No. 770,767. PATENTED SEPT. 27, 1904.

M. A. MIHILLS.

SAFETY RAZOR.

APPLICATION FILED DEC. 28, 1903.

NO MODEL.

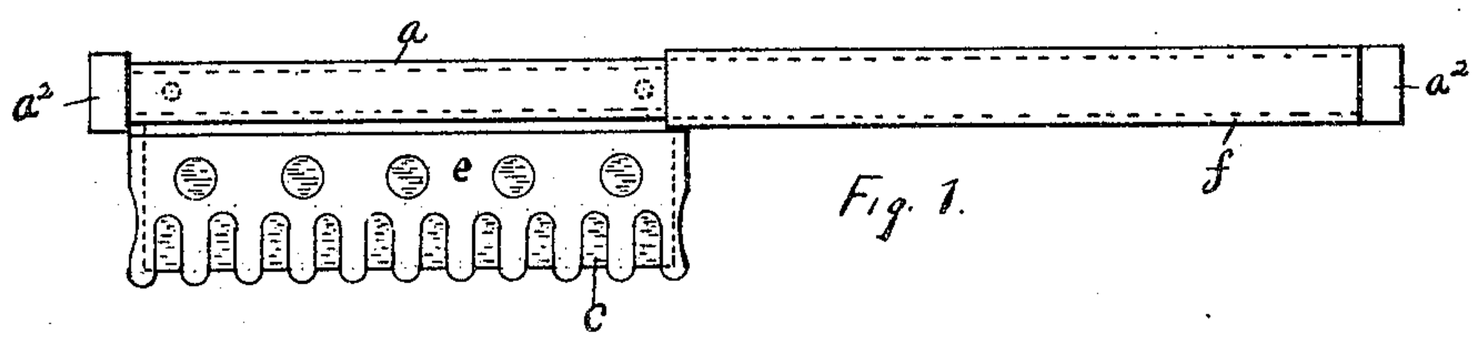

Fig. 1.

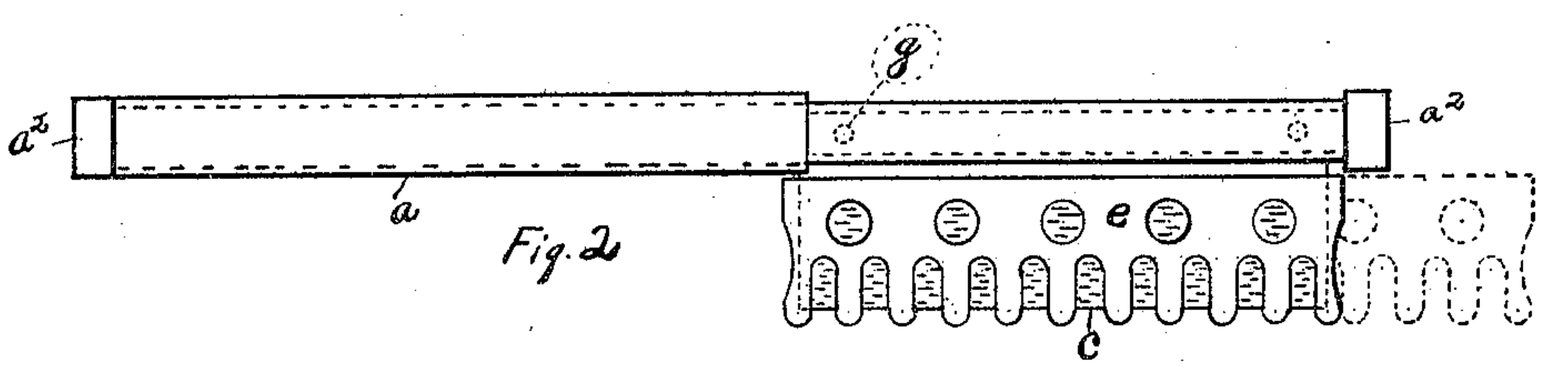

Fig. 2.

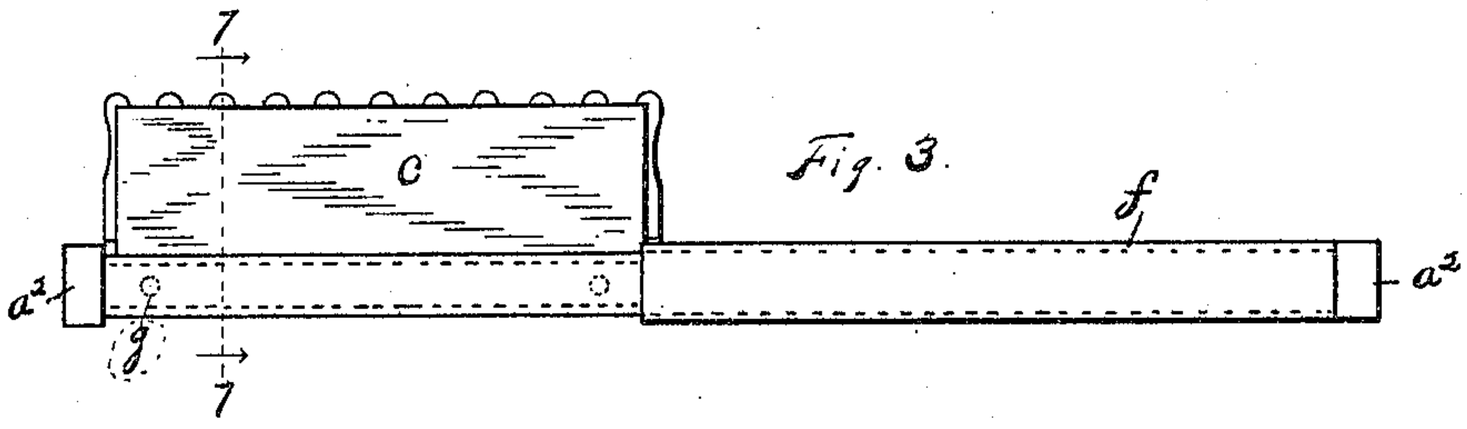

Fig. 3.

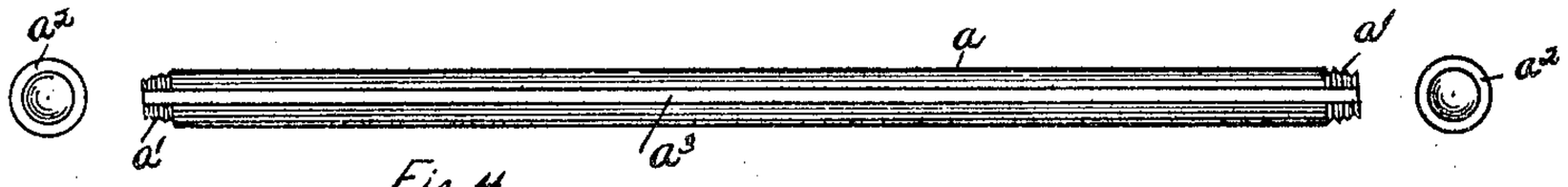

Fig. 4.

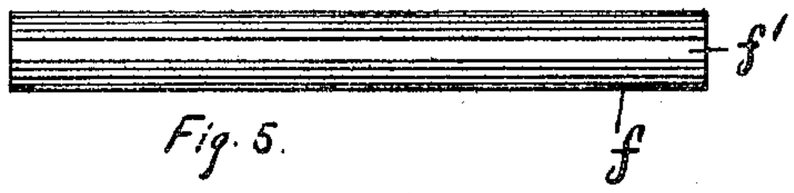

Fig. 5.

Fig. 6.

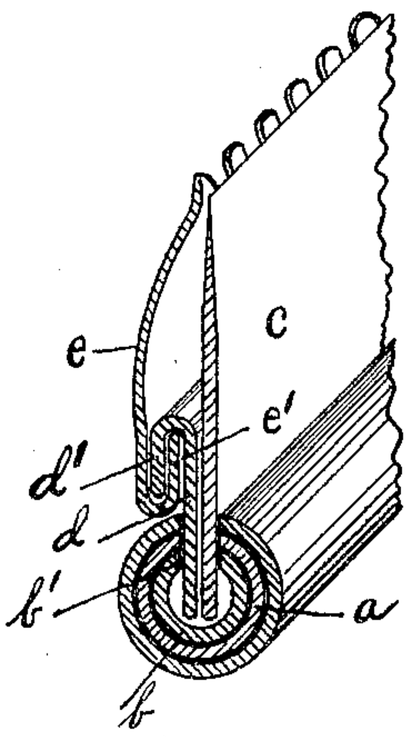

Fig. 7.

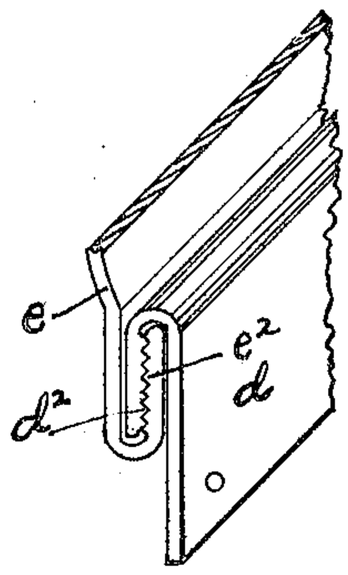

Fig. 8.

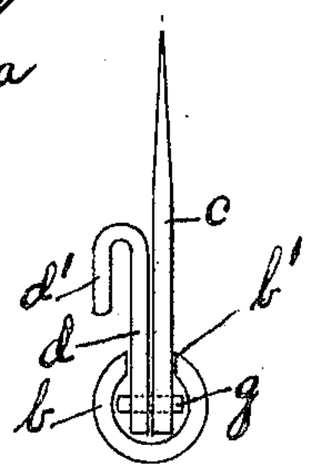

Fig. 9.

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No. 770,767. Patented September 27, 1904.

UNITED STATES PATENT OFFICE.

MERRICK A. MIHILLS, OF HIGHLAND PARK, ILLINOIS.

SAFETY-RAZOR.

SPECIFICATION forming part of Letters Patent No. 770,767, dated September 27, 1904.

Application filed December 28, 1903. Serial No. 186,783. (No model.)

To all whom it may concern:

Be it known that I, MERRICK A. MIHILLS, a citizen of the United States, residing at Highland Park, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Safety-Razors, of which the following is a specification.

My invention relates to improvements in that class of devices known as "safety-razors;" and the especial object of the improvements is to provide a razor that is capable of being manipulated in the shaving operation by either hand, that will afford full protection to the face when in use in either hand, in which the blade may be separated from the handle or holder to facilitate strapping or honing, and in which the guard may be adjusted longitudinally and vertically to the edge of the razor.

Having the foregoing and other objects of novelty and utility in view, I have produced a razor the preferred construction of which is shown in the accompanying drawings and described in detail in the following specification.

In the drawings, Figure 1 is a side elevation of my improved razor adjusted for use by the right hand of the person shaving himself. Fig. 2 is a similar view of the same device, showing its arrangement for use by the left hand. Fig. 3 is an elevation of the razor from the side opposite that shown in Fig. 1. Fig. 4 is a detail of the handle of the razor. Fig. 5 is a detail of the sleeve that is slidingly mounted on the handle. Fig. 6 is a cross-sectional view of a modified form of said sleeve. Fig. 7 is a cross-section on the line 7 7 of Fig. 3, on an enlarged scale and partly in perspective. Fig. 8 is a detail in perspective, showing a modified construction of the plate and guard. Fig. 9 is a fragmentary detail in end elevation of portions of the razor shown in Fig. 6.

Referring to the drawings in detail, *a* represents a cylindrical tube which serves as the handle of the razor and in one side of which is formed a longitudinal slot a^3. The ends of the tube are threaded, as at *a'*, and are adapted to receive the caps a^2. Slidably arranged within the handle is a short tube *b*, hereinafter designated as the "inner" tube, through which is formed a longitudinal slot *b'*. Through the slot *b'* in the tube *b* is inserted the heel or back of the razor-blade *c*, which corresponds in length to the tube *b*. Secured to the heel portion of the blade by rivets *g* is a plate *d*, having its upper portion bent over and outwardly, as at *d'*, said bent plate corresponding in length to the razor-blade and the inner tube, and said plate and blade are so mounted in the tube *b* that they may be slid endwise therethrough, but are prevented from being otherwise withdrawn from the inner tube by the pins *g*, which extend at right angles to the slot *b'*.

Frictionally engaging the hook portion *d'* of the plate *d* is the guard or shield-plate *e*, which is preferably curved, as shown in Fig. 7, and has its free edge arranged in close proximity to the cutting edge of the blade *c* and has it opposite end bent, as at *e'*, to provide close frictional engagement with the adjacent portion *d'* of the plate *d*.

The construction as above described permits the sliding of the inner tube, the razor-blade, the plate *d*, and the guard *e* at any point on the handle *a*. It also permits the independent sliding of the guard relative to the razor-blade, and, if desired, the guard can be entirely removed by sliding it endwise without affecting the position or relation of the razor-blade to the handle.

In the modified detail construction shown in Fig. 8 I have formed on the inner side of the portions *e'* of the guard *e* and *d'* of the plate *d* a series of longitudinally-extending teeth e^2 d^2, respectively, which intermesh and while permitting the longitudinal movement of the guard on the plate *d* also provide for the vertical adjustment of the guard, thus permitting its free edge to be brought nearer to or farther away from the cutting edge of the razor-blade. This manner of forming the coacting faces of the guard and plate *d* also serves to increase the frictional engagement between said guard and plate, and thus prevent the accidental displacement of the guard when the razor is in use.

When the blade and its guard have been adjusted for use at either end of the handle, the tubular sleeve *f*, which surrounds the latter and has a slot *f'* normally registering with the slot a^3 in the handle, is pushed to the opposite

end of the latter to increase the size thereof. The exterior of the said sleeve may be corrugated, as shown in Fig. 6, to afford a better grip of same by the hand.

It will be evident that the several parts may be so fitted to each other that sufficient frictional engagement will exist to prevent their accidental slipping endwise. It will also be plain that by removing one of the caps a^2 from the handle the blade and its attached plate may be entirely disconnected from the handle.

In the manipulation of my improved safety-razor it will be apparent that the user after shaving so much of his face as he can conveniently with his right hand needs only to slide the blade and guard from the position shown in Fig. 1 to the position shown in Fig. 2, when the razor will be perfectly adapted for use in the left hand. It will also be apparent that if the user desires to uncover a portion of the blade, so as to more readily and easily shave portions of his face, he may slide the guard independently of the blade, and thus entirely uncover a section of the cutting edge of the latter, as indicated by dotted lines in Fig. 2.

I may make various modifications in the manner of slidably mounting the blade and plate d within the handle and also change the method of frictional engagement between the plate d and the guard, such changes being within the general principles involved in my invention. I therefore do not wish to be limited to the exact construction shown and described; but

What I claim, and desire to secure by Letters Patent, is—

1. In a razor of the class described, a tubular handle having in one side a longitudinal slot, a screw-cap on each end of the handle, a sleeve slidingly mounted on the handle and having in one side a longitudinal slot, an inner tube slidingly arranged in said handle and having in one side a longitudinal slot, a razor-blade having its heel mounted in the inner tube and having its cutting edge projecting through the slots in the tubes, a plate having one edge mounted in the inner tube and having its opposite edge projecting through the slots and bent over to form a hook, and a guard having one edge bent over and slidingly engaging the plate-hook and having its opposite edge arranged in close proximity to the cutting edge of the blade.

2. In a razor of the class described, a tubular handle having therein a longitudinal slot, a screw-cap at the end of the handle, an inner tube slidingly arranged in the handle and having in one side a longitudinal slot, a blade mounted in the inner tube and projecting through the slot in the inner tube and through the slot in the handle, and a plate having one edge inserted in the slots adjacent to the blade and having on its outer edge a longitudinal hook adapted to slidingly engage a guard.

3. In a razor of the class described, a tubular handle having a longitudinal slot, a removable stop at the end of the handle, a blade slidingly mounted in the handle and projecting through the slot, a plate having one edge secured to the heel of the blade and having its other edge projecting through the slot and bent over to form a longitudinal hook, and a guard having one edge adapted to slidingly engage the hook.

4. In a razor of the class described, a tubular handle having a slot therethrough, an inner tube slidably arranged in said handle and having a slot therethrough, a razor-blade slidably mounted in said inner tube, a plate secured to said blade, and a guard slidably and removably connected with said plate.

5. In a razor of the class described, a tubular slotted handle, a blade mounted in the handle and projecting through the slot, and a plate mounted in the handle and projecting through the slot and having a bent-over portion adapted to slidingly engage and to carry a guard, the blade and plate being slidable in the slot and usable at either end of the handle.

6. In a razor, a tubular slotted handle having stops at each end, a blade longitudinally adjustable on said handle and removably connected therewith, a guard longitudinally adjustable on said blade and removably connected therewith.

In testimony whereof I affix my signature in presence of two witnesses.

MERRICK A. MIHILLS.

Witnesses:
O. K. TREGO,
F. C. DENNETT.