

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. 37

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* TSUYOSHI YASUTAKE, HIDEAKI MIYASHITA,  
SADAICHI KOMOHARA, HIROSHI MASUDA, TADASHI YOSHINO,  
FUMIO NAKAMURA and NOBUYUKI SUTOH

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Appeal No. 1999-0507  
Application 08/407,033

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HEARD: November 7, 2001

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Before WARREN, KRATZ and PAWLIKOWSKI, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

*Decision on Appeal*

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 5 through 7, 10, 11 13 through 15, 18, 19, 22 and 23. Claim 22, as it stands of record,<sup>1</sup> is illustrative of the claims on appeal:

22. A method for preparing a composition containing uniformly mixed elemental carbon and an elemental oxide, which consists essentially of:

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<sup>1</sup> See the amendments of August 22, 1997 (Paper No. 24) and of January 7, 1998 (Paper No. 26). It is apparent from a comparison of claim 22 reproduced here and as copied in the appendix to the brief that there are differences in addition to those cited in the answer (page 2).

a) introducing, into a gas having a temperature of at least about 600°C, a dispersion consisting essentially of, in a decomposable carbon-containing compound, an elemental oxide selected from the group consisting of SiO<sub>2</sub>, TiO<sub>2</sub>, WO<sub>3</sub>, B<sub>2</sub>O<sub>3</sub>, MnO<sub>2</sub>, Fe<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub>, HfO<sub>2</sub>, MoO<sub>3</sub>, Cr<sub>2</sub>O<sub>3</sub>, VO<sub>2</sub>, V<sub>2</sub>O<sub>5</sub>, Nb<sub>2</sub>O<sub>5</sub> and Ta<sub>2</sub>O<sub>5</sub>;

b) decomposing said dispersion into said gas, thereby forming a composition containing uniformly mixed elemental carbon and said elemental oxide; and

c) recovering the formed uniformly mixed composition.

The appealed claims, as represented by claim 22, are drawn to a method for preparing a composition containing uniformly mixed elemental carbon and an elemental oxide which consists essentially of at least the steps of introducing a dispersion consisting essentially of at least a specified elemental oxide in a decomposable carbon-containing compound, decomposing the dispersion in a gas having the stated temperature, and recovering the uniformly mixed composition. The product can be heated in an inert atmosphere to form elemental carbide powder (claim 23).

The references relied on by the examiner are:

Dean et al. (Dean)	3,686,347	Aug. 22, 1972
Yoda et al. (Yoda)	4,752,456	Jun. 21, 1988

The examiner has rejected all of the appealed claims under 35 U.S.C. § 103(a) as being unpatentable over Yoda taken with Dean.

We reverse.

Rather than reiterate the respective positions advanced by the examiner and appellants, we refer to the examiner's answer and to appellants' brief and reply brief for a complete exposition thereof.

#### *Opinion*

The dispositive issue in this appeal is whether appealed claims 22 and 23 are, as framed by the examiner, "broad enough to embrace introducing the metal oxide by forming it in-situ, which is the process of Yoda" (answer, page 3). The examiner, however, does not explain why the claims should be so interpreted in the answer. Appellants, on the other hand, point out that claim 22 requires "introducing a metal oxide" which is "the direct addition of metal oxide and . . . [not] a precursor compound" (reply brief, pages 1-2; emphasis in the original deleted).

It seems to us 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 Morris*, 127 F.3d 1048, 1054-55, 44

USPQ2d 1023, 1027 (Fed. Cir. 1997), we must agree with appellants that the plain language of appealed claims 22 and 23 requires that the dispersion of the elemental oxide in the decomposable carbon-containing compound is introduced into a gas, and thus the required dispersion containing the metal oxide is formed before, and not after, the introduction step. Indeed, the specification essential describes two embodiments based on whether the metal oxide or a precursor compound is dispersed in the decomposable carbon compound prior to the introduction step, and appellants have restricted the claims to the former embodiment.

Accordingly, since the examiner has not addressed the issue of whether one of ordinary skill in this art would have modified Yoda by initially adding the metal oxide rather than a precursor to the dispersion introduced to the gas through one nozzle of the apparatus as described in the reference (e.g., col. 8, lines 63-68) in stating and explaining the ground of rejection of record, he has not established a *prima facie* case of obviousness by showing that some objective teaching, suggestion or motivation in the applied prior art taken as a whole and/or knowledge generally available to one of ordinary skill in the art would have led that person to the claimed invention as a whole, including each and every limitation of the claims, without recourse to the teachings in appellants' disclosure. *See generally, In re Rouffet*, 149 F.3d 1350, 1358, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998); *Pro-Mold and Tool Co. v. Great Lakes Plastics Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629-30 (Fed. Cir. 1996); *In re Fine*, 837 F.2d 1071, 1074-76, 5 USPQ2d 1596, 1598-1600 (Fed. Cir. 1988); *In re Dow Chem. Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531-32 (Fed. Cir. 1988). Therefore, we reverse this ground of rejection.



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