

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 29

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KAZUE TORIMITSU, YUKO URANO and HIDEO KIKUCHI

Appeal No. 95-3082
Application No. 08/117,546¹

HEARD: January 12, 1999

Before WEIFFENBACH, OWENS and WALTZ, *Administrative Patent Judges*.

WALTZ, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 4 through 15, which are the only claims remaining in this application.

¹ Application for patent filed September 7, 1993. According to the appellants, the application is a continuation of Application No. 07/777,572, filed October 16, 1991, now abandoned.

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According to appellants, the invention is directed to a positive photoresist composition comprising a mixture of an alkali-soluble resin and a phenol ester of 1,2-naphthaquinone-(2)-diazide-6-sulfonic acid (hereafter the "6-isomer", see the brief, page 2). Appellants submit that use of the 6-isomer surprisingly forms a photoresist composition that has increased sensitivity and a reduced amount of film loss upon exposure to radiation (*Id.*).

Claim 13 is illustrative of the subject matter on appeal and is reproduced below:

13. A positive photoresist composition comprising a mixture of an alkali-soluble resin and an effective amount of a photosensitive agent comprising a phenol ester of 1,2-naphthoquinone-(2)-diazide-6-sulfonic acid, said resin and photosensitive agent being present in a ratio of 100:2-80.

The following reference has been cited by the examiner to support the rejection under 35 U.S.C. § 102(e):

Hosaka et al. (Hosaka)	5,215,857	Jun. 1, 1993
	(effective filing date of Jul. 18,	
1986)		

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Claims 4 through 15 stand rejected under 35 U.S.C. § 102(e) as anticipated by Hosaka.² We reverse this rejection for reasons which follow.

OPINION

The photoresist composition recited in appealed claim 13 requires a 100:2-80 mixture of an alkali-soluble resin (most commonly novolac, see the brief, page 2) and an effective amount of a phenol ester of the 6-isomer.

The examiner states that Hosaka describes, teaches and suggests the essential requirements of the claimed subject matter by disclosing a radiation-sensitive composition comprising a solution of 100 parts by weight of an alkali-soluble resin and 5 to 100 parts by weight of a 1,2-quinone diazide compound as a radiation-sensitive compound, specifically claiming esters of

² The new ground of rejection on pages 3-4 of the answer has been withdrawn in view of appellants' reply brief and amendment in response to the new ground of rejection (dated Nov. 10, 1994, Paper No. 24). See the Supplemental Examiner's Answer dated Jan. 19, 1995 (Paper No. 26).

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the 6-isomer in claim 4 (answer, paragraph bridging pages 2-3).

Appellants argue that the listing, in a claim, of the inventive materials (i.e., the 6-isomer), along with a number of possible alternative materials fails to establish a case of "direct anticipation" (brief, page 5). Appellants submit that their invention is a "selection invention" and thus is *prima facie* obvious but not anticipated (brief, page 6).³

Appellants assert that claim 4 of Hosaka contains four possible 1,2-quinonediazide isomers, that claim 4 of Hosaka is directed to esters in general and not the phenol esters of appealed claim 13, and the "exhaustive list" of preferred

³ Appellants state that "it is agreed that, if this reference [Hosaka] fails to directly anticipate the invention, the application would be patentable thereover." in view of the data submitted demonstrating the surprising and unexpected results of the invention (paragraph bridging pages 3-4 of the brief). The examiner states that the Declaration evidence has been considered but is incapable of overcoming a rejection under § 102 (answer, page 3). However, the advisory action dated July 27, 1994 (Paper No. 21) states that "[t]he 35 U.S.C. 103 rejections are withdrawn in view of the additional Declaration evidence showing unexpected results." (paragraph 3 of the advisory action). See the final rejection and the Kikuchi Declarations dated July 7, 1994 (Paper No. 20), June 30, 1994 (attachment to Paper No. 18), and January 6, 1994 (attachment to Paper No. 13).

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compounds in columns 4-5 of Hosaka fails to disclose any 6-isomers and a great number are not phenol esters (brief, pages 5-6).

Anticipation is a question of fact. *In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986). "Under 35 U.S.C. § 102, every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim." *Gechter v. Davidson*, 116 F.3d 1454, 1457, 43 USPQ2d 1030, 1032 (Fed. Cir. 1997). Implicit in our review of the examiner's anticipation analysis is that the claim must first have been correctly construed to define the scope and meaning of each contested limitation. *Gechter v. Davidson, supra; In re Paulsen*, 30 F.3d 1475, 1479, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994).

The term "phenol ester" in appealed claim 13 has been construed by the examiner as described by the "ester" in claim 4 of Hosaka (answer, page 4). Appellants argue that "the invention is directed only to phenol esters, while the

reference would allow, for example alcohol esters." (brief, page 6). As stated by our reviewing court in *In re Morris*:⁴

[T]he PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification.

The specification does not contain any definition of the term "phenol ester" but does refer to a book⁵ and many patents to show "usable phenols" (pages 11-12). The examples in the specification use 4,4',4''- trihydroxy-triphenylmethane, 2,2-bis(2,4-dihydroxyphenyl)propane, 2,4,4'-trihydroxy-diphenylmethane, 2,3,4,4'-tetrahydroxydiphenylmethane, and 2,3,4,4'-tetrahydroxy-benzophenone as phenols used for esterifying various 1,2-naphthaquinone diazide compounds (pages 18-27). "Without an express intent to impart a novel meaning to claim terms, an inventor's claim terms take on their ordinary meaning." *York Prods., Inc. v. Central Tractor*

⁴ 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997).

⁵ J. Kosai, "Light-Sensitive Systems", pp. 339-357, John Wiley & Sons, Inc., New York, 1965.

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Farm & Family Ctr., 99 F.3d 1568, 1572, 40 USPQ2d 1619, 1622 (Fed. Cir. 1996). The ordinary chemical dictionary meaning of the term "phenol" is a class of aromatic organic compounds in which one or more hydroxy groups are attached directly to the benzene ring.⁶

Therefore our inquiry as to whether Hosaka anticipates the subject matter of appealed claim 13 must focus on the subject matter encompassed by the claim, as discussed above, and what subject matter is described by the reference. Hosaka describes hundreds of esters of 1,2-naphthaquinone diazide in columns 4-5 but the pyrone and diazine⁷ esters would not have been considered "phenol esters" by the artisan in view of the ordinary meaning of this term as discussed above. Furthermore, Hosaka teaches that additional esters of 1,2-quinonediazides can be found in the same reference book as cited by appellant on page 11 of the specification (see column

⁶ See *The Condensed Chemical Dictionary*, 10th Ed., Hawley, p. 796, Van Nostrand Reinhold Co., 1981, a copy of which is attached to this decision.

⁷ See column 5, lines 40-46. Pyrones and diazines are considered heterocyclic groups and neither *per se* contains a benzene ring.

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5, lines 46-51). Appellants disclose that "[al]cohols, phenols, and primary or secondary amines used in the above reaction [with the quinonediazide sulfonyl halide] include those compounds" which are described by Kosai on pages 339-357 (specification, page 11, last paragraph). Appellants also acknowledge that "commercial i-line photoresists use *predominantly* phenol esters" of the 4- and 5-isomers of 1,2-naphthaquinone diazide (specification, page 2, emphasis added). Therefore, for the foregoing reasons, we cannot agree with the examiner that the term "esters" in claim 4 and in the disclosure of Hosaka necessarily should be construed as substantially identical to the term "phenol esters" as recited in the appealed claims. From this record, we agree with appellants that a *portion* of the esters disclosed by Hosaka are not "phenol esters" within the common meaning of this term.

We agree with the examiner that the list of isomers of 1,2-naphthaquinone diazide in claim 4 of Hosaka "is of a size that a skilled artisan would readily envisage the instant

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invention" (answer, page 4).⁸ However, we do not agree with the examiner that the list of **compounds** in claim 4 of Hosaka is such a size that a skilled artisan would readily envisage the subject matter on appeal because the term "esters" in Hosaka includes more compounds than the "phenol esters" of the appealed claims. The selection of phenol esters from the various esters disclosed in Hosaka by one of ordinary skill in the art would necessitate picking and choosing and combining various disclosures not taught by the reference. This picking and choosing is proper for a rejection under § 103 but improper for a rejection under § 102. *In re Arkley*, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972).

The examiner bears the initial burden of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); see also *In re Spada*, 911 F.2d 705, 707 n.3, 15 USPQ2d 1655, 1657 n.3 (Fed. Cir.

⁸ See *In re Sivaramakrishnan*, 673 F.2d 1383, 1384-85, 213 USPQ 441, 442 (CCPA 1982); *In re Schaumann*, 572 F.2d 312, 315-16, 197 USPQ 5, 8-9; and *In re Petering*, 301 F.2d 676, 681, 133 USPQ 275, 280 (CCPA 1962).

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1990). The examiner fails to present any evidence or reasoning to support the conclusion that the "esters" of the isomers in claim 4 of Hosaka must necessarily be phenol esters, within the common meaning of this term (answer, page 4).

For the foregoing reasons, we conclude that the examiner has failed to establish that every limitation of appealed claim 13 is "described" in Hosaka within the meaning of that word in 35 U.S.C. § 102(e). See *Gechter v. Davidson, supra*, and *In re Arkley, supra*. Accordingly, the examiner's rejection of claims 4 through 15 under 35 U.S.C. § 102(e) as anticipated by Hosaka is reversed.

REVERSED

CAMERON WEIFFENBACH)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
TERRY J. OWENS)	APPEALS
Administrative Patent Judge)	AND

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) INTERFERENCES
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) THOMAS A. WALTZ
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NOTE:

Copy of Dictionary Reference is in the envelope.

JENINE GILLIS

Appeal No. 95-3082

Serial No. 08/117,546

Judge WALTZ

Judge OWENS

Judge WEIFFENBACH

Received: 1/25/99

Revised: 1/26/99

DECISION: *REVERSED*

Send Reference(s): Yes No
or Translation(s)

Panel Change: Yes No

3-Person Conf. Yes No

Remanded: Yes No

Brief or Heard

Group Art Unit: 1506

Index Sheet-2901 Rejection(s): _____

Acts 2: _____

Palm: _____

Mailed: Updated Monthly Disk (FOIA): _____

Updated Monthly Report: _____

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