J. KUNZ & F. GOERTZ.

SAFETY RAZOR.

APPLICATION FILED AUG. 10, 1917.

1,288,049. Patented Dec. 17, 1918.

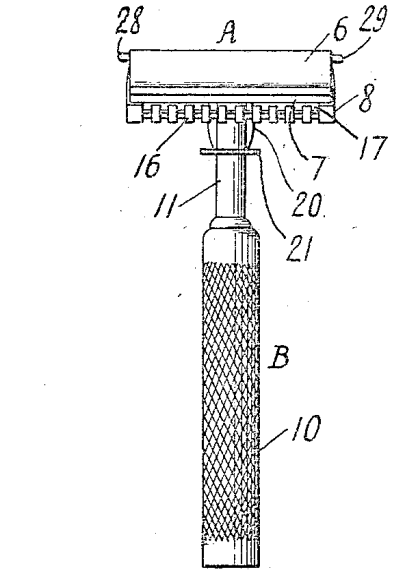


FIG. 1

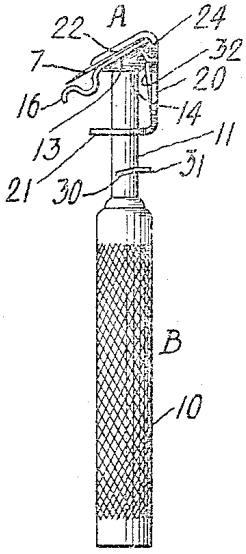


FIG. 2

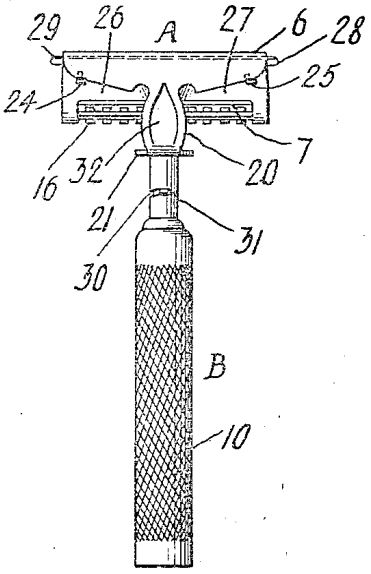


FIG. 3

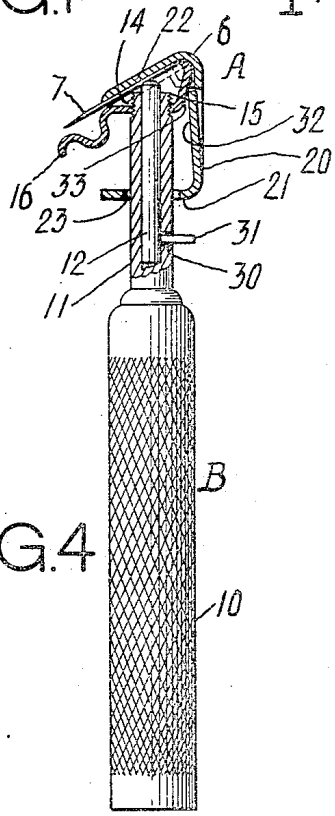


FIG. 4

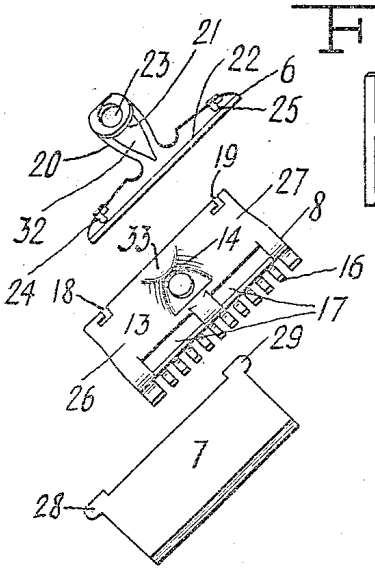
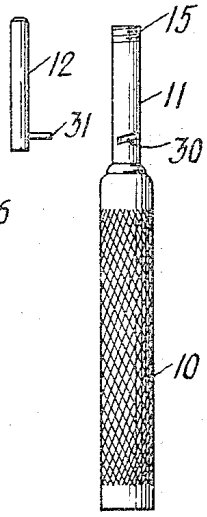


FIG. 5



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By their Attorney
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UNITED STATES PATENT OFFICE.

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SAFETY-RAZOR.

1,288,049. Specification of Letters Patent. Patented Dec. 17, 1918.

Application filed August 10, 1917. Serial No. 185,430.

To all whom it may concern:

Be it known that we, JACOB KUNZ and FREDERICK GOERTZ, citizens of the United States, both residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Safety-Razors, of which the following is a full, clear, and exact specification.

This invention relates to safety razors generally and more particularly to the type of razor disclosed in the co-pending application of Harry W. Greenbrier, Serial Number 169,182, filed May 17, 1917.

Among the main objects of the present invention it is aimed to provide an adjusting means which can be manipulated with all possible speed, and which manipulation is so simple as to be apparent even to the most casual observer, thus to prevent the confusion that might ordinarily arise to the new user.

Another object of the invention is to provide a clamping member to coöperate with a blade support, the connection between which not only serves to pivotally connect the two, but in addition to transmit a clamping effect in the performance of certain of its functions, and also to form positioning abutments for the blade to be supported.

Still another object of the invention is to provide a device, the construction of the several parts of which are conducive to the long life of the article, the cost of manufacture of which is reduced to a minimum, and the working parts of which are so arranged as to assure the continued effective operation thereof.

These and other features, capabilities and advantages of the invention will appear from the subjoined detail description of one specific embodiment thereof, illustrated in the accompanying drawings, in which—

Figures 1, 2 and 3 are front, end and rear elevations of a razor made according to the present invention.

Fig. 4 is an enlarged end elevation similar to that shown in Fig. 2 and partly in section.

Fig. 5 is a view showing the several parts of the razor disassembled.

In the embodiment illustrated, there is shown a razor comprising essentially a head A and a handle B. The head A embraces the clamping member 6, the blade 7 and the blade support 8, while the handle B embraces the enlarged knurled portion 10 to facilitate grasping the same, and the hollow diminished portion or shank 11 in which the adjusting pin 12 is disposed.

The blade support 8 as shown in Figs. 2 and 4 has a central portion 13 provided with a socket 14 internally screw threaded to receive the outer screw threaded portion 15 of the diminished portion 11 and extending in a plane substantially at right angles thereto. The front portion of the blade support is substantially S-shaped in transverse section, with guard teeth 16 at the front end thereof, and elongated openings 17 just rear of the teeth to facilitate the cleansing of the same. The lateral portions 26 and 27 of the blade support 8 extend to the rear edge thereof and are disposed substantially in a plane that is oblique to the diminished portion 11 and is provided with bayonet recesses 18 and 19 at its rear edge adjacent to its lateral sides. The portions 26 and 27 and the S-shaped portion of the blade support, together form a support that is substantially oblique relative to the diminished portion or shank 11.

The clamping member has an upright portion 20 which extends substantially parallel to the diminished portion or shank 11 when in place thereon, a lower lateral extension 21 extending substantially at right angles to and from the lower end of the upright portion 20, and an upper frictional engaging portion 22 extending downward from and at an oblique angle to the upright portion 20. The clamping member is furthermore

provided with an oval aperture 23 to permit the passage therethrough of the diminished portion or shank 11. As shown in Figs. 2 and 5, the upright portion 20 is provided with fingers 24 and 25 that extend upward at an oblique angle to the upright portion 20, but substantially at right angles to the lateral portions 26 and 27 of the blade support 8 to enter the bayonet recesses 18 and 19, respectively.

The frictional engaging portion 22 will normally be disposed parallel to and substantially flat on the portions 26 and 27 of the blade support 8, the fingers 24 and 25 and the recesses 18 and 19 coöperating with one another respectively, to firmly clamp the portion 22 against the support 8.

The aperture 23 aforesaid will be sufficiently elongated to permit the free movement of the clamping member 6 relative to the extension 11 and permit tilting its frictional portion 22 relative to the blade support 8.

The blade 7 is supposed to be clamped between the blade support 8 and the frictional engaging portion 22 and is provided with lateral ears 28 and 29 at its rear edge which are spaced from one another to receive between them the fingers 24 and 25, which fingers and ears coöperate to guide the blade to proper position and secure the same against lateral displacement. The ears 28 and 29 also extend laterally of the blade to afford grasping means for positioning and removing such blade.

The upright portion 20 is also provided with, and has inclined therefrom, a tongue 32 which is adapted to engage the outwardly bulging portion 33 disposed between the lateral portions 26 and 27 of the blade support 8. This tongue 22 coöperates with the bulging portion 33 to increase the tension of the friction engaging portion 22 against the blade 7, whereby the tension strain will be distributed between fingers 24 and 25 and the tongue 32.

The diminished portion or shank 11 is chambered to receive the pin 12 which is operatively mounted to project from the upper end of such diminished portion to engage the blade 7. The diminished portion or shank 11 is provided with a cam slot 30 preferably near the lower edge of the chambered portion of the diminished portion or shank 11 and extending from the chambered portion to the outside to receive the cam pin 31 secured to the pin 12. The pin 31 in the manipulation thereof will coöperate with the slot 30 to elevate the pin 12 thereby to properly engage and elevate the blade 7 and frictional engaging portion 22 to swing the same to the inclination desired.

From the foregoing it will be seen that before inserting the blade 7, the pin 12 will be brought to its lowermost position, the upright portion 20 then engaged and pressed toward the diminished portion or shank 11, whereupon the frictional engaging portion 22 will be tilted out of engagement with the blade support 8, whereupon by grasping the ears 28 and 29 the blade may be slid up until the fingers 24 and 25 are disposed inside of the ears 28 and 29, and then the portion 20 released when the blade will be positioned ready for adjustment if desired. Thereupon by the manipulation of the pin 31, the pin 12 may be positioned to secure the blade and frictional engaging portion at the inclination desired.

It is obvious that various changes and modifications may be made to the details of construction without departing from the general spirit and scope of the invention.

We claim:

1. In a razor, the combination with a shank and a blade support anchored to said shank, of a clamping member, there being bayonet recesses in said blade support, fingers on said clamping member for coöperating with said recesses to clampably connect said clamping member to said blade support, and a blade disposed on said blade support and clamped thereon by said clamping member.

2. In a razor, the combination with a blade support, of a clamping member having a frictional engaging portion and an upright portion, a blade disposed on said blade support, and bayonet interlocking means for connecting said upright portion with said blade support thereby to clampably maintain said blade between said frictional engaging portion and said blade support.

3. In a razor, the combination with a blade support, of a clamping member having a frictional engaging portion and an upright portion, there being bayonet recesses in said blade support having their lateral inner portions extending in the same direction, a blade disposed on said blade support, and fingers on said clamping member for coöperating with said recesses to clampably and removably maintain said blade between said frictional engaging portion and said blade support.

4. In a razor, the combination with a blade support, of a blade disposed on said blade support, a clamping member having a frictional engaging portion, there being bayonet recesses in said blade support having their lateral inner extremities extending in the same direction, a blade disposed on said blade support, an upright portion on said clamping member, and fingers on said upright portion for coöperating with

said recesses to clampably and removably maintain said blade between said frictional engaging portion and said blade support, the upright portion being free to be rocked thereby to tilt said frictional engaging portion against the clamping effect of said recesses and fingers to release said blade.

5. In a razor, the combination with a blade support, of a blade disposed on said blade support, a clamping member having a frictional engaging portion, means for clampably maintaining said blade between said frictional engaging portion and said blade support, an upright portion on said clamping member adapted to be engaged to tilt the frictional engaging portion to release said blade, a hollow handle portion secured to said blade support, an adjusting pin disposed in said hollow portion and projecting from the upper end thereof, and cam means for actuating said pin into engagement with and for deflecting said blade and frictional engaging portion relative to said blade support to the inclination desired.

6. In a razor, the combination with a blade support, of a blade disposed on said blade support and a clamping member, the clamping member having a frictional engaging portion, means for clampably maintaining said blade between said frictional engaging portion and said blade support, a hollow handle portion secured to said blade support, an adjusting pin disposed in said hollow portion and in operative engagement with said blade, and cam means for actuating the pin to actuate said blade and frictional engaging portion relative to said blade support to the inclination desired.

7. In a razor, the combination with a blade support, of a blade disposed on said blade support, a clamping member having a frictional engaging portion, there being bayonet recesses in said blade support, a blade disposed on said blade support, an upright portion on said clamping member, and fingers on said upright portion having a close fit with said recesses for coöperating with said recesses to clampably maintain said blade between said frictional engaging portion and said blade support extending up sufficiently to define the position of said blade on said blade support.

8. In a razor, the combination with a blade support, of a blade disposed on said blade support, a clamping member having a frictional engaging portion, there being bayonet recesses in said blade support, a blade disposed on said blade support, an upright portion on said clamping member, fingers on said upright portion having a close fit with said recesses for coöperating with said recesses to clampably maintain said blade between said frictional engaging portion and said blade support, the upright portion being free to be rocked thereby to tilt said frictional engaging portion against the clamping effect of said recesses and fingers to release said blade, a handle, and an extension on said clamping member having an opening therethrough to receive the handle whereby to anchor said clamping member to said handle.

9. In a razor, the combination with a blade support, of a blade disposed on said blade support, a clamping member, and interlocking means comprising fingers on said clamping member, and recesses in said blade support coöperating with one another for removably clamping said blade between said clamping member and said blade support, the clamping member being free to be rocked to release said blade.

10. In a razor, the combination with a blade support, of a blade disposed on said blade support, a clamping member for clamping said blade between said clamping member and said blade support, a hollow handle portion secured to said blade support, an adjusting pin disposed in said hollow handle portion and in operative engagement with said blade, and cam means for actuating said pin to actuate said blade and frictional engaging portion relative to said blade support to the inclination desired.

11. In a razor, the combination with a blade support, of a blade disposed on said blade support, a clamping member for clamping said blade between said clamping member and said blade support, a handle having a solid lower portion and a diminished upper portion, the diminished portion being chambered, an adjusting pin disposed in said diminished portion and in operative engagement with said blade, there being a cam slot in said diminished portion, and a pin secured to said shank and coöperating with said slot to actuate said blade relative to said blade support to the inclination desired.

12. In a razor, the combination with a blade support, of a clamping member, a shank on which said blade support is mounted, a blade disposed between said blade support and said clamping member, interlocking means, an outwardly bulging portion on said blade support, a tongue on said clamping member coöperating with said bulging portion to produce tension, together with the interlocking means, on said clamping member, thereby to securely clamp said blade in position.

13. In a razor, the combination with a blade support of a clamping member having a friction engaging portion and an upright portion, a shank on which said blade support

is mounted, a blade disposed between said blade support and said friction engaging portion, there being recesses in said support, fingers on said upright portion for coöperating with said recesses to clampably maintain said blade between said friction engaging portion and said blade support, an outwardly bulging portion on said support, and a tongue on said upright portion coöperating with said bulging portion to also clampably maintain said blade in position, whereby the tension strain of said friction engaging portion will be distributed between said fingers and said tongue.

14. In a razor, the combination with a blade support, of a clamping member, there being recesses in said blade support having their lateral inner extremities extending in the same direction, fingers on said clamping member for coöperating with said recesses to anchor said blade support to said clamping member, and a blade disposed on said blade support and clamped thereon by said clamping member, said fingers defining the position of said blade relative to said blade support.

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