Jan. 30, 1934. O. F. MANN 1,945,117

SAFETY RAZOR

Filed Dec. 3, 1931

Fig. 1.

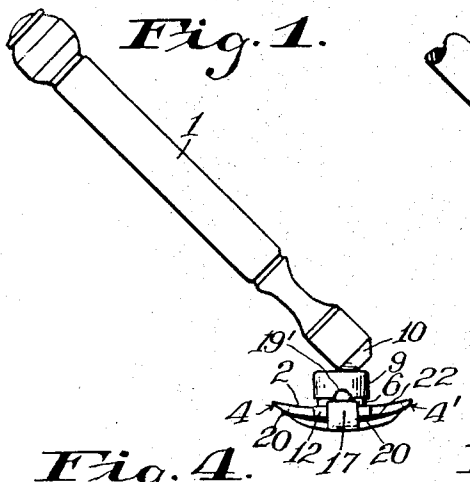


Fig. 2.

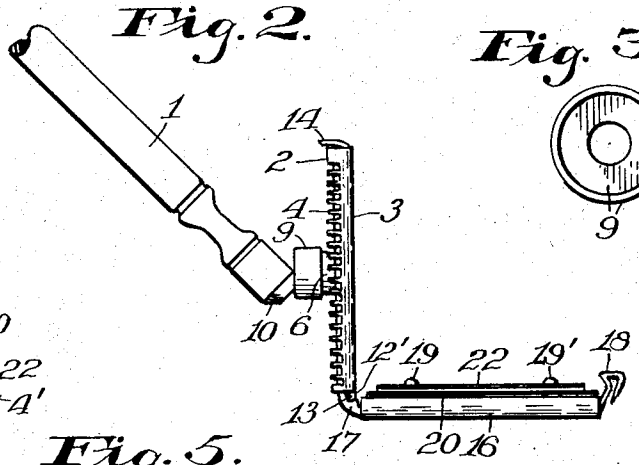


Fig. 3.

Fig. 4.

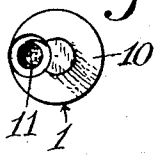


Fig. 5.

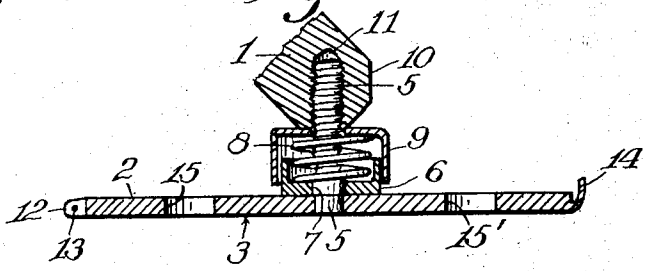


Fig. 6.

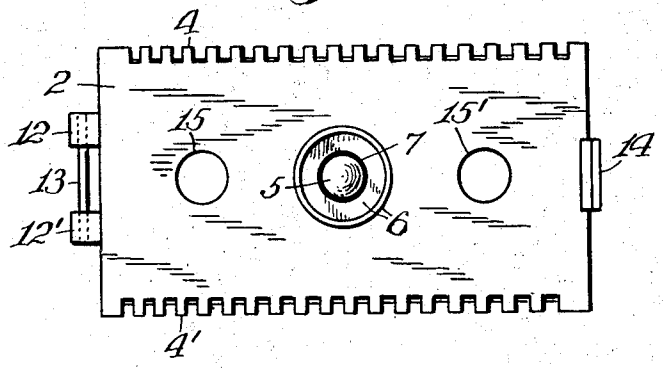


Fig. 7.

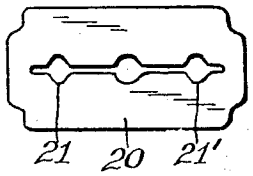
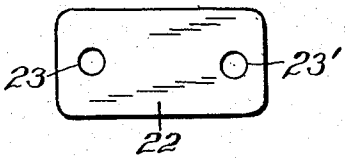


Fig. 8.



INVENTOR:
Oscar F. Mann,
BY
E. D. Silvius,
ATTORNEY.

Patented Jan. 30, 1934 1,945,117

UNITED STATES PATENT OFFICE

1,945,117

SAFETY RAZOR

Oscar F. Mann, Indianapolis, Ind.

Application December 3, 1931. Serial No. 578,756

4 Claims. (Cl. 30—12)

This invention relates to a type of instrument that is commonly known as a safety razor in which a removable cutting blade is embodied, the invention having reference more particularly to the frame and handle of such a razor required to hold and guide the cutting blade.

An object of the invention is to provide an improved razor frame and its handle which shall be of such construction as to enable the frame to be instantly adjusted on the handle so that the handle may be set at various angles relatively to the frame that may be convenient or desired by the user, which shall not be costly to manufacture.

Another object is to provide an improved safety razor frame which shall permit the insertion of a razor blade of conventional type in a simple and reliable manner.

A further object is to provide an improved safety razor frame in which the blade may be readily shifted by reversal of the blade so that different portions of the cutting edge may be brought into proper position for use after other portions may have become dulled by use.

A still further object is to provide means for positively adjusting a safety razor blade in its frame so as to permit relatively closer shaving than normally and without tending to cause the blade to shave uncomfortably close, or dangerously so, and shall not be liable to cause injury to a person's fingers while the razor is being washed after use.

With the above-mentioned and other objects in view, the invention consists in an improved safety razor having novel and improved features including an improved handle connection, and improved frame structure, and improved means whereby to adjustably hold a blade in the frame; the invention consisting also further in the parts and the combinations and arrangements of parts as hereinafter particularly described and further defined in the appended claims.

Referring to the accompanying drawing,—Figure 1 is a side view of the improved safety razor; Fig. 2 is a side view of the razor with the frame in open position and the handle turned to a relatively different position, the handle being partially broken away; Fig. 3 is a plan view of an inverted cup embodied in the handle mounting, being on an enlarged scale; Fig. 4 is an end view of the improved handle, also on an enlarged scale; Fig. 5 is a sectional detail of the improved handle mounting on an enlarged scale with a longitudinal section of the head member of the frame; Fig. 6 is a top plan of the head member of the frame and portions thereof, also on an enlarged scale; Fig. 7 is a plan of a common type of a safety razor blade; and Fig. 8 is a plan of a removable face part of the head member of the frame, being adapted for use behind a conventional blade when desired.

Similar reference characters in the various figures of the drawing indicate corresponding elements or features of construction herein referred to in detail.

Practically embodied the invention has an improved adjustable handle 1 enabling the razor to be most advantageously used in the manner in which safety razors generally are used and manipulated. The frame has a head member 2 having a convexly rounded face 3, the member being oblong in plan and having guard fingers 4 projecting from one of the longer edges thereof, the opposite edge having guard fingers 4' on its edge but in relatively staggered arrangement, so that in one row of fingers the fingers being on parallel transverse lines the fingers of the opposite row shall be located between such lines. The middle portion of the member has a screw-threaded stud 5 rigidly secured thereto and projecting from the back or top of the member. A cup 6 having a center hole 7 is placed over the stud and is seated on the back of the head member and supports a coil spring 8 thereon which yieldingly supports an annular cap 9. The handle 1 has a chamfer 10 on one end, so that the end is frustoconical, and a screw hole 11 is drilled into the handle through the chamfered portion so as to be approximately on an angle of 45 degrees relatively to the longitudinal axis of the handle, permitting the chamfered portion to bear upon the top of the cap 9, against the pressure of the spring 8 which with frictional resistance of the screw threads in the connection tends to hold the handle in the position to which it may be adjusted, and prevents turning of the head member relatively to the handle during use of the razor. One of the shorter end portions of the head member has a pair of hinge ears 12, 12' to which a hinge pin 13 is connected, the opposite shorter end having a catch finger 14 thereon. The body portion of the head member has spaced apart apertures 15 and 15' to receive positioning devices.

The razor frame has a front face plate 16 which is oblong in plan and is provided with a hinge ear 17 that is connected with the hinge pin 13 so that it may swing to the head member, or away from it to a limited extent and stopped by the ends of the hinge members contacting with adjacent portions of the parts to which the hinge

members are fixed. The opposite end of the face plate is provided with a spring latch 18 which engages with the catch finger 14 to hold the face plate substantially to the head member. The front of the face plate is convex, the back of the plate being concave to conform to the convexity of the face 3 of the head member and is provided with spaced apart posts 19 and 19' that are receivable in the apertures 15 and 15' whereby to guide and hold a suitable razor blade 20 in place adjacent to the guard fingers, the blade having openings 21, 21' to receive the posts.

The razor is provided with a thin shim 22 that is slightly narrower than the cutting blade and has apertures 23 and 23' to receive the posts and removably hold it in proper position on the blade and in contact with the face 3 of the head member to permit close shaving with safety.

When assembling the parts the frame is opened as indicated in Fig. 2, the blade 20 is placed upon the back of the face plate, the shim placed upon the blade and the frame closed and the hinged parts latched together, so that the blade and the shim become firmly clasped in proper position as indicated in Fig. 1. When not desired the shim may be omitted, as will be understood, the shim being extremely thin so that its absence does not prevent secure clamping of the blade in the frame.

In practical use the razor is operated to shave as may be desired, the handle being readily turned to obtain such adjustability as the user may desire, thus enabling the blade to be moved in the various directions and be handled to be conveniently and firmly held by hand, the adjustable connection of the handle with the head member of the frame affording convenient handling not only in the use of the razor when shaving, but in order to remove or to reverse the blade and in the insertion of another blade.

What is claimed is:

1. A safety razor including a frame and a razor blade secured in the frame, the frame having guard fingers projecting beyond the blade, a cup centrally arranged on the back of the frame, a screw secured to the frame and extending through the cup, a coil spring seated in the cup, an annular cap telescopically connected with the cup and yieldingly supported on the spring, and a handle having a frusto-conical end and a screw-hole therein receiving the screw and said end shiftably bearing upon the annular cap, the screw-hole being on an angle of inclination relatively to the longitudinal axis of the handle.

2. A safety razor including a frame and a razor blade secured in the frame, the frame having guard fingers projecting beyond the blade, an annular flat-top bearing cap yieldingly mounted on the back of the frame, a screw fixedly secured to the frame and extending through the cap, and a handle disposed at an acute angle to the frame having a frusto-conical end constituting a continuous inclined face directly turning on the screw and shiftably bearing on the cap.

3. A safety razor including a frame and a razor blade removably clamped in the frame, the frame having guard fingers on opposite edges thereof projecting beyond the blade, a cup central on the back of the frame, a coil spring seated in the cup, an annular cap yieldingly supported on the spring, a screw secured to the frame and extending through the cap, and a handle having a beveled bearing portion and a screw-hole therein receiving the screw, the bearing portion shiftably bearing upon the annular cap.

4. A safety razor including a frame head member having guard fingers on opposite side edges thereof on different projectional lines on the different edges respectively, the head member having spaced apertures therein and a cup on the back of the member intermediate of the apertures, a coil spring seated in the cup, an annular cap supported on the spring, a screw secured to the head member and extending through the cap, a handle having a beveled bearing portion and a screw-hole therein receiving the screw, the bearing portion shiftably bearing upon the cap, a frame front plate hinged at one end to one end of the head member and having a latch at its opposite end, the front plate having spaced posts receivable in said apertures, and a two-edge reversible razor blade removably arranged on the back of the front plate to co-operate with said fingers, the blade having apertures receiving said posts.

OSCAR F. MANN.