C. W. ARNOLD.

SAFETY RAZOR.

APPLICATION FILED DEC. 11, 1911.

1,049,320.

Patented Dec. 31, 1912.

2 SHEETS—SHEET 1.

FIG. 1.

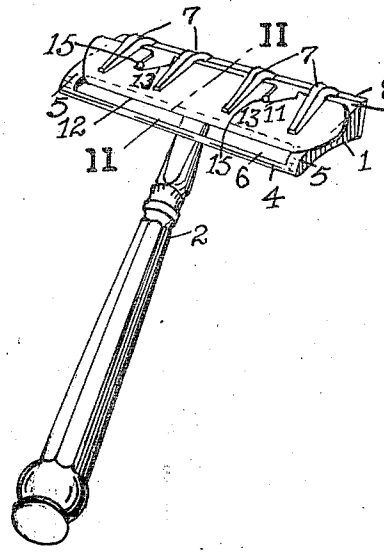


FIG. 2.

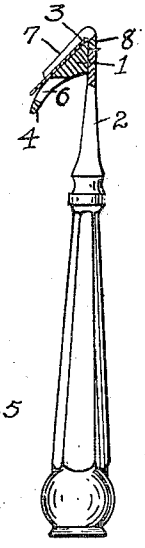


FIG. 3.

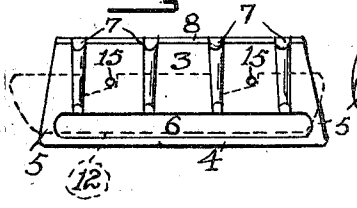


FIG. 4.

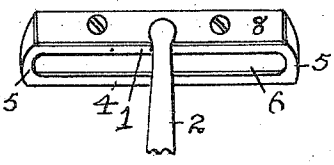


FIG. 5.

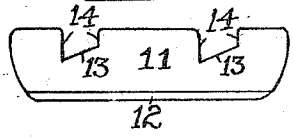
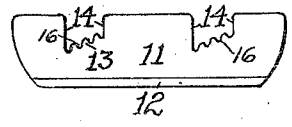


FIG. 6.



WITNESSES

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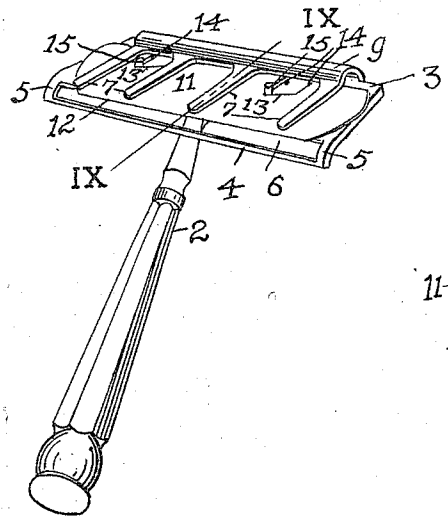
2 SHEETS—SHEET 2.

FIG. 7.



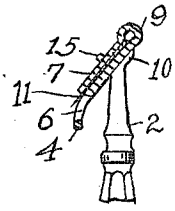


FIG. 8.

FIG. 9.

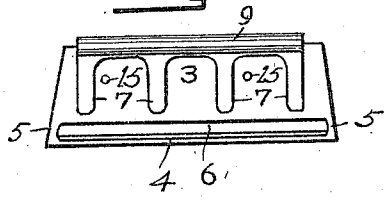
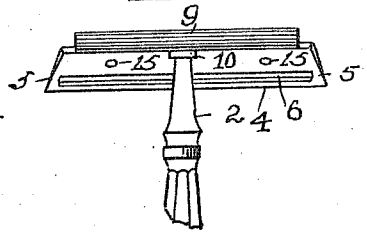


FIG. 10.



WITNESSES

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UNITED STATES PATENT OFFICE.

CLARENCE W. ARNOLD, OF PITTSBURGH, PENNSYLVANIA.

SAFETY-RAZOR.

1,049,320. Specification of Letters Patent. Patented Dec. 31, 1912.

Application filed December 11, 1911. Serial No. 664,911.

To all whom it may concern:

Be it known that I, CLARENCE W. ARNOLD, a citizen of the United States, and residing in the city of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented or discovered new and useful Improvements in Safety-Razors, of which the following is a specification.

My invention consists of a new and improved safety razor.

Generally speaking, it is composed of a head mounted on a handle, a cutting blade mounted on the head, and resilient fingers attached to the head and holding the blade in position. Means are also provided for adjusting the blade in relation to the front of the head or guard whereby the blade may be made to cut either coarse or fine according as either a close or light shave is desired. As a convenient means for such adjustment, I provide one or more studs or projections on the head and engaging oblique surfaces of the blade whereby the shifting of the blade transversely of the head causes the cutting edge of the blade to advance or retreat, as may be desired. Shoulders or stops adapted to engage said studs serve to limit the transverse movement of the blade and to prevent the accidental dismounting of the same.

The handle may be either permanently or removably attached to the head. The resilient fingers may be formed separate from the head and secured thereto, or the fingers and the head may be integral, as, for instance, stamped from a single sheet or plate of material and bent to form.

In the accompanying drawings, Figure 1 is a perspective of my razor showing the fingers made separate from the head and attached thereto; Fig. 2 is a side elevation of the same partially in section along the line II—II in Fig. 1; Fig. 3 is a plan view of the head, the blade being shown in dotted lines; Fig. 4 is a rear elevation of the head; Fig. 5 is a plan view of the blade; Fig. 6 is a similar view showing a slight modification thereof; Fig. 7 is a view, similar to Fig. 1, but showing the head and fingers formed integrally and stamped and bent to form from sheet or plate metal; Fig. 8 is a broken side elevation of the same, partially in section along the line IX—IX in Fig. 7; Fig. 9 is a plan view of the head, and Fig. 10 is a rear elevation of the same.

The following is a detailed description of the drawings:

1 is the head of the razor to which the handle 2 is either permanently or removably secured. I have shown said handle attached to the rear of the head at an angle which is convenient for shaving and which permits packing the razor in a very small compass. The head 1 is provided with a flat blade-platform 3 in front of which is formed the guard.

In the drawings the guard is shown in the form of a bar 4 supported from the body of the head 1 by integral arms 5—5, the arms and bar curving or dropping out of the plane of the platform 3, so that when the blade is mounted its cutting edge extends or is spaced away from the guard. By spacing the guard away from the platform 3 I obtain a slot or opening 6 under the cutting edge of the blade through which the lather and severed beard may escape to avoid clogging the razor. I have shown the guard in the form of a plain bar instead of a toothed or serrated member, but it will be understood that I do not limit myself to such structure.

7—7 represent one or more resilient fingers extending forwardly over the platform 3 whose office is to press the blade down on said platform and prevent its accidental movement thereon.

In Figs. 1 to 4, inclusive, I have shown said fingers formed integrally with a plate 8 secured, as by screws, to the rear face of the head 1. When this construction is used I may form the fingers of steel or phosphorus-bronze to give the required strength and resiliency while the head may be of brass, Babbitt-metal or other suitable material, all the parts being suitably plated or otherwise finished.

In Figs. 7 to 10, inclusive, I show the head of the razor stamped from suitable sheet or plate metal, the guard 4, arms 5, blade platform 3 and fingers 7—7 being formed integrally by bending to proper contour the properly cut blank. The fingers 7—7, in this case, extend forwardly from a curved or looped portion 9 whose other extremity is integral with the material of platform 3. The handle 2 may be of a piece with the head, or, as may be more convenient, threaded or otherwise secured as at 10 to the under portion of the head.

11 is the cutting blade, made of steel or other suitable material, with a cutting edge 12, and preferably of somewhat greater length than the platform 3 so that the fingers may freely grasp the ends of the table in mounting or dismounting the same. The cutting edge is preferably of less length than the rear body of the blade, the ends thereof being curved so that the fingers may exert rearward pressure in pushing blade onto the platform 3 under the fingers 7—7.

13 represents one or more inclined surfaces or walls of the blade 11 disposed diagonally or obliquely or at an angle to the cutting edge 12, and, at the ends of these inclined walls, are vertical walls or stops 14—14; said inclined walls and vertical walls being formed by recessing the blade from the rear edge thereof.

15 represents one or more studs, pins or other projections on the platform 3 adapted to impinge against the surface or surfaces 13 when the blade is mounted. The studs 15 prevent a direct rearward retreat of the blade on the platform, but a movement of the blade transversely of the platform, with the studs 15—15 maintained in contact with said surfaces 13—13 will produce an oblique motion resulting in the advance or retreat of the cutting edge in relation to the guard 4. Thus in Fig. 1 I have shown the blade moved toward the right into its extreme position and retreated as far as capable in relation to the guard 4. In Fig. 3 the blade is moved toward the left to advance the cutting edge to its extreme forward position in relation to the guard 4. The stops 14—14 prevent accidental dismounting of the blade during lateral adjustment.

The more advanced the position of the cutting edge in relation to the guard 4, the more closely will the razor shave, since the extension of the cutting edge beyond the platform 3 is increased. The less said extension, the more lightly will be the shave. By adjusting the surfaces 13—13 in relation to the studs 15—15 the blade may be placed in the proper position to provide a shave of the degree of closeness desired by the user.

The fingers 7—7 serve to hold the blade against movement from any adjusted position, but as an additional safeguard against accidental shifting, I may provide the surfaces 13—13 as in Fig. 6, with a plurality of stud-seats or indentations 16—16 which when occupied by the studs 15—15 effectually lock the blade against lateral or rearward slips.

The structure of my razor is extremely simple and devoid of threaded parts to be screwed together or unscrewed in mounting, adjusting or dismounting the blade. All that is necessary is simply the insertion, shifting or removal of the blade.

My razor is therefore of a very durable yet inexpensive construction, of substantial and pleasing appearance, and capable of being packed in a very small compass without dismembering the same. There being no cylindrical or other complicated or inclosed parts, the frame may be readily cleaned by holding the same under running water and then wiping. The blade is an inexpensive article which may be made of the very highest grade of material without materially affecting the price of the complete razor, and which may be sold in quantities to consumers at a reasonable price.

What I claim is:

1. The combination with a safety-razor blade-platform having a part thereof formed into a guard, said platform having projections thereon, of a blade slidably held on the platform, said blade being slightly longer than said platform so that it may be grasped at the ends by the user, and said blade having recesses in the rear edge thereof, the front edges of said recesses being inclined at an acute angle to the cutting-edge thereof, said inclined edges of the blade-recesses being adapted to come into contact with the said projections on the blade-platform, the said projections preventing rearward motion of said blade away from said guard to a greater or lesser degree, according to the precise location on the said blade inclined edges of the points of contact with said blade-platform projections.

2. The combination with a safety-razor blade-platform having a part thereof formed into a guard, said platform having projections thereon, of spring-members carried by the platform, and a blade slidably held on the platform by said spring-members, said blade being slightly longer than said platform so that it may be grasped at the edges by the user, and said blade having recesses in the rear edge thereof, the front edge of said recesses being inclined at an acute angle to the cutting-edge thereof, said inclined edges of the blade-recesses being adapted to come into contact with the said projections on the blade-platform, the said projections preventing rearward motion of said blade away from said guard to a greater or lesser degree, according to the precise location on the said blade inclined edges of the points of contact with said blade-platform projections.

Signed at Pittsburgh, Pa., this 8th day of December, 1911.

CLARENCE W. ARNOLD.

Witnesses:
J. H. HARRISON,
E. A. LAWRENCE.

Correction in Letters Patent No. 1,049,320.

It is hereby certified that in Letters Patent No. 1,049,320, granted December 31, 1912, upon the application of Clarence W. Arnold, of Pittsburgh, Pennsylvania, for an improvement in "Safety-Razors," an error appears in the printed specification requiring correction as follows: Page 2, line 5, for the word "table" read *blade;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 4th day of February, A. D., 1913.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.