

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CLAES INGE,
PETER FRANZEN, TORGNY LAGERSTEDT,
LEONARD BROGSTROM, CLAES-GORAN CARLSSON,
HANS MOBERG and OLLE NABO

Appeal No. 95-1849
Application 07/681,527¹

HEARD: July 14, 1997

Before STONER, *Chief Administrative Patent Judge*, and ABRAMS and FRANKFORT, *Administrative Patent Judges*.

ABRAMS, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ Application for patent filed May 8, 1991.

Appeal No. 95-1849
Application 07/681,527

This is an appeal from the decision of the examiner finally rejecting claims 1 through 3, which constitute all of the claims remaining of record in the application.

The appellants' invention is directed to a method of freeing a liquid from a substance disposed therein. The subject matter before us on appeal is illustrated by reference to claim 1, which reads as follows:

1. A method of freeing a liquid from a substance dispersed therein and having a larger density than the liquid, comprising the steps of: feeding the liquid into a centrifugal separator having a rotor rotated in a predetermined direction about a rotational axis, the rotor having a stack of at least partly conical separation disks arranged coaxially with the rotor for rotation therewith and being axially spaced from each other and spacing means positioned between and bridging the spaces between the separation disks and delimiting several separate flow paths in each space between adjacent disks, the separate flow paths in each said space being distributed about the rotational axis, and each separate flow path extending from an inlet part to an outlet part situated at difference distances from the rotational axis; conducting the liquid to the inlet parts of said flow paths and further conducting the liquid through each of the flow paths in a direction having one radial component and one component in the circumferential direction of the rotor opposite the rotational direction of the rotor; and removing liquid freed from the dispersed substance from the outlet parts of said flow paths.

THE REFERENCES

The references relied upon by the examiner to support the final rejection are:

Bechtolsheim	432,719	July 22, 1890
Berber et al. (Berber)	4,262,841	Apr. 21, 1981

Appeal No. 95-1849
Application 07/681,527

THE REJECTION

Claims 1 through 3 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bechtolsheim in view of Berber.²

The rejection is explained in the Examiner's Answer and Supplemental Answer.

The opposing viewpoints of the appellants are set forth in the Appeal Brief and the Reply Brief.

OPINION

The claims before us all stand rejected as being obvious in view of the teachings of Bechtolsheim and Berber. Of course, the test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a *prima facie* case of obviousness under 35 U.S.C. § 103, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See *Ex parte Clapp*, 227 USPQ

² A rejection under 35 U.S.C. § 112, second paragraph, was withdrawn upon the entry of an amendment after the final rejection (Papers Nos. 14 and 16).

Appeal No. 95-1849
Application 07/681,527

972, 973 (BPAI 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellants' disclosure. See, for example, *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1439 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988).

The appellants' invention is directed to a method of "freeing a liquid from a substance dispersed therein and having a larger density than the liquid" (claim 1, lines 1 and 2). The claim recites three steps, the first of which is feeding the liquid into a centrifugal separator

having a rotor rotated in a predetermined direction about a rotational axis, the rotor having a stack of at least partly conical separation disks arranged coaxially with the rotor for rotation therewith and being axially spaced from each other and spacing means positioned between and bridging the spaces between the separation disks and delimiting several separate flow paths in each space between adjacent disks (lines 3 through 8).

The second step requires

conducting the liquid to the inlet parts of said flow paths and further conducting the liquid through each of the flow paths in a direction having one radial component and one component in the circumferential

Appeal No. 95-1849
Application 07/681,527

direction of the rotor opposite the rotational
direction of the rotor (lines 10 through 13).

The final step is removing the liquid freed from the dispersed
substance.

In the examiner's opinion, Bechtolsheim teaches all of the
subject matter of the claims except for the liquid having a
component of movement that is opposite the direction of rotation
of the rotor. However, it is the examiner's belief that this
would occur naturally in such a machine "due to the laws of
nature," as confirmed by Berber (Answer, page 4). The appellants
argue that Berber teaches away from their invention on
this point, because in the only mention of a construction wherein
the spacers are of a height equal to that of the space between
the two discs, that is, bridge the space, the resulting flow of
liquid is said to be along the generatrix of the cone, which is
not what is required by the appellants' claims (column 3, lines 6
through 11).

It is the examiner's further position that the manner in
which the appellants have claimed the spacing means does not
define over the spacing means disclosed by Berber in Figures 4
and 5. The appellants point out that the claimed spacing means
are recited as being "positioned between and bridging the spaces
between the separation disc," which means that they extend from

Appeal No. 95-1849
Application 07/681,527

disc to disc. They argue that such is not the case in the Berber device, wherein the spacing means of Figures 4 and 5 are 0.2 to 0.5 the height of the space (column 2, line 63).

Finally, the appellants draw attention to the fact that whereas the claimed method is directed to freeing a liquid from a substance of greater density, the opposite is the case with Bechtolsheim and with the embodiment of Berber to which the examiner has referred. Thus, it is argued, the references are not attacking the same problem as that of the appellants' invention, nor are their teachings applicable.

We find ourselves in agreement with the appellants on all three of the issues discussed above, for the reasons set forth in pages 11 through 19 of the Appeal Brief. This being the case, we conclude that the combined teachings of the two references would not have suggested the subject matter recited in the claims to one of ordinary skill in the art. Therefore a *prima facie* case of obviousness has not been established with regard to the subject matter of independent claim 1 or, it follows, that of dependent claims 2 and 3.

The decision of the examiner is reversed.

REVERSED

Appeal No. 95-1849
Application 07/681,527

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BRUCE H. STONER, JR. Chief)	
Administrative Patent Judge)	
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NEAL E. ABRAMS)	
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