and this is done by making the backing 4 concave so that the blade is flexed (see Figs. 4 and 5). By this construction, and by further forming the rod 8 with a flattened portion 11 on one side, it is possible to obtain a coarse adjustment by inserting the rod as shown at Fig. 4 and a fine adjustment by inserting the rod as in Fig. 5. In Fig. 7 a modification is illustrated in which the blade is flat and is received between two split portions of a rod 8'.

What I claim is:—

1. In a razor, a tang having an elongated thin needle-like rod rigidly extending in the direction of its longitudinal axis, a guard and backing, and blade positioning lugs provided with bolt receiving apertures spaced along the guard and backing through which said rod passes within said guard and backing.

2. In a razor, a guard, a backing, a tang extending in the plane of the guard and backing, a bolt having a wedge-shaped end, and blade positioning lugs provided with bolt receiving apertures on the interior engaging surfaces of said guard and backing, and through all of which said bolt is received.

3. In a razor, a guard, a backing, a tang extending in a plane between the guard and backing, a bolt, and blade positioning lugs provided with bolt receiving apertures carried by said guard and backing at the middle and ends of said guard and backing respectively, said lugs pulling laterally on the bolt in one direction at the middle and oppositely on the bolt at the ends, whereby the resiliency of the bolt draws the guard and backing together.

4. In a razor, a guard, a backing, a tang extending in a plane between the guard and backing, a bolt, rigidly projecting from said tang and extending longitudinally between the guard and backing, said guard and backing being both symmetrical end for end, and symmetrically arranged blade positioning lugs provided with bolt receiving apertures on the interior engaging surfaces of said guard and backing.

5. In a razor, a guard, a backing, a tang having a bolt extending in the direction of the length of the tang, blade positioning lugs provided with bolt receiving apertures on the interior surfaces of the guard and backing, and through all of which said bolt is received, said bolt being flat on one side, and a flexible blade engaged by the bolt on one side and by the backing on the other when the bolt is inserted in said lugs, whereby the blade is bent to varying degrees of flexure according to whether the bolt is inserted with its flattened or its rounded side against the blade.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses, this twenty-ninth day of January 1910.

ALFRED WATERS PROCTOR.

Witnesses:

WALDO M. CHAPIN,
FLORENCE HOLMSTROM.