No. 672,983.

Patented Apr. 30, 1901.

F., R. & O. KAMPFE.

SAFETY RAZOR.

(Application filed Jan. 21, 1901.)

(No Model.)

2 Sheets—Sheet 1.

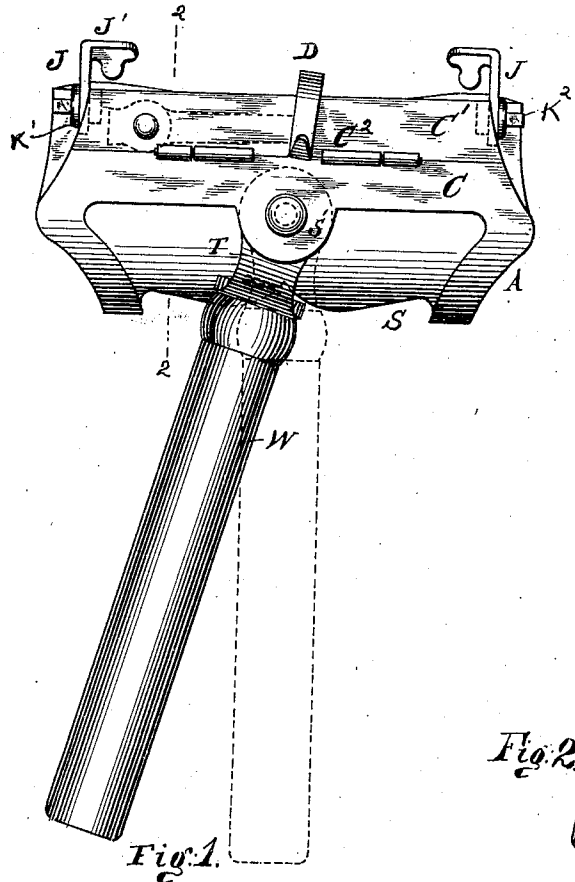


Fig. 1.

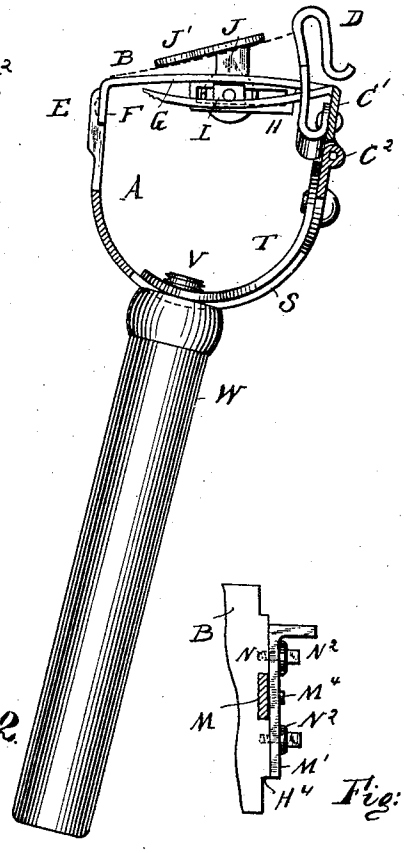


Fig. 2.

Fig. 7.

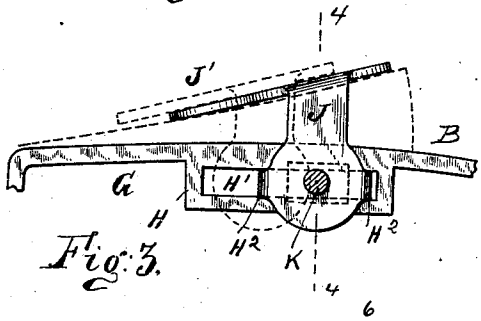


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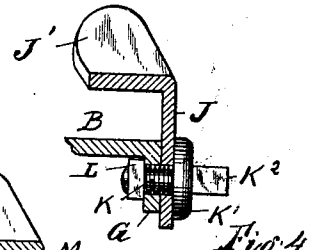


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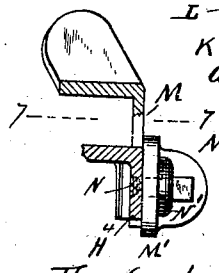


Fig. 6.

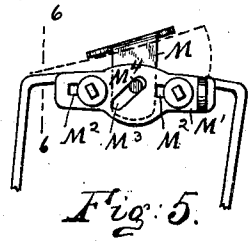


Fig. 5.

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No. 672,983. Patented Apr. 30, 1901.

F., R. & O. KAMPFE.

SAFETY RAZOR.

(Application filed Jan. 21, 1901.)

(No Model.) 2 Sheets—Sheet 2.

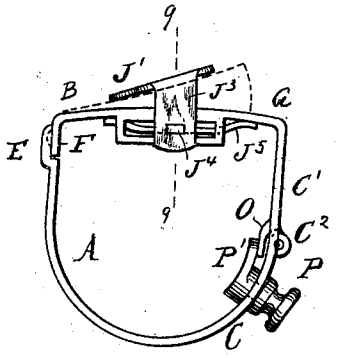


Fig. 8.

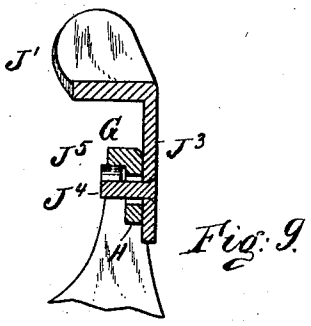


Fig. 9.

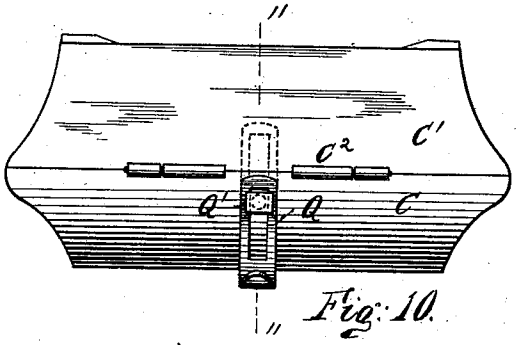


Fig. 10.

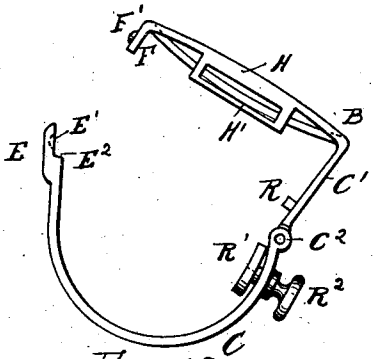


Fig. 12.

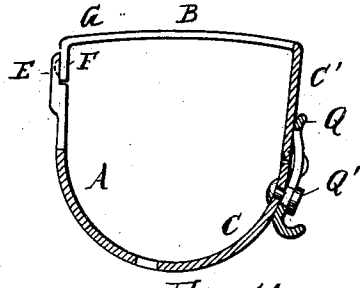


Fig. 11.

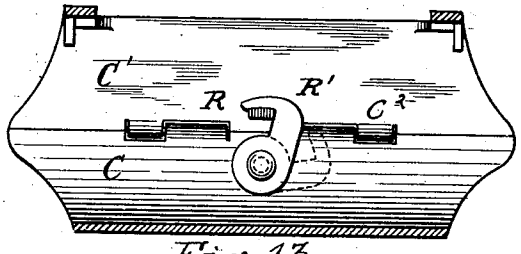


Fig. 13.

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UNITED STATES PATENT OFFICE.

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

SAFETY-RAZOR.

SPECIFICATION forming part of Letters Patent No. 672,983, dated April 30, 1901.

Application filed January 21, 1901. Serial No. 44,047. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK KAMPFE, RICHARD KAMPFE, and OTTO KAMPFE, citizens of the United States, and residents of the city of New York, borough 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.

The object of our invention is to provide a new and improved safety-razor which is simple in construction, permits of readily adjusting the handle at any desired inclination to the blade-holder, of readily cleaning the holder and guard, and adjusting the blade-holding clips in such a manner that a narrow blade as well as a wide blade will be held with its cutting edge in exact alinement with the guard.

In the accompanying drawings, in which like letters of reference indicate like parts in all the views, Figure 1 is a rear view of our improved safety-razor provided with the adjustable handle and blade-adjusting clip. Fig. 2 is a vertical transverse sectional view of the same on the line 2 2 of Fig. 1. Fig. 3 is an enlarged detail side view of the blade-holding clips of Figs. 1 and 2. Fig. 4 is a vertical sectional view on the line 4 4 of Fig. 3. Fig. 5 is an end view of part of the casing, showing a modification of the holding-clip and the means for adjusting it. Fig. 6 is an enlarged detail vertical sectional view on the line 6 6 of Fig. 5. Fig. 7 is a horizontal sectional view on the line 7 7 of Fig. 6. Fig. 8 is an end view of the blade-holding casing, showing a further modified construction of the adjustable blade-holding clip and the locking device for the hinged top of the holder. Fig. 9 is an enlarged detail sectional view on the line 9 9 of Fig. 8. Fig. 10 is a rear view of the blade-holding casing, showing a modified construction of the locking device, parts being omitted. Fig. 11 is a vertical transverse sectional view of the line 11 11 of Fig. 10. Fig. 12 is an end view of the blade-holding casing opened and showing a further modification of the locking device. Fig. 13 is a vertical longitudinal sectional view of the same closed.

The blade-holding casing A, made of sheet metal and substantially U-shaped in cross-section, is provided with the top B, upon which the blade rests. This top B is made integral with the upper part C′ of the back of the casing and is hinged at C^2 to the upper edge of the lower part C of the back of the casing, so that the entire top of the casing, including the guard, which is formed on the front edge of said top, can be swung up and back to open up the casing at the top, as shown in Fig. 12. The guard is thus fully exposed and can readily be cleaned and the lather and hair removed from the same. A blade-retaining spring D or an analogous device is provided on said part C′, as shown in Figs. 1 and 2.

The casing A is provided at its front, at each end, with an upwardly-extending spring-arm E, provided in its inner surface with a recess E′ and a short distance below said recess with an internal shoulder E^2. The hinged top is provided at each end of the swinging front edge with a short downwardly-extending arm F, the bottom edge of which can seat on the shoulder E^2 when the top is closed. Each arm F is provided on its front with a teat or projection F′, which can snap into the recess E′ of the corresponding arm E when the top is closed, and this holds the top in a closed position.

On each top end cross-piece G of the casing A a downwardly-extending wing H is formed, which is provided with a longitudinal slot H′. An angular blade-retaining clip J rests flat on the outside of the wing H and has lugs H^2 bent into the slot H′ for the purpose of holding the clip vertically and guiding the same in said slot in such a manner that the clip can be shifted in the direction from front to rear of the casing, or vice versa. The top flange J′ of the clip is inclined in the usual manner, so as to conform to the shape of the top of the blade. A screw K is passed through the lower end part of the clip J and slot H′ and is screwed into a nut-plate L on the inner side of the wing H. At its outer end the screw K has a flat head K′, adapted to rest on the outer face of the clip, and this head has a squared or other suitable projection K^2,

on which a key or other suitable implement for turning it can be applied. When the screw K is loosened, the clip J can readily be shifted to the front or rear, according to the thickness or width of the blade, and then can be locked in place by tightening the screw K.

Two different positions of the clip J are shown in full and dotted lines in Fig. 3.

As shown in Figs. 8 and 9, the clip J^3 is provided with a pin J^4, which extends through the slot H′ and carries at its inner end a flat spring-strip J^5, the ends of which are bent up to press against the under side of the top end cross-pieces G of the casing. This spring by friction thus holds the clip at any desired point within the limits of the slot H′, and thus permits of adjusting the clip to the front or rear of the casing A, as the dimensions of the blade may require.

In the construction shown in Figs. 5, 6, and 7 the end wing H^4 is provided with a vertical groove in which the vertical shank of a blade-retaining clip M can move vertically. A plate M′ on the outer face of the wing H^4 is provided with two longitudinal slots M^2 and with an inclined slot M^3 between them. A pin M^4 extends from the outer face of the vertical shank of the clip M through the inclined slot M^3. A screw N is screwed through each slot M^2 into a threaded hole in the wing H^4. Each screw N is provided at its outer end with a flat head N′, having a squared or other suitable projection N^2, on which a key or analogous implement for turning it can be applied. When the screws N are loosened, the sliding plate M′ can be pushed to the front or rear, and thereby the clip M is raised or lowered, as the dimensions of the blade may require. After adjustment the plate M′, and with it the clip M, can be locked in place by means of screws N.

As shown in Figs. 8, 10, 11, 12, and 13, the casing may be provided with additional appliances for locking it when closed. In Fig. 8 a wing O extends downward from the inner surface of the hinged part C′ of the back below the hinged edge. In the lower part C of the back of the casing a button P is mounted to turn on the outside of the casing and on the inside of the casing is provided with an arm P′, which can be swung over the downwardly-extending wing O on the hinged section of the back when the casing is closed, thus locking the parts in place. When the arm P′ is swung down to clear the wing O, the top of the casing can easily be swung back and opened up.

In the construction shown in Figs. 10 and 11 a curved longitudinally-slotted locking-plate Q is held by a headed stud Q′ on the outer surface of the bottom portion C of the back in such a manner that it can be moved up or down. When lowered, its upper end clears the bottom edge of the top hinged portion C′ of the back, permitting of swinging the top B upward and backward, and when the plate Q is pushed up to extend over part of the upper hinged portion C′, as shown in dotted lines in Fig. 10 and in full lines in Fig. 11, it locks the top B in place.

The plate Q is preferably made of spring material and has a bend at its center, so as to be securely in position both when raised or lowered. In the construction shown in Figs. 12 and 13 a stud R projects from the inner surface of the hinged portion C′ near the hinged edge and can be engaged when the casing is closed by a hook R′ at the inner surface of the bottom portion C of the back of the casing, which hook is formed on the inner end of a button R^2, mounted to turn on the outer face of the bottom portion of the casing.

For the purpose of reducing the weight of the casing and facilitating the removal of lather the greater part of the back, bottom, and front of the casing is cut away, so as to form a large opening S in the bottom. A lug or projection S′ is formed on the edge of said opening in the back to extend downward, and to the inner face of this lug the upper end of an arm T is pivoted, which is curved the same as the rear and bottom parts of the casing, and this arm extends to a point at the bottom of the casing, but forward of the longitudinal central plane of the casing.

A screw hole or socket is formed in the lower end of the arm T, and into the same the screw V on the upper end of the handle W is screwed. The handle W is always at a slight angle to the central longitudinal vertical plane of the casing and with the arm T can be swung toward either end of the casing at a greater or less inclination to the central transverse plane, from either end of the casing, or parallel with said plane, as shown in dotted lines in Fig. 1, as may best suit the convenience of the user.

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

1. In a safety-razor the combination with a blade-holding casing, of a curved arm pivoted to the back of the casing and extending down to the bottom of the casing and a handle secured on the lower end of said arm, substantially as herein shown and described.

2. In a safety-razor, the combination with a blade-holding casing, of an arm pivoted to the same, to swing toward the ends of the casing and a handle secured to said arm, substantially as herein shown and described.

3. In a safety-razor the combination with a blade-holding casing, having the greater part of its bottom, back and front cut away, of an arm pivoted to the remaining part of the back of the casing which arm is curved and extends down into the opening in the bottom of the casing, and a handle attached to the lower end of said arm, substantially as herein shown and described.

4. In a safety-razor, the combination with a blade-holding casing having the greater part of its back and front cut away and having a

downwardly-extending wing formed on the remaining part of the back, of a downwardly-curved arm pivoted to said wing and a handle attached to the lower end of said arm, substantially as herein shown and described.

5. In a safety-razor, the combination with a blade-holding casing, of an adjustable blade-holding clip at each end of the top of the casing and a plate mounted on each end of the casing to slide transversely to the length of the casing for adjusting the position of the clip, substantially as herein shown and described.

6. In a safety-razor, the combination with a blade-holding casing, of an adjustable blade-holding clip at each end of the top of the casing, a plate mounted on each end of the casing to slide transversely to the length of the casing for adjusting the position of the clip and means for holding such sliding plate in place after adjustment, substantially as herein shown and described.

7. In a safety-razor, the combination with a blade-holding casing, of a top hinged at the back of the casing, and provided at each end at the front with a downwardly-projecting arm having a projection on its outer face, and an upwardly-extending arm at each end of the front of the casing, which arm is provided on its inner surface and at its upper end with a recess and with a shoulder on which the end of the corresponding arm of the hinged top can seat, substantially as herein shown and described.

8. In a safety-razor, the combination with a blade-holding casing, of a top hinged to the casing at the back of the casing, said top having an arm at each end of its front, the casing having an upwardly-extending arm at each end of its front, for engagement with the arms on the hinged top, and a latch on the back of the casing for locking the hinged top in closed position on the casing, substantially as herein shown and described.

Signed at New York city, in the county of New York and State of New York, this 17th day of January, A. D. 1901.

FREDERICK KAMPFE.
RICHARD KAMPFE.
OTTO KAMPFE.

Witnesses:
OSCAR F. GUNZ,
N. M. FLANNERY.