

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. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALAN M. CAMIENER and GERALD W. CAMIENER

Appeal No. 1999-0060
Application No. 08/567,771

HEARD: April 15, 2003

Before OWENS, KRATZ, and JEFFREY T. SMITH, *Administrative Patent Judges*

OWENS, *Administrative Patent Judge.*

DECISION ON APPEAL

This appeal is from a nonfinal rejection of claims 1-5.¹ Claims 6-9 and 11 have been indicated allowable. Claims 18-22, which are all of the other claims remaining in the application, stand withdrawn from consideration by the examiner as being directed toward a nonelected invention.

¹ In an appeal in which claims have been at least twice rejected, the board has jurisdiction as discussed in *Ex parte Lemoine*, 46 USPQ2d 1432 (Bd. Pat. App. & Int. 1995).

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THE INVENTION

The appellants claim a specified distillation system.

Claim 1 is illustrative:

1. A system for recovering through at least one distillation cycle at least one purified component from a starting mixture, said system comprising:

an evaporation tank for evaporating of said starting mixture into vapors;

a condenser attached to said evaporation tank for receiving said vapors from said evaporation tank and condensing them to a liquid state;

a reflux column extending between said evaporation tank and said condenser;

a collection tank for collecting said purified component from said condenser; and

a transition tank connected with said evaporation tank and receiving at least one transition mixture from said condenser which has been distilled from said starting mixture during said distillation cycle and is to be supplied to said system as a part of the starting mixture used in a next distillation cycle.

THE REFERENCES

Vinz	4,778,566	Oct. 18, 1988
Jensen	4,894,145	Jan. 16, 1990

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THE REJECTION

Claims 1-5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Jensen in view of Vinz.

OPINION

We reverse the aforementioned rejection and remand the application to the examiner. We need to address only the sole independent claim, i.e., claim 1.

The appellants' claim 1 requires a reflux column extending between an evaporation tank and a condenser.

The examiner argues that Jensen's conduit means 24 is a reflux column (answer, pages 3-5). Jensen's disclosure regarding conduit means 24 is the following (col. 5, lines 3-11):

Liquid in the accumulator **20** is withdrawn through conduit means **24**. A portion of the liquid flowing through conduit means **24** is provided as an external reflux to distillation tower **10** through the combination of conduit means **24** and **26**. The liquid flowing through conduit means **24** is also provided as an overhead liquid fraction withdrawn from distillation tower **10** through the combination of conduit means **24** and **28**.

In response to the appellants' argument that the dictionary definition of "reflux" requires a structure that induces at least a part of a fluid flow to reverse course and turn back while the

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fluid is inside the column (brief, pages 5-6), the examiner makes the following unsupported statement: "The examiner holds that the art does not appreciate the sole definition of a reflux column and that the appellant has not structurally distinguished the reflux column in the claim to reflect such a definition" (answer, pages 4-5).

The relevant dictionary definitions are the following:²

reflux [CHEM ENG] In a chemical process, that part of the product stream that may be returned to the process to assist in giving increased conversion or recovery, as in distillation or liquid-liquid extraction.

column [CHEM ENG] See tower.

tower [CHEM ENG] A vertical, cylindrical vessel used in chemical and petroleum processing to increase the degree of separation of liquid mixtures by distillation or extraction. Also known as a column.

As indicated by these definitions, a reflux column is a vertical, cylindrical vessel into which part of a product stream is returned to increase the degree of separation of liquid mixtures by distillation or extraction.

The appellants' use of the term "reflux column" is consistent with these definitions. For example, the

² *McGraw-Hill Dictionary of Scientific and Technical Terms*, (Sybil P. Parker, ed., McGraw-Hill 5th ed. 1994).

specification refers to "a reflux column through which vapors of said starting mixture are supplied to said condenser and down which liquid flows to mix with said vapors" (page 15, lines 14-16).³

Thus, Jensen's conduit means 24 is not a "reflux column" as that term is used by the appellants. Jensen's conduit means 24 is part of a reflux system, but the reflux column in this system is Jensen's tower 10, not conduit means 24.

The examiner does not rely upon Vinz for any disclosure that remedies the above-discussed deficiency in Jensen.

Accordingly, we conclude that the examiner has not carried the burden of establishing a *prima facie* case of obviousness of the appellants' claimed invention.

REMAND

The appellants acknowledge that there were prior art distillation systems which included the appellants' evaporation tank, reflux column and condenser (specification, page 1, lines 21-35; figure 6). Such distillation systems, the

³ See the specification also at page 5, line 35 - page 6, line 3; page 9, lines 6-8; page 11, line 37 - page 12, line 6; page 13, line 38 - page 14, line 11; page 14, line 38 - page 15, line 5; page 18, lines 1-7; and page 21, lines 16-31.

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appellants acknowledge, included one or more discharge ports, connected to a valve in the condenser outlet line, for collecting and/or recirculating condensate (specification, page 1, lines 33-35; figure 6, item 640).

The appellants do not acknowledge that it was known in the art to connect to these discharge ports one or more tanks, wherein 1) either the sole tank is connected to the evaporation tank and is capable of both collecting a purified component from the condenser and, during at least one different time period, receiving at least one transition mixture from the condenser for recirculation to the evaporation tank in a subsequent distillation cycle, or 2) there are two tanks connected to the ports, each of the tanks being capable of performing one of these functions, the tank capable of receiving the transition mixture being connected to the evaporation tank.

We remand the application to the examiner for the examiner to determine whether the prior art would have fairly suggested the one or two tanks to one of ordinary skill in the art.

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DECISION

The rejection of claims 1-5 under 35 U.S.C. § 103 over Jensen in view of Vinz is reversed.

This application, by virtue of its "special" status, requires an immediate action. MPEP § 708.01(D) (8th Ed. 2001, Rev. 1, Feb. 2003).

REVERSED and REMANDED

TERRY J. OWENS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
PETER F. KRATZ)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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