

[54] RAZOR HANDLE	2,439,909	4/1948	Ruskin .....	30/85 X
[75] Inventor: Roger L. Perry, Lynnfield Center, Mass.	2,521,481	9/1950	Rodrigues .....	30/85 UX
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	2,654,148	10/1953	Robinson .....	30/85 X
[73] Assignee: The Gillette Company, Gillette Park, Mass.	2,755,549	7/1956	Hulkenberg .....	30/47
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[22] Filed: Dec. 13, 1971	3,039,340	6/1962	Livermont.....	287/103 R
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[21] Appl. No.: 207,357				

## Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 124,216, March 15, 1971.

Primary Examiner—Othell M. Simpson  
Attorney—Willis M. Ertman

[52] U.S. Cl..... 30/47, 30/50, 30/85  
[51] Int. Cl..... B25g 3/08, B26b 21/52, B26b 21/06  
[58] Field of Search..... 30/32, 47, 85;  
287/103 R, DIG. 2, DIG. 9

## [57] ABSTRACT

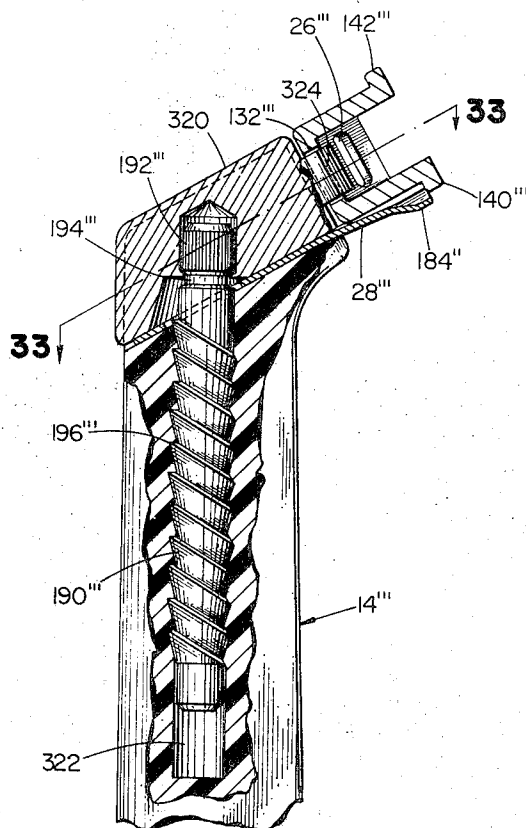
A razor handle unit having at one end thereof a head portion adapted to slidingly receive and retain a razor blade assembly.

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23 Claims, 35 Drawing Figures



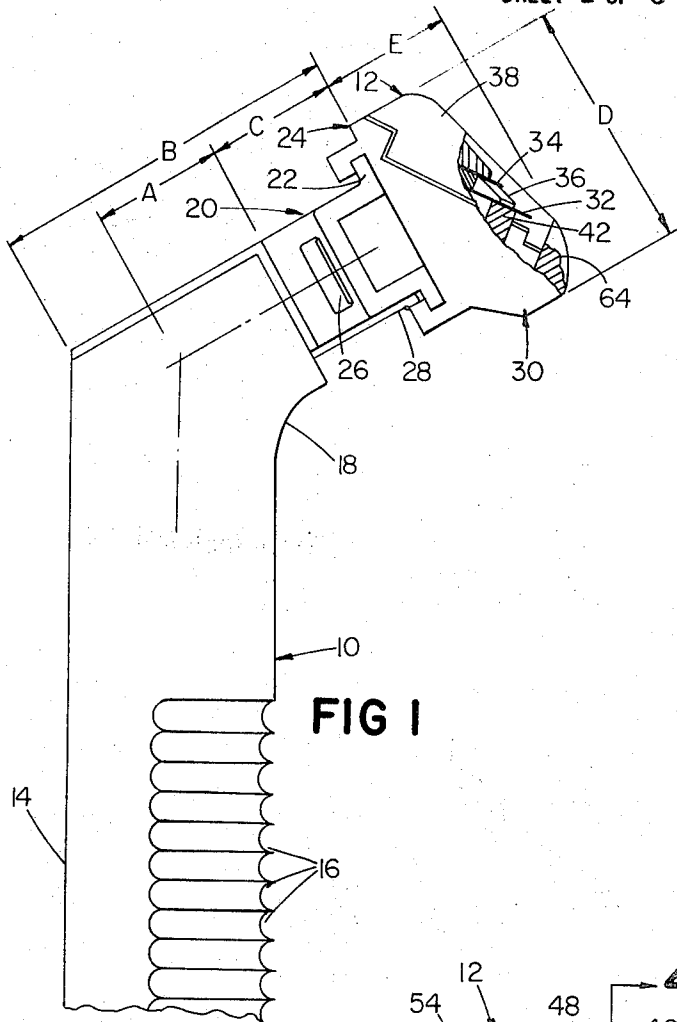


FIG 1

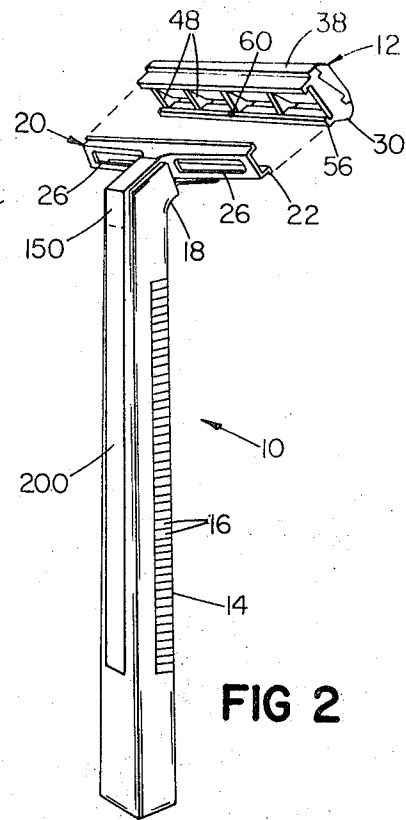


FIG 2

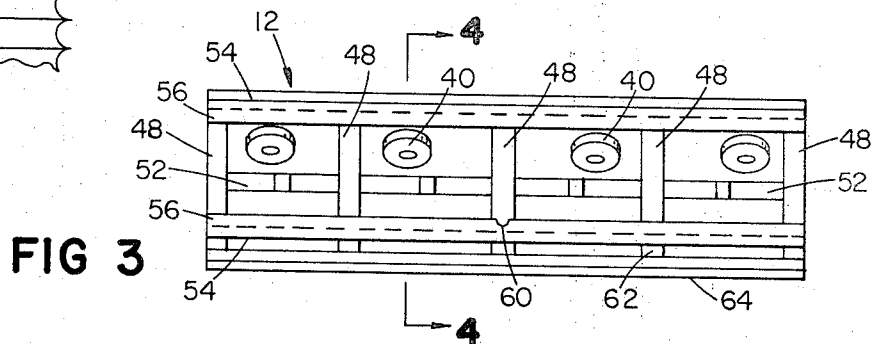


FIG 3

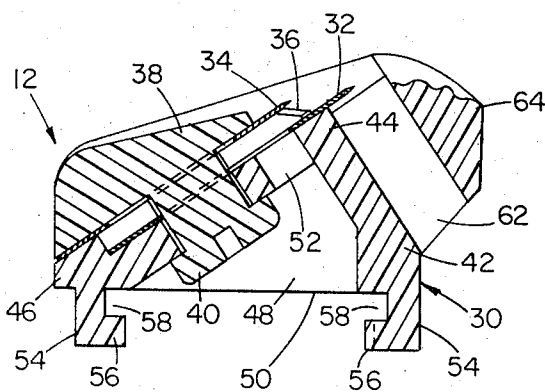


FIG 4

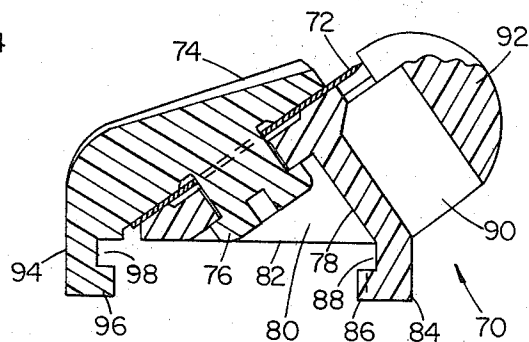
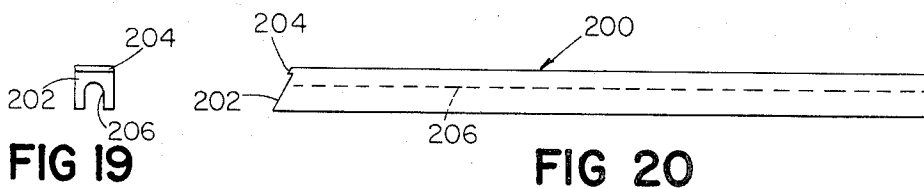
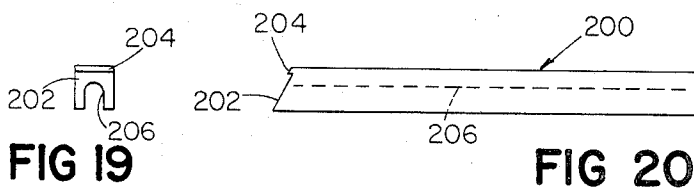
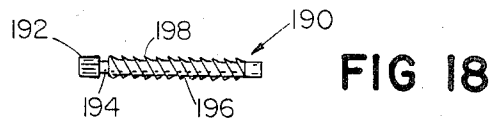
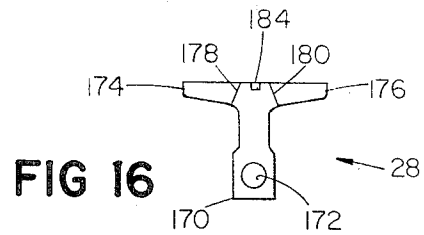
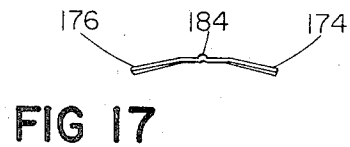
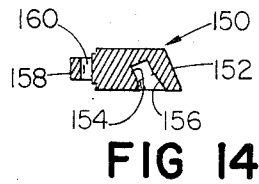
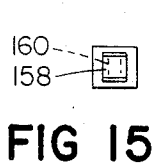
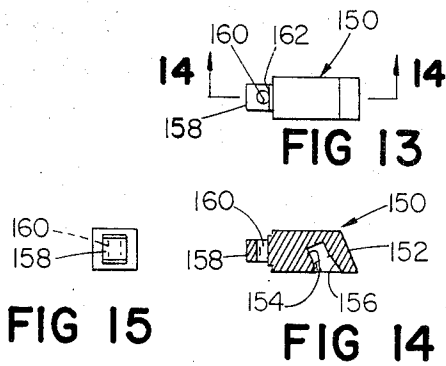
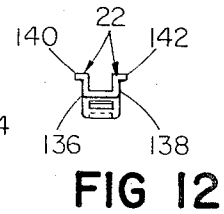
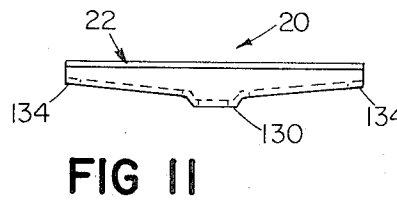
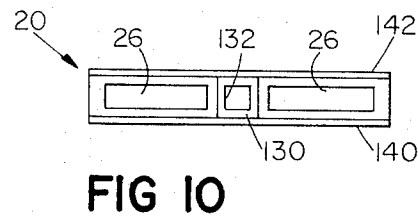
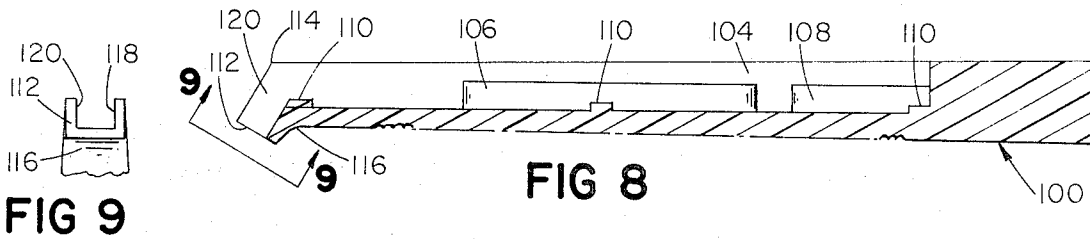
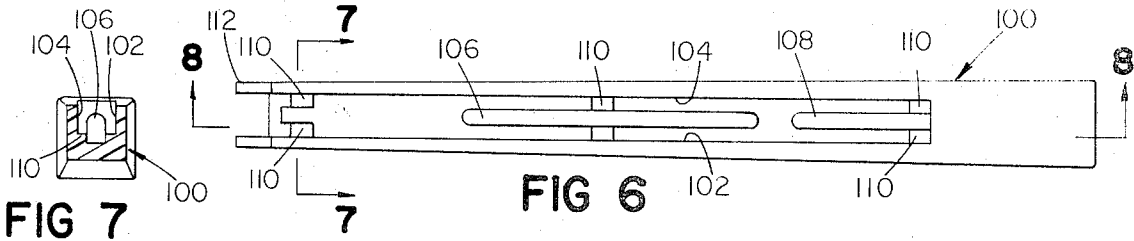


FIG 5



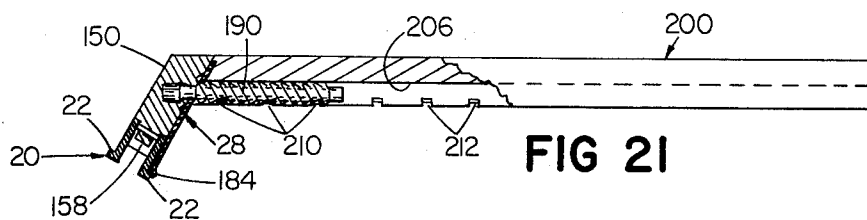


FIG 21

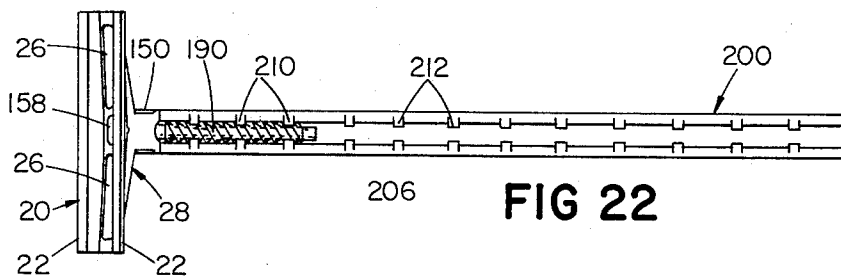


FIG 22

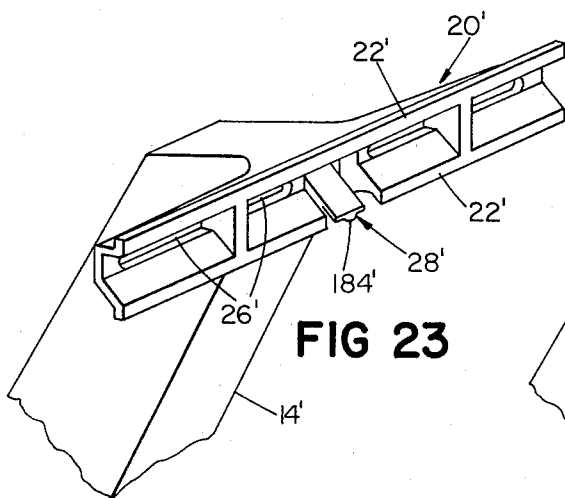


FIG 23

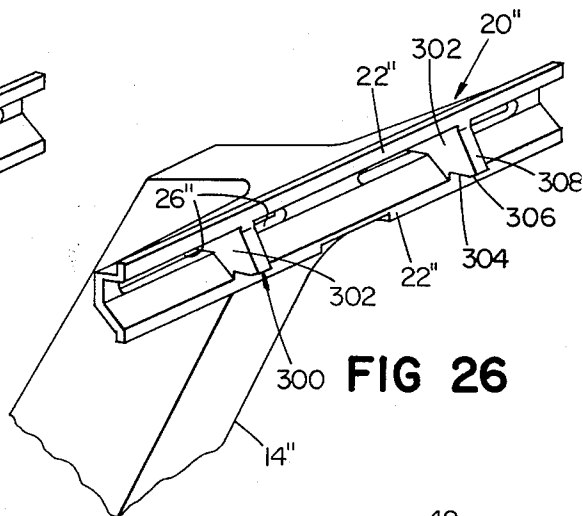


FIG 26

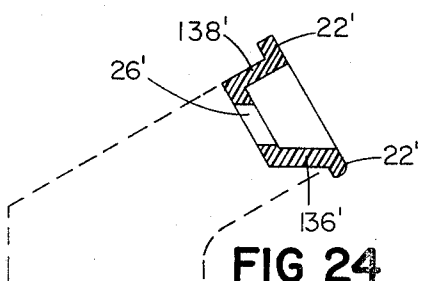


FIG 24

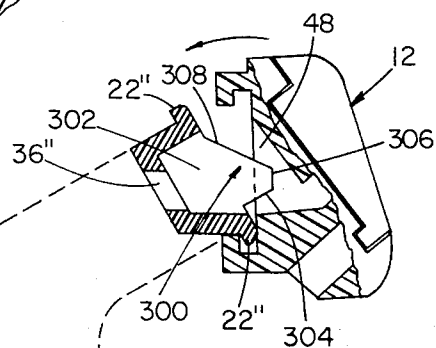


FIG 27

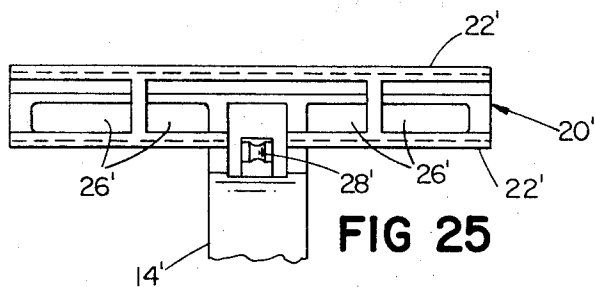


FIG 25

FIG 28

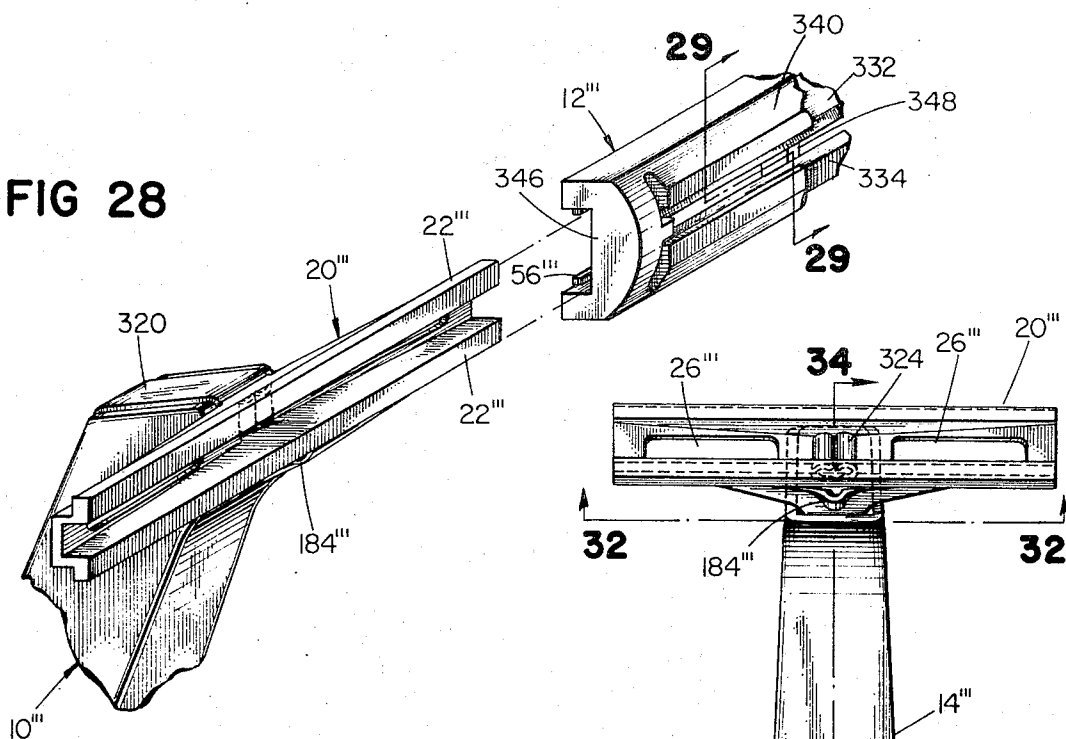


FIG 29

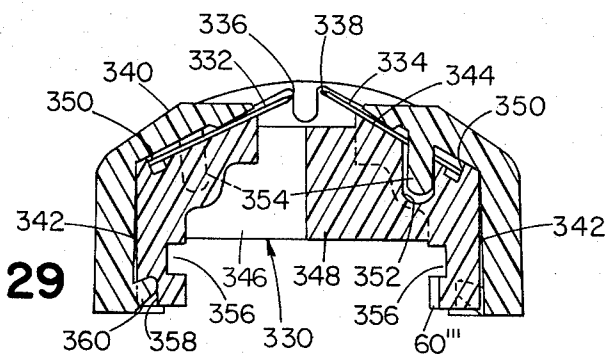


FIG 31

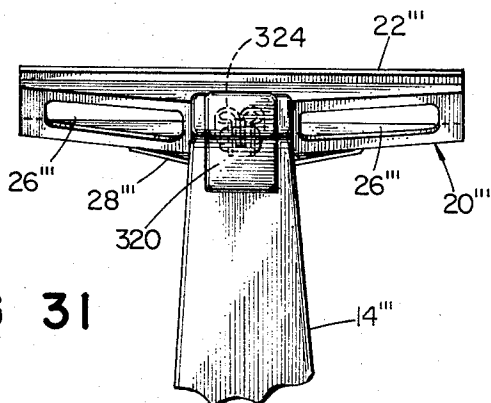


FIG 30

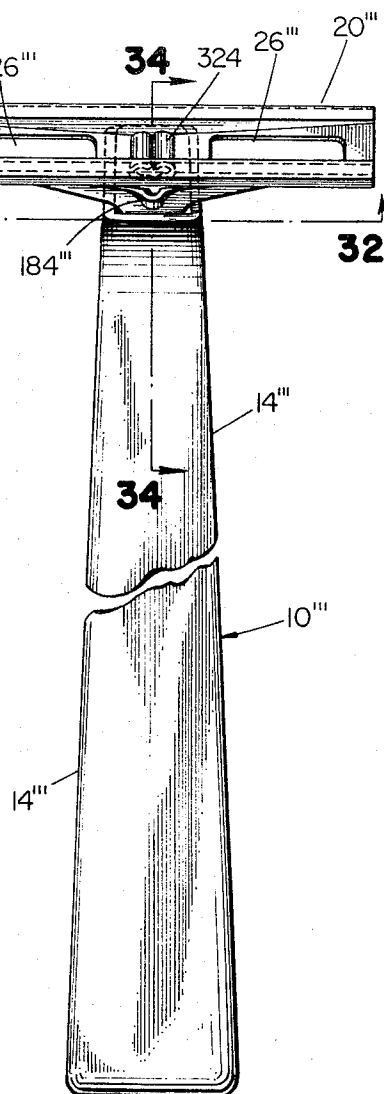


FIG 32

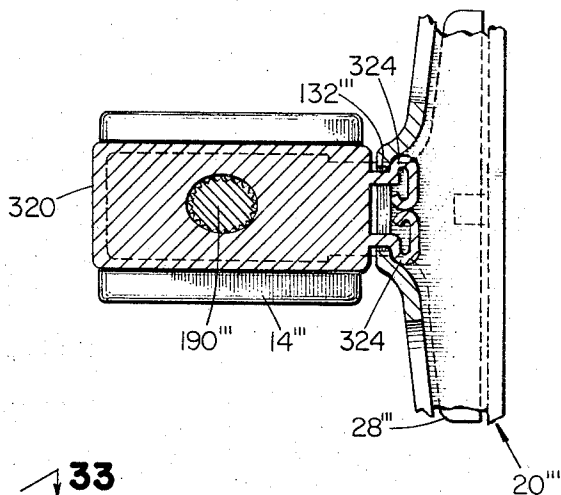
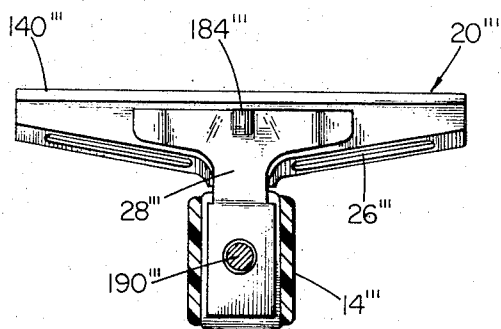


FIG 33

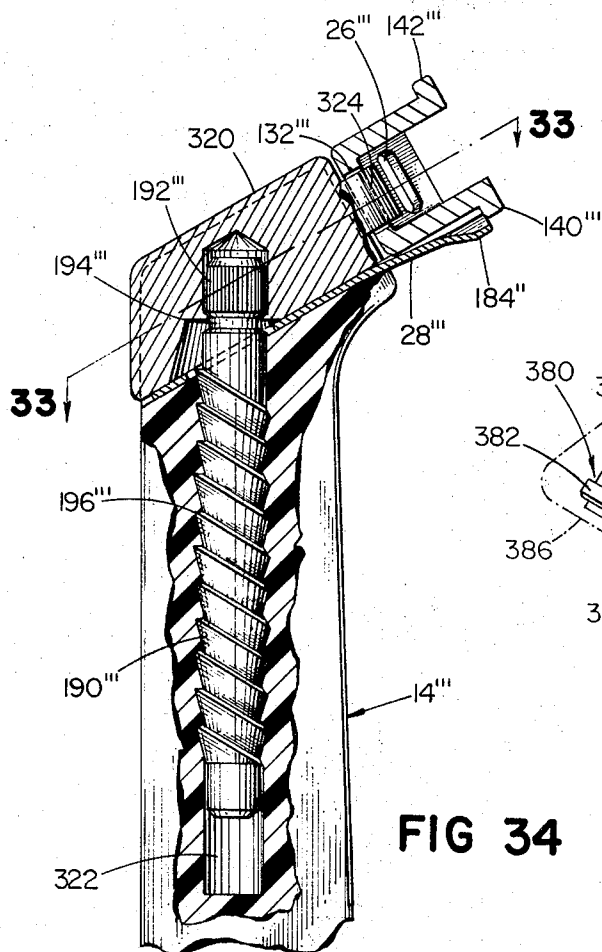


FIG 34

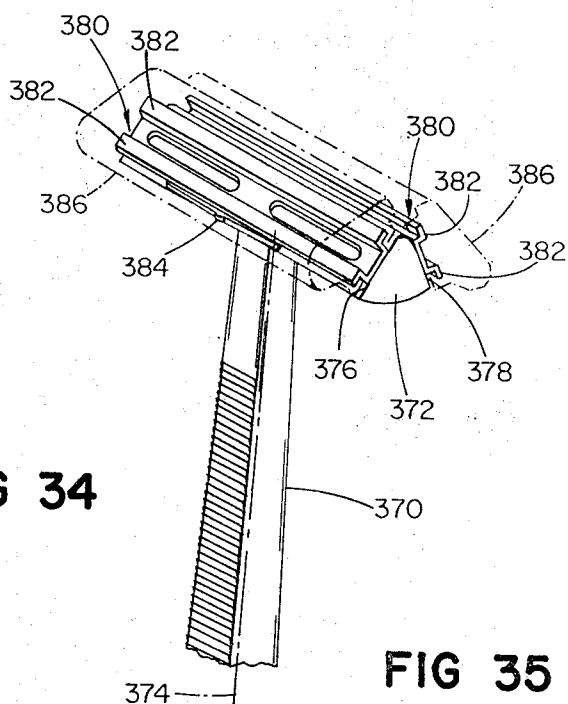


FIG 35

**RAZOR HANDLE**

This application is a continuation-in-part of my co-pending patent application Ser. No. 124,216, filed Mar. 15, 1971, entitled "Razor Handle."

**SUMMARY OF INVENTION**

This invention relates to shaving systems and more particularly to a razor handle for a shaving system, the razor handle being of the type that has an elongated grip portion and coupling structure adapted to receive a blade unit having a blade element permanently secured in a particular geometrical relationship to a guard element.

It is an object of this invention to provide a new and improved razor handle for a shaving system. A variety of shaving systems have been proposed, the principal arrangements being presently used including the systems in which a single or double edged razor blade is inserted into a holder by the user, and a cartridge which holds a length of band blade with successive shaving lengths being advanced by the user. Other proposed systems employ a razor head of plastic material with the razor blade permanently secured to a guard structure to provide a fixed geometrical relation between the guard surface and the cutting edge. A more specific object of this invention is to provide a novel and improved razor handle component that, in cooperation with a blade unit, provides a balanced, sturdy, compact shaving system that is easy to manipulate and provides efficient and effective shaving.

Shavers frequently prefer a shaving system having a handle component of relatively long life which is used with replaceable blade units. When a blade unit is no longer fit for use, the blade unit may be discarded or returned to a portion of a dispensing device designed to receive used blade units and another blade unit is attached to the handle portion. Accordingly, another object of this invention is to provide novel and improved razor handle coupling structure facilitating the attachment of a blade unit to a handle member.

A further object of the invention is to provide a sturdy and balanced handle unit which is relatively non-complex, easy and economical to manufacture, and reliable in operation.

In accordance with the invention there is provided a handle component of a shaving system that includes an elongated grip portion with a support structure that is angularly offset from one end of the grip portion and that extends transversely to the axis of the grip portion. Runner means carried by the support structure includes a pair of flange portions, the flanges projecting in directions generally opposed to one another. A cooperating blade component is detachable from the handle component and includes a guard structure and a blade permanently attached thereto. Coupling structure formed in the base of the blade component defines two recesses disposed parallel to the blade edge and the guard surface that extend along the length of the blade component. The blade unit is attached to the handle unit by suitably disposing the flange portions of the handle unit in the recesses of the blade unit coupling structure, for example, by a transverse sliding movement or by snapping the flange portions into the blade unit recesses.

In preferred embodiments, the handle member has an elongated grip portion and the transversely extending support structure is connected to one end of the

grip portion by a neck portion that is of smaller cross-sectional dimension than the grip portion. A coupling member disposed in the neck portion includes a projection which extends through an opening in the support structure and is crimped to secure said support structure to the grip portion. The support structure includes two parallel, spaced, upstanding wall portions, each having an outwardly extending flange portion at its upper end. Those flange portions are disposed in a plane which is disposed at an angle to the axis of the grip portion, the preferred range of that angle being about 25°-45°. In the preferred embodiments, the outer edges of the flange portions are spaced apart about 0.28 inch and the thickness of each flange portion is about 0.03 inch. Latch structure on the handle engages a cooperating surface of the blade unit to inhibit transverse movement of the blade unit along the flange portions. In one embodiment, the latch structure includes a latch member that is disposed between the flange portions and projects beyond the plane defined by the flange portions in the direction away from said grip portion, while in another embodiment, the latch structure includes a spring member disposed adjacent one of the flange portions for engaging a notch in the razor blade component.

The razor handle in accordance with the invention provides a relatively light and yet sturdy and balanced shaving implement with a simple and versatile coupling structure that permits a compact blade unit having plastic surfaces that define the shaving geometry to be readily secured on the handle.

Other objects, features and advantages of the invention will be seen as the following description of particular embodiments progresses, in conjunction with the drawings, in which:

FIG. 1 is a side view of a shaving system incorporating a razor handle in accordance with the invention;

FIG. 2 is a perspective view of the shaving system shown in FIG. 1;

FIG. 3 is a bottom view of the blade unit employed in the shaving system shown in FIGS. 1 and 2;

FIG. 4 is a sectional view taken along the line 4-4 of FIG. 3;

FIG. 5 is a sectional view, similar to FIG. 4, of a modified form of blade unit;

FIG. 6 is a top view of the grip component of the handle member employed in the shaving system shown in FIGS. 1 and 2;

FIG. 7 is a sectional view taken along the line 7-7 of FIG. 6;

FIG. 8 is a sectional view taken along the line 8-8 of FIG. 6;

FIG. 9 is an end view of the neck portion of the grip component as indicated by the line 9-9 of FIG. 8;

FIG. 10 is a bottom view of the support portion of the handle member employed in the shaving system shown in FIGS. 1 and 2;

FIG. 11 is a side view of the support portion shown in FIG. 10;

FIG. 12 is an end view of the support portion shown in FIG. 10;

FIG. 13 is a top view of a coupling component of the handle employed in the system shown in FIGS. 1 and 2;

FIG. 14 is a side view of the coupling component shown in FIG. 13;

FIG. 15 is an end view of the coupling component shown in FIG. 13;

FIG. 16 is a front view of the latch component employed in the shaving system shown in FIGS. 1 and 2;

FIG. 17 is a top view of the latch component shown in FIG. 16;

FIG. 18 is a side view of a pin component employed in the system shown in FIGS. 1 and 2;

FIG. 19 is an end view of a back component of the system shown in FIGS. 1 and 2;

FIG. 20 is a side view of the back component shown in FIG. 19;

FIG. 21 is a side view, partially in section, of a subassembly of components shown in FIGS. 10-20;

FIG. 22 is a front view of the subassembly shown in FIG. 21;

FIG. 23 is a perspective view of another embodiment of a handle unit;

FIG. 24 is a sectional view taken along the line 24-24 of FIG. 23;

FIG. 25 is a front view of a portion of the handle unit shown in FIG. 23;

FIG. 26 is a perspective view of portion of still another embodiment of a handle unit;

FIG. 27 is a sectional view of the handle unit of FIG. 26 taken along the line 27-27 of FIG. 26 and a cooperating blade unit;

FIG. 28 is an exploded perspective view of still another embodiment of a shaving system;

FIG. 29 is a sectional view of the blade unit employed in the shaving system shown in FIG. 28;

FIG. 30 is a front elevational view of the handle unit employed in the embodiment shown in FIG. 28;

FIG. 31 is a partial back elevational view of the handle unit shown in FIG. 30;

FIG. 32 is a sectional view along the line 32-32 of FIG. 30;

FIG. 33 is a partial sectional view taken along the line 33-33 of FIG. 34;

FIG. 34 is a partial sectional side elevational view taken generally along the line 34-34 of FIG. 30; and

FIG. 35 is a perspective view of still another embodiment of a handle unit in accordance with the invention.

#### DESCRIPTION OF PARTICULAR EMBODIMENTS

The shaving system shown in FIGS. 1 and 2 includes a handle component 10 and a blade unit component 12. The handle component includes a grip portion 14 that is  $4\frac{1}{4}$  inches long and of generally square cross-sectional configuration with a slight taper along its axial length. Grooves 16 along a portion of the length of grip 14 facilitates its handling by the user. At the upper end of the grip portion 14 is a neck portion 18 which extends forwardly and upwardly from the upper end of grip portion 14 at an angle of  $120^\circ$  to the axis of grip portion 14 so that the end surface of neck portion 18 is offset a distance A of 0.27 inch from the axis of the grip portion. Secured to the end surface of neck portion 18 is a transversely extending support portion 20 that has two outwardly directed flange or rail portions 22, the upper surfaces of which define a reference plane 24 that is perpendicular to the axis of neck portion 18. Reference plane 24 is spaced a distance B of 0.55 inch from the junction of neck portion 18 and grip portion 14 and a distance C of 0.195 inch above the end surface of neck portion 18. Two laterally extending slots 26 are formed in the base of support head 20, one

on either side of the point of attachment to neck portion 18. A spring plate 28 functions as a resilient latch member and cooperates with the forward rail 22 of the coupling structure 20 to secure the blade unit 12 on the handle 10.

The cooperating blade unit 12 has a transverse length of 1.56 inch, a width D of 0.426 inch and a depth E of 0.230 inch includes a base or platform member 30 molded of high impact polystyrene on which are supported two blade elements 32, 34 and an interposed spacer member 36 so that the shaving edges of the blade elements are maintained in spaced, parallel offset relation. Cap member 38, also molded of high impact polystyrene, has depending pins 40 (FIG. 4) which extend through apertures in the blades, spacer and base and are cold headed to secure the blade elements and spacer member to the base member 30.

The base member 30 defines an upper platform surface 42 on which the leading blade member 32 rests and includes a front wall portion 44 and a rear wall portion 46. Five webs 48 extend between the front and rear wall portions 44, 46 and the lower surfaces 50 of these webs define a plane that is disposed at an angle of  $35^\circ$  to the platform surface 42. Apertures 52 are aligned with apertures in blade 32 and permit shaving debris to flow through base 30 away from the shaving zone. Extending downwardly perpendicularly away from surface 50 are two spaced wall extensions 54, each of which has at its lower end an intumed flange 56 that projects inwardly 0.018 inch to define a recess in the form of slot 58 that has a height of 0.026 inch. The space between flanges 56 is 0.244 inch. Notch 60 in front flange 56 has a width of about 0.04 inch and a depth of 0.04 inch.

Web extensions 62 on the forward side of wall 44 support a transversely extending guard structure 64 that has a surface spaced about 0.23 inch above surface 50 (dimension E — FIG. 1) and when the blade unit 12 is attached to the handle unit 10, that surface is offset about 0.6 inch from the front surface of the upper end of the grip portion 14.

Another blade unit is shown in FIG. 5. This blade unit includes a base member 70, a blade member 72 and a cap member 74, the base member, blade and cap member being secured together by pins 76, the ends of which are deformed appropriately as in a cold heading operation. A front wall portion 78 extends downwardly from platform member and the lower surfaces of webs 80 define a reference surface 82. Extending downwardly perpendicularly away from reference surface 82 is wall extension 84 which has a flange 86 that defines recess 88. Extensions 90 of webs 80 support guard structure 92 forward of and parallel to the sharpened edge of blade 72. A rear wall portion 94 extends downwardly from cap 74 in a direction parallel to front wall portion 84 and carries a flange 96 at its base that defines a recess 98 that is opposed to and aligned with recess 88.

Further details of the grip component 100 of the handle member are shown in FIGS. 6-9. That grip component is molded of high impact polystyrene and has a generally rectangular configuration, having a height and width of about 0.33 inch at the section line 7-7 as indicated in FIG. 7 and a height and width of about 0.44 inch at its end. The groove formed between interior side walls 102, 104 has raised rib portions 106, 108 that extend up from its base. Lands 110 are spaced



along the length of the groove. At the upper end of the grip component is a neck portion that is disposed at an angle of  $120^\circ$  with end surface 112 being disposed 0.35 inch from transition point 114 and the front surface 116 being a smooth transition curve of 0.193 inch radius. Formed in the neck portion is a recess defined by walls 118, 120.

Another component of the handle is the support head 20 which is formed of 0.029 inch gauge brass and has a length of 1.56 inch and a height of 0.195 inch. Formed in the central base portion 130 of head 20 is a square aperture 132 that has a side dimension of 0.135 inch. Lateral base portions 134 extend upwardly at an angle of  $5^\circ$  in either direction from central base portion 130. Side walls 136, 138, 0.120 inch in height at each end, extend vertically from the base and flanges 140, 142 formed by bending the upper end of each of side wall outwardly, define parallel transversely extending rail portions 22. The width between the outer surfaces of flanges 140, 142 is 0.275 inch and each flange has a depth of 0.0375 inch.

Details of a coupling component 150 employed in the handle unit are shown in FIGS. 13-15. That coupling component is manufactured of bronze and has a body portion that is square in cross-section, being 0.2 inch in width and height. Its rear surface 152 is inclined at an angle of  $30^\circ$  and includes a bore 154 having an axis parallel to surface 152 and a counterbore 156. Projection 158 has a bore 160 to provide weakened side wall portions 162.

Spring member 28, shown in FIGS. 16 and 17, is a brass member that has a base portion in body 170 which is formed a circular aperture 172 and an upper portion having wings 174, 176 that are bent rearwardly along lines 178, 180, respectively, at an angle of  $8^\circ$ . A projection 184 having a 0.025 inch radius and a height of 0.015 inch beyond the plane of the body of the spring member provides a latching surface.

A coupling pin 190, shown in FIG. 18, has a head portion 192, a neck portion 194 and a body portion 196 in which is formed a spiral thread that defines a series of grooves 198.

A razor back component 200 of the handle unit 10 is shown in FIGS. 19 and 20. That component is a brass member having a length of 3.34 inch, a width of 0.2 inch and a height of 0.215 inch. End surface 202 is inclined at an angle of  $30^\circ$  and includes a lip 204. A groove 206 extends the length of the back component 200.

An assembly of the razor back 200, head 22, spring latch 28, and coupling members 150 and 190 is shown in FIGS. 21 and 22. In assembly, aperture 132 of head 22 (FIG. 10) is inserted over projection 158 of component 150 (FIGS. 13-15) and force is applied to form walls 162 outwardly (FIGS. 21, 22) so that head 22 is connected to coupling member 150. The end 192 of pin 190 is inserted in bore 154 and material of the extension is forced into recess 194 in a ring staking operation. Spring plate 28 is then inserted over pin 190 and the razor back 200 is positioned on pin 190 so that lip 204 provides an aligning seat for the base of the spring. Crimps 210 are formed in the walls of the razor back and engage grooves 198 to secure pin 190 in the groove 206. Additional inwardly extending projections 212 are similarly formed along the remaining length of the razor back. That assembly is then inserted in groove between walls 102 and 104 of the handle component 100

(FIG. 6) under a pressure in the order of 300 pounds to force the projections 212 into the plastic material of ribs 106, 108 in a deforming operation so that the razor back and slide head assembly is secured to the grip component to form the handle unit 10 as indicated in FIG. 1 and 2.

In use, the blade unit 12 to be attached to the handle unit 10 is brought into adjacent relation to transverse support head 20 so that the rail elements 22 are aligned with recesses 58. The blade unit and handle unit are then moved transversely relative to one another so that the rails 22 slide into grooves 58 until the ridge portion 184 of leaf spring 28 engages recess 60 in the front flange 56 (FIGS. 2, 3). In this position, the blade unit 12 is centered on the head 20 and in position ready for shaving. When it is desired to replace a blade unit, lateral pressure is applied to overcome the latching resistance of spring 28 so that the blade unit 12 slides along the rails 22 for removal from the handle unit. Blade unit 70 may be similarly attached to and removed from the handle unit 10.

Another embodiment of a handle unit 10' is shown in FIGS. 23-25. That handle unit is a molded one-piece member of a suitable plastic material and includes a grip portion 14' having grooves 16', a neck portion 18' and an integral transverse head portion 20'. The handle 10' has the same dimension B as the embodiment shown in FIG. 1, the neck is disposed at the same angle ( $120^\circ$ ) and the grip portion tapers from a dimension of 0.45 inch to a dimension of 0.33 inch with a further taper in the neck portion to the dimension of 0.325 inch. The rails 22' are integral with head 20', with front wall 136' inclined at an angle of  $30^\circ$  to the axis of the neck portion. Four slots 26' are formed in the base of transverse head 20' to permit flow of shaving debris away from the blade unit. An integrally formed latch finger 28' is disposed in a gap in front wall 136' and has a thickness of 0.035 inch and a width of 0.100 inch. Projection 184' having a surface radius of 0.025 inch is adapted to engage notch 60 in the blade unit.

Still another embodiment of a handle unit is shown in FIGS. 26 and 27. That embodiment is similar to the embodiment shown in FIGS. 23-25 with the omission of latch finger 28' and the further provision of projections 300, one above each rib 302, that separates apertures 26'' from one another. Each projection 300 has a width of 0.06 inch, and includes vertical front surface 304, 0.05 inch high, surface 306 inclined at an angle of  $35^\circ$  to the axis of the neck portion and a rear surface 308 inclined at an angle of  $65^\circ$  to the axis of the neck portion 18''. A blade unit 12, rather than being slid onto the head structure as in the previous described embodiments, is snapped onto the ribs 22'' as indicated by the arrow in FIG. 27. The projections 300 are disposed on opposite sides of webs 48 of the blade unit and thus prevent lateral movement of the blade unit when it is positioned on the head structure while providing the same shaving geometry as indicated in FIG. 1.

A further embodiment is shown in FIGS. 28-34. That shaving system employs a handle of substantially the same geometry as previously described embodiments with a blade unit of different configuration. That system includes a handle unit 10''' that includes a grip portion 14''' on which is mounted a transverse head portion 20'''. The head portion is secured to a cap member 320 which in turn is secured to grip portion

14''' by a pin 190''' disposed in bore 322 (FIG. 34). Extending from the cap member 320 are two projections 324 (FIG. 33) which protrude through an opening 132''' in head 20''' and are crimped to secure the head 20''' to the cap member 320. The head includes a pair of parallel rails 22''' adapted to slidably receive a razor blade unit 12''' (FIG. 1). Clamped between the grip portion 14''' and a cap member 320 is a leaf spring 28''' having a raised ridge 184'''. Spring 28''' engages a complementary recess in the front flange 56''' of razor blade unit 12''' to properly position and releasably lock the blade unit 12''' on the head member 20'''. The spring tension may be overcome to remove the blade unit from the handle unit when desired.

The blade unit 12''' has a length of 1.56 inch, a width of 0.43 inch and a depth of 0.23 inch, and is shown in section in FIG. 29. That unit includes a base or platform member 330, two blade elements 332, 334 which have their shaving edges 336, 338 disposed in adjacent opposed relation and a cap member 340. The base member 330 includes two parallel side wall portions 342, and two inclined transversely extending blade support surfaces 344, each inclined at an angle of 27° to the horizontal. The side walls and platform surfaces are connected by end wall portions 346 and at the midpoint of the blade unit by a bridge member 348 (FIG. 28). At the rear of each platform surface is a lip 350 against which the rear edge of the respective blade rests and in each platform surface is a recess 352 which receives locating projections 354 that depend from the cap member 340. On the inner surface of each side wall is formed a groove 356 that has a depth of 0.018 inch and a height of 0.035 inch. On the outer surface at the lower end of each side wall 342 are recesses 358 which receive latching members 360 formed integrally with cap portion 340 to secure the components of the blade assembly together. In assembly, the blade members 332, 334 are disposed on the respective platform surfaces of the base member and the base is then inserted into cap 340 until projections 360 snap into recesses 358 to latch the members together. The assembled blade unit 12''' is then coupled to flanges 22''' and resiliently latched by the engagement of projection 184''' with recess 60'''.

Another embodiment of a handle unit is shown in FIG. 35. That handle unit includes an elongated grip portion 370 that has a slight taper along its axial length. Support structure 372 at the upper end of grip portion 370 extends transversely to the axis 374 thereof. That support structure includes two apertured planar surfaces 376, 378, each of which is disposed at an angle of about 37½° to axis 374 and at an angle of about 75° to each other. Secured to each planar surface is a flange or runner structure 380 that has two outwardly directed flanges, the outer edges 382 of the flanges in each pair being spaced apart about 0.28 inch and each flange having a thickness of about 0.03 inch. A latch member 384 is disposed adjacent the lower flange of each pair for engaging a notch in a cooperating razor blade unit when the razor blade unit is disposed on the flange structure as in the previously described embodiments. Suitable blade units 386, for example of the type shown in FIGS. 4, 5 or 29, may be disposed on each pair of flange portions 380. In this embodiment, as in the other embodiments, the flange or runner portions that extend along the transverse length of the support

structure may be interrupted if desired rather than being continuous as in the illustrated embodiments.

While several embodiments have been shown and described, various modifications thereof will be apparent to those skilled in the art and therefore it is not intended that the invention be limited to the disclosed embodiments to details thereof and departures may be made therefrom within the spirit and scope of the invention as defined in the claims.

What is claimed is:

1. A razor handle comprising an elongated grip portion, a connecting portion attached to and angularly offset from one end of said grip portion and a runner member that includes a base portion, two fixed, spaced wall portions upstanding from said base portion, and a flange portion at the upper end of each wall portion, each said flange portion extending the transverse length of said runner member, said runner member being attached to said connecting portion and disposed transversely to said grip portion, two flange portions of said runner member being adapted to receive cooperating groove portions of a razor blade assembly to secure said razor blade assembly on said runner member, and latching structure attached to said handle and disposed proximate to said flange portions for restricting transverse movement relative to said head portion of a razor blade assembly secured to said runner member.

2. The handle member as claimed in claim 1 wherein said flange portions are disposed in the same plane and extend in opposite directions away from one another.

3. The handle member as claimed in claim 1 wherein said flange portions extend outwardly away from each other, the outer edges of said flange portions being spaced apart about 0.28 inch and the thickness of each said flange portion being about 0.03 inch.

4. The handle member as claimed in claim 1 wherein said latching structure includes a latch member that is disposed between said flange portions and projects beyond the plane defined by said flange portions in the direction away from said grip portion.

5. The handle member as claimed in claim 1 wherein said latching structure includes a spring member disposed adjacent one of said flange portions for engaging a notch in said razor blade assembly.

6. A handle member for use in a shaving system in combination with a blade unit having an elongated rigid structure of plastic material having a transversely extending guard surface on its forward edge for contact with the skin, coupling structure formed in its base defining two recesses disposed parallel to said guard surface and extending along the length of said rigid structure, and an elongated cutting member thinner than said rigid structure permanently fixed to said rigid structure with its cutting edge disposed parallel to and spaced from said guard surface in shaving relation to the latter,

said handle member having an elongated grip portion, support structure extending transversely to the axis of said grip portion, said support structure including a pair of flange portions extending along the transverse length of said support structure in fixed generally opposed relation to one another, the recesses of said blade unit coupling structure receiving said flange portions for attaching said blade unit to said handle member in shaving relation thereto, and structure connecting said grip portion to said support structure, said connecting

structure including a coupling portion angularly offset from one end of said grip portion, said coupling portion including a projection which extends through an opening in said support structure and is deformed to secure said support structure to said grip portion.

7. The handle member as claimed in claim 6 wherein said support structure is a channel shaped metal member that has a base portion and two parallel wall portions upstanding from said base portion, and each said flange portion is disposed at the upper end of a corresponding wall portion, said flange portions extending in opposite directions perpendicular to said wall portions, an opening in said base portion and said coupling portion projection extends through said opening and is deformed to secure said metal member to said grip portion.

8. The handle member as claimed in claim 6 wherein said flange portions are disposed in the same plane and extend in opposite directions away from one another and are spaced so that when said blade unit is attached to said blade, one flange portion is generally below one longitudinal edge of said cutting member and the other flange portion is generally below the opposite longitudinal edge of the cutting member.

9. The handle member as claimed in claim 8 wherein said flange portions extend outwardly away from each other, the outer edges of said flange portions being spaced apart about 0.28 inch and the thickness of said flange portion is about 0.03 inch.

10. The handle member as claimed in claim 6 wherein said handle member further includes latch structure for engaging a surface of said blade unit to inhibit transverse movement of said blade unit along said flange portions.

11. The handle member as claimed in claim 10 wherein said latch structure includes a member that projects beyond the plane of said flange portions.

12. The handle member as claimed in claim 10 wherein said latch structure is a resilient member located centrally of the transverse length of one of said flange portions for engaging a notch in said blade unit.

13. The handle member as claimed in claim 12 wherein said flange portions are disposed in the same plane and extend in opposite directions away from one another.

14. The handle member as claimed in claim 10 wherein said support structure includes passages through which shaving debris may pass away from the cutting edge of said blade unit.

15. The handle member as claimed in claim 10 wherein said pair of flange portions are disposed in a first plane and said first plane is disposed at an angle in the range of about 25°-45° to the axis of said grip portion.

16. A handle member for use in a shaving system in combination with blade units of the type that have an elongated rigid structure of plastic material having a transversely extending guard surface on its forward edge for contact with the skin, coupling structure formed in its base defining two recesses disposed parallel to said guard surface and extending along the length of said rigid structure, and an elongated cutting member thinner than said rigid structure permanently fixed to said rigid structure with its cutting edge disposed parallel to and spaced from said guard surface in shaving relation to the latter,

said handle member having an elongated grip portion, support structure extending transversely to the axis of said grip portion, said support structure including first and second pairs of flange portions that extend along the transverse length of said support structure, said first pair of flange portions being disposed in a first plane and said first plane being disposed at an angle to the axis of said grip portion, said second pair of flange portions being disposed in a second plane, said second plane being disposed at an angle to the axis of said grip portion and at an angle to said first plane, said second pair of flange portions being adapted to receive the coupling recesses of a second blade unit while another blade unit is attached to said first pair of flange portions, and latch structure for engaging a surface of a blade unit to inhibit transverse movement of said blade unit along said flange portions.

17. The handle member as claimed in claim 16 wherein said flange portions of each said pair extend outwardly away from each other, the outer edges of said flange portions of each said pair being spaced apart about 0.28 inch and the thickness of each flange portion being about 0.03 inch.

18. A handle member for use in a shaving system in combination with a blade unit having an elongated rigid structure of plastic material having a transversely extending guard surface on its forward edge for contact with the skin, coupling structure formed in its base defining two recesses disposed parallel to said guard surface and extending along the length of said rigid structure, and an elongated cutting member thinner than said rigid structure permanently fixed to said rigid structure with its cutting edge disposed parallel to and spaced from said guard surface in shaving relation to the latter,

said handle member having an elongated grip portion, said grip portion including a neck portion angularly offset from one end of said grip portion, support structure extending transversely to the axis of said grip portion, said support structure including a pair of flange portions extending along the transverse length of said support structure in generally opposed relation to one another, the recesses of said blade unit coupling structure receiving said flange portions for attaching said blade unit to said handle member in shaving relation thereto, structure connecting said grip portion to said support structure, said connecting structure including a coupling member on said neck portion, said coupling member including a projection which extends through an opening in said support structure and is deformed to secure said support structure to said grip portion, and latch structure for engaging a surface of said blade unit to inhibit transverse movement of said blade unit along said flange portions.

19. The handle member as claimed in claim 10 wherein said latch structure includes a latch member that is disposed between said flange portions and projects beyond the plane defined by said flange portions in the direction away from said grip portion.

20. The handle member as claimed in claim 10 wherein said latch structure includes a spring member disposed adjacent one of said flange portions for engaging a notch in said razor blade assembly.

21. The handle member as claimed in claim 20 wherein said flange portions extend outwardly away

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from each other, the outer edges of said flange portions being spaced apart about 0.28 inch and the thickness of said flange portion is about 0.03 inch.

22. A handle member for use in a shaving system in combination with a blade unit having an elongated rigid structure of plastic material having a transversely extending guard surface on its forward edge for contact with the skin, coupling structure formed in its base defining two recesses disposed parallel to said guard surface and extending along the length of said rigid structure, and an elongated cutting member thinner than said rigid structure permanently fixed to said rigid structure with its cutting edge disposed parallel to and spaced from said guard surface in shaving relation to the latter,

said handle member having an elongated grip portion, said grip portion including a neck portion angularly offset from one end of said grip portion, support structure extending transversely to the axis of said grip portion, said support structure including a pair of flange portions extending along the transverse length of said support structure in generally opposed relation to one another, said flange portions

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extending outwardly away from each other, the outer edges of said flange portions being spaced apart about 0.28 inch and the thickness of each said flange portion being about 0.03 inch, the recesses of said blade unit coupling structure receiving said flange portions for attaching said blade unit to said handle member in shaving relation thereto, structure connecting said grip portion to said support structure, said connecting structure including a coupling member on said neck portion, said coupling member including a projection which extends through an opening in said support structure and is deformed to secure said support structure to said grip portion, and a spring member disposed adjacent one of said flange portions for engaging a notch in said blade unit to inhibit transverse movement of said blade unit along said flange portions.

23. The handle member as claimed in claim 22 wherein said support structure includes passages through which shaving debris may pass away from the cutting edge of said blade unit.

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UNITED STATES PATENT OFFICE  
CERTIFICATE OF CORRECTION

Patent No. 3,768,162

Dated October 30, 1973

Inventor(s) Roger L. Perry

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 1, line 3, after "Razor Handle" insert --and now abandoned--.

Column 6, line 44, after "of" (second occurrence), insert --latch--.

Column 8, claim 1, line 26, change "head" to --connecting--.

Column 9, claim 8, line 21, change "blade" to --handle member--.

Column 10, claim 20, line 65, change "razor blade assembly" to --blade unit--.

Column 11, claim 22, line 17, "sia" should be --said--.

Signed and sealed this 5th day of November 1974.

(SEAL)

Attest:

McCOY M. GIBSON JR.  
Attesting Officer

C. MARSHALL DANN  
Commissioner of Patents