

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

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SUKANTA BANERJEE, CECILIA GEORGESCU,
and MICHAEL SEUL

Appeal 2006-2854
Application 10/348,165
Technology Center 1700

Decided: March 28, 2007

Before THOMAS A. WALTZ, PETER F. KRATZ, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

Statement of the Case

This is an appeal under 35 U.S.C. § 134 from a final rejection of claims 1, 3-5, 7, 9-30, and 43-44. We have jurisdiction under 35 U.S.C. § 6.¹

Appellants' invention relates to generating a plurality of microparticle populations of different dye concentrations where dye is loaded into polymer

¹ In rendering this decision we have considered the Appellants' submissions filed on March 6, 2006, March 8, 2006 and April 19, 2006.

microparticles to generate said microparticle populations (Br 2).

Representative independent claims 1 and 9, as presented in the Brief, appear below:

1. A method for generating a plurality of microparticle populations of different dye concentrations wherein dye is loaded into polymer microparticles to generate said microparticle populations, comprising:

(a) providing:

(i) at least one first solvent in which the dye and the microparticle polymer are soluble;

(ii) at least one tuning solvent in which the dye and the microparticle polymer are not or only weakly soluble, said first and tuning solvents being immiscible or at most partially miscible;

(iii) at least one third solvent in which the dye and the microparticle polymer are not or only weakly soluble, said third solvent being miscible with the first and tuning solvents;

(b) forming a plurality of suspensions of said polymer microparticles, each in a designated volume of a mixture including the tuning solvent and the third solvent;

(c) adding to said polymer microparticle suspension a solution including the dye dissolved in said first solvent to form a homogeneous solution in the mixture of the first, tuning and third solvents; and

(d) increasing the uptake of dye into the polymer microparticles in at least one of said populations relative to another of said populations by decreasing the solvency of the mixture of the first, tuning and third solvents for the dye.

9. A method of producing dyed polymer microparticles comprising:

(a) providing:

- (i) at least one first solvent in which the dye and the microparticle polymer are soluble;
 - (ii) at least one tuning solvent in which the dye and the microparticle polymer are not or only weakly soluble, said first and tuning solvents being immiscible or at most partially miscible;
 - (iii) at least one third solvent in which the dye and the microparticle polymer are not or only weakly soluble, said third solvent being miscible with the first and tuning solvents;
- (b) forming a suspension of said polymer microparticles in a designated volume of a mixture comprising at least one tuning solvent and at least one third solvent;
- (c) adding to said polymer microparticle suspension a solution comprising the dye dissolved in said first solvent whereby the dye is taken up by the microparticles to provide a master-batch suspension of microparticles characterized by a first concentration of said dye in the microparticles;
- (d) creating two or more aliquots from said microparticle master-batch suspension containing selected added amounts of tuning solvent, wherein the added tuning solvent increases the amount of dye partitioning to the polymer microparticles in said aliquots without precipitating the dye; and
- (e) incubating the polymer microparticle suspension aliquots for a period of time so that the amount of dye partitioning to the microparticles, for a given initial dye concentration in the dye solution, is controlled by the amount of tuning solvent added to the microparticle suspension aliquots.

The Examiner relies on the following references in rejecting the appealed subject matter:

Chen '363	US 4,199,363	Apr. 22, 1980
Hair	US 4,680,332	Jul. 14, 1987
Yamaguchi	US5,288,577	Feb. 22, 1994
Wright	US5,301,044	Apr. 05, 1994
Kemeny	US 6,126,731	Oct. 03, 2000

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Chen '916	US 6,361,916	Mar. 26, 2002
Seul	US 2002/0090613	Jul. 11, 2002
Banerjee	US 6,964,747	Nov. 15, 2005

The Examiner entered the following grounds of rejection:

- I. Claims 1 and 44 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kemeny.
- II. Claims 1 and 44 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Hair.
- III. Claims 1 and 44 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Chen '916 in view of Hair.
- IV. Claims 1, 3-5, 7, 9-11, 15-26, and 43-44 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Chen '363 in view of Hair, further in view of Seul.
- V. Claims 3-5 and 7 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kemeny in view of Chen '363 or Hair in view of Chen '363.
- VI. Claims 9-11 and 15-29 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kemeny in view of Chen '363/ Hair in view of Chen '363, further in view of Seul.
- VII. Claims 12-14 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kemeny in view of Chen '363/ Hair in view of Chen '363/Chen '363 in view of Hair /further in view of Seul and further in view of Wright.
- VIII. Claim 30 stands rejected under 35 U.S.C. § 103(a) as unpatentable over 'Kemeny in view of Chen '363/Hair et al. in view of Chen

‘363/ Chen ‘363 in view of Hair /further in view of Seul and further in view of Yamaguchi.

IX. Claims 1, 3-5, 7, 9-30, and 43-44 stand rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 1, 2, 4-21, 24, 36-38, and 40-46 of US Patent 6,964,747.

Prior Art Rejections

Issue

Has the Examiner identified the portions of the references that teach or suggest the process of the presently claimed invention? More specifically, has the Examiner identified any teaching or suggestion in the cited references that indicates controlling the amount of dye incorporated into microparticles is achieved by controlling a tuning solvent? We answer these questions in the negative.

Analysis

The subject matter of independent claims 1 and 9 relates to methods of generating a plurality of microparticle populations of different dye concentrations where dye is loaded into polymer microparticles to generate said microparticle populations. Each of the claims utilize a three-solvent (ternary) system wherein the extent of the loading of the dye into the microparticles is controlled by adjusting the solvency of the suspension by controlling the amount of tuning solvent utilized. Thus, in order to achieve a new color variation, the amount of dye incorporated into the microparticle is controlled by increasing or decreasing the amount of tuning solvent utilized in the suspension.

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. *In re Kumar*, 418 F.3d 1361, 1366, 76 USPQ2d 1048, 1050 (Fed. Cir. 2005). To support a rejection on obviousness grounds, the Examiner must provide a detailed analysis of the prior art and reasons why one of ordinary skill in the art would have possessed the knowledge and motivation to make the claimed invention. See *In re Kahn*, 441 F.3d 977, 987-88, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

The Examiner correctly recognizes that the amount of loading of the dye will determine the intensity of the color of the dye particles (Answer 4). However, the effectiveness and completion of the loading a dye into microparticles is dependent upon several factors including the concentration of the dye, solvent, and microparticles, the type of dye used, and the temperature at which the process is performed. (See *Hair*, col. 8, ll. 11 to 26). For each of the stated grounds of rejection, the Examiner has failed to identify the portions of the references that teach or suggest the process of the presently claimed invention. More specifically, the Examiner has not identified the portions of the references that teach controlling the amount of dye incorporated into the microparticles is achieved by controlling a tuning solvent.

Since we reverse for the lack of the presentation of a *prima facie* case of obviousness by the Examiner, we need not reach the issue of the sufficiency of the evidence as allegedly demonstrating unexpected results. See *In re Geiger*, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987).

Double Patenting Rejection

Claims 1, 3-5, 7, 9-30, and 43-44 stand rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 1, 2, 4-21, 24, 36-38, and 40-46 of US Patent 6,964,747. We affirm.

Appellants do not explain the reasons why the appealed claims are patentably indistinct from the claims of the US Patent 6,964,747. Appellants only state that “[t]he obviousness-type double patenting rejection should also be reversed, as the claims in the application Serial No. 10/348,123 (now US Patent 6,964,747) are widely different from the claims at issue” (Br. 12). It is not the function of this Board to examine the claims in greater detail than argued by Appellants. *In re Baxter Travenol Labs.*, 952 F.2d 388, 391, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991) (“It is not the function of this court to examine the claims in greater detail than argued by an appellant, looking for nonobvious distinctions over the prior art.”); see also 37 C.F.R. § 41.37(c)(1)(vii) (2006). We affirm the stated rejection because Appellants have failed to explain the reasons they believe that the rejection is inappropriate.

Decision

All of the stated prior art rejections are reversed.

The rejection of claims 1, 3-5, 7, 9-30, and 43-44 under the judicially created doctrine of obviousness-type double patenting over claims 1, 2, 4-21, 24, 36-38, and 40-46 of US Patent 6,964,747, is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2006).

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AFFIRMED

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