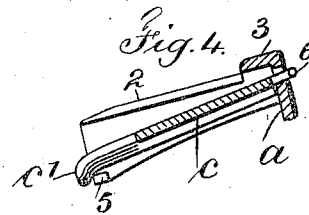
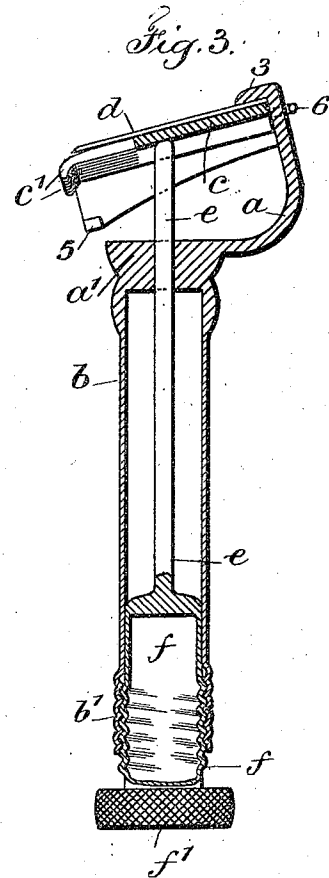
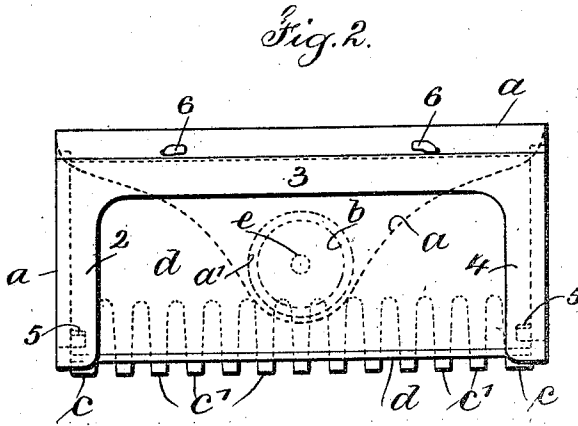
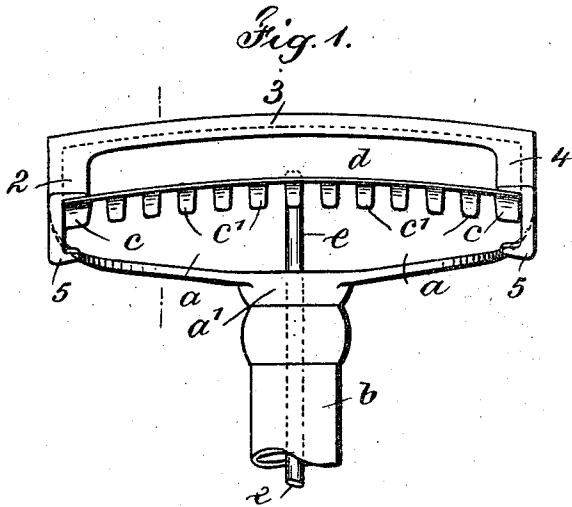


O. KAMPFE.
SAFETY BAZOR.
APPLICATION FILED OCT. 2, 1908.

1,008,719.

Patented Nov. 14, 1911.



Witnesses

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UNITED STATES PATENT OFFICE.

OTTO KAMPFE, OF NEW YORK, N. Y., ASSIGNOR TO KAMPFE BROS., A CORPORATION OF NEW YORK.

SAFETY-RAZOR.

1,008,719.

Specification of Letters Patent.

Patented Nov. 14, 1911.

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To all whom it may concern:

Be it known that I, OTTO KAMPFE, a citizen of the United States, residing in the borough of Brooklyn, in the county of Kings, city and State of New York, have invented an Improvement in Safety-Razors, of which the following is a specification.

My invention relates to the class of safety razors having thin removable and interchangeable blades, and the object of my invention is the production of a holder, for such blades, of pronounced simplicity and having only a few parts.

In the device of my invention, the thin removable blades are not sharpened on both or opposite edges, they are not perforated for any engaging devices and they are not bent transversely by the holder as has heretofore been usual with safety razor blades of this class.

In carrying out my invention I provide a body member forming a holding frame for receiving the thin removable and interchangeable blades one at a time and, for engaging the same around three sides or edges (the fourth edge or side being sharpened for cutting). In this frame is pivotally mounted a swinging guard comb whose outer surface bears upon the razor blade to press the same against the holding edges or frame of the body member. The free ends of the comb teeth are slightly curved, and extend beyond the cutting edge of the blade. The body member is secured to a tubular handle, the free end of which is formed with a screw thread, and a rod passes through the tubular handle which bears against the swinging guard comb to force and hold the blade in position and said rod is secured to a manually actuated plug threaded to screw into the handle and provided with a knurled head by which it is rotated to effect a clamping of the blade.

In the device of my invention the body member is slightly curved and the swinging guard comb is also slightly curved so that when the thin cutting blade of the razor is received between said parts and is clamped in position, the same is bent longitudinally, that is to say, the straight sharpened edge of the blade is slightly bowed, the curvature thereby imparted producing the same functional effect in the use of the implement

for shaving as does the curved edge of the blade of an ordinary razor.

In the drawing, Figure 1 is an elevation at the cutting side of the implement with the handle broken off, Fig. 2 is a plan of the parts shown in Fig. 1, Fig. 3 is a vertical longitudinal section through the entire implement and Fig. 4 is a vertical section through the body member with the guard comb lowered for the introduction of a cutting blade.

The body member *a* as will be seen by reference to Figs. 1, 2 and 3 is of elongated proportions, is curved as shown in Fig. 3 and slightly arched as shown in Fig. 1. The upper edge of the same is provided with over-turned edges 2 3 and 4, which are overturned from the back and sides of the body member so as to form a frame adapted to overlap the back and opposite ends or three sides of the razor blade *d*. These over-turned edges are comparatively narrow and the forward ends are preferably rounded and reduced materially in thickness so as not to present any blunt or opposing metal to interfere with the act of shaving.

b represents a tubular handle to the upper end of which the head portion *a'* of the body member is secured and formed to all intents and purposes substantially integral, the said head being centrally perforated and the lower or open end of this tubular handle is formed with a screw thread *b'*, the sides of the body member being provided with support ledges 5.

I provide a swinging guard comb *c* adapted to fit within the frame of the body member and provided with lugs 6 formed as engaging hooks extending through openings in the back portion of the body member so as to maintain a pivotal relation of the guard comb *c* with the body member to prevent accidental separation of the parts; said lugs providing for the swinging of the guard comb between the over-turned edges 2 and 4 which form stops in an upward direction and the support ledges 5 which form stops in a downward direction; the said guard comb having teeth *c'* the free ends of which are over-turned and bent at a slight downward inclination. As will be seen from Fig. 3, this guard comb is in cross section flat and straight, while from

Fig. 1 it will be seen that the said guard comb longitudinally is slightly bent or of an arched configuration. I do not limit myself to the extent of this curvature; it is sufficient if quite slight although it may if desired, be made more pronounced.

d represents the razor blade as over-lying the guard comb *c* with three edges of the blade extending under and held to the over-turned edges 2 3 4 of the body member by the upward pressure of the guard comb *c*. This pressure is produced by a rod *e* which passes through the frame of the body member and is formed with a threaded plug *f* which is adapted to turn into the lower open and threaded end of the tubular handle, said plug being preferably provided with a knurled head *f'* for rotating the same. It will therefore be apparent that as this knurled head and its plug and rod are turned in one direction the free end of the rod bears with force against the under surface of the guard comb raising the same and clamping the razor blade in position, whereas in the reverse position the lowering or removal of the rod *e* permits the guard comb *c* to drop by gravity and to free the razor blade *d* from the grasp of the parts holding the same. The razor blade when freed assumes a flat and straight form. It is removable and the parts are adapted to receive a duplicate thereof that may be sharp and serviceable for shaving, so that these razor blades are removable and interchangeable; Fig. 4 showing the position just described and adapted for the removal of one blade and the insertion of another, and in this position it will be noticed that the guard comb *c* which has dropped by gravity when released now rests upon the support ledges 5, no razor blade being shown in this figure.

From the foregoing description and accompanying illustration, it will be apparent that the razor blade of my invention in use has a convex outer face and convex cutting edge; that this convex face is presented to a shaving surface; that the path shaved is less than the whole length of the cutting edge and because of the curvature the shaving is cleaner than is produced with a straight edge which has a greater bearing surface, consequently a cleaner shave is obtained without going over the face so many times. The shaving edge of the blade is sharpened when straight and is under tension when curved and it is believed that this tension prolongs the useful sharp life of the blade, making it unnecessary to sharpen frequently. The razor blade is flat in its initial condition. It is flexible longitudinally of the said rectangular blade, that is to say, it is flexible in the line of its sharpened or cutting edge so that said cutting edge is curved in use.

From the illustration and foregoing description it will be apparent that the device of my invention is composed of a very few parts, that these are accessible to a marked degree for cleaning and wiping dry after shaving and that the manner of removing one razor blade and introducing an interchangeable sharp blade is exceedingly simple.

While I have hereinbefore described the thin flexible rectangular razor blade of my invention with one side edge sharpened for cutting, as normally flat and as brought to curved form under pressure and tension, I wish it to be understood that I do not limit my invention in this particular as said thin rectangular blade may be made normally curved to an arc to correspond with and substantially fit over and upon the curved upper surface of the swinging guard comb without in any manner departing from the spirit of my invention; the manner of sharpening a straight or curved blade being immaterial and forming no part of my invention.

I claim as my invention:

1. In a razor the combination with a thin removable blade, of a body member adapted to receive and having edges adapted to extend over and engage all edges except the cutting edge of the blade, a guard-comb adapted to lie against said blade and beneath the edges of the body member, means for pivotally connecting the said comb to the body member at its longest edge adjacent thereto and so providing a swinging movement to the guard-comb and means for holding the parts in position.

2. In a razor, the combination with a thin removable blade, of a body member adapted to receive and having edges adapted to extend over and engage all edges except the cutting edge of the blade, a guard-comb adapted to lie against the said blade and come beneath the edges of the body member, means for pivotally connecting the said comb to the body member at its longest edge adjacent thereto and so providing a swinging movement to the guard-comb and longitudinally movable manually operated devices for forcing the guard-comb against the blade to hold the blade against the edges of the body member for clamping the parts in position.

3. In a razor, the combination with a thin removable blade, of a body member adapted to receive and having edges adapted to extend over and engage all edges except the cutting edge of the blade, a swinging guard comb adapted to lie against the said blade, a tubular handle secured to the body member and threaded at its free open end, a rod passing through the tubular handle, a plug connected therewith and screwed into the threaded end of the tubular handle and

means by which the plug is manually rotated to apply pressure in holding the parts in position.

4. In a razor, the combination with a thin removable blade of rectangular form sharpened on one long edge, of a body member adapted to receive and having edges adapted to extend over and engage all edges except the cutting edge of the blade, the longer of said edges of the body member being slightly curved, a swinging guard comb of rectangular form slightly curved in the direction of its greatest length and adapted to lie against the said blade and means for holding the parts in position.

5. In a razor, the combination with a thin removable blade of rectangular form sharpened on one long edge, of a body member adapted to receive and having edges adapted to extend over and engage all edges except the cutting edge of the blade, the longer of said edges of the body member being slightly curved, a swinging guard comb of rectangular form slightly curved in the direction of its greatest length and adapted to lie against the said blade, a tubular handle formed with the body member and threaded at its free open end, a rod passing through the tubular handle and adapted to bear with force upon the under side of the guard comb, a plug threaded and adapted to screw into the tubular handle and to which this rod is secured and means by which the plug may be grasped in the hand and turned to apply pressure against the guard comb for holding the parts in position.

6. In a razor, the combination with a thin removable blade, of a body member adapted to receive and having edges adapted to extend over and engage all edges except the cutting edge of the blade, said body member also being provided with support ledges at opposite places and with perforations in the back, a guard comb having lugs extending through the perforations in the back of the body member and turned over to connect the guard comb with the body member in a pivotal relation, the free end of said guard comb being adapted to move between the edges of the body member engaging the razor blade and the said support ledges, and means for moving the guard comb and for pressing the razor blade between the upper surface thereof and the over-turned edges of the body member.

7. In a razor and in combination, a normally flat blade of thin steel of rectangular form sharpened at one of its longest edges, a body member having over-turned edges to extend over the opposite ends of said blade and a curved over-turned edge to extend over the edge of the blade opposite the cutting edge, a swinging guard comb of rectangular form curved in its longest direc-

tion and adapted to under-lie the said normally flat razor blade and means for moving the said guard comb to grasp said razor blade between the edges thereof and the over-turned edges of the body member and cause the said normally flat blade to assume a curved configuration agreeing therewith.

8. In a razor and in combination, a normally flat blade of thin steel of rectangular form sharpened at one of its longest edges, a body member in part curved and adapted to engage said blade at its unsharpened edges, a movable guard comb longitudinally curved and a clamping device for forcing the comb against the blade and bending the same and securely holding the blade in its bent position.

9. In a razor and in combination, a normally flat blade of thin steel of rectangular form sharpened at one of its longest edges, a body member in part curved and adapted to engage said blade at its unsharpened edges, a swinging pivotally mounted guard comb longitudinally curved and a clamping device for forcing the comb against the blade and bending the same and securely holding the blade in its bent position.

10. In a razor, the combination with a relatively thin blade and a handle, of a body member comprising a main bent portion and a three-sided frame formed with the body member and longitudinally curved, having over-turned edges on the three sides to extend over all the edges of the plate except the cutting edge and a means for securing the blade in position.

11. In a razor, the combination with a relatively thin blade and a handle, of a body member comprising a main bent portion and a three-sided frame formed with the body member and having over-turned edges on the three sides to extend over all the edges of the plate except the cutting edge and a means for securing the blade in position.

12. In a safety razor and in combination, a normally flat blade sharpened along one edge, and devices for receiving and holding and simultaneously bending said blade and one of which devices forms a guard, so that a convex outer face and curved cutting edge are presented to a shaving surface.

13. In a safety razor and in combination, a normally flat blade of rectangular form, flexible in the line of its length, and sharpened along one of its longest edges, devices for bending or convexing and simultaneously holding the blade as bent with a convex outer face and curved cutting edge presented to a shaving surface and one of which devices forms a guard.

14. In a safety razor and in combination, a normally flat blade of thin steel of rectangular form, sharpened along one of its

longest edges, a curved support receiving the blade and contacting at edge portions of the outer surface, a curved member constituting a guard and contacting with the under surface of said blade and manually actuated devices for moving the latter curved member toward the support to grip the blade against the said curved support and simultaneously curve the blade and its cutting edge so that the same presents a convex outer face and curved cutting edge against a shaving surface.

15. In a safety razor and in combination, a normally flat blade of thin steel of rectangular form, sharpened along one of its longest edges, a body member having parts against which the un-sharpened edges of the blade bear, a curved member constituting a guard and coming beneath the blade, and means for actuating the same to simultaneously engage and impart a curved or convex form to the blade and apply a gripping pressure thereto against the body member so that the blade is made convex and its cutting edge curved against a shaving surface.

16. A safety razor having a guard curved as shown, and a blade secured thereto and conforming to its curvature, so that the cutting edge of the blade is flexed and presents a convex flat side to the face.

17. A safety razor having a guard curved as shown, and a blade secured thereto and conforming to its curvature, so that the cutting edge of the blade is flexed and presents a convex flat side to the face with the crown of the curvature at the longitudinal center of the blade.

18. A safety razor having an arched guard, a flexible blade cooperating with the said arched guard and means for clamping the blade to the guard, the cutting edge of the blade following the arch of the guard.

19. A safety razor, comprising a holder having jaws curved transversely of the holder, and a blade confined between said jaws and curved thereby in the direction of its length to present a curved cutting edge to the surface to be shaved.

20. A safety razor comprising a holder having jaws curved transversely, one of which jaws constitutes a guard, a rectangular flexible blade normally flat, confined between said jaws and bent thereby to present a curved cutting edge to the surface to be shaved.

Signed by me this 24th day of Sept. 1906.

OTTO KAMPFE.

Witnesses:

GEO. T. PINCKNEY,
E. ZACHARIASEN.