

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. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PIERRE BARTHELEMY
and PIERRE DOURNEL

Appeal No. 2003-2023
Application 09/581,440

HEARD: January 21, 2004

Before WARREN, TIMM and DELMENDO, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal and Opinion

We have carefully considered the record in this appeal under 35 U.S.C. § 134, including the opposing views of the examiner, in the answer, and appellants, in the brief, and based on our review, find that we cannot sustain the rejection of appealed claims 1, 2, 11 and 13 through 17¹ under 35 U.S.C. § 102(b) as anticipated by Flynn et al., United States Patent 5,814,595 (Flynn ‘595), and under 35 U.S.C. § 103(a) as being unpatentable Flynn et al., United States Patent 5,814,595 (Flynn ‘595) further in view of Flynn et al., United States Patent 5,827,212

¹ Claims 4 through 9 are also pending and are drawn to subject matter held to be allowable by the examiner. See the Office action of March 8, 2002 (Paper No. 11). The claims of record are set forth in the appendix to the brief.

(Flynn '212).²

The language of a claim must be interpreted prior to applying prior art thereto, and in this respect, the language must be given the broadest reasonable interpretation in light of the written description in appellants' specification as it would be interpreted by one of ordinary skill in this art. *See, e.g., In re Thrift*, 298 F.3d 1357, 1364, 63 USPQ2d 2002, 2006 (Fed. Cir. 2002); *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). It is apparent from the plain language of appealed claim 1 that the encompassed compositions comprise any amount, however small, of at least one perfluorobutyl methyl ether and any amount, however small, of at least one of the Markush group of acetate and formate esters, as well as any amount of any other ingredient(s), without limitation on the nature of the composition. *See generally, Exxon Chem. Pats., Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555, 35 USPQ2d 1801, 1802 (Fed. Cir. 1995) ("The claimed composition is defined as comprising - meaning containing at least - five specific ingredients."); *In re Baxter*, 656 F.2d 679, 686-87, 210 USPQ 795, 802-03 (CCPA 1981) ("As long as one of the monomers in the reaction is propylene, any other monomer may be present, because the term 'comprises' permits the *inclusion* of other steps, elements, or materials.").

In the ground of rejection under § 102(b), the examiner relies on the single appearance of the term "perfluorobutyl methyl ether" in Flynn '595 which is in claim 4 thereof, alleging that the reference thus teaches an "azeotrope-like composition containing a perfluorobutyl methyl ether in combination with an organic solvent" that can include the disclosed ethyl acetate. The examiner finds that these facts constitute an anticipation of the appealed claims (Paper No. 11, page 2; answer, page 3). Appellants point out that the single appearance of said term in claim 4 of Flynn '595 does not enable such compositions (answer, pages 5-6).

The relevant part of claim 4 of Flynn '595 reads, "(a) perfluorobutyl *methyl* ether, wherein the ether consists essentially of about 18 weight percent perfluoro-n-butyl *ethyl* ether, and about 82 weight percent perfluoroisobutyl *ethyl* ether," which forms azeotrope-like compositions with a halo-hydrocarbon solvent. All of the other claims of the reference are

² The grounds of rejection are set forth in the Office action of October 11, 2002 (Paper No. 15; pages 2-3 and 4-5). *See* answer, page 3.

directed to azeotrope-like compositions containing perfluorobutyl *ethyl* ethers and a halo-hydrocarbon solvent. *None* of the azeotrope-like compositions encompassed by claim 4 or the other claims contain ethyl acetate or any other ester. The reference does disclose that the organic solvents used with perfluorobutyl ethyl ether to prepare azeotrope-like compositions include “esters containing 4 carbon atoms (e.g., methyl propionate and ethyl acetate).” *See, e.g.*, col. 1, line 66, to col. 3, line 15, and col. 5, lines 48-50; *cf., e.g.*, claim 11.

In view of the relevant part of claim 4 and in light of the remainder of the disclosure of Flynn ‘595, appellants submit that it is readily apparent that the term “perfluorobutyl methyl ether” is a typographical error, and thus an azeotrope-like composition containing perfluorobutyl methyl ether is neither encompassed by claim 4 of Flynn ‘595 nor enabled thereby (brief, pages 5-6).

The examiner presents no relevant argument in response to appellants’ position (*see* answer, page 3).

We agree with appellants. It is well settled that the examiner has the burden of establishing a *prima facie* case of anticipation of the claimed invention encompassed by appealed claim 1 under § 102(b) in the first instance by pointing out where each and every element of the claimed invention, arranged as required by the claim, is described identically in a single reference, either expressly or under the principles of inherency, in a manner sufficient to have placed a person skilled in the art in possession thereof. *See generally, In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990). The examiner has not established that the single appearance of the term “perfluorobutyl methyl ether” in the context of claim 4 of Flynn ‘595 alone would have placed one skilled in this art in possession of an azeotrope-like composition containing the same *and* ethyl acetate as required by appealed claim 1. *See In re Yale*, 434 F.2d 666, 168 USPQ 46, 48-49 (CCPA 1970) (listing of a compound in reference would have been apparent typographical error to one of ordinary skill in the art, and thus would not have described or suggested the compound to that person so as to place it within his/her possession). Indeed, it is apparent that one skilled in this art would have readily recognized from claim 4 of Flynn ‘595³

³ It is well settled that a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in this art would have reasonably been expected to draw

that, as appellants point out, a perfluorobutyl methyl ether does not consist essentially of 100 weight percent of two perfluorobutyl ethyl ether isomers, and thus would have considered the term “perfluorobutyl methyl ether” to be typographical error.

Furthermore, even if Flynn ‘595 did in fact disclose perfluorobutyl methyl ethers in claim 4 thereof, one skilled in this art would have arrived at an azeotrope-like composition containing this ether and ethyl acetate only by judicious picking and choosing among the solvents listed in col. 5 of the reference, which does not result in a description of the claimed invention as a matter of fact under § 102(b). *See generally, In re Arkley*, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972) (“[F]or the instant rejection under 35 U.S.C. 102(e) to have been proper, the . . . reference must clearly and unequivocally disclose the claimed compound or direct those skilled in the art to the compound without *any* need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference. Such picking and choosing may be entirely proper in the making of a 103, obviousness rejection, where the applicant must be afforded an opportunity to rebut with objective evidence any inference of obviousness which may arise from the *similarity* of the subject matter which he claims to the prior art, but it has no place in the making of a 102, anticipation rejection.”).

Accordingly, we find that Flynn ‘595 does not, as a matter of fact, disclose a composition falling within appealed claim 1 in a manner which would have placed one of ordinary skill in the art in possession thereof, and thus, we reverse the ground of rejection under § 102(b).

In the ground of rejection under § 103(a), the examiner contends that the perfluorobutyl *ethyl* ethers of Flynn ‘595 is homologous to the perfluorobutyl *methyl* ethers of appealed claim 1 and thus, the substitution of the methyl ether for the ethyl ether in the compositions of the reference would have been obvious, alleging structural similarity, based on the alleged fact that “[i]t is well known in the chemical art [sic, area] to substitute one alkyl chain for another either slightly longer or slightly shorter alkyl chain,” and “[i]n the instant case, a substitution of methyl for ethyl, an alkyl chain on one carbon shorter” (Paper No. 11, page 5; answer, pages 3-5). The examiner further contends in this respect, that the combination of Flynn ‘595 and Flynn ‘812, the

therefrom, see *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968), presuming skill on

latter drawn to perfluorobutyl *methyl* ether and a somewhat similar recitation of organic solvents for the formation of azeotrope-like compositions but without disclosure of esters containing 4 carbon atoms, that is, acetate and propionate esters (*cf.* Flynn '812, col. 5, line 66, to col. 6, line 38, with Flynn '595, col. 5, lines 45-63), would also have made the substitution of the methyl ether for ethyl ether obvious (Paper No. 11, page 5; answer, pages 3-5).

Appellants submit that the examiner's position is based on hindsight because there is no disclosure of an azeotrope-like composition containing perfluorobutyl methyl ether and an ester in Flynn '812, pointing out that esters are disclosed in this reference only as suitable alkylating agents at col. 4, lines 32-44, and the listing of suitable solvents in Flynn '812 differs in this and other respects from the listing of solvents in Flynn '595 (brief, pages 8-11). Thus, appellants argue that the fact that ester solvents are shown by Flynn '595 to be useful in forming azeotrope-like compositions with perfluorobutyl ethyl ethers does not suggest modifying the teachings of azeotrope-like compositions containing perfluorobutyl methyl ethers of Flynn '812 to include ethyl acetate (*id.*, pages 11-12).

On this record, we agree with appellants. In order to establish a *prima facie* case of structural obviousness on this record, the examiner must establish by scientific reasoning and/or objective evidence that adjacent members of the perfluorobutyl ether series would have been expected by one of ordinary skill in the art to have similar properties with respect to azeotrope-like compositions in view of the teachings of the Flynn references. In this respect, we find no evidence advanced by the examiner other than the alleged general similarity between "methyl" and "ethyl" *per se*, and indeed, such a general statement alone does not provide the requisite evidence necessary to establish this position in view of the formation of azeotrope-like compositions with different sets of organic solvents for the perfluorobutyl methyl and ethyl ethers as disclosed by the respective Flynn references, wherein there is no disclosure of the formation of azeotrope-like composition with the perfluorobutyl methyl ether and esters containing 4 carbon atoms in Flynn '292. *See generally, In re Jones*, 958 F.2d 347, 349-51, 21 USPQ2d 1941, 1943-44 (Fed. Cir. 1992) ("Conspicuously missing from this record is any *evidence*, other than the PTO's speculation (if it be called evidence) that one of ordinary skill in

the part of this person. *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

the herbicidal art would have been motivated to make the modifications of the prior art salts necessary to arrive at the claimed . . . salt.”); *In re Dillon*, 919 F.2d 688, 692-93, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990)(*in banc*) (“This court . . . reaffirms that structural similarity between claimed and prior art subject matter, proved by combining references or otherwise, where the prior art gives reason or motivation to make the claimed compositions, creates a *prima facie* case of obviousness, and that the burden (and opportunity) then falls on an applicant to rebut that *prima facie* case.”); *In re Grabiak*, 769 F.2d 729, 731-32, 226 USPQ 870, 872 (Fed. Cir. 1985) (“[W]e have concluded that generalizations should be avoided insofar as specific chemical structures are alleged to be *prima facie* obvious one from the other. . . . [I]n the case before us there must be adequate support in the prior art for the ester/thioester change in structure, in order to complete the PTO’s *prima facie* case and shift the burden of going forward to the applicant.”)

Accordingly, on this record, the examiner has not presented scientific reasoning and/or objective evidence which establishes that one of ordinary skill in this art would have reasonably expected that perfluorobutyl methyl and ether ethers would have similar properties with respect to the formation of azeotrope-like compositions, and thus, would have expected that any organic solvent used with one ether would also be useful with the other ether to form such a composition, and thus has not provided the necessary factual foundation to establish a *prima facie* case of obviousness. Therefore, in the absence of a *prima facie* case of obviousness, we reverse the ground of rejection under § 103(a).

The examiner's decision is reversed.

Reversed

CHARLES F. WARREN
Administrative Patent Judge

CATHERINE TIMM
Administrative Patent Judge

ROMULO H. DELMENDO
Administrative Patent Judge

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