

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

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* HELMUT MANGOLD,  
WERNER HARTMANN, DIETER KERNER  
and PETER KLEINSCHMIT

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Appeal No. 2001-2546  
Application 09/067,915

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ON BRIEF

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Before WARREN, TIMM and DELMENDO, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

*Decision on Appeal and Opinion*

We have carefully considered the record in this appeal under 35 U.S.C. § 134, including the opposing views of the examiner, in the answer, and appellants, in the brief and reply brief, and based on our review, find that we cannot sustain the rejection of appealed claims 1 through 4, 6 and 7, under 35 U.S.C. § 112, first paragraph, written description requirement, the rejection of appealed claims 1 through 3, 6 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Zirngibl et al. (Zirngibl) or Saladin et al. (Saladin) or Hori each in view of Jacobson or Lee, and the rejection of appealed claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Zirngibl et al. (Zirngibl) or Saladin et al. (Saladin) or Hori each in view of Jacobson or Lee, as applied to

appealed claims 1 through 3, 6 and 7 further in view of United Kingdom Patent Specification 1,003,957.<sup>1,2</sup>

We first consider the ground of rejection under § 112, first paragraph, written description requirement. In stating the ground of rejection (answer, page 3), the examiner merely alleges that “[i]n claim 7, ‘evaporating a zirconium halide to form a vapor in a partial vacuum’ is new matter.” We note that the cited phrase is not found in appealed claims 1 through 4 and 6, none of which depend on claim 7, which are also included in this ground of rejection. It is well settled that the examiner has the burden of making out a *prima facie* case that an appealed claim does not comply with this section of the statute by setting forth evidence or reasons why, as a matter of fact, the written description in appellants’ disclosure would not reasonably convey to persons skilled in this art that appellants were in possession of the invention defined by the claims, including all of the limitations thereof, at the time the application was filed. *See generally, In re Alton*, 76 F.3d 1168, 1175-76, 37 USPQ2d 1578, 1583-84 (Fed. Cir. 1996), citing *In re Wertheim*, 541 F.2d 257, 263-64, 191 USPQ 90, 97 (CCPA 1976). Accordingly, we reverse this ground of rejection because the examiner does not explain why appealed claim 7 does not comply with this section of the statute, or why appealed claims 1 through 4 and 6 are involved in this ground of rejection.

Turning now to the grounds of rejection under § 103(a), in order to establish a *prima facie* case of obviousness of appealed product-by-process claims 1, 2 and 6, the examiner must show that the zirconium dioxide powder prepared by Zirngibl, Saladin and Hori would reasonably appear to be identical or substantially identical to zirconium dioxide powder having the characteristics, including preparation by flame hydrolysis, specified in these appealed claims. *See generally, In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985); *In re Best*, 562 F.2d 1252, 1254-56, 195 USPQ 430, 432-34 (CCPA 1977); *see also In re Skoner*, 517 F.2d 947, 950, 186 USPQ 80, 82 (CCPA 1975) (“Appellants have chosen to describe their invention in terms of certain physical characteristics . . . . Merely choosing to describe their invention in this manner does not render patentable their method which is clearly obvious in view of [the

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<sup>1</sup> See the amendment of November 28, 2000 (Paper No. 19). The appealed claims are all of the claims in the application.

reference]. [Citation omitted.]”); *cf. In re Spada*, 911 F.2d 705, 708-09, 15 USPQ2d 1655, 1657-58 (Fed. Cir. 1990) (“The Board held that the compositions claimed by Spada ‘appear to be identical’ to those described by Smith. While Spada criticizes the usage of the word ‘appear’, we think that it was reasonable for the PTO to infer that the polymerization by both Smith and Spada of identical monomers, employing the same or similar polymerization techniques, would produce polymers having the identical composition.”). And, in order to establish a *prima facie* case of obviousness of appealed process claims 3, 4 and 7, the examiner must show that one of ordinary skill in this art would have modified the processes of each of Zirngibl, Saladin and Hori, each separately combined with Jacobson or Lee, to arrive at the process specified in each of these appealed claims. *See generally, In re Dow Chem. Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988) (“The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that [the claimed process] should be carried out and would have a reasonable likelihood of success viewed in light of the prior art. [Citations omitted] Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant’s disclosure.”).

We have carefully considered the arguments by the examiner and by appellants. As an initial matter, we find that, when considered in light of the written description in the specification as interpreted by one of ordinary skill in this art, *see, e.g., In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000); *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997), *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), the plain language of appealed claims 3 and 7 specifies, *inter alia*, that the zirconium halide vapor is mixed with a reaction gas of oxygen *and* hydrogen (see brief, page 9). Appellants point out that Zirngibl does not teach or suggest a reactive gas that contains both oxygen and hydrogen (brief, page 6). The examiner replies that this reference does teach “air (which contains oxygen and hydrogen gases)” (answer, page 6). The difficulty that we have with the examiner’s argument is that it is well known that air contains very little hydrogen.<sup>3</sup> Appellants point out that

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<sup>2</sup> Answer, pages 3-5.

<sup>3</sup> *See, e.g.*, the definition of “air” in *The Condensed Chemical Dictionary* 25 (10th ed., Gessner G. Hawley, ed., New York, Van Nostrand Reinhold Company, 1981), wherein “air” contains “hydrogen” at about “0.000,05” % by volume.

in the process of Saladin, the combination of air and oxygen is to be avoided (brief, pages 10-11) and the examiner admits as much (answer, page 6, last sentence). Finally, appellants submit, that the present claims require “only zirconium oxide” while Hori discloses particles having “an outer shell of aluminum oxide and a core formed of zirconium oxide” (brief, page 11). The examiner responds that “the instant claims do not exclude an outer shell of aluminum oxide” but provides no reasoning in support of this interpretation of the term “zirconium dioxide powder” (answer, page 7). We find that the plain language of this term in the appealed claims, when considered in light of the specification, means zirconium dioxide *per se*.

We agree with appellants that these deficiencies of Zirngibl, Saladin and Hori are not cured by Jacobson or Lee, and the examiner does not provide any other combination of references, including reliance on the United Kingdom Patent Specification, which would establish that one of ordinary skill in this art would have modified the teachings of Zirngibl, Saladin and Hori so as to arrive at the claimed methods of appealed claims 3, 4 and 7. We further find that the examiner has not separately established that one of ordinary skill in this art would have reasonably expected zirconium dioxide powder produced by the processes taught in these combinations of references to be identical or substantially identical to the claimed zirconium dioxide powder encompassed by appealed claims 1, 2 and 6. Accordingly, we reverse the grounds of rejection under § 103(a).

The examiner’s decision is reversed.

*Reversed*

CHARLES F. WARREN  
Administrative Patent Judge

CATHERINE TIMM  
Administrative Patent Judge

ROMULO H. DELMENDO  
Administrative Patent Judge

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