(Model.)

F., O. & R. KAMPFE.

SAFETY RAZOR.

No. 358,978. Patented Mar. 8, 1887.

Fig. 3.

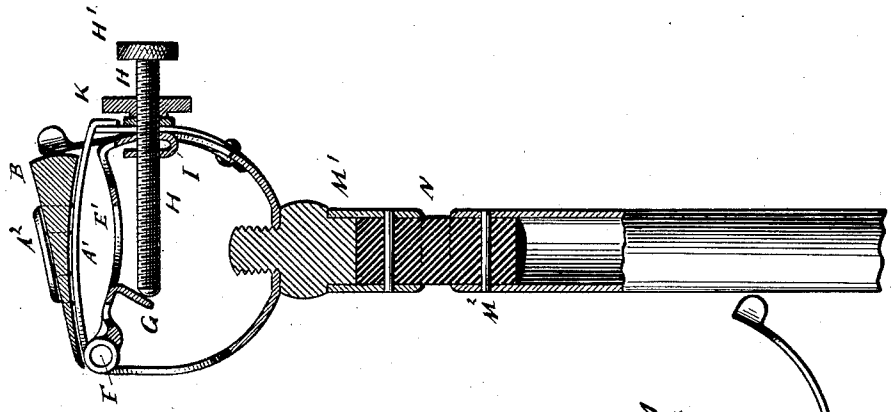


Fig. 2.

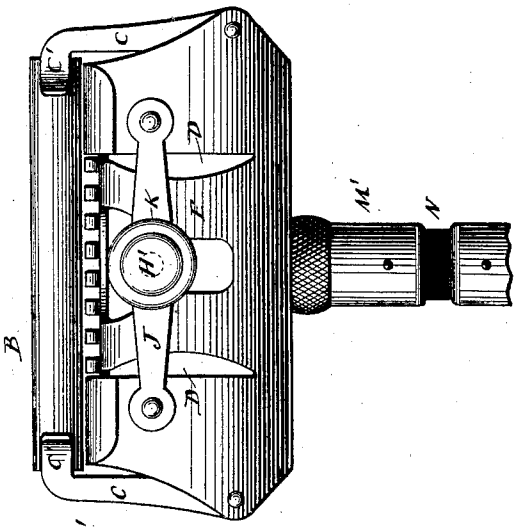


Fig. 4.

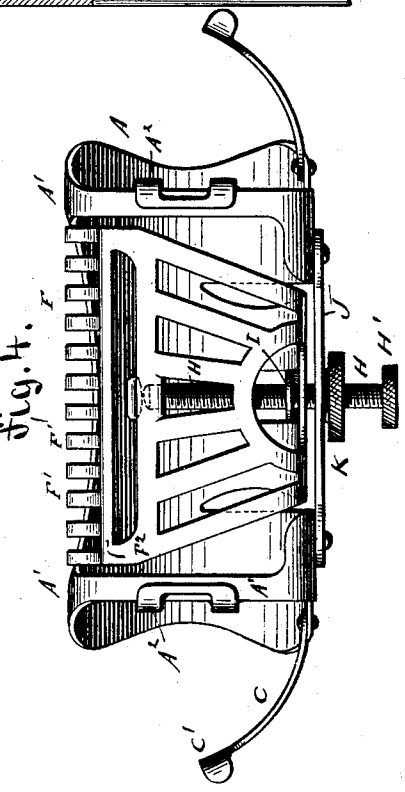


Fig. 1.

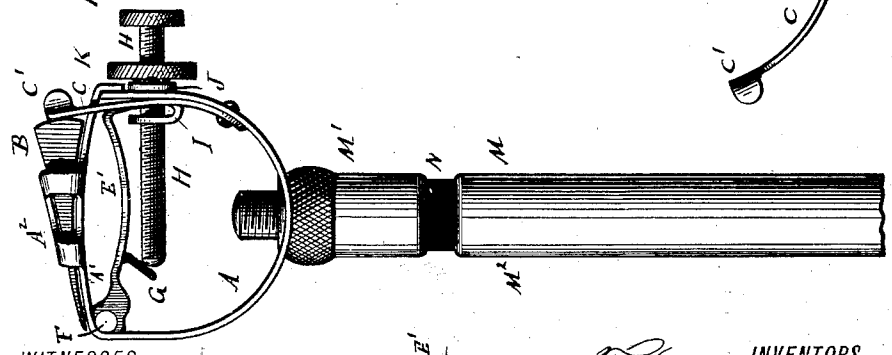
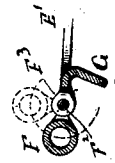


Fig. 5.



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UNITED STATES PATENT OFFICE.

FREDERICK KAMPFE, OTTO KAMPFE, AND RICHARD KAMPFE, OF BROOKLYN, NEW YORK.

SAFETY-RAZOR.

SPECIFICATION forming part of Letters Patent No. 358,978, dated March 8, 1887.

Application filed October 19, 1886. Serial No. 216,674. (Model.)

To all whom it may concern:

Be it known that we, FREDERICK KAMPFE, OTTO KAMPFE, and RICHARD KAMPFE, 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.

This invention relates to certain new and useful improvements in that class of razors known as "safety-razors;" and the object of our invention is to provide a new and improved razor of this kind which is so constructed that the guard can be adjusted and held in relation to the edge of the blade; and a further object of our invention is to provide a handle which is made flexible, so that the blade can more readily follow the curvatures of the face, &c.

The invention consists in the combination, with a suitable frame for holding the blade, of a spring-frame carrying the guard, a screw for acting on said spring-frame, and a nut on the screw for drawing the guard inward and toward the edge of the blade, all as will be fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a front view of our improved safety-razor, part of the handle being broken off. Fig. 2 is a rear view of the safety-razor, part of the handle being broken off. Fig. 3 is a cross-sectional view of the same. Fig. 4 is a top view, the blade being detached. Fig. 5 is a detail cross-sectional view of part of the spring, with the guard on the same.

Similar letters of reference indicate corresponding parts.

The casing A, which is made approximately U-shaped in cross-section, is provided at its top with two cross-pieces, A′, at the ends, on each of which a hook-lug, A^2, is formed, the prongs projecting toward each other, and said hook-lugs serving to hold the blade B, which blade can be locked in place by two spring-catches, C, pivoted to the back of the casing A at the ends, the free ends of the catches C being adapted to rest against the back of the blade B, as shown in Fig. 2, and thus preventing the withdrawing of the said blade, and also keeping the blade in proper position on the top of the frame. The catches C are provided at their swinging ends with lugs C′, to facilitate manipulating the same. Slots D are cut in the back of the casing A to form a spring-arm, E, the upper part, E′, of which is bent at right angles under the top of the casing, and to the front or free end of the said top part, E′, the guard F is fastened, and is thus located near the top of the front of the casing.

The guard F is composed of a series of rings, F′, fastened to a rod, F^2, which is rigidly fastened to the front end of the top part, E′, of the spring-frame E, as shown in Figs. 1 and 4, or said rod F^2 may be mounted to swing in eyes F^3 in the ends of the part E′, as shown in Fig. 5, thus adapting the guard to be swung up or down, as shown in dotted lines in Fig. 5, and thereby admits of placing the guard in different positions. An inclined lug, G, projects downward from the top part, E′, of the spring E, near the front edge of said top part, and directly behind the guard and against said inclined lug the front rounded or beveled end of a screw, H, rests, which screw is mounted to turn in a screw-threaded aperture of a lug, I, formed on the inner side of the spring-frame E, said lug being preferably formed by punching out and bending up part of the spring-frame. The screw H, which has a head, H′, on the outer end, is also passed through a plain aperture in the cross-piece J, fastened to the back of the casing A, as shown in Fig. 2, and extended across the spring-arm E. A nut, K, preferably having a milled head, is screwed on the screw H, between the head H′ and the cross-piece J.

The handle M of the razor is formed of two sections, M′ and M^2, united by a flexible piece, N, preferably made of rubber, which, however, may be substituted by a metal spring.

The operation is as follows: The catches C are swung down, as shown in Fig. 4, the blade B is inserted, and the catches swung up to hold the blade in place. In case that the edge of the blade does not project sufficiently over the guard F, the guard must be drawn inward—that is, in a direction toward the back of the casing. This is accomplished by turning the nut K, which rests against the cross-piece J and cannot travel, and consequently the screw H must travel, but as the nut K is turned the

screw H cannot turn, and only moves in the direction of its length. As the screw passes through the spring-arm E, the same is moved in the direction toward the back of the casing, and as the guard is on said spring-arm it is drawn in the like direction. In case the edge of the blade projects too far over the edge of the guard, the guard must be moved to the front, which is accomplished by turning the nut K on the screw H in the inverse direction, whereby the spring-tension of the frame presses the guard in a direction from the back of the casing. To raise the guard to the edge of the blade, the screw H is turned by means of its head, so as to travel in a direction toward the front of the casing, and then the end of the screw acts on the inclined lug G and throws the top part, E', of the spring-frame E upward.

When the guard is too close to the edge of the blade, the screw H is turned in the reverse direction to permit the spring-tension of the arm E to move the guard downward. As shown in Fig. 5, the guard can have different positions before it is adjusted by means of the screw H and nut K. We are thus enabled to give the guard and edge of the blade any desired position in relation to each other, as circumstances may require. As the handle is made flexible, the razor exerts but a gentle pressure on the skin, and can follow the curvatures, projections, &c., of the face. The spring-handle is of special value for persons having a heavy hand.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a safety-razor, the combination, with a frame and blade-holder, of a guard composed of a series of rings fastened on a rod, substantially as shown and described.

2. A safety-razor having a guard formed of rings fastened on a rod mounted to turn on a suitable holder, substantially as shown and described.

3. In a safety-razor, the combination, with a casing provided with a rectangular bent spring-arm, of a lug or projection on the under side of the upper part of said spring-arm, a guard on the end of the upper part of said spring-arm, and a screw screwed through an aperture of the upwardly-projecting part of the spring-arm and resting against the above-mentioned lug on the spring-arm, substantially as shown and described.

4. A safety-razor having a rectangular spring-arm formed in its casing and a guard on said spring-arm, substantially as shown and described.

5. In a safety-razor, the combination, with a casing having a spring-arm, a cross-piece fixed on the casing, a screw passed through said cross-piece and through a screw-threaded aperture in the said arm, a nut screwed on the screw and resting against the cross-piece, and a guard on the spring-arm, substantially as shown and described.

6. In a safety-razor, the combination, with a casing having a spring-arm, of a cross-piece on the casing, a screw passed through the cross-piece and through a screw-threaded aperture in the spring-arm, a lug on the spring-arm on which the end of the screw rests, a nut on said screw, which nut rests against the above-mentioned cross-piece, and a guard on the spring-arm, substantially as shown and described.

7. A safety-razor having a handle composed of two sections united by a flexible piece, substantially as shown and described.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

FREDERICK KAMPFE.
OTTO KAMPFE.
RICHARD KAMPFE.

Witnesses:
OSCAR F. GUNZ,
CARL KARP.