Jan. 11, 1955 A. ANASTASIA 2,698,995

SAFETY RAZOR

Filed April 16, 1954

FIG. 1.

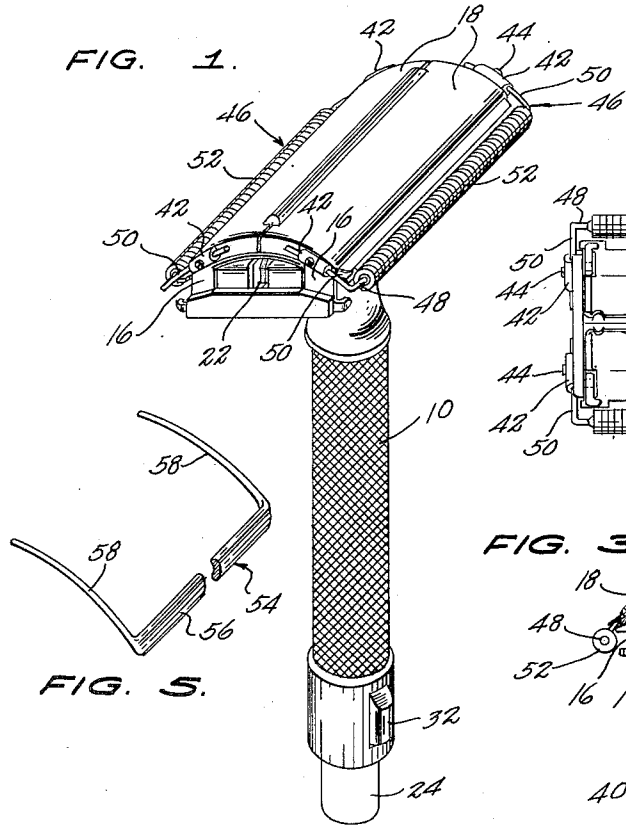


FIG. 2.

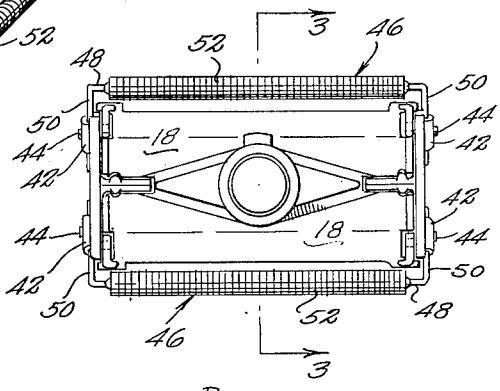
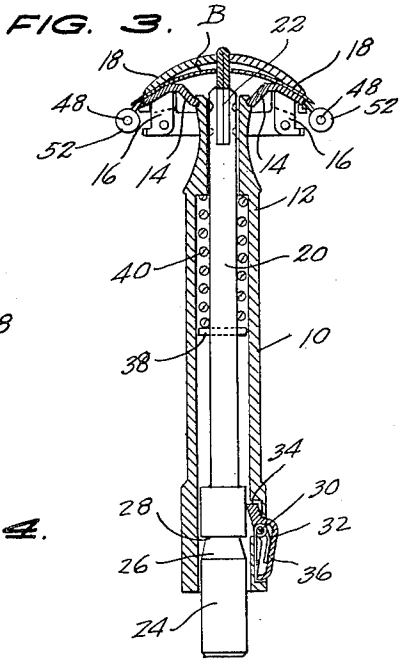


FIG. 5.

FIG. 3.



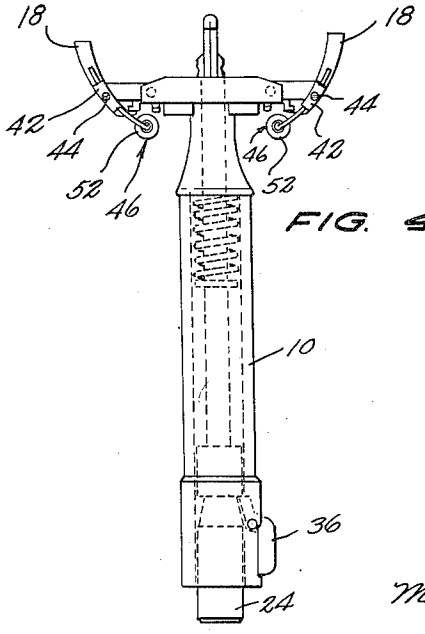


FIG. 4.

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United States Patent Office

2,698,995

Patented Jan. 11, 1955

2,698,995

SAFETY RAZOR

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Application April 16, 1954, Serial No. 423,715

2 Claims. (Cl. 30—60.5)

This invention relates to a safety razor and has for its primary object to releasably hold a razor blade in the head of the safety razor without requiring the use of screw threads or the like in the razor construction.

Another object is to resiliently hold the movable clamping jaws of the safety razor in clamping engagement with the blade thereof and at the same time facilitate the rapid opening of the jaws for permitting the interchanging of the blades of the razor.

Another object is to releasably hold the jaws out of clamping engagement with the blade during the interchanging of the blades.

A still further object is to afford adjustment of guards relative to the cutting edges of the razor blade and to enable guards of different types to be employed.

The above and other objects may be attained by employing this invention which embodies among its features in a safety razor of the type having stationary blade supporting jaws and blade clamping jaws carried by the stationary jaws for movement about parallel axes adjacent the edges of the stationary jaws, a plunger movable between the stationary jaws and operatively connected with the movable jaws for moving the movable jaws into clamping engagement with a safety razor blade mounted on the stationary jaws, and a spring engaging the plunger to yieldingly advance it away from the stationary jaws to hold the movable jaws into clamping engagement with a razor blade supported on the stationary jaws.

Other features include a push button for moving the plunger against the effort of the spring to open the clamping jaws and facilitate the changing of razor blades, and releasable means for holding the plunger advanced against the effort of the yielding means.

In the drawings:

Figure 1 is a perspective view of a safety razor embodying the features of this invention;

Figure 2 is a top plan view of the razor illustrated in Figure 1;

Figure 3 is a transverse sectional view taken substantially on the line 3—3 of Figure 2;

Figure 4 is an end view of the razor showing the blade clamping jaws open; and

Figure 5 is a fragmentary perspective view of a modified form of guard.

Referring to the drawings in detail, a tubular handle **10** is provided adjacent one end with an interior shoulder **12** and carried by the adjacent end of the handle are outwardly extending stationary blade supporting jaws **14** carrying adjacent their outer ends depending arms **16** in which are pivotally supported movable blade clamping jaws **18** which move in intersecting arcuate paths about spaced parallel axes on opposite sides of the handle **10**. The structure so far defined is conventional with certain types of safety razors in which the blades are interchangeable without separating the head from the handle.

Mounted for longitudinal sliding movement through the interior of the handle **10** is a plunger **20** carrying adjacent its end which projects through the end of the handle **10** adjacent the stationary jaws **14** with a cross head **22** which is operatively connected to the movable jaws **18** so that as the plunger moves longitudinally within the handle **10**, the jaws **18** will be moved about the spaced parallel axes previously referred to. Carried by the plunger **20** and extending through the end of the handle **10** remote from the stationary jaws **14** is a push

button **24** having an annular groove **26** extending therearound which defines a shoulder **28**, the purpose of which will hereinafter appear. Pivotally mounted as at **30** in the handle **10** adjacent the end thereof remote from the stationary jaws **14** is a latch **32** having a tongue **34** which is urged toward the push button **24** under the influence of a torsion spring **36** so that when the push button is pressed inwardly relative to the handle, the tongue **34** will engage the shoulder **28** to hold the cross head **22** projected beyond the opposite end of the handle **10**. Extending through the plunger **20** intermediate the ends thereof is a cross pin **38**, and surrounding the plunger **20** between the cross pin **38** and the shoulder **12** is a compression coil spring **40** which exerts yielding pressure on the plunger **20** in a direction to hold the movable clamping jaws **18** in clamping engagement with the razor blade B resting on the stationary jaws **14**. It will thus be seen that the razor blade B will be clamped in place under the influence of the spring **40** and cannot be released until pressure is exerted on the push button **24** to move the plunger **20** against the effort of the spring **40** and the jaws **18** about the spaced parallel axes.

Carried by the movable jaw members **18** and extending outwardly from opposite ends thereof in substantial parallel relation thereto are supporting sleeves **42** carrying set screws **44** which extend into the sleeves **42** in perpendicular relation thereto. In one form of the invention a guard designated generally **46** comprising a supporting bar **48** carrying adjacent opposite ends arms **50** is mounted on each jaw **18** by entering the arms **50** into the sleeves **42** and tightening the set screws **44** to hold the bar **48** at a selected distance from the edge of a razor blade clamped between the jaws **14** and **18**. In this type of guard the bar **48** is provided between the arms **50** with roller disks **52** which serve as guards for the adjacent edges of the razor blade B and owing to the fact that they are rollers, the gliding of the razor over the face is facilitated.

A modified form of guard designated generally **54** comprising a solid guard bar **56** carrying outwardly extending arms **58** may be employed in place of the guard **46** by extending the arms **58** through the sleeves **42** and securing them therein by set screws **44**.

In use, it will be evident that the clamping jaws **18** will be held in clamping relation to the stationary jaws **14** under the influence of the spring **40** and when it is desired to insert or remove a razor blade B from the razor, pressure is exerted on the push button **24** to move the plunger **20** against the effort of the spring **40** and the clamping jaws **18** in the position illustrated in Figure 4. With the jaws **18** in this position, a blade B within the razor may be readily extracted and a new one substituted therefor and upon exerting pressure on the latch **32**, it will be moved against the effort of the torsion spring **36** to extract the tongue **34** from the groove **26** and move it out of engagement with the shoulder **28** to enable the plunger **20** to move under the influence of the spring **40** and close the clamping jaws **18** on the blade to clamp it against the supporting jaws **14**.

From the foregoing, it will be obvious that the blade may be easily and quickly removed from the razor and a new blade substituted with but a minimum of effort on the part of the user.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What is claimed is:

1. In a safety razor of the type having a tubular handle, stationary blade supporting jaws carried by the handle and extending laterally outwardly therefrom adjacent one end thereof, blade clamping jaws carried by the stationary jaws for movement about parallel axes adjacent the edges of the stationary jaws remote from the handle from an inactive position in which they extend outwardly from the stationary jaws to an active position in which they overlie the stationary jaws, a plunger mounted in the handle for movement longi-

tudinally therethrough, means carried by the plunger and operatively connected to the blade clamping jaws for moving them to inactive position when the plunger is advanced toward the end of the handle remote from the stationary jaws, means for moving the plunger away from the stationary jaws and the movable jaws into clamping engagement with a blade supported on the stationary jaws comprising a spring carried by the handle in surrounding relation to the plunger and operatively engaging said plunger for yieldingly advancing it toward the end of the handle remote from the stationary jaws, a push button carried by the plunger and extending through the end of the handle remote from the stationary jaws, said push button having an annular shoulder intermediate its ends, and a spring advanced manually releasable latch carried by the handle for engaging the shoulder and holding the plunger advanced toward the stationary jaws and the movable jaws open against the effort of the spring.

2. In a safety razor of the type having a tubular handle, stationary blade supporting jaws carried by the handle and extending laterally outwardly therefrom adjacent one end thereof, blade clamping jaws carried by the stationary jaws for movement about parallel axes adjacent the edges of the stationary jaws remote from the handle from an inactive position in which they extend outwardly from the stationary jaws to an active position in which they overlie the stationary jaws, a

plunger mounted in the handle for movement longitudinally therethrough, means carried by the plunger and operatively connected to the blade clamping jaws for moving them to inactive position when the plunger is advanced toward the end of the handle remote from the stationary jaws, means for moving the plunger away from the stationary jaws and the movable jaws into clamping engagement with a blade supported on the stationary jaws comprising a spring carried by the handle in surrounding relation to the plunger and operatively engaging said plunger for yieldingly advancing it toward the end of the handle remote from the stationary jaws, hollow sleeves carried by the blade clamping jaws and extending substantially parallel therewith adjacent opposite ends thereof, set screws carried by the sleeves and extending thereinto perpendicular to the longitudinal axes thereof, and blade edge guards removably and adjustably mounted in said sleeves and extending adjacent the edges of the blade supporting jaws remote from the handle.

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