

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MOHAMMED F. BACCHUS, BRUCE M. DAWSON
and GARY A. O'NEILL

Appeal No. 96-3679
Application 08/179,861¹

ON BRIEF

Before KIMLIN, WEIFFENBACH and WARREN, *Administrative Patent Judges*.

WEIFFENBACH, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-9, which are all of the claims remaining in the application. We reverse.

¹ Application for patent filed January 11, 1994.

The Claimed Subject Matter

The claims on appeal are directed to system and process for purifying impure water by reverse osmosis. Claim 5 is representative of the claimed subject matter and reads as follows:

5. A process for purifying impure water which comprises:
 - passing a stream of impure water through a reverse osmosis step including a reverse osmosis membrane to produce a first purified water stream and a waste water stream,
 - passing said waste water stream to a means for deionizing water to produce purified deionized water, directing said purified deionized water to said reverse osmosis step to produce a second purified water stream. [sic]
 - and recovering said first purified water stream and said second purified water stream wherein said first purified water stream and said second purified water stream are passed through said reverse osmosis membrane only once.

References of Record

The following references of record are relied upon by the examiner in support of the rejection of the claims:²

Ackermann et al. (Ackermann)	4,787,980	Nov. 29, 1988
Hanna et al. (Hanna)	5,282,972	Feb. 1, 1994 (filed Dec. 18, 1991)
Societe Nouvelle Des Etablissements A. Sadon (French patent) ³	2,207,868	Jun. 21, 1974

² The examiner cited Guter, U.S. Patent No. 4,206,048 issued June 3, 1980 and a portion of a book by Mark J. Hammer, *Water and Wastewater Technology*, 2nd Edition, John Wiley & Sons, pp. 287-290 (1986) as prior art of record. However, neither of these references has been relied upon by the examiner in the rejections before us. Accordingly, we have not considered them in our consideration of the rejections.

³ Our consideration of this reference is based on an English language translation which is of record.

The Rejections⁴

Claims 1 and 5 stand rejected under 35 U.S.C. § 102(b) over the French patent.

Claims 2-4 and 6-9 stand rejected under 35 U.S.C. § 103 as being unpatentable over the French patent in view of Ackermann or Hanna.

Opinion

After careful consideration of the issues raised in this appeal and with the arguments of both the appellants and the examiner, we reverse both of the examiner's rejections.

The examiner rejected claims 1 and 5 under 35 U.S.C. § 102(b) as being anticipated by the French patent. The factual determination of anticipation requires the disclosure in a single reference of every element of the claimed invention. *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990); *In re Bond*, 910 F.2d 831, 832, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990); *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 677-678, 7 USPQ2d 1315, 1317 (Fed. Cir. 1988); *In re Marshall*, 578 F.2d 301, 304, 198 USPQ 344, 346 (CCPA 1978); *In re Arkley*, 455 F.2d 586, 587-88, 172 USPQ 524, 526 (CCPA 1972). Moreover, it is incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference. *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481,

⁴ The examiner based both rejections on Derwent abstract 68292v during prosecution denoting that the abstract is an abstract of the French patent. Since an English translation of the French patent is of record and since during prosecution both the examiner and appellants considered the English translation of the French patent, our consideration of the rejections is based on the English translation.

485 (Fed. Cir. 1984). We find, on the present record, that the examiner has failed to meet her burden to establish a *prima facie* case of anticipation.

The process set forth in claims 1 and 5 requires the steps of (i) passing a stream of “impure water” through a “reverse osmosis step including a reverse osmosis membrane” to produce a “first purified water stream” and a “waste water stream,” (ii) passing the “waste water stream” to a deionizing means to produce “purified deionized water,” and (iii) passing the “purified deionized water” back through the “reverse osmosis step” to produce a “second purified water stream.”⁵ The claims further stipulate that the “first purified water stream” and “second purified water stream” pass through the reverse osmosis membrane only once.

The French patent discloses a process of “purifying” water (i.e. preparing demineralized and sterile water) by a reverse osmosis step. In particular, water is passed through the membrane of a reverse osmosis unit to produce a first fraction (similar to appellants’ “first purified water stream”). The fraction which does not pass through the membrane, i.e., the second fraction, which fraction is characterized as being “overmineralized” water (similar to appellants’ “waste water stream”), is discarded into the sewage system. The French patent does not teach or suggest cycling the second fraction through a deionizing unit

⁵ Appellants’ claims recite forming first and second “purified” water streams and a “purified” deionized water component. It appears that the term “purified” may be ambiguous because the meaning of the term is not the same for the water streams and the deionized water component. According to appellants, “purified” deionized water means the replacement of “ions in solution with hydrogen and hydroxyl ions” (specification: p. 4). The “purified” water from the reverse osmosis step is intended to mean water which is cleansed of microorganisms, pyrogens and ionic material. Upon return of this application to the jurisdiction of the examiner, the examiner should consider whether the term “purified” as used in the claims is indefinite under the second paragraph of 35 U.S.C. § 112.

and then back through the reverse osmosis unit to recover a “second purified water stream” as required by appellants’ claims. The patentee discloses recycling only the first fraction through the reverse osmosis unit via a deionizer. The French patent discloses various embodiments of this basic process, see Figures 2-6, but all of these embodiments require passing a first fraction through the reverse osmosis membrane more than once. The claims on appeal require that the “first purified water stream” be passed through the reverse osmosis membrane only once. Appellants argue that this feature of the claims renders the claims patentably distinct from the claimed subject matter.

We find ourselves in agreement with appellants. In her rejection (paper no. 5) and in the answer, the examiner has not explained, and we are unable to find any teaching or suggestion of, how the French patent meets the claim requirement that the purified water systems pass through the reverse osmosis membrane only once. Accordingly, we will not sustain the examiner’s rejection under 35 U.S.C. § 102(b).

The examiner also rejected claims 2-4 and 6-9 under 35 U.S.C. § 103 over the combined teachings of the French patent in view of Ackermann or Hanna. We will not sustain this rejection. Since neither Ackermann nor Hanna make up for the deficiencies of the French patent, we must reverse this rejection.

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Conclusion

For the foregoing reasons, the rejections of claims 1 and 5 under 35 U.S.C. § 102(b) and claims 2-4 and 6-8 under 35 U.S.C. § 103 are reversed

REVERSED

EDWARD C. KIMLIN)
Administrative Patent Judge)
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)
) BOARD OF PATENT
CAMERON WEIFFENBACH)
Administrative Patent Judge) APPEALS AND
)
) INTERFERENCES
)
CHARLES F. WARREN)
Administrative Patent Judge)

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CW/kis

Paul J. Cook
Millipore Corporation
80 Ashby Road
Bedford, MA 01730