

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

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PER ZUETHEN and BARRY H. COOPER

Appeal No. 2004-1488
Application No. 09/768,733

HEARD: November 18, 2004

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

PAWLIKOWSKI, **Administrative Patent Judge.**

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-8.

Claim 1 is representative of the subject matter on appeal and is set forth below:

1. A process for reducing content of sulphur compounds and polyaromatic hydrocarbons in a hydrocarbon feed stock having a boiling range between 200°C and 600°C, which process comprises the steps of:

(a) contacting the feed stock with hydrogen over a hydrotreating catalyst in a hydrotreating zone at conditions being effective for hydrotreating and obtaining a hydrotreated effluent comprising hydrotreated feed stock, hydrogen sulphide and hydrogen;

- (b) cooling the hydrotreated effluent;
- (c) contacting the cooled hydrotreated effluent with a hydrotreating catalyst at conditions being effective for conversion of polyaromatic hydrocarbons to monoaromatic compounds; and
- (d) introducing the hydrotreated effluent from step (c) into an FCC unit for producing gasoline.

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

Inwood	3,691,060	Sep. 12, 1972
Kelley et al. (Kelley)	4,040,944	Aug. 09, 1977

Claims 1, 3, and 5-8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kelley.

Claim 2 stands rejected under 35 U.S.C. § 103 as being unpatentable over Kelley.

Claim 4 stands rejected under 35 U.S.C. § 103 as being unpatentable over Kelley in view of Inwood.

On page 4 of the brief, appellants state that the claims stand or fall together. We therefore consider claim 1 in this appeal.

We have carefully reviewed the examiner's answer, appellants' brief and reply brief, and the applied art of record. This review has lead us to conclude that the examiner's rejections are well-founded.

OPINION

I. The Anticipation Rejection of Claims 1, 3, and 5-8

We refer to pages 3-4 of the answer regarding the examiner's position for this rejection.

Beginning on page 5 of the brief, appellants argue that claim 1 requires, inter alia, the step of "cooling the hydrotreated effluent." On page 6 of the brief, appellants argue that Kelley is silent about "cooling the hydrotreated effluent" subsequent to the claimed step of "contacting the feed stock with hydrogen for hydrotreating and obtaining a hydrotreated effluent", and before the claimed step of "contacting the cooled hydrotreated effluent with hydrotreating catalyst at conditions being effective for conversion of polyaromatic hydrocarbons to monoaromatic compounds". Appellants set forth similar arguments in the reply brief.

In response, on pages 6-7 of the answer, the examiner recognizes that Kelley teaches that the total effluent from hydrofiner 10 can be transferred to hydrocracker 12 without intervening cooling, condensation or separation of ammonia and hydrogen sulfide generated in the hydrofiner (col.4, lines 26-30 of Kelley). The examiner also points to column 6 of Kelly and states that the disclosure found there clearly teaches that many variations are contemplated, one being that "the hydrofining and hydrocracking operations may be carried out non-integrally with intervening treatment of the hydrofiner effluent to remove ammonia, hydrogen sulfide and like.". See column 6, lines 25-36 of Kelley. The examiner also points out that Kelley specifically states that the hydrocracker 12 can be operated at substantially reduced temperatures and/or higher spaced velocities. See col. 6, lines 25-36 of Kelly. Answer, page 7.

We first note that claim 1 does not require an intermediate cooling station to conduct step (b) of claim 1.

Also, as pointed by the examiner on page 7 of the answer, Kelley discloses, in column 6 at lines 25-36, that an intervening treatment can be performed. We agree with the examiner that this is a teaching that an intervening treatment (which can be a condensation treatment), can be performed. We also agree with the examiner that such a treatment would involve cooling. This is especially so because Kelly teaches that the hydrocracker can be operated at reduced temperatures, as discussed, supra. Appellants' arguments do not show that in fact the effluent would not be cooled under such circumstances.

In view of the above, we therefore affirm the anticipation rejection.

II. The 35 U.S.C. § 103 rejection of claim 2

We refer to pages 4-6 of the answer regarding the examiner's position for this rejection.

On pages 9-11 of brief, appellants set forth essentially the same arguments as set forth with regard to the anticipation rejection, i.e., that Kelley fails to suggest the step of "cooling the hydrotreated effluent", as recited in claim 1. Hence, for the very same reasons that we affirmed the anticipation rejection, we also affirm the obviousness rejection of claim 2 and incorporate the examiner's explanation of obviousness as set forth on pages 4-6 of the answer as our own.

In view of the above, we affirm the 35 U.S.C. § 103 rejection of claim 2.

III. The 35 U.S.C. § 103 rejection of claim 4

We refer to the examiner's position in regard to this rejection as set forth on page 6 of the answer.

Appellants set forth their arguments on pages 11-14 of the brief, and present some of the same arguments in the reply brief.

On page 12 of the brief, appellants state that claim 4 depends upon claim 1, and argue that Kelley and Inwood fail to suggest all the limitations of claim 1. Because appellants set forth essentially the same arguments with regard to step (b) of claim 1, we affirm the 35 U.S.C. § 103 rejection of claim 4 for the reasons, as discussed, supra.

Additionally, appellants argue that Kelley relates to a dual step process, whereas Inwood teaches a single stage process, and that Inwood emphasizes the drawbacks of a two-stage system. We are unpersuaded by such argument because, as pointed out by the examiner on page 6 of the answer, Inwood discloses that hydrogenation processes that employ two catalysts can equivalently use two separate reactors or a single reactor in which the two catalysts are disposed. Hence, as concluded by the examiner, it would have obvious to have modified the process of Kelley by utilizing one reactor in which both catalysts are disposed, thereby resulting a final catalyst bed containing the second zone catalyst as suggested by Inwood because it is more economical to employ a single reactor.

In view of the above, we therefore affirm the 35 U.S.C. § 103 rejection of claim 4.

IV. Conclusion

Each of the rejections is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv)(effective Sept. 13, 2003; 69 Fed. Reg. 49960 (Aug. 12, 2004); 1286 Off. Gaz. Pat., Office 21 (Sept. 7, 2004)).

AFFIRMED

TERRY J. OWENS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
)	APPEALS AND
PETER F. KRATZ)	INTERFERENCES
Administrative Patent Judge)	
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BEVERLY A. PAWLIKOWSKI)	
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BAP/sld

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