(No Model.)

W. GREENFIELD.

SAFETY RAZOR.

No. 589,080. Patented Aug. 31, 1897.

FIG. 1.

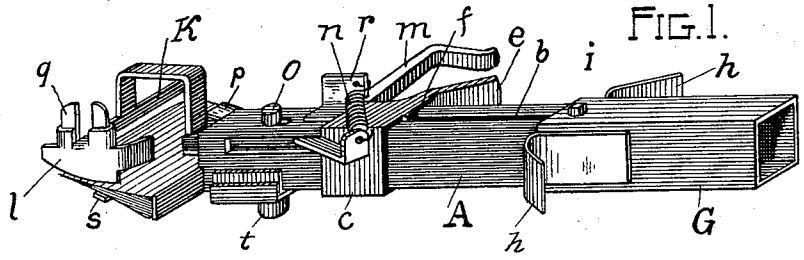


FIG. 2.

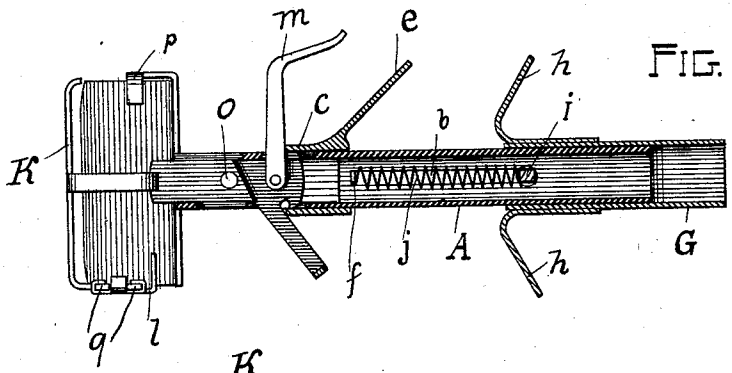


FIG. 3.

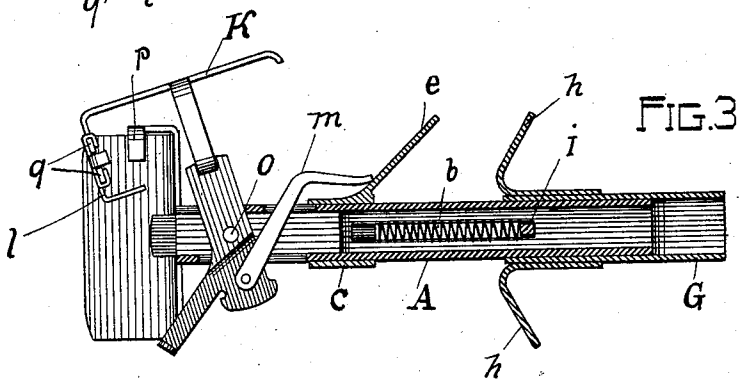


FIG. 4

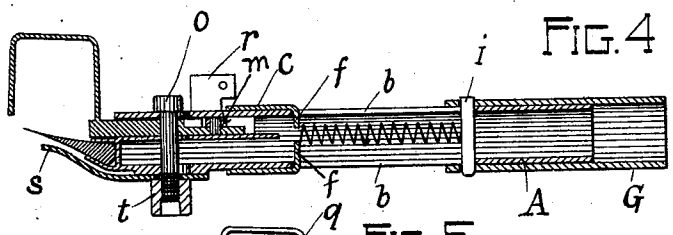
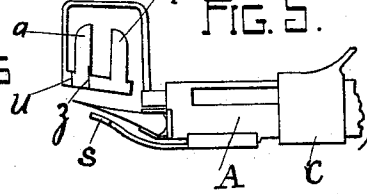


FIG. 5.



WITNESSES

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SAFETY-RAZOR.

SPECIFICATION forming part of Letters Patent No. 589,080, dated August 31, 1897.

Application filed September 15, 1896. Serial No. 605,890. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GREENFIELD, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented certain new and useful Improvements in Safety-Razors; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

My invention relates to certain improvements in that class of shaving devices known as "safety-razors" whereby such implements are rendered more convenient and cleanly and whereby better protection against cutting the face with the razor or shaving-blade is provided.

The general form of my improved safety-razor is similar to that of the ordinary safety-razor now in use. In other words, it is comprised of a handle having a blade or razor holder at one end and provided with guards to prevent the blade or razor from cutting the face when shaving; but the construction and arrangements of the parts are materially different and greatly improved, as will appear from the following description of my improved implement, in which the parts are described with reference to the drawings, in which—

Figure 1 is a perspective view of my invention. Fig. 2 is a sectional plan of the same with the upper guard K and wiper *l* in their natural positions. Fig. 3 is a similar view with the wiper and front guard in the extremity of their stroke. Fig. 4 is a longitudinal vertical section through the center of the razor. Fig. 5 is a side elevation of the blade-end portion of the razor.

The handle A of my improved implement is a hollow tube, which may be square or of other desired form. This tube or handle is made of the desired length and has a longitudinal slot *b* on each side, the two slots being opposite each other and extending from near the lower end of the tube or handle a distance of an inch (more or less) toward the head of the implement. Surrounding the tube at the upper end of the slot is a short sleeve or band *c*, which has a downwardly-inclined lug or projection *e* on its right-hand side, which serves a purpose hereinafter described. A narrow cross-bar *f* extends across the lower end of this sleeve, passing through the upper ends of the two slots *b*, so as to move freely in the slots, but being attached to the sleeve. This cross-bar may be made by forming a short lug on the lower end of the sleeve opposite the slot on each side and bending these lugs inward toward each other through the slots. This is a simple manner of forming the cross-bar. Another and longer sleeve G slides over the lower end of the tube or handle A and has a downwardly-inclined lug *h*, secured to its upper end on each side, which also serve a purpose hereinafter described. A pin or cross-bar *i* passes through the upper end of this sleeve and through the slots *b*, so as to slide freely, and a spiral spring *j* is placed inside the hollow tube or handle between the two cross-bars *f* and *i*. This spring is slight, so that it will be compressed by a slight pressure, thereby allowing the lower sleeve to slide upward when pressure is applied upward against it. These sliding sleeves and their inclined lugs form the holding features of my improved razor, because the user will readily place the forefinger of his right hand underneath the downwardly-inclined lug *e* of the upper slide, while his second finger and thumb will naturally place themselves under the two inclined lugs *h* of the lower slide, thus giving him a shaving grasp upon the handle. When thus held, it is apparent that any upward pressure on the handle will cause the lower sleeve G to slide upward on the handle in the direction of pressure in proportion to the amount of pressure applied. The object of this yielding pressure is to avoid a too sudden pressure of the razor edge against the face and giving an easy gliding movement to the razor instead of a harsh and sudden pressure, thus avoiding one of the disagreeable features of the ordinary safety-razor and greatly facilitating the act of shaving.

The razor or blade is mounted in a holder *p* at the upper end of the handle in the usual way, and I provide two guards instead of one, as heretofore, one on each side of the blade.

The guard K on the front of the razor carries a blade-wiper *l* on one end, as hereinafter described, and is movable about the pivot *o* by means of a lever *m* and spring *n*, by which

it can be moved when desired, so as to carry the wiper the length of the blade, and thus wipe off the lather that has accumulated while shaving. The pivoted bar which carries this guard and blade-wiper extends below the pivot *o* and is there bent outward at an angle, as shown at Fig. 1, where its extremity is connected by a spring *n* with a lug *r* on the handle. The operating-lever *m* extends outward on the opposite side of the handle and is pivoted at its inner end to the pivoted bar below the pivot. The outer end of this lever is bent downward, so that it can be pressed down with the finger upon the downwardly-projecting lug *e* of the upper sleeve. As it is pressed backward the lower end of the operating-lever *m* comes in contact with the edge of the sleeve *c*, the fulcrumed lever *m* forcing the sleeve *c* downward along the slot until the lower end of the bent lever *m* strikes the lug *e*. The point of contact locks the sleeve *c* upon the handle, and the movement of the sleeve having freed the lower end of the operating-lever *m* a further pressure will cause the end of the lever *m* to slide upon the inclined lug *e*, while the fulcrumed end of the lever will swing the swinging plate, thereby operating the wiping mechanism.

The wiper is adjustable to or from the blade in a frame *q* at the end of the guard, where it will be out of the way when shaving, and it consists of a small piece of steel with rounded front edge to conform to the face of the blade.

By the arrangement of my safety-bars and connecting mechanisms the upper portion of the razor-blade is left open and clear, so that it may be quickly and easily cleaned and dried, thereby obviating the annoyance and delay complained of in safety-razors of former design and manufacture.

The guard *s* at the back of the razor is lower than the front guard, so that the position of the two guards will determine the angle at which the implement must be held in shaving, because the two guards are adjusted to the edge of the razor so that when they rest upon the face the cutting edge of the blade is in line between them. The pressure of the guards against the face will then puff out the skin between them sufficiently to cause the razor to cut the beard without fear of cutting the face.

To enable novices to adjust the razor to the guards so that it may be used with safety, I make two notches on the upper guard, the outside notch *u* serving to give a proper alinement to the outer edge of the cutting-blade, while notch *z* alines with the outside edge of the lower guard. By alining these points the blade is fixed in the frame at the proper angle.

The adjustment-points may consist of either notches, marks, points, or other mechanism to plainly direct novices in properly setting the cutting-blade of the razor so that accident will be impossible. These guards are adjustable up and down by means of a slot (shown in Fig. 4) in the bars which support them, and a bolt *o* and nut *l* serve to clamp them in place. The slot permits them to be adjusted up or down, and when they have been placed in proper position they are clamped in place by means of the nut, so that they will remain until adjusted again.

By this construction I provide a superior and greatly-improved safety-razor that can be used by inexperienced persons without the slightest danger of cutting the face. It is easily adjusted and kept in order, and it permits of the blade being wiped and kept clean while shaving, which is essential to good work.

The particular shape and size of the parts can be varied and various modifications and changes can be made in the construction and adaptation of the parts, but these are within the ordinary skill of a mechanic and would not alter the invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a safety-razor a handle made in two or more sliding parts and having a razor-carriage connected with the extremity of one of said sliding parts, a spring applied between said parts to give a yielding pressure against the razor-pressure, substantially as described.

2. In a safety-razor handle composed of sliding sleeves operated by spring-pressure, and carrying a razor-carriage at the extremity of one of said sleeves, finger-lugs connected with said sliding sleeves whereby the razor is applied with a yielding pressure against the face, substantially as described.

3. In a safety-razor having a razor-carriage arranged transversely to the handle, a hollow handle; slots in the sides of said hollow handle opposite each other; sleeves adapted to slide on the hollow handle, and a spring arranged in the hollow handle to resist the movement of the slides, substantially as described.

4. In a safety-razor, guards adjustable longitudinally with the handle relatively to the razor-blade, and a razor-wiper arranged to be moved across the edge of the razor and remove the lather by mechanism operated by the finger of the hand, substantially as described.

5. In a safety-razor, a movable guard having a wiping device at one end and means for causing the guard and wiper to be moved transversely of the handle and lengthwise of the blade so as to wipe off and free the blade and implement from lather, substantially as described.

6. In a safety-razor a pivoted guard, a wiper attached to one end of the guard, a lever attached to the guard-arm below the pivot, a bent extension of the guard-arm below the pivot, and a spring connecting the bent arm with the handle of the implement, substantially as described.

7. In a safety-razor, an adjustable wiper attached to one end of a movable guard and means for causing the guard to move length-

wise of the shaving-blade and carry the wiper along its edge to free it from lather, substantially as described.

8. In a safety-razor having an upper and lower adjustable guard, notches formed on the upper guard adapted to gage the position of the cutting edge of the razor with reference to the angle between said upper and lower guards, substantially as described.

9. In a safety-razor, a wiping device arranged to be moved lengthwise of the shaving-blade, and a locking mechanism adapted to lock it in position when not in use, substantially as described.

10. In a safety-razor, a shaving-blade secured transversely across the end of the handle between two adjustable guards; a handle having yielding sleeves with finger-supporting lugs for giving an elastic pressure against the face; a razor-wiping device adapted to move across the edge of the razor and a locking mechanism adapted to lock the wiping device in position when not in use, substantially as described.

In testimony whereof I have hereunto set my hand this 31st day of August, 1896.

WILLIAM GREENFIELD.

Witnesses:

HARRY J. LASK,

CHAS. J. ARMBRUSTER.