

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAY R. CARNES and ROBERT L. NOLEN, JR.

Appeal No. 1997-0305
Application 08/286,085¹

ON BRIEF

Before KIMLIN, GARRIS and WALTZ, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 and 3-10, all the claims in the present application. Claim 1 is illustrative:

¹ Application for patent filed August 3, 1994. According to appellants, this application is a continuation of application 08/066,398, filed May 20, 1993, now abandoned.

1. An apparatus for separating and collecting hydrogen gas from gas mixtures which comprises in combination:

membrane-based means for selectively separating hydrogen gas from the gas mixture;

means for bringing the gas mixture into contact with said membrane-based selective separating means for hydrogen gas, whereby a partial pressure differential is established therein;

means for receiving and trapping the hydrogen gas which is separated from the gas mixture by said membrane-based selective separating means on the lower hydrogen partial pressure side thereof; and

means for removably connecting said membrane-based means to said hydrogen gas trapping means such that hydrogen gas separated from the gas mixture may flow into said hydrogen gas trapping means from said membrane-based means, and such that said hydrogen gas trapping means may be separated from said membrane-based means.

The examiner relies upon the following references in the rejection of the appealed claims.

Reilly et al. (Reilly)	3,922,872	Dec. 02, 1975
Doshi	4,398,926	Aug. 16, 1983
Dittrich et al.	4,528,003	Jul. 09, 1985
Kusuki et al.	5,064,446	Nov. 12, 1991
Ekiner et al.	5,102,600	Apr. 07, 1992

Appellants' claimed invention is directed to an apparatus for separating and collecting hydrogen gas from gas mixtures. The apparatus comprises a combination of a membrane-based means for selectively separating hydrogen from the gas mixture

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and a means for receiving and trapping the hydrogen gas which permeates the membrane-based means.

Appellants submit at page 3 of the brief that they "do not believe that any special grouping of the claims lead to a better understanding of the issues." Since appellants have not presented a separate argument for any particular claim on appeal, the examiner properly found that all the appealed claims stand or fall together.

Appealed claims 1, 3, 6 and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Doshi. Appealed claim 4 stands rejected under 35 U.S.C. § 103 as being unpatentable over Doshi in view of Reilly, and claim 5 stands rejected under 35 U.S.C. § 103 as being unpatentable over Doshi in view of Dittrich. In addition, claims 7 and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Doshi in view of Ekiner, whereas claim 9 stands rejected under 35 U.S.C. § 103 as being unpatentable over Doshi in view of Kusuki.

Upon careful consideration of the opposing arguments presented on appeal, it is our view that the examiner's rejections are not sustainable.

We consider first the rejection of claims 1, 3, 6 and 10 under 35 U.S.C. § 102(b) over Doshi. We agree with appellants that Doshi fails to describe within the meaning of § 102 the claimed "means for receiving and trapping the hydrogen gas which is separated from the gas mixture." As pointed out by appellants, the process of Doshi

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employs a pressure swing adsorption system to remove impurities from the hydrogen-containing permeate of the separating membrane. Hence, the pressure swing adsorption system of Doshi, rather than trapping the hydrogen gas, as required by the appealed claims, adsorbs impurities from the hydrogen stream.

While the examiner recognizes the distinction between the processes performed by the apparatus of appellants and Doshi, the examiner takes the position that the appealed claims "are all apparatus claims and what must be dealt with is their claimed structure versus the structure shown by Doshi." (page 5 of answer). According to the examiner, there is no difference in structure between the claimed means for trapping hydrogen gas and the adsorption means of Doshi. In the words of the examiner, "[a]ny suitable adsorbent material can be used within that adsorption means [of Doshi], which would include means to adsorb the hydrogen in place of the impurities." (page 5 of answer).

The examiner's error arises from his failure to give proper consideration to the fundamental principle that an apparatus may be claimed in means plus function language, and that in order for a reference to form a basis for a rejection of such claim under 35 U.S.C. § 102, the reference must describe, *inter alia*, means that are capable of performing the claimed function. Manifestly, in the present case, the pressure swing adsorption system of Doshi does not perform the claimed function of trapping the

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hydrogen gas. Whether the Doshi system could be modified to perform the claimed function is not a relevant consideration for a rejection under 35 U.S.C. § 102.

We also cannot sustain the examiner's rejections of the dependent claims under 35 U.S.C. § 103 since they are based on the faulty premise that Doshi describes all the features of independent claim 1.

In conclusion, based on the foregoing, we are constrained to reverse the examiner's rejections.

REVERSED

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
BRADLEY R. GARRIS)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
)	
)	
THOMAS A. WALTZ)	
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