No. 769,114. PATENTED AUG. 30, 1904.

A. W. SCHEUBER.

SAFETY RAZOR FRAME.

APPLICATION FILED MAR. 2, 1903.

NO MODEL. 2 SHEETS SHEET 1.

Fig. 1

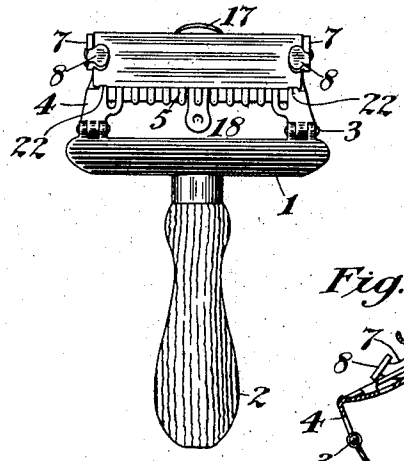


Fig. 2

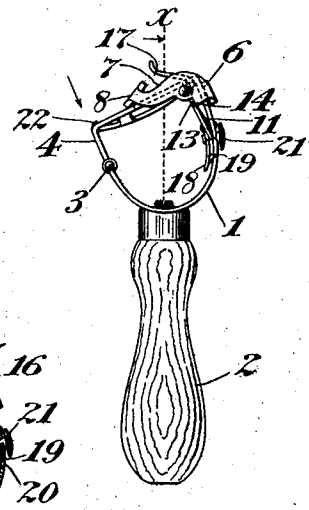


Fig. 7

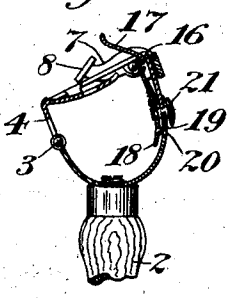


Fig. 3

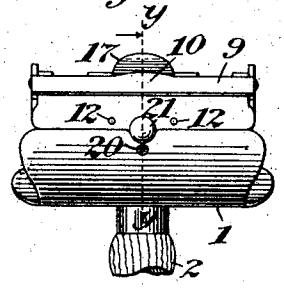


Fig. 4

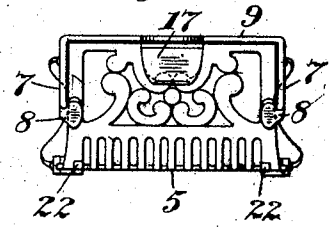


Fig. 5

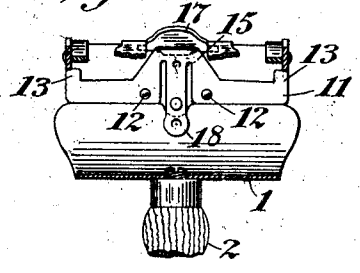
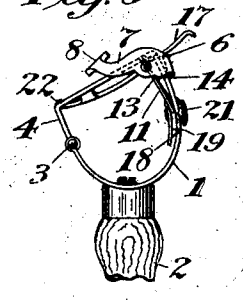


Fig. 6



Witnesses:
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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 8

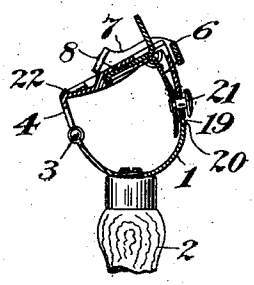


Fig. 9

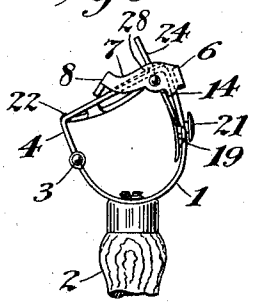


Fig. 14

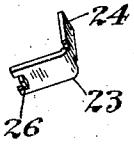


Fig. 11

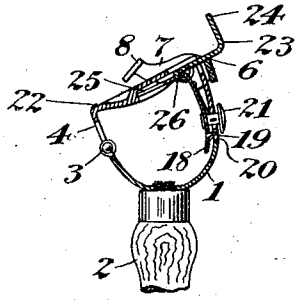


Fig. 10

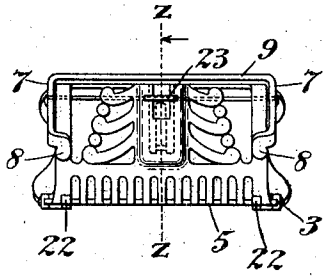


Fig. 12

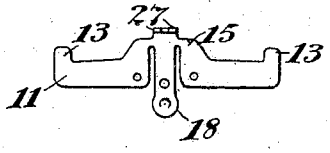


Fig. 13

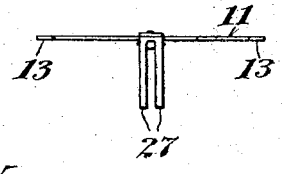
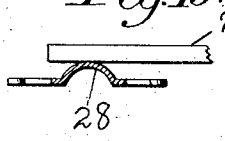


Fig. 15.



Witnesses:
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No. 769,114. Patented August 30, 1904.

UNITED STATES PATENT OFFICE.

AUGUST WM. SCHEUBER, OF HOBOKEN, NEW JERSEY, ASSIGNOR TO HIMSELF, AND JEREMIAH REICHARD, OF CALDWELL, NEW JERSEY, DOING BUSINESS AS REICHARD & SCHEUBER MANUFACTURING COMPANY, A FIRM.

SAFETY-RAZOR FRAME.

SPECIFICATION forming part of Letters Patent No. 769,114, dated August 30, 1904.

Application filed March 2, 1903. Serial No. 145,776. (No model.)

To all whom it may concern:

Be it known that I, AUGUST WILLIAM SCHEUBER, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Safety-Razor Frames or Casings, of which the following is a full, clear, and exact specification.

The object of my invention is to provide a casing having as few parts as possible wherein the blade may be readily inserted or removed therefrom without danger of injuring it; and it consists of the combinations, parts, and improvements hereinafter more fully set forth, and particularly pointed out in the claims.

It further consists in providing an absolutely rigid support for the blade, no matter how imperfectly or unevenly it may be ground, and the invention provides that the blade automatically adjusts itself in a proper position upon being inserted in the casing.

In the accompanying drawings, illustrating two forms of my invention, Figure 1 is a front perspective view showing the casing and a blade in place therein, and Fig. 2 a side view of the casing complete. Fig. 3 is a perspective view of the rear of the casing; and Fig. 4 a top view showing the guard-comb, blade-support, and clips. Fig. 5 is a sectional view taken on lines *x x* of Fig. 2. Fig. 6 is a side view similar to Fig. 2, but showing the lip for holding the blade thrown back and the clips raised; and Fig. 7 is a sectional view taken on lines *y y* of Fig. 3. Another form of my invention is shown in the second sheet of drawings, wherein Fig. 8 is a side sectional view taken on lines *z z* of Fig. 10; Fig. 9, a side view; Fig. 10, a top view of the blade-holder, guard-teeth, &c.; Fig. 11, a side sectional view similar to Fig. 8, but showing the sliding lip pulled out for the insertion of the blade; Figs. 12 and 13, front and top views of the spring for operating the various parts; and Fig. 14 is a perspective view of the sliding lip. Fig. 15 is a detailed view of a portion of the blade-support, hereinafter more particularly described.

In the drawings, 1 represents the conventional casing having the handle 2, and to this casing is pivoted, as at 3, the blade-support 4, provided with the usual guard-teeth 5. To the blade-support and at the ends and back thereof is pivoted the clip-frame 6, consisting of the arms 7 7, carrying the clips 8 and the cross-arm 9, having a slight elevation or projection 10 on its upper side at its middle portion. To the inner and rear face of the blade-support is rigidly secured the yoke-shaped spring 11—for instance, by the rivets 12 12—and this spring serves the following purposes: The ends 13 13 normally press rearwardly against the lugs or shoulders 14 14 on the clip-frame, and thereby exert a constant tension serving to keep the clips down in contact with the top of the blade-support, as in Fig. 2. The head of the yoke 15 bears against a lug 16 on the end of the lip or finger 17, which finger is pivoted to swing at the back of the blade-support, as will be readily understood from Fig. 5, and serves to hold the lip in either of two positions—first, when swung forward to bear against the back of the blade, and, second, when swung back for the insertion of the blade, as shown in Fig. 6. The projecting tongue 18 of this spring has a small projection 19 struck from its surface, which is adapted to engage a recess 20 in the casing, and this acts as a catch which secures the blade-support to the casing and which can be readily operated by the button 21, secured to the spring. It is obvious that by pressing on this button the catch is not only released, but the blade-support is swung open by the same movement. It will likewise be readily seen that when the lip 17 is swung backward for the insertion of the blade it strikes the elevation 10 of the cross-arm 9 and forces it slightly downward, thereby raising the clips and permitting a ready insertion of the blade as far as the stops or studs 22, but no farther, as the clips are not raised high enough to permit the blade to be lifted or forced over the said stops. Upon swinging the lip 17 forward the pressure on the cross-arm is removed and the clips are forced downward on the face of

the blade by means of the spring-arms 13, and the clips bearing against the back of the blade hold it firmly in place against all movement. It will thus be seen that a single spring not only governs the clips and the lip at the back of the blade, but operates the catch holding the blade-support to the casing.

In razors with casings of this type wherein the proper position of the blade is determined by its edge abutting against fixed stops, such as 22, considerable danger exists of breaking the edge of the blade at these points, and this is particularly so where the blade is forced against the stops by a strong spring action, as in the device above described. To lessen this danger, I have produced a modified structure, which, while embodying the general features of my said casing, is provided with a sliding lip or finger for pressing the blade into place which has no tendency to force the blade forward suddenly, but which will hold it firmly when in place.

In the drawings, 23 represents the sliding lip having the upturned portion 24 for engagement with the back of the blade. It slides back and forth in a recess or cavity 25, formed in the top of the blade-support, and has a depending portion 26, moving between the prongs 27 of the bent arm of the spring 11. These prongs normally press upward against the under surface of the recess within which the blade-holding lip moves, and thus forcing it against the under surface of the recess serve to hold the lip securely in any desired position. As in the first form of my invention, when moved back for the insertion of the blade the lip slides over and bears down upon the elevation 10 of the cross-arm 9, thereby depressing it and raising the clips for the insertion of the blade. After the blade is inserted the lip is pushed forward, thereby releasing the clips and permitting them to press down upon the blade, while the back of the lip is moved up to engage against the back of the blade. The tension of the spring-arm 27 causes sufficient friction to retain the lip in the adjusted position and hold it firmly against movement.

In making safety-razor blades the grinding is usually done by hand, and it is almost impossible to grind them uniformly, no two blades ever being of exactly the same bevel or pitch. It thus happens that very few blades will fit accurately upon any given casing, there often being some slight tipping because of the prominence of one supporting portion over another. This impairs the rigidity and firmness of the device, and in order to obviate this difficulty I have devised a structure wherein the blade-support is provided with three points of contact upon which the blade is held or supported when in position. These points of contact are the two front portions of the support just back of the studs 22, which support the ends of the edge of the blade, and a third point of contact, which I have placed at the center near the back of the blade-support, utilizing the upper rounded face or surface 28 of the recess or box 25, which is raised slightly higher than the sides of the rear of the blade-holder, as will be seen in dotted lines in Figs. 9 and 15.

In Fig. 15 a section of the upper face or surface 28 of the box 25 is shown and a portion of a blade in contact therewith. It will readily be seen that the rear support for the blade having no appreciable surface affords no opportunity for the blade to tip, and it is therefore held rigidly in place by the retaining-clips. As is well known, by means of a three-point contact it is possible to secure a firm support for irregular shapes of all kinds, and by this means, no matter how irregularly the blade may have been ground, it is supported firmly upon the blade-support and by means of the fastening devices clamped securely in that position. It will be readily understood that other means may be devised for providing a blade-support which will receive and hold firmly thereon blades of varying bevel or pitch and that the blade-support may be supplied with three points of contact for the blade in many other ways than the specific one shown, and I do not limit myself as to this. It is furthermore obvious that many other modifications and changes may be made without departing from the spirit of my invention, and I do not limit myself to the particular forms shown and described.

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

1. In a safety-razor frame, a casing, movable clips on said casing and a lip adapted to bear against the rear of the blade and to raise the clips, when moved back for inserting the blade, substantially as described.

2. In a safety-razor frame, a casing, movable clips on said casing and normally bearing thereon, and a lip adapted to bear against the rear of the blade when moved forward, and to raise the clips, when moved back for inserting the blade, substantially as described.

3. In a safety-razor frame, a casing, movable clips on said casing, a lip adapted to bear against the rear of the blade when moved forward, and to raise the clips when moved back, and means for operating said clips and said lip, substantially as described.

4. In a safety-razor frame, a casing, movable clips on said casing, a lip adapted to bear against the rear of said blade when moved forward, and to raise the clips when moved back, and spring-actuated means for operating said clips and said lip, substantially as described.

5. In a safety-razor frame, a casing, movable clips on said casing, a cross-arm connecting said clips, a lip adapted to bear against the rear of the blade when moved forward, and to bear against said cross-arm when moved

back, so as to raise the clips for inserting the blade, and means for operating said clips and said lip, substantially as described.

6. In a safety-razor frame, a casing, movable clips on said casing, a cross-arm connecting said clips, a lip adapted to bear against the rear of the blade when moved forward, and to bear against said cross-arm when moved back, so as to raise the clips for inserting the blade, and a spring for operating said clips and said lip substantially as described.

7. In a safety-razor frame, a casing, a blade-support, movably secured to said casing, movable clips and a lip adapted to bear against the rear of the blade when moved forward, and to raise the clips when moved back for inserting the blade, substantially as described.

8. In a safety-razor frame, a casing, a blade-support movably secured thereto, movable clips on said blade-support and normally bearing thereon, and a lip adapted to bear against the rear of the blade when moved forward and to raise the clips when moved back for inserting the blade, substantially as described.

9. In a safety-razor frame, a casing, a blade-support movably secured thereto, movable clips on said blade-support, a lip adapted to bear against the rear of the blade when moved forward, and to raise the clips when moved back and spring-actuated means for operating said clips and said lip, substantially as described.

10. In a safety-razor frame, a casing, a blade-support movably secured thereto, movable clips on said blade-support, a lip, adapted to bear against the rear of the blade when moved forward, and to raise the clips when moved back, and a single spring for operating said clips and said lip, substantially as described.

11. In a safety-razor frame, a casing, a blade-support movably secured thereto, movable clips on said blade-support, a cross-arm connecting said clips, a lip adapted to bear against the rear of the blade when moved forward and adapted to bear against said cross-arm when moved back for inserting the blade so as to raise the clips, substantially as described.

12. In a safety-razor frame, a casing, a blade-support, movable clips on said blade-support, a cross-arm connecting said clips, a lip adapted to bear against the rear of the blade when moved forward, and to bear against the cross-arm when moved back, so as to raise said clips for inserting the blade, and spring-actuated means for operating said clips and said lip, substantially as described.

13. In a safety-razor frame, a casing, a blade-support movably secured thereto, a catch for securing said blade-support to said casing, movable clips on said blade-support and a lip adapted to bear against the rear of the blade when moved forward and when moved back to raise the clips for inserting the blade, substantially as described.

14. In a safety-razor frame, a casing, a blade-support movably secured thereto, a catch for securing said blade-support to said casing, movable clips on said blade-support and normally bearing thereon, and a lip adapted to bear against the rear of the blade and to raise the clips when moved back for inserting the blade, substantially as described.

15. In a safety-razor frame, a casing, a blade-support movably secured thereto, a catch for securing said blade-support to said casing, movable clips on said blade-support, a lip adapted to bear against the rear of the blade when moved forward, and to raise the clips when moved back and integral means for operating said catch, said clips and said lip, substantially as described.

16. In a safety-razor frame, a casing, a blade-support movably secured thereto, a catch for securing said blade-support to said casing, movable clips on said blade-support, a lip adapted to bear against the rear of said blade when moved forward and to raise the clips when moved back, and a single spring for operating said catch, said clips and said lip, substantially as described.

17. In a safety-razor frame, a casing, a blade-support movably secured thereto, a catch for securing said blade-support to said casing, movable clips on said blade-support, a cross-arm connecting said clips, a lip adapted to bear against the rear of the blade when moved forward and adapted to bear against said cross-arm when moved back, so as to raise the clips for inserting the blade, substantially as described.

18. In a safety-razor frame, a casing, a blade-support movably secured thereto, a catch for securing said blade-support to said casing, movable clips on said blade-support, a cross-arm connecting said clips, a lip adapted to bear against the rear of the blade when moved forward and adapted to bear against the cross-arm when moved back, so as to raise said clips for inserting the blade, and spring-actuated means for operating said catch, said clips and said lip, substantially as described.

19. In a safety-razor frame, a casing, a blade-support movably secured thereto, a catch on said blade-support for securing it to said casing, movable clips on said blade-support, a cross-arm connecting said clips, a lip adapted to bear against the rear of the blade when moved forward and adapted to bear against said cross-arm when moved back, so as to raise the clips for inserting the blade, and a spring for operating said catch, said clips and said lip, substantially as described.

20. In a safety-razor frame, a casing having a suitable blade-supporting portion, said portion being provided with but three separate and distinct points of contact for the blade, substantially as described.

21. In a safety-razor frame, a casing having a suitable blade-supporting portion, said portion being provided with but three separate

and distinct points of support for said blade, two of said points being located at the front and one at the rear of the said blade-support, substantially as described.

22. In a safety-razor frame, a casing having a suitable blade-supporting portion, said portion being provided with but three separate and distinct points of support for said blade, two of said points being at the front and sides and one at the center and rear of said blade-support, substantially as described.

23. In a safety-razor frame, a casing, a blade-support having a three-point contact for the blade, movably secured thereto, movable clips, and a lip for bearing against the back of the blade, and integral means for operating said clips and said lip, substantially as described.

24. In a safety-razor frame, a casing, a blade-support having a three-point contact for the blade, movably secured thereto, movable clips and a lip for bearing against the back of the blade and a spring for operating said clips and said lip, substantially as described.

25. In a safety-razor frame, a casing, a blade-support having a three-point contact for the blade movably secured thereto, and movable clips, a lip adapted to bear against the back of the blade and a spring for operating said clips and said lip, on said blade-support, substantially as described.

26. In a safety-razor frame, a casing, a blade-support having a three-point contact for the blade movably secured thereto, and a spring-catch on said blade-support, so arranged that by pressing said catch, the catch is released and the blade-support swung by one operation, substantially as described.

27. In a safety-razor frame, a casing, a blade-support, having a three-point contact for the blade movably secured thereto, a catch for securing the blade-support to said casing, movable clips, a lip adapted to bear against the rear of the blade, and integral means for operating said catch, said clips and said lip, substantially as described.

28. In a safety-razor frame, a casing, a blade-support, having a three-point contact for the blade movably secured thereto, a catch for securing the blade-support to said casing, movable clips, a lip adapted to bear against the rear of the blade, and a spring for operating said catch said clips and said lip, substantially as described.

29. In a safety-razor frame, a casing, movable clips on said casing and a sliding lip adapted to bear against the rear of the blade and to raise the clips, when moved back for inserting the blade, substantially as described.

30. In a safety-razor frame, a casing, movable clips on said casing and normally bearing thereon, and a sliding lip adapted to bear against the rear of the blade, when moved forward, and to raise the clips, when moved back for inserting the blade, substantially as described.

31. In a safety-razor frame, a casing, movable clips on said casing, a sliding lip adapted to bear against the rear of the blade when moved forward, and to raise the clips when moved back, and means for operating said clips and said lip, substantially as described.

32. In a safety-razor frame, a casing, movable clips on said casing, a longitudinal sliding lip adapted to bear against the rear of said blade when moved forward, and to raise the clips when moved back, and a spring for operating said clips and said lip, substantially as described.

33. In a safety-razor frame, a casing, movable clips on said casing, a cross-arm connecting said clips, a longitudinal sliding lip adapted to bear against the rear of the blade when moved forward, and to bear against said cross-arm when moved back, so as to raise the clips for inserting the blade, substantially as described.

34. In a safety-razor frame, a casing, movable clips on said casing, a cross-arm connecting said clips, a longitudinal sliding lip adapted to bear against the rear of the blade when moved forward, and to bear against the cross-arm when moved back, so as to raise said clips for inserting the blade, and spring-actuated means for operating said clips and said lip, substantially as described.

35. In a safety-razor frame, a casing, movable clips on said casing, a cross-arm connecting said clips, a longitudinally-sliding lip adapted to bear against the rear of the blade when moved forward, and to bear against said cross-arm when moved back, so as to raise the clips for inserting the blade, and a spring for operating said clips and said lip, substantially as described.

36. In a safety-razor frame, a casing, a blade-support, having a three-point contact for the blade, movably secured thereto, a catch for securing said blade-support to said casing, movable clips on said blade-support, a cross-arm connecting said clips, a longitudinally-sliding lip adapted to bear against the rear of the blade when moved forward and adapted to bear against the cross-arm when moved back, so as to raise said clips for inserting the blade, and spring-actuated means for operating said catch, said clips and said lip, substantially as described.

37. In a safety-razor frame, a casing, a blade-support, having a three-point contact for the blade, movably secured thereto, a catch on said blade-support for securing it to said casing, movable clips on said casing, a cross-arm connecting said clips, a longitudinally-sliding lip adapted to bear against the rear of the blade when moved forward and adapted to bear against said cross-arm when moved back, so as to raise the clips for inserting the blade, and a spring for operating said catch, said clips and said lip, substantially as described.

38. In a safety-razor frame, a casing having

a blade-support, movable clips, a sliding lip for bearing against the rear of the blade, a recess in said blade-support in which said lip moves, and a spring bearing on said clips and on said lip, substantially as described.

39. In a safety-razor frame, a casing, a blade-support having a three-point contact for the blade, movably secured thereto, movable clips, a sliding lip for bearing against the rear of the blade, a recess in said blade-support in which said lip moves, and a spring bearing on said clips and on said lip, substantially as described.

40. In a safety-razor frame, a casing, a blade-support movably secured thereto, a catch for securing said blade-support to said casing, a clip-frame pivoted on said blade-support, a lip on said blade-support and adapted to bear against the rear of the blade, and a spring for operating said catch, said clip-frame and said lip, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

AUGUST WM. SCHEUBER.

Witnesses:
CLIFFORD E. DUNN,
ROBERT VALENTINE MATHEWS.