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**Datasheet for the decision  
of 1 October 2021**

**Case Number:** T 2626/16 - 3.2.07

**Application Number:** 10741351.0

**Publication Number:** 2397281

**IPC:** B26B21/22, B26B21/28, B26B21/56

**Language of the proceedings:** EN

**Title of invention:**

UNITARY RAZOR BLADE AND SHAVING RAZOR CARTRIDGE USING SAME

**Patent Proprietor:**

Dorco Co., Ltd

**Opponents:**

The Gillette Company LLC  
Edgewell Personal Care Brands, LLC  
BIC-Violex S.A.

**Headword:**

**Relevant legal provisions:**

EPC Art. 56  
EPC R. 103(4) (a)  
RPBA Art. 12(2), 13(1), 13(3)  
RPBA 2020 Art. 13(1), 25(1), 25(3)

**Keyword:**

Inventive step - patent as maintained by the opposition  
division (no)

Late-filed auxiliary request - admitted (no)

Reimbursement of appeal fee - (yes) at 25% due to withdrawal  
of the appeal before the decision is announced at the oral  
proceedings

**Decisions cited:**

T 0653/16

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

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Case Number: T 2626/16 - 3.2.07

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.07**  
**of 1 October 2021**

**Respondent:** Dorco Co., Ltd  
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**Appellant:** BIC-Violex S.A.  
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**Representative:** Peterreins Schley  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
28 October 2016 concerning maintenance of the  
European Patent No. 2397281 in amended form.

**Composition of the Board:**

**Chairman** I. Beckedorf  
**Members:** A. Cano Palmero  
S. Watson

## **Summary of Facts and Submissions**

- I. Each of opponents 01, 02 and 03 (appellants) lodged an appeal within the prescribed period and in the prescribed form against the decision of the opposition division to maintain European patent No. 2 397 281 in amended form on the basis of the then auxiliary request 3.
- II. Three oppositions were filed, which were directed against the patent in its entirety and based on the grounds for opposition pursuant to Article 100(a) to (c) EPC (lack of novelty and inventive step, insufficiency of disclosure, added subject-matter).
- III. The patent proprietor likewise lodged an appeal against the decision, which was withdrawn during the oral proceedings before the Board on 1 October 2021, thereby remaining as respondent in the present case. Pursuant to Rule 103(4) (c) EPC, the appeal fee paid by the patent proprietor is reimbursed at 25%.
- IV. In preparation for oral proceedings, scheduled upon the parties' requests, the Board communicated its preliminary assessment of the case to the parties by means of a communication pursuant to Article 15(1) RPBA 2007. The Board indicated that the appeal of the patent proprietor was likely to be dismissed, whereas the opponents' appeals were likely to be allowed.
- V. All parties responded to said communication on the substance, *i.e.*
  - the patent proprietor with letters dated 31 December 2019, 27 January 2020, 10 September 2020 and 25 August 2021,

- opponent 01 with letter dated 27 March 2020,
- opponent 02 with letters dated 27 March 2020 and 17 June 2021, and
- opponent 03 with letter dated 6 March 2020.

VI. Oral proceedings before the Board took place by videoconference on 1 October 2021 in the absence of opponent 01 in accordance with Article 15(3) RPBA 2020 and Rule 115(2) EPC.

At the conclusion of the proceedings the decision was announced. Further details of the proceedings can be found in the minutes thereof.

VII. The final requests of the parties are as follows,

for opponents 01, 02 and 03

that the decision under appeal be set aside and  
that the patent be revoked;

for the patent proprietor

that the appeals of the opponents be dismissed,  
*i.e.* that the patent be maintained in amended form held by the opposition division to meet the requirements of the EPC (then auxiliary request 3 filed during the oral proceedings before the opposition division - maintained version) or in the alternative, when setting aside the decision under appeal,  
that the patent be maintained in amended form on the basis of the set of claims filed as corrected auxiliary request 4 with letter dated 10 September 2020.

VIII. The lines of arguments of the parties, which are focused on inventive step of the subject-matter of claim 1 of the patent as maintained by the opposition division, and on the admittance of auxiliary request 4 into the proceedings are dealt with in detail in the reasons for the decision.

IX. Independent **claim 1** according to the patent as maintained by the opposition division reads as follows:

"A shaving razor cartridge comprising:  
a housing; and  
a plurality of razor blades (40), each razor blade (40) comprising:  
an edge portion (42) which comprises a curved cutting edge (422);  
a connection portion (44) which extends from the edge portion and forms a curved surface; and  
a support portion (46) which extends from the connection portion and supports the edge portion and the connection portion,  
wherein the edge portion, the connection portion and the support portion are a single-piece body,  
wherein the cutting edge (422) protrudes in a circular shape and distributes a cutting pressure when hair is cut,  
wherein a distance from a central portion of the cutting edge (422) to a straight line connecting opposite ends of the cutting edge (422) ranges between 0.01 mm and 2.0 mm, and  
wherein a distance between the plurality of razor blades ranges between 0.5 mm and 0.9 mm."

X. Independent claim 1 according to auxiliary request 4 corresponds to a combination of claims 1 and 5 of the patent as maintained by the opposition division, which

results in the feature of the distance from a central portion of the cutting edge to a straight line connecting opposite ends of the cutting edge being restricted to a value of 0.2 mm.

## **Reasons for the Decision**

1. *Revised Rules of Procedure of the Boards of Appeal (RPBA 2020) - Transitional provisions*

The present proceedings are governed by the revised version of the Rules of Procedure which came into force on 1 January 2020 (Articles 24 and 25(1) RPBA 2020), except for Articles 12(4) to (6) and 13(2) RPBA 2020 instead of which Articles 12(4) and 13 RPBA 2007 remain applicable (Article 25(2) and (3) RPBA 2020).

2. *Patent as maintained by the opposition division - inventive step of the subject-matter of claim 1, Article 56 EPC*

- 2.1 Closest prior art

It is common ground among the parties and the Board that document **D14 (US 2007/0234577 A1)** represents the closest prior art to the subject-matter of claim 1 as maintained by the opposition division.

- 2.2 Distinguishing features

- 2.2.1 It is also common ground that D14 does not disclose a shaving razor cartridge with a plurality of razor blades wherein a distance between the plurality of razor blades ranges between 0.5 mm and 0.9 mm.



2.2.2 The patent proprietor further argued that D14 does not provide a clear and unmistakable teaching of **a curved cutting edge** in the razor blades forming part of the shaving razor cartridge of claim 1, let alone razor blades comprising a cutting edge that **protrudes** in a circular shape and in which a distance from a central portion of the cutting edge to a straight line connecting opposite ends of the cutting edge ranges between **0.01 mm and 2.0 mm**. According to the patent proprietor, in paragraph [0045] of D14 only general information is given, relating to types of deformations which could be present in a blade, the presence of these deformations in the razor blade produced by D14 could not be seen as an inevitable result, but rather a probable occurrence that would not take away novelty. It could not even be concluded from D14, so the patent proprietor, that the alleged deformations of the blade portion must also be present on the cutting edge of the razor blade, as required by claim 1.

Furthermore, D14 taught that the curvatures due to the deformations (sweep and bow) could and should be reduced and minimized by subjecting the razor blade to a heat treatment. Therefore, in view of the intended purpose of D14, this document rather disclosed a razor blade subjected to a heat treatment which did not present a curved cutting edge with the geometric characteristics as required by claim 1 as maintained by the opposition division.

2.2.3 The Board is not persuaded by the arguments of the patent proprietor for the following reasons.

The Board finds the argument of the patent proprietor not convincing that the curvature of the cutting edge and of the blade portion are unrelated. In the absence

of any further proof, the Board sees this argument as a mere general allegation and concurs with the opponents that a razor blade with a blade portion with a certain curvature presents that same curvature in its cutting edge.

The Board further notes that although it might be true that the aim of D14 is a reduction of the deformation in razor blades, the intended purpose of a particular piece of prior art is not relevant in terms of its disclosure for the assessment of novelty. In the present case, as correctly found by the opposition division in points 2.4, 3.2 and 4.2 of the reasons for the decision under appeal, the features that the edge portion of a single razor blade comprises a curved cutting edge with the geometrical requirements as set forth in claim 1 are **explicitly disclosed** in paragraph [0045] of D14 and **unambiguously presented as an embodiment** of this disclosure. As correctly argued by the opponents, an explicit embodiment must be considered as a direct disclosure and not a probable event. In this paragraph [0045], the blade portion - and therefore also the cutting edge - of a single razor blade is disclosed as presenting a **sweep** which is defined as "arching within the plane in which the portion of the cutting member lies (e.g. an arching of the longitudinal edges of the portion of the cutting member)".

Moreover, in embodiments of D14 this sweep of the blade portion is of  $\pm 0.07$  mm across the length of the blade portion, which means that even in the case that the protruding direction in the sense of claim 1 as maintained by the opposition division could be unmistakably understood as a convex or concave direction, D14 still explicitly anticipates razor

blades with curvatures with a value of 0.07 mm in both the protruding direction and in the direction opposite to the protruding direction.

The Board therefore concludes that D14 discloses individual razor blades (100) comprising:  
an edge portion (105) which comprises a curved cutting edge (120);  
a connection portion (115) which extends from the edge portion (105) and forms a curved surface (see figure 2A); and  
a support portion (110) which extends from the connection portion (115) and supports the edge portion (105) and the connection portion (115),  
wherein the edge portion, the connection portion and the support portion are a single-piece body, wherein the cutting edge (120) protrudes in a circular shape and distributes a cutting pressure when hair is cut, wherein a distance from a central portion of the cutting edge (120) to a straight line connecting opposite ends of the cutting edge (120) ranges between 0.01 mm and 2.0 mm (e.g. 0.07 mm), in the sense of claim 1 as maintained by the opposition division.

2.2.4 According to the patent proprietor, D14 did not disclose any embodiment of a cartridge comprising razor blades in the sense of claim 1 as maintained. On the contrary, the only disclosure of a cartridge with generic razor blades was to be found in paragraph [0025] of D14, while the razor blades with the alleged geometry in accordance with the maintained version of the patent pertained to a separate embodiment described in paragraph [0045]. A combination of two unrelated embodiments of the same document was, in the absence of any suggestion to combine the two, not permissible in terms of novelty.

The patent proprietor additionally concurred with the reasoned findings of point 5.4 of the decision under appeal, that even if D14 disclosed individual razor blades in the sense of claim 1, this document failed to disclose a shaving razor cartridge comprising a plurality of razor blades in which each of the razor blades presented a geometry as required by claim 1 as maintained by the opposition division. In the patent proprietor's view, D14 rather disclosed a cartridge comprising random razor blades -not necessarily those of paragraph [0045] - that could present different curvatures and geometries in any direction and as such could not anticipate a cartridge in the sense of claim 1 as maintained by the opposition division.

2.2.5 The Board disagrees with the arguments of the patent proprietor for the following reasons.

Paragraph [0025] of D14 discloses an embodiment of a cartridge shown in figure 3 including a housing which carries three razor blades. This embodiment relates exclusively to the features of the cartridge and the general assembly of a shaving razor, but is silent on the specific characteristics of the razor blades included in it. The adoption of the razor blades according to the embodiment of paragraph [0045] in the cartridge embodied in paragraph [0025] is in the Board's view in line with the general teaching of D14 and does not amount to an arbitrary construction of selected features of the disclosed cartridge, but rather completes this embodiment with the necessary information for the skilled reader.

The Board is further convinced, in line with the view of the opponents, that document D14 discloses a

cartridge with three razor blades, each of said razor blades presenting a "sweep" within the range of  $\pm 0.07$  mm. In other words, D14 discloses cartridges with straight, "convex" or "concave" blades and combinations thereof, including a cartridge with three razor blades with a "sweep" value of 0.07 mm in the protruding direction as required by claim 1 according the maintained version.

- 2.2.6 In view of the above, the Board concludes that the subject-matter of claim 1 of the patent as maintained by the opposition division solely differs from the known shaving razor cartridge of D14 in that the distance between the plurality of razor blades ranges between 0.5 mm and 0.9 mm.
- 2.3 Objective problem to be solved
- 2.3.1 The patent proprietor argued that the functional relationship of the distance between the razor blades and the claimed curvature of each of said razor blades enables the use of thinner blades that can be positioned at smaller distance, which results in a more compact razor cartridge.
- 2.3.2 The Board however notes that, taking into account that the D14 anticipates razor blades with the claimed geometry, this feature cannot be considered for the formulation of the objective problem to be solved.
- 2.3.3 Starting from D14 as closest prior art, and the distance between blades ranging between 0.5 mm and 0.9 mm being the only distinguishing feature, the **objective technical problem to be solved can be defined as improving the removal of shaving remainder from between the blades**, as correctly indicated by the opponents and

also identified in paragraph [0004] of the patent in suit.

## 2.4 Obviousness of the solution

2.4.1 The opponents argued *inter alia* that starting from document D14 and in view of of the objective problem to be solved, the subject-matter of claim 1 as maintained by the opposition division was obvious in view of the teaching of document D21 (**WO 2008/002069 A1**), which explicitly indicates a distance between blades falling within the values of claim 1, namely 0.7 mm (see paragraph [0047] of D21). This argument was also followed by the opposition division (see point 5.4 of the reasons of the decision under appeal).

2.4.2 The patent proprietor was of the view that the skilled person would not consider a combination of the teaching of document D14 with that of D21, since they deal with different thickness magnitudes of the blades. Furthermore, D21 suggested the use of even larger distances between the blades, so that even if the skilled person were to consider the teaching of D21, they would rather apply a blade separation distance above 0.9 mm and would thus not arrive at the subject-matter of claim 1 as maintained.

2.4.3 The Board disagrees with the view of the patent proprietor and concurs with the opponents that the subject-matter of claim 1 lacks inventive step in the sense of Article 56 EPC, for the following reasons.

Leaving aside the fact that claim 1 is silent on the thickness of the blades, the Board notes that, contrary to the assumption of the patent proprietor, not only D14 and D21 but also the patent in suit deal with

equivalent typical thicknesses of the razor blades (see paragraph [0040] of D14, paragraph [0044] of D21 and paragraph [0019] of the patent in suit), so that there is no apparent obstacle for the skilled person to combine these teachings in terms of the thickness of the razor blades.

Furthermore, irrespective of the allegation that D21 would teach the use of larger distances than claimed, the Board concurs with the opponents that D21 explicitly addresses the objective problem to be solved (in paragraph [0047]) and also explicitly proposes the value of 0.7 mm as a suitable distance directed to solve that problem. Consequently, the skilled person, in view of the teachings of D14 and D21, would arrive at the subject-matter of claim 1 as maintained by the opposition division without exercising any inventive skill.

3. *Admittance into the proceedings of auxiliary request 4*
- 3.1 Auxiliary request 4 was filed for the first time in appeal proceedings after arrangement of the oral proceedings. Thus, its admittance into the appeal proceedings is subject to the Board's discretion under Article 13 RPBA 2007 (by virtue of Article 25(3) RPBA 2020) and also Article 13(1) RPBA 2020 (by virtue of Article 25(1) RPBA 2020). All three opponents requested that auxiliary request 4 not be admitted.
- 3.2 The patent proprietor argued that auxiliary request 4 should be admitted into appeal proceedings for the following reasons:
  - 3.2.1 Auxiliary request 4 was a legitimate reaction to the Board's preliminary opinion, which did not follow the

reasoned findings of the opposition division with respect to the distinguishing features and inventive step of the maintained version of the patent.

- 3.2.2 Furthermore, the amendment to auxiliary request 4 consisted of a combination of claims 1 and 5 as maintained by the opposition division and could not therefore be considered as surprising for the opponents. Additionally, the patent proprietor argued that the amendment resulted in a restriction of the claimed range of curvature of the blades to a specific value (0.2 mm). Such an amendment did not substantially increase the complexity of the case and could not trigger the necessity of searching for new prior art. It followed that no delay in the proceedings would be needed and thus procedural economy would not be compromised.
- 3.2.3 Finally, the patent proprietor referred to decision T 0653/16, in which the competent Board for that case admitted an auxiliary request filed for the first time during oral proceedings before the Board.
- 3.3 The Board is not persuaded by the arguments of the patent proprietor for the following reasons.
- 3.3.1 In the Board's view, the Rules of Procedure establish - also in its version of 2007 - that in *inter partes* proceedings all parties have the same obligation to present their complete case at the earliest possible stage of the proceedings (see Article 12(2) RPBA 2007). There can be no presumption of validity of the decision under appeal. Moreover, since in the present case the Board followed, in its preliminary opinion, the arguments presented by the opponents in their respective statement of grounds of appeal, it cannot be



agreed with the patent proprietor that such a preliminary opinion can justify the admittance of an amendment to the patent proprietor's case.

3.3.2 The Board is also convinced that the circumstances of case T 0653/16 are not applicable to the case at hand. In the case referred to by the patent proprietor, it was common ground among all parties and the competent Board that the amendments which were finally made to the auxiliary request in question would overcome one of the objections raised by the opponent and would not give rise to new objections (see point 3.2 of the reasons for the decision). In contrast, in the present case, the allowability of the subject-matter of claim 1 according to auxiliary request 4 has been disputed at least by opponents 02 and 03, by arguing that the subject-matter of claim 5 as maintained by the opposition division could not contribute to an inventive step (see statement of grounds of appeal of opponent 02, paragraphs bridging pages 14 and 15 and statement of grounds of appeal of opponent 03, page 26).

3.3.3 It follows that if auxiliary request 4 were to be admitted into the appeal proceedings, at least a fresh discussion on inventive step would have to take place, including but not limited to determining the new distinguishing features, the technical effect achieved by these and the obviousness of the alleged solution. This discussion alone, that would have to be held for the first time during the oral proceedings, would increase in the Board's view the complexity of the case. Moreover, even in a scenario in which auxiliary request 4 was admitted and subsequently found to meet the requirements of Article 56 EPC, a debate on the further objections raised by the opponents regarding

Articles 52(2) (a), 54, 83 and 123(2) EPC (with respect to the maintained version or specifically to auxiliary request 4) would still have to take place at the oral proceedings, again increasing the complexity of the case and being contrary to procedural economy at so late a stage of the proceedings.

3.4 In view of the above, the Board, exercising its discretion pursuant to Article 13 RPBA 2007 and Article 13(1) RPBA 2020, does not admit auxiliary request 4 into the appeal proceedings.

#### 4. *Conclusions*

4.1 It follows that the opponents have submitted convincing arguments that demonstrate the incorrectness of the reasoned finding of the decision under appeal as regards inventive step of the maintained version of the patent, which does not withstand a revision under appeal. The decision under appeal must be thus set aside.

4.2 Furthermore, in the absence of any admissible or in its substance allowable set of claims, the patent must be revoked.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.
3. The appeal fee paid by the patent proprietor is reimbursed at 25%.

The Registrar:

The Chairman:



G. Nachtigall

I. Beckedorf

Decision electronically authenticated