

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. 30

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHANNES P. VERDUIJN, GARY B. MCVICKER,
and JOHN J. ZIEMIAK

Appeal No. 2000-1808
Application No. 07/855,016

ON BRIEF

Before KIMLIN, PAK, and OWENS, *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 claims 1 through 4, 6 through 21 and 23 through 28, which are all of the claims pending in the above-identified application.

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APPEALED SUBJECT MATTER

Claim 1 is representative of the subject matter on appeal and reads as follows:

1. A process for reforming a petroleum hydrocarbon feed stream comprising contacting the stream under reforming conditions with a catalyst which comprises a zeolite KL in which the Zeolite crystals are cylindrical and have an average cylinder wall length of 0.1 to 0.6 microns, and an average cylinder wall length:diameter ratio of less than 0.5 and have microscopically flat basal planes, said Zeolite being the crystallization product of a mixture comprising q moles of water, a divalent cation, said divalent cation present in said mixture and present at a level of up to 250 ppm, a source of m moles of K_2O , a source of n moles of SiO_2 and a source of p moles of Al_2O_3 where m:n is 0.2 to 0.35 and n:p is 15 to 160 and q:m is 45 to 70, which zeolite is further impregnated with a metal hydrogenation-dehydrogenation promotor, wherein the basal planes of said cylindrical crystals are flatter than the basal planes of crystals prepared from an otherwise identical synthesis mixture which is free of said divalent cation.

PRIOR ART

In support of his rejections, the examiner relies on the following prior art references:

Drehman et al. (Drehman)	3,883,418	May 13, 1975
Wortel	4,544,539	Oct. 1, 1985
Buss	4,645,586	Feb. 24, 1987
Ellig et al. (Ellig)	4,870,223	Sep. 26, 1989
Verduijn	5,491,119	Feb. 13, 1996

(filed June 30, 1992)¹

¹ The published PCT application corresponding to this patent **may be** available as "prior art" under 35 U.S.C. § 102(a). Upon return of this application, the examiner is advised to determine whether the published PCT application, WO91/06367, is available

THE REJECTIONS

The appealed claims stand rejected as follows:

- 1) Claims 1 through 4, 6 through 10 and 23 through 28 under 35 U.S.C. § 103 as unpatentable over the disclosure of Wortel;
- 2) Claims 11 through 16 under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Buss and Wortel;
- 3) Claims 17 and 18 under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Buss, Wortel and Drehman;
- 4) Claims 19 through 21 under 35 U.S.C. 103 as unpatentable over the combined disclosures of Buss, Wortel and Ellig; and
- 5) Claims 1 through 4 and 6 through 10 under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 20 through 30 of U.S. Patent 5,491,119 issued to Verduijn.

OPINION

We have carefully reviewed the claims, specification, and prior art, including all of the evidence and arguments advanced by both the examiner and appellants in support of their

as "prior art" under 35 U.S.C. § 102(a). To resolve this matter, the examiner must determine whether the subject application is entitled to the benefit of the filing date of PCT Application US 90/06307 filed on October 30, 1990 and/or the filing date of Great Britain Application 8924410.7 (foreign priority application) filed on October 30, 1989.

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respective positions. This review leads us to conclude that only the examiner's obviousness-type double patenting rejection is well founded. Accordingly, we will sustain only that rejection. Our reasons for these determinations follow.

This is appellants' second appeal of subject matter generally involving a process for reforming petroleum hydrocarbons in the presence of a specific catalyst under conventional reforming conditions. In comparison with the claims previously considered by the Board in an earlier appeal, Appeal No. 1995-2321 (Application 07/855,016), the appealed process claims now require, *inter alia*, the presence of a divalent cation in zeolite KL employed in the specific catalyst. Specifically, the appealed process claims recite "said divalent cation present in said mixture" and "wherein the basal planes of said cylindrical crystals are flatter than the basal planes of crystals prepared from an otherwise identical synthesis mixture which is free of said divalent cation" not included in the previously considered claims. According to page 17, lines 22-26, of the specification, the presence of a divalent cation not only provides the above recited advantage (forming flatter basal planes), but also reduces the formation of crystalline contaminants, such as zeolite W and erionite.

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In rejecting all of the appealed claims under Section 103, the examiner relies only on the disclosure of Wortel to establish obviousness of the catalyst used in the claimed process. Thus, the dispositive question is whether Wortel would have suggested the claimed catalyst within the meaning of 35 U.S.C. § 103. On this record, we answer this question in the negative.

Wortel teaches using disc shape zeolite particles having the claimed amounts of K_2O , SiO_2 , Al_2O_3 and an aspect ratio of less than 0.5 as hydrocarbon reforming catalysts. See column 10, lines 25-45. These disc shape zeolite particles have a size of 0.5 to 1 micron. See columns 17 and 18, Table 3, Example 16. Although Wortel teaches that small quantities of other metal cations and salt forming anions can be present, it teaches that their presence promotes the formation of crystalline contaminants, such as erionite. See column 10, line 60 to column 11, line 12. Wortel not only does not specifically teach adding a divalent cation to its disc shape zeolite particles, but also does not recognize the advantages of using the same, i.e., the claimed advantage of forming flatter basal planes and the unclaimed advantage of reducing the formation of crystalline contaminants.

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Under these circumstances, we concur with the appellants that the examiner has not established a *prima facie* case of obviousness regarding the claimed subject matter. Accordingly, we reverse all of the aforementioned Section 103 rejections.

However, the examiner's obviousness-type double patenting rejection of claims 1 through 4 and 6 through 10 is on different footing. As is apparent from page 5 of the Brief, the appellants do not dispute the examiner's determination that claims 10 through 20 of U.S. Patent 5,491,119 would have rendered the presently claimed subject matter obvious to one of ordinary skill in the art. Rather, the appellants state that they have submitted a terminal disclaimer to overcome the obviousness-type double patenting rejection. However, as stated by the examiner, no terminal disclaimer is recorded or can be found in the present application.

Under these circumstances, we are constrained to affirm the examiner's decision rejecting claims 1 through 4 and 6 through 10 under the judicially created doctrine of obviousness-type double patenting.

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In view of the foregoing, the decision of the examiner is affirmed-in-part.

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

AFFIRMED-IN-PART

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
CHUNG K. PAK)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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TERRY J. OWENS)	
Administrative Patent Judge)	

CKP:hh

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