

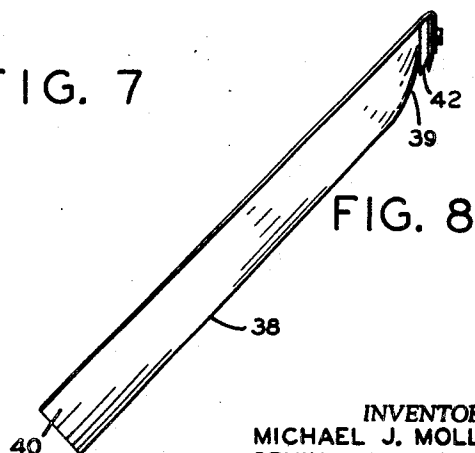
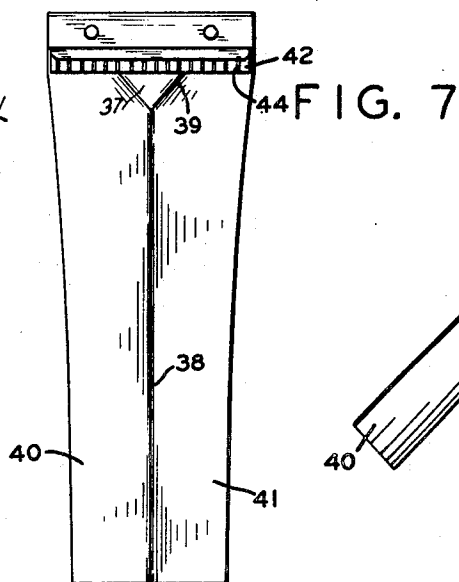
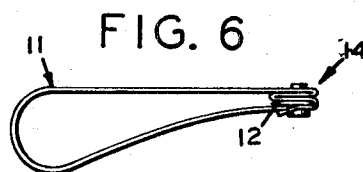
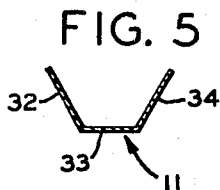
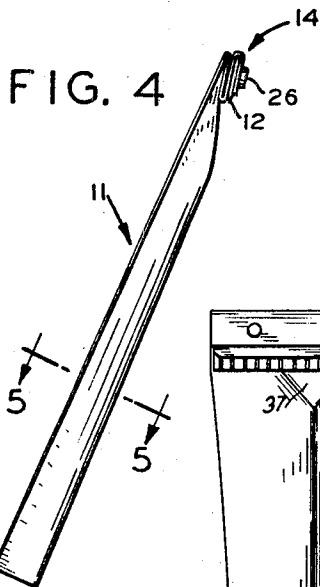
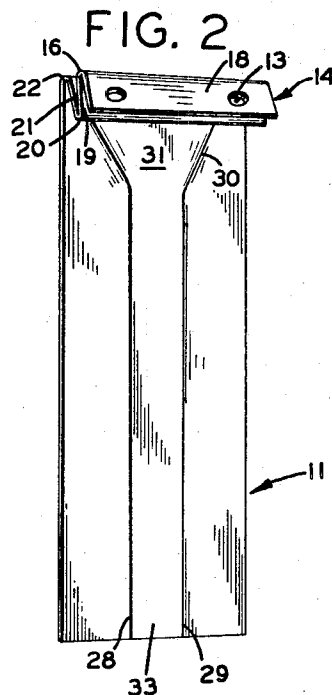
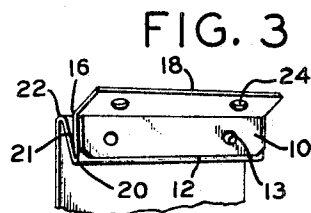
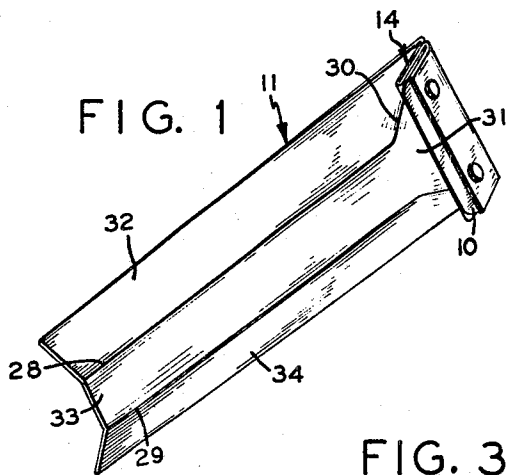
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DISPOSABLE RAZOR

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3,492,723

DISPOSABLE RAZOR

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2 Claims

ABSTRACT OF THE DISCLOSURE

A disposable safety razor provided with a narrow blade and a combined razor head and handle formed from an elongated strip of stiff, bendable cardboard or other sheet material and having one transverse fold line at one end thereof forming the razor head and the handle extending from the head, and means for imparting rigidity to the handle during shaving which includes at least one longitudinal fold line extending through the handle to allow the sections so formed by said fold line to be displaced to an angular relation to each other.

This invention relates to disposable safety razors which can be produced at a sufficiently low cost that they can be discarded after it has been used for a single shave or for a number of shaves and which can be folded into a small space prior to use.

The razor of the present invention is especially suited for travelers who wish to travel as lightly as possible and who desire to avoid extensive preparation for out-of-town trips, many of which arise on very short notice. It is also most suitable for use in hospitals.

An important object of the invention is to provide a novel and inexpensive disposable safety razor wherein there is a novel structural connection between the head and the handle, securing the head in the most desired angular position relative to the handle ideally between about 15° and 30° but less than 45° and also wherein the handle itself is structurally reinforced against bending forces acting transversely of the handle. In its simplest form, the razor of the present invention is made from flexible cardboard of the kind used in disposable match books which will bend almost without effect, but which when folded as herein described provides a structural strength all out of proportion to what would be expected from thin cardboard.

SUMMARY OF THE INVENTION

The razor including the handle and the head, which receives the blade in permanently secured relation, is formed from a strip of relatively stiff, bendable material, such as cardboard, fiberboard, plastic sheeting, or the like, which has one or more fold lines at one end to form the head. The balance of the strip forms the handle and since the material is such that it is readily bendable under normal conditions, the handle is specially reinforced against bending stresses acting transversely of the handle by providing one or more longitudinal weakened or fold lines extending almost to the head, and which when the handle is bent along these lines, divides the handle into angular sections having considerable resistance to bending. Of particular importance are two diagonal fold lines extending from the upper end of the longitudinal fold line or lines upwardly and outwardly which retain the head at the desired angle. This structural reinforcement is achieved only while the opposed longitudinal edges of the handle are held to give a handle a channel shaped configuration. Before folding the handle along these weakened lines, however, it is readily bent. The head is formed by crease lines which form a blade seat and a top guard for the

blade. The several laminae are secured together by any suitable fastening means.

In the drawings:

FIG. 1 is a perspective view of a disposable razor embodying the present invention;

FIG. 2 is a perspective view of the strip or blank used in forming the razor head and handle;

FIG. 3 shows the positioning of the blade;

FIG. 4 is a side elevation of the razor ready for shaving;

FIG. 5 is a section on line 5—5 of FIG. 4;

FIG. 6 shows a method of folding the razor prior to shipping;

FIG. 7 shows a modification in the handle and with a separately formed blade seat;

FIG. 8 is a side elevation thereof.

The first embodiment of the invention has means for supporting a blade 10 at a desired angle to a handle 11, said blade having a single cutting edge 12 and is received in a head 14. The blade can be made from the usual cutlery steel, is of conventional blade length, is relatively narrow and has holes 13 therein.

The combined blade support or head 14 and handle 11 can be formed in two separate sections but the single piece construction shown in FIG. 1 is preferred since it is less expensive than the two piece construction and it is an object of the invention to provide a razor which an economy-minded person will not hesitate to discard after it has been used a few times. It is formed from an elongated strip of flexible material, generally rectangular in shape. The strip or blank can be made from relatively stiff, thin cardboard, plastic sheet material or even the metal. In order to keep the cost at its lowest level, consistent with superior performance, the stiff cardboard is preferred. Added stiffness may be imparted to the cardboard by applying a stiffening coating composition to it on one or both sides. The finished product may, prior to use, be bent to a curved configuration with the free end of the handle slipped into a pocket between the blade and the blade guard. As shown in FIG. 6, this assures against the user accidentally cutting himself. If it is desired to fold the handle perfectly flat prior to use, the looped portion can be creased at its center without reducing the structural strength during its normal use. This arrangement makes the razor more suitable for sale in vending machines. The strip has a plurality of transverse lines of fold forming superimposed panels, the fold lines including a first fold line 16 forming a top guard 18 for the blade. This guard section is of a width slightly less than the width of the blade. A blade seat 19 (FIG. 2) supports the blade, and the second fold line 20 defines the forward edge of the blade seat. A narrow panel 21 extends rearwardly to a third fold line 22 and completes the head of the razor with the handle extending therefrom. The several layers forming the head have holes 24 aligned with the hole 13 in the blade and the laminae are secured together by any suitable fasteners such as headed rivets or staples 26. The rivets can be formed from metal or plastic materials. The latter can be heat-formed in place since it is preferable to make a permanent connection. Adhesive may also be used to secure the laminae, including the blade, together.

The handle construction with its structural reinforcement formed by a number of simple fold lines is of special importance and it includes the formation of at least one longitudinal weakened or fold line. In the first embodiment, this conversion from a flat strip of flexible cardboard to a structural member is achieved by forming two fold lines 28 and 29 and at their upper ends these lines diverge outwardly as shown at 30, and form a substantially triangular section 31. Prior to use the handle

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may be generally flat but when folded along the weakened lines and the marginal section lying compressed between the fingers outside the fold lines 28 and 29 somewhat, there is formed a channel configuration with the three sections 32, 33 and 34 providing a convenient handle of considerable strength against bending stresses acting transversely. A more important consideration is the means for securing the face of the blade seat and the blade thereon at an angle of between 15 and 30° to the plane of the handle and this is achieved by the diagonal fold lines 30.

The razor may be dispensed from a vending machine and in this case the free or lower end of the handle bent to curved form and inserted under the blade guard as shown in FIG. 6. This causes the folded device to resemble a book of matches.

In the modified construction of FIGS. 7 and 8, the handle has only a single line of fold 38 and at its upper end the fold line diverges at 39 to generally Y shape forming a triangular section 37 forming the same structural reinforcement between the head and the handle as in the first embodiment. This construction also provides considerable structural strength and the two handle sections 40 and 41, fit conveniently into the hand of the user. This construction also shows a separately formed blade seat 42 with the free edge formed with comb slots 44. The separate blade seat permits the use of a heavier plastic plate than the cardboard. While this provides a more acceptable item, commercially, the added structural stability is not necessary since the metal blade is stiff enough for most purposes.

It was earlier mentioned, the added stiffness can be imparted to the cardboard by coating one of both sides with a waterproof coating composition. If this is done, it will increase the life of the razor unit since washing the razor under a faucet will not affect the grain of the paper and improved technique in blade sharpening gives a fair number of shaves. This improvement would make the razor more acceptable for military personnel.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A disposable safety razor supporting an elongated, relatively narrow blade with a cutting edge and including

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a combined razor head and handle formed from an elongated strip of relatively stiff, bendable cardboard or the like of generally rectangular shape and having three superimposed panels forming the razor head, the intermediate panel providing a blade seat and the upper panel forming a blade guard, with the lower panel connecting the two upper panels of the razor head with said handle and securing means extending through the blade and head, the cutting edge of the blade extending beyond the free edge of the blade guard and the seat extending beyond said cutting edge, and means for imparting rigidity to the handle during shaving and for retaining the blade seat and blade at less than right angle to the plane of the handle, said means including two longitudinal fold lines extending through the handle upwardly to a point spaced from the head to allow the sections so formed by said fold line to be displaced to an angular relation to each other, and diagonal fold lines extending from the upper ends of said longitudinal fold lines to the head.

2. The structure of claim 1 wherein said diagonal fold lines extend outwardly to the edges of the strip and define a generally triangular section below the head.

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