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**Datasheet for the decision  
of 3 April 2013**

**Case Number:** T 1396/09 - 3.2.07

**Application Number:** 04712616.4

**Publication Number:** 1599320

**IPC:** B26B 19/38, B26B 21/40

**Language of the proceedings:** EN

**Title of invention:**  
Safety razors

**Patent Proprietor:**  
The Gillette Company

**Opponent:**  
Eveready Battery Company, Inc.

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 56

**Keyword:**  
"Inventive step (all requests) - no"

**Decisions cited:**  
T 0113/82

**Catchword:**  
-



Case Number: T 1396/09 - 3.2.07

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.07  
of 3 April 2013

**Appellant:** Eveready Battery Company, Inc.  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
on 23 April 2009 concerning maintenance of the  
European patent No. 1599320 in amended form.

**Composition of the Board:**

**Chairman:** H. Meinders  
**Members:** H. Hahn  
E. Kossonakou

## Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the decision of the Opposition Division to maintain the European patent No. 1 599 320 in amended form on the basis of the auxiliary request filed at the oral proceedings of 2 April 2009.

II. The following documents of the opposition proceedings are cited in the present decision:

D5 = EP-A-0 885 698

D9 = WO-A-00/64299

D10 = EP-A-0 524 708

D17 = DE-U-90 05 626

D18 = FR-A-2 726 925

D19 = DE-A-42 03 480

as well as the following document submitted together with the statement setting out the grounds of appeal:

D21 = DE-C-32 36 841.

III. An opposition had been filed against the patent in its entirety under Article 100(a) EPC, for lack of novelty and inventive step.

The Opposition Division held that claim 1 of the main request (corresponding to claim 1 of the first auxiliary request dated 5 February 2009) as filed at the oral proceedings of 2 April 2009 met the requirements of Rule 80 and Articles 84, 123(2) and (3) EPC. It further considered that the subject-matter of claim 1 of the main request was novel, particularly

with respect to D5, but lacked inventive step over the combined disclosures of D5 and D17. The subject-matter of claim 1 of the auxiliary request was considered not to contravene Articles 123(2) and (3) EPC and to be novel - novelty had not been contested by the opponent - and also to involve inventive step over combinations of the teachings of D5 with either D9, D10, D17, D18 or D19. Consequently, the patent was maintained in amended form.

IV. Claim 1 as maintained reads as follows:

"1. A safety razor comprising a blade unit (2) carried on a handle (1), an electrical arrangement including an electrically operated device (24), and an indicator (28), wherein the electrically operated device (24) is actuatable by the electrical arrangement during shaving and the indicator produces a signal for indicating to a razor user that the electrical arrangement is connected to a source of electrical power and ready for actuation of the device,  
characterized in that  
a power switch (20) is included to control connection of the electrical arrangement with the power source (15), the indicator (28) being energized by the power source (15) when the power switch (20) is closed, and the power switch (20) is arranged to connect the power source (15) to the electrical arrangement in response to the razor being separated from a holder (18) on which the razor is intended to be stored during periods of non-use."

V. With a communication dated 30 October 2012 and annexed to the summons to oral proceedings the Board presented

its preliminary opinion with respect to claims 1-24 of the patent as maintained according to the main request (corresponding to the auxiliary request underlying the impugned decision) and claims 1-23 of the auxiliary request, as filed by the respondent (patent proprietor) together with its response to the statement setting out the grounds of appeal dated 12 January 2010.

With respect to inventive step the Board remarked amongst others that this issue would be dealt with by taking into consideration the problem-solution approach. Starting from the uncontested closest prior art D5 and taking account of the problem to be solved - **which would be based on the technical effect of the distinguishing features** - it would have to be discussed whether or not the cited prior art D5 when combined with another prior art teaching (i.e. specifically the newly filed documents including D21) and/or in combination with the common general knowledge of the person skilled in the art rendered the subject-matter claimed obvious.

To the Board it seemed that the respondent defined the objective technical problem too generally, without considering the feature of "in response to the razor being separated from a holder on which the razor is intended to be stored during periods of non-use".

The direct effect of this feature seemed to be an **automatic operation of the power switch** so that the razor user must not remember to turn it on or - most presumably even more important with respect to saving electrical energy - to turn it off. The latter measure clearly can save a lot of electrical energy as an

effect inherent to the automatic operation of the power switch when putting the razor back in the holder. Hence it seemed that the objective technical problem needed to be redefined to reflect this direct effect (see Case Law of the Boards of Appeal of the European Patent Office, 6<sup>th</sup> edition 2010, section I.D.4.1 to I.D.4.4). It could be defined as: "saving energy when the safety razor is stored".

The Board considered amongst others that the skilled person will at least consider the solution of D21, which concerns a personal care appliance comparable to safety razors and that it seemed that the electrically operated device according to D21 is actuated from the moment when it is removed from the carrying case.

Therefore it had to be discussed - this seemed to be in line with the appellant's second line of argumentation that conserving energy has to be regarded completely independent of the device including a power source whose energy has to be saved during periods of non-use - whether or not it is obvious to the person skilled in the art to consider the neighbouring technical field of D21 dealing with such an energy saving problem, and whether he would, in the light of his common general knowledge and in order to conserve energy of a power source during periods of non-use, actuate the movable electrically operated device only during those periods when it is absolutely necessary.

In this context it was remarked that the patent in suit is silent with respect to recharging the power source during the periods of non-use but does not exclude such recharging. The Board noted in this respect that D21

appeared to provide the solution to the problem, in that when removing the thermometer from its holder, the power source is actuated, which latter activates the display (=indicator) showing that the electrical arrangement of the thermometer is connected to the battery and that the thermometer is ready for actuation (i.e. ready to measure temperature and thus actuate the display).

Concerning claim 1 of the auxiliary request which - compared to claim 1 of the main request - additionally requires controlling the operation of the electrical device "in response to a condition sensed by the switching device", e.g. by sensing the skin contact or sensing the moisture level (as e.g. known from the cited prior art) it was remarked that this feature appeared to solve a different partial problem, namely to actuate automatically the electrically operated device when sensing an unspecified condition.

It had to be discussed whether the sensing of a temperature by the thermometer of D21 can be considered such "a switching device".

VI. With letter dated 4 February 2013 submitted by fax on the same date the respondent filed, as a response to the summons to oral proceedings, a second auxiliary request and further arguments with respect to inventive step of all three requests.

VII. Oral proceedings before the Board were held on 3 April 2013. The main request was discussed regarding the fulfilment of the requirements of Article 56 EPC in the light of D5 and D21. Inventive step of claim 1 of the

first auxiliary request was then discussed in the light of D5, D21 and D17. Finally, the second auxiliary request was assessed in respect of Article 56 EPC in the light of D5 and D21. In all discussions also the general knowledge of the person skilled in the art in the relevant field was addressed.

- (a) The appellant requested that the decision under appeal be set aside and that the patent be revoked.
- (b) The respondent requested as the main request that the appeal be dismissed and subsidiarily that the patent be maintained in accordance with the first auxiliary request filed together with its response to the appeal dated 12 January 2010 or the second auxiliary request filed with its letter dated 4 February 2013.

At the end of the oral proceedings the Board announced its decision.

VIII. Independent claim 1 of the first auxiliary request reads as follows (amendment as compared to claim 1 of the main request in bold, emphasis added by the Board):

"1. A safety razor comprising a blade unit (2) carried on a handle (1), an electrical arrangement including an electrically operated device (24), and an indicator (28), wherein the electrically operated device (24) is actuatable by the electrical arrangement during shaving, the indicator (28) produces a signal for indicating to a razor user that the electrical arrangement is connected to a source of electrical power and ready for actuation of the device,



characterised in that a power switch (20) is included to control connection of the electrical arrangement with the power source (15), the indicator (28) being energised by the power source (15) when the power switch (20) is closed, and the power switch (20) is arranged to connect the power source (15) to the electrical arrangement in response to the razor being separated from a holder (18) on which the razor is intended to be stored during periods of non-use, **and in that the electrical arrangement includes the electrical device (24) and a switching device (16) to control operation of the electrical device (24) in response to a condition sensed by the switching device (16).**"

IX. Independent claim 1 of the second auxiliary request differs from that of the first auxiliary request in that the last characterising feature ", and in that the electrical arrangement includes ..." has been replaced by the feature "**, and the razor includes a timing device to interrupt the supply of power to the electrical arrangement if the razor is not returned to the razor holder within a predetermined time period after being removed from the razor holder**".

X. The appellant argued, insofar as relevant for the present decision, essentially as follows:

The disclosure of the closest prior art D5 not only includes the features of the preamble of claim 1 as maintained but also the first feature of its characterising portion, i.e. the power switch which implicitly is present in its safety razor.

Consequently, the subject matter of claim 1 as maintained differs from the safety razor of D5 only in that

- the (standby) indicator is energized by the power source when the power switch is closed and
- the power switch is arranged to connect the power source to the electrical arrangement in response to the razor being separated from a holder on which the razor is intended to be stored during periods of non-use.

These features solve the objective technical problem to save energy of a power source during periods of non-use. However, for the following reasons the subject-matter of claim 1 of the main request does not involve an inventive step.

Saving energy of a power source is an ongoing demand with which the persons skilled in the art have to deal on a daily basis. Saving energy for non-used devices is known, e.g. from D21.

D21 discloses another personal care hand-held appliance in the form of a thermometer which is provided with a magnetically operated reed switch 6 which cooperates with a magnetic field within a holder for the thermometer (see figures 1, 3a and 3b). The major purpose of this arrangement is the advantage of avoiding unnecessary power consumption during non-use of the thermometer since no current is flowing at all when the thermometer is in the holder (see column 3, lines 54 to 60; column 7, lines 46 to 52; column 8, lines 45 to 49). The reed switch avoids power consumption when a user has forgotten to switch off the thermometer (see column 9, lines 28 to 35).

When the thermometer is taken out of the holder the reed switch closes so that the battery is connected with the temperature sensing unit and the display unit so that it is in an usable condition (see column 8, lines 53 to 57). Thus a second switching element is already present in D21.

When taken out of the holder the thermometer thus can be used to measure the body temperature of a person and to show the correspondingly measured temperature on its display (see column 8, lines 58 to 62). The thermometer can produce an end-signal after a predetermined period of time (see column 7, lines 28 to 31).

The person skilled in the art would look for solutions at other hand held devices which deal with the same technical problem of saving power, such as D21. It is known that such devices with indicators consume energy and it is also known to shut off loads in order to save energy. The razor element of claim 1 is in this context irrelevant and the skilled person is an electrical engineer who aims to save electric power.

Accordingly, energising not only the electrical arrangement of the known safety razor by the combination of a reed switch and a magnet, as taught in D21, but also a standby indicator as another or a further electric consumer for which the operational energy should be conserved, does not involve inventive step so that the subject-matter of claim 1 of the main request is not patentable.

The thermometer of D21 is also known to the skilled person as it is used in hospitals, as are safety razors, e.g. in the surgery departments.

Claim 1 of the main request does not explicitly define a second switch, contrary to what the respondent asserts and dependent claim 18 mentions only a sensor. Furthermore, claim 1 is in any case silent about what happens with the indicator.

It is clear that the (LED) indicator of D5 needs power as well (see column 3, lines 40 to 44) but it makes no sense to switch it off during the use so that it is always on, to show battery life. In order to save energy and to activate the device a second switch is necessary.

The additional features of claim 1 of the first auxiliary request solve another partial problem of using the safety razor, i.e. to improve the comfort. They have nothing to do with the electrical problem.

D17 discloses a safety razor with a sensor for starting the motor-driven vibrations of the blade when contacting the skin. Therefore the skilled person would combine the teaching of D17 with the safety razor combination of D5 in order to solve this partial problem. Therefore claim 1 of the first auxiliary request also lacks inventive step.

If it is assumed that the timing device according to claim 1 of the second auxiliary request shuts off the power supply to the electrical arrangement including the indicator in case that the razor has not been

returned to its holder, it is in the so-called "sleep mode" which is well known in various technical fields of the prior art to save energy. Hence the "sleep mode" is now used in a safety razor to save energy but this cannot be inventive.

D21 discloses a similar timed sleep mode (see column 7, lines 28 to 31).

XI. The respondent argued, insofar as relevant for the present decision, essentially as follows:

D21 does not relate to the same technical field as the present invention and the skilled person would therefore not consider it or combine its teaching with that of D5. Even if they were to be combined, the combination would still not lead to the present invention.

D5 discloses a high frequency wet/dry shaving system comprising a blade unit carried on a handle, an electrical arrangement including an electrically operated device and an indicator. It is accepted that D5 implicitly discloses also a mechanism for switching on the electrically operated device.

However, there are several important features of claim 1 of the main request which are not disclosed by D5. The first of these is that the indicator produces a signal for indicating to a razor user that the electrical arrangement is **connected** to a source of electrical power and **ready for actuation** of the electrically operated device. Implicit in the wording of claim 1 is that the indicator produces a signal

**prior** to (separate) actuation of the electrically operated device. There is no such disclosure in D5, either explicit or implicit. More specifically, there is no disclosure in D5 that the battery charge indicator is energised prior to actuation of the electrically operated device. It is perfectly consistent with the disclosure of D5 that the battery charge indicator is energised only when the electrically operated device is actuated (i.e. when the razor is switched on). D5 therefore neither discloses that the power switch is arranged to close in response to the razor being separated from a holder on which the razor is intended to be stored during periods of non-use, nor that the indicator is energised by the power source when such a power switch is closed. The latter was accepted by the appellant (see the statement of grounds of appeal, page 11, final paragraph).

The problem to be solved vis-à-vis D5 is the provision of an improved safety razor which incorporates an electrically operated device. The razor has improved convenience for the user because it indicates to him - when it is out of the holder - when the electrically operated device is ready for use, but the electrically operated device does not have to be actuated to give this information. The device is separately switched on when actually required. In other words, the razor has two switches. The first (power switch 20) energises the indicator; the second implicit one (such as switching device 16 which is "ready for actuation") actuates the electrically operated device.

D21 relates to an electronic clinical thermometer and clearly has nothing at all to do with personal care devices, let alone a safety razor.

The thermometer of D21 includes a temperature sensing element for sensing body temperature and converting the sensed body temperature into a corresponding electrical signal, a measuring unit for converting the electrical signal into a digital signal, an arithmetic unit for computing body temperature on the basis of the digital signal, a display unit for displaying the computed body temperature, a battery for supplying each of these units with electric power, and a magnetic reed switch, having a break-type contact, connected between the battery and the load. The electronic clinical thermometer, in combination with a carrying case, includes a magnet which opens the switch contact of the magnetic reed relay when the thermometer is placed in the case. It is explicit in D21 that power is supplied simultaneously to the heat sensing element, the measuring unit, the arithmetic unit and the display unit when the thermometer is taken out of its case so that it is in a usable condition (see column 8, lines 43 to 62).

The display device of D21 does not indicate that the electrical device is ready for actuation, but that it has already been actuated. Hence the thermometer of D21 is a one-switch device. The combination of the teachings of D5 and D21 thus fails to lead to the present invention. The appellant's arguments are based on hindsight.

If, in order to proceed from the known art to the invention one needs to take a series of steps and the last step is not proved to be known from the prior art nor is it derivable therefrom, the presence of an inventive step cannot in general be reasonably denied (see T 113/82, OJ EPO 1984, 010) even though it appears at first sight to be a very simple one.

It is accepted that the person skilled in the art looks for solutions in the same technical field. However, there can be an invention by incorporating a solution to the existing problem from a different technical field. D21, although relating to the underlying problem, relates to a different technical field. According to the case law the skilled person knows everything but has no imagination, therefore does not look for solutions in the field of D21.

Therefore the razor of claim 1 of the main request involves inventive step.

The razor of claim 1 of the first auxiliary request involves inventive step since this arrangement clearly comprises two automatic switches. The second switch responds to a condition sensed by the switching device and has particular convenience since the motor is only switched on by the sensing device, e.g. by bringing the razor to the cheek. This combination of features is not suggested by a combination of the teachings of D5 and D21.

The thermometer of D21, which senses a condition, is not a switching device in the sense of the patent in suit.



The skilled person would not combine the teachings of D5, D21 and D17 since the motor of D17 is switched on by the moisture sensor or pressure sensor while the thermometer of D21 starts working when it is removed from the tray.

Claim 1 of the second auxiliary request defines a timing device which interrupts the supply of power to the electrical arrangement if the razor is not returned to its holder within a predetermined time period after having been removed therefrom. Such a solution of a sleep mode function is not disclosed in any of the cited documents and thus reinforces the presence of inventive step.

D21 produces a measurement end-signal after a certain period of time but does not interrupt the power supply. Hence the appellant's arguments cannot hold.

## **Reasons for the Decision**

### *1. Admissibility of amendments (Articles 84 and 123(2) EPC)*

Since the Board considers that the subject-matter of the claims 1 of the main, the first and the second auxiliary requests does not involve inventive step (see point 2 below) there is no need to consider in this decision whether these claims comply with Articles 84 and/or 123(2) EPC.

2. *Inventive step (Article 56 EPC)*

*Main request*

2.1 Both parties considered D5 as the closest prior art for the safety razor of claim 1.

2.1.1 D5 discloses a shaving system comprising a razor, a razor head, and a mechanism which vibrates the razor head at a supersonic and/or ultrasonic frequency. The razor comprises a blade unit carried on a handle, an electrical arrangement including an electrically operated vibrating device with a power supply, and an indicator (see figures 1-3 and column 3, lines 2 to 33).

Said indicator indicates the amount of charge remaining in the power supply (which may be rechargeable) and/or when a new power supply, e.g. a new battery, is needed (see column 3, lines 34 to 44) and thus provides the user with the information whether or not the device (razor) can be used for shaving.

2.1.2 It was agreed by both parties that D5 implicitly also discloses an on/off switch for switching on the electrically operated vibrating device.

Accordingly, the disclosure of D5 not only includes the features of the preamble of claim 1 of the main request but also the feature of the characterising portion that "a power switch is included to control connection of the electrical arrangement with the power source".

2.1.3 The parties were of different opinion concerning the exact electrical arrangement of the razor of D5: the

appellant considered that the indicator was always switched on and is thus placed upstream of the power switch ("arrangement A"); the respondent considered that the indicator was only switched on when the power switch, and thus the vibrating razor blade, was switched on, i.e. the indicator was placed downstream of the power switch ("arrangement B"). Depending on the actual arrangement, the problem was one of saving energy (appellant) or improving comfort (respondent). D5 allows for both interpretations, therefore both will be discussed.

2.2 Regarding arrangement A the subject-matter of claim 1 of the main request is thus distinguished from the safety razor disclosed in D5 by the following features:

- i) there is a second power switch, before the indicator, which is
- ii) arranged to connect the power source to the electrical arrangement in response to the razor being separated from a holder on which the razor is intended to be stored during periods of non-use.

2.2.1 Feature i) results in that the user of the razor is provided with the information that the razor is ready for shaving while feature ii) results in saving of energy during periods of non-use since the indicator (which produces a signal such as light which consumes energy) is - through the operation of the power switch - only switched on when the user intends to use the razor and therefore separates it from its holder. By adding it as a second switch instead of replacing D5's single switch it additionally saves energy since the

still existing second switch allows to actuate the device only when it is needed.

- 2.2.2 The objective technical problem starting from the razor of D5 (which, after the power has been switched on, likewise informs the user whether or not it is ready for use; see point 2.1.1 above) is therefore considered to be the minimising of power consumption of the known safety razor, particularly when it is not used.

The solution to this problem is, however, considered obvious for the following reasons.

- 2.2.3 As correctly argued by the appellant, saving energy of a power source is an ongoing demand with which the person skilled in the art has to deal on a daily basis. Saving energy for non-used devices is known, e.g. from D21.

- 2.2.4 D21 discloses another personal care hand-held appliance in the form of a thermometer which is provided with a magnetically operated reed switch 6 which cooperates with the magnetic field of a permanent magnet 11 within a holder for the thermometer (see figures 1, 3a and 3b), which keeps the reed switch open when the thermometer is stored.

When the thermometer is taken out of the holder the reed switch closes so that the battery is connected with the temperature sensing unit and the display unit so that it is in a usable condition (see column 8, lines 53 to 57) and thus can be used to measure the body temperature of a person and to show such measured

temperature on its display (see column 8, lines 58 to 62).

This arrangement improves the operability of the thermometer and has the advantage of avoiding unnecessary power consumption during non-use of the thermometer, e.g. due to a user having forgotten to switch off the thermometer, since no current is flowing at all (see column 3, lines 54 to 60; column 7, lines 46 to 52; column 8, lines 45 to 49; column 9, lines 28 to 35).

2.2.5 The Board considers that the person skilled in the art - which in the present case in view of the technical problem defined in point 2.2.2 above is an electrical engineer who aims to save electric energy in the safety razor of D5 - would look for solutions in other hand-held electrical devices dealing with the same technical problem of saving energy during periods of non-use, i.e. D21. At the oral proceedings the respondent admitted that D21 deals with said technical problem. The razor aspect of claim 1 is in this context not a factor limiting the skilled person in his search; the respondent's arguments to the contrary therefore cannot hold.

It belongs to the common general knowledge of the person skilled in the art that loads of electrical devices such as the (LED) indicator or the vibrating mechanism of the safety razor of D5 also consume energy and that shutting off such loads saves energy.

Accordingly, the person skilled in the art would apply the teaching of D21 concerning the saving of energy

during periods of non-use onto the indicator of the safety razor of D5, i.e. he would incorporate the reed switch in the safety razor to solve the technical problem as defined in point 2.2.2 above, to switch off the indicator when the razor is put back in the holder. Thereby he would arrive at the safety razor of claim 1 of the main request.

2.3 In respect of arrangement B the subject-matter of claim 1 of the main request is distinguished from the safety razor disclosed in D5 by the following features:

i) the indicator is made independent of the existing power switch with which the vibrating razor is switched on, by placing it before that power switch, and  
ii) there is a second power switch arranged before the indicator, which connects the power source to the electrical arrangement in response to the razor being separated from a holder on which the razor is intended to be stored during periods of non-use.

2.3.1 Feature i) results in that the user of the razor does not have to switch on the vibrating razor to see whether he has sufficient power, while with feature ii) at the same time energy is saved by not having the indicator unnecessarily activated (on condition that the razor is put back in the holder) or comfort is improved at the expense of energy, by indicating power availability, when the razor is not in the holder.

2.3.2 In this case, the objective technical problem starting from D5 is considered to be the improvement of the comfort of use of this razor, if possible combined with the saving of energy.

The solution to this problem is, however, considered obvious for the following reasons.

2.3.3 If comfort should be increased, the indicator should be made independent from the existing power switch which is used for operating the vibrating razor; a skilled person will automatically place the indicator before that power switch, without the need to employ inventive skills, merely by applying his general technical knowledge. At the same time the skilled person will be confronted with the normal need to save energy, i.e. to only have the indicator active when it is needed and not active all the time as in arrangement A. To this end, the normal technical solution is to add another switch, before the indicator. What kind of switch is then to be decided.

2.3.4 In this respect D21 discloses an elegant solution, as already discussed under point 2.2.4 above. For the same reasons as given in point 2.2.5 above, it is obvious to the skilled person to use this arrangement in the razor of D5 when improving the comfort of the use of the indicator, to at the same time save energy used by the latter.

Thereby the person skilled in the art arrives also at the subject-matter of claim 1 of the main request without the exercise of inventive skills.

2.4 The remaining respondent's arguments cannot hold for the following reasons.

The argument that D21 relates to an electronic clinical thermometer which has nothing at all to do with a personal care device, in particular a safety razor, cannot be accepted. Such thermometers are designed to measure the temperature of a person, so that its use is **not** restricted to hospitals but covers also private use so that it can be considered a personal care device. As correctly argued by the appellant safety razors are also used in hospitals, e.g. in the surgery departments, before operations.

The argument that the person skilled in the art looks (only) for solutions in the same technical field and would thus not consider D21, cannot hold either since both the safety razor and the clinical thermometer can be regarded as personal care devices.

Finally, the argument based on a small difference from the prior art in accordance with T 113/82 (*supra*) cannot hold since in the present case the Board considers that for arrangement A there is no "last step" not known from the prior art and for arrangement B, apart from the prior art also the common general knowledge of the person skilled in the art needs to be taken into consideration.

- 2.5 Consequently, the subject-matter of claim 1 of the main request lacks inventive step. The main request is therefore not allowable.



*First auxiliary request*

- 2.6 The safety razor according to claim 1 of the first auxiliary request differs from that of the main request in that further
- iii) the electrical arrangement includes the electrical device (24) and a switching device (16) to control operation of the electrical device (24) in response to a condition sensed by the switching device (16) (see point VIII above).

The respondent submitted that the switching device for example could sense that the razor has been brought in contact with the cheek and start actuating the electrical vibrating mechanism device. Thus the motor of the electrical device is switched on by the sensing (switching) device and this embodiment therefore has a particular convenience.

- 2.6.1 This additional feature iii) improves particularly the comfort for the user of the safety razor since it provides a second automatic switch which switches on/off the electrically operated device.

- 2.6.2 As correctly argued by the appellant the additional feature iii) thus solves another partial problem different from that underlying the features i) and ii), namely to improve the comfort of switching the safety razor on and off.

Features i) and ii) on the one hand and iii) on the other are therefore considered to represent a mere aggregation of separate features, solving **two**

**independent partial** technical problems, which can thus be discussed independently for inventive step.

Therefore, for the discussion of the aforementioned partial technical problem with respect to feature iii), further prior art than for features i) and ii) can be taken into account, in accordance with the longstanding practice of the Boards of Appeal (see Case Law of the Boards of Appeal of the European Patent Office, 6<sup>th</sup> edition, 2010, section I.D.8.2.2).

2.6.3 The solution to the **first partial problem** is obvious for the reasons given for claim 1 of the main request (see points 2.2 and 2.3 above).

2.6.4 The solution to the **second partial problem** is also obvious for the following reasons:

D17 discloses a safety razor with an electrical vibrating mechanism (see page 2, lines 5 to 24, page 3, lines 1 to 12; figures 1 and 2; and claim 1). The razor handle according to D17 can comprise a sensor e.g. an infrared sensor or a pressure sensor (see page 3, lines 27 to 31) so that, when the user grips it, the razor blade starts oscillating. Alternatively, the sensor can be located in the area of the razor blade, so that the oscillation starts when contacting the skin with the razor blade (see page 3, line 33 to page 4, line 2). A humidity sensor at the blade unit is also possible whereby, as soon as the resistance between two electrodes is reduced due to the contact with water, the oscillating movement of the blade would start (see page 4, lines 4 to 7; page 7, lines 29 to 35; claim 18).

D17 thus discloses an automatic switch which, after sensing a condition such as the pressure, temperature or resistance, controls the actuation of the electrical vibrating mechanism of its safety razor.

2.6.5 The Board considers that it is obvious for the person skilled in the art wishing to provide a safety razor with improved switching on - and - off comfort for the user, to incorporate the sensing means according to D17 into the safety razor of D5.

2.6.6 Consequently, the respondent's argument that the skilled person would not combine the teachings of D5, D21 and D17 since the motor of D17 is switched on by the moisture sensor or pressure sensor while the thermometer of D21 starts working when it is removed from the tray cannot hold because the skilled person actually uses the teaching of D21 to switch the indicator on and off, whereas it is the second power switch which is replaced by the teaching of D17.

2.6.7 Consequently, also the subject-matter of claim 1 of the first auxiliary request lacks inventive step. The first auxiliary request is therefore not allowable.

*Second auxiliary request*

2.7 The safety razor according to claim 1 of the second auxiliary request differs from that of the main request by the additional feature iii) which defines that "the razor additionally includes a timing device to interrupt the supply of power to the electrical arrangement if the razor is not returned to the razor

holder within a predetermined time period after being removed from the razor holder" (see point IX above).

2.7.1 Feature iii) of this claim 1 provides another automatic switch which in case that the razor has not been returned to its holder shuts off the power supply to the electrical arrangement including the indicator. In such a case where the razor is not returned to its holder the indicator would be switched on all the time and consume energy either until the power supply would have run out or it would be returned to its holder (whereby the energy would be switched off automatically by the reed switch).

2.7.2 The objective technical problem for feature iii) is thus the provision of a further energy saving means for the case that the razor is not returned to its holder.

2.7.3 The respondent submitted that this arrangement includes a sleep mode function which saves energy in case that the razor is not returned to its holder within a predetermined time period after having been removed therefrom so that the supply of power to the electrical arrangement is interrupted. Such a solution is not disclosed in any of the cited documents and thus reinforces inventive step.

2.7.4 The Board, however, considers that these arguments cannot hold and that the solution to this problem is obvious to the person skilled in the art for the following reasons.

First of all, already from daily life the skilled person - who in view of said technical problem is an

electrical engineer - knows the "sleep mode" of electronic devices, such as computers, televisions or remotely controlled devices, or other energy consumers e.g. of car lights. For example, every PC or laptop has such a "sleep mode" so that after a preset time period it automatically enters into this power saving mode. The same holds true for the lighting of a car which after deactivating the combustion engine remains on for a certain period of time and only then is automatically switched off.

Hence the "sleep mode" of electronic devices or energy consumers (which implies the presence and use of a timing device) is well known in different technical fields of the prior art but belongs also to the common general knowledge of the skilled person being an electrical engineer.

2.7.5 Therefore the Board considers it obvious that the person skilled in the art who is aware of this "sleep mode", in order to solve the objective problem as defined in point 2.7.2 above, would provide such a "sleep mode" function in a safety razor comprising an electrical device, in order to save energy. The person skilled in the art would provide a timing device which interrupts the power supply to the electrical arrangement and all its components after a predetermined time period has elapsed in case that the razor is not returned to its holder. Thereby he would arrive at the subject-matter of claim 1 of the second auxiliary request in an obvious manner.

Consequently, also the subject-matter of claim 1 of the second auxiliary request lacks inventive step. The

second auxiliary request is therefore not allowable,  
either.

**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders