

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN D. BASIL, ROBERT M. HUNIA
and CHIA-CHENG LIN

Appeal No. 95-0808
Application 08/048,866¹

ON BRIEF

Before WILLIAM F. SMITH, JOHN D. SMITH and OWENS,
Administrative Patent Judges.

OWENS, *Administrative Patent Judge.*

DECISION ON APPEAL

¹ Application for patent filed April 14, 1993. According to appellants, the application is a continuation-in-part of Application 07/300,663, filed January 23, 1989, now abandoned, which is a continuation-in-part of Application 06/914,857, filed October 3, 1986, now U.S. Patent No. 4,799,963, issued January 24, 1989.

Appeal No. 95-0808
Application 08/048,866

This is an appeal from the examiner's final rejection of claims 1-10. Claims 11-20, which are the only other claims in the application, stand withdrawn from consideration by the examiner as being directed toward a nonelected invention.

THE INVENTION

Appellants' claimed invention is directed toward an optically transparent coating composition which reduces transmission of ultraviolet radiation. The composition consists essentially of 1) an alkoxide which has a recited general formula and is partially hydrolyzed, and 2) the reaction product of tetraalkylsilicate and cerium oxide. Appellants state that this composition is useful for forming coatings on plastics such as polycarbonate which protect the plastics from damage caused by ultraviolet radiation (specification, page 1). Claim 1 is illustrative and reads as follows:

1. An optically transparent coating composition which reduces transmission of ultraviolet radiation consisting essentially of:

a. a partially hydrolyzed alkoxide of the general formula $R_xM(OR')_{z-x}$ wherein R is an organic radical, M is selected from the group consisting of silicon, aluminum, titanium, zirconium and mixtures thereof, R' is a low molecular weight alkyl radical, z is the valence of M, and x

Appeal No. 95-0808
Application 08/048,866

is less than z and may be zero except when M is silicon; and

b. the reaction product of tetraalkylsilicate and cerium oxide.

THE REFERENCES

Fujioka et al. (Fujioka) 1983	4,405,679	Sep. 20,
Basil et al. (Basil) 1989	4,799,963	Jan. 24,

H. Schroeder, "Oxide Layers Deposited from Organic Solutions", in *5 Physics of Thin Films* 134-39 (G. Haas and R.E. Thun eds., Academic Press 1969).

THE REJECTIONS

Claims 1-10 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Basil. Claims 1-10 stand rejected under 35 U.S.C. § 103 as being obvious over Fujioka in view of Schroeder. Claims 1-10 stand rejected under 35 U.S.C. § 112, first and second paragraphs, on the grounds that the claimed invention is not described in such full, clear, concise and exact terms as to enable a person of ordinary skill in the art to make and use the invention, and for failing to particularly point out and distinctly claim the subject matter which

Appeal No. 95-0808
Application 08/048,866

appellants regard as the invention.

OPINION

The application before us is a continuation-in-part of Application 07/300,663 which previously was before the board

(Appeal No. 92-2464). In that case, the only independent claim read as follows:

1. An optically transparent coating composition which reduces transmission of ultraviolet radiation consisting essentially of:
 - a. an alkoxide of the general formula $R_xM(OR')_{z-x}$ wherein R is an organic radical selected from the group consisting of alkyl, vinyl, phenyl, methoxyethyl, (-glycidoxypropyl and (-methacryloxypropyl, M is selected from the group consisting of silicon, aluminum, titanium, zirconium and mixtures thereof, R' is an alkyl radical which forms a hydrolyzable alkoxide, z is the valence of M and x is less than z and may be zero, partially hydrolyzed such that a portion of OR' is replaced with hydroxyl groups; and
 - b. the reaction product of tetraethylorthosilicate and cerium oxide.

The board affirmed rejections of all of the claims under 35

Appeal No. 95-0808
Application 08/048,866

U.S.C. § 102(e) over Basil, under 35 U.S.C. § 103 over Fujioka in view of Schroeder, and under the judicially-created doctrine of obviousness-type double patenting over claims 1-20 of Basil, and reversed rejections under 35 U.S.C. § 112, first and second paragraphs.²

We have carefully considered all of the arguments advanced by appellants and the examiner and agree with the examiner that appellants' claimed invention is anticipated by Basil and would have been obvious to one of ordinary skill in the art at the time of appellants' invention over Fujioka in view of Schroeder.³ Accordingly, the aforementioned rejections under 35 U.S.C. §§ 102(e) and 103 are affirmed. However, we reverse the rejections under 35 U.S.C. § 112, first and second paragraphs.

² In the present case, an obviousness-type double patenting rejection over claims 1-20 of Basil has been overcome by a terminal disclaimer (advisory action mailed on February 18, 1994, paper no. 6).

³ Appellants' reply brief was not entered by the examiner (letter mailed on August 26, 1994, paper no. 11) and, therefore, is not before us for consideration.

Appeal No. 95-0808
Application 08/048,866

Appellants state that the claims stand or fall in five groups (brief, page 3). Appellants, however, do not point out the relevance of the limitations of the dependent claims to the patentability of these claims. Consequently, dependent claims 2-10 stand or fall with independent claim 1 from which they directly or indirectly depend. See *In re Burckel*, 592 F.2d 1175, 1178-9, 201 USPQ 67, 70 (CCPA 1979); *In re Herbert*, 461 F.2d 1390, 1391, 174 USPQ 259, 260 (CCPA 1972); 37 CFR § 1.192(c)(5)(1993). We therefore address only claim 1.

Rejection under 35 U.S.C. § 102(e) over Basil

Basil discloses optically transparent coating compositions which reduce the transmission of ultraviolet radiation (col. 2, lines 16-20). As acknowledged by appellants (brief, page 5), in Basil's Example III, the composition includes a mixture of tetraethylorthosilicate and cerium oxide under conditions in which the tetraethylorthosilicate is partially hydrolyzed. Tetraethylorthosilicate falls within the general alkoxide

formula recited in appellants' claim 1.

Appellants argue that Basil does not disclose reacting cerium oxide with tetraethylorthosilicate and adding the reaction product to a partially hydrolyzed alkoxide (brief, pages 5-6). This argument is not well taken because these steps are not required by appellants' claim 1. The claim merely requires the presence of a partially hydrolyzed alkoxide of the recited formula which, as stated above, can be tetraethylorthosilicate, and the reaction product of cerium oxide and tetraethylorthosilicate. Thus, Basil's Example III anticipates appellants' claim 1 if some of the tetraethylorthosilicate in that example reacts with at least some of the cerium oxide.

In Basil's Example III, the mixture of cerium oxide and tetraethylorthosilicate is stirred at 60°C for 2 hours. In the only example in appellants' specification (page 6), the mixture of tetraethylorthosilicate and cerium oxide is stirred for 4 hours at room temperature. Although the stirring time in Basil's Example III is less than that in appellants'

Appeal No. 95-0808
Application 08/048,866

example, the temperature is much higher. Thus, it reasonably appears that if a reaction product is formed between the tetraethylorthosilicate and cerium oxide in appellants' example, a reaction product of these components also is formed in Basil's Example III. See *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657-58 (Fed. Cir. 1990). In such a situation, the burden shifts to appellant to provide evidence that the product in Basil's Example III does not necessarily or inherently include the reaction product recited in appellants' claim 1. See *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980); *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977); *In re Fessmann*, 489 F.2d 742, 745, 180 USPQ 324, 326 (CCPA 1974). The reason is that the Patent and Trademark Office is not able to manufacture and compare products. See *Best*, 562 F.2d at 1255, 195 USPQ at 434; *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972). Because appellants have not carried this burden, we affirm the rejection under 35 U.S.C. § 102(e) over Basil.

Appeal No. 95-0808
Application 08/048,866

*Rejection under 35 U.S.C. § 103 over
Fujioka in view of Schroeder*

In Example 4 of Fujioka, a colorless, transparent overcoat composition is formed by mixing (-glycidoxypropyl trimethoxy-silane and tetraethoxysilane, i.e., tetraethylorthosilicate, to effect hydrolysis. The (-glycidoxypropyl trimethoxysilane falls within the scope of the alkoxide recited in appellants' claim 1.

Fujioka does not disclose inclusion of cerium oxide in his overcoat compositions, but teaches that the compositions may contain an ultraviolet absorbent (col. 8, lines 21-34).

Schroeder teaches that cerium oxide is one of four disclosed metal oxides which are depositable from organic solutions and which exhibit an especially steep rise of absorption in the near ultraviolet range, and that layers which contain these metal oxides serve as efficient cutoff filters for shorter-wave ultraviolet radiation (page 137).

In our opinion, the teaching by Schroeder that cerium oxide is an effective ultraviolet ray absorbent in layers would have fairly suggested, to one of ordinary skill in the art, use of

Appeal No. 95-0808
Application 08/048,866

cerium oxide as the ultraviolet ray absorbent in Fujioka's overcoat layer composition. In Fujioka's Example 4, the reaction mixture is left standing at room temperature for more than 20 hours. Appellants' specification (page 6) indicates that stirring a mixture of tetraethylorthosilicate and cerium oxide for 4 hours at room temperature produces a reaction product. Thus, it reasonably appears that if a reaction product is formed in appellants' example, then including cerium oxide in Fujioka's mixture, which stands at the same temperature for a much longer time period, also would produce a reaction product.

Appellants argue that Fujioka does not disclose cerium oxide and that Schroeder does not disclose or suggest the reaction product of cerium oxide and tetraalkylsilicate or the addition of the reaction product to the partial hydrozylate of an alkoxide (brief, page 5). This argument is not persuasive because appellants are attacking the references individually when the rejection is based on a combination of references. *See In re Keller*, 642 F.2d 413, 426, 208 USPQ 871, 882 (CCPA 1981); *In re Young*, 403 F.2d 754, 757-58, 159 USPQ 725, 728

Appeal No. 95-0808
Application 08/048,866

(CCPA 1968).

For the above reasons, we conclude, based on the preponderance of the evidence of record, that appellants' claimed

invention would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103.

*Rejections under 35 U.S.C. § 112,
first and second paragraphs*

A claim complies with 35 U.S.C. § 112, second paragraph, if the claim language is as precise as the subject matter permits and if, when read in light of the specification, the claim reasonably apprises those skilled in the art both of the utilization and scope of the invention. *See Shatterproof Glass v. Libby-Owens Ford Co.*, 758 F.2d 613, 624, 225 USPQ 634, 641 (Fed. Cir. 1985).

The examiner argues that claim 1 indicates that the formula recited therein is that of a partially hydrolyzed alkoxide and that the formula therefore should contain at least one hydroxyl group (answer, page 3). This argument is not well taken because in view of appellants' specification

Appeal No. 95-0808
Application 08/048,866

(pages 4-5), it is clear that the recited general formula refers to the alkoxide before hydrolysis, and that the claim recites that this alkoxide is partially hydrolyzed.

The examiner argues that appellants' claim 1 does not specify the length or molecular weight of the alkyl chain, and that the claim therefore is meaningless (answer, pages 3 and 5). Claims are analyzed not in a vacuum but, rather, in light of the application disclosure and the prior art. See *In re Kroekel*, 504 F.2d 1143, 1146, 183 USPQ 610, 612 (CCPA 1974); *In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238-39 (CCPA 1971). The examiner's argument is not persuasive because the examiner has not explained why, in view of appellants' specification and the prior art, the meaning of "low molecular weight alkyl radical" in appellants' claim 1 would not have been reasonably clear to one of ordinary skill in the art.

Regarding enablement, a predecessor of our appellate reviewing court stated in *In re Marzocchi*, 439 F.2d 220, 223, 169 USPQ 367, 369-70 (CCPA 1971):

[A] specification disclosure which contains a teaching of the manner and process of making and

Appeal No. 95-0808
Application 08/048,866

using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented *must* be taken as in compliance with the enabling requirement of the first paragraph of § 112 *unless* there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support. . . .

. . . .

. . . it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain *why* it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise, there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure.

The examiner argues that "organic radical" in appellants' claim 1 encompasses an infinite number of species which are beyond the scope of the invention and encompasses an enormous number of compounds which would not be expected to be useful (answer, pages 3 and 5). The examiner, however, does not provide the required evidence or reasoning in support of this assertion. Consequently, the examiner's argument is not convincing. We note that a claim is not indefinite merely because it is broad. See *In re Gardner*, 427 F.2d 786, 788, 166 USPQ 138, 140 (CCPA 1970); *In re Borkowski*, 422 F.2d 904,

Appeal No. 95-0808
Application 08/048,866

909, 164 USPQ 642, 645-6 (CCPA 1970). We further note that the examiner does not address the rejected claims individually, and that the examiner's reasoning clearly does not apply to claim 3 which recites six organic radical species and to claims 4 and 5 which each recite a single organic radical specie.

For the above reasons, we do not sustain the rejections under 35 U.S.C. § 112, first and second paragraphs.

DECISION

The rejections of claims 1-10 under 35 U.S.C. § 102(e) as being anticipated by Basil, and under 35 U.S.C. § 103 as being obvious over Fujioka in view of Schroeder, are affirmed. The rejections of claims 1-10 under 35 U.S.C. § 112, first and second paragraphs are reversed.

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

AFFIRMED

Appeal No. 95-0808
Application 08/048,866

WILLIAM F. SMITH)	
Administrative Patent Judge)	
)	
)	
)	
JOHN D. SMITH)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
TERRY J. OWENS))
Administrative Patent Judge)	

Appeal No. 95-0808
Application 08/048,866

Donna L. Seidel
Patent Department
PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

TJO/ki