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**Datasheet for the decision
of 9 June 2011**

Case Number: T 1193/08 - 3.2.07

Application Number: 00101002.4

Publication Number: 1118430

IPC: B24B 33/04

Language of the proceedings: EN

Title of invention:

External hone and method of making and using the same

Patent Proprietor:

SUNNEN PRODUCTS COMPANY

Opponent:

Nagel Maschinen- und Werkzeugfabrik GmbH

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56, 100(a)(c), 113(1)

EPC R. 103(1)(a), 115(2)

RPBA Art. 12(1)(a), 15(3)

Keyword:

"Interpretation of claim 1 (point 2.6)"

"Disclosure of prior art (points 3.4; 4.5; 4.6)"

"Novelty - yes (points 5.1; 5.2)"

Decisions cited:

T 0607/93

Catchword:

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Case Number: T 1193/08 - 3.2.07

D E C I S I O N
of the Technical Board of Appeal 3.2.07
of 9 June 2011

Appellant: Nagel Maschinen- und Werkzeugfabrik GmbH
(Opponent) Oberboihingerstrasse 60
D-72622 Nürtingen (DE)

Representative: Muschik, Thomas
Patentanwälte Ruff, Wilhelm,
Beier, Dauster & Partner
Kronenstrasse 30
D-70174 Stuttgart (DE)

Respondent: SUNNEN PRODUCTS COMPANY
(Patent Proprietor) 7910 Manchester Avenue
St. Louis, MO 63143 (US)

Representative: Hano, Christian
v. Fünér Ebbinghaus Finck Hano
Mariahilfplatz 2 & 3
D-81541 München (DE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 21 April 2008
rejecting the opposition filed against European
patent No. 1118430 pursuant to Article 101(2)
EPC.

Composition of the Board:

Chairman: H. Meinders
Members: H.-P. Felgenhauer
E. Dufrasne

Summary of Facts and Submissions

I. The opponent (appellant) has filed an appeal against the decision of the opposition division rejecting the opposition against European patent No. 1 118 430. It requests the impugned decision to be set aside and the patent to be revoked.

The respondent (patent proprietor) requests that the appeal be rejected.

The appellant furthermore requested reimbursement of the appeal fee and, auxiliarily, oral proceedings.

II. Claim 1 of the patent as granted reads as follows (with an added division of features):

An apparatus

- (a) for use in honing the external cylindrical surface of a workpiece comprising
- (b) an elongated annular metal member (20) having opposed end portions, inner and outer surfaces (24, 22), and a passageway extending therethrough from end-to-end,
- (c) the inner surface (24) of said annular member (20) having a layer of an abrasive material (26) extending substantially the full length thereof, and
- (d) a slot (32) formed through one side portion of said annular member (20) extending the full length

thereof to facilitate expansion and contraction thereof to radially adjust the diameter of the inner surface (24) of said annular member (20),

characterized in that

(e) said abrasive material (26) is in direct contact with the inner surface (24) of said annular metal member (20).

III. The following documents of the opposition proceedings are considered in the present decision:

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| D3 | US-A-5 564 972 |
| D7-1 | Catalogue Nagel "Honwerkzeuge mit Handaufweitung für Werkzeugmaschinen", edition No. 4/71d |
| D7-2 | Drawing no. 53684 "Außenhonwerkzeug" dated 2.3.66 of Nagel Maschinen- und Werkzeugfabrik |
| D7-3 | Drawing no. 87290 "Hon-Hülse für AH 24" dated 23.7.84 of Nagel Maschinen- und Werkzeugfabrik |
| D7-4 | Invoice no. 098080 "Hon-Hülse AH 24 belegt mit D 30/4/2016/75", dated 30.04.98 of Nagel Maschinen- und Werkzeugfabrik GmbH |
| D7-5 | Drawing, undated and unsigned |
| D7-6 | Copy of photo, undated and unsigned |

- D7-7 Copy of two photos, undated and unsigned
- D7-8 Prospectus "Nagel-Honsteine", edition 9/73-2 of Nagel Maschinen- und Werkzeugfabrik GmbH
- D7-9 Declaration ("Eidesstattliche Versicherung") by Mr. Helmut Schröppel, dated 05.03.2008.

IV. Concerning the alleged public prior use for which D7-1 to D7-9 served, with the grounds of appeal furthermore

- D7-10 Copy of Testbild Schneidbelag, dated 03.03.2008
- D7-11 Declaration ("Eidesstattliche Versicherung") by Mr. Dieter Kühnl, dated 17.07.2008
- D7-12 Notice of delivery No 042711 dated 1.2.65 of Nagel, Maschinen- und Werkzeugfabrik GmbH
- D7-13 Copy of "REM-Aufnahmen Verbindungsbereich", of Nagel Maschinen- und Werkzeugfabrik GmbH dated 04.03.2008

have been filed.

In the following the alleged public prior use will, in case no particular one of the above documents is addressed, be referred to as (prior use) D7.

V. *Basis of the proceedings*

In the grounds of appeal the findings of the impugned decision concerning the grounds of opposition according to Articles 100(a) (lack of novelty) and 100(c) EPC (amendments) have been addressed. The original ground of opposition concerning lack of inventive step has not been referred to by the appellant in the appeal proceedings.

The appeal proceedings are thus not based on this ground (Article 12(1)(a) RPBA) and consequently this ground of opposition does not need to be considered.

Furthermore the request for reimbursement of the appeal fee needs to be decided upon.

VI. In the annex to the summons to oral proceedings dated 28 March 2011 (in the following: the annex) the Board gave its preliminary opinion on the above mentioned issues taking, in the absence of a reply to the appeal by the respondent, solely into account the impugned decision and the arguments given in the grounds of appeal as well as the facts relied upon. The board saw no basis for the objections under Article 100(c) EPC nor for a reimbursement of the appeal fee.

VII. In its reply to the annex, by letter dated 27 May 2011 the appellant essentially argued only with respect to the interpretation of features (c) and (e) of claim 1 and the manner in which novelty has to be examined, and that taking this into account the apparatus according to claim 1 lacks of novelty with respect to D3 or D7.

Concerning the disclosure of D3 and its consideration in the examination of novelty the appellant referred to its submissions in the grounds of appeal.

Concerning the disclosure of D7 and its consideration in the examination of novelty the appellant stated that it does not dispute that according to D7 the abrasive material is embedded in a binder of bakelite. It furthermore asserted that this abrasive material forms a layer which is in direct contact with the inner surface of the annular metal member.

With respect to the understanding of features (c) and (e) the appellant essentially objected to aspects of these features being taken into account which were not clearly defined in claim 1.

The appellant remained silent concerning the ground of opposition according to Article 100(c) EPC and its request for reimbursement of the appeal fee.

- VIII. The respondent did not provide any substantive reply to the annex nor to the letter the appellant filed in response to the annex.
- IX. The Board was informed by the appellant in its reply to the annex and by the respondent (letter dated 6 April 2011) that neither would attend the oral proceedings.
- X. Oral proceedings took place on 9 June 2011 in the absence of the duly summoned parties.

Reasons for the decision

1. *Procedural aspect*

Both parties have, after having been duly summoned to oral proceedings before the Board, declared that they will not attend the oral proceedings.

Oral proceedings, at the end of which the present decision has been announced, have been held therefore in the absence of the parties, according to Rule 115(2) EPC and Article 15(3) RPBA.

The right of the parties to be heard (Article 113 (1) EPC) has been respected since the present decision is based on facts and arguments to which the parties have had the opportunity to be heard and, in the case of the appellant, also made use of it.

2. *Subject-matter of claim 1*

2.1 Claim 1 defines an apparatus for use in honing the external cylindrical surface of a workpiece. The apparatus comprises an elongated annular metal member (feature (b)) and a layer of an abrasive material. The relationship between these two entities is such that the inner surface of the annular metal member has a layer of abrasive material (feature (c)) and the abrasive material is in direct contact with the inner surface of the annular member (feature (e)).

2.2 As emphasized in the annex (section 10) and agreed to by the appellant (see its reply to the annex, section 4) the meaning of features (c) and (e) is of particular

importance concerning the understanding of the subject-matter of claim 1 and consequently for the examination of novelty with respect to D3 and D7.

- 2.3 In the annex (section 10.3.1) the Board expressed its opinion that it is primarily the definition given by features (c) and (e) themselves which determines the understanding of these features.

It is true that, as criticized by the appellant, in this context the annex raises questions, in particular whether feature (e) needs to be understood such that "abrasive material and nothing else, in particular no binder, is in direct contact with the inner surface" (annex, section 10.3.2).

As can be derived from the following this question is of no relevance concerning the assessment of novelty and thus needs no further consideration.

Following the approach of T 607/93, not published in OJ EPO, point 2.2 of the reasons, if the features of a claim (in that case a too broad claim) do not require interpretation, as they are clear in themselves and in their relation to each other, the Board can restrict its assessment of the meaning of features (c) and (e) to the wording used for these features.

- 2.4 In feature (c) it is referred to "the inner surface (24) of said annular member (20) having a layer of an abrasive material (26)"

Consequently referring to a "layer of an abrasive material" in feature (c) defines that abrasive material

is arranged as a layer. This understanding is corroborated by the further qualification for the position of this layer, in that it is the inner surface of said annular member "having" the layer concerned.

2.5 According to feature (e) the relationship between the abrasive material and the inner surface of the annular metal member referred to previously in feature (c) is further qualified by defining that said abrasive material, and thus the layer of an abrasive material as defined by feature (c) is in "direct contact" with the inner surface of the annular metal member.

2.6 Features (c) and (e) thus, corresponding to the normal meaning of their wording, define that a layer of an abrasive material is present, the inner surface of the annular member having the layer and that the abrasive material of the layer is in direct contact with the inner surface.

For completeness' sake it shall be indicated that this finding based solely on the wording of features (c) and (e) is in line with the argument of the grounds of appeal (paragraph 3.1) according to which the direct contact mentioned in feature (e) is an inevitable result of the electroforming process known from D3.

3. *Disclosure of D3*

3.1 The disclosure of D3 has been discussed in the annex (section 12). In this respect the Board has indicated that the main question which needs to be examined "appears to be whether or not the deposition according to D3 of abrasive particles on a forming mandrel to

form a superabrasive layer 22 which is then transferred to a metal shell 16 and held therein by an epoxy layer as indicated above, leads to a layer of abrasive particles **on** the inner surface of that shell (feature (c)), bringing the abrasive material **in direct contact with** that inner surface (feature (e))."

- 3.2 In its reply to the annex, point 3, the appellant restricted its argumentation with respect to D3 by taking account of the fact that apparently the Board understands feature (c) like it has been done in the impugned decision, namely that two different entities, namely a "layer of abrasive material" and a "surface" must be present.
- 3.3 Concerning the disclosure of D3 the Board adheres to the opinion that in line with the impugned decision (grounds, point 17), and contrary to the view expressed in the grounds of appeal (section 3.1), the abrasive material disposed according to D3 (column 4, lines 24 - 39) about a cylindrical rod forming a superabrasive layer preferably by electroforming still is only in the form of a layer of abrasive material which does, due to the electroforming, **not** develop into a structure comprising in addition to this layer also a metallic annular member, to the inner surface of which the layer of abrasive material would be attached.
- 3.4 Thus D3 discloses an apparatus for honing with an arrangement of a layer of an abrasive material and an annular metal member, connected to each other via an intermediate epoxy layer.

4. *Disclosure of D7*

4.1 Concerning the apparatus for use in honing disclosed by D7 the appellant clarified that it is undisputed that this apparatus is one in which abrasive material embedded in a non-metallic binder, namely bakelite, is arranged within an annular metallic member (reply to the annex, point 3).

It further expressed the opinion that the abrasive material embedded in the binder comprises a layer of abrasive material which is in direct contact with the inner surface of the annular member (reply to the annex, point 4).

Furthermore it indicated that, as can be derived from D7-10, there is no permanent layer of glue between the abrasive material embedded in the bakelite binder and the inner surface of the annular member.

4.2 The Board accepts to the benefit of the appellant that between the abrasive material embedded in the bakelite binder and the inner surface of the annular metal member no intermediate layer of glue needs to be taken into account.

4.3 The Board however is not convinced that the arguments of the appellant hold, according to which

(i) the abrasive material embedded in the binder comprises a layer of abrasive material and

(ii) this layer of abrasive material is in direct contact with the inner surface of the annular member.

The appellant's evaluation of the disclosure of D7 is not based on the actual facts and evidence to be considered with respect to D7.

4.4 In this connection it needs to be taken into account that the abrasive material is embedded in a binder of bakelite.

The Board considers that embedding abrasive particles in a bakelite binder results in a random distribution of this abrasive material within the binder which means that it is highly unlikely, if not impossible, that a distinguishable "layer of an abrasive material" as claimed is formed. This holds true even more considering that feature (c) defines not only such a layer but also its position, by defining that the inner surface of said annular member has this layer. The photo D7-10 referred to by the appellant, which shows a random distribution of abrasive particles and binder material (in a section of abrasive material embedded in a binder according to D7), supports this finding.

4.5 Thus in the apparatus according to D7 there is not a direct and unambiguous disclosure for "a layer of an abrasive material" being present nor for the inner surface of the annular member having such a layer, both as required by feature (c).

4.6 The above finding has furthermore the immediate consequence that for the apparatus according to D7 only

part of the abrasive particles will be in direct contact with the inner surface of the annular metal, whereas other particles are not. Therefore, even if one were to consider the entire layer of bakelite and abrasive particles to be the claimed "layer of an abrasive material" (feature (c)), as in a "layer comprising abrasive material", which the annular member "has on its inner surface", it will not be such that "said" (i.e. **all**) abrasive material will be in direct contact with the inner surface, as required by feature (e).

5. *Novelty*

In line with the established jurisprudence of the Boards of Appeal (see Case Law of the Boards of Appeal of the EPO, 6th edition, 2010, chapter I.C.3) novelty will be assessed considering the subject-matter as defined by claim 1 (see point 2.6 above) in comparison with the disclosure of D3 or D7 and ascertaining whether the invention in question differs from that prior art.

- 5.1 Based on the disclosure of D3 as established above (point 3.4) the apparatus according to claim 1 is distinguished from this known apparatus in that the arrangement of the layer of abrasive material and the annular metal member has to be such that the inner surface of the annular member has a layer of abrasive material (feature (c)) and said abrasive material is in direct contact with the inner surface of said annular metal member (feature (e)).

The apparatus according to claim 1 is thus novel over the apparatus disclosed in D3 (Article 54 EPC).

- 5.2 As established above (points 4.4 and 4.5) D7 does not disclose an apparatus with the inner surface of said annular member having a layer of an abrasive material. Alternatively (point 4.7), D7 does not disclose an apparatus with said abrasive material being in direct contact with the inner surface of the annular metal member.

Consequently the apparatus as defined by claim 1 is distinguished from the one disclosed in D7 either by feature (c) or by feature (e).

The apparatus according to claim 1 is thus also novel over the apparatus of D7 (Article 54 EPC).

6. *Ground of opposition according to Article 100(c) EPC*

- 6.1 With the grounds of appeal arguments have been brought forward with respect to the ground of opposition according to Article 100 c) EPC.

- 6.2 The Board in the annex (section 11.3) gave its preliminary opinion according to which it is essential for the invention as disclosed in the application as filed (cf. paragraphs [0014] and [0035]) that the abrasive material is applied directly to the inner surface of the annular metal member in the form of a layer (features (c) and (e)) since due to the resulting contact between the abrasive material and the annular metal member heat can efficiently dissipate into the surrounding metal parts.

With respect to the argument in the grounds of appeal relating to the omission of features concerning the provision of a further part, namely a support member, the Board considered it to be necessary to examine whether or not these further features are, for the skilled person, inseparably related to these features of claim 1. This also appeared to apply for the argument that features relating to the shape of the inner annular surface are missing. In this respect it further indicated that it may also have to be taken into consideration that according to the relevant disclosure as referred to in the grounds of appeal the application as filed indicated that "the inlet portion of the inner surface of the honing member **may** include one or more tapered portions ..." (see published application, column 3, lines 23 - 28; marking in bold added by the Board). The description also does not mention a relationship between the form of the inner annular surface and the question of heat dissipation.

In the annex the Board finally concluded that at present it does not see convincing reasons for assuming that the finding of the impugned decision is incorrect in this respect.

- 6.3 In view of the fact that the appellant remained silent concerning this reasoning in its reply to the annex the Board has reconsidered its reasoning as outlined above, but does not see any reason to change its preliminary opinion.

Consequently the Board considers the impugned decision to be correct in finding that the ground of opposition according to Article 100(c) EPC is not well founded.

The appeal can therefore not be allowed.

7. *Request for reimbursement of the appeal fee*

As indicated in the annex (section 15.1), according to Rule 103(1)(a) EPC the appeal fee shall be reimbursed where the Board deems an appeal to be allowable, if such reimbursement is equitable by reason of a substantial procedural violation.

Since in the present case the appeal is not allowable it need not be further examined whether, as elaborated in the annex (sections 15.3, 15.3.1 - 15.3.5), reimbursement could be considered equitable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders