

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL C. NORRIS, PETER LOBBAN,
DONALD BESEMER, and ANDREW B. CARLSON,

Appeal No. 2005-2545
Application No. 10/447,582

ON BRIEF

Before FRANKFORT, McQUADE, and NASE, Administrative Patent Judges.
McQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Michael C. Norris et al. appeals from the final rejection (mailed July 29, 2004) of claims 32-49, all of the claims pending in the application.

THE INVENTION

The invention relates to "the automated transfer of array cartridges into and out of an imaging apparatus" (specification, page 1). Representative claim 32 reads as follows:

32. An apparatus, comprising:
a scanner that is constructed and arranged to scan one or more probe arrays,
wherein the probe arrays are disposed on a substrate that is coupled to a housing;
a carrier for holding multiple probe arrays, wherein the carrier has a first end and
an open second end, and a plurality of slots that are configured to receive the probe
arrays in a
vertical orientation;
a transporter constructed and arranged to remove one of the probe arrays from
the scanner, to return the probe array to the carrier, and to place another one of the
probe arrays into the scanner.

THE PRIOR ART

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

Besemer et al. 5,954,334 Aug. 31, 1999
(Besemer)

Ahn et al. 6,036,781 Mar. 14, 2000
(Ahn)

Boje et al. 6,068,437 May 30, 2000
(Boje)

THE REJECTIONS

Claims 32, 33, 35-43 and 45-49 stand rejected under
35 U.S.C. § 103(a) as being unpatentable over Boje in view of Besemer.

Claims 34 and 44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable
over Boje in view of Besemer and Ahn.

Attention is directed to the brief (filed February 23, 2005) and answer (mailed
August 4, 2005) for the respective positions of the appellants and examiner regarding
the merits of these rejections.

DISCUSSION

I. The 35 U.S.C. § 103(a) rejection of claims 32, 33, 35-43 and 45-49 as being unpatentable over Boje in view of Besemer

Boje discloses a system for storing and testing laboratory specimens. The system consists of an “organizer for storing, organizing and manipulating laboratory containers” (column 1, lines 8 and 9), and a conveyor adjacent the organizer for linking it to various testing stations. The organizer 10 includes an enclosed housing 12, a storage area 28 within the housing, a plurality of trays 52 movably disposed in the storage area, a like plurality of test tube racks 46 mounted on the trays, an input/output unit 32 having a robotic arm 34 for accessing the storage area and the conveyor, a test tube rack 46 on the housing adjacent the conveyor for receiving and temporarily retaining test tubes 40 as they are moved between the storage area and conveyor, a bar code reader 78 on the housing 12 for reading bar codes 76 associated with the racks 46 in the storage area, and a keyboard 84 and monitor 86 for inputting information relating to the specimen racks and the manner in which the organizer is to be operated. The conveyor comprises a track 36 extending between the organizer and the testing stations and a plurality of individual specimen carriers 38 movably mounted on the track for transporting respective test tubes. The robot arm 34 moves test tubes between (1)

the racks 46 in the storage area, (2) the temporary rack 46 on the housing and (3) the individual specimen carriers 38 on the conveyor track. Boje teaches (see column 1) that the automated aspects of this system afford substantial efficiencies in the storing and testing of laboratory specimens.

As conceded by the examiner (see page in the answer), Boje does not respond to the limitations in independent claim 32, or the corresponding limitations in independent claims 41, 42 and 49, relating to the probe arrays which are disposed on a substrate coupled to a housing, including those limitations which define the scanner, carrier, transporter in terms of the probe arrays. The corresponding structures in the Boje system are test tubes, and the scanners (i.e., test stations), carriers (i.e., racks 46) and transporter (i.e., robotic unit 32, conveyor track 36 and specimen carriers 38) disclosed by Boje are constructed to accommodate such test tubes.

Besemer, which is cited and incorporated by reference on page 1 of the appellant's specification, describes probe arrays 110, substrates/chips 120 and housings/packages 300 of the sort disclosed and claimed by the appellants, and teaches that these structures are designed to be analyzed by a scanning system (see column 15, lines 44-56).

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references.

Rather, the test is what the combined teachings of the 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).

In the present case, the combined teachings of Boje and Besemer would have provided the artisan with ample suggestion or motivation to adapt Boje's specimen storing and testing system for use with Besemer's probe arrays, substrates and housings, thereby arriving at the subject matter recited in independent claims 32, 41, 42 and 49, in order to furnish the efficiency benefits described by Boje to the storage and testing of the particular specimens disclosed by Besemer. Boje's description of these benefits belies the appellants' position that the proposed reference combination stems from impermissible hindsight. Indeed, as pointed out by the examiner, Boje's indication that the system disclosed therein can be used in conjunction with a test tube "or other container" (column 2, line 47) is itself

suggestive of tailoring the system for use with other known specimen carriers. The suggested adaptation of the Boje system to accommodate Besemer's probe arrays, substrates and housings would, of course, involve the use of a scanner, carrier, transporter as broadly recited in claims 32, 41, 42 and 49. In this regard, it should be noted that the carriers or racks 46 disclosed by Boje hold multiple specimens, have first ends and open second or top ends, and include a plurality of slots configured to receive the specimens in a vertical, spaced apart orientation.

Thus, the combined teachings of Boje and Besemer justify the examiner's conclusion that the differences between the subject matter recited in independent claims 32, 41, 42 and 49 and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. Accordingly, we shall sustain the standing 35 U.S.C. § 103(a) rejection of claims 32, 41, 42 and 49 as being unpatentable over Boje in view of Besemer.

We also shall sustain the standing 35 U.S.C. § 103(a) rejection of dependent claims 35-40 and 45-48 as being

unpatentable over Boje in view of Besemer since the appellants have not challenged such with any reasonable specificity, thereby allowing these claims to stand or fall with parent claims 32 and 42 (see In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987)).

We shall not sustain, however, the standing 35 U.S.C. § 103(a) rejection of claims 33 and 43 as being unpatentable over Boje in view of Besemer. These claims depend from claims 32 and 42, respectively, and pertain to a heating or warming station used with the probe arrays prior to their placement in the scanner. Contrary to the position taken by the examiner (see, for example, page 8 in the answer), Besemer's disclosure that the probe array housings may include a temperature controller and may be cleaned after use by heating does not teach, and would not have suggested, such subject matter.

II. The 35 U.S.C. § 103(a) rejection of claims 34 and 44 as being unpatentable over Boje in view of Besemer and Ahn

As Ahn's disclosure of an air guiding device for facilitating the blowing of air over semiconductor wafers

disposed on a boat in the loading chamber of a chemical vapor deposition machine does not cure the foregoing evidentiary deficiencies of Boje and Besemer relative to the subject matter recited in parent claims 33 and 43, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of dependent claims 34 and 44 as being unpatentable over Boje in view of Besemer and Ahn.

SUMMARY

The decision of the examiner to reject claims 32-49 is affirmed with respect to claims 32, 35-42 and 45-49 and reversed with respect to claims 33, 34, 43 and 44.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

CHARLES E. FRANKFORT)
Administrative Patent Judge)
)
)
)
)

Appeal No. 2005-2545

Application No. 10/447,582

JOHN P. McQUADE
Administrative Patent Judge

) BOARD OF PATENT
) APPEALS
) AND
) INTERFERENCES
)
)
)
)

JEFFREY V. NASE
Administrative Patent Judge

Appeal No. 2005-2545
Application No. 10/447,582

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO MARKET PLAZA CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

Comment [jvn1]: Type or Paste
Address

JPM/jrg

