H. W. GREENBRIER.

SAFETY RAZOR.

APPLICATION FILED MAY 17, 1917.

1,254,037.

Patented Jan. 22, 1918.

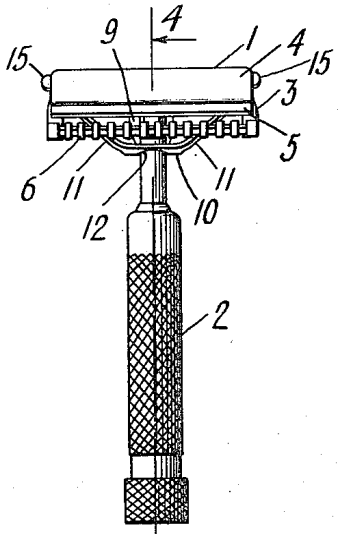

FIG. 1

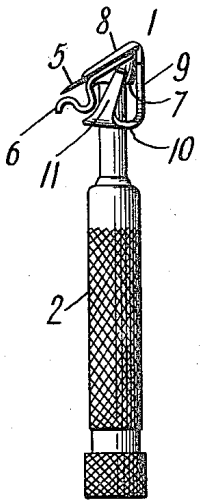

FIG. 2

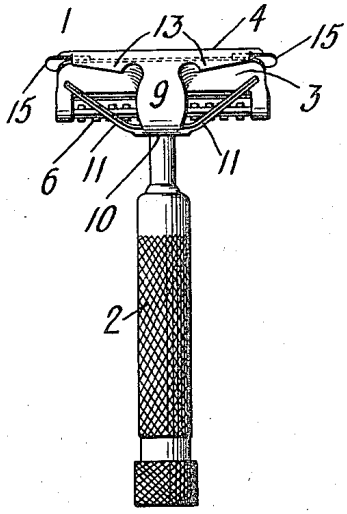

FIG. 3

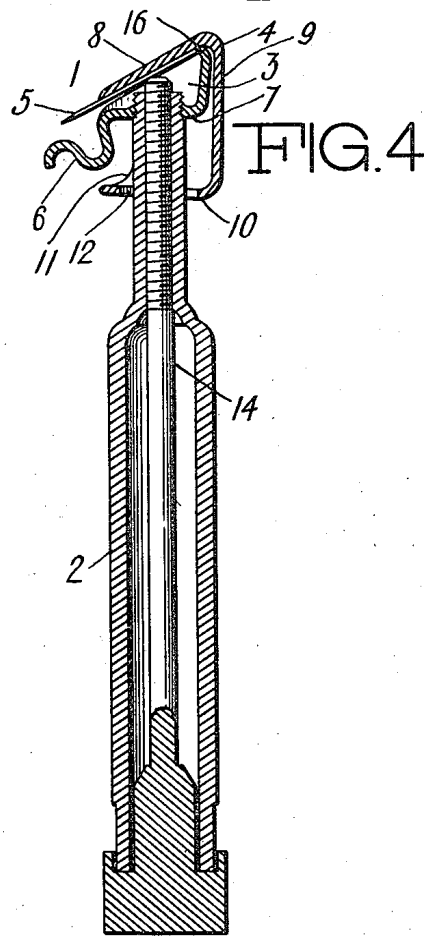

FIG. 4

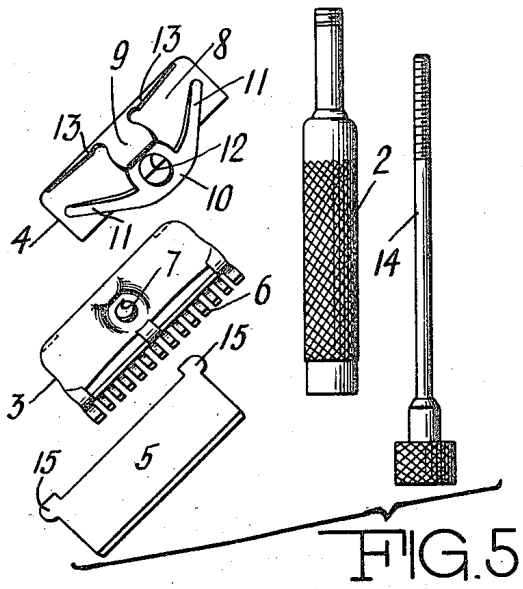

FIG. 5

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SAFETY-RAZOR.

1,254,037. Specification of Letters Patent. Patented Jan. 22, 1918.

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To all whom it may concern:

Be it known that I, HARRY W. GREENBRIER, a citizen of the United States, residing at 251 New York avenue, Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Safety-Razors, of which the following, taken in connection with the accompanying sheet of drawings, is a full, clear, and concise description.

This invention relates to safety razors of the detachable type and has for one of its objects a provision of this type of razor characterized by simplicity of construction and ease of assembly and adjustment of parts.

Another object is the production of a safety razor in which can be used a blade of thin or sheet metal having a single cutting edge, the blade being so held as to permit the changing of the angle of its cutting edge.

Other objects of the invention have to do with certain features of construction and arrangements which are hereinafter set forth and which have to do more particularly with the parts which compose the blade clamping and handle portions of the razor.

The invention is illustrated in the accompanying drawings in which,

Figures 1, 2 and 3 are front, side and rear elevation views, respectively, of a razor embodying my improvements as preferably constructed.

Fig. 4 is a section taken on line 4—4 of Fig. 1.

Fig. 5 shows the several elements of the razor disassembled.

The razor shown in the drawings is comprised in general of a head 1 and a detachable handle 2. The head portion includes a blade support 3, a clamping member 4 and a blade 5 which is held between its support and the clamping member. The blade support 3 is provided with a guard 6 on one of its longitudinal edges and a pair of spaced apart lugs 16 on the opposite edge, the latter functioning to aline or position the blade 5 in an endwise direction. An abutment 7 is formed centrally on the under surface of the blade support 3 and this abutment is provided with a threaded recess which serves as a socket for receiving the external screw threads formed on the upper end of the handle 2. Since the support 3 is preferably a composition, the abutment 7 is formed integral with the body portion thereof, having the adjacent metal on the front or contacting surface of the support either recessed or cast out for a purpose hereinafter more fully described.

The clamping member 4 is preferably of one piece and comprises a blade engaging portion 8 with a depending portion 9 bent at an acute angle to the portion 8 and extending downwardly a sufficient distance so that a second offset portion 10 will lie in a plane substantially perpendicular to the handle 2 and not intersect with the lower edge of the blade support 3. The offset portion 10 terminates in a pair of oppositely disposed and upwardly directed arms 11. The portion 10 of the clamping member is provided with an elongated slot or aperture 12 which permits the passage therethrough of the upper end of the handle 2 when inserted into the socket formed in the abutment 7. Lips or turned-over edges 13 function as a stop for limiting the rearward movement of the blade support 3 when the razor is assembled. The relation of the contacting parts of the blade support 3 and clamping member 4 is such that the arms 11 impinge against the under surface of the support and firmly hold these two parts together by means of friction. The lips 13 have the effect of constituting a hinge or pivot when the support and clamping member is sprung apart to insert the blade 5. It may be mentioned that there is a certain degree of resiliency to the various portions comprising the clamping member 4 and this feature is relied upon when inserting the blade.

The handle 2 is cylindrical in shape, being reduced at its upper end and having a hollow core. External and internal threads are formed upon the reduced end of the handle 2. A shank 14 is adapted to be received within the handle and has an enlarged portion formed upon one end, while the major portion of its length is considerably reduced in diameter and is provided with threads adjacent the end thereof. The reduced end of the shank 14 when screwed upwardly is adapted to project beyond the end of the handle 2 so as to contact with the blade 5. Since the normal position of the blade is to lie in close engagement with the guard, by rotating the shank 14 the upper end thereof

may be brought into engagement with the blade, and by continued rotation cause the blade to leave the guard. In this manner the angle of the cutting edge of the blade may be adjusted as desired in a very convenient and efficient way.

From the above it will be seen that when it is desired to insert the razor blade, this may be easily done by first unscrewing the shank 14 so that the upper end thereof does not extend beyond the corresponding end of the handle 2, then holding the razor by the handle and applying pressure with the thumb against the portion 9 of the clamping member 4, the outer edge of the portion 8 may be tilted upwardly so as to afford a space between the support 3 and the adjacent part of the clamping member 4. After the blade has been inserted between the clamping member 4 and the support 3 it is easily positioned by means of the ears 15 thereof coming in contact with lugs 16. The angle of the cutting edge of the blade may then be adjusted as previously described. As a matter of convenience the body of the handle and the enlarged portion of the shank may be knurled to assist in turning these parts when desired.

While I have herein shown and particularly described the preferred embodiment of my invention I do not wish to be limited to the precise details of construction and arrangement illustrated, as changes may readily be made without departing from the spirit and scope of my invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States, is:

1. In a safety razor, the combination with a blade of a blade support, a clamping member adapted to frictionally engage said blade and having a downwardly depending portion terminating in forked members adapted to abut against said blade support, so as to clamp the blade and blade support therebetween, a handle, there being an aperture made in said depending portion to permit the passage therethrough of said handle whereby to anchor said clamping member to said handle, and means on said blade support for attaching said handle.

2. In a safety razor, the combination of a blade support provided with a guard, a clamping member adapted to frictionally engage with said support, said clamping member having a downwardly depending portion provided with an offset portion terminating in upwardly directed forked members adapted to abut against said blade support, a handle, there being an aperture made in said offset portion adapted to permit the passage therethrough of a handle whereby to anchor said clamping member to said handle, and a socket on said blade support for attaching said handle.

3. In a safety razor, the combination of a blade support provided with a guard, a clamping member adapted to frictionally engage with said support, said clamping member having a downwardly depending portion provided with an offset portion terminating in upwardly directed forked members adapted to abut against said blade support, an aperture made in said offset portion adapted to permit the passage therethrough of a handle, a socket on said blade support for attaching said handle, and means carried by said handle for adjusting the cutting edge of the blade.

4. In a safety razor, the combination of a blade support, a clamping member adapted to coöperate therewith, a blade held between said support and clamping member, a socket formed integral with said support, a hollow handle adapted to be secured in said socket, a shank adapted to be received in said handle and extend beyond the ends thereof to engage said blade, said shank having one of its ends screw-threaded and adapted to register with internally formed screw threads on said handle, and an enlarged portion carried upon the opposite end of said shank, whereby said shank may be screwed into or out of engagement with the internal screw threads on said handle so as to permit the adjustment of the cutting angle of the blade.

5. In a safety razor, the combination with a blade, of a blade support, a clamping member having a portion frictionally engaging said blade to secure the same in place on said support, a hollow handle, said clamping member being mounted to tilt relative to said handle thereby to release said frictional engaging portion from engagement with said blade and permit the removal of said blade, and adjusting means disposed in said handle having one of its ends adapted to be projected therefrom to engage said blade and tilt said blade and frictional engaging portion with it relative to said blade support.

6. In a safety razor, the combination with a blade, of a blade support, lugs on the rear end of said blade support, a clamping member having a portion extending parallel to said blade and pressing thereagainst to frictionally maintain said blade in place on said blade support, and ears on the rear end of said blade to coöperate with said lugs to permit the pivotal movement of said blade and frictional engaging portion relative to said blade support.

7. In a safety razor, the combination with a blade, of a blade support, lugs on the rear end of said blade support, a clamping member having a portion extending parallel to said blade and pressing thereagainst to frictionally maintain said blade in place on said blade support, ears on the rear end of said blade to coöperate with said lugs to permit

the pivotal movement of said blade and frictional engaging portion relative to said blade support, a hollow handle connected to said blade support, and an adjusting rod disposed in said handle and projecting therefrom to engage said blade and thereby tilt said blade and frictional engaging portion relative to said blade support.

8. In a safety razor, the combination with a blade, of a blade support, lugs on the rear end of said blade support, a clamping member having a portion extending parallel to said blade and pressing thereagainst to frictionally maintain said blade in place on said blade support, ears on the rear end of said blade to coöperate with said lugs to permit the pivotal movement of said blade and frictional engaging portion relative to said blade support, a hollow handle connected to said blade support, and an adjusting rod disposed in said handle and projecting therefrom to engage said blade, said adjusting rod being screw-threadedly connected to said handle to facilitate the adjustment thereof to rock said blade to the required inclination.

HARRY W. GREENBRIER.