PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in Safety Razors

We, THOMAS WARD & SONS LIMITED, a British Company, of Wardonia Buildings, Suez Street, Warrington, in the County of Lancaster (Assignees of ROGER LEVY-GRUNWALD, a French Citizen, of 23, Rue des Mathurins-VIII^E, Paris, France), do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to an improved safety razor of the type having a guard plate between which and the razor back-plate or body a blade is clamped and in which the guard plate has a mushroom headed spindle engaging spring jaws displaceably mounted in the handle of the razor.

In razors of this type the jaws mounted on a displaceable spindle in the handle have been arranged to move radially outward away from the mushroom head by reason of their natural elasticity, as the spindle is displaced axially of the handle, whereby the blade was automatically released on displacement of the sleeve element carrying them relatively to the handle.

A razor is also known in which a mushroom head on the guard plate is split to form jaws, the natural elasticity of which tends to move them outwards so that the jaws can snap behind a fixed abutment on the handle. In this case it is not possible to provide a spring clamping of the guard plate to the back-plate and obviously as the jaws get worn the guard plate will become loose and the razor dangerous in use.

According to the present invention the jaws are arranged to move inwardly to grip the mushroom head by their natural elasticity and are mounted on a spring controlled sleeve capable of limited displacement within the handle to hold the guard plate firmly clamped with the blade against the back plate, an internal plunger being provided adapted to engage inclined surfaces on the jaws to move these apart to release the blade.

The invention is more particularly described with reference to the accompanying drawings in which:—

Figure 1 is a sectional side elevation of the device.

Figure 2 is a detail sectional view showing the parts in the position of release.

The razor comprises a handle 1 of a tubular form having a back plate 2 between which and a guard plate 3 a razor blade 4 is clamped, which razor blade has the usual holes for indexing upon the central boss 5 of the guard plate 3, and upon two or more pins on the guard plate 3. The central boss 5 integral with the guard plate 3 has a pin 6, the mushroom head 7 of which is adapted to engage behind two or more spring jaws 8 having bevelled inside surfaces 14, which jaws are carried on a sleeve 9 disposed within the handle 1 of the razor.

As the spring jaws 8 are arranged at the end of the sleeve 9 they are, together with this, thrust downwards by the action of a spring 15, disposed between the socket 17 attached to the back-plate 2, and a flange 18 on the sleeve 9 so that they come into position inside the narrowed part 16 of the socket 17 which prevents these jaws 8 spreading out. A spring 12 inserted between the flange 18 on the sleeve 9 and a flange 19 on a plunger 10 having a bevelled end 13, holds this plunger firmly against a stop surface on a flange 20 of the handle, in which position the guard 3 is held firmly on the back plate 2 with the blade 4 clamped therebetween by the engagement of the head 7 between the spring jaws 8, which in their turn are held in the narrowed part 16 of the socket 17 by the action of the spring 15.

When it is desired to withdraw the blade, the operation is as follows:—

By gripping the handle 1 between the fingers and pushing in the end 11 of the plunger 10, with the thumb this is made to slide inside the sleeve 9 and compress spring 12. Further displacement causes the bevelled end 13 of the plunger 10 to abut against the bevelled surfaces 14 of the sleeve 9 and move this against the spring 15 to bring the jaws 8 out of the narrow part of the holder, while still

further movement allows the elastic jaws 8 to spread out and disengage from the upper part of the mushroom head 7 which, as a result, becomes freed. With the parts in the position shown in Figure 2 the guard plate 3 and blade 4 are freed and can be removed. The jaws are held in their open position by the plunger 10 and due to their frictional engagement with the end 13 of the plunger 10 the latter is thereby prevented from moving outwards by the pressure of spring 12.

To render the razor again ready for use, it is sufficient merely to engage the blade 4 on the boss 5 of the guard plate 3, and to place the mushroom head between the elastic jaws 8; then pressing upon the guard plate 3, the plunger 10 is pushed back downwards by means of the mushroom head 7. As soon as the bevelled end 13 of the said plunger has passed the bevelled part 14 of the elastic jaws 8, the latter contract again over the mushroom head 7. At this point, the spring 15 comes into play and causes the return of the sleeve 9 and the jaws 8 to replace these in the narrow part of the handle. At the same time, the spring 12 expands and pushes back the plunger 10 towards the outside. The razor is thus again in a position for use.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A safety razor of the type in which a guard plate between which and the razor back plate a blade is clamped, has a mushroom headed spindle engaging spring jaws displaceably mounted in the handle of the razor characterized by the feature that the jaws move inwardly to grip the mushroom head by their natural elasticity and are mounted on a spring-controlled sleeve capable of limited displacement within the handle to hold the guard plate firmly clamped with the blade against the backplate, an internal plunger with a bevelled end being provided adapted to engage bevelled surfaces on the jaws to move these apart to release the blade.

2. A safety razor as claimed in Claim 1, in which the plunger has a limited motion in the handle relatively to the sleeve against a light spring, a larger displacement causing it to displace this sleeve against a second spring until the jaws are moved past a contraction in the end of the handle when the plunger can move the jaws radially outwards to release the blade.

3. A safety razor constructed particularly as described with reference to the accompanying drawings.

Dated this 18th day of June, 1937.

W. P. THOMPSON & Co.,
12, Church Street, Liverpool,
Chartered Patent Agents.

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