

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. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KAZUO MINEMURA

Appeal No. 2003-0505
Application No. 08/527,679

Heard: June 10, 2003

Before WALTZ, TIMM, and PAWLIKOWSKI, *Administrative Patent Judges*.
TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

Application 08/527,679 was filed on September 13, 1995 and, currently, claims 1-9 are pending. The Examiner has allowed claims 4 and 5 (Answer at § (3)). Claims 8 and 9 have been withdrawn from further consideration as they are directed to a non-elected invention (Answer at § (3)). Claims 1, 3, 6, and 7 stand finally rejected and are the subject of the appeal (Answer at §§ (3) and (11)). We have jurisdiction under 35 U.S.C. § 134.

THE CLAIMED SUBJECT MATTER

Because Appellant groups claim 3 separately from claims 1, 6 and 7 (Brief¹ at § VII), our focus will be on the subject matter of claim 1, the independent claim, and claim 3. Claims 1 and 3 read as follows:

1. A sludge removing device comprising:

a sludge trapping container for removing a sludge mixed in a molten salt-bath solution;

said sludge trapping container being made of steel, ceramics, titanium, or alloy steel of a predetermined thickness, and having a bottomed cylindrical or bottomed polygonal tubular shape with an open end,

said sludge trapping container including a side wall and a bottom each having a plurality of holes defined therein and extending through the predetermined thickness,

wherein each of the holes defined in the side wall and the bottom of said sludge trapping container comprises a tapered hole extending through the predetermined thickness and having a diameter at an end thereof opening at an outer wall surface of said sludge trapping container, said diameter being smaller than a diameter of an end thereof opening at an inner wall surface of said sludge trapping container.

3. A sludge removing device according to claim 1, wherein adjacent ones of the holes are spaced from each other by a distance which is 1-3 times the diameters of the holes.

¹All references to the "Brief" is to the Brief filed August 12, 2002.

THE EVIDENCE

As evidence of unpatentability, the Examiner relies upon the following prior art references:

Nehls 5,399,265 Mar. 21, 1995

(filed Nov. 2, 1993)

Minemura (DE 374)²
(German Published Application)

4,337, 374

May 11, 1994

THE REJECTIONS

Claims 1, 3, 6, and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over DE 374 in view of Nehls (Answer at § (11)). We affirm for the following reasons.

OPINION

Appellant argues that Nehls is not analogous art and thus the Examiner may not properly rely upon it as a basis for formulating a rejection under 35 U.S.C. § 103 (Brief at p. 12-14). However, most of Appellant's arguments are more appropriately made in connection with the question of whether one of ordinary skill in the art would have modified the device of DE 374 in view of the teachings of Nehls. That is a separate question appropriately considered after a determination that Nehls is analogous prior art. The question, in regard to analogous art, is whether Nehls is within the field of the inventor's endeavor or, if it is not, whether the reference

²We rely upon and cite to the translation by Schrieber Translations, previously made of record.

is reasonably pertinent to the particular problem with which the inventor was involved. *In re Wood*, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979); *see also In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed. Cir. 1986). To label Nehls as “analogous art” merely means that the teachings of this reference should be considered when analyzing the question of whether it would have been obvious to modify the device of DE 374. *In re Sovish*, 769 F.2d 738, 741, 226 USPQ 771, 773 (Fed. Cir. 1985).

Appellant’s device is a sludge removing device, i.e. a filter for removing solids from a liquid solution. Nehls, likewise, relates to systems for filtering solids from liquids (Nehls at col. 1, ll. 6-10). At the very least, Nehls is reasonably pertinent to the problems that arise in solid-liquid separation, including the problems of cleaning and filter cake release. As Nehls is pertinent to the particular problem with which Appellant was involved, it is analogous prior art. *Wood*, 599 F.2d at 1036, 202 USPQ at 174; *Deminski*, 796 F.2d at 442, 230 USPQ at 315.

Having determined that Nehls is “analogous prior art” to be considered in the context of making an obviousness determination, we move to the question of whether “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” 35 U.S.C. § 103(a)(2001).

The only difference between the device of claim 1 and the device of DE 374 resides in the tapered shape of the holes. In concluding that the modification would have been obvious, the Examiner relies upon the suggestion in Nehls that tapering holes in a filter element assists

cleaning and filter cake removal. The specific question to be answered, therefore, is whether it would have been obvious to one of ordinary skill in the art to taper the holes of the sludge trapping container described by DE 374 in view of the disclosure in Nehls of tapering.

Many of Appellant's arguments miss the mark because they do not squarely address the above question. The issue here is not whether one of ordinary skill in the art would have incorporated the microscreen of Nehls in the device of DE 374. Nor is it whether one of ordinary skill in the art would have bodily incorporated any of the other features of the Nehls device into the device of DE 374. The issue is whether there is a suggestion for tapering the holes and a reasonable expectation that tapering would assist in cleaning and filter cake removal when applied to the device of DE 374. *See In re Dow Chem.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988) ("The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art."); *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981) ("The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art."); *In re Bascom*, 43 CCPA 837, 230 F.2d 612, 614, 109 USPQ 98, 100 (1956) ("[T]he proper inquiry should not be limited to the specific structure shown by the references, but should be into the concepts fairly

contained therein, and the overriding question to be determined is whether those concepts would suggest to one skilled in the art the modification called for by the claims.”).

Nehls contains a suggestion for tapering holes in a filter. According to Nehls, tapering the holes in a filter will assist cleaning and filter cake release. Cleaning and filter cake release are concerns relevant to the filter device of DE 374. Nehls provides a reason, suggestion or motivation for tapering the holes of DE 374.

There is also a reasonable expectation of success. *See In re O'Farrell*, 853 F.2d 894, 904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988)(“For obviousness under § 103, all that is required is a reasonable expectation of success.”). The various cleaning methods of the two references employ the same or similar mechanisms to achieve cleaning. Whether by backwashing, bumping, ultrasonic cleaning or hot water cleaning; vibration and/or water impact loosen the filter cake from the inlet side of the filter so that the sediment or sludge can be removed. It is the presence of the larger diameter at the inlet side and the smaller diameter at the exit side that assists release (Nehls at col. 3, ll. 6-10). One of ordinary skill in the art would reasonably expect that holes in the DE 374 device with a larger opening on the inlet side and smaller opening on the exit side would assist cleaning in the same way as it does in the process of Nehls.

With regard to claim 3, Appellant argues that the prior art does not suggest spacing the holes from each other by a distance which is 1-3 times the diameter of the holes. However, DE 374 expressly teaches such a spacing. See page 6, lines 15-16 which state: “The holes 24 are set

at a distance from one another at interspaces which lie in the range from their diameter up to three times their diameter.”

As a final point, we note that Appellants base no arguments upon objective evidence of non-obviousness such as unexpected results. We conclude that the Examiner has established a *prima facie* case of obviousness with respect to the subject matter of claims 1, 3, 6, and 7 which has not been sufficiently rebutted by Appellant.

CONCLUSION

To summarize, the decision of the Examiner to reject claims 1, 3, 6, and 7 under 35 U.S.C. § 103(a) is affirmed.

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

AFFIRMED

THOMAS A. WALTZ
Administrative Patent Judge

CATHERINE TIMM
Administrative Patent Judge

BEVERLY A. PAWLIKOWSKI
Administrative Patent Judge

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