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Bezeichnung der Erfindung: Brush assembly and mounting arrangement for
Title of invention: a portable tool
Titre de l'invention :

Klassifikation / Classification / Classement : H01R 39/40

ENTSCHEIDUNG / DECISION
vom / of / du 5 July 1988

Anmelder / Applicant / Demandeur :

Patentinhaber / Proprietor of the patent /
Titulaire du brevet : Black & Decker Inc.

Einsprechender / Opponent / Opposant : Siemens AG

Stichwort / Headword / Référence :

EPO/EPC/CBE Articles 56, 100(a), 100(c)

Schlagwort / Keyword / Mot clé : "Inventive step (yes)" - "Subject-matter
extended (no)"

Leitsatz / Headnote / Sommaire

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Case Number : T 174/86 - 3.5.1



D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 5 July 1988

Appellant :
(Opponent)

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Representative :

Respondent :
(Proprietor of the patent)

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Decision under appeal :

Decision of the Opposition Division of the European Patent Office dated 30 January 1986, posted on 1 April 1986, rejecting the opposition filed against European patent No. 0 025 152 pursuant to Article 102(2) EPC.

Composition of the Board :

Chairman : P.K.J. van den Berg

Members : W.B. Oettinger

G.D. Paterson

Summary of Facts and Submissions

- I. European patent No. 25 152 was granted on patent application No. 80 104 983.4, filed on 21 August 1980 claiming a priority of 31 August 1979. The grant was published on 24 August 1983.

The independent Claim 1 as granted reads as follows:

"A portable electric tool, having an electric drive motor (12) in a motor casing (50) and defining a longitudinal axis about which the armature (44) of the motor (12) rotates, a brush assembly (21) comprising two brush units (49), each brush unit (49) including a planar board (22) having a brush housing (26) mounted thereon for holding a brush (38) in contact with the commutator (43) of the motor (12), characterised by:

said motor casing (50) having axial internally positioned grooves (55) adapted and constructed to removably receive edge portions (51) of said planar boards (22) therein so that said planar boards (22) are parallel to said longitudinal axis; and

a cap (56) removably mounted to said motor casing (50) so as to expose said brush units (49) to facilitate their easy withdrawal from and insertion into said axial grooves (55), said cap (56) having portions (62, 64) in abutment with said planar boards (22) to retain said planar boards (22) in position in said axial grooves (55) when said cap (56) is secured in place."

The preamble of this claim is based on FR-A-2 175 666.

According to the description, the brush assembly known from that prior art document is not easily accessible for repair and replacement. The claimed invention solves this problem.

Dependent Claim 2 adds the feature that "said motor casing (50) also has radial internally positioned grooves (53) adapted and constructed to receive other edge portions of said planar boards (22) therein so that said planar boards (22) are radially disposed with respect to said commutator (43)".

Dependent Claims 3-7 concern particular characteristics of the grooves, of said cap, of said planar boards, of said brush housing and of said brush unit, respectively.

II. On 24 May 1984 an opposition was filed against the patent mainly on the ground that the general concept of an easily accessible brush assembly as claimed is prior art and the claimed implementation of this concept lacks an inventive step, having regard to the following documents:

- (a) US-A-3 431 446
- (b) DE-B-1 289 907
- (c) DE-B-2 813 956
- (d) DE-U-7 417 122
- (e) DE-C-1 200 429.

A further objection under Article 100(c) EPC was not further specified in the Notice of Opposition. It was, however, specified in oral proceedings before the Opposition Division, held on 30 January 1986, in the following way:

Claim 1 as granted extends beyond the content of the application as filed because, although Claim 1 as granted

is based on the original independent Claim 3, the feature relating to the radial grooves, which was an essential feature in that claim, is no longer claimed as essential but only as optional (Claim 2 as granted).

- III. By a decision, given in the oral proceedings, the Opposition Division rejected the opposition, rejecting both grounds for opposition as unconvincing.

In a fully reasoned decision, dispatched on 1 April 1986, it concluded that neither (e) as the document coming closest to the claimed invention, nor any of the other citations (a) to (d) suggests to employ internal grooves that extend axially to receive the boards in a position parallel to the rotation axis of the motor.

Further, it concluded that there is full support for the omission in Claim 1 of the feature relating to the radial grooves in the original description, in particular page 2, lines 12-15 and 28-30, and in the original Claim 1.

- IV. The Opponent, now Appellant, lodged an appeal against that decision on 26 May 1986 and paid the appeal fee on the same day.

In a Statement of Grounds of Appeal, filed on 30 July 1986, he maintained his position as regards the alleged extension of Claim 1 beyond the disclosure and the alleged lack of inventive step.

In further support of this latter contention he cited the further prior art document

(f) DE-A-1 613 354.

In addition, he submitted reasons why at least according to national German jurisprudence the appeal fee would have to be reimbursed.

- V. In a response, filed on 10 December 1986, the Proprietor of the patent, now Respondent, maintained the opposite view.

He also commented, in the same sense, on the newly cited document (f).

- VI. In oral proceedings held on 5 July 1988 before the Board of Appeal, the parties confirmed their positions as to the inventive step question.

With the agreement of the Respondent, the Board considered document (f) to be relevant enough for being admitted, i.e. not disregarded under Article 114(2) EPC.

The Appellant requested that the decision under appeal be set aside and the patent revoked.

The Respondent requested that the appeal be dismissed.

At the conclusion of the oral proceedings the decision was announced that the appeal was dismissed.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.
2. It is convenient to deal with the ground for opposition under Article 100(c) EPC first.

According to this Article, in correspondence with Article 123(2) EPC, it is not required that a patent claim does not extend beyond the content of an original claim but that it does not extend beyond the content of the application as filed as a whole.

In the present case, the original Claim 1 did not specify the "receiving means" for the planar boards at all. The "brief summary of the invention" in the original description, did however specify each of these means as an "axially oriented groove internally of the motor casing" (page 2, lines 12-15 and, similarly, lines 28-30) with no reference to radial grooves.

Thus, the disclosure in the application is not restricted to the combination of axial and radial grooves claimed in the original Claim 3 but includes an implementation of the claimed tool with axial grooves only.

The patent does not therefore extend beyond the content of the application as filed.

3. Before turning to the Appellant's lack of patentability objection, the Board wishes to clarify the position in respect of the interpretation which must be given to the feature in Claim 1 that the planar boards are parallel to the rotation axis of the motor armature.

It is, of course, true that this feature, considered in isolation, covers both a substantially radial orientation with respect to the motor axis and a tangential orientation as well as any orientation between these two extremes, as long as it is parallel to the axis.

However, Claim 1 is clearly restricted by further features which exclude such a broad interpretation because it would lead to contradictory definitions:

According to Claim 1, the motor casing has internally positioned grooves adapted and constructed to receive edge portions of planar boards on which brush housings holding a brush in contact with a commutator of the motor are mounted.

These features cannot reasonably be implemented if the boards are tangentially oriented. More particularly, it would not be clear how, in this case, the grooves would have to be positioned internally of the casing, on the one hand. Probably two grooves would be needed for each planar board. On the other hand, the grooves must then have a substantially tangential orientation, as have the boards, which fit into them. Moreover, in such a case, it would not be clear how a brush housing mounted on the board in the usual way so that the brush moves in parallel to the board could hold the brush in contact with the commutator. The patent as granted as well as the application as filed are entirely silent on this.

At least if, for resolving any ambiguity, Claim 1 is interpreted in accordance with Article 69 EPC, in the light of the description and drawings, it will be perfectly clear that the extent of the protection conferred by Claim 1 does not include such a tangential orientation of the planar boards but is limited to substantially radial positions parallel to the rotation axis of the motor armature, so that the brush when moving in parallel to the planar board, moves radially to said rotation axis, typically as depicted in Figure 4 of the patent.

4. In effect, the issue of patentability reduces to the issue of inventive step.

When the Appellant referred to lack of novelty this assertion was qualified by a reference to equivalents. Strictly speaking, equivalents are not, however, a matter of non-novelty but of obviousness.

It therefore suffices to state without further reasoning that the subject-matter of Claim 1 is new with regard to any of the prior documents on file.

5. In the opinion of the Board, the subject-matter of Claim 1 also involves an inventive step because none of the prior art documents renders it obvious.

The subject-matter of the patent is therefore patentable.

In detail, the following is observed:

- 5.1. Taking document (f) as a particularly relevant piece of prior art first, it discloses a portable electric tool having an electric drive motor in a motor casing and defining a longitudinal axis about which the armature of the motor rotates, a brush assembly comprising two wedge-shaped brush units.

Each brush unit includes a brush holder (40) holding a brush in contact with the commutator of the motor.

The motor casing has axial internally positioned supports (84, 86) adapted and constructed to removably receive (by side walls 88, 90) side faces (70, 72) of the brush units so that the brushes are oriented as required.

A cap is removably mounted to the motor casing so as to expose the brush units to facilitate the easy withdrawal from and insertion into their supports, said cap having portions in abutment with the brush units to retain them in position in their supports when the cap is secured in place.

Document (f) proposes the particular form of brush units for particular reasons, e.g. because it has self-aligning properties. Nothing can be derived from this document to dispense with this form and to modify the complementarily formed support accordingly.

Thus, the Appellant's submission that it is obvious from (f) alone to replace these brush units by planar boards with a brush housing mounted thereon and consequently modify their supports to become grooves, is not well founded.

- 5.2. The Appellant has submitted that the subject-matter of Claim 1 is also obvious from document (c) alone.

This is clearly not the case.

In (c), the brush assembly consists of a plate, or bridge (3), carrying two hammer-like brush units, said plate being inserted in an opening of the motor casing and similarly bent. This plate has, on its sides, grooves extending axially for its being slid into the opening of the motor casing.

Even if it is considered that the skilled person would readily see that this plate is more or less planar, or can be modified to be planar, and that the grooves could be formed in the motor casing instead of in the plate, there is clearly no hint in (c)

- to use separate plates for the two brush units,
- to close the motor casing outside each plate in an unspecified way,
- to give the plates a substantially radial rather than tangential orientation (cf. paragraph 3 above), and
- to replace the hammer-like brush units by brush housings mounted on said plates.

5.3. It remains still to be decided whether documents (f) and (c) would, taken together, suggest the subject-matter of Claim 1.

It is difficult to see how (c) could suggest to modify the tool of (f), or vice versa, in the sense of such a combination at all.

Clearly, however, such a combination would not result in planar boards with brush housings mounted thereon and oriented to lie in planes which are substantially radial in accordance with the Board's interpretation of Claim 1 (cf. paragraph 3 above) and with edge portions received in axial internally positioned grooves.

5.4. The Board has considered whether any of the other prior art documents on file would give an incentive for a further modification of the prior tool known from (f) and/or (c) in the sense as claimed.

It concludes that this is not the case.

Wherever, in the prior art, planar boards are used, these are oriented perpendicularly to the rotation axis of the

motor; cf. in particular the French document and documents (d) and (e) and, cum grano salis, also (b).

No combination of this feature with the teaching of (f) and/or (c) would lead to planar boards having an orientation as claimed and to consequentially oriented grooves.

- 5.5. In this situation, the mere fact that the problem to be solved, as stated in the description of the patent, is not new but already solved by the subject-matter of (f) is not decisive.

For the assessment of an inventive step it suffices that the subject-matter claimed solves said problem in a considerably different way and that this different solution is unobvious as pointed out above.

6. From the Appellant's submissions, it follows that he has also formal objections against the patent documents.

In particular, he regards Claim 1, if it is intended to be restricted to a substantially radial orientation of the planar boards, as not clearly defining this orientation (Article 84 EPC).

Further, he regards this claim as incorrectly partitioned, having regard to the nearest prior art (Rule 29(1)(a/b) EPC). In this respect it is noted that the Appellant disagrees with the Opposition Division's finding that (e) constitutes the nearest prior art.

It may be added that the description does not indicate the background art (Rule 27(1)(c) EPC) found in the present procedure to be the most relevant.

However, whether or not these or any other formal objections would be justified, the present case leads to the conclusion that the grounds for opposition mentioned in Article 100 EPC do not prejudice the maintenance of the patent unamended, and in such a case Article 102(2) EPC requires that the opposition be rejected.

Any amendment to meet formal objections, such as a decision under Article 102(3) EPC would presuppose, cannot be made in this case.

7. The conditions mentioned in Rule 67 EPC for reimbursement of the appeal fee are not met.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

F.J.M. Klein

P.K.J. Van den Berg