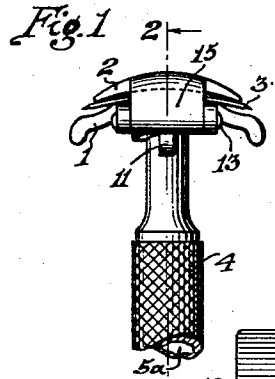
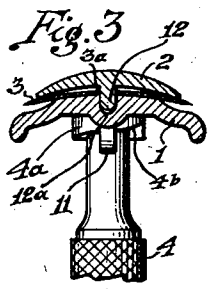
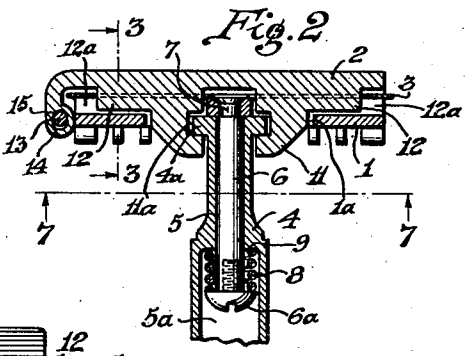
May 30, 1933. J. MUROS 1,912,155

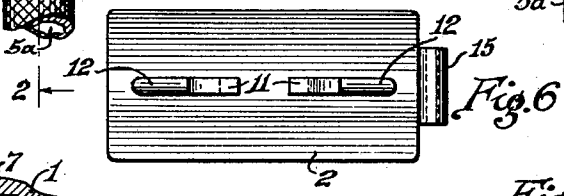
SAFETY RAZOR

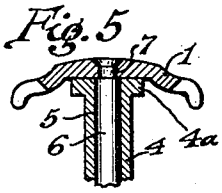
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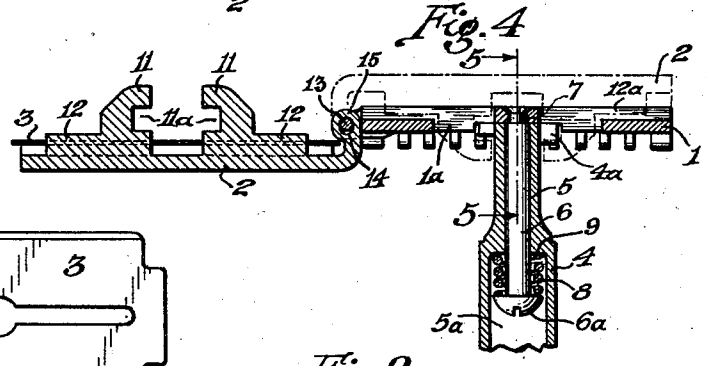


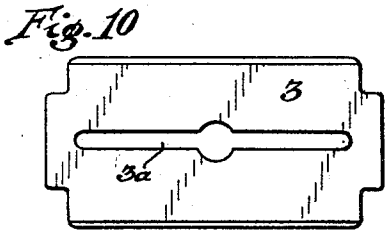


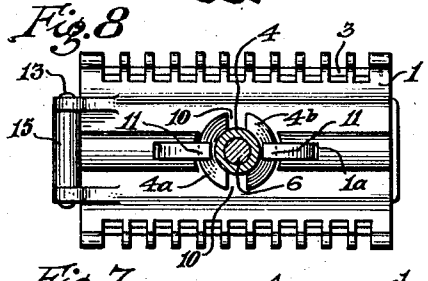


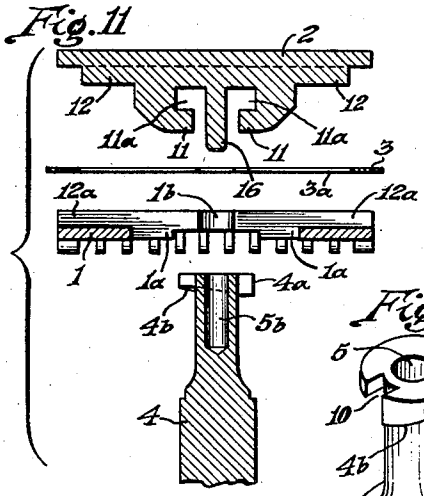


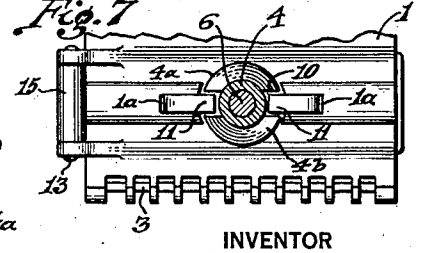


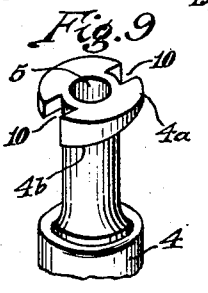












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Patented May 30, 1933 1,912,155

UNITED STATES PATENT OFFICE

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SAFETY RAZOR

Application filed April 24, 1931. Serial No. 532,559.

An object of my invention is to provide a safety razor in which blade clamping members may be conveniently and expeditiously caused to clamp a blade in shaving position between said members and as expeditiously released from the blade.

In carrying out my invention I provide a safety razor including blade clamping members, a handle rotative with respect to one of the members and provided with cam-like portions adapted to cooperate with jaws on the other member, and blade positioning means on one of said members, whereby when the parts are assembled the handle may be given a partial rotation for quickly causing the said members to clamp the blade in shaving position therebetween.

My invention also comprises novel details of improvement that will be more fully hereinafter set forth and then pointed out in the claims.

In the accompanying drawing,

Fig. 1 is a side elevation of a safety razor embodying my invention;

Fig. 2 is a section on line 2, 2 in Fig. 1;

Fig. 3 is a section on line 3, 3 in Fig. 2;

Fig. 4 is a section similar to Fig. 2 showing the parts spread for application or removal of a blade;

Fig. 5 is a detail section on line 5, 5 in Fig. 4;

Fig. 6 is a detail plan view of the cap or blade backing member;

Figs. 7 and 8 are detail sections on line 7, 7 in Fig. 2, showing the handle in different positions;

Fig. 9 is a detail perspective of a portion of the handle;

Fig. 10 is a plan view of a blade adapted for use in my improved razor, and,

Fig. 11 is a sectional detail view, exploded, illustrating a modification.

Similar numerals indicate corresponding parts in the several views.

The numerals 1 and 2 indicate blade clamping members, the member 1 being shown as a guard member and the member 2 as a cap or backing member, adapted to clamp a blade 3 between them. The guard member is slotted longitudinally along its central portion. In order to reinforce the guard, it is provided at its center with a bridge to form a support for the handle. This construction lends itself to the use of rather long slots on each side of the bridge. Furthermore, the bridge serves as an initial centering means of the cap member by engagement with the lugs on the rib of the cap member. The lugs straddle the bridge and guide the cap member to clamped position on the guard as the parts are assembled and drawn together by the handle and lug construction. At 4 is a handle adapted to cooperate with the members 1 and 2 to clamp them against the blade. In the form shown in Figs. 1 to 8 the handle 4 is rotatively carried by the guard member. I have illustrated the handle 4 as provided with a bore 5 that opens through the inner end of the handle and receives a headed guide stem or pin 6 that is attached to the guard member. The pin or stem 6 is shown provided with a reduced portion 7 that enters an aperture in the guard member or bridge thereof and is secured thereto as by riveting the pin or stem to said member. At 8 is a spring within the enlarged portion 5*a* of the bore of handle 4, which spring bears against a stop shoulder 9 in the handle and against head 6*a* of the pin or stem 6. When the parts are assembled, as in Figs. 2 and 4, the handle 4 may be rotated on its guiding pin or stem 6. The outer end of the handle is shown provided with a head 4*a* having spaced inclined or cam-like surfaces 4*b*. I have shown the head as provided with two cam-like surfaces 4*b*, on opposite sides, the head being provided with recesses 10 on opposite sides, between the cam-surfaces, (Fig. 9). The cap or backing member 2 is provided with projections 11 adapted to cooperate with the head 4*a* of the handle for retaining the members 1 and 2 clamped against the blade. The projections 11 are spaced apart to receive the adjacent portion of the handle between them, and the recesses 10 of the head 4*a* are adapted to receive the projections 11 when the members 1 and 2 are being assembled. The projections 11 are shown provided with recessed portions

11*a* that oppose each other, the inner ends of the projections 11, being closer together than the width of said recesses, whereby the head 4*a*, of the handle may be received in said recesses. The projections 11 will pass through the slotted portion of the guard provided with the opening or openings 1*a* in member 1. The openings 1*a* are preferably in the form of slots.

Means are provided to position the blade with its cuttting edges in shaving relation to the guard. Projecting means may be provided on either of the members 1 or 2 to enter an aperture or apertures 3*a* of the blade. I have illustrated the member 2 as provided with projections 12, on opposite sides of the projections 11, and spaced apart in such a way as to enter the aperture or slot 3*a* of the blade, to position the blade on the cap 2, whereby said projections will retain the blade in shaving position on the guard when the blade is between the members 1 and 2, as in Figs. 1, 2 and 3. The guard member is shown provided with recesses 12*a* to receive the projections 12 to permit the members 1 and 2 to be clamped against the blade with the latter resting against the guard member.

In the form shown in Figs. 1 to 8 the members 1 and 2 are hinged together at one side, so that the members may be spread apart for removal and application of a blade. I have illustrated the guard member 1 as provided with a hinge pin 13 receiving a bearing or hole 14 in a hinge extension 15 of the cap member 2, the bearing 14 preferably being elongated to permit relative movement of the cap and guard members to and from each other when being clamped against the blade.

When the parts are to be assembled in shaving relation a blade will be placed upon the cap member and positioned thereon by the projections 12, as in Fig. 4, whereupon parts 1, 2 and 3 will be swung together or closed with the blade between said members, and the handle will be turned to such position as to enable the projections 11 to pass through the recesses 10 of the head 4*a* of the handle, as illustrated in Fig. 7, whereupon the handle will be rotated sufficiently to cause the surfaces 4*b* of the head 4*a* to cooperate with the projections 11 to draw the members 1 and 2 together to clamp them against the blade, as illustrated in Figs. 2 and 8, with the blade in shaving position with respect to the guard and cap members.

When the handle is rotated in the reverse direction to disengage the projections 11, the thick ends of the inclined or tapering segments of the head encounter the sides of the projections 11 and limit the rotary movement of the handle, arresting it in position with its recesses 10 in registration with the openings 1*a* of the guard member.

The spring 8 by cooperating with the handle and with the head 6*a* of the pin or stem 6 affords a convenient and resilient means permitting the parts to be readily assembled and for maintaining friction on the handle so that it will not become displaced in the open position of the razor. When a blade is to be removed the handle will be rotated in a reverse direction to release the head 4*a* from the projections 11 so that the cap and guard members may be separated to expose the blade.

In Fig. 11 I have illustrated a modification in which the handle 4 is not permanently attached to the guard member. In this form of my invention the cap or backing member 2 is shown provided with a projection 16 that is located mid-way between the opposing ends of the projections 11, and said projection 16 is adapted to enter the opening 1*b* in the guard member and the bore 5*b* in the end of the handle to center or guide the latter. When the parts are to be assembled the blade will be placed between the guard and backing members, and the handle will be adjusted against the guard member with the projection 16 extending into the bore 5*b* for guiding the handle for rotation while the members 1 and 2 are held by the fingers in clamping relation to the blade between said members. Proper rotation of the handle will cause the inclined surface 4*b* of the head 4*a* to cooperate with projections 11 to clamp the members 1 and 2 against the blade, and by rotating the handle in a reverse direction the members 1 and 2 may be released and separated for removal and replacement of the blade.

Having now described my invention what I claim is:

1. A safety razor comprising a guard having a handle swiveled thereto and longitudinally disposed slots on each side of said handle, and a cap hinged to the guard and provided with a blade-locating rib registering with the slots of the guard and undercut projections adapted to extend through the slots upon opposite sides of the handle, the handle having a locking head co-operating therewith to retain the cap in clamping position.

2. A safety razor comprising a guard, a stem projecting from the guard, a tubular handle journaled on the stem, a spring within the handle normally holding the latter in end engagement with the guard, and a cap arranged for interlocking engagement with the handle.

3. A safety razor comprising a guard, a stem projecting from the guard, a tubular handle journaled on the stem and having a locking head at its end arranged to bear upon the guard, a spring surrounding said stem and acting to press the locking head against the guard, and a hinged cap having

projections for interlocking engagement with said head.

4. A safety razor comprising a guard having aligned slots separated by a bridge portion, a stem permanently secured to said bridge portion, a handle rotatably connected to the stem and having a locking head thereon, means for yieldingly connecting the handle and stem, and a cap hinged to the guard and provided with projections adapted to pass through the slots of the guard, said yielding connections permitting displacement of the handle longitudinally upon the stem.

5. A safety razor comprising cap and guard members hinged together at one end, a stem fixed in the guard and slots in the guard on either side of the stem, ribs on the cap registering with said slots and having projections adapted to be located on either side of the stem, a handle rotatable upon the stem and having a locking head, and a spring acting between said stem and handle to hold the locking head of the handle against the surface of the guard.

JOSEPH MUROS.