THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

_____

Ex parte CHARLES R. LEJAMBRE, BRUCE P. BIEDERMAN, AARON J. GLEIXNER and CHAD J. YETKA

_____

Appeal No. 98-2118
Application No. 08/459,986[1]

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ON BRIEF

_____

Before COHEN, MEISTER and GONZALES, ***Administrative Patent Judges***.

MEISTER, ***Administrative Patent Judge***.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-9, the only claims present in the application.[2]

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[1] Application for patent filed June 2, 1995.

[2] The advisory action dated March 4, 1998 (Paper No. 19) (continued...)

We AFFIRM.

The appellants' invention pertains to a flow directing element for a gas turbine engine. Independent claim 1 is further illustrative of the appealed subject matter and a copy thereof may be found in APPENDIX A of the brief.

The references relied on by the examiner are:

Korta	4,130,375	Dec. 19, 1978
Elvekjaer et al. (Elvekjaer)	5,342,170	Aug. 30, 1994

Claims 1-3, 6, 8 and 9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Elvekjaer.

Claims 4 and 5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Elvekjaer. The examiner considers that the claimed ratio of the first value relative to the

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[2](...continued)
states that the "Reply Brief filed 2-20-98 has been entered and overcomes the rejections of claims 2 and 7 under 35 U.S.C. 112, second paragraph. . . ." Since the reply brief was simply a cover letter for an amendment submitted therewith, we construe the examiner's statement in the advisory action to mean that the amendment accompanying the reply brief has been entered (although no clerical entry thereof has in fact been made). Accordingly, claims 2 and 7 are considered to have been amended subsequent to final rejection.

second value does not patentably distinguish these claims over the arrangement of Elvekjaer.

Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Korta in view of Elvekjaer. The examiner is of the opinion that it would have been obvious to substitute the vane of Elvekjaer for the vane of Korta "in order to have a more efficient vane which would avoid secondary losses which occur due to the deflection of the boundary layers" (final rejection, page 6).

A full explanation of the rejections may be found on pages 5 and 6 of the final rejection. The arguments of the appellants and examiner in support of their respective positions may be found on pages 5-9 of the brief and pages 6-10 of the answer.

OPINION

As a preliminary matter, we note that on page 4 of the brief, the appellants have grouped (1) claims 1-3, 6, 8 and 9 as a first group, (2) claims 4 and 5 as a second group, and (3) claim 7 by itself as a third group. Accordingly, (1) claims 1-3, 6, 8 and 9 stand or fall together with

representative claim 1, (2) claims 4 and 5 will stand or fall together with representative claim 4, and (3) claim 7 will stand or fall alone. 37 CFR § 1.192(c)(7).

We have carefully reviewed the appellants' invention as described in the specification, the appealed claims, the prior art applied by the examiner and the respective positions advanced by the appellants in the brief and by the examiner in the answer. As a consequence of this review, we will sustain all of the above-noted rejections.

Considering first the rejection of claims 1-3, 6, 8 and 9 under 35 U.S.C. § 102(b) as being anticipated by Elvekjaer, the appellants argue that:

> The invention recited in applicants' allegedly anticipated claims has a ***chord*** which is generally constant in a radially outer region ***in combination with a chord*** which generally decreases with diminishing radius in a radially inner region.
>
> By contrast, the guide vane disclosed by the reference is described in terms of its ***chord to pitch ratio***. It is fundamental that knowledge of a ratio of two quantities does not, without more, convey any knowledge about the quantities themselves. It is, therefore, not possible for the reference's disclosure of a vane having a radially varying ***chord-to-pitch ratio*** to be expressly anticipatory of an airfoil characterized by a radial variation in its ***chord***. [Brief, page 5.]

We are unpersuaded by the appellants' arguments. The terminology in a pending application's claims is to be given its broadest reasonable interpretation (***In re Morris***, 127 F.3d 1048, 1056, 44 USPQ2d 1023, 1028 (Fed. Cir. 1997) and ***In re Zletz***, 893 F.2d 319, 321, 13 USPQ2d, 1320, 1322 (Fed. Cir. 1989)) and limitations from a pending application's specification will not be read into the claims (***Sjolund v. Musland***, 847 F.2d 1573, 1581-82, 6 USPQ2d 2020, 2027 (Fed. Cir. 1989)). Moreover, anticipation by a prior art reference does not require either the inventive concept of the claimed subject matter or the recognition of inherent properties that may be possessed by the prior art reference. ***See Verdegaal Bros., Inc. v. Union Oil Co.,*** 814 F.2d 628, 633, 2 USPQ2d 1051, 1054 (Fed. Cir. 1987). A prior art reference anticipates the subject matter of a claim when that reference discloses every feature of the claimed invention, either explicitly or inherently (***see In re Schreiber***, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and ***Hazani v. Int'l Trade Comm'n***, 126 F.3d 1473, 1477, 44 USPQ2d 1358, 1361 (Fed. Cir. 1997)); however, the law of anticipation does not

require that the reference teach what the appellant is claiming, but only that the claims on appeal "read on" something disclosed in the reference (***see Kalman v. Kimberly-Clark Corp.***, 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983)).

Here, the appellants' contention that the claims require a chord which is generally constant in a radially ***outer region*** in combination with a chord which generally decreases with diminishing radius to a radially ***inner region*** is simply not commensurate in scope with the claimed subject matter. Instead, the representative claim 1 more broadly requires:

> that the chord of the airfoil portion generally increases from a first value near the ***root*** to a second, larger value at a part span location intermediate the ***root and the tip***, and that the chord is generally constant from the part span location to the ***tip***. [Emphasis added.]

The appellants are correct in noting that the guide vane disclosed by the Elvekjaer is described in terms of its chord to pitch ratio. That is, Elvekjaer states that:

> The guide vanes are ***tapered*** radially inwards. The ***taper*** is selected in such a way that the guide vane is configured with an increasing ratio of chord to pitch from the outer radius to approximately half

> the vane height and is configured with an approximately constant ratio of chord to pitch from half the vane height to the inner radius. The vane profile remains sub-stantially unaltered over the height of the vane. [Column 3, lines 10-17; emphasis added.]

However, as is apparent from the above quotation, Elvekjaer also teaches that the vane guides are ***tapered*** inwardly in a radial direction. Additionally, as illustrated in Fig. 2, the pitch T of Elvekjaer is constant (or at least "generally" constant)[3] and in line 51 of column 2 of the specification Elvekjaer simply refers to the "pitch T" (i.e., a single pitch as distinguished from a varying pitch) and makes no mention whatsoever of this pitch being variable. Since in Elvekjaer (1) the pitch is ***constant*** (or at least "generally" constant), (2) the ratio of chord to pitch increases from the outer radius to approximately half the vane height and (3) the ratio

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[3] While of course drawings are not drawn to scale, they may nevertheless be used to establish relationships or proportions between the various components which are clearly depicted therein. **See, e.g., *In re Schreiber***, 128 at 1478-79, 44 USPQ2d at 1431-32, ***Vas-Cath Inc. v. Mahurkar***, 935 F.2d 1555, 1565, 19 USPQ2d 1111, 1118 (Fed. Cir. 1991), **In re Mraz**, 455 F.2d 1069, 1072, 173 USPQ 25, 27 (CCPA 1972) and ***In re Heinle***, 342 F.2d 1001, 1007, 145 USPQ 131, 136 (CCPA 1965).

of chord to pitch is constant from half the vane height to the inner radius, it follows that the chord must "generally" increase from a first value near the root[4] to a second larger value at a part span location (i.e., the midpoint of the vane height) and "generally" constant from that location to the tip as broadly set forth in independent claims 1 and 9. This interpretation is reinforced by the fact th2at Elvekjaer also expressly states, as we have noted above, that the guide vanes are ***tapered*** radially inwards. From our perspective, the above-noted teachings of Elvekjaer establish a ***prima facie*** case of anticipation.

The appellants on page 6 of the brief contend that:

> Pitch T [of Elvekjaer] is the circumferential offset between common points (e.g. the leading edge) on neighboring vanes (see Fig. 2 of the reference) and can only be interpreted as a quantity which decreases with decreasing radius (as opposed to being a constant offset taken at an arbitrary radius).

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[4] In Column 2, lines 59-62, Elvekjaer states that:

> the ***root*** of the vane guide is understood as being positioned at the ***outer*** diameter of the vane, that is, in the vane carrier **3**, and the vane ***tips*** as being positioned at the ***inner*** diameter, that is, at the hub **2**. [Emphasis added.]

There is, however, no evidence of record to support the appellants' contention that the pitch of Elvekjaer can "only be interpreted" as having a quantity which decreases with a decreasing radius.[5] To the contrary, Elvekjaer only illustrates and describes a single pitch value, as opposed to a varying value (see, e.g., Fig. 2, column 2, line 49). Moreover, even if there is a small variance in pitch as the radius decreases due to the fact that successive vanes are generally radially disposed, the appellants' specification provides no particular guidelines for determining or measuring the amount of deviation permitted by the recitation of "generally." Accordingly, giving this term its broadest reasonable interpretation (***see In re Morris, supra***, and ***In re Zeltz, supra***), the chords resulting from Elvekjaer's ratios can still be considered to be "generally" increasing and "generally" constant as claimed.

[5] Counsel's arguments in the brief cannot take the place of evidence. ***See In re De Blauwe***, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984), ***In re Payne***, 606 F.2d 303, 315, 203 USPQ 245, 256 (CCPA 1979) and ***In re Pearson***, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974).

In view of the foregoing, we will sustain the rejection of claims 1-3, 6, 8 and 9 under 35 U.S.C. § 102(b).

Turning now to the rejection of claims 4 and 5 under 35 U.S.C. § 103 as being unpatentable over Elvekjaer, the appellants argue that Elvekjaer does not show a "ratio of the first value to the second value [which] is between 0.7 and 0.9" as set forth in representative claim 5. However, as the court stated in ***In re Woodruff***, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990):

> [n]or can patentability be found in the difference in . . . ranges recited in the claims. The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims . . . . These cases have consistently held that in such a situation, the applicant must show that the particular range is ***critical***, generally by showing that the claimed range achieves unexpected results relative to the prior art range . . . (obviousness determination affirmed because dimensional limitations in claims did not specify a device which performed and operated differently from the prior art) . . . . [Citations omitted.]

Here, however, the appellants have made no persuasive showing that the provision of “between 0.7 and 0.9” is in any way critical or is anything which would be unexpected. To the contrary, the specification on page 9 merely states that

"[a]nalyses and experimental trials" also reveal that the ratio of the first value of chord to the second value of chord is "between 0.7 and 0.9." This being the case, we will sustain the rejection of claims 4 and 5 under 35 U.S.C. § 103 as being unpatentable over Elvekjaer.

Considering last the rejection of Korta in view of Elvekjaer under 35 U.S.C. § 103, the appellants on page 7 of the brief state that they "do not wish to contest the Examiner's assertion regarding the obvious of the above stated substitution." Instead, the appellants simply reiterate the arguments concerning the claimed chord configuration that we have already considered above with respect to the § 102(b) rejection. Accordingly, we will sustain the rejection of claim 7 under 35 U.S.C. § 103 based on the combined teachings of Korta and Elvekjaer.

The examiner's rejections of claims 1-3, 6, 8 and 9 under 35 U.S.C. § 102(b) and claims 4, 5 and 7 under 35 U.S.C. § 103 are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

IRWIN CHARLES COHEN Administrative Patent Judge	)	
JAMES M. MEISTER Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JOHN F. GONZALES Administrative Patent Judge	)	

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