No. 765,885. PATENTED JULY 26, 1904.

D. W. GAGE.

SAFETY RAZOR.

APPLICATION FILED APR. 15, 1904.

NO MODEL.

Fig. 2.

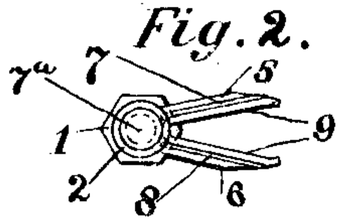

Fig. 6.

Fig. 8.

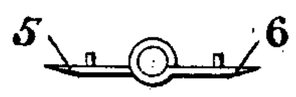

Fig. 4.

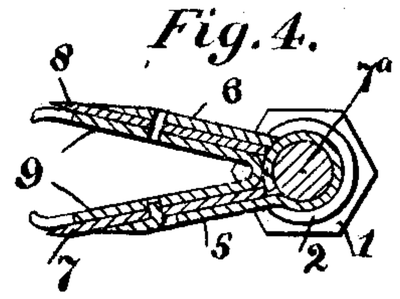

Fig. 1.

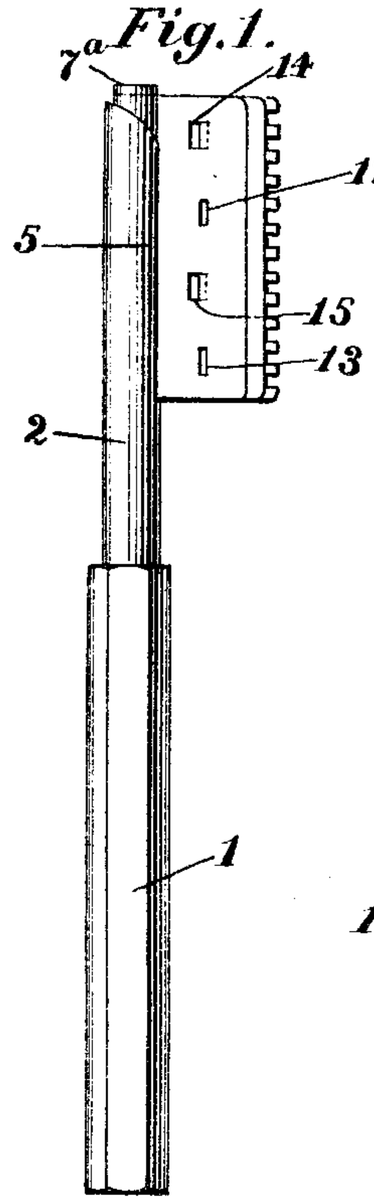

Fig. 5

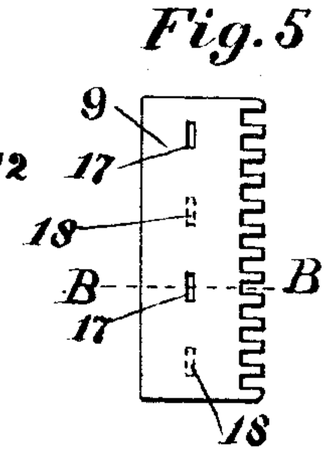

Fig. 7

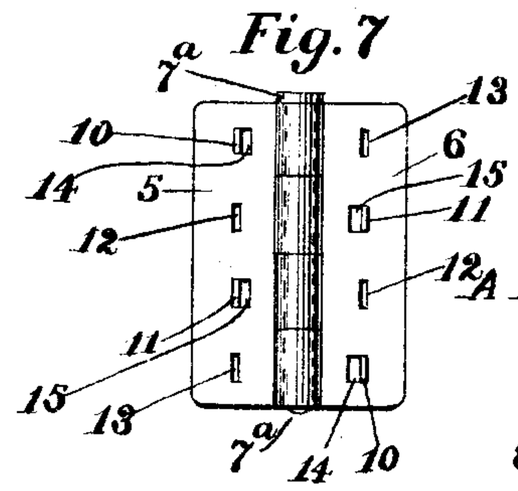

Fig. 3.

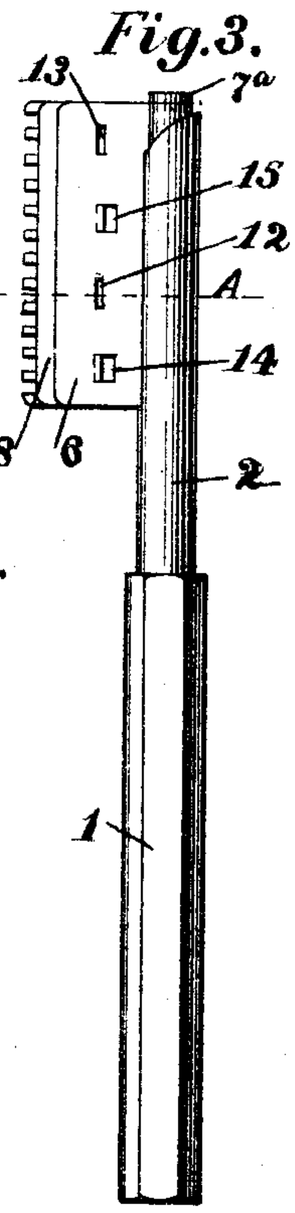

Fig. 9

Fig. 11.

Fig. 12.

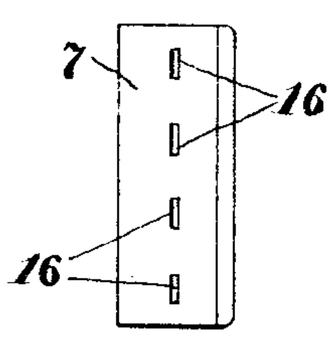

Fig. 10

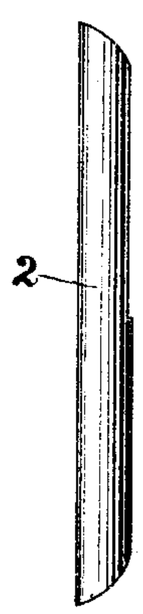

Fig. 14.

Fig. 13.

Witnesses.
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No. 765,885. Patented July 26, 1904.

UNITED STATES PATENT OFFICE.

DANIEL W. GAGE, OF CAMBRIDGE, MASSACHUSETTS.

SAFETY-RAZOR.

SPECIFICATION forming part of Letters Patent No. 765,885, dated July 26, 1904.

Application filed April 15, 1904. Serial No. 203,254. (No model.)

To all whom it may concern:

Be it known that I, DANIEL W. GAGE, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Safety-Razors, of which the following is a specification.

My invention relates to "safety-razors;" and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the accompanying drawings, forming a part of this application, and to the claims hereto appended and in which my invention is clearly pointed out.

Figure 1 of the drawings represents a side elevation of my impoved safety-razor. Fig. 2 is an end view of the same looking toward the bottom of Fig. 1. Fig. 3 is an elevation of the opposite side. Fig. 4 is a transverse section of the same on line A A on Fig. 3, but drawn to an enlarged scale. Fig. 5 is a side elevation of the V-shaped and toothed guard-plate. Fig. 6 is a section of the same on line B B on Fig. 5. Fig. 7 is an elevation of the outer and hinged clamp-plates opened out flat. Fig. 8 is an end view of the same looking toward the top of said Fig. 7. Fig. 9 is an elevation of one of the razor-blades. Fig. 10 is an end view of the same. Fig. 11 is a side elevation of the slotted tubular section of the handle or holder. Fig. 12 is a front elevation of said slotted tubular section. Fig. 13 is an end view of the same; and Fig. 14 is a transverse section of the razor-head, showing the parts in position for stropping.

In the drawings, 1 is the main handle, made tubular in form and having its exterior many-sided, as hexagonal or octagonal in cross-section, as shown.

2 is a longitudinally-slotted spring-metal tube having a diameter in its normal condition slightly in excess of the diameter of the bore of the handle-section 1, into which it may be readily inserted by slightly contracting its diameter, by virtue of which and its tendency to expand to its normal diameter sufficient friction is created to maintain it in the position to which it may be adjusted therein. The slot cut through the side of said spring-tube 2 is in two sections 3 and 4 of about equal lengths, but of different widths, as shown in Fig. 12.

A pair of clamp-plates 5 and 6 are hinged together on the pin 7^a, about which they may be moved to bring them into proper relation to the parts to be interposed between them, as the razor-blades 7 and 8 and the two-leaved or V-shaped and toothed guard 9. Each of the clamp-plates 5 and 6 has formed upon and projecting from its inner face a pair of lugs 10 and 11 and has cut through it two perforations 12 and 13. The lugs 10 and 11 are formed, preferably, by cutting through said plates on three sides of a rectangle and then bending the metal inclosed by said cuts at right angles to the inner faces of said plates, thereby forming two other perforations 14 and 15, as shown in Figs. 7 and 8. Each razor-blade 7 and 8 has cut through it four perforations 16, two of which receive the lugs 10 and 11, projecting from the clamp 5 or 6, which is contiguous thereto, while the other two perforations receive the lugs 10 and 11 on the opposite clamp-plate when a single razor-blade only is clamped between said clamp-plates preparatory to stropping the same. One leaf of the V-shaped guard 9 has cut through it two perforations 17, as indicated in full lines in Fig. 5, and the other leaf has formed therein two similar perforations 18, as indicated in dotted lines in said Fig. 5.

When the several parts are assembled in proper relative positions for use in shaving, the lugs 10 and 11 on each clamp-plate project through two of the holes in the contiguous razor-blade and enter corresponding holes in the adjacent leaf of the V-shaped guard 9, and then the hinge-joint portion of the razor-head is inserted in the end of the spring-tube 2 which has the wide slot 3, the edges of which slot 3 press against the outer surfaces of the clamp-plates 5 and 6 to firmly clamp all the parts together.

By this construction of the razor-head with two razor-blades mounted on the outer faces of the V-shaped and toothed guard 9 and firmly clamped thereto by folding the clamp-plates 5 and 6 into contact therewith and inserting the hinged joint into the spring-tube 2 both razor-blades are held in fixed positions

at an angle to each other, as shown, whereby one of said blades may be used in shaving one side of the face, while the other blade is adapted to use in shaving the opposite side of the face.

When the blades require stropping, the razor-head is removed from the slotted tube 2, the V-shaped guard 9 and one blade are removed, and then the clamping-plates 5 and 6 are moved into close contact with the other blade and the hinged edge of said clamp is inserted into the end of the spring-tube 2 which has the narrower slot 4, as shown in Fig. 14, when said blade may be stropped in substantially the same manner as any ordinary razor.

For cleaning after use the instrument may be separated into its individual elements and each part be cleaned by itself, so that every part may be thoroughly and easily cleaned, which is a very important and advantageous feature.

I claim—

1. A safety-razor having two cutting-blades arranged with their flat sides in different planes at an acute angle to each other, and radial to and parallel with the longitudinal axis of the handle thereof.

2. In a safety-razor, the combination of a tubular handle made in two sections, one of which is composed of spring metal and slotted longitudinally and fitted to and movable endwise in the other section; a pair of clamping-plates hinged together and fitted to a bearing in said slotted section of said handle; a V-shaped and notched guard interposed between said clamp-plates; a pair of cutting-blades each interposed between a clamp-plate and one side of said V-shaped guard; and means for registering said parts and locking them together.

3. In a safety-razor, the combination of the hinged plates 5 and 6 each provided with two lugs 10 and 11, which project at right angles from its inner surface; the two-leaved guard-plate 9 having formed in the opposite leaves thereof the two perforations 17 and 18; two cutting-blades 7 and 8 each having four perforations 16 to register with the lugs 10 and 11 on the clamp-plates 5 and 6; the spring-metal tubular holder 2 having a slot cut longitudinally through one side thereof in two different widths; and a tubular handle-section adapted to receive one end of said slotted tube and having its exterior many-sided as set forth.

In testimony whereof I have affixed my signature, in presence of two witnesses, on this 14th day of April, A. D. 1904.

DANIEL W. GAGE.

Witnesses:
N. C. LOMBARD,
J. H. STEVENSON.