

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. 10

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte ARUNABHA BASU, THEODORE H. FLEISCH,  
CHRISTOPHER I. MCCARTHY, SVEND-ERIK MIKKELSEN  
and CARL A. UDOVICH

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Appeal No. 1997-3529  
Application No. 08/463,939

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ON BRIEF

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Before, KIMLIN, PAK and KRATZ, Administrative Patent Judges.  
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 3, 5, 7, 8, 10, and 12-16.<sup>1</sup> No other claims remain pending in this application.

Appellants' invention relates to a diesel fuel composition including specified amounts of dimethyl ether, water and methanol. An understanding of the invention can be

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<sup>1</sup> We note that claim 9 stands rejected as maintained by the examiner in the final rejection. Appellants have not appealed from the final rejection of claim 9 (brief, page 4).

derived from a reading of exemplary claim 1, which is reproduced below.

A diesel fuel composition comprising from about 85 to about 95 weight percent of dimethyl ether, from about 1 to about 20 weight percent of water, and from about 1 to about 20 weight percent of methanol, wherein the lowest concentration of methanol in weight percent, min. meth. conc., that is permitted in the diesel fuel composition containing a given water concentration in weight percent, water conc., is defined by the relationship  $0 \sim \text{min. meth. conc.} \leq 0.5 (\text{water conc.}) - 2.6$  and the largest concentration of methanol in weight percent, max. meth. conc., that is permitted in the diesel fuel containing a given water concentration in weight percent is defined by the relationship  $\text{max. meth. conc.} \sim 20 - 0.6 (\text{water conc.})$ .

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Neely 1955	2,708,922	May 24,
Brown et al. (Brown) 1974	3,846,088	Nov. 05,
Norton et al. (Norton) 1986	4,603,662	Aug. 05,
Gro $\text{\$}$ <sup>2</sup> 1937 (German Patent)	654,470	Dec. 20,

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<sup>2</sup> All references to Gro $\text{\$}$  in this decision are to the English language translation of the German Patent of record.

Claims 1, 3, 5, 7, 8, 10 and 12-16 stand rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under § 103 as being unpatentable over Gro\$ (German Patent No. 654,470). Claims 1, 3, 5, 7, 8, 10 and 12-16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Norton in view of Neely and Brown.

OPINION

We have carefully considered all of the arguments advanced by appellants and the examiner and agree with appellants that the aforementioned rejections are not well founded. Accordingly, we reverse these rejections.

*§ 102(b)/ § 103 Rejection over Gro\$*

In order for a claimed invention to be anticipated under 35 U.S.C. § 102(b), all of the elements of the claim must be found in one reference. *See Scripps Clinic & Research Found v. Genentech Inc.*, 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991). The examiner has the initial burden of establishing a *prima facie* case of anticipation by pointing out where all of the claim limitations appear in a single reference. *See In re Spada*, 911 F.2d 705, 708, 15 USPQ2d

1655, 1657 (Fed. Cir. 1990); *In re King*, 801 F.2d 1324, 1327, 231 USPQ 136, 138-39 (Fed. Cir. 1986).

All of the appealed claims require that the diesel fuel composition includes water in an amount of from about 1 to about 20 weight percent in addition to methanol and dimethyl ether. The methanol content must not only be present in an amount of from about 1 to 20 weight percent, but must also be present in an amount relative to the amount of water present as set forth in the minimum and maximum concentration formulas set forth in appealed claim 1. According to appellants, such constraints on the relative amounts of methanol and water in the fuel composition result in the prevention of phase separation and the avoidance of poor ignition properties (specification, page 5, lines 1-26).

The examiner has not pointed to any disclosure in Gro\$ that describes the water content of that patent's disclosed fuel mixture in any specified amount, let alone the herein claimed amount. The examiner argues that "[w]ater concentrations are known to be inherently present in ether and methanol during production" (answer, page 4). However, appellants have pointed out that Gro\$ discloses that water

made during production of dimethyl ether is separated therefrom by Gro\$ (brief, page 7).

As explained above, the appealed claims do not merely require that there is some water in the fuel composition, but that water is present in a specified amount relative to the total composition and that the weight percent of methanol in the composition is constrained by the amount of water present. Those limitations are lacking in Gro\$'s described fuel composition. In this regard, the examiner's speculation regarding the amount of water that may be present in the fuel composition of Gro\$ after a water separation step (answer, page 7) is not sufficient to establish that the composition of Gro\$ would necessarily contain an amount of water corresponding to that required by appellants' claims.

The examiner, therefore, has not carried the burden of establishing a *prima facie* case of anticipation by pointing out where all of the claim limitations appear in a single reference. Consequently, we reverse the rejection under 35 U.S.C. § 102(b).

In the alternative rejection under 35 U.S.C. § 103 over Gro\$, the examiner does not further explain why it would have

been *prima facie* obvious to one of ordinary skill in the art to modify the composition of Gro\$ such that the herein claimed composition would result from such modification. Accordingly, we reverse the rejection under 35 U.S.C. § 103.

*§ 103 Rejection over Norton, Neely and Brown*

Similar to the discussion regarding the Gro\$ patent above, the applied Norton patent simply does not teach or suggest a diesel fuel composition containing an amount of dimethyl ether, methanol and water as herein claimed. We note that the examiner particularly refers to examples 1, 3, 4 and 5.1 of Norton (answer, page 4). However, our review of those examples reveals that the compositions of examples 1, 2 and 4 of Norton included only 5% dimethyl ether and example 5.1 included 20% dimethyl ether, not 85-95% as herein claimed. Also, no water was described as being present in any of those examples. Examples 2 and 4 did not even include methanol, let alone an amount thereof within the herein claimed range. Neely and Brown do not make-up for the deficiencies of Norton. Neely is concerned with a priming fuel and does not teach that priming fuel contains water in the amount herein claimed. Brown is concerned with high octane gasoline that includes a

branched chain ether component, not a dimethyl ether containing diesel fuel.

From our perspective, the examiner has not satisfactorily explained why one of ordinary skill in the art would have been led to modify the composition of the diesel fuel of Norton in light of the teachings of Neely and Brown so as to arrive at the herein claimed fuel composition. How would the priming fuel teachings of Neely or the high octane gasoline components produced as suggested by Brown lead one of ordinary skill in the art to effect a modification in the diesel fuel of Norton? On this record, we are constrained to reverse the stated rejection over the combined teachings of those references.

CONCLUSION

The decision of the examiner to reject claims 1, 3, 5, 7, 8, 10 and 12-16 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under § 103 as being unpatentable over Gro\$ (German Patent No. 654,470) and to reject claims 1, 3, 5, 7, 8, 10 and 12-16 under 35 U.S.C. § 103 as being unpatentable over Norton in view of Neely and Brown is reversed.

REVERSED

EDWARD C. KIMLIN	)	
Administrative Patent Judge	)	
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	)	
	)	BOARD OF PATENT
CHUNG K. PAK	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
PETER F. KRATZ	)	
Administrative Patent Judge	)	

Appeal No. 1997-3529  
Application No. 08/463,939

Page 9

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APPEAL NO. - JUDGE KRATZ  
APPLICATION NO.

APJ KRATZ

APJ

APJ

DECISION: **ED**

Prepared By:

**DRAFT TYPED:** 28 Sep 01

**FINAL TYPED:**