

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARK S. CHAGNON, JOHN R. FERRIS,
MICHELLE J. CARTER, TRACY J. HAMILTON and MARIA A. GRAY

Appeal No. 97-2359
Application 07/894,260¹

ON BRIEF

Before KIMLIN, WEIFFENBACH, OWENS, *Administrative Patent Judges.*

OWENS, *Administrative Patent Judge.*

DECISION ON APPEAL

¹ Application for patent filed June 8, 1992. According to appellants, the application is a continuation-in-part of Application 07/566,169, filed August 10, 1990, now abandoned, which is a continuation-in-part of Application 07/455,071, filed December 22, 1989, now abandoned.

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This is an appeal from the examiner's final rejection of claims 70-78 and refusal to allow claims 62-68 as amended after final rejection. The remaining claims in the application, which are claims 43-61, 69, and 79-119, stand free of rejection. Claims 62 and 66 are illustrative and read as follows:

62. A controllably dissociable aggregate cluster comprising a cluster of inorganic oxides of substantially mono-dispersed particle size which are coated with a functionalized organic moiety wherein the cluster is bonded together by chemical interaction between the functional groups of said organic moiety.

66. A controllably dissociable aggregate bead cluster which comprises:

a cluster of inorganic oxide particles of substantially mono-dispersed particle size associated with a macromolecular species, characterized in that said particles are encapsulated by the macromolecular species forming a bead, the macromolecular species containing an organic functionality to link the beads together forming controllably dissociable chemical bonds.

THE REFERENCES

Yen et al. (Yen)	4,157,323	Jun. 5, 1979
Czerlinski	4,454,234	Jun. 12, 1984
Whitehead et al. (Whitehead)	4,554,088	Nov. 19, 1985
Lee '904	4,632,904	Dec. 30, 1986
Lee '492 (Patent Cooperation Treaty application)	WO 87/06492	Nov. 5, 1987

THE REJECTIONS

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Claims 62-64 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combined teachings of Whitehead, Lee '904 and Lee '492. Claims 66-68 stand rejected under 35 U.S.C. § 103

as being unpatentable over Yen and Czerlinski. Claims 62-65 and 70-78 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-31 of application 07/911,962 ('962 application). Claims 62-65 stand rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-12 of U.S. patent no. 5,225,282 to Chagnon et al. (Chagnon).

OPINION

We have carefully considered all of the arguments advanced by appellants and the examiner and agree with the examiner that the invention recited in appellants' claims 62-64 and 66-68 would have been obvious to one of ordinary skill in the art at the time of appellants' invention over the applied references. Accordingly, the aforementioned rejections under 35 U.S.C. § 103 will be affirmed. However,

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we agree with appellants that the rejections under the judicially created doctrine of obviousness-type double patenting are not well founded. These rejections therefore will be reversed.

At the outset, we note that appellants do not include in their brief a statement that the claims do not stand or fall

together. Thus, the claims within each rejection stand or fall together and we limit our discussion to one claim to which each rejection applies, i.e., claims 62 and 66. See 37 CFR § 1.192(c)(7)(1995).

Rejection over Whitehead, Lee '904 and Lee '492

Whitehead discloses a cluster of inorganic oxide particles coated with a functionalized organic moiety (col. 7, lines 17-18; col. 8, lines 65-67). Appellants argue that Whitehead does not teach or suggest a method for preparing an inorganic oxide particle having a uniform size distribution (second amended brief, page 7).

Appellants' claim 62 does not recite "uniform size

distribution". What is recited is "substantially mono-dispersed particle size". In view of appellants' specification, it appears that "substantially mono-dispersed particle size" has the same meaning as "substantially uniform particle size distribution" and "substantially uniform size" (page 1, line 19; page 7, lines 1, 19-20 and 24). Appellants, however, do not state what is meant by "substantially" in any of these terms.

Whitehead teaches that if the ratio of divalent to trivalent iron salts used to form the oxide particles is too low, the particle size becomes more heterogeneous, but the particles nevertheless can be silanized (col. 11, lines 44-51). This teaching indicates that uniformity of particle size is a result-effective variable and that particles having a uniform particle size are desirable. Thus, in view of this teaching, it would have been *prima facie* obvious to one of ordinary skill in the art to use conventional techniques to obtain a substantially uniform particle size, with the optimum particle size distribution being determined through no more than routine experimentation. See *In re Boesch*, 617 F.2d 272,

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276, 205 USPQ 215, 219 (CCPA 1980); *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Appellants argue that the examiner has not pointed to the use of grinding alone to obtain a substantially mono-dispersed particle size (brief, page 14). We are not convinced by this argument because at the time of appellants' invention, conventional particle formation techniques were capable of producing particles which can be considered to have a "substantially mono-dispersed particle size". Czerlinski, for example, teaches that grinding, chemical precipitation, and fractionation were known methods in the art for obtaining uniform particle sizes (col. 3, line 57 - col. 4, line 60).

For the above reasons, we conclude, based on the preponderance of the evidence and argument in the record, that the invention recited in appellants' claims 62-64 would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103.²

² A discussion of Lee '904 and Lee '492 is not necessary to our decision.

Rejection over Yen and Czerlinski

Yen discloses a cluster of particles comprised of uniform diameter metal or metal compound particles having a size typically below 1,000 Å uniformly dispersed in a functionalized polymer, and teaches that agglomeration is controllable by changes in the pH of a suspension of the metal-containing or metal compound-containing polymer particles (col. 2, lines 37-40, 43-44 and 52-56; col. 6, lines 22-25 and 39-41). The functional groups of the polymer can be hydroxyl, carboxyl and amino (col. 3, lines 19-20 and 67), which are functional groups which appellants' particles can contain (specification, pages 29-31). Czerlinski teaches that conventional methods were known in the art for making particles having a uniform size (col. 3, line 57 - col. 4, line 60).

Appellants argue that Yen does not disclose inorganic oxide particles having a uniform size distribution (brief, pages 8-9 and 17-19). We do not find this argument to be convincing because Yen specifically teaches that uniform diameter metal or metal compound particles, which can be metal

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oxide particles, are used (col. 6, lines 22-32).

For the above reasons, the evidence and argument of record, on balance, leads us to conclude that the invention recited in appellants' claims 66-68 would have been obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103.

Obviousness type double patenting rejections

The examiner argues that appellants have not established that the method of making the particles or the particle size influences the function of the particles (answer, pages 4 and 16). This argument is not well taken because the examiner has the initial burden of establishing a *prima facie* case of obviousness. See *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976). The examiner has not met this

burden by stating that appellants have not established that a

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claim limitation influences the function of the claimed particles.

Neither the '962 application nor Chagnon discloses forming particles by use of a porous membrane as disclosed in the present application, and neither teaches that the particles produced have a substantially mono-dispersed particle size. Since the examiner has not explained why a cluster of inorganic oxide particles of substantially mono-dispersed particle size would have been obvious to one of ordinary skill in the art in view of the claims of the '962 application or Chagnon, the obviousness-type double patenting rejections are reversed.

DECISION

The rejections under 35 U.S.C. § 103 of claims 62-64 over Whitehead, Lee '904 and Lee '492, and of claims 66-68 over Yen and Czerlinski, are affirmed. The provisional rejection of claims 62-65 and 70-78 under the judicially created doctrine of obviousness-type double patenting over claims 1-31 of the '962 application, and the rejection of claims 62-65 under the judicially created doctrine of obviousness-type double patenting over claims 1-12 of Chagnon, are reversed.

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

AFFIRMED-IN-PART

	EDWARD C. KIMLIN)	
	Administrative Patent Judge)	
)	
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)	
	CAMERON WEIFFENBACH)	BOARD OF
PATENT	Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
	TERRY J. OWENS)	
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