Nov. 26, 1968 K. M. KECK 3,412,464

RAZOR HAVING A ROTATIVE BLADE HOLDER

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FIG. 1.

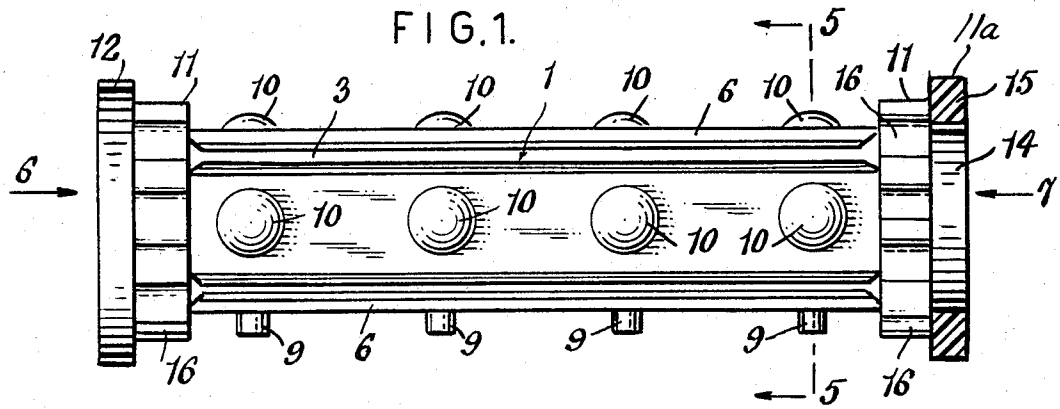


FIG. 2.

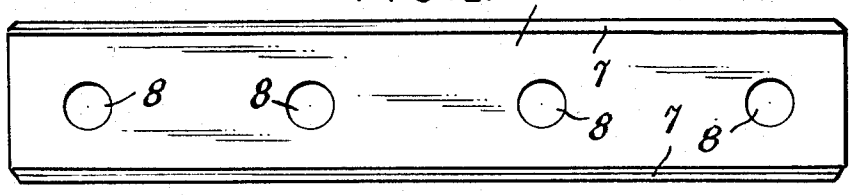


FIG. 3.

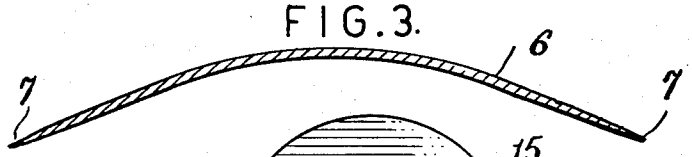


FIG. 4.

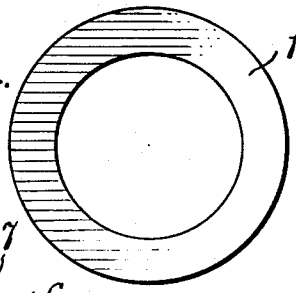


FIG. 5.

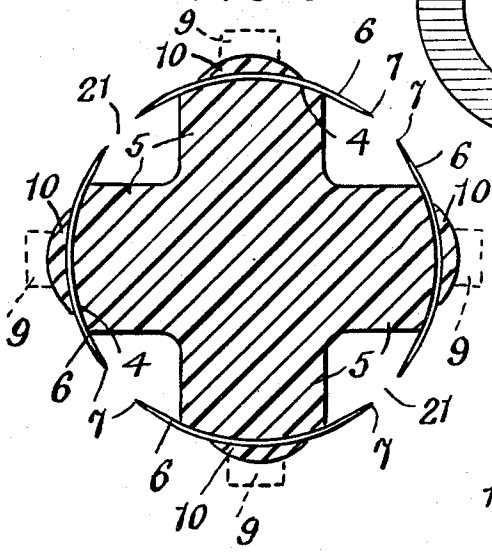


FIG. 6.

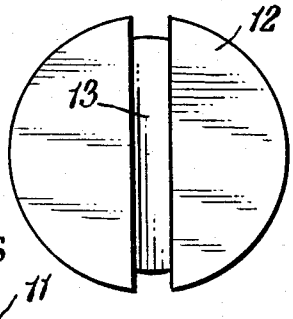
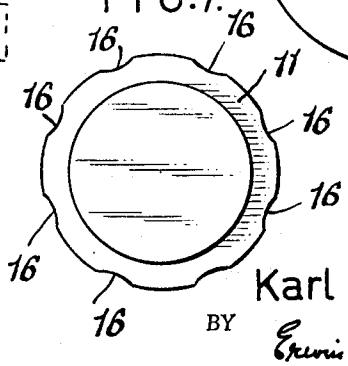


FIG. 7.



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FIG.8.

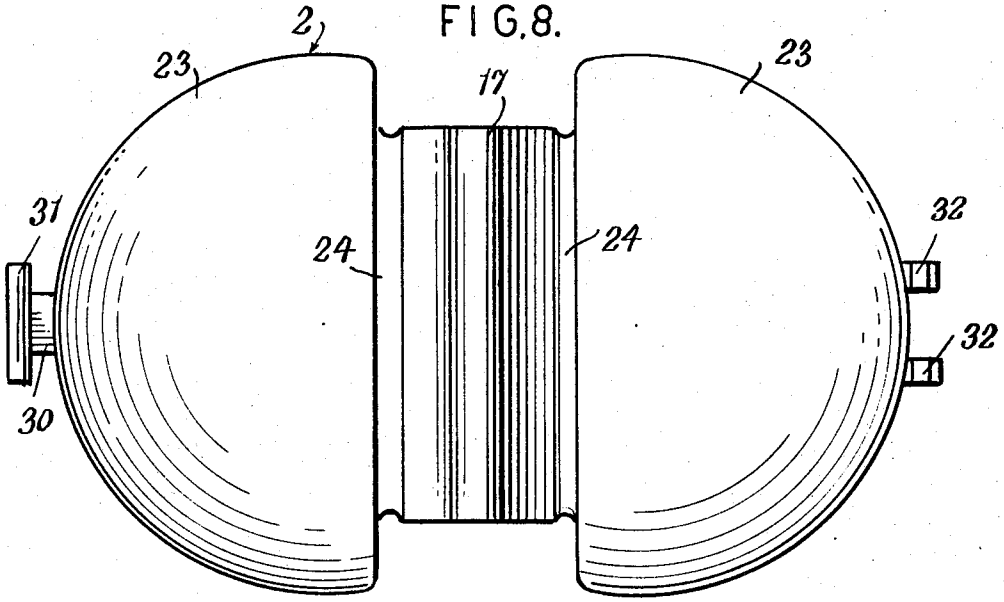


FIG.9.

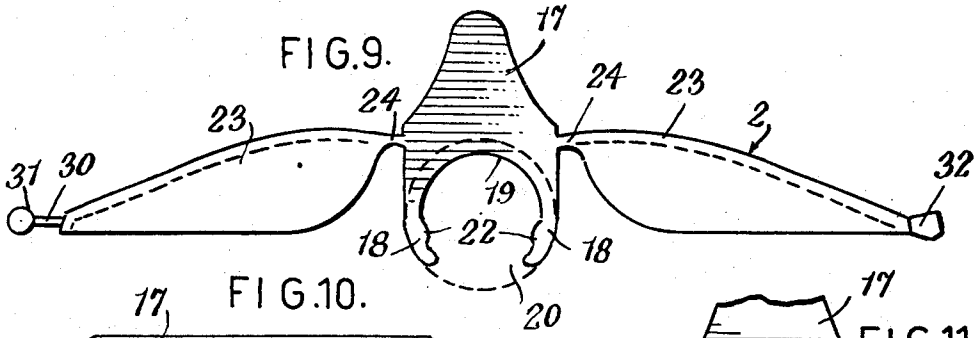


FIG.10.

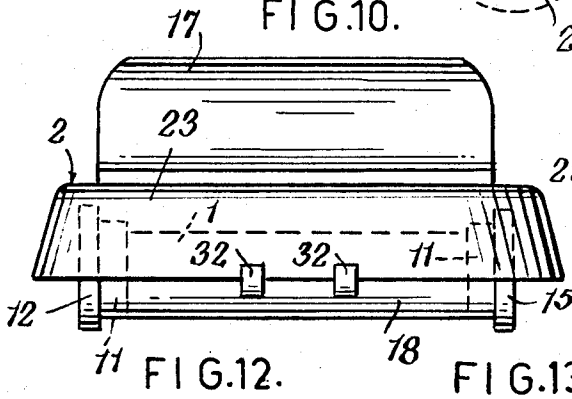


FIG.11.

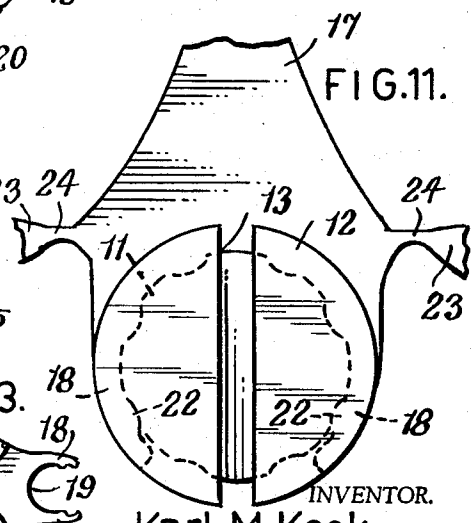


FIG.12.

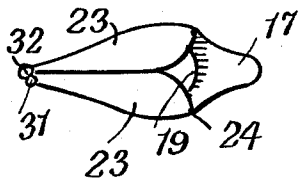
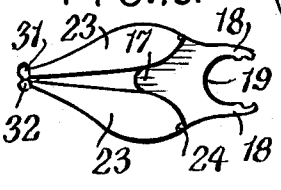


FIG.13.



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RAZOR HAVING A ROTATIVE BLADE HOLDER

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Filed Jan. 16, 1967, Ser. No. 609,534
4 Claims. (Cl. 30—40)

ABSTRACT OF THE DISCLOSURE

A razor having a carrier mounted for rotative adjustment in a groove or channel in a holder in a manner to expose the opposed cutting edges of a pair of blades in spaced relation. The carrier has a number of blades so that one after another can be brought into the exposed shaving position by the rotative adjustment of the carrier as required. The holder may be of a "clamshell" shape and it maintains the carrier in a groove or channel between a pair of jaws, the jaws and the carrier having co-operating parts to provide "click stops" for the rotatively-adjustable carrier to enable registration of the blades with a slot in the holder to thereby locate selected blades in shaving position. Means is provided to either permanently or removably mount the carrier in the holder, and parts of the holder are arranged to be disposed in protective position for the blades and carrier during periods of non-use of the razor.

This invention relates to razors and more particularly to a type in which a blade carrier, bearing a number of steel blades, is mounted for rotative adjustment in a holder in such a manner that opposing edges of one pair of a number of pairs of blades borne by the carrier can be brought into operative or cutting position when required.

It is an object of the invention to provide a razor in which a plurality of blades are provided on a carrier which can, if desired, be permanently mounted in a holder so that when the blades become dulled, the entire unit, consisting of the blades, their carrier and the holder, can be discarded.

It is an object of the invention to provide a razor constructed as above described, and in which the holder is provided with protective parts by which the blades and the carrier therefor will be covered and protected during periods of non-use of the razor.

With these and other objects to be hereinafter set forth in view, I have devised the arrangement of parts to be described and more particularly pointed out in the claims appended hereto.

In the accompanying drawings, wherein an illustrative embodiment of the invention is disclosed,

FIG. 1 is a plan view of a blade carrier constructed in accordance with the invention;

FIG. 2 is a top plan view of a form of blade adapted for use in the carrier.

FIG. 3 is a transverse sectional view, in an enlarged scale, of the blade shown in FIG. 2;

FIG. 4 is a face view of the washer that is fitted on one end of the blade carrier after the carrier is placed in the holder;

FIG. 5 is an enlarged sectional view, taken substantially on the line 5—5 of FIG. 1, looking in the direction of the arrows;

FIG. 6 is an end view of the blade carrier, looking in the direction of the arrow 6 in FIG. 1;

FIG. 7 is an end view of the blade carrier, looking in the direction of the arrow 7 in FIG. 1 and with the washer omitted;

FIG. 8 is a top plan view of the holder of the razor in its open or spread position;

FIG. 9 is a front elevational view of the holder;

FIG. 10 is an end view of the holder as seen from the right of FIG. 8;

FIG. 11 is an enlarged view of an end portion of the holder, with the blade carrier in position therein;

FIG. 12 shows the holder in a closed, protective position, and

FIG. 13 shows the holder in its shaving position, but with the blade carrier omitted.

Referring to the drawings, the razor shown therein is composed of two main elements, namely, a blade carrier 1 and a holder or handle member generally indicated at 2. The blade carrier 1 is adapted to be mounted in a groove or channel in the holder 2 for rotative adjustment therein to thereby locate the edge portions of two of the blades, which it carries, in registration with a slot opening in the holder, and with the edges of such blades in an exposed position for shaving.

The parts of the razor may, if desired, be composed of plastic material and the blade carrier may be permanently mounted in the groove or channel of the holder so that when all of the edges of the blades borne by the carrier become dulled, the carrier and its holder may be discarded as a unit. As an alternative, the carrier and its blades may be removed from the holder and a new carrier and blades inserted therein.

The carrier includes a central, elongated body portion 3 which, as shown in the cross sectional view in FIG. 5, is cross shaped, the same thus having four radial arms 5, each of which is provided at its outer extremity with a curved surface or seat 4 for the reception of a blade 6. Such a blade is shown in FIG. 2, the same having opposite cutting edges 7 and provided along its longitudinal center line with four holes 8. The blade may be flexible and transversely curved, as shown in FIG. 3 or it might be flat and capable of being flexed into a required curvature by being pressed against the seat 4. Four of the blades, providing eight cutting edges, are carried by the carrier 1 as will be plainly seen in FIG. 5.

The ends of the arms 5 of the carrier are formed with integral studs 9, which fit through the holes 8 in the blade 6, and after the blades are fitted on these studs, the studs are flattened or mushroom headed over the blades, as shown at 10, to thereby firmly and permanently attach the blades to the carrier 1. In FIG. 1, the studs are shown in the upper portion of the view, as being headed over the blades as above described, the lower studs being shown prior to their being headed. Other means, such as pins, screws, dowels, etc. can be used to secure blades to carrier.

At each of its ends, the body portion 3 of the blade carrier is formed with an integral stepped disk portion 11*a* said portion including a smaller diameter part 11. At one of the ends of the carrier is provided a larger diameter part 12 on the disk 11*a*, this part having a transverse slot 13 (FIG. 6) for engagement by a coin, finger-nail or any thin implement and by which the carrier can be rotatively adjusted in its holder in a manner to be described. At the opposite end of the carrier, the disk portion 11 there located has a small diameter extension 14, around which a washer or annulus 15, shown in FIG. 4, is adhesively or fusibly held after the carrier has been placed in its holder 2 to thereby maintain the carrier in the holder.

The disk portions 11 are each provided with a plurality of peripheral recesses or notches 16, clearly shown in FIG. 7, for engaging with parts 22 in the holder for holding the carrier in selected rotative positions in the holder.

The holder 2 is shown in detail in FIGS. 8 to 13. The same is preferably, but not necessarily, composed of plastic and it includes a central spine 17 formed with a pair or jaws 18, defining a substantially cylindrical groove or

channel **19** into which the body portion and parts **11** of the disks thereon of the blade carrier **1** are rotatively fitted. A slot opening **20** is provided between the jaws **18** and in this opening is disposed portions of the cutting edges of two of the blades **6**, said exposed edges being spaced apart as indicated by the spacing shown at **21** in FIG. 5. It will be apparent that by the rotative adjustment of the blade carrier within the holder **2**, the edges of any of the blades can be exposed at the slot **20** for application against the skin for the shaving operation.

Provided on the inside surface of each of the jaws **18** is a rib **22** and these ribs are adapted to engage with any of the recesses or notches **16** in the carrier parts **11** so as to provide so-called "click stops" for the carrier to hold the same in any desired position. That is to say, the carrier can be rotatively moved to either locate the edges of the blades in an exposed cutting position at the slot opening **20** or the carrier may be rotatively adjusted so that no cutting edges of the blades within the holder will be exposed and the edges will thus be protected. The flexibility of the jaws **18** is sufficient to permit the securement of the results above mentioned.

Extending laterally and integrally from the spine **17** of the holder are two wings shown at **23**. Said wings are concavo-convex or of the so-called "clam-shell" formation and they are connected to the spine **17** by means of integral thin hinge elements or webs **24** on which the wings are pivotal in a manner to bring them into a position where they cover the jaws **18** and the blade carrier mounted therein, as shown in FIG. 12. In this position, the razor is inoperative, and the carrier and its blade is protected, so that the razor can be carried in the pocket or purse. The wings may be turned inside out or reversed when it is desired to use the razor, thus bringing the wings into the position shown in FIG. 13, wherein the jaws and the carrier held thereby are exposed. In FIG. 13, the carrier has been omitted. One of the wings **23** has a projecting tab **30** provided at its end with a cross piece **31**. The other wing has spaced lugs **32** on its end. These cooperating fastening elements enable the wings to be held together in either of the positions shown in FIGS. 12 and 13.

From the foregoing, the operation of the razor will be apparent. By the provision of four blades, the carrier, when rotated, can bring the cutting edges of selected blades to be registered with the slot **20** in the holder **2** so that such edges will be exposed and ready for use. When the blades become dulled, the carrier can be rotated by the engagement of a coin or other implement with the slot **13** to bring the edges of other of the blades into registry with the slot **20** and in readiness for use.

The blade carrier **1** is placed in the groove or channel **19** by being slid endwisely therein before the washer or annulus **15** is applied to the part **14** of the carrier. After the carrier is inserted in the holder as above described, the washer is applied either adhesively or fusibly or otherwise, to thereby maintain the carrier permanently yet rotatably in the holder. As an alternative, the washer or annulus **15** can be removably fitted on the carrier, such as by being threadably or otherwise attached, so that by its removal, when the blades become dulled, another carrier can be fitted in the holder.

The razor is intended for use by both sexes, but may be used principally by women. The arrangement of the blades is such that the razor may be used for "dry" shaving, but its preferred use will be with a shaving soap or cream. When all of the eight cutting edges provided on the four blades become dulled by use, the entire unit, consisting of the blades, carrier and holder can be discarded, since it may be economically made and sold, and principally of plastic materials.

While I have herein shown a certain type of so-called "clam-shell" holder, the shape and construction of the blade carrier is such that it can be readily used in other types of holders as will be evident to those skilled in this art.

What I claim is:

1. A razor comprising, a blade carrier having a body portion of the cross-sectional shape of a cross, the body portion having a plurality of radial arms, each of said arms having a blade seat at its extremity, a blade seated on each seat, the blade having spaced holes, the arms having headed studs projecting from their seats and extended from the seats and through the holes in the blades to thereby hold the blades against the seats, the body portion being provided at each of its ends with a stepped disk, each disk having a portion formed with peripheral recesses, one of the disks having a slot for engagement by an element to rotatively adjust the blade carrier in a holder, a holder having a central part provided with a groove in which the carrier is rotatively adjustable, the interior of the groove having ribs for selective engagement with the recesses in the disks on the carrier, the holder having hinged wings projecting laterally from its central grooved part, the wings being foldable to either cover and protect the grooved part and the carrier mounted therein or foldable to expose the groove and its carrier.

2. A razor according to claim **1**, wherein the wings are provided with fastening elements by means of which the wings can be held in either the groove-covering or groove-exposing position.

3. A razor comprising, a holder having a groove, said groove being provided with a slot opening, a rotatively adjustable blade carrier mounted in the groove, said carrier having a plurality of peripherally mounted blades and adapted by its rotative adjustment in the holder to have the cutting edges of any of the blades registered with the slot opening to thereby locate such edges in shaving position, the groove in the holder being defined by a pair of jaws, the jaws being internally ribbed, the blade carrier having disks at its opposite ends, the disks having recesses in their peripheries for selective engagement with the ribs in the jaws, and the blades being mounted on the carrier between the disks.

4. A holder for a rotatably adjustable blade carrier comprising, a central body part having a groove in which a blade carrier is rotatably adjustable, the groove having a slot opening in which the cutting edges of blades carried by the carrier may be exposed by the rotative adjustment of the carrier in the groove, the inner surface of the groove being ribbed for engagement with complementary parts on the carrier to hold the carrier in various selected positions of adjustment relatively to the holder, the body part including a pair of hinged wings projecting laterally from the central part of the holder, the wings being foldable to cause them to either fit over and cover the groove and protect the carrier mounted therein or foldable to expose said groove and carrier.

References Cited

UNITED STATES PATENTS

1,007,847	11/1911	Carlson	30—40
1,264,605	4/1918	Bonham	30—42
1,338,305	4/1920	Jones	30—42
2,024,710	12/1935	Weiger	30—40
2,636,263	4/1953	Fennelly	30—40
2,858,607	11/1958	Kane	30—43.6
2,952,910	9/1960	Meohas	30—53 X
3,137,940	6/1964	Curci	30—40

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