

The opinion in support of the decision being entered today
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KENJI YONEDA, YASUSUKE OSHIMA,
and RYO NIHEL

Appeal 2007-1885
Application 11/000,309
Technology Center 1700

Decided: July 30, 2007

Before PETER F. KRATZ, JEFFREY T. SMITH, and
LINDA M. GAUDETTE, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

Statement of the Case

This is an appeal under 35 U.S.C. § 134 from a final rejection of claims 1-4. We have jurisdiction under 35 U.S.C. § 6.

Appellants' invention relates to an isolator system comprising a sterile work chamber in which a sterile condition is maintained. The chamber comprises a robot that has an operating arm for performing various

Appeal 2007-1885
Application 11/000,309

operations within the sterile work chamber (Specification 2). Representative independent claim 1, as presented in the Brief, appears below:

1. An isolator system comprising a sterile work chamber in which a sterile condition is maintained, a robot which is placed in the sterile work chamber and has an operating arm for performing various operations within the sterile work chamber, and a sterilizing gas supply unit for supplying a sterilizing gas to the interior of the sterile work chamber, said isolator system additionally comprising:

a gas supply unit for supplying a gas from outside of the sterile work chamber to the interior of the robot, said gas supply unit having a top end opening opened inside the operating arm at a top end side, and a base portion opening opened inside the robot at a base portion side,

wherein when the sterile work chamber is sterilized with the sterilizing gas, the gas from the gas supply unit is supplied to the interior of the robot through one of the top end opening and the base portion opening, and the gas circulated through the interior of the robot is discharged to the outside of the robot through the other opening, and the pressure inside the robot is reduced relative to the pressure inside the sterile work chamber to which the sterilizing gas is supplied from the sterilizing gas supply unit.

The Examiner relies on the following references in rejecting the appealed subject matter:

Petersen	US 5,730,777	Mar. 24, 1998
Suzuki	US 6,267,022 B1	July 31, 2001

Claims 1-4 stand rejected under 35 U.S.C. §103 as unpatentable over Petersen in view of Suzuki.

The issue presented for review is as follows:

Has the Examiner reasonably determined that a person having ordinary skill in the art would have been led to form a sterile work chamber comprising a robot wherein a gas is supplied from outside of the sterile work chamber to the interior of the robot to establish gas circulation through the interior of the robot which is discharged to the outside of the robot within the meaning of 35 U.S.C. § 103? On this record, we answer this question in the affirmative.

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary considerations. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18, 148 USPQ 459, 467(1966). “[A]nalysis [of whether the subject matter of a claim would have been obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740-41, 82 USPQ2d 1385, 1396 (2007) quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336-37 (Fed. Cir. 2006); see also *DyStar Textilfarben GmBH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361, 80 USPQ2d 1641, 1645 (Fed. Cir. 2006)(“The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”); *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)(“Having established that this knowledge was in the

art, the examiner could then properly rely, as put forth by the solicitor, on a conclusion of obviousness ‘from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference.’’’); *In re Hoeschele*, 406 F.2d 1403, 1406-07, 160 USPQ 809, 811-812 (CCPA 1969) (“[I]t is proper to take into account not only specific teachings of the references but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. . .”). The analysis supporting obviousness, however, should be made explicit and should “identify a reason that would have prompted a person of ordinary skill in the art to combine the elements” in the manner claimed. *KSR*, 127 S.Ct. at 1731, 82 USPQ2d at 1389.

As evidence of obviousness of the claimed subject matter under § 103, the Examiner has relied on the disclosures of Petersen and Suzuki (Answer 4-7).

Petersen discloses an isolator system having a sterile work chamber (2) in which a sterile condition is maintained, and a manipulating means (5) for performing various operations (col. 5, l. 66 to col. 6, l. 10). Gas is supplied to the sterile work chamber and separate gas is supplied to the manipulating means in order to ensure that the pressure inside the manipulating means is reduced relative to the pressure inside the sterile work chamber (col. 8, ll. 31-49). Gas is introduced to a first chamber (2) by an inlet (6) connected to a supply (7). Petersen discloses various sterilizing gases may be introduced to the chamber in the first chamber (col. 14. ll. 52-67). Petersen teaches that a gas supply unit (18) supplies a gas from a second chamber (4) to the interior of the manipulating means (col. 19. ll. 21-54). Gas moves from an inlet (17) through a passageway (4) formed along

the outside wall of the sterile work chamber, and is then carried inside and through the manipulating means. The gas that is circulated through the interior of the manipulating means is discharged to the outside of the manipulating means through an outlet (22) by a pump or some other suction device (col. 11, ll. 35-39). Petersen teaches that the manipulation means can be a robot (col. 9, ll. 15-31). Petersen does not disclose the circulation of the gas through the robotic device.

Suzuki discloses an articulated robot having a hollow arm structure (3). An air flow communication passage is maintained within the structure, so that dust formed in the robot can be discharged outside of a clean environment in which the robot is operating (col. 1, ll. 34-43). Suzuki discloses the pressure level in the robot is controlled and maintained below the pressure in the clean environment to prevent dust particles from flowing outside of the robot body (col. 2, ll. 39-49). A first opening covered by a filter is positioned on the robot structure near a joint or wrist unit.

The Examiner contends that the teachings of Petersen and Suzuki suggest the formation of an isolator system comprising a sterile work chamber in which a robot is placed and has an operating arm for performing various operations within the sterile work chamber. The robot comprises a hollow structure that allows for the circulation of gas that is not in communication with the sterilized work environment.

Appellants contend that the present invention avoids the problem of corrosion of the inner portion of the robot by sterilizing gas without the need of covering the outer surface of the robot by supplying a gas from outside of the sterile work chamber to the interior of the robot to establish a gas

circulation through the interior of the robot which is discharged to the outside of the robot (Br. 3-4).

We agree with the Examiner that it would have been obvious to a person of ordinary skill in the art to employ manipulation means (i.e., a robot) that includes a hollow structure wherein gas is circulated that does not enter into the sterilized environment of the first chamber. Petersen discloses the suitability of using a robot for manipulation of items within a sterilized environment. A person of ordinary skill in the art would have recognized the importance of preventing contamination of the sterilized environment. Suzuki describes a robot for use in clean room environments. Suzuki also recognizes the importance of isolating the interior of the robot from communication with the sterilized environment (col. 1, ll. 37-43).

Appellants' arguments presented in the Briefs have been considered. We adopt the Examiner's well articulated responses to these arguments (Answer 7-10). We add the following.

Appellants argue that there is no motivation to use the robot of Suzuki in the clean room recited in Peterson because Petersen seeks to prevent the withdrawal of air from the first chamber into the second chamber while Suzuki withdraws air from the enclosed chamber into the robot (Reply Br. 3). This argument is not persuasive. A person of ordinary skill in the art recognizes the importance of preventing contamination of the isolation system (clean room environment). Petersen discloses that the second chamber is isolated from the first chamber. A person of ordinary skill in the art would understand that the use of a robot and the system of Petersen must also be isolated from the first chamber. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated

into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). *See also In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983) (“[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.”); and *In re Nievelt*, 482 F.2d 965, 968, 179 USPQ 224, 226 (CCPA 1973) (“Combining the teachings of references does not involve an ability to combine their specific structures.”).

For the reasons set forth above and in the Answer, we affirm the rejection of claims 1-4. As a final point with respect to the § 103 rejection, we note that Appellants base no argument upon objective evidence of nonobviousness, such as unexpected results.

ORDER

The Examiner's rejection of claims 1-4 under 35 U.S.C. § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a) (1) (iv) (2006).

AFFIRMED

tlc/lscam

Appeal 2007-1885
Application 11/000,309

FLYNN, THIEL, BOUTELL & TANIS, P.C.
2026 RAMBLING ROAD
KALAMAZOO, MI 49008-1631