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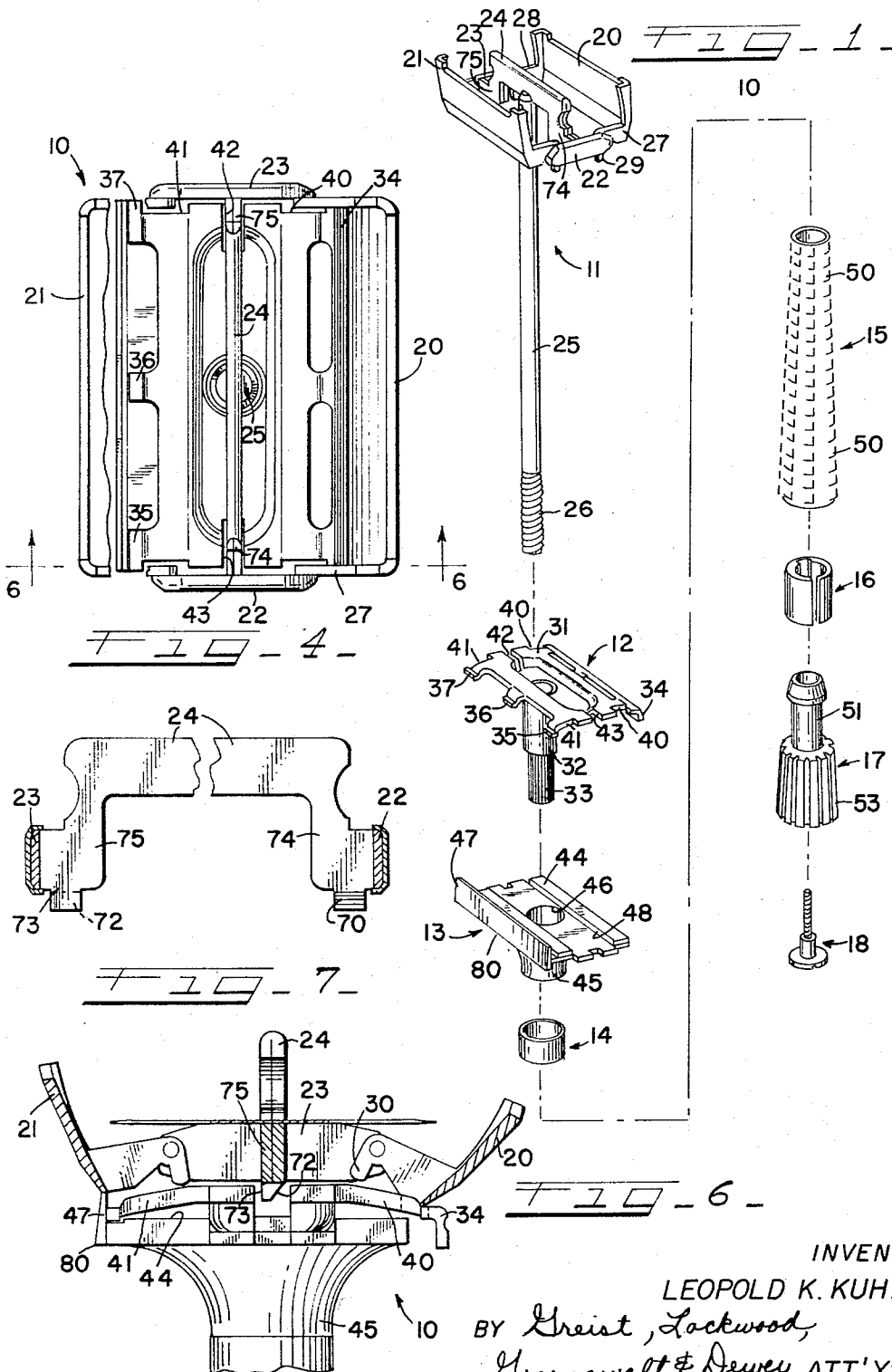
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SAFETY RAZOR WITH SIDE WIPER

Filed Dec. 20, 1965

2 Sheets-Sheet 1



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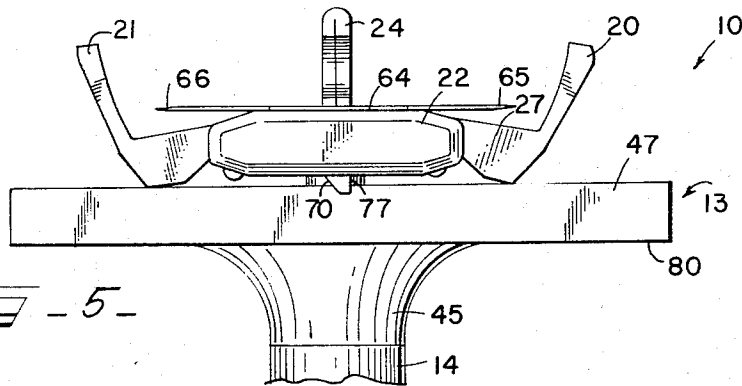
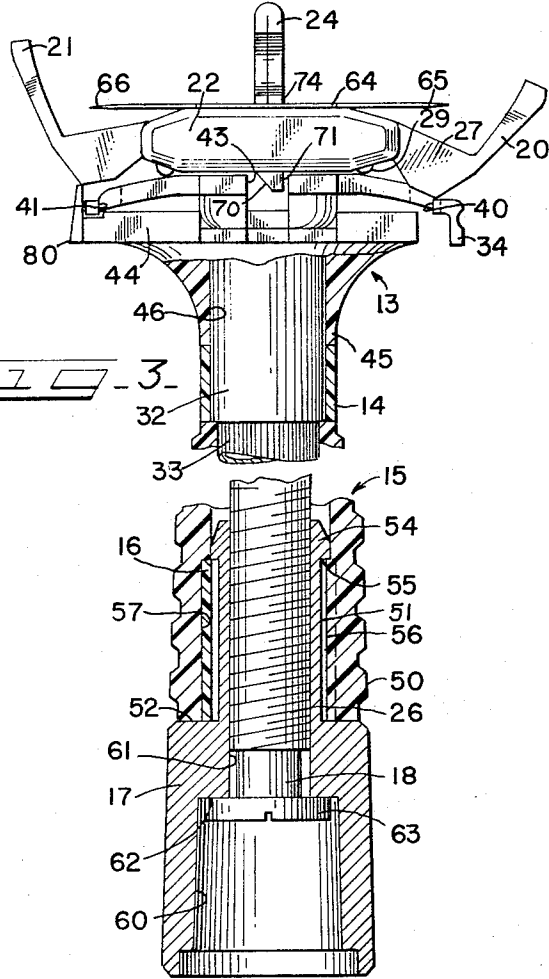
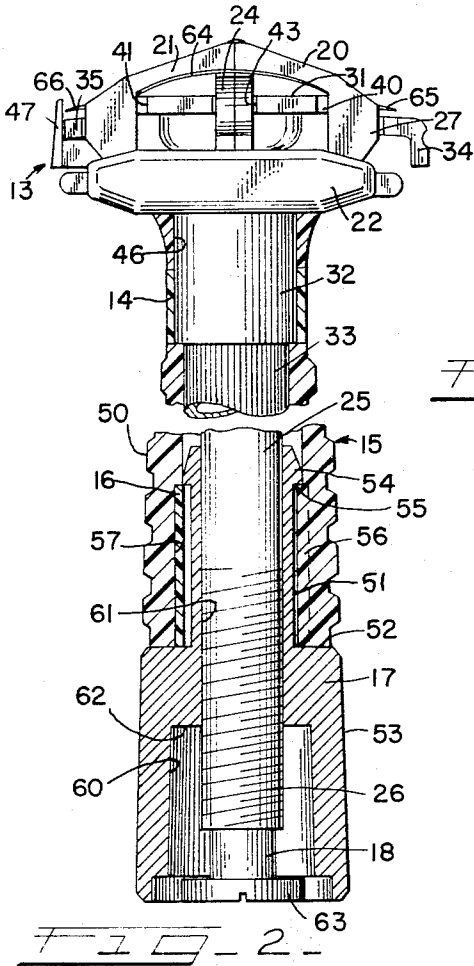
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**SAFETY RAZOR WITH SIDE WIPER**

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 6 Claims. (Cl. 30-41)

**ABSTRACT OF THE DISCLOSURE**

A double edge type safety razor having a side wiper means which permits exposure of only one edge of a double edge blade positioned in the razor. Means is provided to open a pair of foldable cap sections and elevate the entire spider assembly and blade relative to the guard member. The spider assembly can then be rotated relative to the guard member to permit exposure of the edge of the blade which was previously covered by the side wiper.

This invention relates to improvements in safety razors and more specifically is directed to a double edge type safety razor having a side wiper means which permits exposure of only one edge of a double edge razor blade positioned in the razor. Suitable means is provided to shift the entire spider assembly axially relative to the guard member to unclamp and elevate the razor blade. The spider assembly may then be rotated relative to the guard member to permit exposure of the edge of the blade which was previously covered by the side wiper. In this manner, both cutting edges of the double edge razor blade may be alternately used to insure equal use of the edges and simultaneously provide a side wiper means for stripping the lather from critical areas prior to shaving in order that they may be exposed for proper trimming.

It is an object of this invention to provide a new and improved safety razor adapted to accommodate a double edge type razor blade, which safety razor is provided with means to permit exposure of only one edge of the razor blade at a time.

It is a further object of this invention to provide a safety razor having a wiping means for stripping shaving lather from areas to be trimmed.

It is a further object of this invention to provide a new and improved safety razor having means to permit exposure of only one edge of a double edge type razor blade during shaving and including means to rotate the razor blade to expose the opposite edge which was previously unexposed.

It is a further object of this invention to provide a new and improved razor assembly having a side wiper means, which wiper means precludes shaving with the edge of a razor blade disposed adjacent thereto and which razor assembly includes means to rotate the razor blade for exposure of the blade edge previously positioned adjacent the wiping means.

Other objects and advantages will become apparent to those who study the drawings and read the description. In the drawings:

FIG. 1 is an exploded perspective view of the elements forming the safety razor of the present invention;

FIG. 2 is an enlarged elevational view of the safety razor of FIG. 1 with the elements assembled and portions of the handle broken away and other portions in section to illustrate the various details;

FIG. 3 is a view similar to FIG. 2 with the cap sections of the safety razor in the opened position prior to rotation of the spider assembly;

FIG. 4 is a top plan view of the razor shown in FIG. 5 with the razor blade removed;

FIG. 5 is a front elevational view taken on the side wiper side of the safety razor with the spider assembly rotated at 90° relative to the guard;

FIG. 6 is an end elevational view partly in cross section taken along the lines 6-6 of FIG. 4; and

FIG. 7 is a broken free body front elevational view of the spider.

Referring now to FIG. 1, the basic elements of the safety razor 10 includes a spider assembly 11, guard member 12, and side wiper 13 which is interfitted with the guard member 12. Also included is a bushing 14 disposed above handle 15 while a bushing 16 at the lower end end of the handle rotatably supports an adjusting knob 17 with the elements held in assembled relation by a flat head screw 18.

The spider assembly 11 includes cap members 20 and 21 which are of uniform construction, each being pivotally carried on cross arms 22 and 23 attached to downwardly projecting arms 74 and 75 formed at opposite ends of the main body 24 of the spider. As shown in FIGS. 3, 5, 6 and 7, the arms 74 and 75 have oppositely directed cam surfaces 70 and 72 projecting downwardly at opposite ends of the main body 24.

Referring again to FIG. 1, a spider stem 25 is joined centrally of the main body 24 of the spider and has a lower end portion provided with threads 26. Cap sections 20 and 21 are of known type and open and close towards each other to clamp a double edge razor blade of conventional design of the guard member 12. Downwardly projecting ends 27 and 28 are formed on the cap 20 and terminate in an outwardly projecting tongue or flange 29 and 30 respectively, with similarly shaped ends and flanges provided on opposite ends of the cap section 21.

The guard member 12 is provided with a generally flat body portion 31 and a cylindrical mounting portion 32 having a knurled portion 33 of reduced diameter adapted to receive the handle 15 with an interference fit. The flat body portion 31 of the guard 12 is provided with a guard bar 34 along one margin while the opposite margin terminates in outwardly projecting spaced lugs 35, 36 and 37. Vertical slots 40 and 41 are formed at opposite ends of the body portion 31 for guiding engagement with the downwardly projecting ends and flanges formed on the cap sections 20 and 21. Centrally disposed guide slots 42 and 43 are provided intermediate the slots 40 and 41 to receive and guide downwardly projecting arms 74 and 75 formed at opposite ends of the main body 24 of the spider assembly during axial shifting. The side walls of the slots 40 and 41 engage the flanges 29 and 30 on the downwardly projecting arms 27 and 28 of each of the cap sections 20 and 21 when the spider assembly is moved upwardly relative to the guard member to cause opening and closing in a conventional manner.

The side wiper 13 consists of a generally flat body portion 44 formed with a longitudinal groove and on the underside arcuately merging into a generally cylindrical portion 45. A central bore 46 extends through the body portion 44 and cylindrical portion 45, being of sufficient dimension so as to receive the mounting portion 32 on the guard. An upstanding shield 47 extends continuously along one side margin of the side wiper 13 while the opposite side margin terminates in a sharply defined straight edge disposed below a plane lying on the outer margins of the upper surface 44. A longitudinally extending center recess 48 may be provided to accommodate the recessed portion of the guard member 12.

As seen in FIGS. 1-3, the bushing 14 may be formed from tubular plastic stock having an inside diameter which permits positioning around the mounting portion 32 and an outside diameter approximating that of the

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upper end of the handle 15. Obviously, the bushing may be formed integral with the cylindrical portion 45 of the side wiper 13 if desired.

Handle 15 may be provided with a series of knobs or ridges 50 to enhance gripping and the over-all decorative effect. As seen in FIGS. 2 and 3, the bushing 16 is positioned around the bearing portion 51 of the adjusting knob 17 and is held against lateral movement by a shoulder 52 formed at the intersection with the finger engaging portion 53 of the adjusting knob 17. At the opposite end, a knob 54 of reduced diameter forms a shoulder 55 which limits the movement of the bushing 16 once it is installed on the bearing portion 51. The split portion of the bushing 16 is positioned on opposite sides of a key 56 formed in a bore 57 in the lower end of the handle 15 to prevent rotation between the handle 15 and the bushing 16. In this manner, relative rotation may only occur between the bearing surface 51 on the knob 17, and the inner circumferential surface of the bushing 16.

As best seen in FIGS. 2 and 3, the adjusting knob 17 is formed with coaxial bores 60 and 61 joined by a radial shoulder 62. The upper bore 61 is provided with threads to co-operate with the threads 26 formed on the lower end of the spider stem 25. The spider stem 25 is bored and tapped (not shown) coaxially with threads 26 at the lower end and receives the flat head screw 18 having an enlarged head 63 which forms a stop on the lower end of the stem 25. Obviously, the flat head screw 18 may be omitted in lieu of riveting or other equally suitable methods of forming a stop which precludes disassembly of the stem and knob. As seen in FIG. 3, the enlarged head 63 on the screw engages the shoulder 62 in the knob 17 when the cap sections 20 and 21 are moved to the fully opened position. Continued rotation of the knob 17 causes rotation of the spider assembly as will be seen.

When the parts are assembled as shown in FIG. 2, and the knob 17 rotated to draw the spider stem 25 downward, the caps assume a closed position to clamp a double edge razor blade 64 to the guard 12. The razor blade 64 is provided with sharpened opposite edges 65 and 66 disposed along opposite margins of the guard 12. The sharpened edge 66 is covered or protected by the shield 47 on the side wiper 13 while edge 65 is clamped by the cap section 20 in exposed shaving relation with the body portion 31 of the guard 12. A straight edge 80 is formed at the lower part of the shield 47 and may be used to strip the lather from critical areas which are to be trimmed with the razor such as, for example, the area around the sideburns, or clefts, around a moustache, beard and the like. The lather stripped away will roll beneath the edge 80 on the shield 47 down onto the cylindrical portion 45 and bushing 14 where it may be easily rinsed away simultaneously with flushing of the razor blade.

When it is desired to reverse the positions of the cutting edges of the razor blade to position the cutting edge 66 over the guard bar 34, the adjusting knob 17 is rotated until the head 63 of the screw 18 engages the stop shoulder 62 as shown in FIG. 3. At this time, the cap sections 20 and 21 are fully opened as illustrated, with the ends 27 and 28 released from slots 40 and 41 in the guard member 12. At this time, the razor blade 64 is resting on the cross arms 22 and 23 of the spider assembly 24. Continued rotation of the adjusting knob 17 in a counter-clockwise direction as viewed from the lower end of the razor causes oppositely directed cam-shaped surfaces 70 and 72 on the arms 74 and 75 to engage the side of the grooves 42 and 43, respectively. This causes a further lifting action of the spider assembly 11, camming the main body 24 out of the grooves 42 and 43 and permitting it to rotate with the continued rotation of the knob 17.

In FIG. 5, the main body 24 spider assembly 11 is shown in an intermediate stage of rotation after it has been turned 90°, positioning the main body 24 of the spider assembly 11 at right angles to the center slots 42

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and 43 in the guard 12 (not shown in this figure). Throughout this rotation, the lower ends of the cap sections 20 and 21 smoothly ride across the shield 47 on the side wiper 13 and guard 12. After the main body 24 of the spider assembly and associated cross arms and cap members have been rotated an additional 90° or a total of 180°, the main body 24 of the spider assembly 11 is aligned with the center slots 42 and 43. On opposite sides of each of the cam surfaces 70 and 72 is provided a vertical shoulder 71 and 73. These shoulders engage the sides of the respective center slots 42 and 43 to arrest rotation of the spider assembly as the rotational motion of the knob 17 is reversed to bring the cap sections 20 and 21 to a closed position.

Reverse rotation of the spider assembly 11 can not occur inasmuch as the vertical shoulders 71 and 73 on the lower arms 74 and 75 prevent the spider assembly 11 from camming out of the center slots 42 and 43. In the illustrated embodiment, the cam surfaces 70 and 72 are directed so that the head will rotate in a clockwise direction as viewed from the top side as shown in FIG. 4. They are symmetrically arranged on the underside of the arms 74 and 75 and may be in the form of longitudinally abbreviated lugs or may extend the full length of the center slots 42 and 43.

It is to be appreciated that the safety razor of the present invention limits the user to the use of only the exposed edge of the razor blade. As the razor blade can be rotated on a scheduled basis, an equal number of shaves can be obtained with each edge of the blade before it is discarded. The advantages and economy of a double edge blade construction can be obtained while permitting the user a means whereby he can obtain equal use of each edge of the blade. This means also serves as a wiper to permit the lather to be stripped from the critical areas before trimming is effected.

Upon a consideration of the foregoing, it will become obvious to those skilled in the art that various modifications may be made without departing from the invention embodied herein. Therefore, only such limitations should be imposed as are indicated by the spirit and scope of the appended claims.

I claim:

1. A safety razor comprising a guard member supported on a handle, a spider assembly joined to said handle and axially movable with respect to said guard member, said spider assembly including a pair of foldable cap sections guidingly engaged with said guard member, said cap sections being adapted to open and close in response to relative axial movement between said guard member and spider assembly, means on said spider assembly to support a double edge razor blade when said spider assembly is elevated relative to said guard member, means operatively connected to said spider assembly to release engagement of said cap sections with said guard member and shift said spider assembly and guard member axially of one another to an extent sufficient to permit rotation of said spider assembly and said razor blade relative to said guard member while maintaining said spider assembly joined to said handle, and means on said razor to prevent exposure of one edge of said double edge razor blade.

2. The safety razor of claim 1 wherein said means to shift said spider assembly and guard member axially of one another includes a rotatable knob means on said handle threadably engaging a spider stem forming a part of said spider assembly whereby relative rotation between said knob means and said handle will elevate said spider assembly to lift said razor blade, and stop means on said spider stem to limit the elevation of said spider assembly whereby continued rotation of said knob means will rotate said elevated spider assembly and said razor blade to reverse the position of cutting edges on said razor blade relative to said exposure prevention means.

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3. The safety razor of claim 1 wherein said means to shift said spider assembly and said guard member axially of one another includes a rotatable knob means on said handle threadably engaging said spider stem and cam means formed on said spider assembly and operatively engageable with said guard member to lift said spider assembly from guiding engagement with said guard member when said knob means is rotated to a position wherein said cap sections are fully opened.

4. In a safety razor having a guard member mounted on a handle, a spider assembly including a spider stem joined to a spider body which supports cap sections engageable with said guard member for opening and closing in response to axial shifting between said spider assembly and said guard member, said cap sections in closed position serving to clamp a double edge razor blade to said guard member, the improvement which comprises side wiper means disposed along one side margin of said guard member to cover at least a portion of a cutting edge at one margin of the double edge razor blade, and means operatively connected to said spider assembly to shift said spider assembly and guard member axially of one another to an extent sufficient to permit rotation of said spider assembly and blade relative to said guard member while maintaining said spider assembly joined to said handle, whereby said spider assembly and said razor blade may be rotated to permit reversing the position of the cutting edges at opposite margins of said double edge razor blade.

5. The improvements in safety razors of claim 4 wherein said means to shift said spider assembly and said razor

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blade relative to said guard member includes, a knob means rotatably supported on said handle, thread means in said knob means to co-operate with said spider stem whereby rotation of said knob means will cause shifting of said spider stem, and stop means to limit the shifting of said spider stem when said cap sections are disengaged from said guard member whereby continued rotation of said knob means will cause rotation of said spider assembly and said razor blade.

6. The improvement in safety razors of claim 5 wherein cam means is provided on said spider body to co-operate with said guard member to cam said spider body out of engagement with said guard member whereby said spider assembly and said razor blade may be rotated.

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30 MYRON C. KRUSE, *Primary Examiner.*