

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte JOSEPH C. GENTRY and FU-MING LEE

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Appeal No. 2001-2525  
Application No. 09/000,579

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ON BRIEF

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Before WARREN, LIEBERMAN 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 1-16, 22, 23 and 55, which are all of the claims pending in this application.

#### BACKGROUND

Appellants' invention relates to a process for recovering aromatics from a mixed hydrocarbon feedstock containing aromatics and non-aromatics. The process includes the parallel processing of separate portions of the feedstock in a liquid-liquid extractor and in an extractive distillation column with the separately processed feedstock portions having the same

composition. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. A process for recovering aromatic compounds from a mixed hydrocarbon feedstock containing aromatic compounds and non-aromatic compounds of from between 5 and 12 carbons, comprising:

providing a first portion of the mixed hydrocarbon feedstock having a given composition to a liquid-liquid extractor;

providing a second portion of the mixed hydrocarbon feedstock having the same composition as said first portion to an extractive distillation column; and

recovering aromatic compounds from the first portion of the mixed hydrocarbon feedstock and from the second portion of the mixed hydrocarbon feedstock via parallel operation of the liquid-liquid extractor and the extractive distillation column.

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

Vickers et al. (Vickers)	3,844,902	Oct. 29, 1974
Eisenlohr et al. (Eisenlohr)	3,862,254	Jan. 21, 1975

Claims 1-3, 5, 7-16 and 55 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Eisenlohr. Claims 4, 6, 22 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Eisenlohr in view of Vickers.

We refer to appellants' brief and to the examiner's answer for an exposition of the respective viewpoints expressed by appellants and the examiner concerning the rejections.

OPINION

Upon careful review of the respective positions advanced by appellants and the examiner with respect to the rejections that are before us for review, we find ourselves in agreement with appellants' position in that the examiner has failed to carry the burden of establishing a prima facie case of obviousness. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1471-1472, 223 USPQ 785, 787-788 (Fed. Cir. 1984). Accordingly, we will not sustain the examiner's rejections.

Eisenlohr discloses that an aromatics containing feedstock is subjected to fractional distillation to obtain dissimilar compositional fractions for subsequent processing and recovery of aromatic components using solvent extraction of a select portion of the initial feedstock. See column 1, line 39 through column 2, line 54 and column 3, line 20 through column 4, line 11 of Eisenlohr. The examiner (answer, page 3) acknowledges that Eisenlohr does not disclose the separate processing of first and second portions of an aromatic and non-aromatic containing feedstock, which portions have the same composition, as here claimed. However, the examiner (answer, page 3) takes the position that

[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Eisenlohr by having the first and second fractions have the same composition because the fractions have overlapping content (i.e., C<sub>8</sub> aromatics) which indicates that the process would still be effective if the compositions were the same. Additionally it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Eisenlohr by eliminating the fractionation thereby resulting in the first and second fractions having the same composition because the reason for the fractionation is that a reduced amount of solvent is required.

The examiner explains that "if the use of higher amounts of solvent can be tolerated, one would expect the process to function without the initial fractionation step." (answer, page 4).

Here, the examiner has not identified a reasonable motivation, suggestion or teaching of the desirability of modifying the process of Eisenlohr so as to arrive at the appellants' claimed invention. As explained by appellants (brief, page 5):

The use of the splitter at the front end of the Eisenlohr process is not a mere circumstance. Rather, it is the heart of the Eisenlohr teaching (see col. 1, lines 38-67). Eisenlohr desires to separate out the C<sub>8</sub>, C<sub>9</sub> and C<sub>10</sub> aromatics ahead of the liquid-liquid extraction stage to obtain superior results by way of increased yields and not merely in order to use a minimum of solvent (col. 1, lines 38-49).

Also, see appellants' remarks at pages 2-4 of the reply brief with which we generally agree. Additionally, the examiner has not shown how the elimination of the splitter at the front end of the process of Eisenlohr would have resulted in a parallel process corresponding to appellants' claimed process. With regard to the examiner's separate § 103 rejection of claims 4, 6, 22 and 23, the examiner has not shown how the teachings of Vickers remedy the deficiencies in the teachings of Eisenlohr.

The mere fact that the prior art may be modified to reflect features of the claimed invention does not make the modification obvious unless the desirability of such modification is suggested by the prior art. The claimed invention cannot be used as an instruction manual or template to piece together the teachings of the prior art so that the claimed invention is rendered obvious. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992). Accordingly, on this record, the rejections fail for lack of a sufficient factual basis upon which to reach a conclusion of obviousness. In re Fine, 837 F.2d 1071, 1073-74, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

CONCLUSION

The decision of the examiner to reject claims 1-3, 5, 7-16 and 55 under 35 U.S.C. § 103 as being unpatentable over Eisenlohr and to reject claims 4, 6, 22 and 23 under 35 U.S.C. § 103 as being unpatentable over Eisenlohr in view of Vickers is reversed.

REVERSED

CHARLES F. WARREN	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
PAUL LIEBERMAN	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
PETER F. KRATZ	)	
Administrative Patent Judge	)	

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APPEAL NO. - JUDGE KRATZ  
APPLICATION NO.

APJ KRATZ

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APJ

DECISION: **ED**

Prepared By:

**DRAFT TYPED:** 29 Sep 03

**FINAL TYPED:**