

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ABDOLLAH BASHIR-HASHEMI

Appeal No. 1996-0709
Application 08/228,245

ON BRIEF

Before PAK, OWENS, and WALTZ, Administrative Patent Judges.

PAK, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claim 1 which is the sole claim pending in the application.

The claimed subject matter on appeal is directed to 2-carboxy-1,4-dinitrocubane. According to page 1 of the

Appeal No. 1996-0709
Application No. 08/228,245

specification:

Considerable effort in recent years has been directed toward the synthesis of polynitrocubanes because of the potential use of this class of energetic materials as explosives, propellants, fuels and binders (Chemistry of Energetic Materials; Ed., G.A. Olah; D.R. Squire; Academic Press, Inc., San Diego, CA, 1991. Also see Carbocyclic Cage Compounds; Ed., E.J. Osawa; O. Yonemitsu; VCH Publishers, Inc., New York, NY, 1992). The compact structures of cage molecules result in high densities, and the introduction of NO₂ groups further enhances the density. The strain energy present in the cubane skeleton (>166 kcal/mol) is an added bonus to its performance. Furthermore, preliminary results with polynitrocubanes indicate that such compounds are thermally very stable and are also very insensitive energetic materials. Consequently, it is of interest to introduce functional groups on the cubane skeleton which can be converted to nitro group or other active functionalities.

Direct functionalization of nitrocubanes, while an attractive approach, has not heretofore been realized. Cationic or anionic reactions, due to the activity of the nitro groups give either decomposed products or recovered starting materials. We report here an efficient direct functionalization of a nitrocubane molecule by its irradiation in a solution of oxalyl halide (for a related case see Wiberg, K.B.; 10th Annual Working Group Meeting, June 3-6, 1992, Kiamesha Lake, NY. For much simpler cases see Wiberg, K.B.; Williams, Jr., V.Z.; J. Org. Chem., 1970, 35 369; Applequist, D.E.; Sasaki, T.; J. Org. Chem.; 1978, 43, 2399). This new and potentially powerful synthetic development will greatly shorten the number of steps necessary to obtain nitrocubane derivatives which are otherwise difficult to synthesize.

Appeal No. 1996-0709
Application No. 08/228,245

The examiner has rejected the claim under 35 U.S.C. § 101 as lacking a practical utility and under 35 U.S.C. § 112, first paragraph, as failing to adequately teach one of ordinary skill in the art how to use the claimed compound. Our reviewing court stated in *In re Ziegler*, 992 F.2d 1197, 1200-01, 26 USPQ2d 1600, 1603 (Fed. Cir. 1993):

The how to use prong of section 112 incorporates as a matter of law the requirement of 35 U.S.C. § 101 that the specification disclose as a matter of fact a practical utility for the invention... If the application fails as a matter of fact to satisfy 35 U.S.C. § 101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. § 112.

The examiner has the initial burden of demonstrating that the claimed compound lacks a practical utility under section 101 or 112. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992) (the examiner has "the initial burden, on review of the prior art or on any other ground, of presenting a prima facie case of unpatentability."). The dispositive question is, therefore, whether the examiner has met his initial burden of establishing that the claimed compound lacks a practical utility within the meaning of 35 U.S.C. §§ 101 and 112. We answer this question in the

Appeal No. 1996-0709
Application No. 08/228,245

negative.

It is well settled that a statement of utility or enablement in a specification must be accepted by the examiner absent reasons why one skilled in the art would have had reason to doubt the objective truth of such statement. ***In re Langer***, 503 F.2d 1380, 1391, 183 USPQ 288, 297 (CCPA 1974); ***In re Marzocchi***, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971). Only one of the stated utilities in a specification needs to be credible. ***See, e.g., Raytheon Co. v. Roper Corp.***, 724 F.2d 951, 958, 220 USPQ 592, 598 (Fed. Cir. 1983). Moreover, when the claimed compound belongs to a class of compounds whose members are recognized to be useful for a particular purpose and it is within the skill of the art to use the claimed compound for that purpose, the requirements of both section 101 and 112 are met by a disclosure that the claimed compound is useful for that purpose. ***See, e.g., In re Hitchings***, 342 F.2d 80, 89-91, 144 USPQ 637, 644-46 (CCPA 1965). To violate these requirements, the claimed compound must be "totally incapable of achieving useful results." ***Brooktree Corp. v. Advanced***

Appeal No. 1996-0709
Application No. 08/228,245

Micro Devices, Inc., 977 F.2d 1555, 1571, 24 USPQ2d 1401, 1412 (Fed. Cir. 1992); **See also E.I. du Pont De Nemours and Co. v. Berkley and Co.**, 620 F.2d 1247, 1260 n.17, 205 USPQ 1, 10 n.17 (8th Cir. 1980) ("A small degree of utility is sufficient...The claimed invention must only be capable of performing some beneficial function...")

Here, we find that the specification and the literature it refers to states that polynitrocubanes and functionalized polynitrocubanes, which are inclusive of the claimed polynitrocubane, are useful as energetic materials, such as explosives, propellants, fuels and binders. See page 1. We also find that the specification describes the claimed polynitrocubane as an intermediate of a final product having a utility. From these findings of fact, we can infer that the claimed polynitrocubane belongs to a class of compounds whose members are recognized to be useful as explosives, propellants, fuels, binders and/or their intermediates and it is within the skill of the art how to use the claimed compound for such a purpose. On this record, the examiner simply has not supplied any basis to question all of the aforementioned

Appeal No. 1996-0709
Application No. 08/228,245

utilities of the claimed compound. Accordingly, we reverse the examiner's decision rejecting the appealed claim under 35 U.S.C. § 101 and 35 U.S.C. § 112, first paragraph.

Appeal No. 1996-0709
Application No. 08/228,245

In view of the foregoing, the decision of the examiner is reversed.

REVERSED

CHUNG K. PAK)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
TERRY J. OWENS)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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THOMAS A. WALTZ))
Administrative Patent Judge)	

Appeal No. 1996-0709
Application No. 08/228,245

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