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File Number: T 970/90 - 3.2.2
Application No.: 85 850 291.7
Publication No.: 0 177 469
Title of invention: Base structure of a motor saw

Classification: B27B 17/00

D E C I S I O N
of 21 November 1991

Applicant: AKTIEBOLAGET ELECTROLUX

Opponent: Firma Andreas Stihl, Maschinenfabrik

Headword:

EPC Article 56

Keyword: "Inventive step (no)"

Headnote



Case Number : T 970/90 - 3.2.2

D E C I S I O N
of the Technical Board of Appeal 3.2.2
of 21 November 1991

Appellant :
(Proprietor of the patent)

AKTIEBOLAGET ELECTROLUX
Luxbacken 1
S - 105 45 Stockholm (SE)

Representative :

Hagelbäck, Evert Isidor
c/o AB Electrolux
Patentavdelningen
S - 105 45 Stockholm (SE)

Respondent :
(Opponent)

Firma Andreas Stihl, Maschinenfabrik
Badstrasse 115
W - 7050 Waiblingen (DE)

Representative :

Jackisch, Walter, Dipl.-Ing.
Patentanwält W. Jackisch & Partner
Menzelstrasse 40
W - 7000 Stuttgart 1 (DE)

Decision under appeal :

Decision of Opposition Division of the European
Patent Office dated 29 October 1990 revoking
European patent No. 0 177 469 pursuant to
Article 102(1) EPC.

Composition of the Board :

Chairman : G.S.A. Szabo
Members : M.G. Noel
J.H. van Moer

Summary of Facts and Submissions

I. European patent No. 0 177 469 comprising six claims was granted on 19 October 1988 on the basis of European patent application No. 85 850 291.7.

II. In consequence of an opposition filed by the Respondent, the Opposition Division decided to revoke the patent on the ground of lack of inventive step in the subject-matter of the claims with respect to the combination of documents

(1) DE-A-3 222 457, and

(2) DE-A-2 922 303.

III. The Appellant (Proprietor of the patent) lodged an appeal against this decision on 21 December 1990 paying the fee for appeal on the same date. In support of the Statement of Grounds, he submitted a new set of five claims, of which Claim 1 reads as follows:

"1. A base structure of a motor saw provided with fuel and oil tanks, handle attachments and a sword attachment which are made of plastics, c h a r a c t e r i z e d in that the tanks (16,17) made of the plastics material are closed rooms with walls, ceiling and bottom made in one and the same plastic piece, one of said walls of each tank is provided with a filling hole formed in the plastics piece and provided with threads for a screw cap."

IV. In his reply dated 13 June 1991, the Respondent referred again to document

(3) DE-A-3 122 753

cited in the European search report and discussed in detail during the opposition procedure. This document was not retained by the Opposition Division because it was submitted late.

- V. In his written submissions the Appellant substantially argued that while the skilled person might be assumed to be aware of the plastic injection techniques, still there were problems in adoption of these techniques in the present complicated field of production of a base structure of a motor saw. The main problem was the positioning of the cores forming the cavities of the tanks. This problem was solved in the present invention by positioning the cores in the mould by means of connections positioned at the fuel and oil filling holes through the tank's wall, without further complications in the mould.

The Respondent replied that the Appellant's argumentation was irrelevant because it was based on details of the injection moulding process which were not the subject-matter of Claim 1. Furthermore, such a process was well known from document (2). Therefore, the skilled person must have encountered no difficulty in applying the teaching of document (2) to a base structure according to either documents (3) or (1) to produce a plastic tank made in one piece.

- VI. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of Claims 1 to 5 submitted with the Statement of Grounds.

The Respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

2. Amendments

The subject-matter of the present Claim 1 is a combination of Claims 1 and 5 of the application as filed, which is similar to the patent as granted. Dependent Claims 2 to 5 correspond to the original Claims 2, 3, 4 and 6, respectively.

Therefore, the amendments made to the claims are not open to formal objections under Article 123 EPC.

3. Closest prior art

In view of the structural similarities, the Board considers document (3) (which, like document (1), is the propriety of the Appellant) as the state of the art closest to the invention, in agreement with the Respondent's opinion.

In view of the particular relevancy of this late-filed document (cf. point IV. above) for the assessment of the patentability of amended Claim 1 the Board decided accordingly to admit the document (3), in the exercise of his discretion under Article 114(1) EPC. Considering that both parties have made use several times of the possibility to present their comments on this document under Article 113(1), it is possible to base the present decision also upon this evidence.

Document (3) describes a base structure of a motor saw provided with fuel and oil tanks 17,20 and handle attachments 4,5. Further, the tanks are closed rooms with

walls, ceiling and bottom, once the bottom portion 30 and the top portion 29 of the tank body have been hermetically sealed by means of gluing or welding, cf. page 6, end of second paragraph. The base structure is clearly said to be made of plastics material, see on page 7, penultimate paragraph. Furthermore, each tank is provided with a filling hole 21,22 to be obturated by a cap 23,24 respectively.

4. Novelty

It results from the foregoing that the subject-matter of Claim 1 differs from the base structure according to document (3) only by the fact that the plastic tanks are made in one and the same piece. Since no other prior art document comes closer to the subject-matter of Claim 1 than document (3), Claim 1 must be regarded as novel under Article 54 EPC.

5. Technical problem and solution

In document (3) both half portions 29,30 of the tank body are made separately and then are hermetically joined by means of gluing or welding, as seen in point 3 above. According to the Appellant (reply of 5 November 1991), this can give rise to difficulties in making the joints between the pieces forming the tanks tight.

Therefore, the technical problem to be solved underlying the present application resides in the provision of a base structure having a simplified and safer configuration, so as to ensure, according to the patent specification (cf. column 1, lines 28 to 32) a further reduction of the number of details and an increase of the load characteristic still maintaining the capacity of the tank volumes.

This is achieved by the remaining feature of Claim 1, that is to make the tanks in one and the same piece.

6. Inventive step

6.1 The skilled person learns from document (3) how to make a base structure having two tanks made of plastics material by assembling and joining together the bottom with the top portions. As it is said in the patent specification (cf. column 1, lines 13 to 22) the skilled person has several reasons for making use of plastics materials to produce said structure, in particular so as to include a maximum of functions within the smallest possible product volume.

In the Board's view, the skilled person, when faced with the problem as set above of further reducing the number of details (i.e. the different pieces constituting the base structure), will be readily and logically led to think of moulding the fuel and oil tanks in the same one piece. Considerations, such as the integration of a great number of details in only one moulding, are a constant preoccupation and form part of the normal practice of a person skilled in the art of plastic injection techniques. Whether or not a static assembly of parts should be one piece or comprise several pieces is a question of economy and durability rather than of function.

The practical realisation of such a principle solution might have given rise to a patentable invention if specific means overcoming particular difficulties and providing additional or unexpected effects had been set forth in the claims. But the sole remaining feature of Claim 1 is confined to indicate in terms of a result a general solution which, in the Board's view, cannot be considered to have any inventive significance, as being

part of common general knowledge for everyone skilled in the art.

6.2 The patent specification (cf. column 2, lines 21 to 40) indicates in detail the process to be used for moulding the tanks in one integral unit, whereby the tanks are formed directly on a couple of inner cores by the injection moulding. The cores are kept in the mould by means of connections positioned at the tank's filling holes. After injection and cooling of the plastics, cores and connections are melted and run out through the filling holes 18,19 thus formed in the moulded plastic product.

However, no inventive matter can be recognised on the basis of this particular process, since it is well known from document (2), cf. pages 8 to 10 ("Spritzgießen") with reference to Figures 6 and 7. According to this document, openings G,G' are provided through which a mould 21 is charged with a molten thermoplastic resin. After moulding, the low temperature melting alloy core 24 is taken out from the mould through the openings (cf. page 12, first paragraph), so that an integral plastic article having an intricately shaped hollow portion is obtained (cf. page 5, second paragraph), as it is the case in the present patent by forming the closed rooms of the tanks.

Accordingly, the skilled person cannot reasonably be expected not to consider the document (2) which describes a moulding process which is perfectly suitable to resolve his problem. Straightforward application of this known technique to the fabrication of the plastic tanks described in document (3) will immediately result in a tight base structure made in one and the same plastic piece, in accordance with Claim 1. This does not, in the Board's view, involve an inventive step in the sense of Article 56 EPC.

6.3 The Appellant submitted (cf. point V. above) that there were still difficulties in applying the known techniques to the present case and that making use of the tank's filling holes in order to set the inner cores in position during the moulding operation denoted a contribution to the inventive activity of the solution. Beside the fact that such a feature is not the subject-matter of Claim 1, the Board is of the opinion that if the skilled person decides - and he certainly will - to apply the known moulding process to make tanks in one piece, he can as well use the filling holes 21,22 as provided in the tanks of the closest prior art document (3) for the same purpose.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar:



S. Fabiani

The Chairman:



G. Szabo

DM
5-12-91.
M. Wolf.
3.12.91