United States Patent [19]

Perry

[11] **3,783,507**

[45] **Jan. 8, 1974**

[54] **STRIP FEED SAFETY RAZOR**

[75] Inventor: **Roger L. Perry**, Lynnfield Center, Mass.

[73] Assignee: **The Gillette Company**, Boston, Mass.

[22] Filed: **Oct. 8, 1971**

[21] Appl. No.: **187,610**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 887,910, Dec. 24, 1969, abandoned.

[52] **U.S. Cl.** **30/40.1**, 30/77, 30/86

[51] **Int. Cl.** **B26b 21/26**, B26b 21/52

[58] **Field of Search** 30/40.1, 77, 86, 30/346.5

[56] **References Cited**

UNITED STATES PATENTS

3,375,578	4/1968	Nissen	30/40.1
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Primary Examiner—Othell M. Simpson

Assistant Examiner—Gary L. Smith

[57] **ABSTRACT**

A shaving implement has a body member and front and rear cover members. The body member defines a blade supply position, a blade take up position, and a blade support platform which receives a shaving length of ribbon-like razor blade in supporting position with the sharpened front edge of the blade projecting beyond the front edge of said support platform, and a blade guard structure extending in generally parallel spaced relation to and disposed forwardly of the front edge of said blade support platform. The front cover member has integral upstanding spaced side wall portions and an end wall portion which define a recess for receiving the body member and an integral handle portion that extends downwardly away from the recess. The rear cover includes a cap portion that overlies the blade support platform, and a spring member that acts against the blade support platform to urge said blade support platform toward said cap portion for securing said blade in proper shaving position on said support platform between said cap portion and said support platform while allowing sliding movement of said blade across said platform. Blade take up mechanism that is coupled to the take up position and operates to position a sequence of shaving portions of said blade on said blade support platform, includes a molded member that comprises an arbor portion to which one end of the blade is secured, a handle portion, and a shaft portion connecting the arbor and handle portions, the shaft portion being journalled in the body member.

19 Claims, 25 Drawing Figures

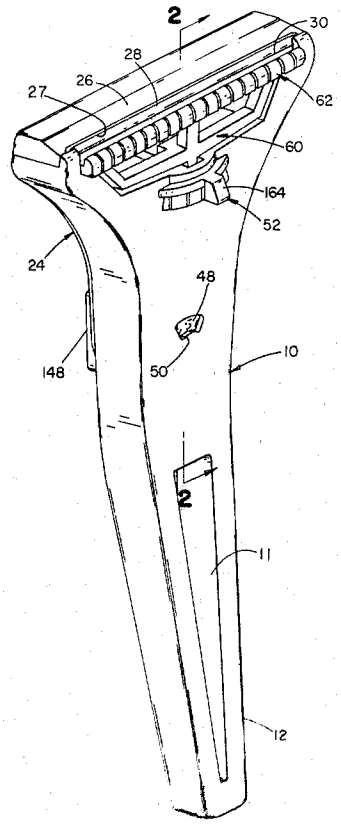


FIG 1

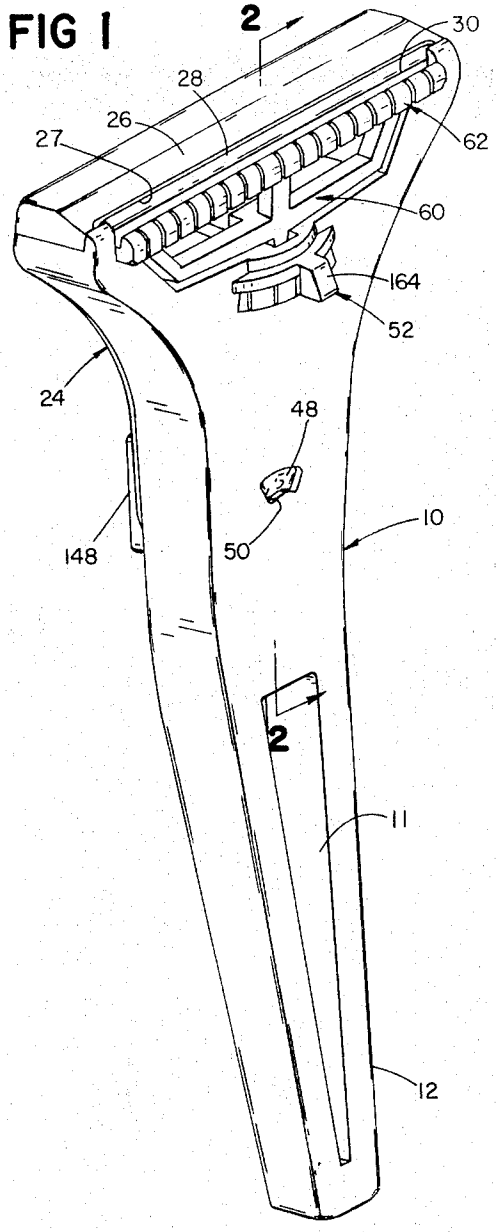
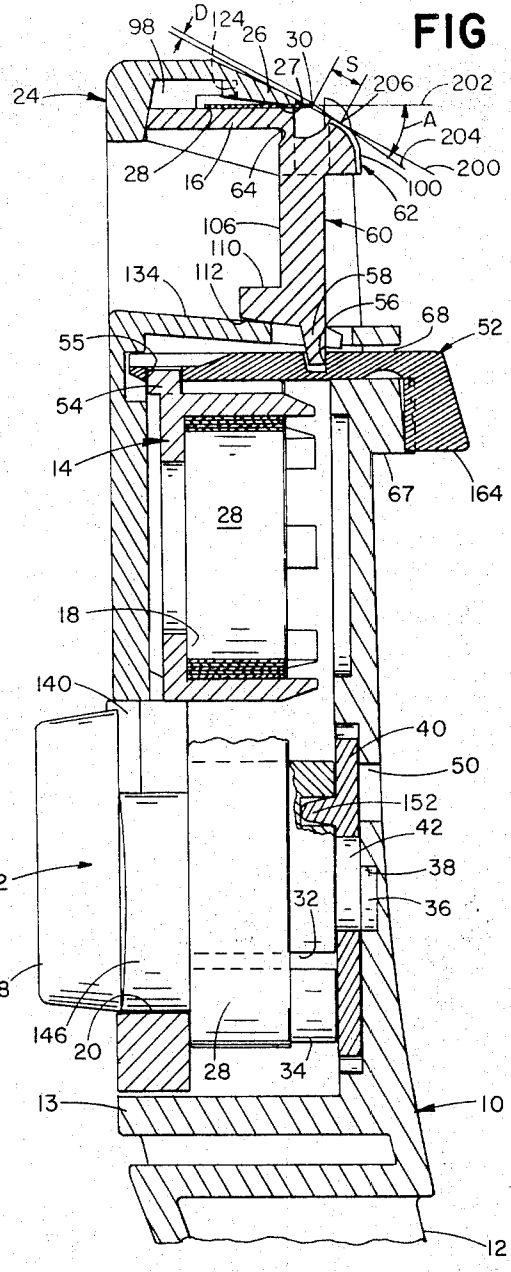


FIG 2



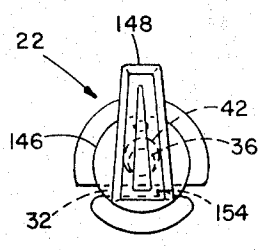


FIG 17

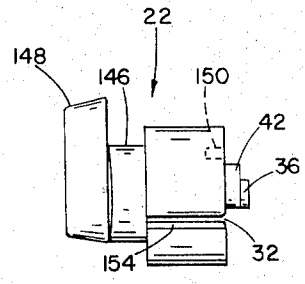


FIG 18

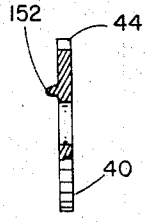


FIG 19

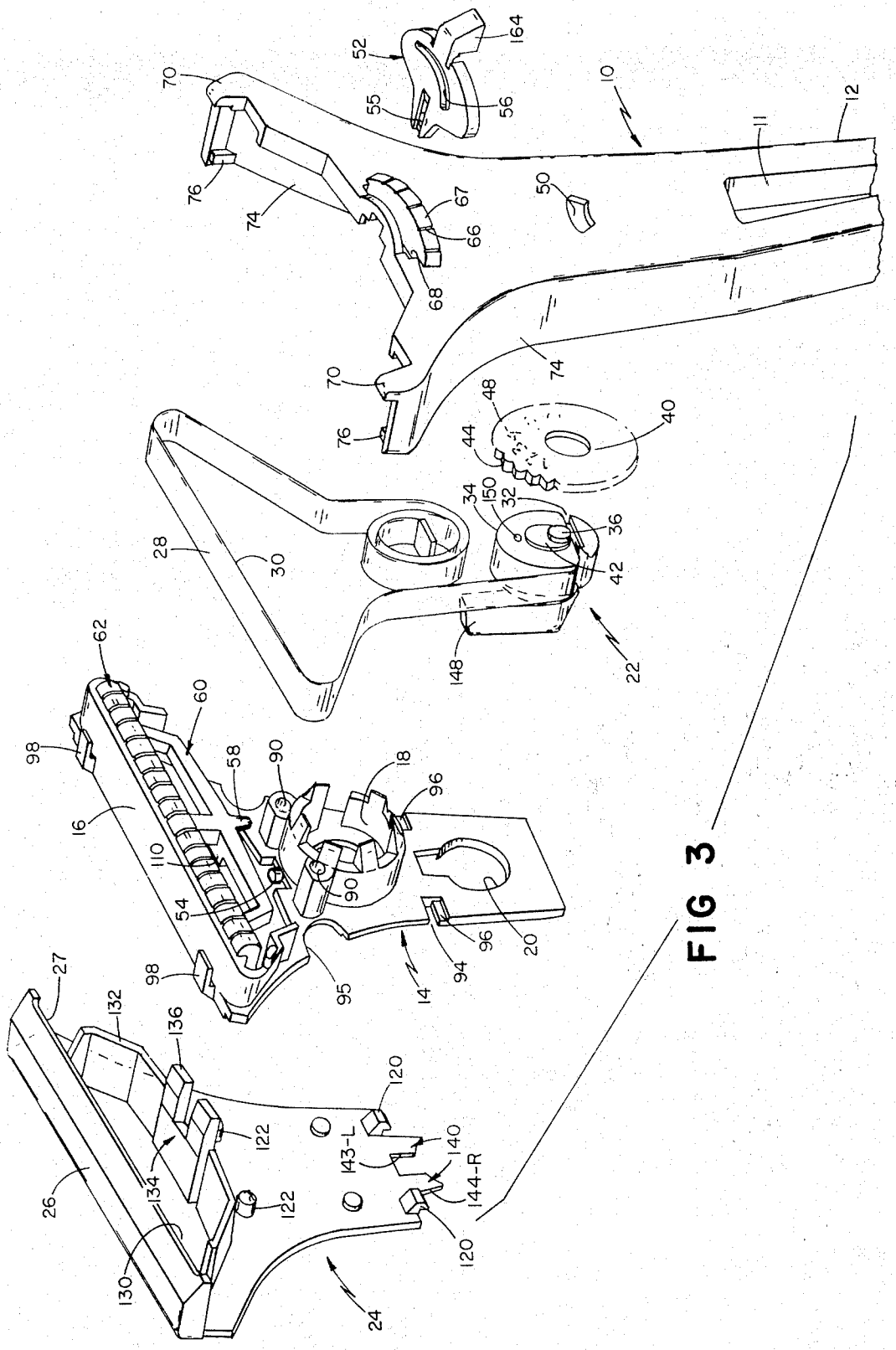

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FIG 3

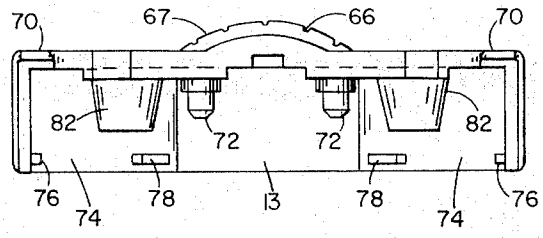


FIG 6

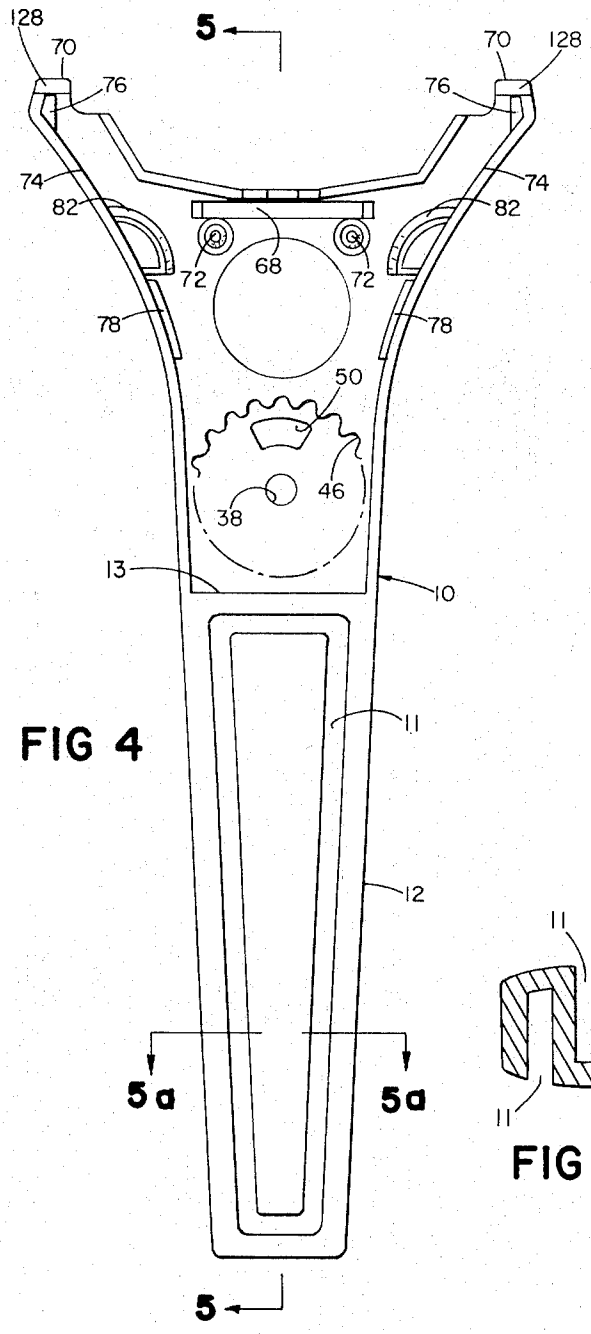


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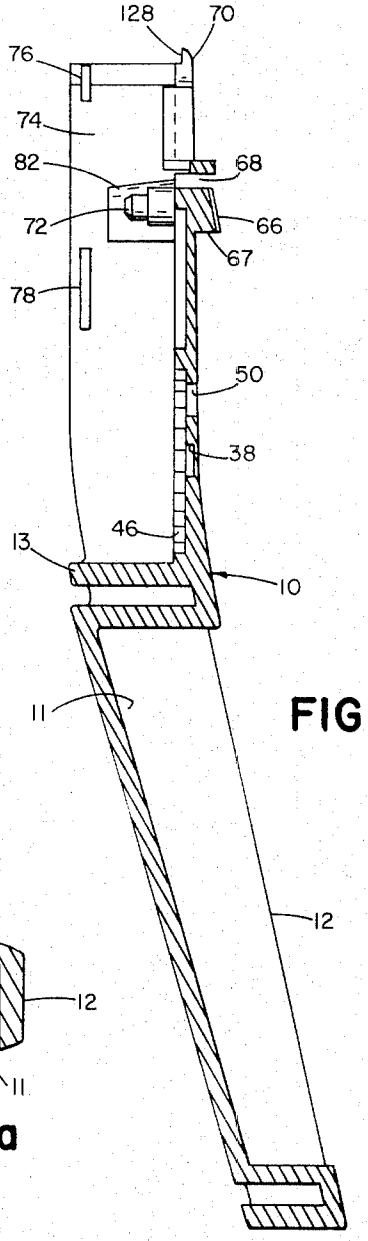


FIG 5

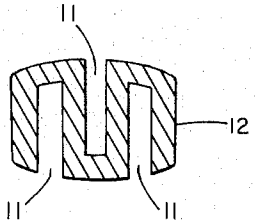


FIG 5a

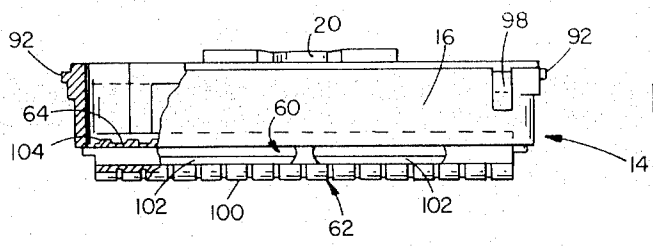


FIG 9

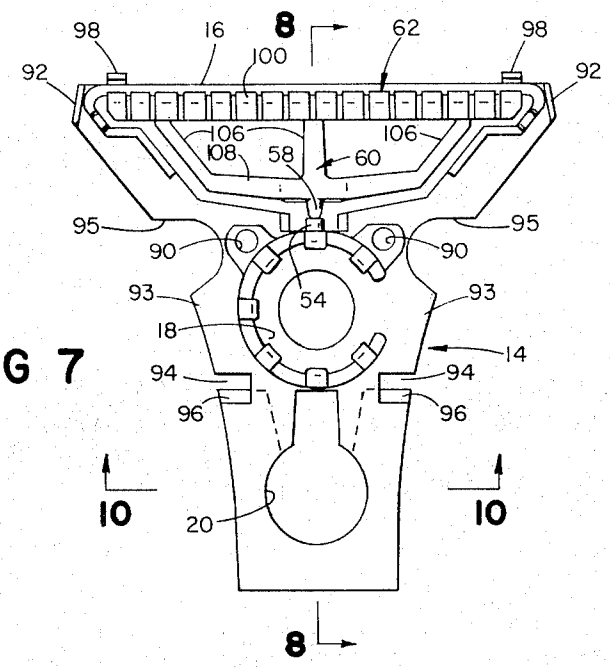


FIG 7

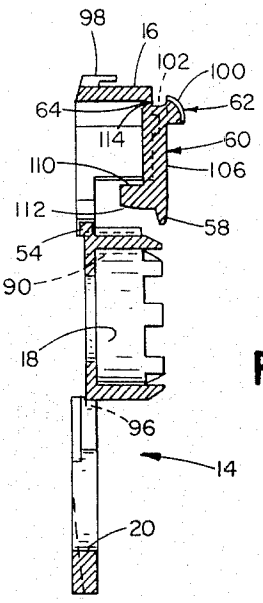


FIG 8

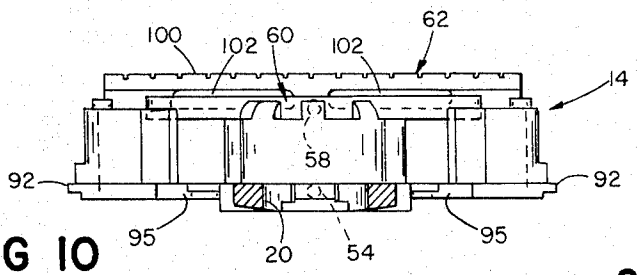


FIG 10

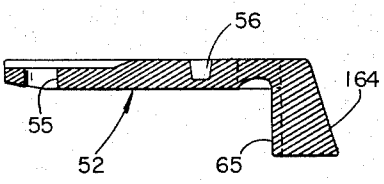


FIG 21

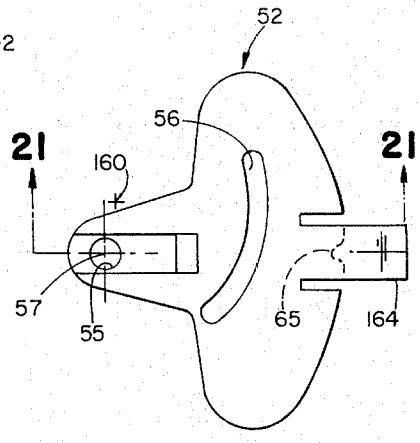


FIG 20

FIG 11

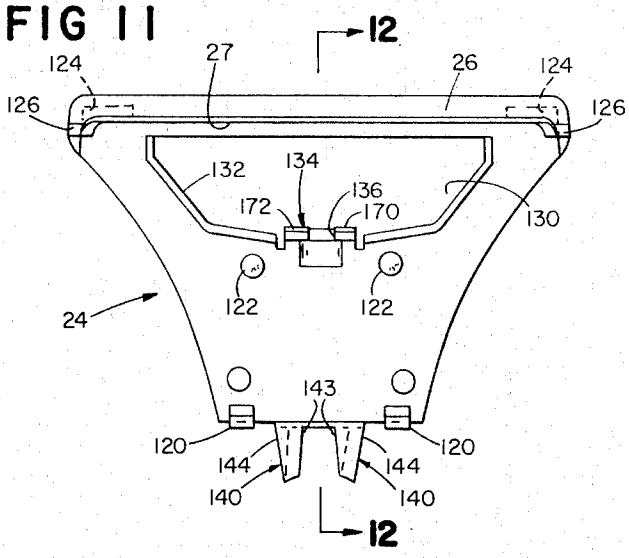
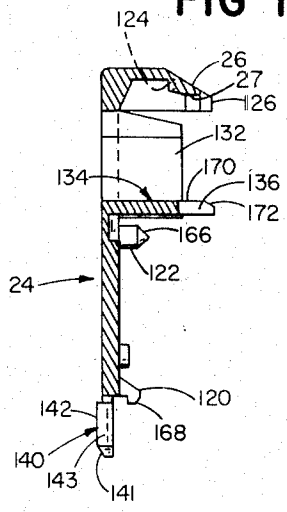


FIG 12



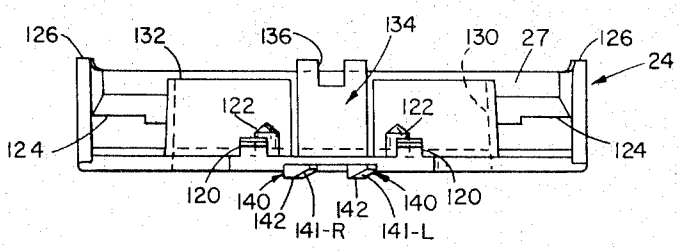


FIG 13

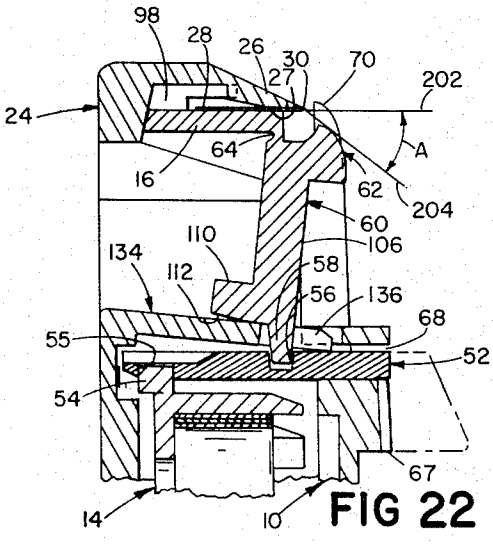


FIG 22

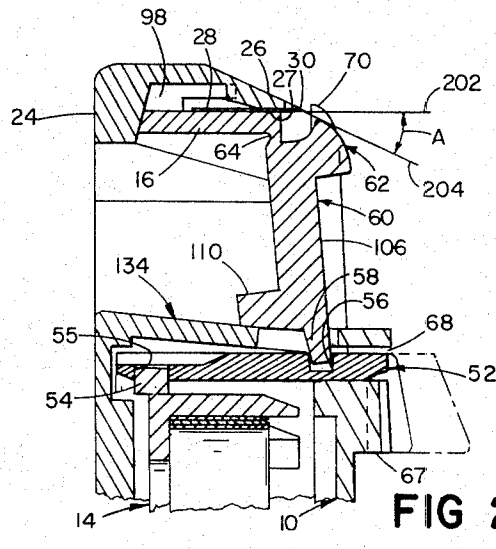


FIG 23

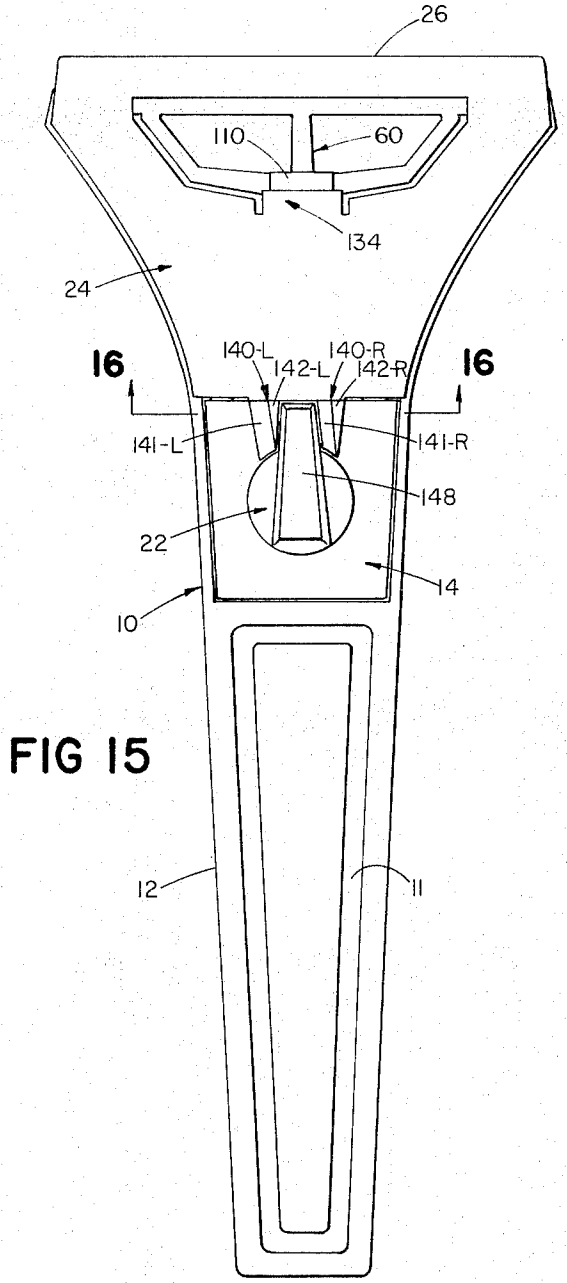


FIG 15

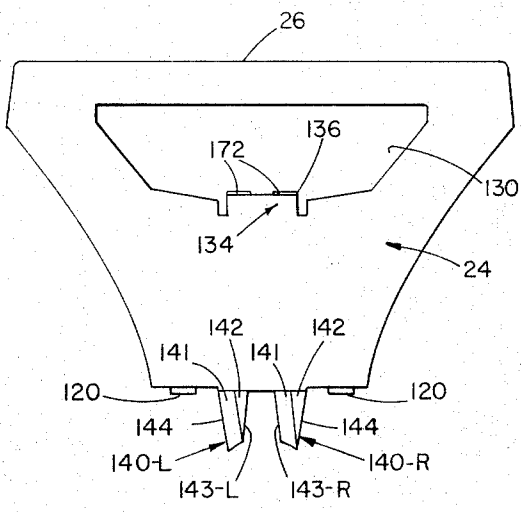


FIG 14

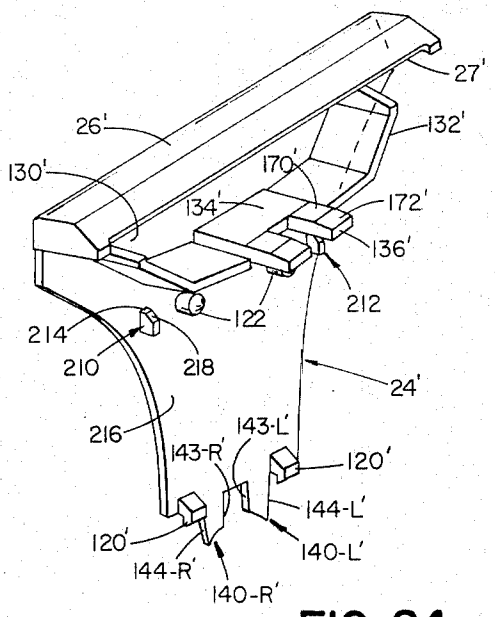


FIG 24

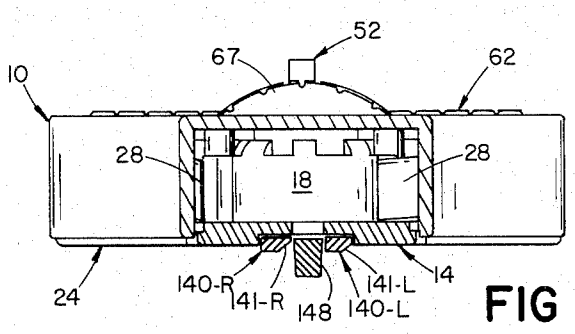


FIG 16

STRIP FEED SAFETY RAZOR

This application is a continuation-in-part of my copending patent application Ser. No. 887,910, filed Dec. 24, 1969 entitled "Shaving Implement", now abandoned.

SUMMARY OF INVENTION

This invention relates to shaving implements and more particularly to shaving implements of the type that employ a continuous band of ribbon like blade in an arrangement which permits successive lengths of blade to be sequentially advanced into shaving position by the user of the implement. Cartridge forms of shaving implements of this general type are shown in the Nissen U.S. Pat. Nos. 3,262,198 and 3,375,578. It is an object of this invention to provide a novel and improved shaving implement of this general type in which the entire structure, including the manipulating handle portion, is an integral unit.

Another object of this invention is to provide an inexpensive and yet sturdy shaving implement which stores several shaving lengths of razor blades so that the implement has a relatively long life and yet can be economically discarded after the shaving lengths of blade contained in the implement have been used.

A further object of the invention is to provide a novel and improved shaving implement assembly manufactured exclusively of molded plastic components for housing a ribbon type of razor blade.

A further object of the invention is to provide in a ribbon razor blade type of shaving implement, novel and improved blade support structures for facilitating the maintenance of a predetermined shaving geometry relationship or range of relationships over the life of the shaving implement.

A further object of the invention is to provide a novel and improved blade take up arrangement particularly adapted for use in shaving implements that employ a ribbon type of razor blade.

A further object of the invention is to provide a novel and improved shaving implement in which the shaving geometry is maintained while facilitating removal of shaving debris during the shaving operation from the shaving zone.

Still another object of the invention is to provide a novel and improved arrangement for varying the shaving geometry that is particularly adapted for use in shaving implements that employ a ribbon type of razor blade.

A shaving implement constructed in accordance with the invention is adapted to store a ribbon type of razor blade of uniform width, the razor blade having parallel, longitudinally extending front and rear edges. At least the front edge of the blade is sharpened. The implement includes a body member and front and rear cover members, and the body member defines a blade supply position, a blade take up position, and a blade support platform which defines a shaving zone for receiving a shaving length of blade in supporting position with the sharpened edge of the blade projecting beyond the front edge of the support platform. A blade guard structure is disposed forwardly of the front edge of the blade support platform and extends in generally parallel spaced relation thereto. The front cover member has integral upstanding spaced side wall portions and an end wall portion which define a recess for receiving the body member and an integral handle portion that

extends downwardly away from the recess. The rear cover member includes a cap portion that overlies the blade support platform. A spring member secured to one of the cover members acts against the blade support platform to urge that platform towards the cap portion of the rear cover member to provide a resilient clamping force that secures the blade in proper shaving position on the support platform between the cap portion and the support platform while allowing sliding movement of the blade across the platform. A blade take up mechanism is coupled to the take up position of the body member and advances the length of blade stored in the blade supply position across the blade support platform for positioning a sequence of shaving portions of the blade on the blade support platform. This assembly, in a preferred embodiment, consists of molded plastic components which are designed for assembly with a length of ribbon type blade by automatic assembly machinery and provides a sturdy shaving implement as a complete unit that is of sufficiently low cost and ease of assembly to warrant disposal of the entire shaving implement after the shaving lengths of the blade stored in the implement have been used.

In a preferred embodiment the shaving implement also includes a hinge structure that secures the guard structure to the platform and permits movement of the guard structure about an axis parallel to the platform. Formed integrally with the guard structure is a lever structure, and a movable adjusting member engages the lever structure so that the guard structure may be rotated relative to the blade support platform about the hinge axis. The lever member includes a camming surface and the spring member is biased against that camming surface so that the clamping pressure is exerted by this spring member through the lever member and hinge structure to the blade support platform, this arrangement maintaining a uniform clamping pressure on the blade over the range of positions through which the guard structure is movable by the adjusting member. In this embodiment the adjusting member is a camming element that is mounted for pivotal movement on the body member and protrudes through an aperture in the front cover member. A camming portion on the adjusting member is in engagement with a cooperating portion of the lever member for camming the lever member and adjusting the shaving geometry in response to movement of the adjusting member.

The shaving implement in its preferred form employs a post member to transmit the clamping pressure from the spring member to the platform and two large apertures are provided immediately below the shaving support platform, one on either side of the post member, which facilitates the flow of soap material and other accumulated debris away from the shaving area during shaving operations. Supplemental clamping pressure is provided by portions that project from the rear cover member and engage recesses in the body member to stress the cap portion toward engagement with the blade on the blade support platform.

The take up mechanism includes as a molded integral unit, an arbor, a shaft portion adapted to be journalled in the body member, and a handle portion. One end of the ribbon razor blade is secured to the arbor and is wound about it as the take up mechanism is rotated to advance a new shaving length of blade into position on the support platform. This take up unit is latched in position by a detent structure formed integrally with the

rear cover member which includes two elongated detent projections, each of which has an inclined camming surface over which the handle portion rides up. One camming surface allows the handle to move into latch position and prevent reverse rotation from the latch position; while the other camming surface allows the handle to move out of latch position. This arrangement permits rotation of the take up mechanism in one direction and provides a positive latch position for the take up mechanism.

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 perspective view of a razor assembly constructed in accordance with the invention;

FIG. 2 is a sectional view taken along the line 2—2 of FIG. 1;

FIG. 3 is an exploded perspective view of components of the razor assembly shown in FIG. 1;

FIG. 4 is a rear view of the front cover and handle component of the razor assembly shown in FIG. 1;

FIGS. 5 and 5*a* are sectional views taken along the lines 5—5 and 5*a*—5*a*, respectively, of FIG. 4;

FIG. 6 is a top view of the front cover component shown in FIG. 4;

FIG. 7 is a front elevational view of the body component of the razor assembly shown in FIG. 1;

FIG. 8 is a sectional view taken along the line 8—8 of FIG. 7;

FIG. 9 is a top view of the body component shown in FIG. 7 with a portion broken away;

FIG. 10 is a sectional bottom view taken along the line 10—10 of FIG. 7;

FIG. 11 is a front view of a rear cover component of the razor assembly shown in FIG. 1;

FIG. 12 is a sectional view taken along the line 12—12 of FIG. 11;

FIGS. 13 and 14 are, respectively, bottom and rear views of the rear cover component shown in FIG. 11;

FIG. 15 is a rear view of the razor assembly shown in FIG. 1;

FIG. 16 is a sectional view taken along the line 16—16 of FIG. 15;

FIGS. 17 and 18 are rear and side views, respectively, of the blade advancing component of the razor assembly shown in FIG. 1;

FIG. 19 is a side view of the indicator dial employed in the razor assembly shown in FIG. 1;

FIG. 20 is a top view of adjusting lever component employed in the razor assembly shown in FIG. 1;

FIG. 21 is a sectional view taken along the line 21—21 of FIG. 20;

FIGS. 22 and 23 are sectional views similar to a portion of FIG. 2 showing the blade guard in first and second adjusted positions, respectively; and

FIG. 24 is a perspective view of a modified rear cover component.

DESCRIPTION OF PARTICULAR EMBODIMENTS

The razor assembly shown in FIGS. 1–3 and 15 includes a front cover member 10 molded of a suitable material such as a modified polyphenylene oxide (PPO) plastic sold under the name Noryl that has formed at its lower end an integral elongated handle portion 12. Recesses 11 may be formed in the handle to reduce the weight of the razor assembly if desired. Cover member 10 has side walls and an intermediate end wall 13 that defines a recess in which body member 14, also molded of Noryl is secured. Member 14 defines a blade support platform 16, a blade supply chamber 18 and an aperture 20 in which is journalled a blade take up structure 22. The blade support platform includes a planar main surface which terminates at each end in an abrupt curved end surface transition of 0.062 inch radius. A rear cover member 24, also molded of Noryl, includes a forwardly projecting cap portion 26 that defines clamping surface 27 which overlies the blade support platform 16 and cooperates with cover 10 to define and enclose the path of the razor blade at platform 16. Disposed in blade chamber 18 is a coil of razor blade 28 that has a sharpened forward edge 30. The blade 28 extends from chamber 18 over support platform 16 to take up structure 22 where its leading end is secured in slot 32 of arbor 34. Arbor 34 has a forwardly projecting stub shaft 36 which is journalled in cylindrical recess 38 (FIG. 4) in cover 10. An indicator disc 40 is journalled on second stub shaft 42 that projects forwardly of arbor 34 and is eccentric of stub shaft 36. Disc 40 has teeth 44 in its outer periphery which cooperate with corresponding teeth 46 (FIG. 4) formed in the rear surface of cover member 10. The numerals 48 on the face of disc 40 are visible through aperture 50 in the front wall of cover member 10.

An adjusting lever 52 is supported for pivoting movement on projection 54 (at the rear wall of body member 14 above blade supply chamber 18) which is received in bore 55. Lever 52 includes a camming groove 56 which receives downwardly projecting stub 58 of depending adjusting lever structure 60 that is molded integrally with blade guard 62. Guard 62 is connected to blade support platform 16 by hinge web 64. Lever 52 includes a latch surface 65 (FIGS. 20 and 21) that engages one of the cooperating latch grooves 66 that are located on convex surface 67 of cover 10 just below aperture 68 through which lever 52 extends.

Additional details of the front cover member 10 may be seen with reference to FIGS. 4–6. The cover at its upper end includes two spaced vertically projecting guard surfaces 70, one at either end of a recess in which guard bar 62 is received. At the base of and extending rearwardly from that recess (immediately below slot 68) are two rearwardly extending dowel pins 72. Formed in each side wall 74 of cover 10 are two latch ribs 76, 78 and a tapered guide surface 82 which provides control for the movement of razor blade strip 28 from the blade supply chamber 18 to the support platform 16 and from platform 16 to take up arbor 34.

Details of the molded razor body member 14 are shown in FIGS. 7–10. That member includes structures that define alignment apertures 90 located immediately above the blade supply chamber 18 which receive dowel pins 72. Latch projections 92 engage ribs 76 and side wall surfaces 93 engage ribs 78 to hold cover 10 and body 14 together. Body 14 further includes two transverse slots 94, each having a latch recess 96. Two projections 98 overlie platform 16, and each has a vertical front latch surface and a rearwardly extending groove in which the rear portion of the blade strip is received.

As indicated above, guard bar 62 is secured to blade support platform by hinge 64. The front surface 100 of bar 62 is curved and rearwardly of surface 100 are two elongated slots 102 which allow passage from the shav-

ing zone of hair elements or other debris that might accumulate during the shaving operation. The hinge web **64** in the illustrated embodiment is an imperforate web which is reinforced by spaced rib elements **104.** The depending adjusting lever structure **60** includes three arms **106** which support a connecting web **108** so that two apertures, each about three-eighths inch wide and three-sixteenths inch high are defined. Stud **58** projects downwardly from the lower surface of web **108.** Flange member **110,** which extends rearwardly from web **108** from a central location just above stud **58,** has a lower surface **112** that is curved at a radius of 0.346 inch about a center **114** in hinge web **64.**

Details of the molded rear cover member **24** are shown in FIGS. **11–14.** That cover member in its lower portion includes two hook members **120** which engage latch surfaces **96** of slots **94** to secure the lower end of the rear cover **24** firmly to the razor body **14.** Forwardly projecting dowel pins **122** of the member **24** engage the rear portions of holes **90** in body member **14.** In the assembled position, the vertical latch surface **124** immediately to the rear of clamping surface **27** of member **24** engages the vertical front surfaces of projections **98.** Cap portion **26** overlies the blade support platform of the razor body and forms an enclosure for the blade **28,** forwardly of which its forward sharpened edge **30** projects in shaving position. The forward facing surfaces **126** at either end of cap portion **26** mate with rearwardly facing surfaces **128** of projections **70** of front cover **10** to provide an enclosure at either end of the blade support platform that overlies the ends of the platform **16** about which the blades **28** is sharply bent so that the entire width of the blade is enclosed at those points.

Below cap portion **26** is an aperture **130** of configuration similar to that of adjusting lever structure **60** and which is bounded about its periphery by a forwardly projecting flange **132** that guides shaving debris passing downwardly from the shaving zone rearwardly and protects blade supply chamber **18.** Centrally located in the bottom portion of flange **132** is a forwardly projecting, resilient, cantilever spring finger member **134.** Spaced, forwardly projecting fingers **136** at the forward end of member **134** define a recess through which stub **58** is adapted to project. At lower end of member **24** are two latch fingers **140** which cooperate with handle portion **148** of take up member **22** to latch that member in a desired position and favor rotation of handle in the clockwise direction as viewed from the rear of the razor assembly. The rear surface of each finger **140** includes a camming portion **141** inclined at an angle of 25° and a transition portion **142** parallel to the body of back cover **24.** Each interior side wall **143** is perpendicular to the body of cover **24** and inclined outwardly at an angle of 4°, and each exterior side wall **144** is also perpendicular to the body of cover **24** and inclined inwardly at an angle of 10°.

Details of the molded one-piece take up-arbor structure may be seen with reference to FIGS. **17** and **18.** That arbor includes a shaft portion **146** which is journalled in port **20** of body **14** and connects the cylindrical arbor **22** to handle portion **148.** At the forward end of the arbor **22** is a guide shaft **36** concentric with shaft portion **146** which is received in recess **38** in the rear surface of cover **10** and an eccentric shaft **42** on which the adjusting disc **40** is disposed. A recess **150** in the front wall of arbor **22** in initial assembly receives pin **152** of indicator disc **40** as shown in FIG. **19.** An end of the blade strip with a reinforcing tab secured thereto is disposed in slot **32,** the reinforcing tab being retained by projection **154.**

The camming member **52** is shown in FIGS. **20** and **21.** Camming groove **56** has an angular extent of 60° and a radius of 0.263 inch about a center **160** that is offset 0.093 inch laterally from the center of pivot axis **57** and 0.027 inch forwardly of that axis. A rib **65** on the rear surface of the vertically extending handle portion **164** cooperates with notches **66** (FIG. **6**) in a curved projecting boss **67** in the front cover member **10** for latching the camming lever **52** in a selected position.

In assembly, a coil of razor blade strip **28** is positioned in blade supply chamber **18,** passed over the blade support platform **16** and connected to arbor structure **22** disposed in aperture **20.** A reinforcing tab at the end of the blade in the take up station is engaged by projection **154.** An indicator dial **40** is then deposited on arbor **22** with projection **152** disposed for locating purposes in hole **150.** The razor body **14** is then inserted in the recess in front cover **10,** and is properly located by engagement of dowels **72** in locating holes **90** and latched in place by the engagement of ribs **76** and **78** with cooperating body surfaces **92** and **93.** A blade guiding channel about 0.060 inch in width is defined between each side wall **74** of cover **10** and the adjacent curved end surface of platform **16.**

Rear cover **24** is then secured to the assembled front cover **10** and body **14.** Rear cover **24** is positioned relative to that subassembly so that latch surfaces **124** engage the front surfaces of blade hold down guide elements **98** and dowel pins **122** are aligned with holes **90** and tabs **124** are aligned with slots **94.** Each dowel pin **122** has a conical lead surface **166,** and each tab **120** has a tapered lead surface **168.** The nominal distance between the surface of platform **16** and surface **112** is 0.401 inch. The nominal distance between clamp surface **26** and the plane of the upper surface of spring member **134** is 0.386 inch. The upper surface of spring member **134** at its forward end, on either side of recess **136,** includes an inclined surface portion **170** that tapers downwardly toward the rear at an angle of 3° and a lead surface **172** that tapers downwardly toward the front at an angle of 30°. In assembly, surfaces **124** are engaged with elements **98** and the rear cover **24** is rotated about the axis defined by that engagement towards the subassembly of the front cover **10** and body **14.** Spring member **134** is cammed along the curved lower surface **112** of the adjusting lever structure **106.** The conical lead surfaces **166** of dowel pins **122** enter the rear ends of aligning holes **90,** and the lead surfaces **168** cam into slots **94** for latching engagement between tabs **120** and recesses **96.** Actuating lever **52** is then inserted through the slot **68** in the front wall of cover **10** and positioned with pivot stub **54** engaged in hole **55** and cam slot **56** engaged with lever stub **58.**

The assembly of front cover **10,** body **14** and rear cover **24** is accurately aligned by engagement by dowel pins **72** and **122** with aligning channels **90,** and forward surfaces of the back cover are in engagement with the rear surfaces of latch members **76, 78.** In assembly, spring member **134** is stressed and exerts an upward force against the adjusting structure **60** and the blade support platform **16** to provide a clamping force on the

blade **28** disposed on the blade support platform as indicated in FIG. **2.** Due to the radiused surface **112** of the adjusting structure **60,** uniformity of clamping force is maintained throughout the range of adjustments of shaving geometry; and this clamping force firmly positions the blade in desired position on the shaving platform while allowing sliding movement of that blade **28** across the platform as advanced by the take up structure **22.** Surfaces **126** of the rear cover **24** at either end of the clamp surface **27** mate with front cover surfaces **128** so that the ends of platform **16** are completely enclosed thus providing blade protection at those points.

In use, a shaving length of blade is advanced into shaving position on platform **16** by one complete clockwise rotation of the take up structure **22.** Pin **152** is broken easily and thus arbor **22** moves freely with respect to indicator disc **40.** Rotation of the arbor structure **22** causes one or more teeth of the indicator disc **40** to engage the corresponding teeth **46** in the rear of cover **10** so that one full complete rotation of the take up-arbor structure **22** advances disc **40** to display the next number in sequence at window **50.** As indicated in FIGS. **15** and **16,** fingers **140** locate handle **148** positively and permit rotation in the clockwise direction. Camming surface **141** R allows handle **148** to ride up out of the latch position and over finger **140** R. After an almost full revolution of arbor **22,** camming surface **141** L raises the handle **148** to pass over finger **140** L and return to latched position to complete a revolution of the take up arbor and advance a fresh shaving length of blade into shaving position on platform **16.**

The shaving geometry may be seen with reference to FIG. **2.** A line **200** may be drawn tangent to the outer surface of guard cap **26** and surface **100** of guard bar **62.** The distance D that the sharpened edge **30** of the blade **28** projects in a direction perpendicular to line **200** may be termed "exposure". The angle A between line **202** (the plane of blade **28** on shaving platform **16**) and line **204** (a line extending between the surface **100** of guard **62** and the sharpened edge **30** of blade **28**) is termed the tangent angle. The distance S (span) between the sharpened edge **30** of blade **28** and the point **206** line **204** engages surface **100** is another dimension which may have a significant effect on the comfort and-/or effect of shaving. In this embodiment, a normal value of tangent angle of 29.5° is provided. The "exposure" in this position is about 0.0024 inch and the "span" is about 0.0607 inch.

These dimensions may be adjusted or varied by the user of the razor through movement of lever **52.** Movement of lever **52** to the left as viewed in FIG. **1** changes the position of the components to that shown in FIG. **22,** the tangent angle being increased 7.5° to 37°, the exposure being increased to about 0.0062 inch and the span to about 0.0675 inch. Movement of lever **52** to the right to the position shown in FIG. **23** decreases the tangent angle to about 22.5°, exposure to a negative value of −0.0014 inch and span to 0.054 inch.

A modified rear cover member is shown in FIG. **24.** That cover member is of the same configuration as the cover member shown in FIGS. **3** and **11–14.** Similar elements are identified by a corresponding primed reference numeral. Supplementing pins **122'** are two posts **210, 212,** each of which has an upper surface **214** that extends 0.031 inch forward from the surface **216** of the cover member, and an inclined surface **218** that is disposed at an angle of 45°. Surface **214** is spaced 0.512 inch below surface **27'**. Surface **95** of body member **14,** as shown in FIG. **7,** is spaced 0.517 inch below blade support platform **16.** As the rear cover **24'** is secured to the assembled front cover **10** in body **14,** the lead surfaces **166'** of the dowel pins **122'** and the lead surfaces **218** of posts **210, 212** cam into holes **90** and over surfaces **95,** respectively, and due to the above-mentioned dimensional relationship, the engagement of surfaces **95** and **214** with the rear cover latched in place impose a stress between blade support platform **16** and clamp surface **27'** to more securely maintain the desired geometrical relationship.

This razor is a compact assembly of molded plastic components which houses a ribbon razor blade and securely positions that blade in proper shaving position throughout the life of the razor. Further, the razor provides precise shaving geometry that is easily adjusted over a range of shaving geometries. While particular embodiments of the invention 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 or 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 shaving implement having a ribbon like razor blade of uniform width, said blade having parallel longitudinally extending front and rear edges with at least said front edge being sharpened, said implement comprising a body member, a front cover member, a rear cover member, said body member defining a blade supply position, a blade take up position, and a blade support platform which defines the shaving zone for receiving a shaving length of blade in supporting position with the sharpened front edge of the blade projecting beyond the front edge of said support platform, said blade being disposed in a blade path extending between said supply position and said take up position across said support platform, said front cover member being disposed over the front of said body member and said rear cover member being disposed over the rear of said body member, said rear cover member including a cap portion overlying said blade support platform, a blade guard structure extending in generally parallel spaced relation to and disposed forwardly of the front edge of said blade support platform, a hinge securing said guard structure to said platform and defining an axis parallel to said guard structure, a lever structure secured to said guard structure, an adjusting member engaging said lever structure and being movable to rotate said guard structure relative to said blade support platform about said hinge axis, said lever structure having a camming surface, a spring member secured to one of said cover members, said spring member being in engagement with said camming surface so that a uniform clamping pressure is exerted by said spring member on said blade support platform over a range of positions of said guard structure to urge said blade support platform toward said cap portion for securing said blade in proper shaving position on said support platform between said cap portion and said support platform while allowing sliding movement of said blade across said platform, and blade take up mechanism coupled to said take up position for advancing a length of blade stored in said blade supply position across said blade support

platform to position a sequence of shaving postions of said blade on said blade support platform.

2. The implement as claimed in claim 1 wherein said adjusting member is supported on said body member for pivotal movement about an axis perpendicular to said blade support platform and includes a camming portion in engagement with a cooperating portion of said lever member.

3. A shaving implement having a ribbon like razor blade of uniform width, said blade having parallel longitudinally extending front and rear edges with at least said front edge being sharpened, said implement comprising a body member, a front cover member, a rear cover member, said body member defining a blade supply position, a blade take up position, and a blade support platform which defines the shaving zone for receiving a shaving length of blade in supporting position with the sharpened front edge of the blade projecting beyond the front edge of said support platform, said blade being disposed in a blade path extending between said supply position and said take up position across said support platform, said front cover member being disposed over the front of said body member and said rear cover member being disposed over the rear of said body member, said rear cover member including a cap portion overlying said blade support platform, a blade guard structure extending in generally parallel spaced relation to and disposed forwardly of the front edge of said blade support platform, a hinge securing said guard structure to said platform and defining an axis parallel to said guard structure, a lever structure secured to said guard structure, an adjusting member engaging said lever structure and being movable to rotate said guard structure relative to said blade support platform about said hinge axis, said lever structure having a camming surface and a post member connecting said camming surface and said guard structure, a spring member secured to one of said cover members, said spring member being in engagement with said camming surface so that a uniform clamping pressure is exerted by said spring member on said blade support platform over a range of positions of said guard structure to urge said blade support platform toward said cap portion for securing said blade in proper shaving position on said support platform between said cap portion and said support platform while allowing sliding movement of said blade across said platform, structure defining apertures on either side of said post member to facilitate flow of material away from the area of the razor blade edge during shaving operations, and blade take up mechanism coupled to said take up position for advancing a length of blade stored in said blade supply position across said blade support platform to position a sequence of shaving portions of said blade on said blade support platform.

4. A shaving implement having a ribbon like razor blade of uniform width, said blade having parallel longitudinally extending front and rear edges with at least said front edge being sharpened, said implement comprising a body member, a front cover member, a rear cover member, said body member defining a blade supply position, a blade take up position, and a blade support platform which defines the shaving zone for receiving a shaving length of blade in supporting position with the sharpened front edge of the blade projecting beyond the front edge of said support platform, a blade guard structure extending in generally parallel spaced relation to and disposed forwardly of the front edge of said blade support platform, said blade being disposed in a blade path extending between said supply position and said take up position across said support paltform, said front cover member being disposed over the front of said body member and said rear cover member being disposed over the rear of said body member, said rear cover member including a cap portion overlying said blade support platform, blade take up mechanism coupled to said take up position for advancing a length of blade stored in said blade supply position across said blade support platform to position a sequence of shaving portions of said blade on said blade support platform, and a detent structure for cooperation with said blade take up mechanism to favor rotation of said blade take up mechanism in a preferred direction, said detent structure including two generally parallel spaced detent projections, each said projection having an inclined camming surface on one side and a vertical surface on the opposite side so that said detent projections permit rotation of said take up mechanism in one direction and inhibit rotation in the opposite direction, and define a latch position for said take up mechanism between said projections.

5. The implement as claimed in claim 4 wherein said blade take up mechanism includes an arbor portion to which one end of said blade is secured, a handle portion integral with said arbor portion, said handle portion being disposed outwardly of one of said cover members for manual manipulation, and a shaft portion connecting said arbor and handle portions, said shaft portion being journalled in said body member.

6. A shaving implement having a ribbon like razor blade of uniform width, said blade having parallel longitudinally extending front and rear edges with at least said front edge being sharpened, said implement comprising a body member, a front cover member, a rear cover member, said body member defining a blade supply position, a blade take up position, and a blade support platform which defines the shaving zone for receiving a shaving length of blade in supporting position with the sharpened front edge of the blade projecting beyond the front edge of said support platform, and a blade guard structure extending in generally parallel spaced relation to and disposed forwardly of the front edge of said blade support platform, said blade being disposed in a blade path extending between said supply position and said take up position across said support platform, said front cover member being disposed over the front of said body member and said rear cover member being disposed over the rear of said body member, said rear cover member including a cap portion overlying said blade support platform, a cantilever spring member formed integrally with one of said cover members and projecting in a direction generally parallel to said blade support platform, a post member extending between the front edges of said platform and a point on said spring member remote from said one cover member for coupling the biasing force of said spring member upwardly to urge the front edge of said platform toward said cap portion, for securing said blade in proper shaving position on said support platform between said cap portion and said support platform while allowing sliding movement of said blade across said platform, and blade take up mechanism coupled to said take up position for advancing a length of blade stored in said blade supply position across said

blade support platform to position a sequence of shaving portions of said blade on said blade support platform.

7. The implement as claimed in claim **6** and further including a hinge securing said guard structure to said platform and defining an axis parallel to said guard structure, a lever structure secured to said guard structure, and an adjusting member engaging said lever structure and being movable to rotate said guard structure relative to said blade support platform about said hinge axis, said lever structure including said post member and having a camming surface, and said spring member being in engagement with said camming surface so that a uniform clamping pressure is exerted by said spring member on said platform over a range of positions of said guard structure.

8. The implement as claimed in claim **7** wherein said adjusting member is supported on said body member for pivotal movement about an axis perpendicular to said blade support platform and includes a camming portion in engagement with a cooperating portion of said lever member.

9. The implement as claimed in claim **8** wherein said blade take up mechanism includes an arbor portion to which one end of said blade is secured, a handle portion integral with said arbor portion, said handle portion being disposed outwardly of one of said cover members for manual manipulation, and a shaft portion connecting said arbor and handle portions, said shaft portion being journalled in said body member and the other cover member.

10. The implement as claimed in claim **9** and further including a detent structure formed integrally with said one cover member for cooperation with said blade take up mechanism to favor rotation of said blade take up mechanism in a preferred direction, said detent structure including two generally parallel spaced detent projections, each said projection having an inclined camming surface on one side and a vertical surface on the opposite side so that said detent projections permit rotation of said take up mechanism in one direction and inhibit rotation in the opposite direction, and define a latch position for said take up mechanism between said projections.

11. The implement as claimed in claim **10** wherein one of said cover structures includes an elongated razor handle integrally formed therewith.

12. The implement as claimed in claim **11** and further including structure defining apertures on either side of said post member to facilitate flow of material away from the area of the razor blade edge during shaving operations.

13. A shaving implement having a ribbon like razor blade of uniform width, said blade having parallel longitudinally extending front and rear edges with at least said front edge being sharpened, said implement comprising a body member, a front cover member, a rear cover member, said body member defining a blade supply position, a blade take up position, and a blade support platform which defines the shaving zone for receiving a shaving length of blade in supporting position with the sharpened front edge of the blade projecting beyond the front edge of said support platform, and a blade guard structure extending in generally parallel spaced relation to and disposed forwardly of the front edge of said blade support platform, said blade being disposed in a blade path extending between said supply position and said take up position across said support platform, said front cover member being disposed over the front of said body member and said rear cover member being disposed over the rear of said body member, said rear cover member including a cap portion overlying said blade support platform, a spring member secured to one of said cover members and acting against said blade support platform to urge said blade support platform toward said cap portion for securing said blade in proper shaving position on said support platform between said cap portion and said support platform while allowing sliding movement of said blade across said platform, a post member extending between said spring member and said platform, structure defining apertures on either side of said post member to facilitate flow of material away from the area of the razor blade edge during shaving operations, and blade take up mechanism coupled to said take up position for advancing a length of blade stored in said blade supply position across said blade support platform to position a sequence of shaving portions of said blade on said blade support platform.

14. A shaving implement having a ribbon like razor blade of uniform width, said blade having parallel longitudinally extending front and rear edges with at least said front edge being sharpened, said implement comprising a body member and front and rear cover members, said body member defining a blade supply position, a blade take up position, and a blade support platform which defines the shaving zone for receiving a shaving length of blade in supporting position with the sharpened front edge of the blade projecting beyond the front edge of said blade support platform, and a blade guard structure extending in generally parallel spaced relation to and disposed forwardly of the front edge of said blade support platform, said blade being disposed in a blade path extending between said supply position and said take up position across said support platform, said front cover member being disposed over the front of said body member and said rear cover member being disposed over the rear of said body member, said rear cover member including a cap portion overlying said blade support platform, blade take up mechanism coupled to said take up position for advancing a length of blade stored in said blade supply position across said blade support platform to position a sequence of shaving portions of said blade on said blade support platform, and a detent structure for cooperation with said blade take up mechanism to favor rotation of said blade take up mechanism in a preferred direction, said detent structure including two elongated, generally parallel spaced detent projections, each said projection having an inclined camming surface on one side and a vertical surface on the opposite side, said inclined camming surfaces permitting rotation of said take up mechanism in one direction and said vertical surfaces inhibiting rotation in the opposite direction, and said detent projections defining a latch position for said take up mechanism between said projections.

15. The implement as claimed in claim **14** wherein said blade take up mechanism is an integral member that includes an arbor portion to which one end of said blade is secured, a handle portion, said handle portion being disposed outwardly of one of said cover members for manual manipulation, and a shaft portion connect-

ing said arbor and handle portions, said shaft portion being journalled in said body member.

16. The implement as claimed in claim 15 wherein said detent structure is formed integrally with said rear cover member.

17. A shaving implement having a ribbon like razor blade of uniform width, said blade having parallel longitudinally extending front and rear edges with at least said front edge being sharpened, said implement comprising a body member, front and rear cover members, said front cover member having integral outstanding spaced side wall portions and an end wall portion defining a recess for receiving said body member and an integral handle portion extending away from said recess, said body member defining a blade supply position, a blade take up position, and a blade support platform which defines the shaving zone for receiving a shaving length of blade in supporting position with the sharpened front edge of the blade projecting beyond the front edge of said support platform, said rear cover member including an integral cap portion overlying said blade on said blade support platform, blade guard structure extending in generally parallel spaced relation to and disposed forwardly of the front edge of said blade support platform, said blade being disposed in a blade path extending between said supply position and said take up position across said support platform, each of said cover members including projecting latch structure for engaging cooperating recesses in said body member to latch said front and rear cover members to said body member as a unit with said body member secured therebetween, and blade take up mechanism coupled to said take up position for advancing a length of blade stored in said blade supply position across said blade support platform to position a sequence of shaving portions of said blade on said blade support platform.

18. A shaving implement having a ribbon like razor blade of uniform width, said blade having parallel longitudinally extending front and rear edges with at least said front edge being sharpened said implement comprising a body member, front and rear cover members, said front cover member having integral outstanding spaced side wall portions and an end wall portion defining a recess for receiving said body member and an integral handle portion extending away from said recess, said body member defining a blade supply position, a blade take up position, a blade support platform which defines the shaving zone for receiving a shaving length of blade in supporting position with the sharpened front edge of the blade projecting beyond the front edge of said support platform, and blade guard structure extending in generally parallel spaced relation to and disposed forwardly of the front edge of said blade support platform, said rear cover member including an integral cap portion overlying said blade on said blade support platform, said blade being disposed in a blade path extending between said supply position and said take up position across said support platform, each of said cover members including projecting latch structure for engaging cooperating recesses in said body member to latch said front and rear cover members to said body member as a unit with said body member secured therebetween, said rear cover member further including a surface portion spaced from said cap portion for engaging a cooperating surface in said body member to stress said cap portion toward engagement with the blade on said blade support platform, and blade take up mechanism coupled to said take up position for advancing a length of blade stored in said blade supply position across said blade support platform to position a sequence of shaving portions of said blade on said blade support platform.

19. A shaving implement having a ribbon like razor blade of uniform width, said blade having parallel longitudinally extending front and rear edges with at least said front edge being sharpened said implement comprising a body member, front and rear cover members, said front cover member having integral outstanding spaced side wall portions and an end wall portion defining a recess for receiving said body member and an integral handle portion extending away from said recess, said body member defining a blade supply position, a blade take up position, a blade support platform which defines the shaving zone for receiving a shaving length of blade in supporting position with the sharpened front edge of the blade projecting beyond the front edge of said support platform, and blade guard structure extending in generally parallel spaced relation to and disposed forwardly of the front edge of said blade support platform, said rear cover member including an integral cap portion overlying said blade on said blade support platform, said blade being disposed in a blade path extending between said supply position and said take up position across said support platform, each of said cover members including projecting latch structure for engaging cooperating recesses in said body member to latch said front and rear cover members to said body member as a unit with said body member secured therebetween, said cap portion of said rear cover member including a transversely extending surface; said rear cover member further including two transversely spaced portions, each of which has a surface disposed a predetermined distance from said transversely extending surface; and said body member includes two transversely spaced surfaces, each said transversely spaced surface being spaced from said blade support platform a distance greater than said predetermined distance of the corresponding transversely spaced portion of said rear cover member from said transversely extending surface, each said transversely spaced surface being in engagement with a corresponding one of said transversely spaced portion, and blade take up mechanism coupled to said take up position for advancing a length of blade stored in said blade supply position across said blade support platform to position a sequence of shaving portions of said blade on said blade support platform.

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