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**Datasheet for the decision
of 28 July 2011**

Case Number: T 1463/08 - 3.2.05

Application Number: 00957894.9

Publication Number: 1207991

IPC: B29C 47/62

Language of the proceedings: EN

Title of invention:
Extruder screw

Patentee:
Davis-Standard, LLC

Opponent:
Maillefer S.A.

Headword:
-

Relevant legal provisions:
EPC Art. 54, 116(1)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Novelty - no"

Decisions cited:
-

Catchword:
-



Case Number: T 1463/08 - 3.2.05

D E C I S I O N
of the Technical Board of Appeal 3.2.05
of 28 July 2011

Appellant: Maillefer S.A.
(Opponent) Route du Bois
CH-1024 Ecublens (CH)

Representative: -

Respondent: Davis-Standard, LLC
(Patent Proprietor) One Extrusion Drive
Pawcatuck CT 06379 (US)

Representative: Spott, Gottfried
Spott & Weinmiller
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted
26 May 2008 concerning maintenance of European
patent No. 1207991 in amended form.**

Composition of the Board:

Chairman: W. Zellhuber
Members: H. Schram
E. Lachacinski

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the decision of the Opposition Division posted on 26 May 2008 maintaining European patent No. 1 207 991 in amended form on the basis of claims 1 to 4 filed by the patent proprietor as an auxiliary request on 3 April 2008.

The Opposition Division held that the grounds of opposition under Article 100(a) EPC (lack of novelty, Article 54 EPC, and lack of inventive step, Article 56 EPC) did not prejudice the maintenance of the patent in amended form.

The appellant requested that the decision under appeal be set aside and that the patent in suit be revoked.

II. The patent proprietor had also initially filed a notice of appeal on 28 July 2008, wherein it requested that the decision under appeal be set aside and that the patent be maintained as granted. Oral proceedings were requested as an auxiliary measure. On 12 September 2008 the appeal was withdrawn and the patent proprietor (henceforth referred to as the respondent) stated that a statement of grounds would no longer be filed.

III. In a communication of the Registry of the Board pursuant to Rule 84(1) EPC dated 5 August 2010, the appellant was requested to state whether it was interested in a continuation of the appeal proceedings.

- IV. The respondent informed the Board by fax on 12 August 2010 that it was no longer interested in a continuation of the appeal proceedings.
- V. The appellant informed the Board by letter dated 29 September 2010 that it was interested in a continuation of the appeal proceedings.
- VI. In a communication dated 7 April 2011, which conveyed a provisional opinion of the Board, the parties were informed that the statement of the respondent (see point IV above) was interpreted by the Board as a withdrawal of the auxiliary request for oral proceedings. With regard to substantive issues the Board expressed its provisional opinion that "[It] would therefore seem that the subject-matter of claim 1 as maintained is not new ...". The parties were given a time limit of two months to reply to the communication.
- VII. Claim 1 as maintained reads as follows:

"1. An axially elongated extruder screw (22) having a screw body (40) including an axially extending portion defined by a feed section (24) at an inlet end (26) of said screw (22), a metering section (28) at an outlet end (29) of said screw (22) and a barrier section (30) between said feed and metering sections (24, 28), said screw (22) further comprising:

 a first helical primary flight (42) having a first advancing surface (44) and a first retreating surface (46), extending about and coaxial with said screw body (40) along the length of said extruder screw (22);

 said screw body (40) defining a first helical surface of revolution (54),

said barrier section (30) including:

a first barrier flight (60) having a third advancing and a third retreating surface (64, 68), extending about and coaxial with said screw body (40) along said barrier section (30),

said screw body (40) defining a third helical surface of revolution (66) between said first advancing and third retreating surfaces (44, 68) and cooperating therewith to form a first melt channel (70) extending along said barrier section (30);

and further comprising a second helical primary flight (48) extending at least part-way along said feed section (24) to said outlet end (29) of said extruder screw (22) and having a second advancing surface (50) and a second retreating surface (52);

said first helical surface of revolution (54) being defined between said first advancing and second retreating surfaces (44, 52), and said screw body (40) cooperating therewith to define a first solids channel (56);

said screw body (40) defining a second helical surface of revolution (57) between said second advancing and first retreating surfaces (50, 46), and cooperating therewith to define a second solids channel (58);

said first barrier flight (60) being positioned between said first advancing and second retreating surfaces (44, 52) thereby causing said first helical surface of revolution (54) to be redefined between said third advancing and second retreating surfaces (64, 52);

a second barrier flight (62) having a fourth advancing and a fourth retreating surface (64, 74), extending about and coaxial with said screw body (40)

along said barrier section (30), said second barrier flight (62) being positioned between said second advancing surface (50) and said first retreating surface (46) thereby causing said second helical surface (57) to be redefined between said fourth advancing and first retreating surfaces (64, 46); and

said screw body (40) defining a fourth helical surface of revolution (72) between said second advancing and fourth retreating surfaces (50, 74) and cooperating therewith to form a second melt channel (76) extending along said barrier section (30),

characterized in that

each of said first and second primary flights (42, 48) defines a pitch that varies along the length of said extruder screw (22), and

each of said first and second barrier flights (60, 62) defines a pitch that varies along the length of said extruder screw (22) resulting in

said first and second solids channels (56, 58) each defines a width that progressively decreases along said in a downstream direction along said barrier section (30), and

said first and second melt channels (70, 76) each define a width that progressively increases in a downstream direction along said barrier section (30)."

VIII. The following document was referred to in the appeal proceedings:

D3 Documents D3.1 to D3.8 relating to a prior use of Nokia-Maillefer S.A. of the extruder NMB 100-24D containing a screw of type Gina (see in particular document D3.5: Drawing No. 770 1309.6 of Nextrom S.A. with the designation "NM 100-24D VIS GINA",

dated 18 October 1993), shipped to Cable System International (CSI) in July 1997, and accepted by CSI on 12 November 1997.

IX. The arguments of the appellant can be summarized as follows:

All the features of claim 1 as maintained were known in combination from the prior use of the extruder NMB 100-24D as described in document D3. Consequently, its subject-matter was not new and therefore the patent in suit should be revoked.

X. The respondent did not file any substantive arguments during the appeal proceedings.

Reasons for the Decision

1. *Procedural issues*

Article 116(1) EPC stipulates that oral proceedings shall take place either at the instance of the European Patent Office if it considers this to be expedient or at the request of any party to the proceedings. This article gives a party the unconditional right to be heard and present its case during oral proceedings.

In the judgment of the Board, the statement of the respondent (see point IV) that it was no longer interested in a continuation of the appeal proceedings can only be construed as meaning that, if oral proceedings were appointed, the respondent would not attend them. In other words, this statement is

tantamount to a withdrawal of its auxiliary request for oral proceedings (see point VI).

Since no reply to the Board's communication dated 7 April 2011 was received from of the respondent within the time limit (and hence no indication that the request for oral proceedings was maintained), in the judgment of the Board the respondent forsook its right to oral proceedings.

The appellant also requested that oral proceedings be appointed, should the Board intend not to decide in favour of its main request, viz to revoke the patent.

Since the main request of the appellant is granted (see point 2 below), this case can be decided without appointing oral proceedings.

2. *Objection of lack of novelty, Article 54 EPC*

2.1 Interpretation of claim 1 as maintained

The first and second characterizing features of claim 1 as maintained read as follows:

"each of said first and second primary flights (42, 48) defines a pitch that varies along the length of said extruder screw (22)" and "each of said first and second barrier flights (60, 62) defines a pitch that varies along the length of said extruder screw (22)", cf column 3, lines 48 to 51, of the patent as granted.

As shown in Figures 3 and 5 to 7 of the patent in suit, in the first part of the feed section 24 the pitch of

the first and second primary flights 42, 48 is constant, then increases at the end of the feed section 24 and stays constant up to the end of the barrier section 30. It can also be seen in these Figures that the pitch of the first and second barrier flights 60, 62 is (slightly) higher than the pitch of the first and second primary flights 42, 48 but largely constant from the line 5-5 to the line 7-7, with the result that the width of the first and second solids channels 56, 58 progressively decreases, whereas the width of the first and second melt channels 70, 76 progressively increases in a downstream direction along said barrier section.

In the judgment of the Board, it follows from this observation that a flight that has a pitch that changes once, viz. a flight having a pitch f_1 in a first section of the extruder screw and a pitch f_2 in a second section of the extruder screw, can be said to have "a pitch that varies along the length of said extruder screw".

- 2.2 The two-part form of claim 1 as maintained is based on the axially elongated extruder screw according to the prior use D3 and shown in Drawing D3.5, as acknowledged by the respondent by filing said claim and the amendments to the patent specification with its letter dated 3 March 2008 with a view to taking the prior art D3 into consideration (see in particular the amended paragraph [0001] of the description).

However, the axially elongated extruder screw according to the prior use D3 not only comprises all the features of the preamble of claim 1 as maintained but also the features of its characterizing portion, since both the first and second primary flights and the first and

second barrier flights change their pitch in the transition area between the feed section and the barrier section (cf. indicated by arrows "changement de pas" in Drawing D3.5), with the pitch of the first and second barrier flight (pas 138,29) being (slightly) higher than the pitch of the first and second primary flight (pas 133,33).

- 2.3 The subject-matter of claim 1 as maintained is therefore not new within the meaning of Article 54 EPC with respect to the axially elongated extruder screw known from said prior use.

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

W. Zellhuber