May 19, 1931. M. B. BEHRMAN 1,805,509

SAFETY RAZOR

Filed May 11, 1928 2 Sheets-Sheet 1

Fig. 1

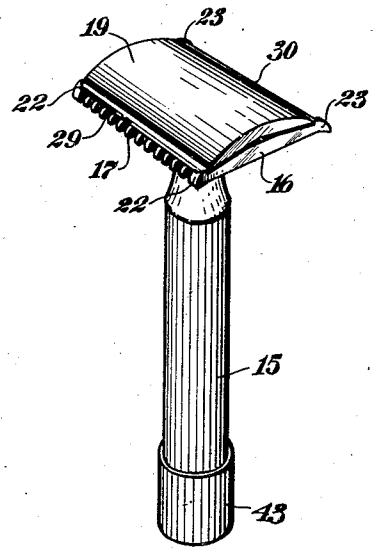


Fig. 2

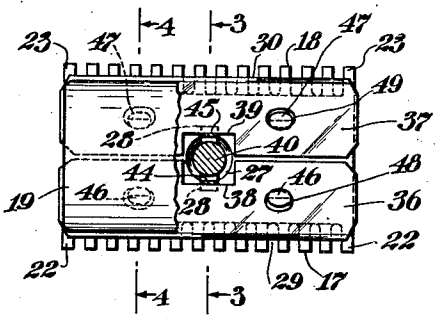


Fig. 3

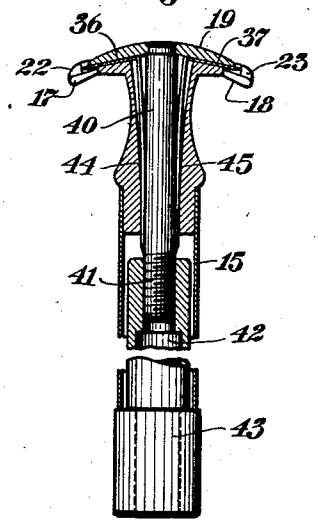


Fig. 4

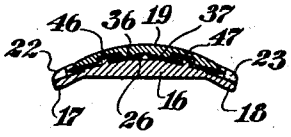


Fig. 5

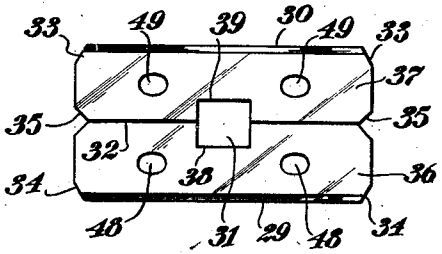
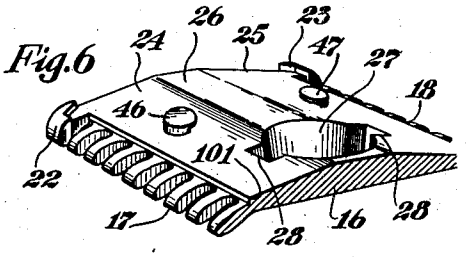


Fig. 6



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SAFETY RAZOR

Filed May 11, 1928 2 Sheets-Sheet 2

Fig.7

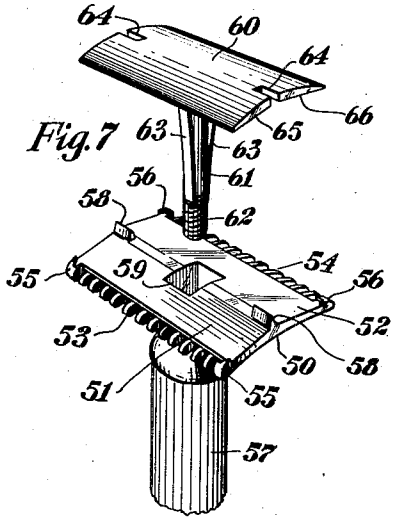


Fig.8

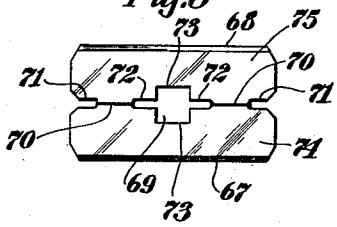


Fig.9

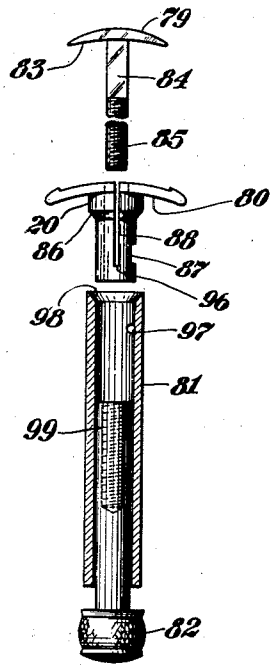


Fig.10

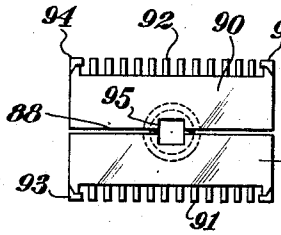


Fig.11

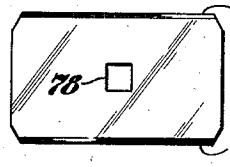


Fig.12

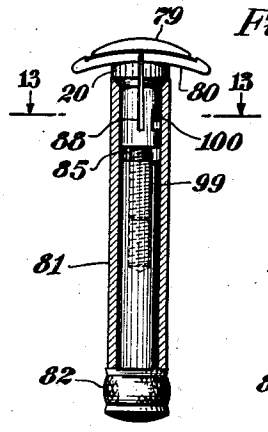


Fig.13

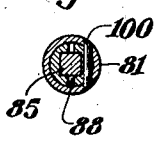
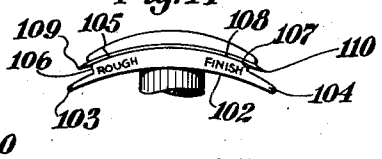


Fig.14



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1,805,509

UNITED STATES PATENT OFFICE

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SAFETY RAZOR

Application filed May 11, 1928. Serial No. 276,832.

My present invention relates generally to safety razors, and has particular reference to the type which embodies two oppositely arranged guard edges for use with a double-edged blade device.

It is well known that maximum shaving efficiency is obtained only by accurate and proper positioning and repositioning of the cutting edge of a shaving blade in predetermined relationship to a guard edge, against which blade stops the extreme ends of a cutting edge may be made to abut. In devices employing this principle, which may be briefly termed the "Ever Ready" principle, it is necessary in some manner to bring about the mutual abutment between the edge and the blade stops. In devices employing single-edged blades, means are generally provided for engaging the rear or inoperative edge of the blade and forcing the latter bodily up against the front blade stops.

Devices employing double-edged blades in the manner typified by the "Gillette" have numerous advantages of their own among which is the obvious advantageous feature that two cutting edges are always available for use.

It is one object of my present invention to provide a device generally resembling the Gillette type referred to wherein two cutting edges are always readily available for use, but wherein the advantageous "Ever Ready" principle of blade-stop engagement is employed. Stated otherwise, it is a broad object of my present invention to provide a safety razor having a blade seat with oppositely arranged guard edges, adapted to receive a blade device having two oppositely arranged cutting edges, the guard edges being respectively provided with blade stops of the "Ever Ready" character, and the instrument being provided with means for simultaneously clamping the blade device to the seat and forcing each cutting edge thereof and its corresponding blade stops into mutual encounter. As a result, my present invention permits the employment of a double-edged blade device in a manner similar to that now generally associated with the Gillette type of razor, and achieves at the same time the advantageous results heretofore impossible in the Gillette type of razor and resulting directly from the "Ever Ready" principle of front-stop engagement.

In one embodiment of my present invention, I employ a double-edged blade device which is severable along a predetermined line of weakness into two sections, each of the sections including one cutting edge and being of a depth which is practically half of the depth of ordinary wafer type blades. The razor is so constructed as to receive these severed sections in an efficient manner, to clamp the same in position with respect to the two oppositely arranged guard edges, and at the same time to force the cutting edges into abutment with the blade stops associated with the guard edges.

In a second embodiment of my present invention, I provide means for applying the severable and predeterminedly weakened blade device to the razor without initially forming the two severed sections, the razors being so constructed that during the clamping action of the blade device, the latter is automatically severed along the predetermined line of weakness, and the two severed sections are thereupon forcibly positioned with their cutting edges in the desired abutment with the blade stops.

In a third embodiment of my present invention, I provide means for employing an unweakened and hence unseverable double-edged blade, the razor being so constructed in this embodiment as to effect the desired engagement between cutting edge and blade stops by adjustment of the blade stops themselves as distinguished from adjustment of the blade.

It is a particular feature of my present invention to provide what I have termed "preliminary locating means" whereby the blade device may in each case be preliminarily positioned upon the blade seat in a substantially accurate manner prior to the clamping operation, this preliminary locating ability serving to prevent any possible damage to the blade device or to the user thereof by virtue of carelessness or slipping of the blade, and serving in general to fa-

cilitate the actual daily use of my invention.

In the first embodiment referred to above, the preliminary locating means may be constituted of pins or the like suitably constructed and positioned on the blade seat so as to cooperate in a predetermined manner with suitably prepared and positioned apertures in the blade sections employed.

In the second embodiment referred to above, the preliminary locating means may advantageously be constituted of ridges or similar projections provided upon the blade seat in a manner which permits cooperation thereof with suitably prepared recesses which serve the additional and possibly more important function on the blade device of defining the predetermined line of weakness. In this embodiment, the preliminary locating of the blade device may also be enhanced by properly constructing the razor holder, and particularly a shank which depends from a cover element thereof.

In the third embodiment above referred to, the preliminary locating means is advantageously effected by a predetermined cooperation between a suitably prepared aperture or opening in the blade itself and a shank similar to the one referred to in the previous paragraph.

Another feature of my invention resides in providing means for efficiently and automatically accomplishing in one operation (*a*) a clamping of the blade device, and (*b*) an achievement of the cutting edge abutment with the blade stops.

In the first embodiment above referred to, it is a feature of my invention to provide the blade seat with a central opening, to provide the blade device with a single or composite recess in substantial registry with said opening, and to provide a blade-clamping cover for the blade seat, which cover is provided with a depending shank adapted to pass through said recess and opening and thereby to operate upon a midportion of the blade device to force the two sections thereof in opposite directions against the blade stops.

In the second embodiment above referred to, it is a feature of my invention to provide this automatic means for clamping the blade device and properly positioning the cutting edges thereof in a similar manner, and to provide the means with the additional ability to break the blade along the predetermined line of weakness during the clamping operation. Briefly, I provide a blade-clamping cover with surfaces so arranged as to forcibly flex opposite portions of the blade device into angularly disposed planes, thereby breaking the blade device into two sections.

In the third embodiment above referred to, it is a feature of my invention to provide the blade seat in the nature of a split construction, each portion of the split device including one of the guard edges, and to provide means operable upon clamping of the blade for causing the guard edges to approach one another, thereby squeezing the blade edgewise between them.

Another feature of my invention, applicable to any of the foregoing embodiments, and in fact to razors in general, has reference to the vertical positioning of the cutting edge above the plane of the guard edge. Blade stops serve to position the cutting edge at a predetermined proper point over the guard edge in a direction parallel to the plane of the blade. It is well known, however, that the vertical distance between the cutting edge and the plane of the guard edge is an important factor in determining the efficiency of a blade with respect to a particular usage thereof. In devices wherein this vertical distance may be varied at will by the user, it is practically impossible for the user to bring about, upon repeated occasions, any desired adjustment which he has found satisfactory. This is particularly true where the vertical adjustment is effected by the same means which clamps the blade device to the razor. In accordance with my present invention, wherein I have provided two guard edges, it is a feature to provide such guard edges in fixed yet different relationships with respect to the adjacent blade seat portions. In this way, one or the other guard edge may be found to be particularly efficient for a particular user, and he is enabled repeatedly to effect the same vertical adjustment every time the device is used by simply employing the same guard edge on each occasion.

The foregoing feature of my invention, constituting a phase which is independent of other phases of my present invention, is of particular advantage in connection with the first and second embodiments above referred to wherein the blade device when once employed is composed of two severed sections. For, where one particular guard edge has been found satisfactory, the blade section associated with the other guard edge may remain wholly unemployed until such time as the other section is discarded, and may then be used to replace said discarded section in association with the guard edge which has been found most efficient.

In general, it is an object of my present invention to provide a safety razor which is extremely simple in construction, hence inexpensive from a manufacturing standpoint, which embodies all the advantages of the double-edge type of razor typified by the Gillette, particularly with respect to the two always-available cutting edges, which embodies at the same time all the advantageous characteristics inherently associated with the blade stop or "Ever Ready" principle, and which is at the

same time extremely simple to use time after time without the necessity for complicated adjustments, dangerous manipulations or other annoyances.

For the attainment of the foregoing objects and such other objects as may hereinafter appear or be pointed out, I have provided a number of constructions embodying the features of my invention and illustrated in the accompanying drawings in which—

Figure 1 is a perspective view of a safety razor embodying the features of my invention and showing the general nature of my present instrument;

Figure 2 is a plan view of the same, a portion of the cover being broken away to disclose two blade sections upon the seat;

Figure 3 is a vertical cross-sectional view taken substantially along the line 3—3 of Figure 2;

Figure 4 is a vertical cross-section taken substantially along the line 4—4 of Figure 2;

Figure 5 is a plan view of the blade device designed for use with the structure illustrated in Figures 1–4;

Figure 6 is a fragmentary perspective view upon an enlarged scale of the blade seat of the device illustrated in Figures 1–4;

Figure 7 is an exploded perspective view of a second embodiment of my present invention;

Figure 8 is a plan view of the blade designed for use in connection with the device of Figure 7;

Figure 9 is a vertical exploded view of a third embodiment of my present invention, a portion of this view being shown in cross-section;

Figure 10 is a plan view of the blade seat of Figure 9;

Figure 11 is a plan view of a blade designed for employment with the device of Figures 9 and 10;

Figure 12 is a view similar to Figure 9 showing the parts in assembled condition ready for use;

Figure 13 is a cross-sectional plan view taken substantially along the line 13—13 of Figure 12; and

Figure 14 is an end view of a blade seat with blade and seat cover thereon and illustrating a feature of my present invention.

Referring to Figures 1–6 which illustrate one form of my present invention, it will be noted that I have provided an instrument having a handle 15 and a blade seat 16 arranged in a substantially transverse plane, the seat 16 being provided with the oppositely arranged guard edges 17 and 18. When the instrument is employed, a seat cover or clamping member 19 assumes the position shown most clearly in Figure 1, a suitable blade device being sandwiched between the blade seat 16 and the cover 19 and having one cutting edge 29 properly positioned over the guard edge 17 and another cutting edge 30 properly positioned over the guard edge 18.

In accordance with the general objects of my invention, I have provided a pair of blade stops 22 in association with the guard edge 17, and a similar set of blade stops 23 in association with the guard edge 18. The blade stops 22 and 23 are suitably constructed to serve as front abutments for the cutting edges, and they are positioned in a predetermined manner at the opposite ends of the guard edges so that when a cutting edge is brought into abutment therewith, the cutting edge will be in the most efficient position for shaving purposes.

Referring for the moment to Figure 6, it will be observed that the blade seat 16 comprises the portion 24 which is inclined slightly upwardly from the guard edge 17, the portion 25 which is inclined slightly upwardly from the guard edge 18, and the medial horizontal portion 26. It will be noted also that the seat 16 is provided with the central aperture 27 which may be substantially circular in cross-section and which is provided with the two oppositely disposed rectangular portions 28, each of the latter portions being directed toward one of the guard edges.

In Figure 5 I have illustrated the type of blade device which is designed for use with the embodiment now being described. It comprises a double-edged blade device having the oppositely arranged cutting edges 29 and 30, a central aperture or recess 31, and a line of scoring 32. The scoring of the device along the line 32 renders the device severable along this predetermined line of weakness, and it will be obvious that the scoring 32 is merely one way of providing such a medial line of weakness. I prefer to construct the blade device as illustrated in Figure 5 wherein it will be noted that the side edges converge at 33 toward the cutting edge 30, converge similarly at 34 toward the cutting edge 29, and are provided with the angular notches 35 at the ends of the line of scoring 32. A construction of this character constitutes an advantage in connection with the manufacture of the blade devices in quantity, it also facilitates a severance of the blade device along the line 32 into the two sections 36 and 37, and it also achieves certain advantages in connection with properly locating and positioning the blade sections in proper centered engagement with the blade stops 22 and 23.

The recess 31 is centrally located so that when the blade device is severed into the sections 36 and 37, each of the latter will have a rectangular cut-out at the central portion of its rear edge. The inner wall 38 of the cut-out upon the section 36 is parallel to the cutting edge 29; and the inner wall 39 of the cut-out upon the section 37 is parallel to the cutting edge 30.

Referring for the moment to Figure 3, I will point out that the cover 19 has an under-surface which conforms substantially to the two upwardly converging surfaces 24 and 25, thereby allowing the cover to position itself closely and conformably upon the seat 16. The cover 19 is also provided with a downwardly depending shank 40 having external threads 41 upon its lower end. The shank 40 is designed to extend downwardly through the central opening 27 of the seat 16, and the threaded end 41 is adapted to be engaged by the internally threaded upper end 42 of the rotatable handle member 43.

Diametrically opposite one another upon the shank 40 are two upwardly diverging spring or wedge members 44 and 45, the latter being preferably attached to the shank 40 near the lower end thereof and extending upwardly into close adjacence to the under-surface of the cover 19.

When the device of Figure 5 is employed, it is first severed along the line 32 to provide the two sections 36 and 37. Each of these sections is then preliminarily placed upon the blade seat 16 in approximate position, the cutting edge 29 being positioned over the guard edge 17 and the cutting edge 30 being positioned over the guard edge 18. The cover 19 is then applied to the seat, the shank 40 extending downwardly through the recess 31 and through the central opening 27, the wedge or spring members 44 and 45 positioning themselves respectively in the portions 28 illustrated most clearly in Figure 6. As the cover is forced downwardly upon the seat, the spring 44 bears against the edge 38 of the cut-out in the rear edge of the blade section 36; and the spring or wedge member 45 bears against the edge 39 of the cut-out in the rear edge of the blade section 37. The handle 43 is manipulated so as to engage the shank 40, and upon further manipulation, the cover 19 is drawn firmly down upon the seat, the wedge members 44 and 45 at the same time serving to force the blade sections 36 and 37 in opposite directions. This automatically advances each cutting edge toward the corresponding blade stops, and when the device is completely assembled as in Figure 1, each cutting edge will be properly positioned over its corresponding guard edge. To facilitate the initial positioning of the blade sections upon the seat, and to preliminarily locate them thereon and prevent slippage thereof, I prefer to provide a pair of undercut pins 46 upon the surface 24, and a corresponding pair of undercut pins 47 upon the surface 25. Reference to Figure 6 will show clearly that the undercut is arranged toward the rear of the surface upon which the pin is provided. At the same time, I provide a pair of openings 48 in the blade section 36, and a similar pair of openings 49 in the blade section 37. The openings 48 and 49 are only slightly larger than the pins 46 and 47 and permit each blade section to be applied to the corresponding seat portion in a substantially accurate position. At the same time, the slight inclination of each seat portion causes the blade section to gravitate toward the corresponding guard edge. The undercut portions of the pins 46 and 47 then serve to prevent the blade sections from falling off the seat.

It is to be clearly understood that the pins 46 and 47 do not serve as locating means for the cutting edges but serve merely to facilitate the initial positioning or locating of the blade sections upon the seat.

In Figures 7 and 8 I have illustrated a second embodiment of my invention wherein the initial serverance of the blade device is not necessary, the razor itself serving to break the blade device into two sections during the clamping operation.

In this embodiment, a seat 50 comprises the two downwardly diverging seat portions 51 and 52, the guard edge 53 at the end of the portion 51, the guard edge 54 at the end of the portion 52, the blade stops 55 at opposite ends of the guard edge 53, and the blade stops 56 at the opposite ends of the guard edge 54. The seat is mounted upon a handle 57 similar to the handle 15 of the previous embodiment.

The seat 50 is also provided with the two ridges 58 at opposite ends of the medial axis of the seat; and a central opening 59 corresponds to the opening 27 but is substantially square in cross-section.

A cover 60 corresponds to the cover 19 and is provided with the downwardly extending shank 61 threaded at its lower end 62 and adapted to be engaged at this end by a handle member (not shown) corresponding to the member 43. A pair of upwardly divergent springs 63 is provided in a manner similar to that illustrated in connection with the springs 44 and 45.

The cover 60 is also provided with the two cut-outs 64 which are adapted to register with the ridges 58. And the cover 60 is provided with an under-surface having two inclined portions 65 and 66, these portions conforming respectively with the portions 51 and 52 of the seat 50.

In Figure 8 the blade device for this embodiment is illustrated, and it will be noted that it comprises a double-edged device having opposite cutting edges 67 and 68, a central recess 69 (similar to the recess 31), and a medial line of scoring 70 similar to the line of scoring 32.

The blade device of Figure 8 differs from that of Figure 5 by the omission of the openings 48 and 49 and by the added provision of the recesses 71 and 72 provided in alignment with the scoring 70. The recesses 71 extend inwardly to a slight degree from the

side edges of the blade device, and the recesses 72 extend sidewardly in opposite directions from the central aperture or recess 69.

When this embodiment is employed, the blade device of Figure 8 is applied to the seat 50, and the recesses 71 position themselves over the ridges 58. This serves to preliminarily locate the blade device upon the seat. After the cover 60 is then passed through the recess 69 and opening 59 and thence downwardly into engagement with the handle member, the springs 63 bear against the opposite walls 73 of the recess 69, tending to force these walls apart. Such spreading cannot be effected, however, until the blade device has been severed. This is automatically accomplished during the clamping of the cover 60 by the fact that the surfaces 65 and 66 force the opposite portions of the blade device into angularly arranged planes. That is, the section 74 of the blade device is forced onto the seat portion 51, and the section 75 of the blade device is forced onto the seat portion 52, the blade being thereby forcibly flexed about the medial line of weakness as an axis. This serves to break the blade into the two sections 74 and 75 which are respectively advanced by the spring 63 toward the blade stops 55 and 56.

Obviously, after the cover 60 has been applied and the instrument is entirely assembled for use, its appearance will be substantially like the device of Figure 1, and the two blade sections clamped in position will be just as accurately positioned as are the two sections 36 and 37 of the first-described embodiment.

In the embodiment of Figures 9–13, I contemplate the employment of a double-edged blade device of the character illustrated in Figure 11, wherein the opposite cutting edges 76 and 77 are not spreadable in the manner described above. This blade device has a central aperture 78 of rectangular cross-section but is provided with no predetermined line of weakness and is not designed to be severed either before or after it is applied to the blade seat.

In Figure 9 I have shown the razor which is designed to accommodate the blade device of Figure 11. It comprises four constitutent parts which are the cover 79, the blade seat 80, the handle 81 and the adjusting member 82.

The cover 79 is substantially like covers 19 and 60 but its under-surface 83 is slightly concave and is not constituted of two angularly disposed plane surfaces. It is provided with a downwardly extended shank, the upper portion 84 of which is substantially rectangular in cross-section and the lower portion 85 of which is externally threaded.

The seat 80 is provided with a central downwardly depending sleeve 20, the lower portion of which is of smaller external diameter than the upper portion thereof, thereby providing the angular bevel or shoulder 86. A recess 87 is cut into the outer wall of the lower portion of the sleeve 20.

The seat 80 is of a split construction having a slot 88 arranged along a medial line, thereby forming the seat portions 89 and 90. The portion 89 is provided with a guard edge 91 and the portion 90 is provided with a guard edge 92. Blade stops 93 are associated with opposite ends of the guard edge 91, and blade stops 94 are associated with opposite ends of the guard edge 92. A central opening 95 is provided through the blade seat and through the depending sleeve 20, the opening 95 being substantially rectangular in cross-section.

The slot 88 extends entirely across the seat and extends also downwardly toward the bottom of the sleeve 20, terminating at a point 96 slightly above the bottom of said sleeve. This construction renders the seat portions 89 and 90 adjustable toward one another.

The handle 81 is substantially tubular and is provided with a pair of registering openings 97 whose purpose will be presently described. The upper edge 98 of the sleeve 81 is beveled to conform substantially to the beveled shoulder 86 on the sleeve 20.

The adjusting member 82 extends upwardly into the sleeve 81 and has an internally threaded portion 99 adapted to engage the externally threaded end 85 of the shank depending from the cover 79.

When the device is assembled, during course of manufacture, the sleeve 20 is inserted into the upper end of the sleeve 81 and a pin 100 is driven through the registering openings 97 and through the recess 87. This pin permits the seat 80 to have a slight freedom of movement up and down within the sleeve 81 but retains the seat 80 in permanent association with the sleeve 81.

When the device is employed, the blade device of Figure 11 is applied to the seat and the cover 79 is applied thereover, the shank extending downwardly through the recess 78, the opening 95, and into the interior of the sleeve 81. The handle 82 is then manipulated to engage the shank end 85 and draw the cover 79 down upon the seat. As this is accomplished, the edge 98 bears against the beveled shoulder 86 and squeezes the seat portions 89 and 90 toward one another as shown most clearly in Figure 12. The blade stops 93 and 94 are thereby caused to approach one another and to squeeze the blade device edgewise between them. This assures the proper and desired mutual abutment between the cutting edge 76 and blade stops 93 on the one hand, and the cutting edge 77 and blade stops 94 on the other hand.

Another phase of my invention is illustrated in Figures 6 and 14. Referring to

Figure 6, it will be noted that the guard edge 17 has its upper surface arranged in a plane slightly below the plane of the seat portion 24. The shoulder 101 indicates the extent of this difference in levels. It is to be noted, however, that the seat portion 24 extends at each side toward the blade stops 22 without any lowering of the level. A blade section applied to the seat 24 will therefore always have its cutting edge a predetermined, vertical distance above the guard edge 17, this vertical distance being substantially equal to the depth of the shoulder 101. No adjustment or readjustment of the instrument during its employment will ever alter the vertical distance which the cutting edge will assume above the guard edge 17.

It is a feature of my invention to provide a razor device having two oppositely arranged guard edges of the character hereinbefore described, wherein one of the guard edges is beneath the plane of the adjacent seat portion by an extent greater than the extent by which the other guard edge lies beneath the other seat portion. In other words, if this feature of my invention were applied to the embodiment of Figure 6, the shoulder adjacent to the guard edge 18 and corresponding to the shoulder 101 would have a greater or less depth than the shoulder 101. This is illustrated in Figure 14 wherein I have shown a blade seat 102 having the opposite guard edges 103 and 104 and having the guard edge 103 arranged beneath the adjacent seat portion 105 by an extent 106 greater than the extent 107 by which the guard edge 104 lies beneath the plane of the adjacent seat portion 108.

In such a construction, it will be observed that the cutting edge 109 which overlies the guard edge 103 will always be positioned over such guard edge by a fixed predetermined vertical amount; and that the cutting edge 110 will always be positioned by a fixed and different amount above the guard edge 104. Where desired, the word "Rough" may be inscribed on the edge of the seat 102 adjacent to the guard edge 103; and the word "Finish" may be inscribed adjacent to the guard edge 104; or similar designations may be employed to distinguish one guard edge from the other.

When this feature of my invention is applied to the devices illustrated in Figures 1 and 7, it assumes a particular importance because of the fact that the blade device comprises two separate sections. One of said sections may thus be retained in a state of unemployment until the other section has become worn, and the unused section may then be employed to replace the discarded or worn section in association with the one particular guard edge which has been found particularly advantageous for that particular user.

It will be obvious that many of the details herein described and illustrated for the purpose of explaining the nature of my invention may be changed by those skilled in the art without departing from the spirit and scope of the invention as expressed in the appended claims. It is therefore intended that these details be interpreted as illustrative and not in a limiting sense.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is—

1. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops arranged on each edge, a blade device applicable to said seat and including a pair of oppositely arranged cutting edges positioned over said guard edges respectively, and means for clamping said device to the seat and at the same time forcing each cutting edge and the corresponding blade stops into mutual abutment by a relative movement between the blade edge and the stops in a horizontal plane.

2. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a blade device applicable to said seat and including a pair of oppositely arranged cutting edges positioned over said guard edges respectively, and means for clamping said device to the seat and at the same time forcing each cutting edge and the corresponding blade stops into mutual abutment by a relative movement between the blade edge and the stops in a horizontal plane, said means being operable upon a midportion of said blade device.

3. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a blade device applicable to said seat and including a pair of oppositely arranged cutting edges positioned over said guard edges respectively, and means for clamping said device to the seat and at the same time forcing each cutting edge and the corresponding blade stops into mutual abutment, said means being operable upon a midportion of said blade device and including a cover for the seat, said cover being provided with a wedge portion operable upon said midportion.

4. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a blade device applicable to said seat and including a pair of oppositely arranged cutting edges positioned over said guard edges respectively, and means for clamping said device to the seat and at the same time forcing each cutting edge and the corresponding blade stops into mutual abutment, said means being operable upon a midportion of said blade device and including a cover for the seat, said cover being provided with a resilient wedge portion operable upon said midportion as the cover is drawn down upon the seat.

5. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a blade device applicable to said seat and including a pair of oppositely arranged cutting edges positioned over said guard edges respectively, and means for clamping said device to the seat and at the same time forcing each cutting edge and the corresponding blade stops into mutual abutment, said means being operable upon a midportion of said blade device and including a cover for the seat, said cover being provided with shank which extends through the blade device and through the seat, and a pair of springs carried by said shank.

6. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a blade device applicable to said seat and including a pair of oppositely arranged cutting edges positioned over said guard edges respectively, and means for clamping said device to the seat and at the same time forcing each cutting edge and the corresponding blade stops into mutual abutment, said means being operable upon a midportion of said blade device and including a cover for the seat, said cover being provided with a shank which extends through the blade device and through the seat, and a pair of springs carried by said shank, said springs being arranged in downwardly convergent positions on opposite sides of said shank.

7. In a safety razor having a blade seat with a central opening therethrough and with oppositely arranged guard edges, blade-stops arranged on each edge, a blade device applicable to said seat and having a central recess adapted to register with said central opening, said device including a pair of oppositely arranged cutting edges positioned over said guard edges respectively, and means extending through said opening and recess for clamping the device to the seat and at the same time forcing each cutting edge and the corresponding blade stops into mutual abutment by a relative movement between the blade edge and the stops in a horizontal plane.

8. In a safety razor having a blade seat with a central opening therethrough and with oppositely arranged guard edges, blade-stops associated with each edge, a blade device applicable to said seat and having a central recess adapted to register with said central opening, said device including a pair of oppositely arranged cutting edges positioned over said guard edges respectively, and means extending through said opening and recess for clamping the device to the seat and at the same time advancing each cutting edge toward and into abutment with the corresponding blade stops by a relative movement between the blade edge and the stops in a horizontal plane.

9. In a safety razor having a blade seat with a central opening therethrough and with oppositely arranged guard edges, blade-stops associated with each edge, a blade device applicable to said seat and having a central recess adapted to register with said central opening, said device including a pair of oppositely arranged cutting edges positioned over said guard edges respectively, and means including a pair of resilient members extending through said opening and recess for clamping the device to the seat and at the same time cooperating with the walls of said recess for forcing said cutting edges in opposite directions into abutment with the corresponding blade-stops.

10. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops arranged on each edge, a blade device applicable to said seat and comprising a pair of sections each of which has a cutting edge positioned over one of said guard edges, and means for clamping said sections to the seat and at the same time spreading them in opposite directions so as to force the cutting edges into abutment with respective blade stops.

11. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a blade device applicable to said seat and comprising a pair of sections each of which has a cutting edge positioned over one of said guard edges and a recess in its rear edge, and means for clamping said sections to the seat and at the same time spreading them in opposite directions so as to force the cutting edges into abutment with respective blade-stops, said means comprising a wedge member engaging in both of said recesses.

12. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a double-edged blade applicable to said seat with its cutting edges over said guard edges respectively, said blade being severable under pressure into two sections each of which includes one of said cutting edges, and means for clamping the blade to the seat and at the same time forcing each cutting edge and the corresponding blade-stops into mutual abutment, said means functioning to sever the blade.

13. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a double-edged blade applicable to said seat with its cutting edges over said guard edges respectively, said blade being severable under pressure into two sections each of which includes one of said cutting edges, and means for clamping the blade to the seat and at the same time forcing each cutting edge and the

corresponding blade-stops into mutual abutment, said means functioning to sever the blade and including an angular seat-cover adapted to bear down upon the blade and force opposite portions thereof into angularly disposed planes.

14. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a double-edged blade applicable to said seat with its cutting edges over said guard edges respectively, said blade being severable under pressure into two sections each of which includes one of said cutting edges, and means for simultaneously severing the blade, clamping the severed sections to the seat, and spreading said sections to force the cutting edges up against the corresponding blade-stops.

15. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a double-edged blade applicable to said seat with its cutting edges over said guard edges respectively, said blade being severable under pressure into two sections each of which includes one of said cutting edges, and means for simultaneously severing the blade, and clamping the severed sections to the seat.

16. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a double-edged blade applicable to said seat with its cutting edges over said guard edges respectively, said blade being severable under pressure into two sections each of which includes one of said cutting edges, and means for simultaneously severing the blade, clamping the severed sections to the seat, and spreading said sections to force the cutting edges up against the corresponding blade-stops, said means including recesses in the blade and ridges on the seat extending through said recesses.

17. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a double-edged blade applicable to said seat with its cutting edges over said guard edges respectively, said blade being severable under pressure into two sections each of which includes one of said cutting edges, and means for simultaneously severing the blade, and clamping the severed sections to the seat, said seat comprising angularly disposed portions, and said means including a cover having angular surfaces adapted to conform to said seat portions.

18. In a safety razor having a blade seat with oppositely arranged guard edges, blade-stops associated with each edge, a double-edged blade applicable to said seat with its cutting edges over said guard edges respectively, said blade being severable under pressure into two sections each of which includes one of said cutting edges, and means for simultaneously severing the blade, and clamping the severed sections to the seat, said seat comprising angularly disposed portions and having a central opening, and said means including a cover having angular surfaces adapted to conform to said seat portions, and a wedge portion extending downwardly from said cover through said opening.

19. In a safety razor having a blade seat with oppositely arranged guard edges, the seat portions adjacent to said edges lying in upwardly converging planes, a double-edged blade applicable to said seat with its cutting edges over said guard edges respectively, said blade having a set of medial slots to provide a line of weakness along which the blade will break under pressure, and means for simultaneously breaking the blade along said line and clamping the severed sections to the seat.

20. In a safety razor having a blade seat with oppositely arranged guard edges, the seat portions adjacent to said edges lying in upwardly converging planes, a double-edged blade applicable to said seat with its cutting edges over said guard edges respectively, said blade having a set of medial slots to provide a line of weakness along which the blade will break under pressure, and means for simultaneously breaking the blade along said line and clamping the severed sections to the seat, said means comprising projections extending through said recesses, and a cover having angular surfaces adapted to conform to said seat portions and to force opposite portions of the blade into angularly disposed planes.

21. In a safety razor having a blade seat with oppositely arranged guard edges, the seat portions adjacent to said edges lying in upwardly converging planes, a double-edged blade applicable to said seat with its cutting edges over said guard edges respectively, said blade being constructed to embody a medial line of weakness along which the blade will break under pressure, and means for simultaneously breaking the blade along said line and clamping the severed sections to the seat, said means comprising a seat-cover having angular surfaces adapted to conform to said seat portions and to force opposite portions of the blade into the angularly disposed planes defined thereby.

22. In a safety razor having a blade seat with oppositely arranged guard edges, the seat portions adjacent to said edges lying in upwardly converging planes, a double-edged blade applicable to said seat with its cutting edges over said guard edges respectively, said blade having a set of medial recesses to provide a line of weakness along which the blade will break under pressure, and means for preliminarily locating the blade upon the seat, said means comprising ridges on said seat which extend through said recesses.

23. In a safety razor, a blade seat with op-

positely arranged guard edges, a double-edged blade for application to said seat and constructed to embody a medial line of weakness, and means for clamping the blade to the seat, said means functioning at the same time to sever the blade into two sections along said weakened line.

24. In a safety razor, a blade seat with oppositely arranged guard edges, a double-edged blade for application to said seat and constructed to embody a medial line of weakness, and means for clamping the blade to the seat, said means functioning at the same time to sever the blade into two sections along said weakened line, and said means comprising a seat-cover having surfaces which flex the blade around said line as the cover is drawn down upon the seat.

25. In a safety razor, a blade seat with oppositely arranged guard edges, a double-edged blade for application to said seat and constructed to embody a medial line of weakness, and means for clamping the blade to the seat, said means functioning at the same time to sever the blade into two sections along said weakened line, and said means functioning also to spread said severed sections.

26. In a safety razor, a blade seat with oppositely arranged guard edges, a double-edged blade for application to said seat and constructed to embody a medial line of weakness, and means for clamping the blade to the seat, said means functioning at the same time to sever the blade into two sections along said weakened line, and said means functioning also to spread said severed sections and comprising a wedge portion extending between said sections.

27. In a safety razor, a blade seat with oppositely arranged guard edges, a double-edged blade for application to said seat and constructed to embody a medial line of weakness, and means for clamping the blade to the seat, said means functioning at the same time to sever the blade into two sections along said weakened line, and said means functioning also to spread said severed sections; said means comprising a cover having surfaces which flex the blade around said line as the cover is drawn down upon the seat, and a wedge portion extending between said sections.

28. A double-edged safety razor blade constructed to embody a medial line of weakness substantially parallel to the cutting edges and along which the blade will break when flexed about said line as an axis, each cutting edge being provided with stop engaging corners.

29. A double-edged safety razor blade having recesses arranged along a medial line substantially parallel to the cutting edges and defining a line of weakness along which the blade will break when flexed, said recesses being adapted to cooperate with locating elements on a razor.

30. In a safety razor, a blade seat with oppositely arranged guard edges, blade-stops associated with each of said guard edges, a double-edged blade for application to said seat and constructed to embody a medial line of weakness, and means for clamping the blade to the seat, said means functioning at the same time to sever the blade into two sections along said weakened line and said means functioning also to spread said severed sections to force each cutting edge against the corresponding blade-stops.

31. A safety razor blade having oppositely arranged cutting edges and a line of weakness substantially parallel to and intermediate the cutting edges whereby said double-edged blade can be severed along said line of weakness into two single edged blades, each section being provided with means for locating it as a blade in a razor.

32. A safety razor blade having oppositely arranged cutting edges and a line of weakness substantially parallel to and intermediate the cutting edges, cut-away portions bisected by said line of weakness, whereby said double-edged blade can be severed along said line of weakness into two single edged blades, each provided with blade locating means formed by the cut-out portions so bisected.

In witness whereof, I have signed this specification this 30th day of April, 1928.

MARCUS B. BEHRMAN.