(Model.)

R. KAMPFE.

SAFETY RAZOR.

No. 344,115. Patented June 22, 1886.

Fig. 1.

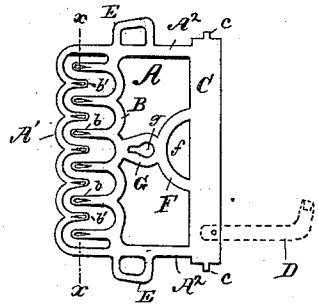


Fig. 2.

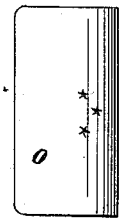


Fig. 3.

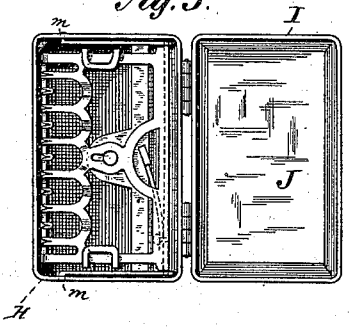


Fig. 4.

Fig. 5.

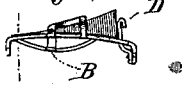


Fig. 6.

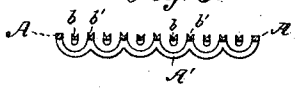


Fig. 7.

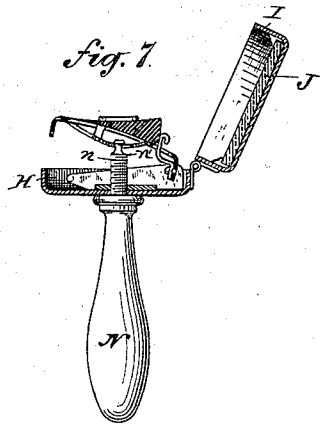


Fig. 8.

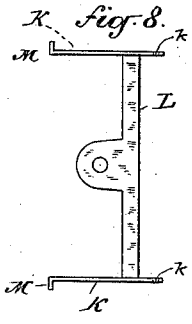


Fig. 9.

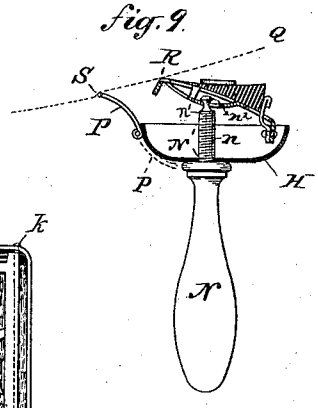


Fig. 10.

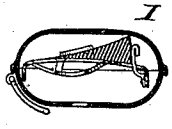
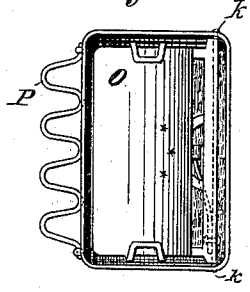


Fig. 11.



Witnesses:
Henry Eichling
E. Brand

Inventor:
Richard Kampfe
per
John F. Meyer
Atty.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

RICHARD KAMPFE, OF BROOKLYN, NEW YORK.

SAFETY-RAZOR.

SPECIFICATION forming part of Letters Patent No. 344,115, dated June 22, 1886.

Application filed May 7, 1885. Serial No. 164,646. (Model.)

To all whom it may concern:

Be it known that I, RICHARD KAMPFE, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification.

My invention is designed to furnish an improved safety-razor provided with a receptacle to catch the lather and prevent the same from running down any portion of the frame or handle and soiling the fingers. When not in use, the blade and its holder fold within this receptacle.

My invention also embraces certain other new and useful features relating to the blade-holder and the means of securing the blade to it, and, lastly, the combination, with the blade, and in convenient relationship to it, of a small mirror, whereby the progress of the operation of shaving may be observed.

My invention is fully illustrated in the accompanying drawings, in the several figures of which like letters indicate like parts.

Figure 1 is a view of the blank from which the blade-holder is formed, and shows by dotted lines the spring employed to hold the cutting-blade forward in position. A loose rivet is employed to secure the spring to the blank. Fig. 2 shows the cutting-blade. Fig. 3 shows the receptacle, having folded within it the arrangement by which the blade is held. It shows also, attached to the receptacle, a lid containing a mirror. Fig. 4 is a side view of the blank shown in Fig. 1. Fig. 5 shows the blank bent into shape, and shows blade in position. Fig. 6 is a sectional end view across the teeth, taken on the line indicated by the letters *x x* in Fig. 1. Fig. 7 is a sectional view showing the blade and holder and supporting-frame and receptacle with its lid and handle all combined, and as in position when in actual use. Fig. 8 shows the supplemental frame used in the modified form of my improved blade-holder. Fig. 9 shows my skin-stretcher as in position for use. Fig. 10 shows the same folded against the under side of the receptacle. Fig. 11 is a top view showing more clearly the form of the skin-stretcher.

A is the blade-holder, which is a skeleton frame, having the scalloped cross-bar B, terminating in the series of teeth *b b*, which are preferably grooved or fluted longitudinally, a scalloped cross-bar, A′, connecting the two sides A^2 A^2 in front, and terminating in the series of teeth *b′*, and a flat bar, C, connecting the sides A^2 A^2 at the back, which bar C is provided with the pins *c*.

D is a spring secured to the bar C by a loose rivet, and its office is to hold the blade firmly forward in its proper position. When the blank is bent into shape to form the blade-holder, the spring comes up through the opening *f* behind the blade.

F is a band forming the opening *f*.

G is a frame, which is secured to the band F and bar B, and incloses the opening *g*, in which the head of the screw projecting from the end of the handle is secured.

E E are the clamps by which the blade is held on to the holder.

H is a box-shaped receptacle to which the blade-holder is hung.

I is the lid of this receptacle, and upon the inside of it is secured a mirror, J. The lid is secured to the box by suitable hinges, or in any usual way; but it will preferably be secured by a form of loose hinge, by which it may conveniently be detached while the box is being cleansed of lather, &c.

The swinging frame which I use in the modified form of my invention consists of two side bars, K, connected by a cross-bar, L, and terminating in the outward-turned projections M. These latter serve as pivots, and are adapted to play in openings *m* in the front corners of the box. *k k* are similar openings in the back corners, adapted to receive the pins *c*. By the use of this frame the back of the blade-holder may be swung out from the box, so that the spring which holds the blade may be readily grasped, and the blade may be removed or inserted with greater facility.

The adjustment of the blade-holder within the box is shown in Figs. 9, 10, and 11, and the employment of the swinging frame is shown in Figs. 3 and 7.

N is a handle terminating in the screw *n*.

O is the cutting-blade.

Q is a dotted line showing the skin in Fig.

9, which illustrates the application of the cutting-blade to the skin.

My invention is put together and adjusted for use as follows: The blank shown in Fig. 1 is, by the aid of suitable tools, bent as shown in Fig. 5—that is to say, the clamps E E are bent over onto the face of the frame to form grooves for the insertion of the blade, which grooves are proportioned precisely to the shape and thickness of the blade. It will readily be understood that the wider the groove the farther the blade will be permitted to go forward, and vice versa. The front edge of the frame, across the line indicated by the letters *x x* in Fig. 1, is bent downward at right angles with the frame, or approximately so. The back edge of the bar C, which carries the spring D, is also bent at right angles with the frame, and the spring D is attached by a loose rivet. This brings the spring into position, so that by an upward motion it may be swung into the opening *f* behind the blade, which has first been laid upon the holder within the clamps E. The spring is curved to incline away from the back of the holder and toward the front, so that it will be necessary to compress it somewhat in placing it behind the blade, and by this means the desired tension is secured. In Fig. 1 the spring is shown attached to the blank before it is bent; but it will probably be found preferable to bend the blank into shape first, and then attach the spring. The bar B and teeth *b* are depressed, so as to afford a free passage for the lather which works its way under the blade. The ends of the teeth *b*, however, are brought up on a level with the ends of the teeth *b'*.

P is my skin-stretcher, which consists of a wire bent so as to present a series of scalloped edges to the skin. It is affixed to the front edge of the receptacle, and so shaped as to project and impinge against the skin a short distance in front of the cutting-edge, as shown in Figs. 9 and 10. When not in use, it may be bent down against the under side of the box, as shown by the dotted line P in Fig. 9. It is secured to the box by any suitable device in the form of a hinge, and stands at any desired angle thereto.

The screw *n*, with which the handle is provided, engages a threaded opening, N', in the bottom of the box, and terminates in a neck and shoulder and swelled end. Having been screwed through the bottom, the end n^2 passes into the large portion of the opening *g*, the shoulder *n'*, which is larger than the opening, striking against the frame G and raising it, so that as it is thrown backward the smaller portion of the opening is brought back around the neck of the screw. By another turn the head of the screw is rigidly locked within the opening *g*. The relative positions of the openings *g* and N' determine the angle at which the blade will stand when the screw is locked within the opening *g*. The lid is raised to the desired angle and held there by the stiffness of the springs, or by any simple catch or equivalent device, and the instrument is ready for use.

For the sake of convenience in cleansing the box of lather it will be found preferable to connect the box and its mirror-carrying lid by a detachable hinge, as above mentioned.

During the operation of shaving the lather, &c., passes between the teeth into the receptacle H, and a portion of it finds its way under the blade and so into the receptacle. The box H may be of any desired depth; but it will be found sufficient, besides being more convenient for carrying in the pocket, if it is made no deeper than is required to catch the lather, which will be found to be half an inch, or less. It is substantially in the form of a box having a bottom and raised sides. When the box is full, it may be quickly rinsed and the operation of shaving resumed. This box prevents the lather from running down on the hands, and is a very desirable and useful feature.

In the safety-razors heretofore in use, with the single exception of Kampfe's patent, No. 228,904, the handle has consisted of a flat extension, usually at right angles, or nearly so, to the cutting-blade, upon which the lather has run, and the soiling of the hands inevitably resulted. This is particularly so when thin lather is used.

The clamps E are different from those heretofore employed in that they are in the form of a skeleton frame, whereas those heretofore in use have been solid. The advantage of this is that the skeleton clamps have all the required strength, coupled with a degree of elasticity, which is desirable for their accurate and convenient adjustment, which is not otherwise obtainable. The solid clamps are unyielding and cannot be adjusted with the same accuracy that my improved skeleton clamps can.

The advantage of the fluted teeth is, many of the hairs which would otherwise be bent down by the bearing of the teeth upon them stand up in the grooves, and are more easily cut by the blade. The advantage of having the teeth in a double series is that while the teeth are brought closer together at the point where they perform their service than is permitted where there is but a single series the interstices between the teeth away from this point may be twice as large as would otherwise be practicable, and thus afford a freer escape for the lather.

Having fully described my invention, what I claim is—

1. The combination, with a blade-holder, of a box-like receptacle having a bottom surmounted by raised sides, adapted to receive and retain the lather and cuttings of the beard, &c.

2. The hinged blade-holder, consisting of the sides A^2, cross-bar B, having the teeth *b*, the cross-bar A', having the teeth *b'*, the bar C, having the pins *c*, a spring, D, the frame G,

provided with the opening *g*, and the band F, provided with the opening *f*, the receptacle H, provided with the threaded opening N', and the handle N, having the screw *n* terminating in the head n^2, substantially as described.

3. The combination of a receptacle, a frame pivoted in said receptacle, and a blade-holder pivoted to said frame, substantially as described.

4. The combination of a support, a blade-holder pivoted thereto, and a screw which engages said holder, and support for holding the former in proper relative position to the latter, substantially as described.

5. The combination of a box or support, a blade-holder pivoted thereto, and a handle provided with a headed screw, which passes through said box and engages said holder, for holding the latter in proper relative position to the former, substantially as described.

6. The combination of a box or support, a blade-holder pivoted thereto, provided with an elongated slot having an enlargement at one end, and a screw which engages said box, and is provided with a head at its inner end, which engages said slot and holds said blade-holder in proper relative position to the box, substantially as described.

7. The combination of a box or support, a blade-holder pivoted thereto and provided with an elongated slot having an enlargement at one end, and a handle having a screw which engages said box, said screw being provided with a head at its inner end, which engages said slot for holding said blade-holder in proper relative position to the box, substantially as described.

8. An improved razor-guard having a double series of teeth, the teeth of each series extending toward, projecting beyond, and alternating with those of the other, one of said series proceeding from a bar connecting the sides at the front portion of the razor-guard, and the next proceeding from a bar connecting said sides at a point back of said first-mentioned bar.

9. An improved tooth for a safety-razor, having a longitudinal groove extending along its face.

10. The combination of a razor-holder provided with a safety device and an independent skin-stretcher in advance of said safety device, substantially as described.

Signed at New York, in the county of New York and State of New York, this 5th day of May, A. D. 1885.

RICHARD KAMPFE.

Witnesses:
E. W. CRANE,
D. KNABE.