

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

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JEAN-PIERRE DATH, LUC DELORME, JACQUES-FRANCOIS GROOTJANS,
XAVIER VANHAEREN and WALTER VERMEIREN

Appeal No. 2002-1863
Application No. 09/206,207

HEARD: March 20, 2003

Before WARREN, WALTZ, and DELMENDO, Administrative Patent Judges.
WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the primary examiner's final rejection of claims 1, 2, 6 through 9, 12, 13 and 15 through 27, which are the only claims pending in this application.¹ We have jurisdiction pursuant to 35 U.S.C. § 134.

According to appellants, the invention is directed to a process for the production of olefins by the catalytic cracking of

¹The amendment dated Sep. 28, 2001, Paper No. 15, subsequent to the final rejection, was entered as per the Advisory Action dated Oct. 12, 2001, Paper No. 16 (see the Brief, page 2; Answer, page 2).

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an olefin-containing feedstock containing at least 100 parts per million (ppm) of an impurity selected from the group consisting of nitrogen, sulfur and oxygen using a pretreated MFI crystalline catalyst under particular cracking conditions (Brief, page 3). The invention may be further understood by illustrative independent claim 1, reproduced below:

1. A process for the catalytic cracking of at least one olefin in an olefinic stream containing impurities, the cracking process being selective towards light olefins in the effluent, the process comprising contacting at an inlet temperature of from 500 to 600°C a feedstock olefinic stream containing at least 100 ppm of at least one impurity selected from the group consisting of nitrogen, sulphur and oxygen with a MFI crystalline silicate catalyst, the catalyst having been heated in steam to reduce the tetrahedral aluminum in the crystalline silicate framework and subjected to an aluminum extraction process to remove aluminum from the pores of the crystalline silicate after which the catalyst has a silicon/aluminum atomic ratio of from 180 to 1000, to produce an effluent stream having substantially the same olefinic content by weight as, but a different olefin distribution than, the feedstock contains.

The examiner relies upon the following references as evidence of obviousness:

Eberly, Jr., et al. (Eberly)	3,506,400	Apr. 14, 1970
Glockner et al. (Glockner)	4,078,011	Mar. 07, 1978
Colombo et al. (EP '060) (published European Patent Application)	0 109 060	May 23, 1984

Claims 1, 2, 6-9, 12, 13, 15, 17-19 and 27 stand rejected under 35 U.S.C. § 103(a) as unpatentable over EP '060 in view of Eberly (Answer, page 3). Claims 16 and 20-26 stand rejected under

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35 U.S.C. § 103(a) as unpatentable over EP '060 in view of Eberly and Glockner (Answer, page 5). Claims 1, 2, 6-9, 12, 13, 15, 17-19 and 27 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1, 2, and 4-10 of copending application no. 09/206,208 (Answer, page 5). The claims on appeal stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over (1) claims 1-14 of copending application no. 09/206,218 (Answer, page 6); (2) claims 9-14 of copending application no. 09/206,210 (*id.*); and (3) claims 1, 2, 4-10, 12-14, 16-20, 22, 24 and 27 of copending application no. 09/206,216 (Answer, page 7).

We summarily *affirm* all of the examiner's provisional rejections based on obviousness-type double patenting for the reasons stated in the Answer. We *reverse* the examiner's rejections based on section 103(a) essentially for the reasons stated in the Brief, Reply Brief, and those reasons set forth below. Therefore the decision of the examiner to reject the claims on appeal is affirmed.

OPINION

A. The Rejections based on Obviousness-type Double Patenting

Appellants do not contest the examiner's provisional rejections based on the judicially created doctrine of obviousness-

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type double patenting (Brief, page 6). Appellants state their intention of submitting an appropriate terminal disclaimer when one or more of the copending applications issue as a patent (*id.*). Accordingly, we summarily affirm all of the examiner's provisional rejections based on the judicially created doctrine of obviousness-type double patenting. See *In re Wetterau*, 356 F.2d 556, 557-58, 148 USPQ 499, 500-01 (CCPA 1966); *Cf. Ex parte Karol*, 8 USPQ2d 1771, 1773-74 (Bd. Pat. App. & Int. 1988).

B. The Rejections based on 35 U.S.C. § 103(a)

The examiner finds that EP '060 discloses a process for producing olefins by catalytic cracking an olefin feedstock with a zeolitic catalyst such as silicalite or ZSM-5 with a silica/alumina atomic ratio of greater than 175 under reaction conditions encompassing the claimed parameters (Answer, page 3). The examiner recognizes that EP '060 does not disclose, *inter alia*, the claimed pretreatment of the catalyst including steaming and aluminum extraction (Answer, page 4). Therefore, the examiner applies Eberly for its disclosure of a process for treating zeolite by steaming followed by contact with a complexing agent to remove aluminum from the gross structure of the zeolite, thereby increasing the silica/alumina ratio (*id.*). From these findings, the examiner concludes that it would have been obvious to one of

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ordinary skill in the art to modify the process of EP '060 "by dealuminating the zeolite to achieve the desired silicon:aluminum atomic ratio as suggested by Eberly because the resulting zeolite will have higher stability." *Id.*

It is incumbent upon the examiner, when proposing a combination or modification of references, to identify some suggestion to combine the references or make the modification. See *In re Mayne*, 104 F.3d 1339, 1342, 41 USPQ2d 1451, 1454 (Fed. Cir. 1997). As correctly argued by appellants (Brief, pages 11-14; Reply Brief, pages 3-4), Eberly is not directed to MFI-type catalysts and only suggests silica/alumina mole ratios much lower than those required by EP '060 (and as required by the claims on appeal). Eberly does disclose that the catalysts are useful in cracking processes (col. 1, ll. 64-71, and col. 9, ll. 55-61) and that higher silica/alumina mole ratios provide greater stability to heat, steam and acid (col. 2, ll. 20-25). However, these "higher" silica/alumina mole ratios suggested by Eberly are ones such as 8:1 to 12:1 (col. 2, ll. 25-34), with examples as high as 29:1 (Table IV, col. 8, l. 11). Eberly teaches heating a catalyst in steam, followed by extraction with EDTA, results in a catalyst with an "extremely high" silica/alumina mole ratio of about 20 (see Table III, col. 7, ll. 18-37). The lowest silica/alumina mole ratio

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suggested by EP '060 is 350 (see EP '060, page 1, and the Answer, page 3, converting this value to an atomic ratio of greater than 175). The examiner has not presented any convincing reasoning, suggestion or motivation as to why one of ordinary skill in this art would have modified the process of EP '060, with catalysts already possessing silica/alumina atomic ratios of greater than 175, by the catalyst pretreatment of Eberly when Eberly teaches that silica/alumina mole ratios of 8 through 20 provide sufficiently increased stability. Accordingly, we determine that the examiner has not presented convincing reasons for the proposed combination of references and therefore no case of *prima facie* obviousness has been established.² Thus we cannot sustain the examiner's rejection based on the combination of EP '060 and Eberly.

With regard to the rejection of claims 16 and 20-26, the examiner additionally cites Glockner for the disclosure of a process for selectively hydrogenating dienes (Answer, page 5). Therefore Glockner does not remedy the deficiencies discussed above for the combination of EP '060 and Eberly. Additionally, we agree

²Since we determine that no case of *prima facie* obviousness has been established, a discussion of appellants' countervailing evidence of non-obviousness (Exhibits B, C and D attached to the Brief) is unnecessary to this decision.

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with appellants (Brief, pages 14-15) that the examiner has not supplied any convincing evidence to support the combination of Glockner with EP '060 and Eberly (see the Answer, page 5). The examiner has not shown any recognition in this art that dienes would be present in the claimed amounts in the feedstock nor any desire in this art to remove these dienes. Accordingly, the combination including Glockner can only have been made in hindsight. See *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

For the foregoing reasons, we determine that the examiner has not established a *prima facie* case of obviousness in view of the reference evidence. Therefore we reverse the examiner's rejection based on EP '060, Eberly and Glockner.

C. Summary

We reverse the examiner's rejection of claims 1, 2, 6-9, 12, 13, 15, 17-19 and 27 under 35 U.S.C. § 103(a) over EP '060 in view of Eberly. We also reverse the examiner's rejection of claims 16 and 20-26 under 35 U.S.C. § 103(a) over EP '060 in view of Eberly and Glockner.

We affirm the examiner's provisional rejections under the judicially created doctrine of obviousness-type double patenting of (1) claims 1, 2, 6-9, 12, 13, 15, 17-19 and 27 over claims 1, 2,

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and 4-10 of application no. 09/206,208; (2) claims 1, 2, 6-9, 12, 13 and 15-27 over claims 1-14 of application no. 09/206,218; (3) claims 1, 2, 6-9, 12, 13 and 15-27 over claims 9-14 of application no. 09/206,210; and (4) claims 1, 2, 6-9, 12, 13 and 15-27 over claims 1, 2, 4-10, 12-14, 16-20, 22, 24 and 27 of application no. 09/206,216.

Therefore the decision of the examiner to reject the claims on appeal is affirmed.

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

AFFIRMED

CHARLES F. WARREN)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
THOMAS A. WALTZ)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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ROMULO H. DELMENDO)	
Administrative Patent Judge)	

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