

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EKKEHARD JAHNS,
HANS-JUERGEN DENU,
JOACHIM PAKUSCH
and HORST SEIBERT

Appeal 2007-4235
Application 10/302,996
Technology Center 1700

Decided: February 21, 2008

Before EDWARD C. KIMLIN, THOMAS A. WALTZ, and LINDA M.
GAUDETTE, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-8 and 10.
Claim 9 has been withdrawn from consideration. Claim 1 is
illustrative:

1. A microcapsule comprising one or more lipophilic substances as core material and a polymer as capsule shell, which are obtained by free-radical polymerization of an oil-in-water emulsion comprising
 - from 30 to 100% by weight, based on the total weight of the monomers, of one or more C₁-C₂₄-alkyl esters of acrylic and/or methacrylic acid (monomer I),
 - from 0 to 80% by weight, based on the total weight of the monomers, of a bifunctional or polyfunctional monomer (monomers II) which is insoluble or sparingly soluble in water and
 - from 0 to 40% by weight, based on the total weight of the monomers, of other monomers (monomers III),

the lipophilic substance and
solid inorganic particles having a mean particle size of from 45 to 1000 nm.

The Examiner relies upon the following references in the rejection of the appealed claims:

Noji	5,470,512	Nov. 28, 1995
Jahns	6,200,681 B1	Mar. 13, 2001

Appellants' claimed invention is directed to a microcapsule comprising a polymeric capsule shell and a lipophilic core material. The microcapsule is formed by free-radical polymerization of an oil-in-water emulsion comprising an alkyl ester of acrylic and/or methacrylic acid, a lipophilic substance and inorganic particles, such as silica, having a mean particle size of from 45 to 1000 nm.

Appealed claims 1-8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Noji. Claims 1-8 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jahns in view of Noji. Also, claims 1 and

7 stand rejected under the judicially created doctrine of obviousness-type double patenting over claims 11-13 of Jahns in view of Noji.

Appellants have not separately argued any particular claim on appeal. Accordingly, all of the appealed claims stand or fall together with claim 1.

We have thoroughly reviewed each of Appellants' arguments for patentability. However, we find that the Examiner's rejections are well-supported by the facts and reasons set forth in the Answer. Accordingly, we will sustain the Examiner's rejections for essentially those reasons expressed in the Answer.

We consider first the Examiner's § 102 rejection over Noji. The appealed claims are in product-by-process format and, therefore, certain principles of patent jurisprudence apply. In particular, it is axiomatic that the patentability of the claimed product does not depend on its method of production. *In re Thorpe*, 777 F.2d 695, 697 (Fed. Cir. 1985); *In re Brown*, 459 F.2d 531, 535 (CCPA 1972). Also, when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either § 102 or § 103 of the statute is eminently fair and acceptable because the USPTO is not equipped to make comparisons between prior art products and products within the scope of the appealed claims (*id.*).

In the present case, the appealed claims define a microcapsule comprising a shell of a polymerized ester of acrylic and/or methacrylic acid, i.e., a polyacrylate or polymethacrylate. Noji, like Appellants, also discloses a microcapsule comprising a core of lipophilic material formed from an oil-in-water emulsion comprising the lipophilic material, inorganic materials

having a particle size within the claimed range, and a material that forms a capsule shell of a polyacrylate or polymethacrylate.

Appellants' principal argument is that the emulsion of Noji comprises polyacrylates and polymethacrylates already polymerized and not in monomeric form. Appellants stress that Noji teaches that the capsule wall or shell is produced by the coagulation of polymer particles and not free-radical polymerization, as presently claimed. However, Noji expressly teaches that the organic shell can be produced by the polymerization of acrylic monomers (col. 3, ll. 5 et seq.), although it is not clear whether the polymerization takes place in the presence of the lipophilic substance and silica particles. Notwithstanding this lack of clarity regarding the mechanism of forming the capsule shell, it cannot be gainsaid that Noji teaches a capsule shell comprising the same polymers as Appellants' shell, namely, a polyacrylate/methacrylate. Hence, the burden is properly on Appellants to demonstrate with objective evidence that microcapsules within the scope of the appealed claims are in some way patentably distinct from microcapsules fairly described by Noji. Appellants, however, have proffered no such evidence. All Appellants have done is set forth an argument that implies that there is some difference between the claimed capsule shell comprising a polyacrylate/methacrylate and the capsule shell described by Noji formed by the coagulation of a polyacrylate/methacrylate. Counsel's argument, however, is no substitute for objective evidence. *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974).

Consequently, we will sustain the Examiner's § 102 rejection.

We will also sustain the Examiner's § 103 and obviousness-type double patenting rejections over Jahns in view of Noji. There is no dispute

that Jahns, like Appellants, discloses a microcapsule comprising one or more lipophilic substances as a core material and a polymer as a capsule shell obtained by the free-radical polymerization of an oil-in-water emulsion comprising the claimed monomers, lipophilic substance and inorganic particles, such as silicas, magnesium pyrophosphate and tricalcium phosphate. It is Appellants' argument that Jahns does not disclose that the solid inorganic particles have a mean particle size of from 45 to 1000 nm. As acknowledged by Appellants, Jahns is silent regarding the mean particle size of the inorganic particles. However, it is well settled that where patentability is predicated upon a change in a condition of a prior art composition, such as a change in concentration, temperature, or particle size, the burden is on the applicant to establish with objective evidence that the change is critical, i.e., it leads to a new, unexpected result. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955). Here, as explained by the Examiner, Noji evidences that it was known in the art to use silica particles having the claimed mean particle size in oil-in-water emulsions that form microcapsules comprising a shell of polyacrylate/methacrylate and a core of a lipophilic substance. Accordingly, we agree with the Examiner that it would have been *prima facie* obvious for one of ordinary skill in the art to select a mean particle size for the silica particles within the broadly claimed range through nothing more than routine experimentation. Also, it is noteworthy that Appellants and Jahns share an inventor and assignee but Appellants have not made of record the mean particle size for the inorganic particles used in the Jahns invention.

Appellants state that "it should be noted that in the present application, Examples 1 and 2 compare the resultant proportion of capsules

having a size equal to or smaller than 4 μm when the particle size of the inorganic colloid is within the claimed range (see Example 1) versus that obtained when the mean particle size is below the claimed range (Example 2)" (Principal Br. 12, penultimate para.). However, the comparative examples are not probative of unexpected results. For one, they are not truly comparative since the water phase of Example 1 comprises 80 g of 50% strength colloidal dispersion of silica and 20 g of methyl cellulose, whereas the water phase of Example 2 comprises 263 g of a 30% strength colloidal dispersion of silica and 10.1 g of a solution of a polymer of 59% of 2-acrylamido-2-methylpropanesulfonic acid sodium salt, 20 % of acrylic acid, 20% of methyl acrylate and 1% of styrene in place of methylcellulose.

Manifestly, in the face of such a welter of unfixed variables, the effect of the mean particle size of silica cannot be determined. *In re Dunn*, 349 F.2d 433, 439 (CCPA 1965). Also, the limited comparative showing is hardly commensurate in scope with the degree of protection sought by the appealed claims. *In re Grasselli*, 713 F.2d 731, 743 (CCPA 1980). One example of silica having a mean particle size of 108.6 nm is hardly representative of the broad range claimed, 45-1000 nm. Also, the oil phase of Example 1 comprising methyl methacrylate and butanediol diacrylate is not commensurate with the broad class of claimed monomers of one or more C₁-C₂₄-alkyl esters of acrylic acid and/or methacrylic acid. Hence, we find that Specification Example 1 falls far short of being commensurate in scope with the claimed subject matter.

In conclusion, based on the foregoing, the Examiner's decision rejecting the appealed claims is affirmed.

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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)(effective Sept. 13, 2004).

AFFIRMED

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