

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(2) is not binding precedent of the Board.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. 8

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CARMA J. GIBLER,
DAVID M. AUSTGEN, JR.
and
ROY A. PARKER

Appeal No. 1997-0005
Application 08/340,966

ON BRIEF

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

JOHN D. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

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Application 08/340,966

This is an appeal pursuant to 35 U.S.C. § 134 from the final rejection of claims 1 through 7, all claims pending in this application.

Representative claims 1 and 7 are reproduced below:

1. A method to hydrogenate a polymer containing ethylenic unsaturation comprising the method comprising the steps of:

providing a solution or suspension of the polymer containing ethylenic unsaturation with an amount of Group VIII metal alkoxide or carboxylate and metal alkyl hydrogenation catalyst effective to permit hydrogenation of the ethylenic unsaturation upon exposure to hydrogen;

exposing the polymer solution or suspension to a hydrogen partial pressure for a time period sufficient to hydrogenate greater than about 90 percent of the ethylenic unsaturation;

adding additional Group VIII metal alkoxide or carboxylate and metal alkyl hydrogenation catalyst to the polymer solution or suspension after greater than about 90 percent of the ethylenic unsaturation has been hydrogenated, the amount of additional Group VIII metal alkoxide or carboxylate and metal alkyl hydrogenation catalyst effective to improve separation of hydrogenation catalyst metal from the polymer solution;

mixing the hydrogenated polymer solution or suspension with additional Group VIII metal alkoxide or carboxylate and metal alkyl hydrogenation catalyst with an aqueous solution of an acid; and

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separating a hydrogenated polymer solution or suspension that contains less than about 0.8 percent by weight water from the aqueous solution.

7. The method of claim 1 wherein the metal is a nickel alkyl,¹ and the additional amount of Group VIII metal alkoxide or carboxylate and nickel alkyl hydrogenation catalyst is about 60 ppm by weight of nickel based on the polymer solution.

Appealed claims 1 through 6 stand rejected under 35 U.S.C. § 112, second paragraph. Appealed claim 7 stands rejected under 35 U.S.C. § 112, first paragraph, "written description requirement." No prior art rejections are before us.

We reverse.

The subject matter on appeal is directed to a method to hydrogenate polymers containing ethylenic unsaturation wherein the residue of the hydrogenation catalyst is removed by aqueous acid extraction leaving a separated hydrogenated polymer solution or suspension that contains less than about 0.8 percent by weight water from the aqueous acid solution. As explained in appellants' specification, effective separa-

¹ "Nickel alkyl" is a misnomer and should be corrected before further action is taken in this application.

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tion of water from the hydrogenated polymer solution or suspension (referred to as a "polymer cement") is necessary for the effective removal of metals (catalytic metal residues) because such metals are often concentrated in a small amount of water entrained within the polymer cement. See the specification at page 2, lines 15-22.

Appellants' method requires exposing a polymer solution or suspension containing a known hydrogenation catalyst, i.e., a Group VIII metal alkoxide or carboxylate and metal alkyl such

as the reaction product of nickel 2-ethyl-hexanoate with triethylaluminum, to a partial pressure of hydrogen for a time sufficient to hydrogenate greater than about 90 percent of the ethylenic unsaturation. Thereafter, additional hydrogenation catalyst is added to the "greater than 90 percent" hydrogenated polymer solution or suspension in an amount "effective to improve separation of hydrogenation catalyst metal from the polymer solution" (claim 1, lines 13-15), and the resulting hydrogenated polymer solution is mixed with an aqueous acid

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solution for extraction of the hydrogenation catalyst metals (and residues). The final step of the claimed process involves the separation of the hydrogenated polymer solution from the aqueous acid extraction solution.

In rejecting appealed claims 1 through 6 under the second paragraph of 35 U.S.C. § 112, the examiner contends that the claim language "the amount of additional Group VIII metal alkoxide or carboxylate and metal alkyl hydrogenation catalyst effective to improve separation of hydrogenation catalyst metal from the polymer solution" in the "adding" step of appealed claim 1 renders the claim indefinite, because a "particular amount" is not specified. Further, the examiner explains that appealed claims 1 through 6 are indefinite since

undue experimentations are required to one of ordinary skill in the art at the time of invention to determine the said amount of additional catalyst which depends on many reaction parameters (such as pressure, temperature or an initial amount of a catalyst) which are absent in the claims (emphasis added).

See the answer at page 4.

Although the examiner's rejection is predicated on the second paragraph of 35 U.S.C. § 112, i.e., "indefinite-

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ness," he implicitly speaks of a first paragraph 35 U.S.C. § 112 requirement, i.e., "enablement," which requires that the specification teach those in the art to make and use the invention without "undue experimentation." In re Vaeck, 947 F.2d 488, 495, 20 USPQ2d 1438, 1444 (Fed. Cir. 1991). In similar circumstances, in In re Borkowski, 422 F.2d 904, 909, 164 USPQ 642, 646 (CCPA 1970), the court instructed that

it should be made clear exactly which of the several requirements of § 112 are thought not to have been met. Is the claim unclear or is the specification's disclosure inadequate to support it?

Moreover, in Borkowski, 422 F.2d at 909, 164 USPQ at 645, the court stated that since the rejection of the claims was

predicated only on criticisms of the disclosure portion of the specification, we do not see how they are relevant to that portion of the second paragraph of § 112 from which the examiner was quoting

which, as later stated by the Borkowski court, is essentially a requirement for "precision and definiteness" of claim language. Similarly here, we fail to see the relevance of the examiner's "undue experimentation" arguments and criticisms to

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his stated 35 U.S.C. § 112, second paragraph, rejection. Respecting the examiner's contention that the claims are indefinite because a particular amount of added hydrogenation catalyst is not quantitatively defined, we point out that the amount of catalyst added is functionally limited in appellants' claims to an amount which is "effective to improve separation of hydrogenation catalyst metal from the polymer solution." There is nothing "intrinsically wrong" with the use of functional language in drafting patent claims. In re Swinehart, 439 F.2d 210, 212, 169 USPQ 226, 228 (CCPA 1971). It is thus apparent that the examiner has failed to meet his burden of establishing that appealed claims 1 through 6 do not particularly point out and distinctly claim the subject matter which appellants regard as their invention. We reverse this rejection.

We also reverse the examiner's rejection of appealed claim 7 under 35 U.S.C. § 112, first paragraph, "written description requirement." The examiner contends that the claim language in appealed claim 7 which defines the amount of the added catalyst as "60 ppm by weight of nickel based on the

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polymer solution" does not have support in the originally filed specification, because "Samples C, D and E" in the Table on page 8 of the specification do not expressly describe the percentage of hydrogenation that has been effected at the time this additional amount of nickel hydrogenation catalyst is added to the hydrogenated polymer solution. As appellants emphasize in their brief, Samples C, D and E are originally described as "examples of the present invention" (specification, page 8, lines 25-27), and based on the original claims, the abstract, and the descriptions in the specification at page 3, lines 4-6, and page 5, lines 20-23, the "present invention" referred to at page 8, lines 26 and 27, of the specification is necessarily a process wherein the hydrogenation exceeds 90 percent of the ethylenic unsaturation when additional catalyst is added. Based on the factual record before us, we conclude that the application, as originally filed, reasonably conveys to a person of ordinary skill in this art that appellants had possession of the later claimed subject matter defined by appealed claim 7. Thus, this rejection is also reversed.

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The decision of the examiner is reversed.

REVERSED

	WILLIAM F. SMITH)	
	Administrative Patent Judge)	
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)	BOARD OF
PATENT)	
	JOHN D. SMITH)	APPEALS AND
	Administrative Patent Judge)	
INTERFERENCES)	
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)	
	TEDDY S. GRON)	
	Administrative Patent Judge)	

JDS:psb

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