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**Datasheet for the decision
of 14 April 2011**

Case Number: T 0370/08 - 3.2.03

Application Number: 02250042.5

Publication Number: 1223397

IPC: F26B 5/08

Language of the proceedings: EN

Title of invention:
Spin dryer for industrial parts

Patentee:
VALIANT CORPORATION

Opponent:
Dürr Ecoclean GmbH

Headword:

-

Relevant legal provisions:
EPC Art. 54, 84, 123(2)

Keyword:
"Main request - novelty (no)"
"First and third auxiliary requests - clarity (no)"
"Second auxiliary request - added subject-matter (yes)"
"Fourth auxiliary request - not admissible"
Fifth auxiliary request - novelty (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 0370/08 - 3.2.03

D E C I S I O N
of the Technical Board of Appeal 3.2.03
of 14 April 2011

Appellant:
(Patent Proprietor)

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(Opponent)

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Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 20 December 2007
revoking European patent No. 1223397 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: U. Krause
Members: G. Ashley
K. Garnett
Y. Jest
J.-P. Seitz

Summary of Facts and Submissions

- I. European patent EP-B1-1 223 397 relates to a dryer for industrial parts and a method of drying such parts. Grant of the patent was opposed on the grounds of lack of novelty and inventive step (Article 100(a) EPC).
- II. The Opposition Division held the view that the dryer and method of drying as defined in the independent claims of the main, first, second, fourth and fifth auxiliary requests lacked novelty, and that claim 1 of the third and sixth auxiliary requests contained added subject-matter contrary to Article 123(2) EPC. Consequently, the decision was taken to revoke the patent. The decision was posted on 20 December 2007.
- III. The Patent Proprietor (Appellant) filed notice of appeal on 14 February 2008, paying the appeal fee on the same day. A statement containing the grounds of appeal was filed on 29 April 2008.
- IV. In accordance with Article 15(1) of the Rules of Procedure of the Boards of Appeal, the Board issued a preliminary opinion of the case, together with a summons to attend oral proceedings.
- V. In a letter dated 21 February 2011 the Appellant's representative stated that he had been instructed not to attend the oral proceedings.
- VI. Oral proceedings were held on 14 April 2011 in the absence of the Appellant, as provided for in Rule 115(2) EPC.

VII. Requests

The Appellant (Patent Proprietor) requested in writing that the decision under appeal be set aside and the patent be maintained as granted, alternatively on the basis of the first to fifth auxiliary requests filed with the grounds of appeal dated 29 April 2009.

The Respondent (Opponent) requested that the appeal be dismissed.

VIII. Claims

(a) Main Request

Granted Claim 1 reads as follows:

"1. A dryer for industrial parts comprising:

a housing (12),
a receiving frame (24),
a conveyor (16) which sequentially moves industrial parts (18) through the housing and into the receiving frame whereupon said receiving frame supports the industrial part,

characterised in that

the dryer further comprises a lock pin (38) movably mounted to said receiving frame and moveable between a lock position in which said lock pin engages the industrial part and prevents movement of the industrial part relative to said receiving frame, and a release position in which said lock pin is spaced from the

industrial part thus permitting movement of the industrial part relative to the receiving frame,

an actuator which selectively moves said lock pin between said lock and said release position,

a shaft (26) rotatably mounted to the housing and secured to said receiving frame, and

a motor (42) mechanically coupled to the shaft so that, upon activation of said motor, said motor rotatably drives said receiving frame."

Dependent claims 2 to 8 concern preferred embodiments of the dryer of claim 1.

Independent claim 9 is directed to a method:

"9. A method of drying industrial components in a dryer; characterised in that the said method comprises the steps of:-

moving by conveyor means, at least one industrial component (118) to be dried into a component receiving frame (24);

locking the said at least one component with respect to the said frame by moving a lock pin mounted on the frame into engagement with the component;

rotating the said frame with respect to a fixed housing (12) of the said dryer; whereby to expel fluid and/or debris from the said at least one component by centripetal force."

(b) Auxiliary Requests

The independent claims of the auxiliary requests are based on those of the main request with the following amendments.

(i) First Auxiliary Request

Claim 1 of the first auxiliary request defines the dryer as being a "spin dryer for engine blocks, manifolds and like industrial parts".

The method claim (claim 8) refers to "a method of spin drying engine blocks, manifolds or like components in a spin dryer" and to "moving, by conveyor means, at least one engine block, manifold or like industrial component".

(ii) Second Auxiliary Request

According to claim 1 of the second auxiliary request, a dryer is defined as being a spin dryer for engine blocks.

The method claim (claim 8) is directed to "a method of spin drying engine block industrial components in a spin dryer".

(iii) Third Auxiliary Request

Claim 1 concerns a spin dryer for engine blocks, manifolds and like industrial parts. Compared with claim 1 of the main request, it defines the

additional feature that the motor, upon activation, rotatably drives the receiving frame at a speed of 50-1500 rpm.

Claim 7 defines the method as "a method of spin drying engine blocks, manifolds or like industrial components in a spin dryer", which comprises the step of "moving, by conveyor means, at least one engine block, manifold or like industrial component". Claim 7 also includes the feature that the motor, upon activation, rotatably drives the receiving frame at a speed of 50-1500 rpm.

(iv) Fourth Auxiliary Request

Claim 1 is limited to a spin dryer for engine blocks. It also defines the feature that the motor, upon activation, rotatably drives the receiving frame at a speed of 50-1500 rpm.

The Appellant provided for all the auxiliary requests both a typed copy of the claims and a copy in which the amendments were written by hand. In the case of method claim 7 of the fourth auxiliary request, the two versions differ. Both versions are directed to a method of spin drying engine blocks in a spin dryer, and require that the motor, upon activation, rotatably drives the receiving frame at a speed of 50-1500 rpm. However, the hand annotated copy refers to "moving, by conveyor means, at least one engine block component", whereas the typed copy refers to "moving, by conveyor means, at least one industrial component".

(v) Fifth Auxiliary Request

Claim 1 is directed to a spin dryer for machined industrial parts, and method claim 9 concerns a method of spin drying machined industrial components in a spin dryer.

IX. Prior Art

Of the documents referred to by the Opposition Division and the Respondent, only US-A-5 974 681 (D15) is of relevance for this decision.

X. Submissions of the Parties

The Appellant's Case

- (a) The Appellant addressed the conclusion of the Opposition Division that granted claims 1 and 9 lack novelty in light of D15. It argued that the gripping fingers of D15 are not locking pins that engage the work piece and lock it to a receiving frame, as is required by the claimed subject-matter. When the turntable (202) of D15 is rotated to its operational speed there is some movement of the silicon wafer; the gripping fingers are spring biased in order to accommodate this movement. In the case of the invention, no movement of the industrial part is allowed, since this would cause imbalance in the rotating assembly. Consequently, the gripping fingers of D15 do not perform the same function as, and cannot be equated with, the locking pins defined in the claims.

- (b) Concerning the first auxiliary request, the Appellant argued that a spin dryer for silicon wafers, weighing a few grams, would not be suitable for drying engine blocks which are typically in the range of 50 to 75 Kg. Compared with D15 the subject-matter of the first auxiliary request is therefore novel and has an inventive step.

- (c) No substantive arguments were presented for the second, third and fourth requests, but regarding the fifth auxiliary request, the Appellant submitted that the silicon wafers of D15 are not machined industrial parts, since the wafer is not machined until it is cut into silicon chips, which occurs after the wafer has been dried.

The Respondent's Case

- (d) The Respondent concurred with the findings of the Opposition Division that the spin dryer of claim 1 of the main request is not novel over D15.

- (e) Concerning the first auxiliary request, the Respondent submitted that there is a lack of clarity contrary to Article 84 EPC, as it is not possible to determine the scope of the claim. The disputed patent is not restricted to engine blocks for use in the automotive industry, and engine blocks come in different sizes and weights, so that there is a great difference between an engine block for a lawn mower and one for a ship's engine. Manifolds have a different purpose to

engine blocks and are not just used in combustion engines but also in fluid pumps, for example in the medical field. There is no common purpose between engine blocks and manifolds, and it is not possible to establish what a "like industrial part" would be. For example it is not possible to decide whether a given component falls within the definition of "like industrial part", and hence within the scope of the claim, or whether it is more like a silicon wafer, which is outside of the claim. This objection also applies to the independent claims of the third auxiliary request and to claim 7 of the fourth auxiliary request, which in the typed version defines an "industrial component".

(f) There is no support, contrary to Article 123(2) EPC, for the expression "a spin dryer for engine blocks, manifolds and like industrial parts", as used in claims 1 and 8 of the first auxiliary request. The invention set out in the original application refers to industrial parts such as engine blocks (paragraph [0012]). Although manifolds are referred to in paragraph [0002]), this is part of the discussion of the prior art and is not a statement of the invention. This objection also applies to the claims of the third auxiliary request.

(g) Claim 8 of the second auxiliary request contains the expression "engine block industrial components", ie parts that make up the engine block. Such components are not disclosed in the

original application, hence the amendment is contrary to Article 123(2) EPC.

- (h) Regarding the fifth auxiliary request, the Respondent argued that the silicon wafer of D15 is a machined industrial part, as such wafers are sliced, ie machined, from a silicon crystal. Hence the subject-matter of claims 1 and 9 do not contains any new features and lack novelty with respect to D15.

Reasons for the Decision

1. The appeal is admissible.
2. Main Request
 - 2.1 Granted claim 1 is directed to a dryer for industrial parts. The Opposition Division and the Respondent are of the view that the claimed dryer lacks novelty in light of D15, which discloses a spin dryer for semiconductor wafers.
 - 2.2 The expression "industrial part" is very broad and, as construed by the Opposition Division, simply means that the part in question is made by industry with no restriction as to the weight, size or shape of the part. Hence, the semiconductor wafers of D15 are considered to be "industrial parts".
 - 2.3 The dryer of D15 comprises a housing (shield 104) and a platform 202, which corresponds to the receiving frame of claim 1, since it has the same function of receiving

and supporting the workpiece (column 3, lines 59 to 62). The dryer has a shaft 246 rotatably mounted to the housing and secured to platform 202, and a motor 260 coupled to the shaft in order to rotate the platform (see Figure 3 and column 4, lines 4 to 7).

2.4 Claim 1 defines a conveyor which sequentially moves the industrial parts through the housing and into the receiving frame. According to D15 (column 5, lines 54 to 55), a robot arm or other appropriate mechanism loads the wafer onto the platform, which is located within housing 104. Such a mechanism is considered to be a conveyor, especially as the term "conveyor" is not defined more closely in the claim and is only referred to in the patent (paragraph [0014]) as a "lift and carry conveyor", which is exactly what a robot arm does. That the robot arm of D15 is a conveyor was not disputed by the Appellant.

2.5 Claim 1 defines a lock pin mounted in the receiving frame and which is moveable between a lock position to engage and prevent movement of the industrial part and a release position.

The dryer of D15 has gripping fingers 206 that are pivotally mounted to platform 202 (column 4, lines 62 to 64). The head portion of a gripping finger moves inwardly under the action of a spring plunger to grip the wafer, thereby preventing movement of the wafer relative to the platform 202 (see Figure 2b and column 5, lines 13 to 26). The head of the gripping finger moves outwards into a release position as cam surface 217 rises (see Figures 6a and 2a and column 5,

lines 45 to 53). The gripping fingers thus perform the same function as the lock pin of claim 1.

The Appellant argues that the gripping fingers do not correspond to the locking pins, since they allow movement of the silicon wafer when the platform 202 is rotated to its operating speed. In the case of the disputed invention any movement of the industrial part, such as an engine block, is undesirable, as it would cause significant imbalance in the rotating assembly.

Claim 1 defines the function of the locking pins as preventing movement of the industrial part relative to the receiving frame. However, claim 1 does not specify whether the movement is prevented during rotation to operating speed and during spinning at the operating speed, or only during spinning at the operating speed. Movement during spinning at the operating speed is prevented in D15 by the gripping fingers, whose function it is "to secure the wafer during operation of spin dryer 200" (see column 5, lines 25 to 26). Consequently, the precise form of locking cannot distinguish the claimed subject-matter from that of D15.

2.6 Since D15 discloses a dryer having all the features of claim 1, the subject-matter of this claim lacks novelty (Article 54 EPC).

3. First Auxiliary Request

3.1 Independent claims 1 and 8 contain the expression "engine blocks, manifolds and like industrial parts".

3.2 There is no mention either in the claim or in the description that this expression relates to components of the automotive industry and, as argued by the Respondent, engine blocks range from very small eg for lawnmowers to very large eg for ships. Manifolds are used in a variety of fluid pumps as well as in combustion engines. Since engine blocks and manifolds exist in a wide range of sizes, weights and shapes, and are not similar objects, it is not possible to determine the meaning of "like industrial parts". The claims are therefore not clear, contrary to Article 84 EPC.

3.3 In addition, a silicon wafer is an industrial part (see above), and since the meaning of the expression "like industrial parts" is not known, it is not possible to draw a clear distinction between claim 1 and the subject-matter of D15. Consequently, the spin dryer of claim 1 also lacks novelty (Article 54 EPC).

4. Second Auxiliary Request

Claim 8 of the second auxiliary request is directed to "a method of spin drying engine block industrial components in a spin dryer".

The Appellant has not indicated where the feature of spin drying of engine block industrial components, ie parts that make up the engine block, can be found in the application as originally filed (EP-A-1 223 397). Although engine blocks manifolds and the like are mentioned, no disclosure of engine block components can be found. Consequently, the amendment does not meet the requirements of Article 123(2) EPC.

5. Third Auxiliary Request

Independent claims 1 and 7 relate respectively to a spin dryer for and a method of spin drying engine blocks, manifolds and like industrial parts. These expressions lack clarity as set out above in paragraph 3.2 in respect of the first auxiliary request

6. Fourth Auxiliary Request

6.1 For each of the auxiliary requests, the Appellant submitted a set of claims with hand written amendments and a typed set of claims. In the case of the fourth auxiliary request, method claim 8 of the hand annotated copy contains the feature of "moving, by conveyor means, at least one engine block component (118)...". However, the typed version of claim 8 reads "moving, by conveyor means, at least one industrial component (118)...".

6.2 It is not clear which of the two versions the Appellant intended to file. The grounds of appeal do not clarify the matter; here the Appellant states that "the claims of the third and fourth auxiliary request correspond to those of the first and second auxiliary request but the independent claims also include the technical features presented in claim 6 of the patent". In the method claim of the first auxiliary request the expression "engine blocks, manifolds and the like" is used, whereas that of the second auxiliary request refers to "engine block industrial components". Neither of these requests uses the wording "engine block component", as appears in claim 7 of the fourth auxiliary request.

- 6.3 Although it seems likely that the version with hand written amendments was intended to be the fourth auxiliary request, this cannot be said with certainty. Since the content of the fourth request is not absolutely clear, it is not admitted into the proceedings.
- 6.4 It should be noted, however, that even if it were to be assumed that the Appellant had intended to file the version with hand written amendments, the claims would nevertheless not meet the requirements of Article 123(2) EPC, as "engine block component" is not disclosed in the original application (see paragraph 4 above).
7. Fifth Auxiliary Request
- 7.1 Claim 1 of the fifth auxiliary request refers to "a spin dryer for machined industrial parts". Claim 1 of the main request, which simply refers to a "dryer for industrial parts", was found to lack novelty with respect to D15.
- 7.2 D15 discloses the spin drying of semiconductor wafers. Such wafers are sawn from an ingot formed from a single crystal of silicon, after which they are polished. Hence the wafer can be said to have been machined.
- 7.3 In addition, whether an industrial part has been machined or not is not a feature of the dryer, but rather is feature of the part to be dried.
- 7.4 The spin dryer of claim 1 of the fifth auxiliary request therefore lacks novelty with respect to D15.

8. Conclusion

Since none of the Appellant's requests contains a set of claims, all of which meet the requirements of the EPC, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

A. Counillon

U. Krause