SAFETY RAZOR SHAVE COUNTING MEANS AND BLADE EXPOSURE INDICA MEANS
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This invention relates primarily to safety razors and to means mounted thereon for counting the number of shaving marks effected by means of a single razor blade.

With the advent of modern multiple-use blades of stainless steel and other alloys capable of retaining a sharp edge for a plurality of successive shaving uses, it becomes desirable to provide a record of the extent of useage, that is, the number of shaving marks effected by means of a single blade.

It is accordingly the principal object of this invention to provide such shaving-counting means for use on a conventional safety razor blade holder, commonly designated a safety razor.

A corollary object of the invention is to provide such counting device which may be incorporated into a conventional safety razor without substantial modification of its existing blade engaging, holding and adjusting mechanisms.

More specifically, but without limitation of the scope of the invention, it is intended to apply the counting device herein described and claimed to a Gillette-type safety razor as illustrated, for example, in Patent Nos. 2,848,806 and 2,848,807, both issued to The Gillette Company on August 26, 1958. The invention is not limited to the particular safety razor designs shown in these patents, nor to Gillette razors generally, but may be applied to other forms and makes of safety razors and other razors made by other companies.

It is therefore a further object of the present invention to provide a safety razor having a counting means for counting the number of shaving marks obtained from a single blade, a blade exposure indicia means for indicating the degree of exposure of the edge of said blade, and calibrated means for use in conjunction with said shaving-counting means and said blade exposure indicia means whereby said calibration means simultaneously indicates the degree of blade exposure and the accrued number of shaving marks obtained from the blade in use.

The invention is illustrated in the accompanying drawings, in which:

FIGURE 1 is a side view of a safety razor having the counting means of the present invention incorporated therein.

FIGURE 2 is a fragmentary section therethrough on the line 2—2 of FIGURE 1.

FIGURE 3 is a transverse section on the line 3—3 of FIGURE 2.

FIGURE 4 is a fragmentary side view, with a portion of the actuating rack broken away.

FIGURE 5 is a perspective view of the ratchet spring element shown in FIGURE 2.

Referring now to the details of the invention as illustrated in the drawings, it will be understood that disclosed in FIGURE 1 is a safety razor 10 of the adjustable blade edge exposure type, said safety razor having a handle 12, an adjustable blade-clamping head 14, and a knob 16 which is mounted on said handle for operation of the clamping head. The operating means is not illustrated in the drawing, since it forms no part of the present invention.

Details of such operating means may be found in the patents above mentioned. It suffices here to say that knob 16 is connected by any conventional operating means to clamping head 14.

In this type of safety razor, adjusting means are provided for adjusting the exposure of the blade in order to control the closeness of its cutting action and hence of the shave. Once again, reference is made to the above mentioned patents for the details of such adjusting means. For present purposes, it suffices to say that the adjusting means are actuated by means of one or more knurled adjusting rings 18 mounted on handle 12.

This ring is concentrically disposed with respect to said handle, and it is free to rotate in either direction within a built-in range of angular movement. Stop means (not shown) are provided to prevent a full rotation in either direction.

Adjusting ring 18 has an enlarged knurled portion 18a which may be held between the fingers and a reduced collar portion 18b which is usually numerically or alphabetically calibrated. Indicator 20 on handle 12 is the index or reference point for numerals 18c on collar 18a. In the operation of safety razor 10, adjusting ring 18 is rotated to a selected setting with respect to indicator 20 in order to provide a selected adjustment of the blade. This is conventional.

The shave-counting means of the present invention includes a second knurled ring or counting ring 22 which is provided with an indicator 22a formed thereon. The counting ring is also mounted on handle 12, coaxially therewith and with the knurled adjusting ring 18. Indicator 22a is located immediately adjacent reduced collar portion 18b as an index or reference point relative to numerals 18b. It is an important feature of the present invention that only one set of numerals is herein provided for cooperation with both indicators 20 and 22a, in order that economy of manufacture, as well as an uncomplicated appearance, and simplicity of operation may be obtained.

Mounted within handle 12 and projecting outwardly therefrom through one or more openings 24 is a leaf spring 26. A sleeve 28 within handle 12 supports the leaf spring in relation to said opening or openings 24. The shape of spring 26 is best shown in FIGURE 5, but it will be understood that this particular shape is not critical. What is required, however, is that the spring be biased radially outwardly and that it be provided with a pair of ratchet-engaging protruberances 26a and 26b respectively. It is also important that each said protrubrance be located on a portion of the spring which is radically movable in either direction without causing corresponding movement of that portion of the spring on which the second protrubrance is formed. In other words, each protrubrance and the spring portion associated therewith are moveable and operable independently of the other protrubrance and spring portion with which the latter protrubrance is associated.

In effect, what is herein provided is a pair of bowed springs joined at a point or juncture designated 26c in FIGURE 5. The bent end portions 26a and 26b respectively, serve either as guide elements, movement-limiting elements, or both.

Spaced, longitudinally extending parallel grooves 30 are formed on the inner wall of knurled ring 22, as clearly appears in FIGURE 3. Spring-urged protruberance 26a is engageable with said grooves to effect selected settings relative to numerals 18c. Similar internal grooves are formed in the knurled adjusting ring 18, for engagement with spring-urged protruberance 26b.

This is for the purpose of setting adjusting ring 18 with respect to indicator 20. The action between each of the two spring-urged protruberances 26a and 26b and its respective internally grooved ring may be designated, for the purposes of this specification and the claims, a spring ratchet action.
In the operation of this device, the following manual steps are taken: Knurled adjusting ring \(18\) is rotated to a selected angular position relative to indicator \(20\), in order to adjust the exposure of the blade and thereby to adjust the closeness of the shave. Counting ring \(22\) is rotated until it reaches such position relative to the adjusting ring that indicator \(22a\) is situated opposite the first digit \(18c\). It is assumed that a new blade is now mounted in the clamping head, and the first shave effected by said blade is represented by the first digit among numerals \(18c\). Each time the blade is used the counting ring \(22\) is advanced another notch or groove \(30\), to the next digit in line. An accurate count is accordingly kept of the number of shaves for which a single blade is used.

Should it be desired to adjust the exposure of the blade without registering another shave on the counting device, or without changing the count generally, all that need be done is to engage the two rings simultaneously between the fingers and rotate both rings relative to indicator \(20\) but not relative to each other. The count reading will remain unchanged while the adjustment of the blade may be in the direction of either greater or lesser exposure.

The foregoing is illustrative of a preferred form of this invention, and it will be understood that modifications and variations may be incorporated therein without departing from the basic principles involved therein. Thus, for example, it is immaterial as to whether the adjustable clamping mechanism is situated in the handle or in the head of the safety razor, or whether the calibrated means of adjustment takes the form of a ring or disc, provided that such calibrated ring or disc is used cooperatively with separate index marks to simultaneously indicate the degree of blade clamping and thereby the degree of edge exposure, and the accrued number of shaves obtained from the blade in use.

What is claimed is:

1. A safety razor having blade exposure adjusting means and shave counting means associated therewith, said safety razor having a handle, an adjustable blade-clamping head mounted on said handle, a blade-clamping head adjusting ring rotatably mounted on said handle in concentric relation thereto, and a shave counting ring also rotatably mounted on said handle in concentric relation thereto, said rings adapted to be situated adjacent each other, each of said rings being rotatably movable and having a plurality of spaced longitudinally extending internal grooves formed therein in parallel relation to each other, said handle supporting a spring element having a pair of protuberances formed therein in spaced relation to each other, said protuberances being formed on radially outwardly biased portions of the spring for engagement, respectively, with the grooves of said rings, and calibrated means for determining the respective angular positions of said rings, the angular position of the adjusting ring indicating the adjustment setting of the clamping head, the angular position of the counting ring indicating the number of shaves effected per blade.

2. A shave counting means and a blade exposure in- dicta means for a safety razor having a handle and an adjustable blade-clamping head mounted on said handle, with means provided in the handle for variably tensioning the razor blade, such degree of tensioning being indicated by an alphabetically or numerically calibrated ring, said handle also being provided with means for counting the shaves obtained from said blade, the number of shaves being indicated by said calibrated ring; the said calibrated ring working cooperatively with said blade tensioning means and said shave counting means to simultaneously indicate the degree of blade tensioning, and thereby the degree of edge exposure, and the accrued number of shaves obtained from the blade in use.

References Cited by the Examiner

UNITED STATES PATENTS

1,445,452 2/1923 Schieren.
1,755,726 4/1930 Conill.
1,839,303 1/1932 Feiser.
1,966,193 7/1934 Weber.
2,106,587 1/1938 Bates et al.
2,325,729 8/1943 O'Mesley.
2,848,807 8/1958 Shnitzler et al. 30--60.5
2,885,993 5/1959 Murphy.
2,934,821 5/1960 Bailey et al. 30--60.5
2,952,911 9/1960 Shnitzler et al. 30--60.5

FOREIGN PATENTS

1,252,123 12/1960 France.

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