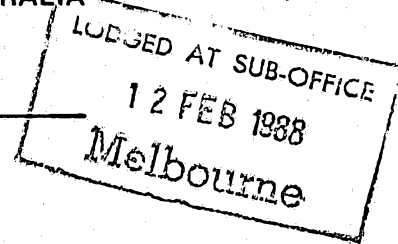


605548

COMMONWEALTH OF AUSTRALIA

Patents Act 1952

**APPLICATION FOR A STANDARD PATENT**

(Combined Form — Convention and Non-Convention)

We WARNER-LAMBERT COMPANY, a corporation organized and
existing under the laws of the State of Delaware, of 201 Tabor
Road, Morris Plains, New Jersey, United States of America,

hereby apply for the grant of a Standard Patent for an invention entitled
TWIN BLADE RAZOR WITH DUAL CLEANING MEANS

which is described in the accompanying ~~Provisional~~ Complete Specification.

2. This application is a convention application and is based on the application(s) for a
patent or similar protection made —

in United States of America
on ... February 25, 1987, numbered ... 018,648, and
on, numbered, and
on, numbered

Strike out para. 2,
for non-convention

3. My/Our address for service is: Care of COWIE, THOMSON & CARTER, Patent
Attorneys, of 71 Queens Road, Melbourne, Victoria 3004, Australia.

DATED this ... 10th day of ... February 1988.

To The Commissioner of Patents
COMMONWEALTH OF AUSTRALIA

COWIE, THOMSON & CARTER.

By:

Patent Attorneys for
WARNER-LAMBERT COMPANY.

APPLICATION ACCEPTED AND AMENDMENTS

RECEIVED 17.10.96

COWIE, THOMSON & CARTER

Patent Attorneys
71 Queens Road, Melbourne,
Victoria, 3004, Australia

For future use

CONVENTION APPLICATION BY A COMPANY

FORM 8 - REGULATION 12 (2)

PD-3627-04-HO
(Australia)

AUSTRALIA PATENTS ACT 1952

DECLARATION IN SUPPORT OF A CONVENTION APPLICATION FOR A PATENT

(a) Here insert (in full)
Name of Company.

In support of the Convention Application made by.....
(a) WARNER-LAMBERT COMPANY

(b) Here insert Title of
Invention.

(hereinafter referred to as "Applicant") for a patent for an invention entitled:

(b) "TWIN BLADE RAZOR WITH DUAL CLEANING MEANS"

(c) and (d) Here insert
Full Name and Address
of Company Official
authorised to make
declaration.

I, (c) Thomas D. Moliterno
of (d) WARNER-LAMBERT COMPANY
201 Tabor Road, Morris Plains, New Jersey 07950 U.S.A.

do solemnly and sincerely declare as follows:

1. I am authorised by Applicant to make this declaration on its behalf.

(e) Here insert Basic
Country followed by date
of Basic Application.

2. The basic Application(s) as defined by section 141 of the Act was / were made
in (e) U.S.A. on the 25th day of February 19 87

(f) Here insert Full
Name(s) of Applicant(s)
in Basic Country.

by (f) Peter Bowman and Evan N. Chen
in on the day of 19
by
in on the day of 19
by
in on the day of 19
by

(g) Here insert (in full)
Name and Address of
actual inventor or
inventors.

3. (g) Peter Bowman, 97 Longhill Terrace, New Haven, Connecticut;
Evan N. Chen, 879 Riverside Drive, Fairfield, Connecticut.....

..... is/are
the actual inventor(s) of the invention and the facts upon which Applicant is entitled to make the
Application are as follows:

See reverse side of this
form for guidance in
completing this part.

APPLICANT IS THE ASSIGNEE OF THE SAID INVENTORS.

4. The basic Application(s) referred to in paragraph 2 of this Declaration was/were the first
Application(s) made in a Convention country in respect of the invention, the subject of the
Application.

DECLARED at Morris Plains, New Jersey U.S.A.

this 15th day of January, 19 88

(h) Personal Signature

(12) PATENT ABRIDGMENT (11) Document No. AU-B-11650/88
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 605548

(54) Title
TWIN BLADE RAZOR WITH DUAL CLEANING MEANS

International Patent Classification(s)
(51)⁴ B26B 021/40 B26B 021/22

(21) Application No. : 11650/88 (22) Application Date : 12.02.88

(30) Priority Data

(31) Number	(32) Date	(33) Country
018648	25.02.87	US UNITED STATES OF AMERICA

(43) Publication Date : 01.09.88

(44) Publication Date of Accepted Application : 17.01.91

(71) Applicant(s)
WARNER LAMBERT COMPANY

(72) Inventor(s)
PETER BOWMAN; EVAN N. CHEN

(74) Attorney or Agent
COWIE CARTER & HENDY, 71 Queens Road, MELBOURNE VIC 3004

(56) Prior Art Documents
AU 525690 42846/78 B26B 21/16 21/22 21/40
US 4344227
US 4047296

(57) Claim

1. A razor system having a bottom blade, a top blade parallel to and spaced from said bottom blade, wherein said top blade has its shaving edge parallel to but recessed from the shaving edge of said bottom blade, a blade seat upon which said bottom blade rests, a guard bar extending from said seat below and beyond the shaving edge of said bottom blade, a cap positioned over said top blade, and positioning means extending through said blades from either said cap or said seat to maintain the configuration of said blades, said cap and said seat of said system, wherein said cap comprises a first blade cleaning means positioned over said top blade having a sloped surface with a slanted portion or slanted portions directly adjacent said top blade meeting the upper, planar surface of said top blade at an angle substantially greater than 90° as measured from said shaving edge, and a second blade cleaning means is movably positioned between said top blade and said bottom blade to remove shaving debris and for maintaining said spaced parallel relationship between said blades.



605548

Form 10

PATENTS ACT 1952

COMPLETE SPECIFICATION

(ORIGINAL)

FOR OFFICE USE

Short Title:

Int. Cl:

Application Number:

Lodged:

Complete Specification—Lodged:

Accepted:

Lapsed:

Published:

Priority:

Related Art:

TO BE COMPLETED BY APPLICANT

Name of Applicant: WARNER-LAMBERT COMPANY, a corporation organized and existing under the laws of the State of Delaware, of 201 Tabor Road, Morris Plains, New Jersey, United States of America.

Address of Applicant:

Actual Inventor: PETER BOWMAN
EVAN N. CHEN

Address for Service: Care of: COWIE, THOMSON & CARTER,
Patent Attorneys,
71 Queens Road,
Melbourne, Vic., 3004,
Australia.

Complete Specification for the invention entitled:

TWIN BLADE RAZOR WITH DUAL CLEANING MEANS

The following statement is a full description of this invention, including the best method of performing it known to me:—

-1-

* Note: The description is to be typed in double spacing, pica type face, in an area not exceeding 250 mm in depth and 160 mm in width, on tough white paper of good quality and it is to be inserted inside this form.

Field of the Invention

This invention relates to a twin bladed shaving system in particularly one having means for cleaning shaving debris from the top of each blade in the system.

Background of the Invention

U.S. Patent No. 2,780,682 issued to K. T. Grathwohl discloses a disposable razor having a fingered cap with angled slots positioned between the fingers which aid in the provision of a rinseable surface for the cap. This surface which is preferably at an angle enables the removal of debris from the space between the fingers by rinsing the razor head.

This slanted recessed area does help in the removal of debris but does nothing to remove the debris from between the blades in a twin bladed shaving system such as that disclosed in U.S. Patent 3,786,563 issued to Dorion, et al. This shaving system which is becoming increasingly popular as both a disposable razor and also in a shaving cartridge features two relatively narrow blades separated by a spacer which maintains the spatial relationship between the blades. The blades are mounted with the shaving edges parallel to each other with the top most blade being recessed from the bottom most blade. A seat which provides for the bottom most blade has a guard bar extending outwardly from the seat beyond the edge of the bottom most blade. A cap is provided to help maintain the orientation of the shaving components and also protect the top surface. The alignment of the blades and the relative spacing is finally assured by either staking means which can be provided by projections downward from the cap through mating slots in the blades and spacer locking into suitable openings in the seat or,

the process can be reversed using staking means upstanding on the seat.

5 An alternative means for maintaining alignment is disclosed in U.S. Patent 4,407,067 issued to Trotta, et al. which provides for the insertion of the blade and spacer and subassembly into what is basically a set of opposing leaf springs provided by the cap and seat. The relative positioning of the blades and spacer is maintained by the compressing action of the opposing leaf springs, as well as a unitary back portion which is constructed as an upstanding element from the seat with the fingered cap forming a part of the back portion. The back portion, while providing a stop before the spacing of the blade subassembly, also eliminates the use of any moveable cleaning means for eliminating the debris which easily collects in the slot between the blades.

10 U.S. Patent 4,205,437 issued June 3, 1980 to Evan N. Chen and Bryan J. Goddard and U.S. Patent 4,344,227 issued to Evan N. Chen, James S. Emmett, Frank A. Ferraro and Anthony J. Peleckis disclose a combination spacer/ejector. Both of these patents are hereby incorporated by reference in the subject invention. They basically disclose the concept of a twin bladed razor such as Dorion with an open back and a spacer which is anchored in place by staking means extending downward from the cap through the upper blade assembly. The spacer is an anchor for a biased unitary ejector bar which extends parallel to the blade edges and is reciprocally moveable to push shaving debris out from the top surface of the bottom blade as it is activated. The ejector bar, which is biased against the anchoring portion of the spacer is activated in a forward direction against the bias by a thumb activator which

extends through the open back portion of the razor. The ejector bar, when activated, actually extends beyond at least the edge of the upper blade and preferably beyond the edge of the lower blade, forcing out the debris which is collected between the blades. While the combination ejector spacer is extremely efficient in the removal of debris collected between the blades, the conventional cap with an edge which is parallel to the blade edges tends to collect debris which can get lodged in the junction between the top of the blade and the cap. When very thin bladed upper blades are utilized, the distance between cap edge and upper blade edge is minimal and the possibility of the debris inhibiting upper blade performance is increased.

Summary of the Invention

According to the present invention, there is provided a razor system having a bottom blade, a top blade parallel to and spaced from said bottom blade, wherein said top blade has its shaving edge parallel to but recessed from the shaving edge of said bottom blade, a blade seat upon which said bottom blade rests, a guard bar extending from said seat below and beyond the shaving edge of said bottom blade, a cap positioned over said top blade, and positioning means extending through said blades from either said cap or said seat to maintain the configuration of said blades, said cap and said seat of said system, wherein said cap comprises a first blade cleaning means positioned over said top blade having a sloped surface with a slanted portion or slanted portions directly adjacent said top blade meeting the upper, planar surface of said top blade at an angle substantially greater than 90° as measured from said shaving edge, and a second blade cleaning means is movably positioned between said top blade and said bottom blade to remove shaving debris and for maintaining said spaced parallel relationship between said blades.

Brief Description of the Drawings

The invention may be more readily understood by reference to the drawings in which

Fig. 1 is a plan view of the blade assembly;



Fig. 2 is an exploded perspective view of the shaving assembly; and

Fig. 3 is a view in cross section of the razor system taken along line 3-3 of Fig. 1 according to this invention.

As can be seen by reference to the drawings in particular Fig. 1 and 2 the razor system of this invention includes a cap 12 having a raised central area of 17 with fingers 11 extending outwardly therefrom. Slots 15 taper outward from the recessed area between the fingers and sides 19 of cap 12 are designed to rest upon the longitudinal edges of support surface 41 of seat 10. Staking means 13 shown here are four separate stakes extend downward through two holes 23 with extended length in top blade 14. The staking means extend through the holes 33 providing anchor sites in the spacer/ejector 18 and through matching blade slots 43 in lower blade 16 and into seat holes 53 in seat 10. As can be seen by reference to Fig. 3, the stake has an extended bottom portion 13 which is positioned below the planar blade support portion 41 of seat 10. Guard bar 40 extends outward from seat 10 and is attached by ribs 43.

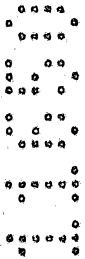
As can best be seen in Fig. 2 the ejector has a bar 32 which extends parallel to and approximately the same length as the blade shaving edge on blades 14 and 16. This ejector bar portion is connected to pusher bar 30 by perpendicular connector 38. Perpendicular connector 38 has beam spring 36 depending from either side and attached to the anchor portion 37 positioned around each hole 33. As can best be seen by reference to Fig. 3, when forces are exerted against pusher 30 it is dislodged in a linear forward direction against the bias provided by beam spring 36 to force the ejector

bar 32 forward thereby ejecting shaving debris which is collected in the site between the two blades. Release of the pressure against the thumb pusher member 30 allows the beam spring to bias the ejector assembly 18 backwards.

5 With regard to cap 12, the slots 15 are slanted and meet the upper planar surface of the blade 14 at an angle substantially greater than 90° as measured from the shaving edge of the blade, and preferably at an angle of about 110° or greater.

10 One of the variants contemplated by this invention is the use of a web extending within the recessed area to a secondary edge of reduced thickness extending only slightly inward from the cap. The addition of the web tends to aid in the maintaining of the cap in a rigid position.

Other variations will readily suggest themselves to those with reasonable skill in the art.



The claims defining the invention are as follows:-

1. A razor system having a bottom blade, a top blade parallel to and spaced from said bottom blade, wherein said top blade has its shaving edge parallel to but recessed from the shaving edge of said bottom blade, a blade seat upon which said bottom blade rests, a guard bar extending from said seat below and beyond the shaving edge of said bottom blade, a cap positioned over said top blade, and positioning means extending through said blades from either said cap or said seat to maintain the configuration of said blades, said cap and said seat of said system, wherein said cap comprises a first blade cleaning means positioned over said top blade having a sloped surface with a slanted portion or slanted portions directly adjacent said top blade meeting the upper, planar surface of said top blade at an angle substantially greater than 90° as measured from said shaving edge, and a second blade cleaning means is movably positioned between said top blade and said bottom blade to remove shaving debris and for maintaining said spaced parallel relationship between said blades.
2. A razor system according to claim 1 wherein said cap has a series of fingers extending toward the blade edge, said fingers being separated by recesses with inclined back walls sloping toward said blade edge.
3. A razor system according to claim 2 wherein the angle as measured from the plane of the blade to the inclined back walls of the recesses is at least 110° .
4. A razor system according to any one of claims 2 or 3 wherein a web extends within the recessed area between fingers.
5. A razor system according to any one of the preceding claims wherein the second blade cleaning means is combined with an ejector means as a unitary assembly, said ejector means having a unitary transversely extending ejector element extending parallel to and substantially along the length of said blade edges, said element being biased and reciprocally moveable parallel to said blades.
6. A razor system according to claim 5 wherein the ejector means is activated by pusher means extending beyond the rear portion of the razor assembly.

7. A razor system substantially as hereinbefore described with reference to the accompanying drawings.

DATED this 5th day of October, 1990.

WARNER-LAMBERT COMPANY.



COWIE, CARTER & HENDY
PATENT & TRADEMARK ATTORNEYS
71 QUEENS ROAD,
MELBOURNE, 3004, AUSTRALIA

FIG-1

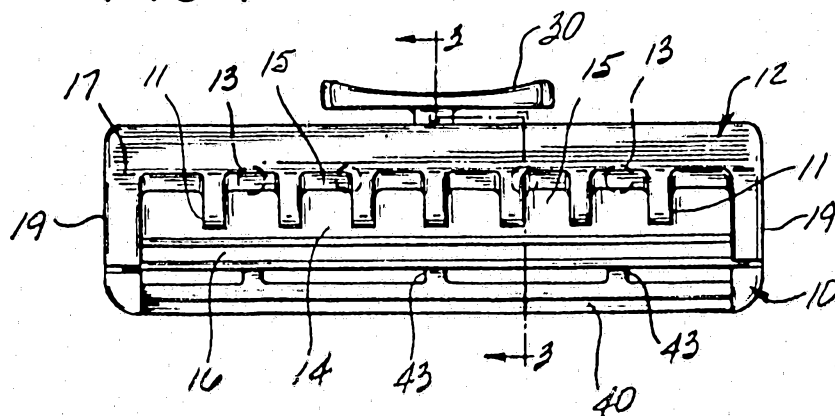


FIG-2

