3,593,416

7/1971

	[54]		IAVING INWARDLY DIRECTED EDGE BLADES
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	[73]	Assignee:	Warner-Lambert Company, Morris Plains, N.J.
	[22]	Filed:	Aug. 4, 1972
	[21]	Appl. No.:	278,165
	[52]	U.S. Cl	
	[51] [58]	Int. Cl Field of Se	B26b 21/24, B26b 21/14 arch 30/40.2, 50, 62–65,
			30/85, 32
[56] References Cited UNITED STATES PATENTS			
	1,890,3 2,050,3 2,315,3	334 12/193 244 8/193 785 4/194	22 Muros

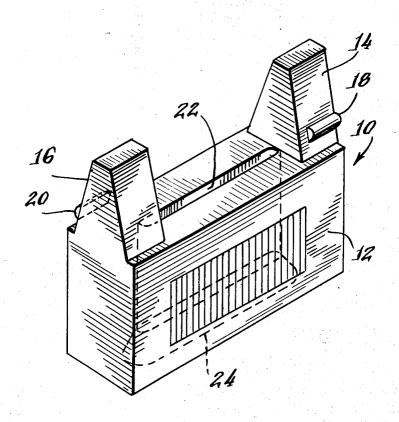
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H. Graddis

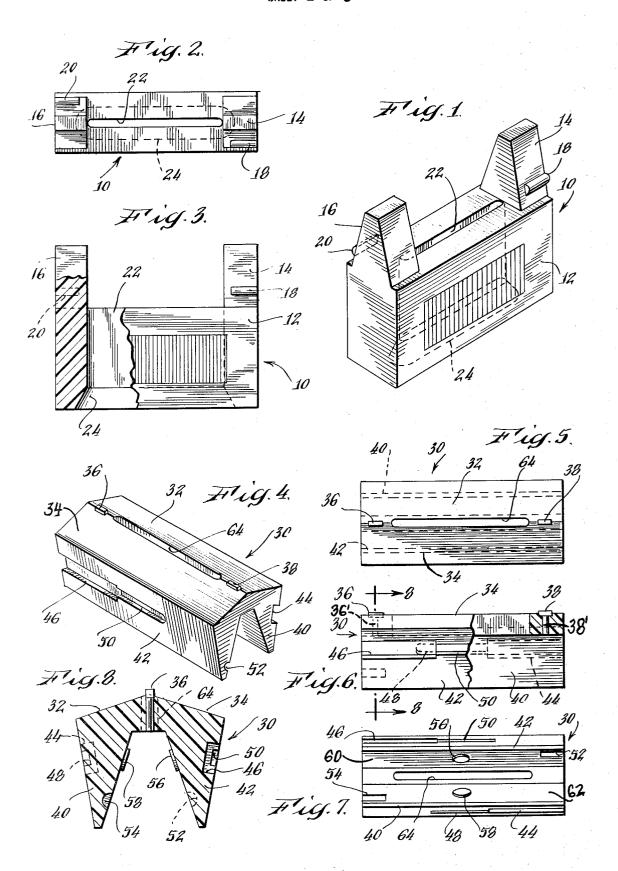
[57] ABSTRACT

The specific disclosure provides a razor for supporting two single cutting edge blades in converging planes with the cutting edges of the blades spaced apart a short distance. The razor comprises a pair of opposing upwardly and inwardly sloped blade seats having a pair of spaced stops positioned between the blade seats for abutting engagement with opposite outer portions of the cutting edges of the two blades. A pair of resiliently yieldable means are provided for clamping the two blades on the blade seats and biasing the two blades into abutting engagement with the stops. The blades are replaceable by use of a single edge dispensing magazine having an elongated key for selectively reducing the clamping pressure of each one of the clamping means.

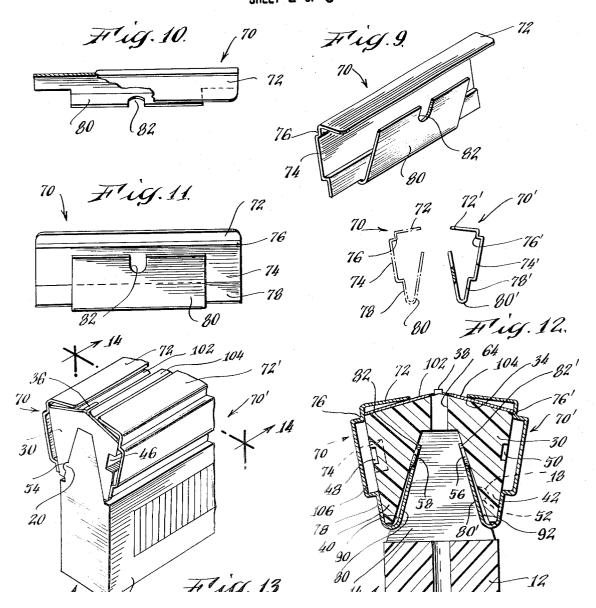
5 Claims, 20 Drawing Figures



SHEET 1 OF 3



SHEET 2 OF 3



RAZOR HAVING INWARDLY DIRECTED SINGLE **EDGE BLADES**

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to safety razors of the type in which two single edge blades are positioned with their cutting edges directed inwardly are spaced apart a short distance. More particularly, the present invention relates to a safety razor for supporting two 10 inwardly directed single cutting edge blades wherein the blades are replaceable by use of a new blade magazine having an elongated key.

2. Description of the Prior Art

edge blades are well known in the art. For example, U.S. Pat. No. 2,315,785 discloses a safety razor wherein a pair of inwardly directed signal edge blades are bonded in a replaceable cartridge. U.S. Pat. No. directed single edge blades which are replaceable by hand. U.S. Pat. No. 3,488,764 also discloses inwardly directed single edge blades, but the blades are permanently bonded in a disposable razor or cartridge.

Each of the above-noted patents are not suitable for replacing blades by use of well known and commercially available single edge blade dispensers having an elongated key. The key of the well known dispenser is inserted in an expansible channel in the razor to relieve 30 the razor clamping pressure on the blade, and a new blade is inserted in the razor by a mechanism which pushes the new blade and at the same time ejects the used blade. One such dispenser is described in U.S. Pat. No. 3,549,046. Examples of commercially available ra- 35 zors for receiving blades from such dispensers are disclosed in U.S. Pat. Nos. 2,911,713 and 2,911,714.

SUMMARY OF THE INVENTION

The present invention is directed to providing a 40 safety razor for supporting inwardly directed single edge blades which are replaceable by use of well known single edge blade dispensers having an elongated key.

In accordance with the present invention, there is 45 provided a safety razor for supporting two replaceable single cutting edge blades in converging planes with the cutting edges of the blades parallelly arranged and spaced apart a short distance. The razor of the present invention comprises a pair of opposing upwardly and 50 inwardly sloped blade seats having stop means spaced between the blade seats for abutting engagement with opposite outer portions of the cutting edge of each one of the two blades. The razor also comprises a pair of resiliently yieldable means for clamping the two blades 55 on the blade seats and for biasing the two blades into abutting engagement with the stop means.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a safety razor holder ⁶⁰ of a first embodiment of the present invention;

FIG. 2 is a top plan view of the holder;

FIG. 3 is a side elevation view of the holder with a portion broken away;

FIG. 4 is a perspective view of a blade seat of the first 65 embodiment of the present invention;

FIG. 5 is a top plan view of the blade seat;

FIG. 6 is a side elevational view of the blade seat with a portion broken away;

FIG. 7 is a bottom plan view of the blade seat:

FIG. 8 is a cross-sectional view of the blade seat taken along Lines 8-8 of FIG. 6;

FIG. 9 is a perspective view of a blade clamping and biasing member;

FIG. 10 is a top plan view of the blade clamping and biasing member with a portion broken away;

FIG. 11 is a side elevation view of the blade clamping and biasing member;

FIG. 12 is an end view of two blade clamping and biasing members positioned in an opposing manner;

FIG. 13 is a perspective view of a safety razor con-Safety razors having a pair of inwardly directed single 15 structed in accordance with the first embodiment of the present invention with a portion broken away;

> FIG. 14 is a cross-sectional view of the safety razor taken along Lines 14-14 of FIG. 13;

FIG. 15 is a top plan view of the safety razor showing 2,361,921 provides for supporting a pair of inwardly 20 an elongated key of a dispenser partially inserted in the safety razor;

> FIG. 16 is a perspective view of another embodiment of a safety razor in accordance with the present invention with portions broken away;

> FIG. 17 is a top plan view of the safety razor of FIG.

FIG. 18 is a side elevation view of the safety razor of

FIG. 19 is a top plan view of the safety razor of FIG. 16 showing a dispenser releasably engaged therewith;

FIG. 20 is a side elevation view of FIG. 19.

DESCRIPTION OF SPECIFIC EMBODIMENTS

With reference to FIGS. 1-3, there is shown a safety razor holder or handle 10 of one embodiment of the present invention. The holder 10 has a base portion 12 and a pair of shoulders 14, 16 extending upwardly from opposite ends of the base portion 12. Each of the shoulders 14, 16 has a horizontally elongated boss 18, 20 on opposing sides thereof. An elongated shaving debris passage 22 extends between the shoulders 14, 16 and downwardly through the base portion 12 to a flared opening 24 at the bottom of the base portion 12.

FIGS. 4-8 show a blade seat member 30 for the first embodiment of the present invention. The blade seat member 30 has a pair of opposing upwardly sloped blade seats 32, 34 on the top end thereof. A pair of spaced stops 36, 38 are positioned on the top of the blade seat member 30 between the blade seats 32, 34. Each of the stops 36, 38 are rigidly secured to the blace seat member 30 by downwardly extending posts 36', 38'

The blade seat member 30 has bifurcated downwardly extending side members 40, 42. Each one of the downwardly extending side members 40, 42 has a first elongated slot 44, 46 extending inwardly from a respective end of the blade seat member 30. A second elongated slot 48, 50 extends further along each of the side members 40, 42 from a respective one of the first elongated slots 44, 46. Each one of the second elongated slots is narrower and shallower than the first elongated slots 44, 46.

Each one of the inner surfaces 60, 62 of the side members 40, 42 has an elongated recess 52, 54 at diametrically opposite ends thereof. Each one of the inner surfaces 60, 62 also has an inwardly projecting boss 56,

the new blade 232 ejecting a used blade 234 from the far end of the razor 200.

What is claimed is:

- 1. A safety razor for supporting two replaceable single cutting edge blades in upwardly converging planes 5 with the cutting edges of said two blades parallelly arranged and spaced apart a short distance, said razor comprising:
 - a blade seat member including a pair of oppositely inwardly and upwardly sloped blade seats, and a 10 pair of spaced and downwardly extending side members:

spaced stop means between said blade seats for abutting engagement with opposite outer portions of the cutting edge of each one of said two blades;

- a substantially rigid frame member on each one of opposite sides of said blade seat member, each one of the frame members including (1) an inwardly projecting cap at an upper end thereof for clamping one of said two blades on one of said blade 20 seats, (2) an upper portion adapted for biasing said one blade into abutting engagement with said stop means, and (3) an upwardly and inwardly extending flange at a lower end thereof for abutting engagement with an inner surface of one of said side 25 members; and
- means including an elongated recess on each one of said opposite sides of said blade seat member for guiding an elongated key of a blade dispenser be-

tween said blade seat member and a respective one of the frame members to wedge the respective frame member outwardly from said blade seat member.

2. The razor of claim 1 wherein an upper portion of each one of the flanges is in abutting engagement with the inner surface of a respective one of said side members, and wherein a transverse lower portion of each one of the flanges is spaced from the respective inner surface, whereby the caps are biased to clamp said two blades on said blade seats and the upper portions of the frames are biased to bias said two blades into abutting engagement with said stop means.

3. The razor of claim 2 wherein each one of the inner surfaces of said side members comprises a boss, and wherein each one of the flanges has a slot for receiving a respection one of the bosses therein to prevent transverse movement of the frame members with respect to

said blade seat member.

4. The razor of claim 1 further comprising a holder having spaced shoulders connected to said blade seat member between said side members and outwardly of the flanges.

5. The razor of claim 4 further comprising means for passage of shaving debris from between the cutting edges and through said blade seat member and said holder.

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[54]	TRAY WI USE	TH ASTRAL LAMP FOR DENTAL
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[22]	Filed:	Sept. 27, 1972
[21]	Appl. No.:	292,775
[30]		1 Application Priority Data 71 Japan 46-106997
[52] [51] [58]	Int. Cl	
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Den-Tal-Ez Manufacturing Co., "SH Down with Den-Tal-Ez" 4 pages, Feb. 1967.

Primary Examiner—Robert Peshock Attorney, Agent, or Firm—Waters, Roditi, Schwartz & Nissen

[57] ABSTRACT

A tray and an astral lamp for dental use are connected to a common support member in a fixed vertically spaced relation, the lamp and tray being individually rotatably attached to the common support member. The common support member is attached to the front end of an up and down swingable arm comprising a parallel link mechanism having a balancing spring, and the latter arm is rotatably mounted on a pole fixed on a dental unit or the like.

10 Claims, 2 Drawing Figures

