

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 39

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte MANFRED NIESSNER, NORBERT  
GRUND, WILFRIED HEIDE DEX  
and HEINRICH HARTMANN

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Appeal No. 95-0757  
Application 07/795,307<sup>1</sup>

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HEARD: December 10, 1997

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Before JOHN D. SMITH, PAK and WARREN, Administrative Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

**DECISION ON APPEAL**

This is an appeal from the examiner's final rejection of claims 3, 5, 6, and 8 through 10.

Claims 8 and 9 are representative and are reproduced below:

8. A process for the preparation of a finely divided

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<sup>1</sup> Application for patent filed November 21, 1991. According to applicants, the application is a continuation of Application 07/564,132, filed August 8, 1990.

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polymer powder comprising:

(i) polymerizing water-soluble monomers in the aqueous phase of a water-in-oil emulsion in the presence of

(a) a water-in-oil emulsifier;

(b) from 50 to 5,000 ppm of at least one crosslinking agent;

(c) from 1 to 20% by weight, based on the monomers employed in the polymerization of at least one oil-in-water emulsifier; and

(d) free-radical polymerization initiators;

(ii) adding a protective colloid to the water-in-oil emulsion in an amount of from 0.1 to 10% by weight, based on the polymer, after the polymerization is complete;

(iii) removing water from the resultant water-in-oil polymer suspension by azeotropic distillation; and

(iv) isolating the suspended finely divided polymer powder;

wherein sorbitan esters are not employed as both said water-in-oil emulsifier and said protective colloid and

wherein said finely divided polymer powder consists of an agglomeration of primary particles having a mean particle size of from 0.1 to 20  $\mu\text{m}$ .

9. A finely divided crosslinked polymer powder comprising agglomerates of primary particles which have a mean particle size of from 0.1 to 20  $\mu\text{m}$ , wherein the agglomerates, when introduced into water, disintegrate into the primary particles and wherein the polymer powder is obtained by the steps comprising:

(i) polymerizing water-soluble monomers in the aqueous phase of a water-in-oil emulsion in the presence of

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- (a) a water-in-oil emulsifier;
- (b) from 50 to 5,000 ppm of at least one crosslinking agent;
- (c) from 1 to 20% by weight, based on the monomers employed in the polymerization of at least one oil-in-water emulsifier; and
- (d) free-radical polymerization initiators;
  - (ii) adding a protective colloid to the water-in-oil emulsion in an amount of from 0.1 to 10% by weight, based on the polymer after the polymerization is complete;
  - (iii) removing water from the resultant water-in-oil polymer suspension by azeotropic distillation; and
  - (iv) isolating the suspended finely divided polymer powder;

wherein sorbitan esters are not employed as both said water-in-oil emulsifier and said protective colloid.

The references of record relied upon by the examiner as evidence of obviousness are:

Friedrich et al. (Friedrich)	2,982,749	May 2, 1961
Schmiedel <sup>2</sup>	3,282,497	Nov. 1, 1966
Anderson et al. (Anderson)	3,734,873	May 22, 1973
Elfers	4,125,508	Nov. 14, 1978
Yamasaki et al. (Yamasaki)	4,459,396	Jul. 10, 1984

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<sup>2</sup> The patent to Schmiedel has been used by the examiner to better support the examiner's position for the known use of centrifugation of small particles in solid-liquid separation. See the examiner's Answer at page 10. However, we observe that Schmiedel is omitted from all statements of rejection in the Answer. When a reference is relied on to support a rejection even in a minor capacity, ordinarily that reference should be positively included in the statement of rejection. See In re Hoch, 428 F.2d 1341, 1342 n3, 166 USPQ 406, 407 n3 (CCPA 1970). Thus, we have not considered the Schmiedel disclosures.



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formation of agglomerates of primary particles which then can easily be filtered. The preparation of fine polymer particles in prior art processes is one of the known disadvantages of emulsion polymerization because of the difficulty in coagulating and separating the polymer from the latex. Thus prior art workers have turned to the suspension polymerization technique to overcome some of the difficulties present in the emulsion polymerization and to produce a granular product directly.<sup>3</sup> With the above technical background in mind, we turn to the stated rejections of the appealed claims.

It is well settled that the examiner has the initial burden to establish a prima facie case of unpatentability over prior art. In the present case, the examiner relies on the combined teachings of a number of prior art references but principally on the disclosures in Flesher. According to the examiner (Answer, page 3), Flesher teaches emulsion polymerization of small diameter water soluble polymers using a combination of emulsifiers, crosslinking agents and free radical initiators. As accurately argued by appellants, however, Flesher's disclosed process involves the reverse-phase suspension polymerization of

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<sup>3</sup> See Polymers and Resins by Brage Golding, Ph.D., D. Van Nostrand Company, Inc., Princeton, New Jersey, pages 134 and 142, copyright 1959, copy attached.

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polymeric particles, not emulsion polymerization. Thus as stated at column 3, lines 25 through 27, the Flesher process utilizes a polymer-in-oil dispersion made by reverse phase suspension, ?as opposed to emulsion polymerization?. Accordingly, the examiner committed clear factual error in finding that Flesher teaches emulsion polymerization of small diameter water soluble polymers.

It is well settled that obviousness is a legal conclusion which must be based on facts, not speculation and generalizations. In re Warner, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967). In the situation before us, the examiner has not discharged his initial burden of providing an accurate factual basis upon which to conclude that one having ordinary skill in this art would have arrived at the claimed subject matter without the benefit of first reading appellants' specification. Accordingly, we reverse the examiner's stated rejections of the appealed claims for obviousness.

Upon our independent review of the relied upon references, we observe that the patent to Elfers and the patent to Yamasaki do in fact disclose the formation of polymers by water-in-oil emulsion processes. See the abstract of Elfers and column 3, lines 17-19 of Yamasaki. However, neither reference describes or

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suggests the production of a finely divided polymer powder which consists of an agglomeration of primary particles having a mean particle size of from 0.1 to 20 Fm as required by the appealed process.

With respect to appealed claim 9 which is directed to a finely divided crosslinked polymer powder comprising agglomerates of primary particles having a mean particle size of from .1 to 20 Fm, the examiner has cited no reference which shows an agglomerate as defined by this claim which when introduced into water disintegrates into the primary particles. Compare Anderson at column 3, lines 52-64.

The decision of the examiner is reversed.

**REVERSED**

JOHN D. SMITH )  
Administrative Patent Judge )  
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 ) BOARD OF PATENT  
CHUNG K. PAK )  
Administrative Patent Judge ) APPEALS AND  
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CHARLES F. WARREN  
Administrative Patent Judge

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