C. H. OCUMPAUGH.

RAZOR.

APPLICATION FILED JAN. 31, 1908.

983,640. Patented Feb. 7, 1911.

Fig. 1.

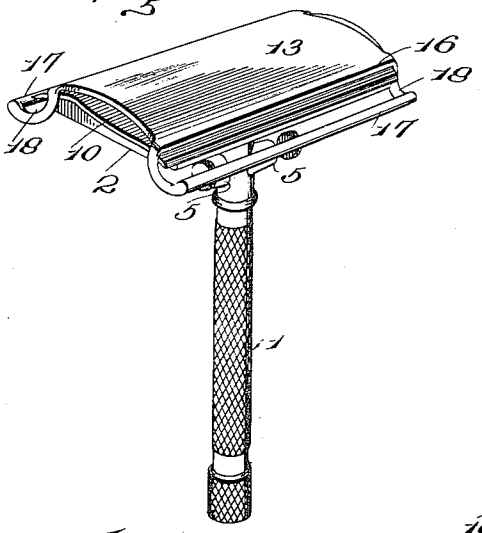

Fig. 3.

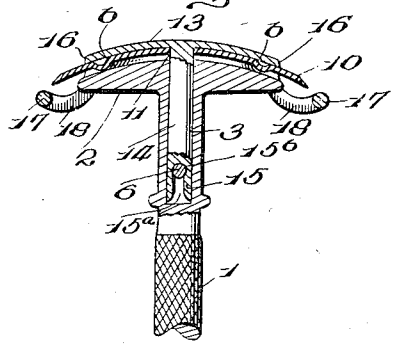

Fig. 2.

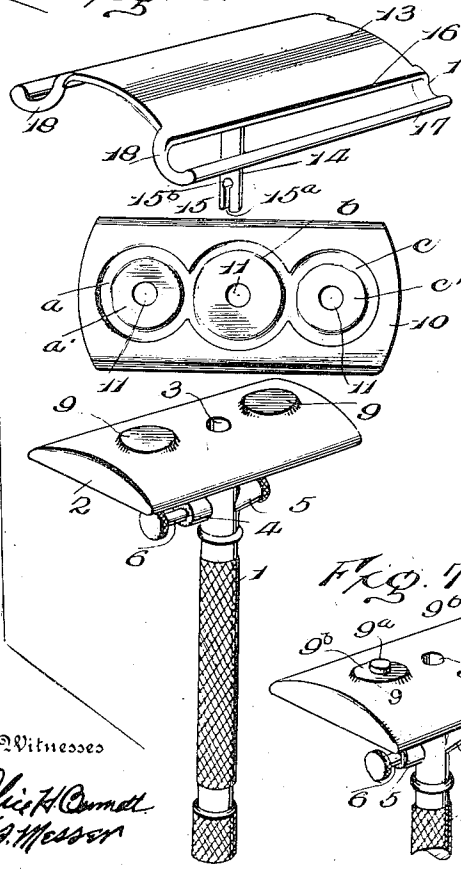

Fig. 4.

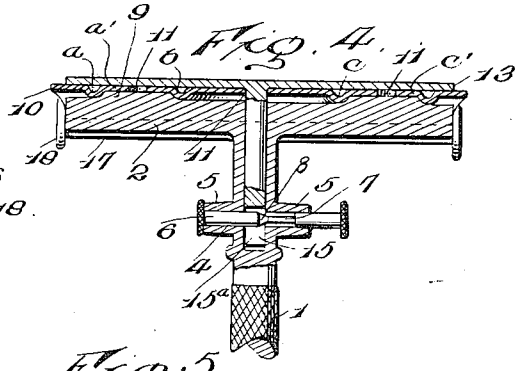

Fig. 5.

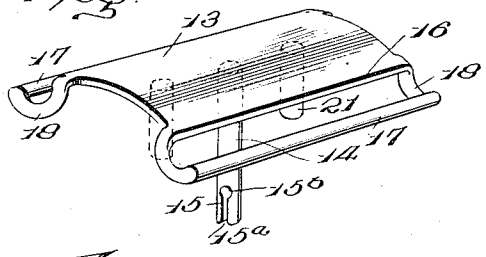

Fig. 6.

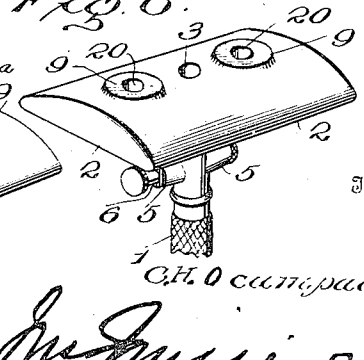

Fig. 7.

Witnesses

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RAZOR.

983,640. Specification of Letters Patent. Patented Feb. 7, 1911.

Application filed January 31, 1908. Serial No. 413,672.

To all whom it may concern:

Be it known that I, CHARLES H. OCUMPAUGH, a citizen of the United States, residing at Rochester, in the State of New York, have invented certain new and useful Improvements in Razors, of which the following is a specification.

This invention relates to improvements in safety razors.

With the flat safety razor blades now in use, considerable difficulty has been experienced in picking them up to apply them to a holder. In many instances the ends of the fingers are cut or scratched, which frequently necessitates applying a sharp implement to pass under the edge of the blade to raise it before taking hold of it with the fingers to position it on its handle. This operation destroys the edges and makes the blade useless. While I am aware attempts have been made to cure this difficulty, the margin of success has decreased the merits of the razor edges, and has added to the cost, due to the fact that the thickness of the blade has been materially increased.

One of the prime objects of the invention is to provide a reinforced, substantially curved razor blade of uniform thickness steel to permit of its being conveniently picked up without liability of cutting the fingers, and what is equally important to make a rigid blade of thin sheet metal, the latter overcoming the objections of the so called flexible blade.

Another object of the invention is to provide special means coöperating with the handle for securing the parts together, which also enables me to produce a razor with a comparatively few pieces.

My invention also comprehends improvements in the arrangement of the cutting blade and the guard, whereby I may provide double cutting edges with complementary parallel guards, doing away with the usual unsanitary plurality of fingers.

A further object of the invention is to provide a two edge blade, adapted to be used in connection with several types of razors.

The specific form of this blade is important, in that the means I employ for reinforcing it, permits of the employment of the usual very thin metal used for blades of this type, and also give it additional rigidity.

Other objects and advantages will be hereinafter referred to in the specification and further specified in the claims.

In the drawing: Figure 1 is a perspective view of my preferred form of razor. Fig. 2 is a similar view, parts being separated. Fig. 3 is a vertical section. Fig. 4 is a transverse section at right angle to Fig. 3. Fig. 5 is a detail perspective view of a modified form of guard, or clamp. Fig. 6 is a similar view of a holder to coöperate with said guard. Fig. 7 is a perspective view of another form of holder.

The numeral 1, indicates a handle formed at its upper end with a flanged head convex on its upper face to form a holder 2. While the holder is preferably formed with the handle it will be obvious it could be made separate, and secured in any well known manner. An opening 3, extends through the holder and down into the handle, and crossing the same near the lower end, and at right angles thereto, is a horizontal opening 4. The opening 4, extends through bosses 5, on the opposite sides of the handle, which form a substantial bearing for a locking rod 6. The rod 6, is provided at its ends with heads to limit its movement in the bearing, and between the heads it is reduced to form a shank 7, and is beveled from the shank to its greatest diameter, as at 8.

Extending upwardly from the holder 2, are two studs 9—9, which coöperate with the cutting blade to hold the latter in position, and prevent lateral displacement.

The blade 10, is made of sheet metal and is permanently curved in cross-section, and is of substantially uniform thickness throughout exclusive of embossing and corresponds to the curvature of the face of the holder 2. The blade is embossed in three places, *a*, *b*, *c*, in the center of each being formed an opening 11. The outline of the embossing is shown for convenience as, of ring formation, but it is obvious other outlines may be used if desired. The embossing forms a very essential feature of my invention, as two very important results are accomplished. It must be borne in mind that thin sheet metal is used for the blade, so that the embossing serves as a strengthening medium, and enables me to produce a thin, but rigid blade. The lugs 9—9, conform to the outline of the embossed portions, and when the parts are assembled, the blade is prevented from becoming laterally displaced.

13, indicates a guard, which is curved on its under side to conform to the curvature of the top of the blade, and has a depending post 14, formed at its lower end with a vertical slot 15, the lower part 15^a equaling the diameter of the shank 7, and has an enlarged portion 15^b corresponding to the diameter of the rod 6. The side edges 16, of the guard do not extend out as far as the edges of the blade, but extending from the ends of the guard and slightly below the edges of the same are two parallel bars 17, spaced from the edges 16, to provide slots 18, through which the edges of the blades operate.

To assemble the structure thus far described, the guard is inverted, and the post is inserted through the opening in the blade, then the post is inserted in the opening 3, in the holder until the enlarged portion 15^b of the slot is in alinement with the rod 6. The reduced portion 15^a of the slot straddles the shank 7, and the rod is now moved laterally and the enlarged diameter of the rod passes into the opening 15^b, and effectually binds the parts together.

The embossed portions form seats for the lugs 9—9, and the socket or opening 3, guides the guard, so that even in assembling the parts, if the blade should by accident be slightly misplaced it will be brought back into its proper relative position when the guard is tightened. The parts can, therefore, be assembled in their proper position by an inexperienced person, and without any liability of cutting or scratching the fingers, as the blade is curved and absolutely rigid and can be conveniently picked up. The outer ends of the lugs 9—9, fit against the flat portions a' c' intermediate the embossing.

In Figs. 5 and 6, I have shown a slightly different form of guard and blade holder. In this form of the invention, the blade holder is provided with two openings 20—20 in addition to the socket 3, and the guard has an auxiliary depending post 21, in addition to post 14. The post 21, engages with both of the openings 20 and 11, in the blade and holder, and the two absolutely prevent the guard and blade swinging horizontally. (I do not make broad claims for the guard as it is covered in a pending application Serial No. 410,989.) Furthermore, by this construction the guard and blade may be used to coöperate with either the right or left hand opening in the holder. If desired, I may duplicate the auxiliary post on the guard as shown in dotted lines in Fig. 5, to further insure holding the parts together.

In Fig. 7, is shown another form of the invention, wherein the studs 9—9, on the holder are provided with two reduced extensions 9^a, 9^a, to engage the openings 11, 11, in the blade. In this instance the extensions engage the openings in the blade, while the upper flat surfaces 9^b, 9^b, surrounding the extensions coöperate with the flat portions a' inside the embossed portions. This means also serves to combine the rigid feature of the invention, and the blade has also curved ends which extend beyond the guard body to facilitate its removal. The extensions may be made sufficiently long to pass entirely through the openings in the blade, to engage seats in the guard if found desirable.

The invention is extremely simple in construction, and by reason of the small number of parts, and the shape and disposition of the same, is not liable to get out of order, and may be assembled by inexperienced persons.

The guard bars 17, extend beyond the cutting edges of the blade, so that in handling the razor a person's fingers are always protected, which is of the utmost importance with a device of this character, especially in assembling.

The guard construction, and the coöperating relationship of the blade and its holder when assembled, produces a sanitary razor, the usual large number of fingers used for guards in razors of this type having been found wanting in this particular.

By constructing the blade as described, it is interchangeable and is therefore applicable to any of the above modifications. This feature is important, as a dealer may carry one line of blade for customers having different styles of razors.

What I claim is—

1. As a new article of manufacture, a razor blade constructed of sheet metal of uniform thickness and having a fixed permanent transverse curvature and rigidity, said blade having openings and being embossed about said openings.

2. As a new article of manufacture a perforated razor blade curved in cross section, the perforations being surrounded by embossings to give rigidity to the blade.

3. As a new article of manufacture a perforated razor blade curved in cross section, the perforation being surrounded by embossing to give rigidity to the blade, and the embossing extending in the longitudinal direction of the blade for a distance greater than the width of the blade.

4. As a new article of manufacture a two edged razor blade made of sheet metal of uniform thickness having a permanent transverse curvature and embossed transversely and longitudinally of the center to give it rigidity.

5. In a razor a two edged blade permanently curved in cross section and made of sheet metal of uniform thickness and embossed, said embossing extending trans-

versely and longitudinally of the center to give rigidity to the blade, said embossing constructed to form positioning means, a handle having an integral blade holder and means on the holder to coöperate with the positioning means on the blade.

6. In a razor a two edged blade permanently curved in cross section and made of uniform thickness and embossed, said embossing extending transversely and longitudinally of the center, the embossing serving to give the blade rigidity and also serves as positioning means, a handle having an integral blade holder, and a clamping means provided with a guard to clamp the blade to the holder.

7. In a razor a two edged blade permanently curved in cross section and made of sheet metal of uniform thickness and embossed, said embossing extending transversely and longitudinally of the center, embossing serving to give rigidity to the blade and also serves as positioning means, a handle having an integral blade holder, and a clamp provided with a guard for the blade and having a stud extending through the perforation in the blade into the holder.

8. In a razor, a two edged razor blade permanently curved in cross section and embossed transversely and longitudinally to give it rigidity, said embossing serving also as positioning means, a two edged removable guard curved in cross section, a two edged holder having a curved surface in cross section and integral with a handle and means for locking together the guard, blade and holder.

9. In a razor, a rigid two edged razor blade curved in cross section, made of sheet metal of uniform thickness having self containing circular embossed stiffening means embodied therein and containing positioning perforations, said circular embossed means, serving also as positioning means, a holder and means carried by said holder to coöperate with said perforations.

10. In a razor, a perforated rigid two edged razor blade made of sheet steel of uniform thickness curved in cross section and self containing circular embossed stiffeneing means embodied therein which also serves as positioning means, a handle, and means carried by the handle for coöperation with the embossing and the perforation of the blade.

11. In a safety razor, the combination with clamping means provided with positioning devices, a blade permanently curved in cross section and of fixed rigidity and uniform thickness, said blade being formed with a plurality of embossed portions constituting positioning means separated from each other and disposed transversely and longitudinally of the center and in alinement and at a distance from the edges of the blade, and coöperating with the positioning devices on the clamping means, the positioning means on the blade also serving to stiffen the latter transversely and longitudinally.

12. In a razor, a two edged rigid razor blade, curved in cross section and having perforations surrounded by embossings a two edged removable clamping means provided with a guard, curved in cross section, a two edged holder integral with the handle and having a curved surface corresponding to the curvature of the blade, and coöperating positioning means on the blade and holder whereby the parts are positioned and the blade is stiffened transversely and longitudinally of its center.

13. In a razor, the combination with a blade having a permanent curved shape in cross section and having two edges and a holding device of curved form, both of said elements being rigid, the blade having perforations within its edges and embossed transversely and longitudinally about said perforations, the embossing serving to stiffen the blade and also form positioning means.

14. As a new article of manufacture, a rigid perforated razor blade having a curved shape under surface, two longitudinal-cutting edges and a curved upper surface formed with embossed stiffening means, said embossing also serving as positioning means, the two cutting edges being equally distant from the longitudinal center of the curve and parallel therewith.

15. In a razor, the combination of a clamp, a perforated blade having embossed stiffening means and two longitudinal cutting edges, a guard extending from the clamp, a handle and holder, the holder having raised portions coöperating with the embossing on the blade to position the blade, and means mounted in the blade to coöperate with a part of the clamp to lock the latter, blade and holder together.

16. As a new article of manufacture, a perforated razor blade permanently curved in cross section and made of sheet metal of uniform thickness having embossed stiffening means extending transversely and longitudinally and two cutting edges, the embossing also serving as positioning means, the form of the blade being such that the curve is substantially an arc of a circle.

17. In a razor, the combination of a two edged perforated blade permanently curved in cross section and having embossed stiffening means extending transversely and longitudinally which also serves as positioning means, a clamp therefor provided with a guard for the blade, the blade clamp, and guard being of substantially the same cross sectional shape, and the ends of the guard extending beyond the edges of the blade.

18. In a razor, the combination of a two

edged perforated blade permanently curved in cross section and having embossed stiffening means extending longitudinally and transversely which also serves as positioning means, a clamping member therefor provided with a guard therefor and a holder for both blade and guard, the blade guard and holder being of substantially the same curve in cross section.

19. In a razor, a two edged razor blade permanently curved in cross section and having an embossed continuous positioning and strengthening rib extending each side of the medial lines of the blade, and terminating short of all the edges of said blade, a clamping member provided with a two edged removable guard curved in cross section, a two edged holder having a curved cross sectional surface and integral with a handle, and means for locking the guard, blade and holder.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. OCUMPAUGH.

Witnesses:
LOUISE WOEHRLEN,
H. B. BRINK.