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- (71) Applicants **Warner-Lambert Company,
201 Tabor Road,
Morris Plains,
New Jersey 07950,
United States of America.**
- (72) Inventors **Evan N. Chen**
- (74) Agents **Eric Potter and Clarkson,
14 Oxford Street,
Nottingham NG1 5BP.**

(54) Razor with lever operated blade cover

(57) A disposable razor having one or more blades 13 or cutting elements with a permanently attached, slidable blade cover 14 including actuating means 21 manually operable to slide the cover from a first position in which the razor is inoperable and the cutting elements are shielded and protected from damage to a second position in which the cutting elements have proper exposure and the razor is operative.

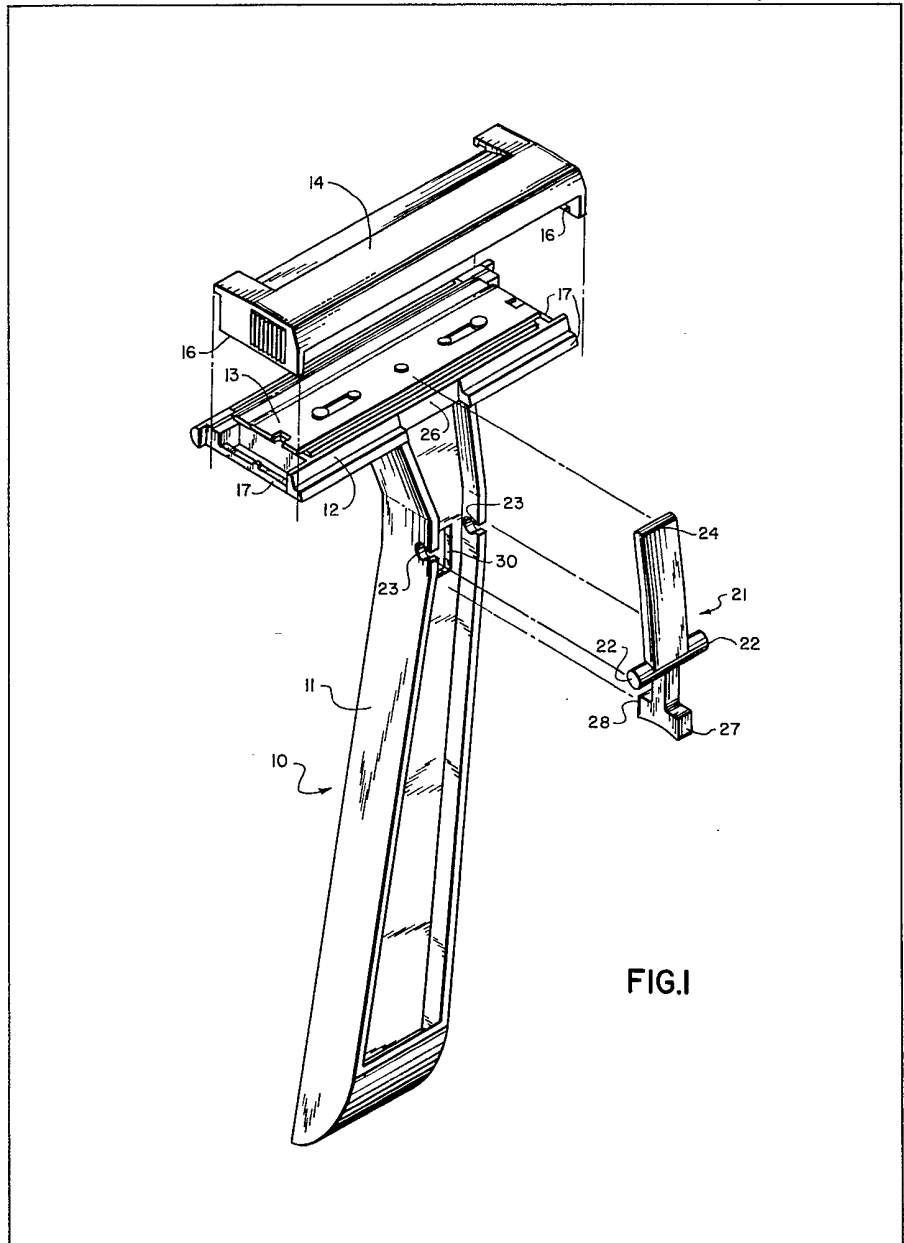


FIG. I

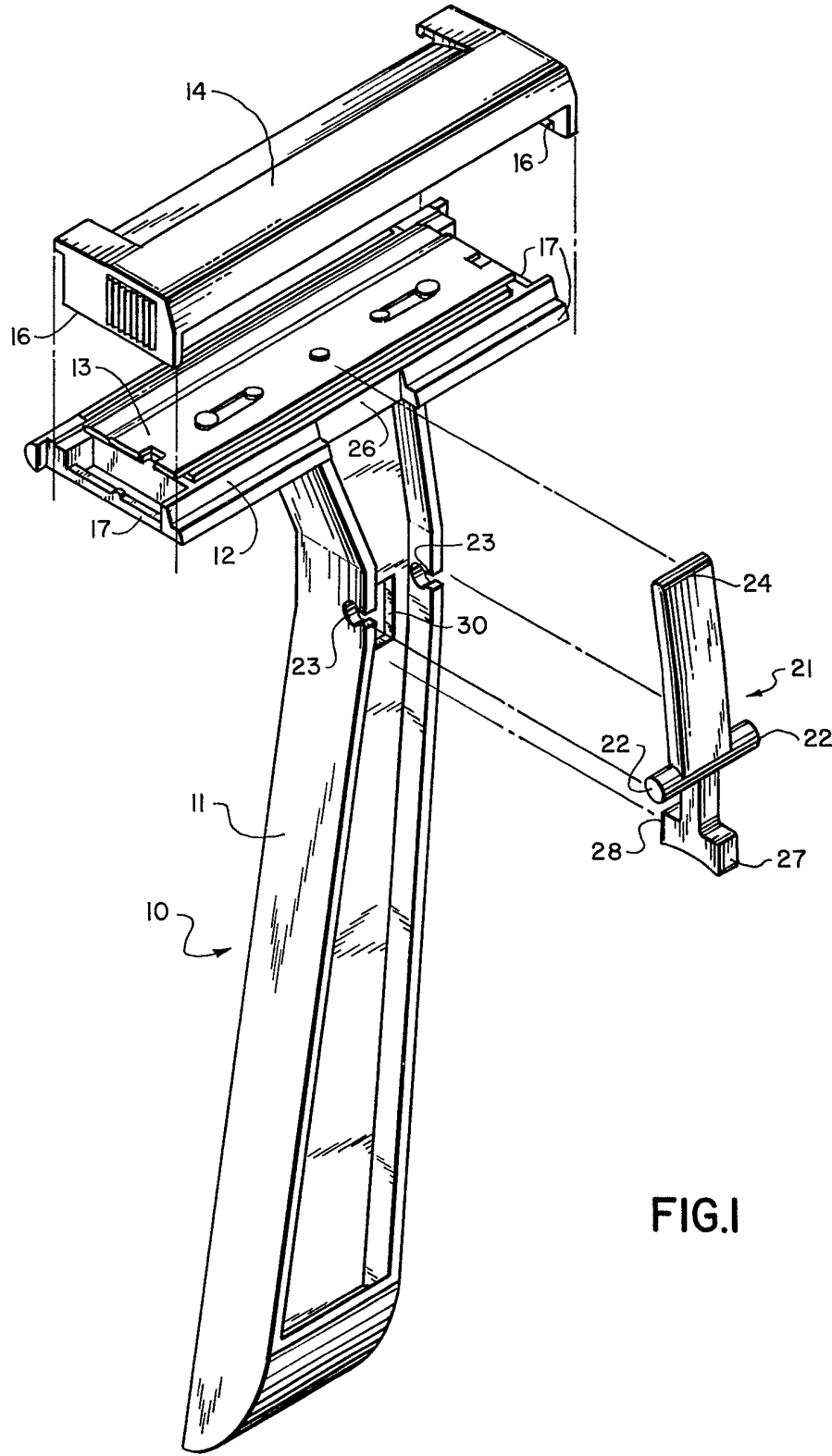


FIG. I

FIG.2

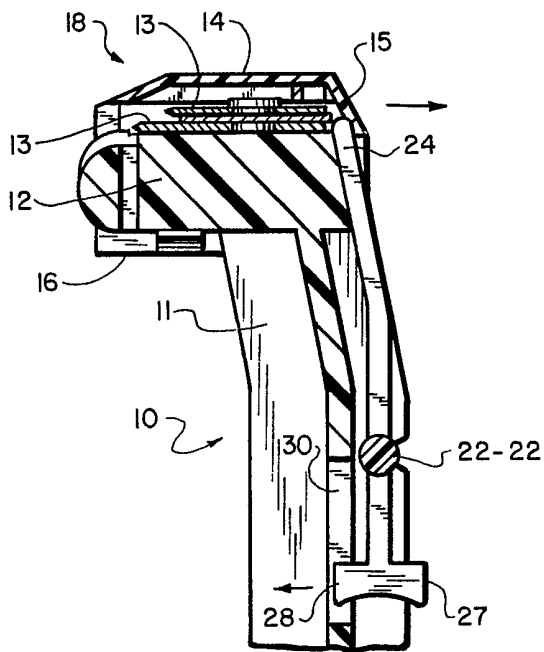


FIG.3

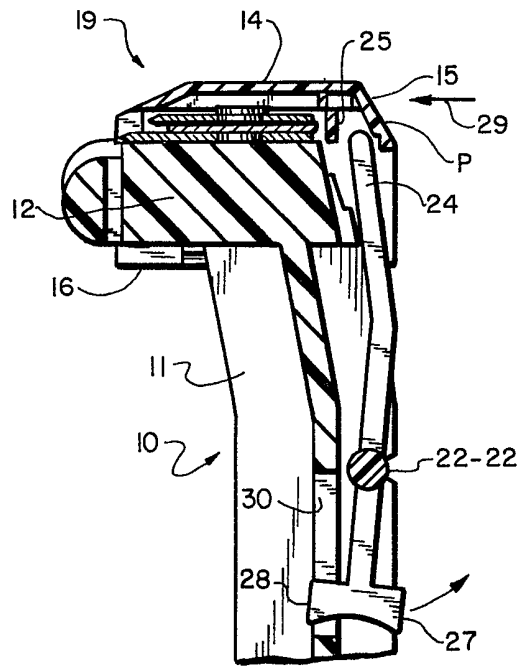
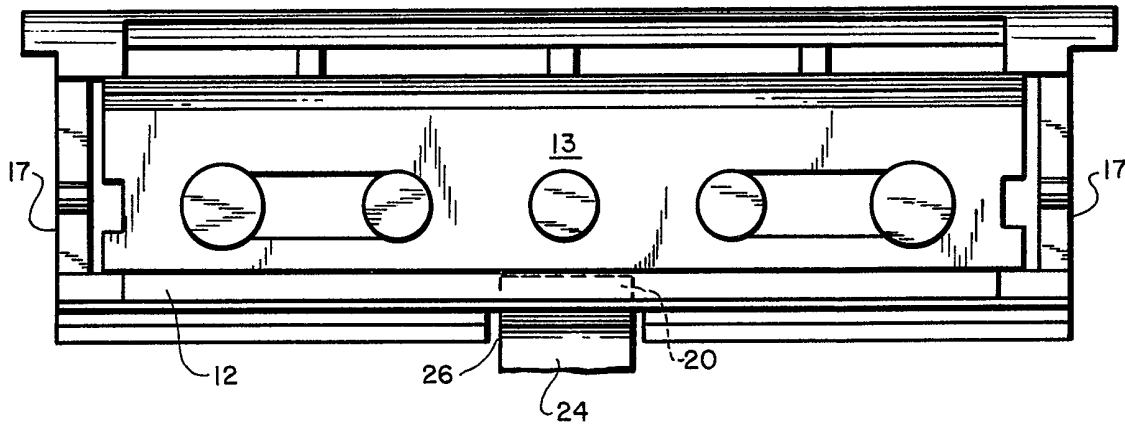


FIG.4



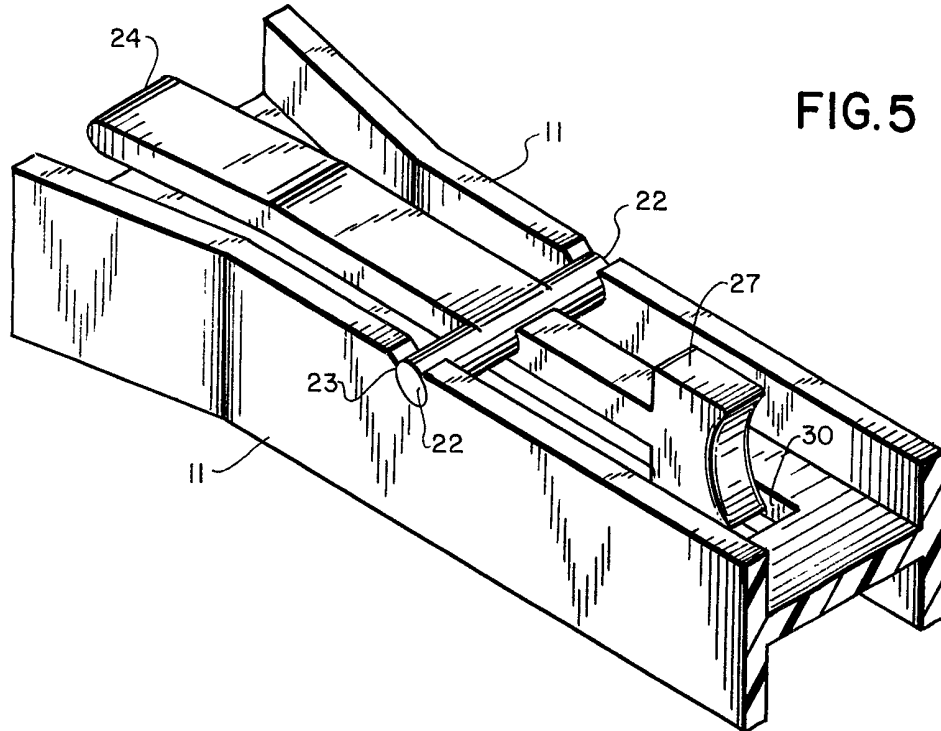


FIG. 5

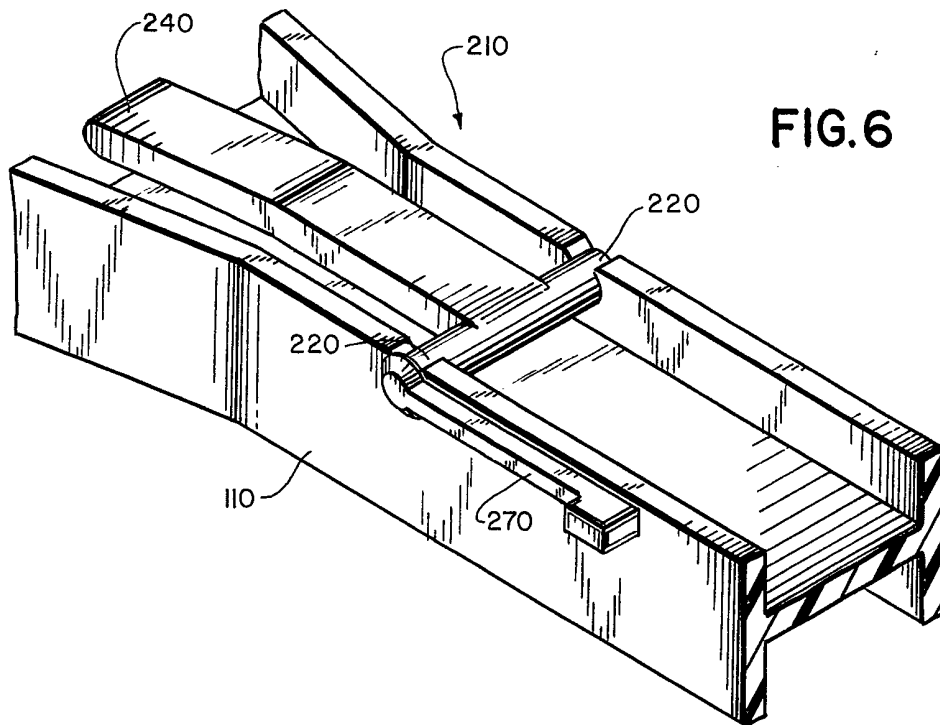


FIG. 6

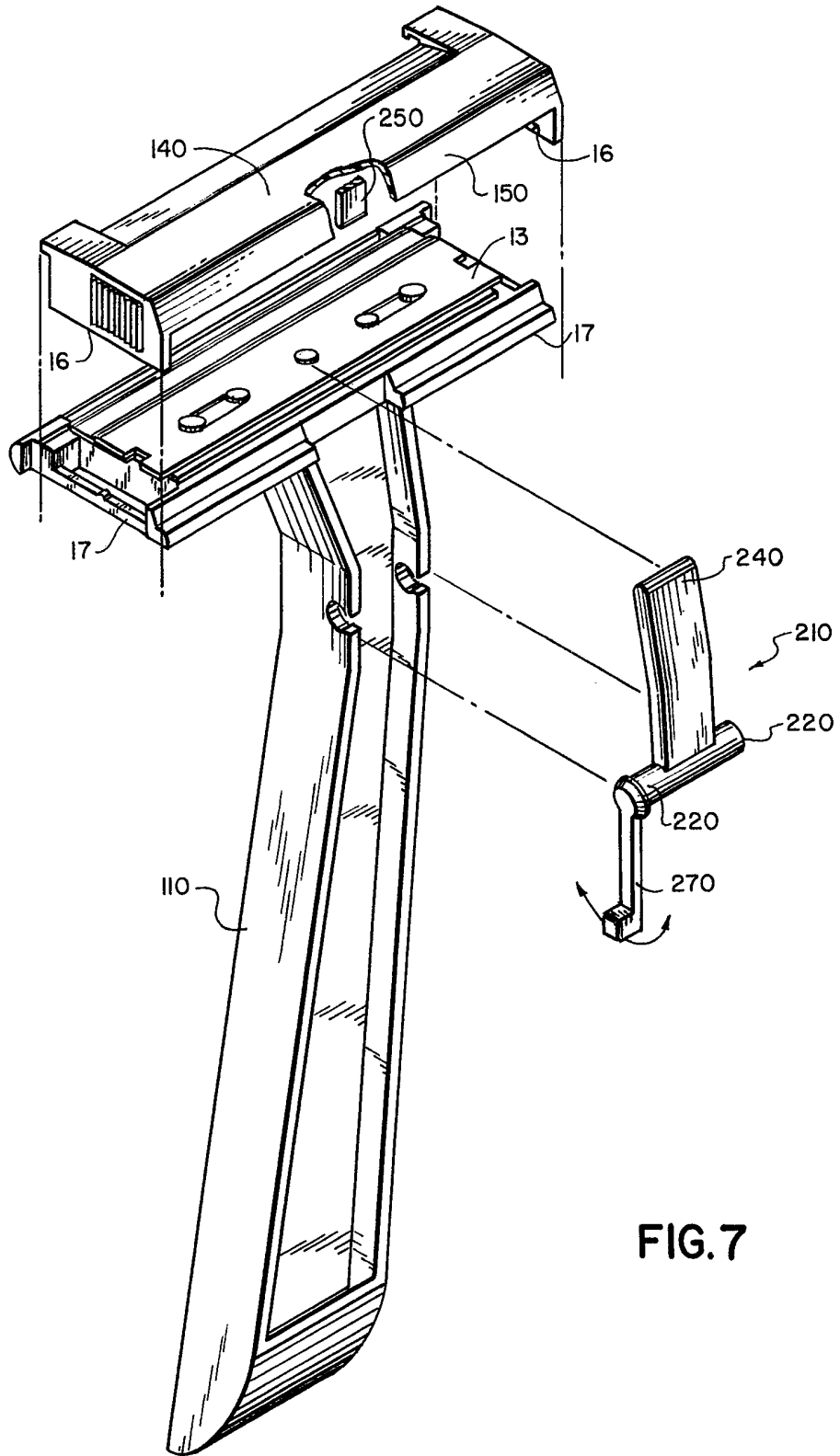


FIG. 7

SPECIFICATION

Razor with lever operated blade cover

5 The present invention relates to wet razors and relates in particular to razors of the class which are disposable after the blade cutting edge is dulled by use.

Razors of this class are usually moulded by plastic material with the blade being in principal metallic piece-part.

The language "wet-razor" is intended to designate razors which are used after skin surface to be shaved has been prepared or conditioned for shaving by use of water and soap or other moisturizing preparations.

This definition is in contrast to the term "dry shaving" which usually is accomplished by a conventional electric razor.

20 The use of the language "blade", "blade cutting edge" or "blade edge" is intended to include one or more blades each having at least a single cutting edge.

A razor device over which the present invention is an improvement is disclosed and described in a co-pending Patent Application No.8041188 "Razor Blade Assembly with Movable Cover Cap".

In 8041188, the cover is moved to and fro along its track by grasping the cover, preferably at its end walls, and sliding the cover in one direction to expose the cutting edge a proper amount for shaving or in the opposite direction to shield the edge from damage from extraneous sources.

In the razor of 8041188, operation of the cover is virtually a "two hand" operation. That is, one must grasp the razor by its handle in one hand and manipulate the cover with one's other hand.

The present invention provides cover actuating means which makes it possible to move the cover in "one hand" fashion. That is, the razor is grasped in one hand and the cover actuating means is operable by the digits of the same hand.

Thus it is a primary object and feature of the present invention to provide a razor having a blade cover which functions dually to protect the blade edge when the razor is not in use and sets proper blade exposure during the act of shaving. The cover is moved by a manual actuating means which is manipulated by the same hand which one uses to grasp the razor.

According to the present invention we provide a razor of the type having a blade consolidated into a unitary assembly supported by a handle, said assembly including a track and a cover slidable on said track from a first position in which said blade assembly is covered or enclosed to a second position in which the blade assembly is exposed for wet shaving, and a manually operable actuating means mounted on said razor and cooperating with said cover for moving the cover from said first position to said second position.

Reference is now made to the accompanying drawings, in which:

65 *Figure 1* is a perspective, exploded view of a preferred embodiment of the invention;

Figure 2 is a vertical sectional view showing the cover in the first position, i.e. blade covered or protected and the razor inoperative;

70 *Figure 3* is similar to *Figure 2* showing the cover in the second position with the blade exposed properly and in condition for operation;

Figure 4 is a top view of the illustration of *Figure 1* with the cover removed showing the nesting of the upper end of the cover actuating means within the blade support structure;

75 *Figure 5* is an enlarged view of a portion of *Figure 1* showing a preferred cover actuating means;

Figure 6 is similar to *Figure 5* showing an alternative actuating means; and

80 *Figure 7* is a view similar to *Figure 1* showing the relationship of the alternative actuating means to the razor body.

Referring now in detail to the drawings, particularly *Figures 1* through *5*, the reference numeral 10 designates a wet razor having a handle 11, blade support 12, blade 13 and blade cover 14.

As disclosed and described in Application No. 8041188, the cover 14 is formed with a slide 16-16 which engages a track 17-17 on the blade support 12 to guide the cover in sliding relation to the blade, blade support, and handle from a first or closed position indicated generally by the reference numeral 18 in *Figure 2* to a second or operative position indicated generally by the reference numeral 19 in 95 *Figure 3*.

A cover actuating means indicated generally by the reference numeral 21 includes a support element defining a pair of opposed stub shafts 22-22 making a "snap fit" into bearings 23-23 formed in handle 11. The actuating means 21 which for purposes of describing and claiming the invention may be labeled, from time to time, as an operating lever includes a driving element or upper end 24 which nests in cut-out 26 formed in blade support 12.

105 The opposite end of the lever is formed with opposed tabs 27, 28 which are manually depressible by digits of the same hand in which a consumer grasps the razor.

As is apparent in *Figures 2* and *3*, depression of the tab 27 in the direction of the lower arrow of *Figure 2* will cause the lever 21 to rotate about handle 11 to cause driving element 24 to bear upon cover skirt 15 to slide cover 14 in the direction of the upper arrow, thus moving the cover 14 from the first or protective position of *Figure 2* to the second or operative position of *Figure 3*.

In this embodiment of the invention, the cover can be returned to the first position after use of the razor by merely pushing the cover manually in the direction of the arrow 29 by applying pressure to the cover 14 in the region indicated generally by the letter P in *Figure 3*.

However, it is entirely within the scope of the invention to provide tabs 25-250 projecting from the cover 14 (see *Figures 3* and *7*) to facilitate return of the slide to the first position by depression of tab 28 projecting through open 30. In this arrangement appropriate clearance must be provided in the blade support as indicated in dotted lines labelled 20 in *Figure 4* to accommodate the tabs 25-250 in addition 130

to the "throw" of the lever.

Referring to Figures 6 and 7, an actuating means 210 is supported by tub shafts 220-220 in turn making a snap fit into handle 110. In this arrange-
5 ment, driving element 240 is actuated to move slide 140 by manipulation of crank 270 through an arc represented by the double-ended arrow of Figure 7.

Rotation of the crank 270 clockwise (Figure 7) makes a driving connection between element 240
10 and the inside of cover skirt 150 to move the slide to the second or operative position while rotation of the crank 270 in a counterclockwise direction causes the driving element to contact tab 250 to return the slide to the first or protective position.

15 CLAIMS

1. A razor of the type having a blade consoli-
dated into a unitary assembly supported by a
20 handle, said assembly including a track and a cover slidable on said track from a first position in which said blade assembly is covered or enclosed to a second position in which the blade assembly is exposed for wet shaving and a manually operable
25 actuating means mounted on said razor and cooper- ating with said cover for moving the cover from said first position to said second position.

2. A razor according to Claim 1 including manu-
ally operable actuating means for moving said cover
30 from said second position to said first position.

3. A razor according to Claim 1 or 2 in which the actuating means defines a lever mounted pivotally on said razor.

4. A razor according to Claim 3 in which the lever
35 is mounted upon the handle and makes a driving connection with said cover.

5. A razor according to Claim 3 or 4 in which a first end of the lever on one side of the pivotal mounting engages and makes a driving connection
40 with cover and a second end of the lever on the opposite side of the mounting is operable manually to pivot the lever and thus drive the cover.

6. A razor according to any of Claims 3 to 5 in which the lever is supported by a shaft moulded
45 integrally with said lever to define a single piece-part.

7. A razor according to Claim 6 in which the shaft is retained upon said handle by means of a snap fit or snap lock.

8. A razor according to any of Claims 3 to 7 in which the lever is fitted with a crank for pivoting the lever.

9. A razor according to any of Claims 3 to 7 in which the lever is formed with a pair of opposed tabs
55 which are manually depressible to pivot said lever.

10. A razor according to any of Claims 1 to 9 in which the actuating means makes a driving connec-
tion with elements of said cover at two spaced locations or contact points.

11. A razor according to Claim 10 in which said elements define a tab and a skirt both moulded integrally with said cover.

12. A razor substantially as herein described with reference to and as shown in the accompanying
65 drawings.