Feb. 23, 1971 E. E. POMFRET 3,564,710

SAFETY RAZORS

Filed June 26, 1968 2 Sheets-Sheet 1

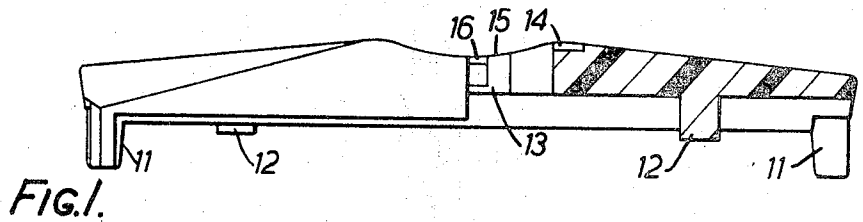


FIG. 1.

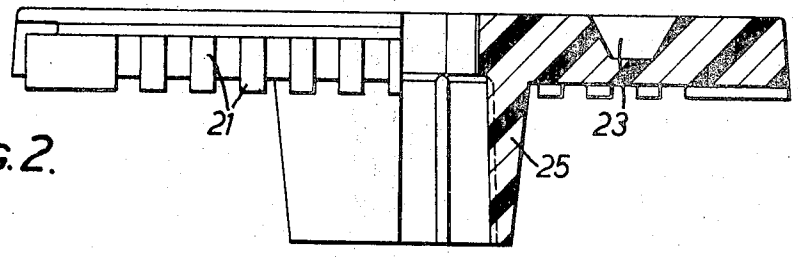


FIG. 2.

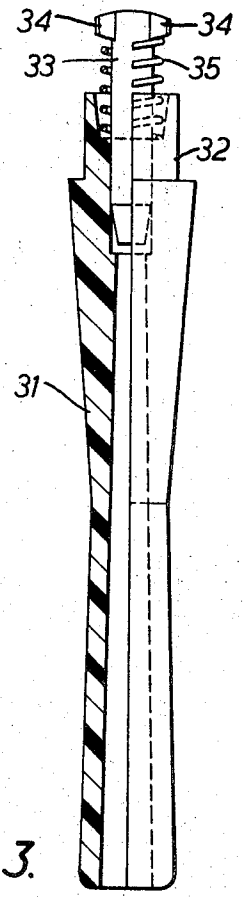


FIG. 3.

INVENTOR
Edward E. Pomfret
BY Philip Colman &
Austin J. Bralla
ATTORNEYS

Feb. 23, 1971 E. E. POMFRET 3,564,710

SAFETY RAZORS

Filed June 26, 1968 2 Sheets-Sheet 2

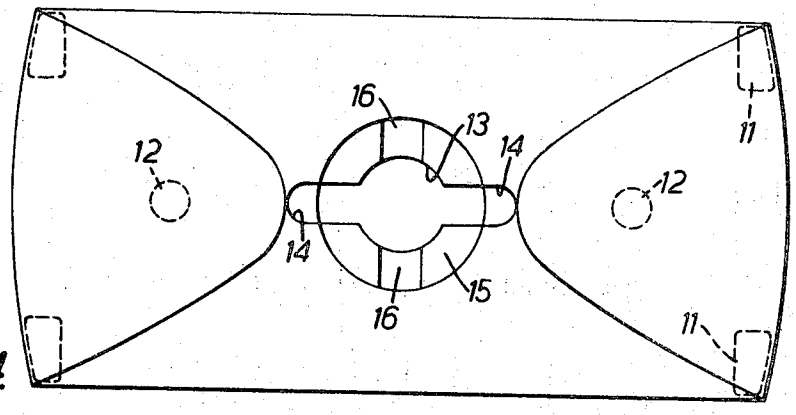


FIG. 4.

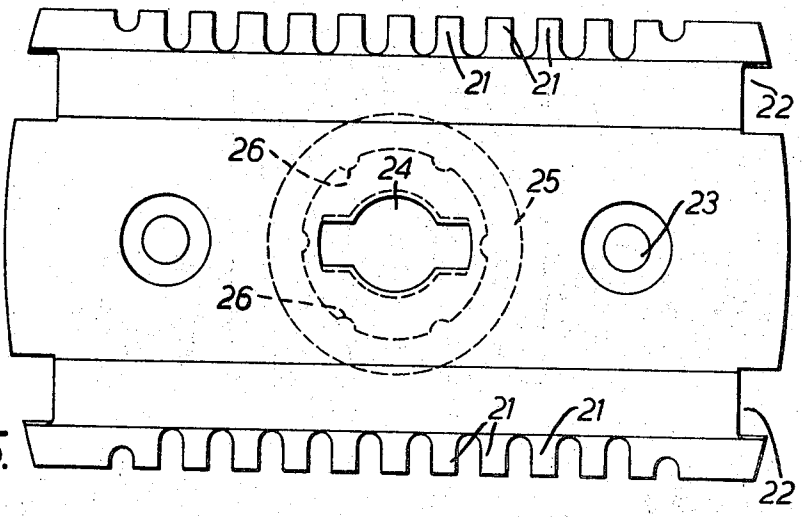


FIG. 5.

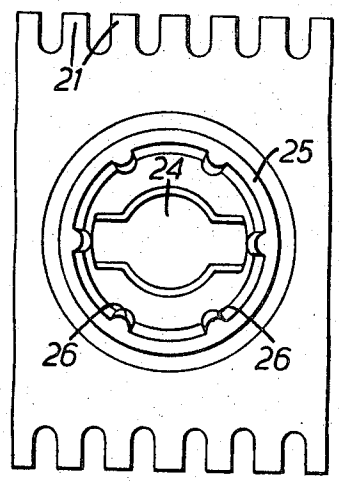


FIG. 6.

INVENTOR
Edward E. Pomfret
BY Philip Colman & Epstein J. Bratlie
ATTORNEYS

United States Patent Office 3,564,710 Patented Feb. 23, 1971

3,564,710

SAFETY RAZORS

Edward Eric Pomfret, Tring, England, assignor to The Gillette Company, Boston, Mass., a corporation of Delaware

Filed June 26, 1968, Ser. No. 740,126
Int. Cl. B26b 21/18
U.S. Cl. 30—68 3 Claims

ABSTRACT OF THE DISCLOSURE

A safety razor comprising three separable parts, namely a handle, a guard and a cap, the handle including a peg which is surrounded by helical coil compression spring and has a non-circular head, the head being adapted to pass through an aperture in the guard and a registering non-circular aperture in the cap, partial rotation of the handle when the parts have been thus assembled serving to lock the parts against axial separation, the spring then urging the guard towards the cap so as to clamp a blade inserted between guard and cap.

This invention relates to safety razors and provides an improved construction thereof, particularly intended for manufacture from synthetic resin plastics material.

A safety razor in accordance with the invention comprises three separable parts, namely a handle, a guard and a cap, the handle including a peg which is surrounded by a helical coil compression spring and has a non-circular head, the head being adapted to pass through an aperture in the guard and a registering non-circular aperture in the cap, partial rotation of the handle when the parts have been thus assembled serving to lock the parts against axial separation, the spring then urging the guard towards the cap so as to clamp a blade inserted between guard and cap.

A particular and at present preferred form of the razor of the invention is shown in the accompanying drawings, in which:

FIG. 1, 2 and 3 are side views, partly in section, of the cap, guard and handle respectively of the razor, FIG. 3 being shown on a scale half that of FIGS. 1 and 2;

FIGS. 4 and 5 are plan views of the cap and guard respectively, and

FIG. 6 is a fragmentary underside plan view of the guard.

The razor illustrated is adapted to be used with double-edged blades (not illustrated) of conventional form. It comprises three separate members: a cap (FIGS. 1 and 4), a guard (FIGS. 2, 5 and 6) and a handle (FIG. 3). The cap and the guard are one piece unitary moldings of plastics material, while the handle is composed of two separately molded plastic members and a steel spring, permanently secured together.

The cap (FIGS. 1 and 4) has a transversely curved bottom surface, from which there project downwardly four corner lugs **11** adapted to engage in recesses formed at the corners of the blade, thus accurately locating the blade relative to the cap. Additionally, the cap illustrated has two downwardly projecting spigots **12**, adapted to pass through apertures in the blade and assist in location. The cap is formed with a central aperture of "double keyhole" form, comprising a circular central portion **13** and two diametrically opposite extensions **14**. The upper surface of the cap is so shaped that the parts **15** immediately surrounding the central aperture **13** slope downwardly from the edges of the extension apertures **14** to a pair of recesses **16**, lying on a line perpendicular to that joining the recesses **14**.

The guard (FIGS. 2, 5 and 6) is formed along its longitudinal edges with teeth **21** and adjacent each corner is formed with a recess **22**, which receives one of the lugs **11** of the cap. The upper surface of the guard is curved transversely, to match the curvature of the undersurface of the cap, and is formed with a pair of tapered sockets **23** to receive the spigots **12** of the cap. The guard is formed with a central aperture **24** of double keyhole form and on the underside of the guard this aperture is surrounded by a downwardly projecting sleeve **25**. The bore of this sleeve tapers upwardly and is formed with six equally spaced guide ribs **26**.

The handle (FIG. 3) comprises a hand grip portion **31**, having at its upper end a spigot **32** of reduced diameter adapted to fit within the sleeve **25** of the guard. A separately formed plastic peg **33**, which is a forced fit in a bore formed in the hand grip portion **31**, projects from the upper end of the handle and is formed at its upper end with a head constituted by two diametrically opposite projecting wings **34**. The stem of the peg **33** is surrounded by a helical coil compression spring **35**, which is retained to the other parts of the handle by the head of the peg and the interengagement of the hand grip portion **31** and the peg **33**.

The razor is most conveniently assembled with the parts inverted from the position shown. A blade is placed against the underside of the cap, being located by the corner lugs **11** and spigots **12** of the latter. The guard is then applied to the other face of the blade, the engagement of corner lugs **11** and the spigots **12** of the cap with the recess **22** and the sockets **23** of the guard correctly locating the latter relative to the blade and cap. The peg **33** of the handle is then passed through the apertures **24** and **14** of the guard and cap, the wings **34** of the peg passing through the aligned radial extensions of these apertures and the spigot **32** of the handle locating in the bore of the sleeve **25**. Sufficient pressure is applied to cause the head of the peg to pass completely through the cap, thereby clamping the blade between the cooperating curved surfaces of the cap and guard and compressing the spring **35** between the handle and the guard. A quarter turn of the handle in either direction relative to the cap blade and guard brings the wings **34** of the peg into register with the recesses **16** in the cap and the thrust of spring **35** causes the wings to enter these recesses and hold the parts locked against further rotation. The downward slope of the recesses **16** in conjunction with the force exerted by spring **35** assists in the rotational movement and ensures that the parts will be correctly locked together. To remove a blade, in order to clean or exchange it, it is only necessary to move the handle slightly towards the cap, so as to disengage the wings **34** from the recesses **16**, and to give a quarter turn to the handle, thereby bringing the wings into register with the extension apertures **14**.

I claim:

1. A safety razor comprising three separable parts, namely a handle, a guard and a cap, the handle including a peg having a non-circular head, a helical compression spring surrounding the peg and held captive on the handle by the head, the head being adapted to pass through an aperture in the guard and a registering non-circular aperture in the cap, partial rotation of the handle when the parts have been thus assembled serving to lock the parts against axial separation, the spring then urging the guard towards the cap so as to clamp a blade inserted between guard and cap.

2. A safety razor in accordance with claim **1** in which the head of the peg comprises projecting wings, the aperture in the cap including corresponding extensions to afford passage to the wings and the outer surface of the

cap being formed, intermediate the said extension of the aperture therein, with recesses in which the wings locate when the parts are in assembled condition.

3. A safety razor in accordance with claim 2 in which the portions of the outer surface of the cap lying between the said extensions of the aperture therein and the said recesses are so sloped that the force exerted by the spring tends to rotate the wings into register with the recesses.

References Cited

UNITED STATES PATENTS

2,011,151	8/1935	Lind	30—68
2,828,540	4/1958	Harrah	30—66

ANDREW R. JUHASZ, Primary Examiner

G. F. GRAFEL, Assistant Examiner