

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 48

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GARY E. DIX and BRUCE MATZNER

Appeal No. 2002-2185
Application No. 08/976,361

HEARD: MARCH 4, 2003

Before COHEN, STAAB, and McQUADE, Administrative Patent Judges.
COHEN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 12, 14, 20, 23 through 25, 27, 31, and 34. Claims 15, 17, 19, 21, 22, 28, 29, 30, 32 and 33 stand withdrawn. These claims constitute all of the claims remaining in the application.

Appellants' invention pertains to a fuel bundle for a nuclear reactor. A basic understanding of the invention can be

Appeal No. 2002-2185
Application 08/976,361

derived from a reading of exemplary claims 12 and 25, respective copies of which are appended to the main brief (Paper No. 34).

As evidence of obviousness, the examiner has applied the documents listed below:¹

| | | |
|--|-----------|---------------|
| Johansson et al (Johansson) | 5,229,068 | Jul. 20, 1993 |
| Nishino (Japan) (Japan '494) | 4-357494 | Dec. 10, 1992 |
| Hatamiya et al (Japan) (Japan '867) | 5-157867 | Jun. 25, 1993 |

The following rejections are before us for review.

Claims 12, 14, 20, 23 through 25, 27, 31, and 34 stand rejected under 35 U.S.C. § 112, first paragraph, as lacking descriptive support in the original disclosure.

¹ Our understanding of the Japanese documents is derived from a reading of translations thereof prepared in the United States Patent and Trademark Office. Copies of the respective translations are appended to this opinion.

Appeal No. 2002-2185
Application 08/976,361

Claims 12, 14, 20, 23 through 25, 27, 31, and 34 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 12, 14, 20, 23 through 25, 27, 31, and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Japan '494 in view of Johansson.

Claims 12, 14, 20, 24, 25, 27, 31 and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Japan '867 in view of either Johansson or Japan '494.

Claims 12, 14, 20, 23 through 25, 27, 31, and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Japan '867 in view of either Johansson or Japan '494, as applied to claims 12, 14, 20, 24, 25, 27, 31, and 34, further in view of teachings of Johansson.

The full text of the examiner's rejections and response to the argument presented by appellants appears in the answer (Paper No. 39), while the complete statement of appellants' argument can be found in the main and reply briefs (Paper Nos. 34 and 40).

OPINION

In reaching our conclusion on the issues raised in this appeal, this panel of the board has carefully considered appellants' specification and claims,² the applied teachings,³ the Declaration of Gary E. Dix executed Sept. 23, 1998, and the respective viewpoints of appellants and the examiner. As a consequence of our review, we make the determinations which follow.

DESCRIPTION ISSUE

We sustain the rejection of claims 12, 14, 20, 23 through 25, 27, 31, and 34 under 35 U.S.C. § 112, first paragraph, as lacking descriptive support in the original disclosure.

² In the copies of claims 12 and 23 appended to the main brief, "360E" is an obvious error since these claims in the application file specify "360°".

³ In our evaluation of the applied prior art, we have considered all of the disclosure of each document for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

Appeal No. 2002-2185
Application 08/976,361

The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. Further, the content of the drawings may also be considered in determining compliance with the written description requirement. See Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1562-63, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991) and In re Kaslow, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983).

In the examiner's view (answer, page 4), there is no support in the original disclosure for an opening in the spacer having a "substantially unobstructed" flow area (independent claim 12) and for the recitation that the "flow area" is substantially as large as each opening in the spacer without the fuel rod received therethrough (independent claims 12 and 25). The examiner notes (answer, page 5) that appellants amended the specification at pages 3 and 12 to provide support for the above respective matters. Additionally, it is the examiner's position that the

Appeal No. 2002-2185
Application 08/976,361

original disclosure does not support the recitation that the separation device includes a swirler (independent claims 12 and 25).

Based upon the original, unamended disclosure, it is quite clear to us that one skilled in the art would appreciate that in the absence of a full-length rod, a spacer opening would be unobstructed. The amended recitations in the claims respectively reciting "substantially unobstructed" flow area and "substantially as large" are therefore determined to lack descriptive support in the specification, as filed. As to the claim recitation that the separation device includes a swirler, we share appellants' point of view (main brief, page 10) that the disclosure provides support therefor, e.g., augers, vanes, and a removable central shaft or other structural support for separation devices (swirlers) are disclosed (specification, page 17).

For the reasons set forth above, we are not in accord with appellants' view (main brief, pages 7 and 8, and reply brief, pages 1 and 2) that, from the written specification (page 3, lines 22 through 27), those skilled in the art would recognize

Appeal No. 2002-2185
Application 08/976,361

that in the absence of a fuel rod in a spacer opening, the flow area through that opening is substantially unobstructed, as shown in Fig. 2. Further, we likewise do not agree with appellants' explanation (main brief, page 8) that the inclusion of a full-length rod obstructs flow through an opening and without the rod the spacer opening is not obstructed, and thus "the characterization of such spacer opening as having a substantially unobstructed flow area therethrough is disclosed in the original specification."

INDEFINITENESS ISSUE

We sustain the rejection of claims 12, 14, 20, 23 through 25, 27, 31, and 34 under 35 U.S.C. § 112, second paragraph, as being indefinite.

In assessing the indefiniteness issue raised in this appeal, we keep in mind the following principles. Relative to the requirements of 35 U.S.C. § 112, second paragraph, the court in In re Hammack, 427 F.2d 1378, 1382, 166 USPQ 204, 208 (CCPA 1970) stated that

Appeal No. 2002-2185
Application 08/976,361

[i]ts purpose is to provide those who would endeavor, in future enterprise, to approach the area circumscribed by the claims of a patent, with the adequate notice demanded by due process of law, so that they may more readily and accurately determine the boundaries of protection involved and evaluate the possibility of infringement and dominance.

Additionally, claims are considered to be definite, as required by the second paragraph of 35 U.S.C. § 112, when they define the metes and bounds of a claimed invention with a reasonable degree of precision and particularity. See In re Venezia, 530 F.2d 956, 958, 189 USPQ 149, 151 (CCPA 1976).

As explained by the examiner (answer, pages 7 through 9), it is not clear what is meant and encompassed by the claim language "substantially unobstructed flow area" and a flow area "substantially as large" as each flow area through the openings without the fuel rod received therethrough.

From our perspective, the underlying disclosure provides no explanation or guidelines whatsoever that would enable one skilled in the art to gain an understanding of what would be a "substantially unobstructed" flow area, and what flow area would

Appeal No. 2002-2185
Application 08/976,361

be "substantially as large", as claimed. Thus, we determine that the examiner's conclusion of indefiniteness is sound.

For the reasons articulated above, the arguments of appellants (main brief, pages 12 and 13) fail to convince us that the limitations at issue are definite in meaning.

OBVIOUSNESS ISSUES

We do not sustain the rejection of claims 12, 14, 20, 23 through 25, 27, 31, and 34 under 35 U.S.C. § 103(a) as being unpatentable over Japan '494 in view of Johansson.

While we fully comprehend both the examiner's and appellants' assessment of the Japan '494 reference, a reading of the translation of this foreign language document makes it apparent to us that the disclosure thereof is uncertain in meaning. The reference sets forth that a plate-shaped blade is provided on the top surface of a lattice 10 so as to reduce a spacer cell C in diameter, which cell has no fuel rod inserted therein. Thus, on the one hand, the blade is indicated to be on the top surface of the lattice (the inference being that there is

Appeal No. 2002-2185
Application 08/976,361

no substantially obstructed flow area in the cell opening). However, the translation also specifies a reduction in spacer cell diameter (the inference being that there is an obstruction in the cell opening). These apparent inconsistencies leave us without any clear and unambiguous understanding of the teaching of the Japan '494. Accordingly, it is speculative as to what in fact Japan '494 teaches. For this reason, there is no certainty as to what a modification of the Japan '494 fuel assembly would yield when Japan '494 is considered with the swirler teaching of Johansson. For the above reasons, the rejection cannot be sustained.

We do not sustain the rejection of claims 12, 14, 20, 24, 25, 27, 31 and 34 under 35 U.S.C. § 103(a) as being unpatentable over Japan '867 in view of either Johansson or Japan '494 (Nishino).

The Japan '867 reference discloses (translation, page 14) embodiments of a fuel assembly including partially long fuel rods with structure for promoting circling flow. In Fig. 11, spiral plate material is installed at the upper end of the partially long fuel rods, while in Fig. 12 a circular tube is installed at

Appeal No. 2002-2185
Application 08/976,361

the upper end of three partially long fuel rods. The examiner proposes to alter the fuel assembly of Japan '867 (Fig. 12) based upon the teaching of either Johansson or Japan '494 (answer, pages 14 through 16). We earlier recognized the teaching of Japan '867 as speculative. Simply stated, we are in basic agreement with appellants that, absent knowledge of the claimed invention, the applied teachings themselves simply would not have suggested to one having ordinary skill in the art a significant modification of the fuel assembly of Japan '867 so as to yield the particular fuel bundle now claimed.

We do not sustain the rejection of claims 12, 14, 20, 23 through 25, 27, 31, and 34 under 35 U.S.C. § 103(a) as being unpatentable over Japan '867 in view of either Johansson or Japan '494, as applied to claims 12, 14, 20, 24, 25, 27, 31, and 34, further in view of teachings of Johansson.

In this rejection, the examiner applies the same art as in the preceding rejection. For the same reasons articulated above, it is the opinion of this panel of the Board that the references

Appeal No. 2002-2185
Application 08/976,361

themselves would not have been suggestive of the specific subject matter of appellants' claims to one having ordinary skill in the art.

In summary, this panel of the board has affirmed the respective rejections under 35 U.S.C. § 112, first and second paragraphs, but has reversed each of the obviousness rejections on appeal.

The decision of the examiner is affirmed.

Appeal No. 2002-2185
Application 08/976,361

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 |) | |
| |) | |
| |) | |
| |) | |
| |) | BOARD OF PATENT |
| LAWRENCE J. STAAB |) | APPEALS |
| Administrative Patent Judge |) | AND |
| |) | INTERFERENCES |
| |) | |
| |) | |
| |) | |
| JOHN P. McQUADE |) | |
| Administrative Patent Judge |) | |

ICC:pgg

Appeal No. 2002-2185
Application 08/976,361

NIXON AND VANDERHYE
1100 NORTH GLEBE ROAD
8TH FLOOR
ARLINGTON, VA 22201-4714