

P. A. BOWEN.
SAFETY RAZOR.
APPLICATION FILED DEC. 31, 1908.

965,862.

Patented Aug. 2, 1910.

2 SHEETS—SHEET 1.

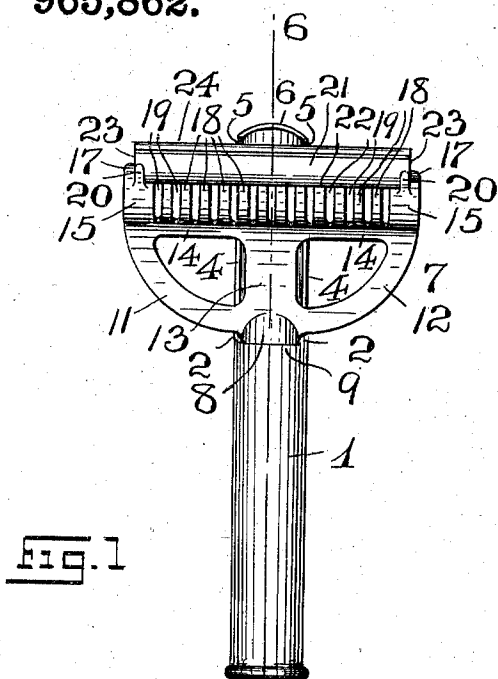


Fig. 1

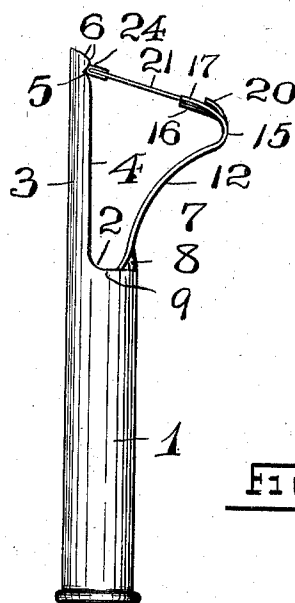


Fig. 2

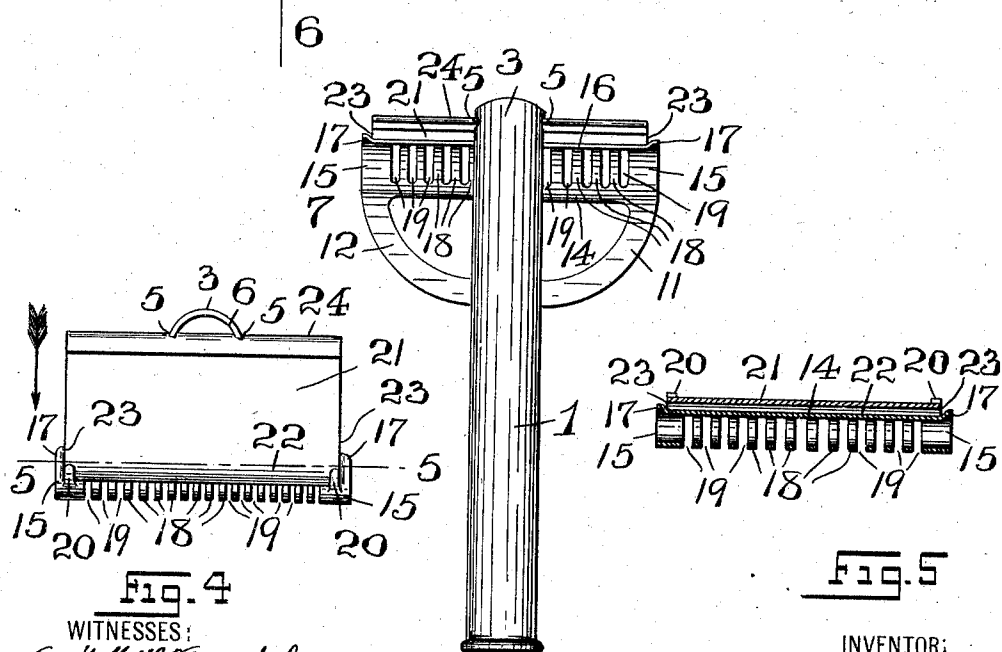


Fig. 3

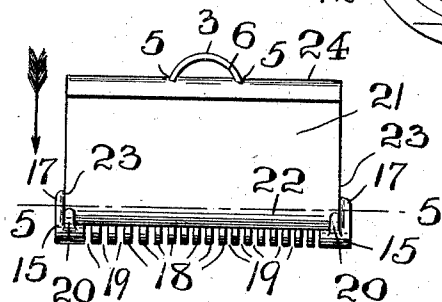


Fig. 4

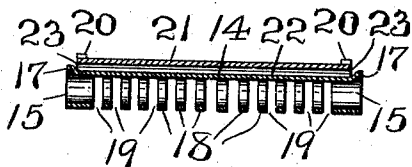


Fig. 5

WITNESSES:

Frank H. W. Fraentzel
Anna H. Allen

INVENTOR:

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ATTORNEYS.

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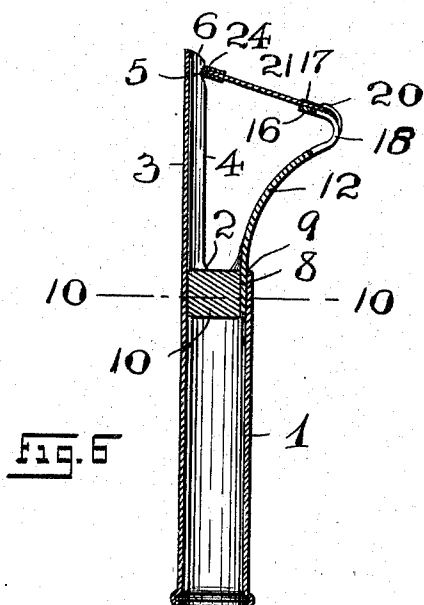


Fig. 6

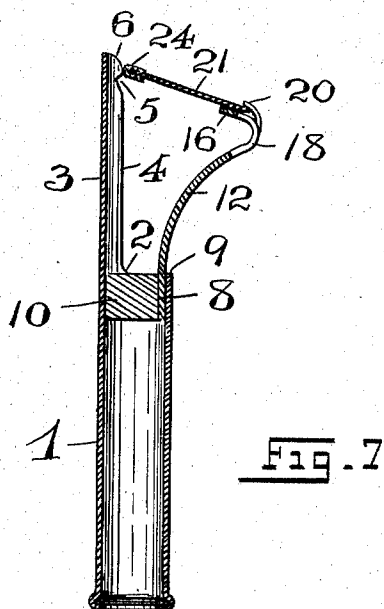


Fig. 7

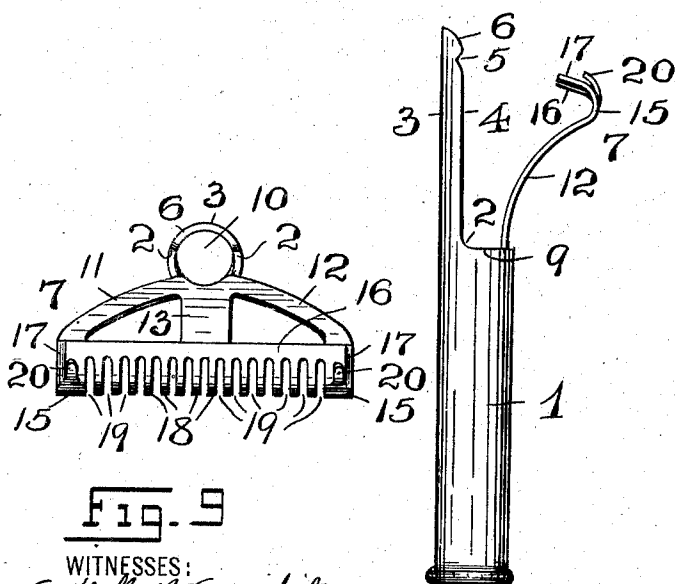


Fig. 8

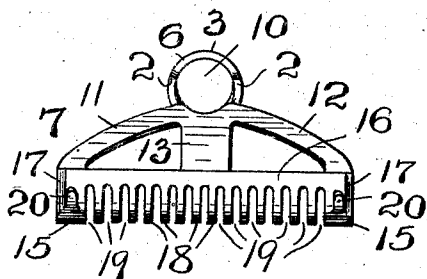


Fig. 9

WITNESSES:

Frederick H. W. Fraentzel
Anna M. Alter

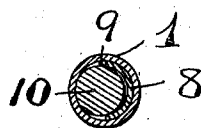


Fig. 10

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UNITED STATES PATENT OFFICE.

PHILIP A. BOWEN, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-HALF TO JOSEPH J. STEINHARTER, OF NEWARK, NEW JERSEY.

SAFETY-RAZOR.

965,862.

Specification of Letters Patent.

Patented Aug. 2, 1910.

Application filed December 31, 1908. Serial No. 470,227.

To all whom it may concern:

Be it known that I, PHILIP A. BOWEN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, 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 the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention relates, generally to improvements in safety-razors; and, the invention has reference, more particularly to a novel construction of safety-razor in which the detachable razor-blade is held by means of the spring-like clamping or holding action of a member or element connected with and forming part of the handle of the device, and an oppositely disposed end-portion of the handle.

My present invention, therefore, has for its principal object to provide a neat, simple, and cheaply constructed safety-razor in which the various parts have been reduced to a minimum, the device comprising a handle and a clamping-member or element connected with the said handle, between which a razor-blade whether of the single or double-edge blade can be arranged, said clamping member or element having a suitable spring-like action so as to cause it to bear upon a portion or portions of the one edge of the razor-blade, so as to force a portion or portions of the opposite edge of the razor-blade against a holding member or element forming part of the handle, all with a view of providing such a simple, but positively acting holding means, that the razor-blade can be easily and quickly secured in its operative position upon the end of the handle, or detached from the handle, without the least danger of cutting oneself.

A further object of this invention is to provide a neat and simple construction of safety-razor, the parts being arranged in such a manner that the razor-blade is merely sprung into its positively held position upon the end of the handle; and, furthermore, to provide an arrangement of the parts which will enable the device to be easily cleansed.

Other objects of this invention not at this time more particularly mentioned will be clearly understood from the following detailed description of my present invention.

With the various objects in view, this invention consists, primarily, in the novel safety-razor hereinafter set forth; and, the invention consists, furthermore, in the novel arrangements and combinations of the devices and parts, as well as in the details of the construction of the same, all of which will be more fully described in the following specification and then finally embodied in the clauses of the claim which are appended to and which form an essential part of this specification.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a front view of a safety-razor showing one embodiment of my present invention; Fig. 2 is a side-view of the same; and Fig. 3 is a rear view of the safety-razor. Fig. 4 is a top-end view of the safety-razor; and Fig. 5 is a vertical cross-section, taken on line 5—5 in said Fig. 4, looking in the direction of the arrow. Fig. 6 is a transverse vertical section, taken on line 6—6 in Fig. 1, showing the razor-blade in its operative position upon the end of the handle; and Fig. 7 is a similar section of the same parts, showing the razor-blade about to be sprung into its held or clamped position between the two clamping or retaining elements of the handle. Fig. 8 is a side-view of the handle and the two clamping or retaining elements, with the razor-blade detached; and Fig. 9 is a top-end view of the parts shown in said Fig. 8. Fig. 10 is a horizontal section, taken on line 10—10 in said Fig. 6.

Similar characters of reference are employed in all of the above described views, to indicate corresponding parts.

Referring now to the said figures of the drawings, the reference-character 1 indicates the complete safety-razor, the same comprising a main tubular member or element 2, forming a handle or gripping portion, a part of the upper portion of said member or element being cut-away, so as to form an upwardly extending post-like member or element 3, the said member or element being preferably concavo-convex in cross-section, and having in its marginal edge-portion

tions 4 suitably shaped and oppositely located receiving recesses or depressions 5, and the marginal end-edge portions being rounded or made chamfered, as at 6.

5 The previously mentioned spring-like holding clamping member or element is indicated by the reference-character 7, and the same consists, essentially of a concavo-convex shank 8 which is inserted in the upper tubular portion 9 of the main handle-member or element 2, being secured in its fixed position within said portion 9, in any suitable manner, and preferably by means of a tightening plug 10, in the manner clearly shown in Figs. 6, 7 and 10 of the drawings. The said holding or clamping member or element is preferably of the general configuration shown in the accompanying drawings, the same usually comprising a set of arms, as 11, 12, and 13, which are connected by a laterally extending portion 14, the said arms 11, 12 and 13 usually curving upwardly and outwardly, as shown. While this arrangement of these parts is preferred, still it must be understood that this general configuration of the holding or clamping member or element may be departed from, and may be made in innumerable designs.

30 The laterally extending portion 14 is curved outwardly and inwardly, so as to provide substantially $\cap$ -shaped elements 15, which, as will be seen from the several figures of the drawings, are connected by a marginal edge-member or portion 16. The said end-elements 15, and the end-portions of the edge-member 16 are preferably suitably raised or pressed outwardly so as to provide a pair of guides 17, substantially as illustrated and for the purposes to be presently more fully set forth. Intermediate of the said $\cap$ -shaped end-elements or members 15 and connected with the laterally extending portion 14 and the marginal edge-member 16 are a multiplicity of connecting members 18 which are preferably curved so as to correspond to the curvature of the end elements 15, the said members 18 being separated from each other and from the end-elements 15 by open spaces, as 19, said open spaces 19 and the members 18 alternating, as shown. In this manner, the said spring-like holding or clamping member or element is provided with a suitably formed face-guard, and said open spaces also provide a suitable means for taking up the lather and short hairs from the face during the shaving operation. Each end-element 15 is also provided with an outwardly extending retaining lug, tongue or ear, as 20, said lugs, tongues or ears being adapted to be arranged and project slightly above the upper and outer surfaces of the said end-elements 15, so as to extend slightly over portions of the one longitudinally ex-

tending edge 22 of any suitably formed razor-blade 21, whether of the single cutting edge or double cutting edge type, when the laterally extending edge-portions 23 of said plate are placed between the previously mentioned guides 17, as clearly illustrated in Figs. 1, 3, 4 and 5 of the drawings. Under normal conditions, when placing or inserting the razor-blade in this manner in position, the oppositely placed parts or members of the frame-work of the device is such, so that the other longitudinally extending marginal edge 24 of the razor-blade will rest lightly upon the rounded or chamfered edge-portions 6 of the post-like member or element 3, at points immediately above the receiving recesses or depressions 5, in the manner clearly shown. By means of a slight downward pressure upon the razor-blade, the spring-like action of the holding or clamping member or element 7 is such, so that the edge-portion 24 of the razor-blade is readily sprung with a snap into the said receiving recesses or depressions 6, the various parts coöperating to secure the razor-blade in its fixed and operative position, ready for use in shaving, as will be clearly understood. To remove the razor-blade, this is easily and quickly accomplished by taking hold of the blade at its laterally extending marginal edges and pulling it in an outward direction, or by the application of a slight pressure upon the lower face of the said razor-blade, whereby the parts are sufficiently sprung apart, so that the edge-portion 24 of the blade is forced from its holding engagement with the receiving recesses or depressions 5.

From the foregoing description of my present invention, it will be readily seen, that I have devised a very neat and effective safety-razor, which is light in weight and can be made at a greatly reduced cost of manufacture, which can be easily and quickly manipulated for securing the razor-blade in its operative position or for removing the same, and the post-like member 3 and the holding or retaining element 7 having such resiliency so that a razor-blade, whether the same is of the single cutting edge or of the double cutting-edge type, can be readily secured in its fixed but detachable relation to the end of the handle or gripping member of the safety-razor frame.

The parts between which the razor-blade is to be arranged in its shaving position are usually of such a construction so that the razor-blade will be angularly disposed, as shown in the accompanying drawings, the plane of the face of the blade being preferably at an acute angle to the vertical plane of the handle; but it will be understood that the blade may be arranged in a horizontal plane at right angles to the vertical plane

of the handle, or the parts may be variously constructed, so that any acute angular arrangement of the blade may be had.

I am aware that changes may be made in the arrangements and combinations of the devices and parts, as well as in the details of the construction of the same, without departing from the scope of my present invention as set forth in the foregoing specification and as defined in the claims which are appended to said specification. Hence, I do not limit my invention to the exact arrangements and combinations of the devices and parts as described in the foregoing specification, nor do I confine myself to the exact details of the construction of the said parts, as illustrated in the accompanying drawings.

I claim:—

1. A safety-razor comprising a tubular handle, a rigid post-like member extending from and forming an integral part of said handle, said post-like member having a receiving recess, a spring-like holding element having a shank arranged in said tubular handle, means for securing said shank in position, a razor-blade, and means upon said holding element adapted to be brought in retaining engagement with an edge of said razor-blade, and said razor-blade having its opposite edge sprung into separable holding engagement with the receiving recess of said post-like member.

2. A safety-razor comprising a tubular handle, a rigid post-like member extending from and forming an integral part of said handle, said post-like member having a receiving recess, a spring-like holding element having a shank arranged in said tubular handle, means for securing said shank in position, a razor-blade, and upwardly extending engaging lugs upon said holding element beneath which the one edge of the razor-blade is brought in retaining engagement, and said razor-blade having its opposite edge sprung into separable holding engagement with the receiving recess of said post-like member.

3. A safety-razor comprising a tubular handle, a rigid post-like member extending from and forming an integral part of said handle, said post-like member having a receiving recess, a spring-like holding element having a shank arranged in said tubular handle, means for securing said shank in position, a razor-blade, and blade-receiving guides upon said holding element, and means upon said holding element adapted to be brought in retaining engagement with an edge of said razor-blade, and said razor-blade having its opposite edge sprung into separable engagement with the receiving recess of said post-like member.

4. A safety-razor comprising a handle, a rigid post-like member extending from and

forming an integral part of said handle, a holding element connected with said handle, said holding element being formed with curved end-members and a multiplicity of intermediately disposed curved members alternating with open spaces between them, and a razor-blade adapted to be arranged between said post-like member and said holding element, said razor-blade being sprung into its separable holding engagement with said parts, so that the cutting edge of the blade will rest upon said curved members, substantially as and for the purposes set forth.

5. A safety-razor comprising a tubular handle, a rigid post-like member extending from and forming an integral part of said handle, a spring-like holding element having a shank arranged in said tubular handle, said holding element being formed with curved end-members and a multiplicity of intermediately disposed curved members, alternating with open spaces between them, and a razor-blade adapted to be arranged between said post-like member and said holding element, said razor-blade being sprung into its separable holding engagement with said parts, so that the cutting edge of the blade will rest upon said curved members, substantially as and for the purposes set forth.

6. A safety-razor comprising a handle, a rigid post-like member extending from and forming an integral part of said handle, said post-like member having a receiving recess, a holding element connected with said handle, said holding element being formed with curved end-members and a multiplicity of intermediately disposed curved members, alternating with open spaces between them, a razor-blade, and means upon said curved end-members adapted to be brought in retaining engagement with an edge of said razor-blade, and said razor-blade having its opposite edge sprung into separable holding engagement with the receiving recess of said post-like member, substantially as and for the purposes set forth.

7. A safety-razor comprising a handle, a rigid post-like member extending from and forming an integral part of said handle, said post-like member having a receiving recess, a holding element connected with said handle, said holding element being formed with curved end-members and a multiplicity of intermediately disposed curved members, alternating with open spaces between them, a razor-blade, and upwardly extending lugs upon said curved end-members beneath which the edge of the razor-blade is brought in retaining engagement, and said razor-blade having its opposite edge sprung into separable holding en-

gagement with the receiving recess of said post-like member, substantially as and for the purposes set forth.

8. A safety-razor comprising a handle, a rigid post-like member extending from and forming an integral part of said handle, said post-like member having a receiving recess, a holding element connected with said handle, said holding element being formed with curved end-members and a multiplicity of intermediately disposed curved members, alternating with open spaces between them, blade-receiving guides upon said curved end-members, a razor-blade, and means upon said curved end-members adapted to be brought in retaining engagement with an edge of said razor-blade, and said razor-blade having its opposite edge sprung into separable holding engagement with the receiving recess of said post-like member, substantially as and for the purposes set forth.

9. A safety-razor comprising a handle, a rigid post-like member extending from and forming an integral part of said handle, said post-like member having a receiving recess, a holding element connected with said handle, said holding element being formed with curved end-members and a multiplicity of intermediately disposed curved members, alternating with open spaces between them, blade-receiving guides upon said curved end-members, a razor-blade, and upwardly extending lugs upon said curved end-members beneath which the edge of the razor-blade is brought in retaining engagement, and said razor-blade having its opposite edge sprung into separable holding engagement with the receiving recess of said post-like member, substantially as and for the purposes set forth.

10. A safety-razor comprising a tubular handle, a rigid post-like member extending from and forming an integral part of said handle, said post-like member having a receiving recess, a spring-like holding element a shank arranged in said tubular handle, a plug for securing said shank in place, said holding element being formed with curved end-members and a multiplicity of intermediately disposed curved members, alternating with open spaces between them, a razor-blade, and means upon said curved end-members adapted to be brought in retaining engagement with an edge of said razor-blade, and said razor-blade having its opposite edge sprung into separable holding engagement with the receiving recess of said post-like member, substantially as and for the purposes set forth.

11. A safety-razor comprising a tubular handle, a rigid post-like member extending from and forming an integral part of said handle, said post-like member having a re-

ceiving recess, a spring-like holding element having a shank arranged in said tubular handle, a plug for securing said shank in place, said holding element being formed with curved end-members and a multiplicity of intermediately disposed curved members, alternating with open spaces between them, a razor-blade, and upwardly extending lugs upon said curved end-members beneath which the edge of the razor-blade is brought in retaining engagement, and said razor-blade having its opposite edge sprung into separable holding engagement with the receiving recess of said post-like member, substantially as and for the purposes set forth.

12. A safety-razor comprising a tubular handle, a rigid post-like member extending from and forming an integral part of said handle, said post-like member having a receiving recess a spring-like holding element having a shank arranged in said tubular handle, a plug for securing said shank in place, said holding element being formed with curved end-members and a multiplicity of intermediately disposed curved members, alternating with open spaces between them, a razor-blade, blade-receiving guides upon said curved end-members, and means upon said curved end-members adapted to be brought in retaining engagement with an edge of said razor-blade, and said razor-blade having its opposite edge sprung into separable holding engagement with the receiving recess of said post-like member, substantially as and for the purposes set forth.

13. A safety-razor comprising a tubular handle, a rigid post-like member extending from and forming an integral part of said handle, said post-like member having a receiving recess, a spring-like holding element having a shank arranged in said tubular handle, a plug for securing said shank in place, said holding element being formed with curved end-members and a multiplicity of intermediately disposed curved members, alternating with open spaces between them, a razor-blade, blade-receiving guides upon said curved end-members, and upwardly extending lugs upon said curved end-members beneath which the edge of the razor-blade is brought in retaining engagement, and said razor-blade having its opposite edge sprung into separable holding engagement with the receiving recess of said post-like member, substantially as and for the purposes set forth.

In testimony, that I claim the invention set forth above I have hereunto set my hand this thirtieth day of December, 1908.

PHILIP A. BOWEN.

Witnesses:

FREDK. C. FRAENTZEL,
FREDK. H. W. FRAENTZEL.