No. 672,984. Patented Apr. 30, 1901.

F., R. & O. KAMPFE.

SAFETY RAZOR.

(Application filed Mar. 1, 1901.)

(No Model.) 2 Sheets—Sheet 1.

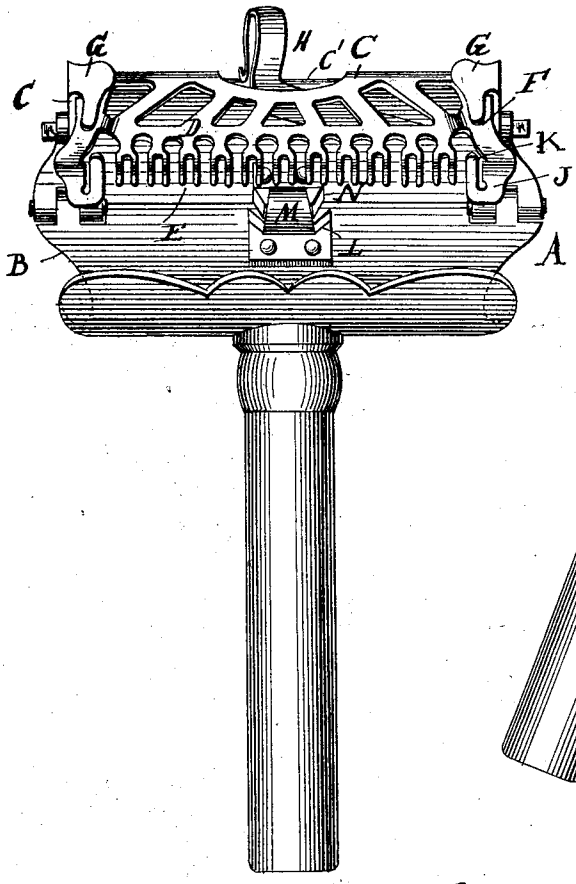


Fig. 1.

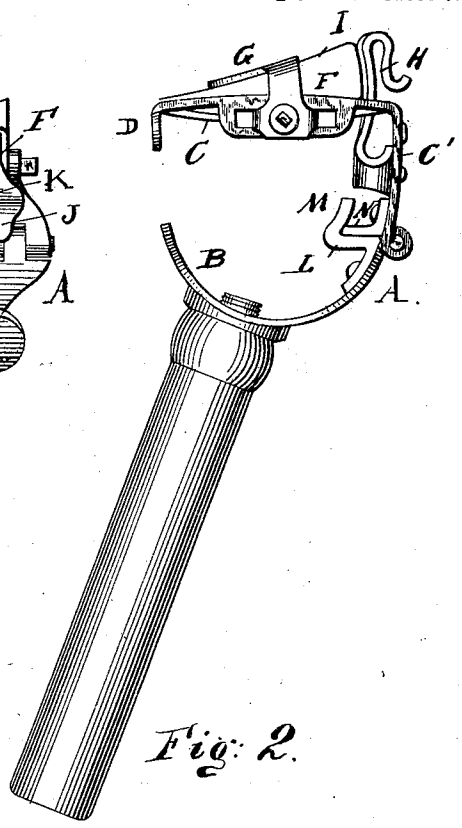


Fig. 2.

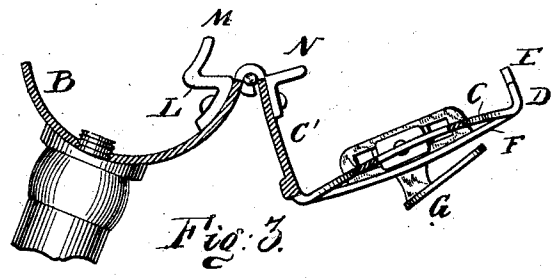


Fig. 3.

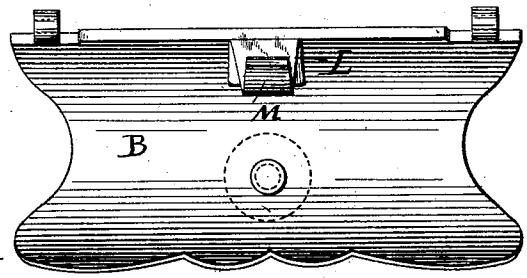


Fig. 4.

WITNESSES:

F. Stallman

H. M. Flaney

INVENTORS

F. Kampfe

R. Kampfe

O. Kampfe

by O Scott Gunz

their ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 672,984. Patented Apr. 30, 1901.

F., R. & O. KAMPFE.

SAFETY RAZOR.

(Application filed Mar. 1, 1901.)

(No Model.) 2 Sheets—Sheet 2.

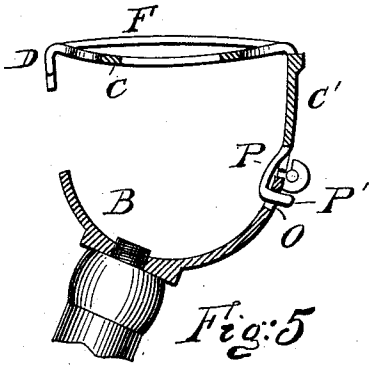


Fig: 5

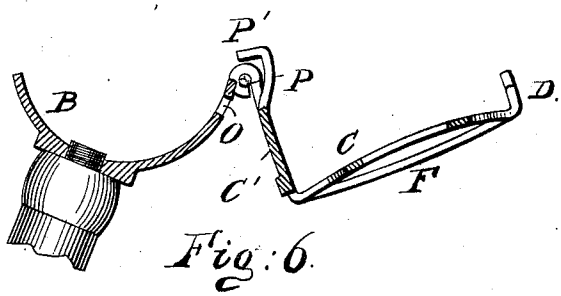


Fig: 6.

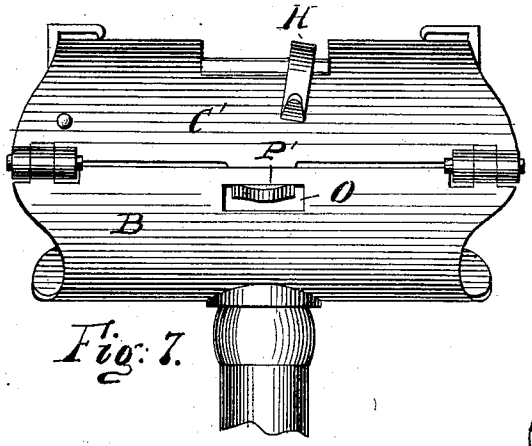


Fig: 7.

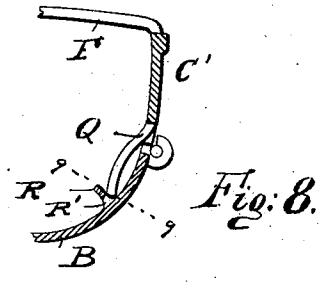


Fig: 8.

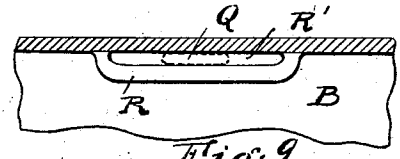


Fig: 9.

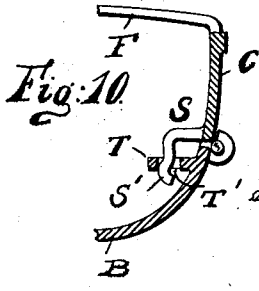


Fig: 10.

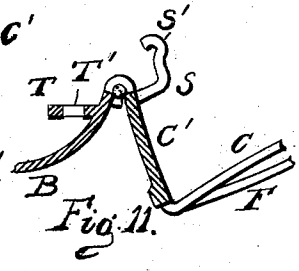


Fig: 11.

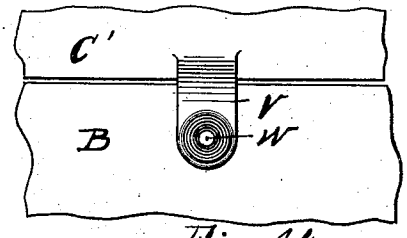


Fig: 14.

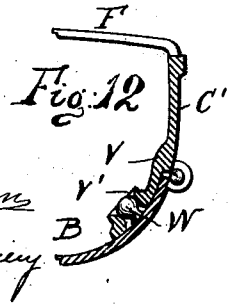


Fig: 12.

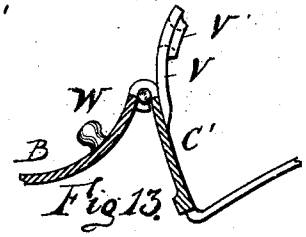


Fig: 13.

WITNESSES:

F. Stallman

H. M. Flanney

INVENTORS

F. Kampfe

R. Kampfe

O. Kampfe

by Oscar F. Gunz.

ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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

SAFETY-RAZOR.

SPECIFICATION forming part of Letters Patent No. 672,984, dated April 30, 1901.

Application filed March 1, 1901. Serial No. 49,398. (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, light, strong, and durable, holds the blade firmly in place and at proper adjustment in relation to the guard, and which safety-razor has its casing so constructed that the entire top can be swung up and back, so as to fully expose the guard, the under side of the top of the casing, and the upper side of the bottom of the casing, and so as to permit of readily and thoroughly removing the lather and hair and thoroughly cleaning and drying the blade-holder.

In the accompanying drawings, in which like letters of reference indicate like parts in all the views, Figure 1 is a front view of our improved safety-razor. Fig. 2 is an end view of the same closed. Fig. 3 is a vertical central transverse sectional view of the same opened. Fig. 4 is a plan view of the bottom section. Fig. 5 is a vertical transverse sectional view through the closed razor, showing a modified locking device. Fig. 6 is a similar view opened. Fig. 7 is a rear view closed. Fig. 8 is a part of a transverse sectional view showing another modification of the locking device. Fig. 9 is a sectional plan view on the line 9 9 of Fig. 8. Figs. 10 and 11 are vertical transverse sectional views showing still another modification of the locking device in two positions. Figs. 12 and 13 are vertical transverse sectional views showing still another modification of the locking device in two positions. Fig. 14 is an inside elevation of the rear wall of the casing, showing the locking device illustrated in Figs. 12 and 13 closed.

The casing A or blade-holder is preferably made of sheet metal and has a substantially U-shaped bottom part B, to the rear edge of which the rear bottom edge of the L-shaped top C is hinged in such a manner that said top can be swung upward and backward, so as to fully expose the under side of the top C and the upper side of the bottom part B. As shown, the rear vertical part C′ of the top C forms the upper part of the rear wall of the casing A when the top is swung down and closed.

On the free front edge of the hinged top C the guard D is formed, which is shown as consisting of a series of L-shaped forked teeth E, but may be of any other construction.

The top C is provided with openings, as shown, and is concaved and is provided at each end with a convexly-curved end piece F, which serves to support the ends of the blade in the conventional manner.

At each end of the hinged top a blade-retaining clip G of any approved construction is provided, and on the vertical rear part C′ of the top C a blade-retaining spring H or analogous device is mounted.

The blade-supports or end pieces F terminate at the front in a short downwardly-extending lug J, so as to leave a clear open space between the free end of said support and the upper edge of the front of the bottom part B. At the inner edge of each lug J an upwardly-extending arm K is formed, which extends slightly above the top of the guard and is parallel with the front of the casing. These arms K, one at each end of the casing, form stops for the front cutting edge of the blade I, so as to hold the blade with said cutting edge in proper alinement with the guard. The arms K can readily be bent backward or forward, so as to adjust them for the proper position of the blade.

When the top section C is swung down, it must be held in place firmly and securely, and at the same time the locking device must be simple and of such construction as to permit of readily swinging the hinged top upward and backward, as shown in Figs. 3, 6, 11, and 13.

As shown in Figs. 1 to 4, a bracket-piece L is secured to the inner surface of the rear wall of the bottom section B, so as to be flush with the upper edge of the same and to extend inward, and on the free end of this bracket-piece an upwardly-extending slightly inclined and curved lip M is formed. A

bracket or angle piece N is secured on the inner surface of the rear vertical part C′ of the hinged top in such a manner that it is flush with the bottom edge of the part C′ and extends inward. The parts L and N are secured to the rear wall of the casing midway between the ends, so as to utilize the spring tension of the two sections of the rear wall for the purpose of holding the casing locked in closed position. When the hinged top is swung from the position shown in Fig. 3 into the position shown in Fig. 2—that is, closed—the end of the bracket N encounters the inner surface of the lip M at the upper end thereof, and if now more or less pressure is brought to bear on the hinged top the central part of the rear section C′ of the top is forced outward and the central part of the rear wall of the bottom section B is forced inward, and the free end of the piece N slides along the inner surface of the lip M until the parts N and L are in contact, as shown in Fig. 2, in which position they are held by the spring tension of the part C′ of the hinged top section C and the rear wall of the bottom section B. To open up the casing, it is only necessary to press upward the free edge of the hinged top, whereupon the sections of the rear wall are forced from each other in a manner analogous to the one described. The hinged top is thus locked in place automatically by forcing it down and likewise automatically unlocked by forcing it up.

In the construction shown in Figs. 5, 6, and 7 the rear wall of the bottom section B has a slot O for receiving a slightly-curved lip P′ on the end of a tongue P, extending downward from the inner surface of the part C′ of the hinged section C beyond the bottom edge of said part C′, the lip P′ extending outward. When the top section C is swung in place to close the casing, the lip P′ is forced against the upper edge of the slot O, the spring tension of the part C′ and of the rear wall of the bottom section B acting in the manner just described to hold the parts locked. In the construction shown in Figs. 8 and 9 a curved tongue Q projects down from the inner surface of the part C′, below the edge of the same, and can pass into a slot R′, formed in a bracket R, projecting from the inner surface of the rear wall of the bottom section B, the spring tension of the part C′ and of the rear wall of the bottom section B also serving, in a manner just described, to hold the parts locked.

In the construction shown in Figs. 10 and 11 an L-shaped tongue S projects from the inner surface of the part C′ and is curved at its free end, as shown at S′. A bracket T, having a slot T′, projects from the inner surface of the rear wall of the bottom part B, and when the hinged top is swung down the said curved end S′ passes into the slot T′ and engages one edge of the same.

In the construction shown in Figs. 12, 13, and 14 an arm V projects downward from the inner surface of the part C and has a socket V′ formed in its free end. A ball or button-head stud W projects from the inner surface of the bottom section B in such a manner that when the hinged top C is swung down and closed the stud W snaps into the socket or hole V′, as shown in Fig. 12, and thus locks the parts in place. To unlock it, it is only necessary to swing the hinged top upward, as thereby the arm V′ is moved away from the stud W.

The locking mechanism in all constructions shown is entirely within the casing and on the same side or wall of the casing on which the hinge-joint is formed. The casing is open at the front from end to end and there is no connection whatever, either temporary or permanent, between the top and bottom parts of the casing at the front.

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

1. In a safety-razor, a blade-holding casing having its top hinged to the body of the casing at the rear and a locking device on the rear of the casing for holding such hinged top in closed position, the top and bottom parts of the casing being entirely disconnected at the front, substantially as herein shown and described.

2. In a safety-razor, a blade-holding casing having its top hinged to the body of the casing at the rear and a locking device on the rear of the casing for holding such hinged top in closed position, which locking device acts automatically to both lock and unlock when the hinged top is forced down or up, substantially as herein shown and described.

3. In a safety-razor, a blade-holding casing, having its top hinged to the body of the casing at the rear and a locking device on the rear of the casing and entirely within the casing and serving for holding such hinged top in closed position and which locking device acts automatically to lock and unlock both when the hinged top is forced down or up, substantially as herein shown and described.

4. In a safety-razor, a blade-holding casing composed of a bottom part, and a top part hinged to the upper rear edge of the bottom part to swing upward and toward the rear, said top part having convex blade-supporting transverse end pieces and end blade-retaining clips, the front of the hinged top being entirely disconnected from the front of the bottom section and a locking device for locking the hinged top in place for use on the bottom part, substantially as herein shown and described.

5. In a safety-razor, a blade-holding casing having a bottom section and a top section, hinged to each other at the rear to permit swinging the top section upward and toward the rear, two projecting members on the inner surface of the rear wall of the casing of which one member is on the top section and

the other on the bottom section, said two members being adapted to engage, for the purpose of locking the top section in place when it is swung down toward the front, substantially as herein shown and described.

6. In a safety-razor, a blade-holding casing having a top section hinged at its rear to the rear wall of a bottom section to swing upward and toward the rear, a projecting part on the inner surface of the rear part of the hinged top and extending down beyond the bottom edge of said hinged part and a means on the inner surface of the bottom section for engaging the projection on the hinged section, substantially as herein shown and described.

7. In a safety-razor, a blade-holding casing, substantially U-shaped in cross-section and entirely unobstructed in its interior from front to rear and a guard formed on the front edge of its top and an opening in the front of the casing extending entirely from end to end of the casing directly below the guard, substantially as herein shown and described.

8. In a safety-razor, a blade-holding casing, substantially U-shaped in cross-section and provided with a hinged top having a guard at its front edge and also provided at the ends with convex transverse end pieces for supporting a blade, said end pieces each terminating at the front of the casing in a short disconnected downwardly-extending lug, substantially as herein shown and described.

9. In a safety-razor, a blade-holding casing having a hinged top provided at its front edge with a guard and at each end with a transverse blade-supporting end piece, said end pieces each terminating at the front in downwardly-extending lugs, and each lug having an upwardly-extending arm along its inner edge, which arm extends above the guard and is in a plane parallel with the front of 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 26th day of February, A. D. 1901.

FREDERICK KAMPFE.
RICHARD KAMPFE.
OTTO KAMPFE.

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