

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

Paper No. 36

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte NEVIN J. STEWART
and PATRICA A. M. WALKER

Appeal No. 1998-3284
Application No. 08/121,815

HEARD: May 23, 2001

Before WINTERS, KRATZ, and PAWLIKOWSKI, **Administrative Patent Judges**.

PAWLIKOWSKI, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on an appeal from the final rejection of claims 13-19, which are all the claims pending in the application. Claims 1-12 have been canceled.

The subject matter on appeal is represented by claims 13, 18, and 19, set forth below:

OPINION

For the reasons set forth in the brief and reply brief, and below, we reverse the above-noted rejection.

The issue before us concerns the examination of an application which contains claims directed to a species or subgenus of a chemical composition for compliance with 35 U.S.C. § 103 based upon a single prior art reference, Kautsky, which discloses a genus embracing a claimed species or subgenus, but does not expressly describe the particularly claimed species or subgenus.

A. Background of case law in genus/subgenus cases

We note that the patentability of a claim to a specific compound or subgenus embraced by a prior art genus should be analyzed no differently than any other claim for purposes of 35 U.S.C. § 103. In re Papesch, 315 F.2d 381, 385, 137 USPQ 43, 47 (CCPA 1963).

Furthermore, use of per se rules by an examiner is improper for determining whether claim subject matter would have been obvious under 35 U.S.C. § 103. In re Brouwer, 77 F.3d 422, 425, 37 USPQ2d 1663, 1666 (Fed. Cir. 1996); In re Ochiai, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995); In re Baird, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994).

Also, the fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a prima facie case of obviousness. In re Baird, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994); In re Jones, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992).

The aforementioned case law in this area has evolved from the case of In re Lemin, 332 F.2d 839, 841, 141 USPQ 814, 815 (CCPA 1964) (generally speaking there is nothing unobviousness in choosing "some" among "many" indiscriminately). See also In re Susi, 440 F.2d 442, 445, 169 USPQ 423, 425 (CCPA 1971) ("Lauerer's disclosure is huge, but it undeniably includes at least some of the compounds recited in appellant's generic claims and it is of a class of chemicals to be used for the same purpose"). As best we can judge, the court in Lemin and Susi applied a per se rule in reaching a conclusion of prima facie obviousness.

Because a per se rule is now forbidden, an examiner must determine whether one of ordinary skill in the relevant art would have been motivated to make the claimed invention as a whole, i.e., to select the claimed species or subgenus from the disclosed prior art genus. In re Ochiai, 71 F.3d at 1570, 37 USPQ2d at 1131; In re Deuel, 51 F.3d 1552, 1557, 34 USPQ2d 1210, 1214 (Fed. Cir. 1995); In re Jones, 958 F.2d at 351, 21 USPQ2d at 1943-44 (Fed. Cir. 1992); In re Dillon, 919 F.2d 688, 692, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991); In re Lalu, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1984).

To address this key issue, an appropriate determination must be based upon the consideration of all relevant prior art teachings, focusing on the following items. The categories of relevant teachings enumerated below are those most frequently encountered in a genus-species case, but they are not exclusive.

a. Size of the Genus

Consider the size of the prior art genus, bearing in mind that size alone cannot support an obviousness rejection. There is no absolute correlation between the size of the prior art

genus and a conclusion of obviousness. Thus, the mere fact that a prior art genus contains a small number of members does not create a *per se* rule of obviousness. Some motivation to select the claimed species or subgenus must be taught by the prior art. See, e.g., Deuel, 51 F.3d. at 1558-59, 34 USPQ2d at 1215. However, a genus may be so small that it would anticipate the claimed species or subgenus. For example, it has been held that a prior art genus containing only 20 compounds inherently anticipated a claimed species within the genus because "one skilled in the art would . . . envisage each member" of the genus. In re Petering, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962).

b. Express Teachings

If the prior art reference expressly teaches a particular reason to select the claimed species or subgenus, an examiner should point out the express disclosure which would have motivated one of the ordinary skill in the art to select the claimed invention. See, e.g., Merck & Co. v. Biocraft Labs., 874 F.2d 804, 807, 10 USPQ 2d 1843, 1846 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989).

c. Teachings of Structural Similarity

Consider any teachings of a "typical," "preferred," or "optimum" species or subgenus within the disclosed genus. If such a species or subgenus is structurally similar to that claimed, its disclosure may motivate one of skill in the art to choose the claimed species or subgenus from the genus. See, e.g., Dillon, 919 F.2d at 696, 16 USPQ2d at 1904.

Similarly, consider any teaching or suggestion in the reference of a preferred species or subgenus that is significantly different in structure from the claimed species or subgenus. Such a teaching may weigh against selecting the

claimed species or subgenus and thus against a determination of obviousness. Baird, 16 F.3d at 382-83, 29 USPQ2d at 1552.

d. Teachings of Similar Properties or Uses

Consider the properties and utilities of the structurally similar prior art species or subgenus. It is the properties and utilities that provide real world motivation for a researcher to make species structurally similar to those in the prior art. Conversely, lack of any known useful properties weighs against a finding of motivation to make or select a species or subgenus. However, the prior art need not disclose a newly discovered property in order for there to be a prima facie case of obviousness. If structurally similar prior art species and that claimed share a useful property, that will generally be sufficient to motivate a skilled artisan to make the claimed species. For example, based on a finding that a tri-ortho ester and a tetra-ortho ester behave similarly in certain chemical reactions, it has been held that one of ordinary skill in the relevant art would have been motivated to select either structure. Dillon, 919 F.2d at 692, 16 USPQ2d at 1901. In fact, similar properties may normally be presumed when compounds are very close in structure. Thus, evidence of similar properties weighs in favor of a conclusion that the claimed invention would have been obvious.

e. Predictability of the Technology

Consider the predictability of the technology. If the technology is unpredictable, it is less likely that structurally similar species will render a claimed species obvious because it may not be reasonable to infer that they would share similar properties. However, obviousness does not require absolute predictability, only a reasonable expectation of success, i.e., a reasonable expectation of obtaining similar properties. See,

e.g., In re O'Farrell, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1990).

B. Application of the Applicable Law to the Present Case

In the instant case, the examiner states that Kautsky teaches the generic formula set forth in the paragraph bridging columns 1 and 2, and that appellants' claims are directed to a subgenus of this formula. (answer, pages 3-4). It appears from the examiner's stated position, that the examiner believes that the generic formula of Kautsky is sufficient to make out a prima facie case for appellants' claimed subgenus. It therefore appears that the examiner is applying the now forbidden per se rule discussed, supra.

Appellants acknowledge that the extremely broad generic disclosure bridging columns 1 and 2 of Kautsky encompasses appellants' claimed invention; but argue that the specific teachings of Kautsky draw one away from their claimed invention. (brief, pages 6-7).

Appellants further state that the generic formula of Kautsky, wherein "R" is between 2 and 12 and "n" is between 1 to 5, includes at least 200,000 compounds. (brief, page 5). Appellants argue that their claimed invention is significantly more narrow than the generic disclosure of Kautsky with respect to the alkylene groups in the terminal position, i.e., n and m, which are overlapped by R in the Kautsky formula at column 1. Appellants also argue that their terminal groups are limited to 2-4 carbon atoms, while Kautsky is directed to an uninterrupted chain from at least 2 carbons up to and including 12 carbons. Appellants state that in this regard, in this critical terminal position, appellants have directed their claimed invention to a species, wherein the alkylene units are 2 to 4 carbons as opposed to 2 to 12 carbons. Appellants state this is

undoubtedly a species within the generic formula of Kautsky, and hence the case of In re Baird applies to the instant case. (reply brief, page 2).

Appellants further argue that Kautsky teaches away from their claimed 2 to 4 carbon unit alkylene groups. For example, appellants point out that all of the examples of Kautsky are directed to a terminal alkylene group of 6 carbons. (brief, page 6). Appellants also point out that the preferred compounds of Kautsky, discussed in column 2, and shown in Tables II and III, have long alkylene chains. Hence, appellants argue that the preferences of Kautsky lead away from their presently claimed invention. (brief, page 7).

We agree with appellants' interpretation of the Kautsky disclosure. That is, while Kautsky sets forth a generic compound that encompasses appellants' claimed invention, the particularly exemplified or particularly described compounds are directed to long chain terminal alkylene groups. In this regard, we disagree with the examiner's rebuttal statement made on page 6 of the answer. On page 6 of the answer, the examiner incorrectly states that one compound in Table II of Kautsky has 2 carbon atoms. However, that compound (indicated at item (9) in Table II) is a compound not representative of Kautsky's invention. Hence, the examiner's understanding of Kautsky's disclosure (other than the generic formula at columns 1 and 2) is not correct. We therefore agree with appellants that Kautsky's disclosure as a whole is preferably directed to long chain terminal alkylene groups, in particular, having 6 carbon atoms.

We further find that appellants' formula in claim 13 requires a minimum of four N atoms and an alkylene group at each end having 2 to 4 carbon atoms. Such a selection is not evident

from Kautsky. That is, Kautsky's generic formula, set forth in the paragraph bridging column 1 and 2, requires 3 nitrogen atoms in combination with the alkylene groups.

With regard to claims 18 and 19, we note that the requirements of each of these claims is excluded from Kautsky, that is, Kautsky requires that at least one of the moieties contains an R of at least 6 carbon atoms. Appellants' claims 18 and 19 exclude such a requirement.

We further find that the examiner did not make findings as to the aforementioned items that should be considered in making out a prima facie case. These items are: (a) size of the genus; (b) express teachings; (c) teachings of structural similarity; (d) teachings of similar properties or uses, and (e) predictability of the technology. Rather, the examiner seized on Kautsky's teaching of a genus which embraces appellants' subgenus and, apparently applied a per se rule of obviousness.

On the other hand, appellants did discuss items (a) and (c), in a manner favoring unobviousness of their claimed invention.

In view of the above, we find that the examiner has not shown that one of ordinary skill in the art would have selected the compounds recited in appellants' claim 13 in view of the teachings of Kautsky, absent hindsight. Hence, we determine that the examiner has not set forth a prima facie case. We therefore reverse the rejection.

Appeal No. 2000-0022
Application No. 08/888,173

Because a prima facie case has not been met, we need not comment on the rebuttal evidence discussed by appellants in their brief and reply brief.

The rejection is reversed.

REVERSED

SHERMAN D. WINTERS)
Administrative Patent Judge)
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) BOARD OF PATENT
) APPEALS AND
PETER F. KRATZ) INTERFERENCES
Administrative Patent Judge)
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BEVERLY A. PAWLIKOWSKI)
Administrative Patent Judge)

SLD

Appeal No. 2000-0022
Application No. 08/888,173

FAY, SHARPE, BEALL, FAGAN,
MINNICH & MCKEE
1100 SUPERIOR AVENUE
SUITE 700
CLEVELAND, OH 44114-2518