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Datasheet for the decision of 10 October 2017

Case Number: T 0283/14 - 3.2.08

Application Number: 08010226.2

Publication Number: 2000226

IPC: B21C23/21, B21C31/00

Language of the proceedings: EN

Title of invention:
Improved press for extruding non-ferrous metal section members

Patent Proprietor:
Presezzi Extrusion S.p.A.

Opponents:
SMS group GmbH
Turla S.r.l.

Headword:

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
Novelty - (yes)
Inventive step - (no)

Decisions cited:
G 0003/14

Catchword:

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Case Number: T 0283/14 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 10 October 2017

Appellant: (Opponent)	SMS group GmbH Ohlerkirchweg 66 41069 Mönchengladbach (DE)
Representative:	Grosse, Wolf-Dietrich Rüdiger Hemmerich & Kollegen Patentanwälte Hammerstrasse 2 57072 Siegen (DE)
Respondent: (Patent Proprietor)	Presezzi Extrusion S.p.A. Via Rovereto 1/D 20059 Vimercate MI (IT)
Representative:	Kratter, Carlo Giambrocono & C. s.p.a. Via Rosolino Pilo 19 b 20129 Milano (IT)
Party as of right: (Intervener)	Turla S.r.l. Via del Pavione 6-8 25050 Paderno Franciacorta (BS) (IT)
Representative:	Mittler, Andrea MITTLER & C. s.r.l. Viale Lombardia, 20 20131 Milano (IT)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 13 December 2013 rejecting the opposition filed against European patent No. 2000226 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	C. Herberhold
Members:	M. Foulger
	P. Schmitz

Summary of Facts and Submissions

I. With the decision dated 13 December 2013, the opposition division rejected the opposition against European patent No. 2 000 226.

II. The appellant (opponent) filed an appeal against this decision. The appeal was filed in due form and within the given time limits. During the appeal proceedings, an assumed infringer intervened in the proceedings in accordance with Article 105 EPC.

III. Oral proceedings took place before the Board on 10 October 2017.

IV. At the end of the oral proceedings, the requests were as follows:

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

The respondent requested that the appeal be dismissed and that the patent be maintained as granted.

V. Claim 1 of the patent as granted reads:

"An extruding press for extruding nonferrous metal section members, of the type comprising an extruding punch (2), driven by hydraulic driving cylinders (3, 4) in turn driven by at least a pump (15) controlled by a motor (16), **characterized in that** said motor (16) is an electric low moment of inertia motor."

VI. The following documents are referred to in this decision:

D1: JP 1-309718 A
D3: "Upgrading Extrusion Presses with Variable Frequency Drives", R. Rutkowski, SMS Emuco Inc., pp. 361-366, Eighth International Aluminium Extrusion Technology Seminar, 2004
D4: "Electro-hydraulic system for extrusion presses - low energy, reliable", J.G.Stott and B.Wilkins, Aluminium International Today, April/May 2002, pp. 19,20
D5: "Frisch gepresst - Drehzahlregelung für Hydraulikpumpen", U.Möbus, O+P Ölhydraulik und Pneumatik 43 (1999), Nr. 5, pp. 384,385
D8: "Reliance Electric Variable Speed AC Motors", Rockwell International Corporation, 1997
Annex 1bis: Leroy Somer catalogue, 1/2005
Annex 2: "Drive^{IT} Low Voltage General Purpose Motors", ABB, 9.2003
Annex 4: "3-phase asynchronous motors for frequency converters", ABB, 26 November 2002
Annex 8: "CATÁLOGO GENERAL TÉCNICO MAC", VASCAT, 2005.

VII. The appellant and the intervener argued essentially the following:

a) Novelty

Documents D1,D3-D5 disclosed extruding presses according to the preamble of claim 1. Claim 1 was characterised in that the motor was an electric low moment of inertia motor. There was no standard which defined the term "low moment of inertia" which was a relative term and, hence, unclear and as such could not be used to differentiate the claimed subject-matter

from the prior art.

Moreover, the motors in D3 and D5 demonstrated rapid response times - see D3, Fig. 4 and last paragraph of p.365 and D5, p.385, l.h.col. wherein the operating speed is reached in 0.3s. This showed that the motors of D3 and D5 had low moments of inertia. Thus the subject-matter of claim 1 was not new.

b) Inventive step

The subject-matter of claim 1 possibly differed from the extruding presses of D3-D5 in that the motor was an electric low moment of inertia motor.

The problem to be solved was to reduce energy consumption in the extruding press.

This problem was addressed in the prior art documents, see D3, r.h. col., 2nd paragraph and D4, title and page 19, lower paragraph of the centre column, and in the patent itself, see paragraph [0010].

The fact that less energy was required to accelerate motors with low moments of inertia belonged to the common general knowledge of the skilled person.

Thus, in order to solve the above problem, it would have been obvious for the skilled person to provide motors with low moments of inertia.

D5 did not demonstrate a prejudice in the art against electric low moment of inertia motors. It was simply an isolated example without any explanation why this particular motor had been chosen. Moreover Annex 4 and D8 showed that using low moment of inertia motors for

variable speed applications was well known in the art and hence provided the skilled person with a hint to use an electric motor with a low moment of inertia. In particular, D8 showed that the use of low moment of inertia motors was known in extruders - see "RPM AC DPFV", 2nd page, l.h. column.

Therefore, the subject-matter of claim 1 did not involve an inventive step.

VIII. The respondent argued essentially the following:

a) Novelty

Even if the term "low moment of inertia" was not standardised it was common in the art and as such had a clear technical meaning. This was demonstrated by numerous manufacturers' catalogues, see for example Annexes 2, 4 and 8.

When comparing motors it was important to take motors with the same power, speed and number of poles.

Of the documents D1,D3-D5 only D5 disclosed which particular electric motor was used and this motor had a moment of inertia of 6.2 kgm^2, see Annex 1bis. Annex 8 described low moment of inertia motors, see p.36. For a 202 kW motor, i.e. a similar duty to that of the motor specified in D5, a moment of inertia of 1.324 kgm^2 was disclosed, see p.57. Thus the motor of D5 would not have been regarded by the skilled person as being of a low moment of inertia.

D1,D3 and D4 did not disclose what type of electric motor was used. The acceleration times cited did not show that the motor had a low moment of inertia because

this depended on the complete system and in particular on the load to be accelerated. Thus the characterising feature of claim 1 was also not known from these documents.

The subject-matter of claim 1 was therefore new.

b) Inventive step

D1,D3-D5 may well disclose the features of the preamble of claim 1, there was however no hint in the prior art to use a low moment of inertia electric motor. The skilled person could perhaps have arrived at the subject-matter of claim 1 but would not have done so.

In fact D5 taught that a standard motor, i.e. not low moment of inertia, should be used. This showed a technical prejudice in the art. Moreover, the authors of D3-D4 were well respected figures in the field of extrusion presses and had not mentioned low moment of inertia in these articles. This further supported the existence of a prejudice in the prior art. D8 did not overcome this prejudice because it did not state that the extruder was for non-ferrous metals as claimed - the extruder could be used for plastic which would involve much lower forces.

The subject-matter of claim 1 therefore involved an inventive step.

Reasons for the Decision

1. Admissibility

The appeal as well as the intervention are admissible. This has not been contested.

2. Novelty

It is common ground that documents D1,D3-D5 all disclose the features of the preamble of claim 1. In dispute is the characterising feature of the claim whereby the motor is an electric low moment of inertia motor.

It is also undisputed that there is no standard that defines the term low moment of inertia for electric motors and that would allow the skilled person to determine unambiguously whether a given motor would fall within the scope of the claim.

It is correct that the term "low" is relative and does not allow a clear demarcation with the state of the art. However, as pointed out in G3/14, OJ 2015, A102, Reasons 55, this must be lived with. This term does however have a meaning for the skilled person, as shown by the Annexes 2, 4 and 8.

In the present case, documents D1, D3 and D4 do not disclose the type of motor used, so even if the feature were clear, it cannot be determined whether it is known from these documents. Furthermore, the response times disclosed in D3 and D4 depend on the load which is to be accelerated as well as the moment applied and thus cannot be taken as a clear and unambiguous disclosure

of a low moment of inertia motor. Therefore, the subject-matter of claim 1 is new with respect to these documents.

Document D5 does disclose the type of motor used, namely Leroy Somer, 200 kW, FLS 355LB (see p. 384, final paragraph and p. 385, l.h.col., l. 14). This motor has a moment of inertia of 6.2 kgm^2 (see Annex 1bis).

On the other hand, Annex 8 discloses motors with low moments of inertia (see p. 36), the motor of 202 kW on p. 57, i.e. a motor of a comparable rating to that of D5, has a moment of inertia of 1.324 kgm^2. In the case of the motor known from D5, the moment of inertia of the motor is thus well above what the skilled person would regard as "low" as illustrated by the example from Annex 8. Thus, despite the fact that no exact definition can be given of where the boundary between "low" and "not low" lies, the skilled person would not regard this feature as being known from D5.

The subject-matter of claim 1 is thus new.

3. Inventive step

Any of D3-D5 can be regarded as the closest prior art. It is undisputed that these documents each disclose presses according to the preamble of claim 1.

The subject-matter of claim 1 therefore differs from these known extrusion presses in that the electric motor is a low moment of inertia motor.

The problem to be solved is to provide a more energy efficient extrusion press.

It is common general knowledge of the skilled person that accelerating objects with high moments of inertia requires more energy than for objects with low moments of inertia.

Hence, to solve the above problem, it would have been obvious for the skilled person to have used an electric motor with a low moment of inertia.

The argument that there was a prejudice in the art against the use of low moment of inertia motors is not persuasive. Although, as discussed above, D5 does not disclose a low moment of inertia motor, this cannot be taken as evidence of a technical prejudice in the art because it is simply a single example and D5 does not provide any explanation why this particular motor was chosen. The fact that D3 and D4 do not make any mention of the type of motor used also cannot be regarded as establishing a technical prejudice. Moreover, Annex 4, which is a catalogue entitled "3-phase asynchronous motors for frequency converters", describes low moment of inertia motors which have an excellent dynamic response and explicitly for use with frequency converters. Moreover, D8 describes low moment of inertia motors whose uses include extrusion presses and fields of application include the metal industry. Thus rather than show a prejudice against, the prior art cited encourages the skilled person to use a motor with a low moment of inertia.

Therefore the subject-matter of claim 1 does not involve an inventive step.

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:

C. Moser C. Herberhold

Decision electronically authenticated