

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ANDREAS WINTER, WALTER SPALECK and BERND BACHMANN

Appeal No. 1997-0302
Application 08/120,105¹

ON BRIEF

Before KIMLIN, OWENS and WALTZ, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 7, 8, 12 and 15. Appellants submit at page 2 of the brief that they "are not appealing the final rejection of claim 16." Claims 1-3, 11, 13 and 14, the other claims remaining in the present application, stand withdrawn from consideration. A copy of illustrative claim 12 is appended to this

¹ Application for patent filed September 10, 1993.

decision.

In the rejection of the appealed claims, the examiner relies on the following references:

Ewen et al.	(EP '046)	EP 0 128 046	Dec. 12, 1984
Ewen	(EP '734)	EP 0 310 734	Apr. 12, 1989
Naito et al.	(EP '189)	EP 0 351 189	Jan. 17, 1990
Stehling et al.	(WO '414)	WO 90/03414	Apr. 05, 1990

Appellants' claimed invention is directed to a process for preparing a polyolefin molding composition having a broad, bimodal or multimodal melting range in the DSC spectrum. The process entails utilizing a catalyst system comprising two different metallocenes and an aluminoxane to form a polymerized composition comprising at least two polyolefins whose melting points differ by at least 5°C.

Appellants submit at page 4 of the brief that "[c]laims 7, 8, 12 and 15 stand or fall together for each ground of rejection."

Appealed claims 7, 8, 12 and 15 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as being unpatentable over EP '734. In addition, claims 7, 8, 12 and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over EP '046 and WO '414, optionally, in combination with EP '189.

We have thoroughly reviewed the respective positions advanced by appellants

Appeal No. 1997-0302
Application No. 08/120,105

and the examiner. In so doing we fail to find that the examiner's rejections constitute reversible error. Accordingly, we will sustain the examiner's rejections for essentially those reasons expressed in the answer, and we add the following primarily for emphasis.

We consider first, the rejection of claims 7, 8, 12 and 15 under 35 U.S.C. §§ 102/103 over EP '734. Appellants do not dispute the examiner's factual determination that EP '734 discloses a process of producing a polymer composition having a broad or multimodal molecular weight distribution which includes employing a catalyst system within the scope of the appealed claims in the polymerization of olefins. Also, as explained by the examiner, the polymerization product of Example 7 of EP '734 has a melting point of 125°C that is within the claimed range of 120-165°C, and such product comprises two polyolefins whose melting points differ by 5°C (143°C and 138°C), as required by the appealed claims. Consequently, based on the close correspondence between polymerization processes within the broad scope of the appealed claims and polymerization processes fairly taught by EP '734, we concur with the examiner that it is reasonable to conclude that the claimed polyolefin compositions having a broad, bimodal or multimodal melting range are not patentably distinct from the polymeric compositions of EP '734 which have a broad or multimodal molecular

Appeal No. 1997-0302
Application No. 08/120,105

weight distribution. In re Spada, 911 F.2d 705, 708, 15 USPQ 1655, 1658 (Fed. Cir. 1990); In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). Appellants have advanced no objective evidence which establishes a patentable distinction between the bimodal polymer compositions of EP '734 and those compositions within the scope of the appealed claims.

Appellants contend that a distinction between the claimed process and the process of EP '734 is that "it is Appellants' discovery that the claimed process produces polyolefin mixtures having two melting points, neither of which is below the melting point of the lower melting component." (page 5 of brief). However, as noted by the examiner, this argument is not germane to the claimed subject matter. Our review of appealed claim 12 finds no requirement that the recited process produces a polyolefin mixture having two melting points that are both higher than the melting point of the lower melting component. Indeed, appealed claim 12 is totally silent regarding the relationship between the melting points of the product mixture and the melting points of the polymer components.

Appellants also maintain at page 5 of the brief that "EP '734 neither expressly nor inherently teaches that the difference between melting points of the polymer components must be at least 5°C." However, it is not necessary for a finding of unpatentability under § 102/ § 103 that EP '734 discloses that the claimed difference

between melting points is imperative. All that is required is that the reference describes, as it does, a composition comprising two polymeric components whose difference in melting points is 5°C. We note that appellants acknowledge this pertinent disclosure of EP '734 (see page 5 of brief, third paragraph, first sentence).

Appellants further argue that "EP '734 does not provide any meaningful teaching that the difference in melting point of the polymer components must be at least 5°C in order to obtain a molding composition that exhibits a broad, bimodal or multimodal melting range in the DSC spectrum." (sentence bridging pages 5 and 6 of brief). However, appellants' argument is without factual support since EP '734 teaches the preparation of polymer compositions having a broad or multimodal molecular weight distribution wherein the polymer components have a difference in melting points of 5°C. Again, the necessity of such a difference in melting points is not a required teaching.

We now turn to the rejection of the appealed claims under 35 U.S.C. § 103 over EP '046 and WO '414, optionally in view of EP '189. Since both EP '046 and WO '414 disclose processes for preparing multimodal polymeric compositions comprising two or more polymers of different physical properties, such as melting points, by utilizing a catalyst system within the scope of the appealed claims, i.e, a catalyst comprising two different metallocenes and an aluminoxane, we agree with the examiner that the claimed process would have been prima facie obvious to one of ordinary skill in the art

in view of the reference disclosures. While appellants maintain at page 6 of the brief that the cited references "are not concerned with the melt behavior of the polymer product", both references disclose the preparation of a composition comprising two or more polyolefins which have different melting points and are characterized as multimodal, which, by definition, concerns polymeric compositions having more than one melting point. As for the references' failure to expressly teach that the polymeric components of the composition must have a difference in melting points of at least 5°C, we find that it would have been a matter of obviousness for one of ordinary skill in the art to prepare such polymeric compositions by utilizing the presently claimed, and known, catalyst system and processing parameters. While appellants point out at page 7 of the brief that Table 1 of EP '734 demonstrates that "the difference in melting points of the polymer components could be less than 5°C", the Table also demonstrates that it was known in the art that the difference in melting points can be 5°C. Appellants have not established on this record that compositions comprising polymeric components having differences in melting points of at least 5°C produce unexpected results.

Appellants also contend at page 7 of the brief that EP '046 and WO '414 do not suggest "that the polymer products have a mixed melting point or a melting point that is not below the melting point of the lower melting component." First, EP '046 specifically teaches that the polymeric blends are mixtures of two or more polymers having different melting points (page 1, second paragraph), and WO '414 expressly discloses that the

Appeal No. 1997-0302
Application No. 08/120,105

polymeric blends "can be multimodal with respect to either or both molecular weight and/or comonomer content." (see abstract). Secondly, as explained supra, the appealed claims do not require a product composition which has "a melting point that is not below the melting point of the lower melting component." (page 7 of brief).

As a final point, we note that appellants base no arguments upon objective evidence of nonobviousness, such as unexpected results.

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

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

AFFIRMED

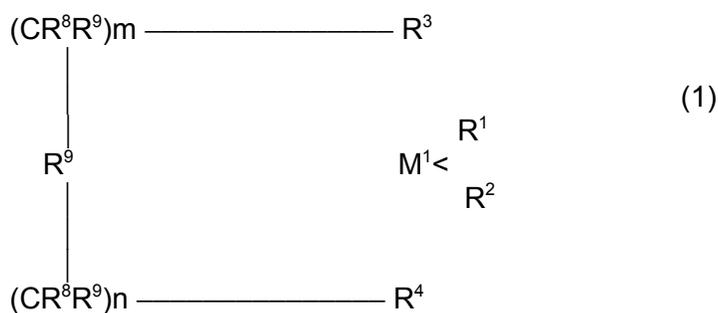
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Appeal No. 1997-0302
Application No. 08/120,105

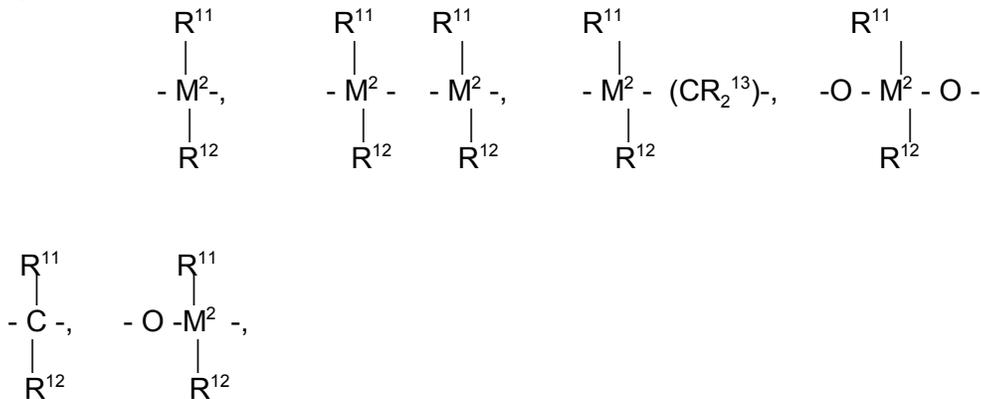
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where the transition-metal component used comprises at least two metallocenes of the formula 1:



in which M^1 is Zr, Hf or Ti,
 R^1 and R^2 are identical or different and are a hydrogen atom, a C_1 , $-\text{C}_{10}$, alkyl group, a C_6 , $-\text{C}_{10}$ -alkoxy group, a C_6 , $-\text{C}_{10}$ -aryl group, a C_6 , $-\text{C}_{10}$ -aryloxy group, a C_2 , $-\text{C}_{10}$ -alkenyl group, a C_7 , $-\text{C}_{40}$ -arylalkyl group, a C_7 , $-\text{C}_{40}$ -alkylaryl group, a C_8 , $-\text{C}_{40}$ -arylalkenyl group, or a halogen atom,
 R^3 and R^4 are identical or different and are a monocyclic or polycyclic, unsubstituted or substituted hydrocarbon radical which, together with the metal atom M^1 , can form a sandwich structure,

R^5 is



Appeal No. 1997-0302
Application No. 08/120,105

where

R^{11} and R^{12} and R^{13} are identical or different and are a hydrogen atom, a halogen atom, a C_1 - C_{10} , alky group, a C_1 , C_{10} -fluoroalkyl group, a C_6 - C_{10} -aryl group, a C_6 - C_{10} -fluoroaryl group, a C_1 - C_{10} -alkoxy group, a C_2 - C_{10} -alkenyl group, a C_7 , C_{40} -arylalkyl group, a C_8 - C_{40} -arylalkenyl group or a C_7 - C_{40} -alkylaryl group, or R^{11} and R^{12} or R^{11} and R^{13} , in each case together with the atoms connecting them, form a ring, and M^2 is silicon, germanium or tin,

R^8 and R^9 are identical or different and are defined for R^1 .
 m and n are identical and are zero.