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D E C I S I O N
of 22 February 2000

Case Number: T 1161/97 - 3.2.3
Application Number: 92203419.4
Publication Number: 0543439
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F26B 21/02

Language of the proceedings: EN

Title of invention:
Drier with improved gas management

Patentee:
Heidelberger Druckmaschinen Aktiengesellschaft

Opponent:
VITS-Maschinenbau GmbH

Headword:

-

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:

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Catchword:

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Boards of Appeal

Chambres de recours

Case Number: T 1161/97 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 22 February 2000

Appellant: VITS-Maschinenbau GmbH
(Opponent) Winkelsweg 172
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Representative: Frese-Göddeke, Beate, Dr.
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Respondent: Heidelberger Druckmaschinen
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 3 November 1997
rejecting the opposition filed against European
patent No. 0 543 439 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: C. T. Wilson

Members: H. Andrä
J. P. B. Seitz

Summary of Facts and Submissions

I. European patent application No. 92 203 419.4, filed on 6 November 1992 and published on 26 May 1993 under publication No. 0 543 439, was granted on 31 January 1996.

Claim 1 as granted reads as follows:

"Device for drying strips of printed material, comprising:

- a drying chamber through which the strips of material are carried, which drying chamber is divided into at least two sections (A,B,C) and which drying chamber is as gas-tight as possible in relation to the environment, and
- at least one burner (10,11) which is connected to the drying chamber by an outlet duct (12,13) for discharging at least a portion of the combustion gases, and which is connected to the drying chamber by a feed duct (16,17) for feeding the gases saturated with solvents to the burner (10,11),

characterized by means (21) for feeding fresh air to only one of the sections (A;C) located at the outer ends of the drying chamber, and by the feed duct (16,17) which is connected to the opposite outer section."

II. The patent was opposed by the appellant who requested revocation of the patent on the grounds of lack of

novelty and of inventive step (Article 100(a) EPC) in the light of the following documents:

(D1) Brochure "Stork Contiweb", distributed in the first six months of 1990

(D2) Drawing V1a, an enlarged section from brochure (D1)

(D3) Drawing V1B, an enlarged section from brochure (D1)

III. By decision dated 3 November 1997 the Opposition Division rejected the opposition pursuant to Article 102(2) EPC. The Opposition Division came to the conclusion that the grounds of opposition did not prejudice the maintenance of the patent as granted.

IV. On 2 December 1997 the appellant lodged an appeal against the decision paying the appeal fee on the same day

In the statement of grounds of appeal filed on 13 February 1998 the appellant set out that the subject-matter of claim 1 was not novel in the light of (D1).

V. In a communication pursuant to Article 11(2) RPBA dated 20 May 1999 the Board gave its provisional opinion pointing out that in the oral proceedings the question to be answered in respect of novelty of claim 1 appeared to be whether, when read in the light of the description and drawings, claim 1 was to be interpreted as excluding the feeding of fresh air to central

section B of the drying chamber according to Figures 1 and 2 of the drawings.

- VI. With the letter dated 16 December 1999, filed on 20 December 1999, the appellant submitted an auxiliary request for claim 1 in which the wording "...means (21) for feeding fresh air to only one of the sections (A,C)..." of claim 1 as granted is replaced by the wording "...means (21) for feeding fresh air only to one of the sections, this section (A,C) being located at an outer end of the drying chamber".
- VII. The appellant requested that the decision under appeal be set aside and the patent be revoked.

The appellant's arguments in support of his request are essentially as follows:

Claim 1 as granted does not contain any feature as to section B of the drying chamber. As far as sections A and C are concerned, claim 1 stipulates that one of these two sections is provided with fresh air feeding means and that the other section is connected to a feed duct. This statement applies fully to (D1) wherein fresh air feeding means debouches into section A, but not into section C. The latter section is connected with a feed duct. Since the features according to the preamble of claim 1 are also known from (D1), claim 1 is not novel.

A judge called upon to interpret claim 1 in a litigation case may, of course, arrive at the interpretation given in section 4 of the Board's communication dated 20 May 1999, i.e. that the feature

in claim 1 "means (21) for feeding fresh air to only one of the sections (A,C)" is to be interpreted as meaning "means for feeding fresh air only to one of the sections, this section (A,C) being located at an outer end of the drying chamber". But also in this case (D2) deprives claim 1 of novelty as the feeding of fresh air to a plurality of sections is not excluded by the claim.

In the drier described by (D3) the feeding of fresh air to two sections of a drying chamber by means of respective mixing valves is disclosed. Each of the mixing valves is connected to a respective actuator which suggests that the valves can be fully opened or closed as usual. Figure 2 of the patent shows that the feeding of gas to the middle section is envisaged from which it may be concluded that this applies also to fresh air.

Furthermore, whenever there are difficulties in controlling the temperature in the second section of the drier, the skilled person will switch off the feeding of air to this section as an obvious measure.

Claim 1 does not, therefore, involve an inventive step.

VIII. The respondent (patentee) requested that the appeal be dismissed and that the patent be maintained as granted (main request), or on the basis of a claim 1 amended according to his proposal in the letter filed on 20 December 1999. The essential arguments of the respondent can be summarised as follows:

Taking into account the description of the patent,

claim 1 may only be interpreted such that there is no feeding of fresh air to the second section of the drying chamber. As there is no hint in (D2) of switching off or even removing the means for feeding fresh air to the second section, claim 1 is novel over (D2).

Having regard to the drier shown in (D3), the skilled person would not, without knowledge of the invention, switch off completely the feeding of fresh air to section B, in particular by substituting a cut-off valve for the mixing valve, because this would lead to losing temperature control in section B.

Maintenance of the patent in its entirety is therefore justified.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request*
 - 2.1 Novelty

The nearest prior art is disclosed by (D1) including (D2) and (D3) showing enlarged sections of (D1).

It is undisputed between the parties to the proceedings that this citation describes the features according to the pre-characterising portion of claim 1 and furthermore the feature that the feed duct for feeding the gases saturated with solvents to the burner is

connected to a section located at the outer end of the drying chamber.

Having regard to the remaining features of claim 1, that is means for feeding fresh air to only one of the sections (A,C) located at the outer ends of the drying chamber and the feed duct (16,17) being connected to the opposite outer section, corresponding with the claim's characterising portion, the appellant agreed in the oral proceedings with the provisional opinion of the Board expressed in its communication dated 20 May 1999 that these features have to be interpreted by means of taking into account the discussion of the prior art in the description as "...means for feeding fresh air only to one of the sections, this section being located at the outer end of the drying chamber, and by the feed duct...".

In the passage of the original description from page 1, line 14, to page 2, line 7, corresponding to column 1, lines 16 to 44 of the patent in suit, it is outlined in respect of the drier known from (D1) that in the case of the second drier section, seen in the direction of movement, to which fresh air is fed, control of the temperature is unsatisfactory because the temperature in this section depends both on the quantity of gas supplied from the first section and on the supplied quantity of fresh air. To obviate this drawback in which the inherent technical problem is seen, means are provided for feeding fresh air to only one of the sections located at the outer ends of the drying chamber and the feed duct is connected to the opposite outer section. It is further explained that, as a result of this step, the temperature prevailing in the

second section is dependent only on the pressure difference between the first and the second section and that a better control and a better reproducibility of the temperature prevailing in the diverse sections is thus obtained.

It follows clearly from the above-cited passage that in order to solve the underlying technical problem no fresh air may be fed to the central section B of the drying chamber shown in (D2), but has to be fed exclusively to one of the sections, namely to a section which is located at the outer end of the drying chamber and opposite the burner feed duct.

The appellant argued in his letter dated 28 July 1998 that the respondent omitted deliberately section B of the drying chamber from the characterising portion of claim 1 and was thereby able to incorporate into claim 1 subsequently unnoticed the drier known from (D1).

As already set out in the Board's communication dated 20 May 1999, it would appear pointless to integrate into the scope of claim 1 an apparatus of the prior art which is discussed in the description as exhibiting an essential drawback and from which the technical problem of the invention to be solved is derived. The appellant's argument is not, therefore, convincing.

From the undisputed fact that (D1) reflects the closest prior art, it follows that the subject-matter of claim 1 is novel.

2.2 Inventive step

2.2.1 As set out in section 2.1 above, the technical problem solved by claim 1 can be seen in comparison with (D1) in providing a better control and reproducibility of the temperature prevailing in the diverse sections of the drying chamber. This problem is solved by claim 1, in particular by means for feeding air only to one section, this section being located at the outer end of the drying chamber and by the feed duct being connected to the opposite outer section. By this measure, the temperature in the second section is dependent only on the pressure difference between the first and the second section which alleviates temperature control in the second section.

(D1), including (D2), shows in a schematic diagram the supply of fresh air to both the first and the second section of the drying chamber by means of a first and a second fresh air duct which ducts are directed towards the fan openings of the respective sections in basically the same arrangement.

Thus, the illustration suggests to the limited extent that a schematic figure is suitable for, that feeding of fresh air to the first and the second section is equally relevant and, consistent with this, there is no pointer to the possibility of deleting the fresh air feeding means of the section.

The appellant argues that Figure 2 of the patent shows that gas is fed also to the middle section B of the drying chamber from which it would follow that this applies also to the feeding of fresh air.

According to the description in column 4, lines 9 to 12

of the patent, additional combustion gases may optionally be fed to the middle section B by means of valves (24,25). These gases do not comprise fresh air and the feeding thereof as defined in the characterising portion of claim 1. Besides, the mixing of combustion gases with circulating air having a comparatively high temperature is less critical to temperature control than the mixing of two streams with substantially different temperatures such as combustion gases and fresh air. The conclusion of the appellant that from the feeding of additional combustion gases to the middle section of the drying chamber shown in Figure 2 of the patent the feeding of fresh air to this section would be obvious cannot, therefore, be followed.

2.2.2 The schematic diagram represented by (D3) shows a device for drying paper strips which comprises means for feeding fresh air to two sections of a drying chamber by means of respective mixing valves. Each of the mixing valves is connected to a motor obviously for the purpose of mixing fresh air with circulating air. After mixing, the air is led by respective ducts to a warming zone and a drying zone, respectively.

The appellant argues that the system shown in (D3) is an appropriate means for feeding fresh air only to one of the two drying chamber sections which is effected by closing the feeding of fresh air in one of the sections and by opening the feeding of fresh air in the other section.

As outlined above, the valves shown in (D3) have the function of mixing fresh air with circulating air in an

appropriate proportion. In the citation there is neither a hint that these valves are appropriate for operating as shut-off valves nor that it is required to block the feeding of fresh air to one of the two sections this section being located opposite the duct for feeding the gases saturated with solvents to the burner, in order to achieve an improved control of the temperature in this section.

In accordance with the jurisdiction of the Boards of Appeal, the question to be asked in assessing the presence of inventive step is not whether the skilled person could arrive at the subject-matter of the claim but whether he would arrive, i.e. whether there was any pointer or motivation in the prior art to proceed towards the claimed solution.

In the present case, the prior art discussed in the opposition and appeal proceedings contains no such incentive so that the statements of the appellant in this respect must be regarded as considerations based upon knowledge of the invention, that is with impermissible hindsight.

2.2.3 To summarise, the Board considers that the solution to the technical problem underlying the invention as defined in independent claim 1 involves an inventive step (Article 56 EPC).

2.3 For the above reasons claim 1 as well as dependent claims 2 to 7 relating to particular embodiments of the invention in accordance with Rule 29(3) EPC are to be maintained (Article 52(1) EPC).

3. Since the patent can be maintained in the version according to the main request, it is not necessary to consider the auxiliary request.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

N. Maslin

C. T. Wilson