Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte JONATHAN W. CAMPBELL

Appeal No. 2004-0021
Application No. 09/246,193

ON BRIEF

Before COHEN, STAAB, and NASE, Administrative Patent Judges.

NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 to 7, which are all of the claims pending in this application.

We REVERSE.

BACKGROUND

The appellant's invention pertains to imaging systems or telescopes (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellant's brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Sato	3,682,283	Aug. 8, 1972
Oda et al. (Oda)	5,625,192	Apr. 29, 1997
Jeganathan et al. (Jeganathan)	5,844,700	Dec. 1, 1998

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Oda.

Claims 3, 4 and 6 stand rejected under 35 U.S.C. § 103 as being unpatentable over Oda in view of Jeganathan.

Claims 5 and 7 stand rejected under 35 U.S.C. § 103 as being unpatentable over Oda in view of Jeganathan as applied to claims 3 and 4 above, and further in view of Sato.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the answer (Paper No. 21, mailed April 11, 2003) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 20, filed February 3, 2003) and reply brief (Paper No. 22, filed June 13, 2003) for the appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the determinations which follow.

The anticipation rejection of claims 1 and 2

We will not sustain the rejection of claims 1 and 2 under 35 U.S.C. § 102(b).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. Inc. v. Union Oil Co., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir.), cert. denied, 484 U.S. 827 (1987). The inquiry as to whether a reference anticipates a claim must focus on what subject matter is encompassed by the claim and

what subject matter is described by the reference. As set forth by the court in Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984), it is only necessary for the claims to "'read on' something disclosed in the reference, i.e., all limitations of the claim are found in the reference, or 'fully met' by it."

Claims 1 and 2 read as follows:

1. An apparatus for imaging photons and neutrons, comprising:
a first plate having an axis of rotation, said first plate having a first grid;
a second plate having an axis of rotation coinciding with the axis of rotation of said first plate, said second plate having a second grid, said second grid is aligned with said first grid;
means for simultaneously rotating said first and second plate and translating said first plate relative to said second plate; and
a detector, said detector is aligned with said axes of rotation.

2. An apparatus for imaging photons and neutrons, comprising:
a first plate having an axis of rotation, said first plate having a first real grid and a first imaginary grid;
a second plate having an axis of rotation coinciding with the axis of rotation of said first plate, said second plate having a second real grid aligned with said first real grid and a second imaginary grid aligned with said first imaginary grid;
means for simultaneously rotating said first and second plate and translating said first plate relative to said second plate; and
a detector, said detector is aligned with said axes of rotation.

Oda discloses an imaging device which uses no image forming optical system. A grid system 25 including an objective grid array 22 with a plurality of coplanarly

arranged grids having pitches different from each other and a detector grid array 23 having a similarly enlarged configuration of the objective grid array, and a detector array 24 constitute a detection system. An energy ray such as an X-ray which has been transmitted through the grid system 25 is detected by the detector array 24 while rotating an object 20 under observation placed on a rotary table 21. A signal processing means 28 subjects signals detected by the detector array 24 to inverse Fourier transform to synthesize an image of the object 20, and the image is displayed on a display 29. Oda teaches (column 7, lines 58-60) with reference to Figure 4 that "the position of the focal point F can be changed by changing the distance b between the objective grid array and the detector grid array." Oda further teaches (column 8, lines 1-11) that

> In FIG. 1, the grid system 25 is fixed and the object under observation is rotated. To the contrary, however, an object under observation and the grid system 25 may be fixed and rotated about the center axis, respectively, to obtain the same data and in turn to synthesize an image of the object under observation.
>
> According to this embodiment, although the grid system or an object under observation is required to be rotated, a simplified system structure is advantageously realized owing to only a small number of the individual detector units being required.

The appellant argues through both briefs that the claimed "means for simultaneously rotating said first and second plate and translating said first plate

relative to said second plate" is not disclosed in Oda. We agree for the reasons which follow..

In order to meet a "means-plus-function" limitation, the prior art must (1) perform the identical function recited in the means limitation and (2) perform that function using the structure disclosed in the specification or an equivalent structure. Cf. Carroll Touch Inc. v. Electro Mechanical Sys. Inc., 15 F.3d 1573, 1578, 27 USPQ2d 1836, 1840 (Fed. Cir. 1994); Valmont Indus. Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 1042, 25 USPQ2d 1451, 1454 (Fed. Cir. 1993); Johnston v. IVAC Corp., 885 F.2d 1574, 1580, 12 USPQ2d 1382, 1386 (Fed. Cir. 1989).

In our view, the claimed "means for simultaneously rotating said first and second plate and translating said first plate relative to said second plate" requires the rotation of the first and second plates and the translation of the first plate relative to the second plate to occur simultaneously. In that regard, we view the term simultaneously as used in the claimed means clause to modify both rotating and translating. Thus, we do not agree with the examiner that the term simultaneously as used in the claimed means clause modifies the verb rotating and does not modify the verb translating. Accordingly, Oda does not perform the identical function recited in the means clause since Oda does not disclose the rotation of the first and second plates (i.e., objective grid array 22

and detector grid array 23) and the translation of the first plate relative to the second plate to occur simultaneously.

In addition, even if the examiner were correct that the term simultaneously as used in the claimed means clause modifies the verb rotating and does not modify the verb translating, the examiner has not made any showing that Oda performs that function using the structure disclosed in the specification (i.e., the three alternative structures shown in Figures 2-4) or an equivalent structure.[1]

For the reasons set forth above, the decision of the examiner to reject claims 1 and 2 under 35 U.S.C. § 102(b) is reversed.

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[1] While there is no litmus test for an "equivalent" that can be applied with absolute certainty and predictability, there are several indicia that are sufficient to support a conclusion that one element is or is not an "equivalent" of a different element in the context of 35 U.S.C. § 112, sixth paragraph. Among the indicia that will support a conclusion that one element is or is not an equivalent of another are:
(A) Whether the prior art element(s) performs the function specified in the claim in substantially the same way, and produces substantially the same results as the corresponding element(s) disclosed in the specification. Odetics Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1267, 51 USPQ2d 1225, 1229-30 (Fed. Cir. 1999);
(B) Whether a person of ordinary skill in the art would have recognized the interchangeability of the element(s) shown in the prior art for the corresponding element(s) disclosed in the specification. Al-Site Corp. v. VSI International Inc., 174 F.3d 1308, 1316, 50 USPQ2d 1161, 1165 (Fed. Cir. 1999); Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc., 145 F.3d 1303, 1309, 46 USPQ2d 1752, 1757 (Fed. Cir. 1998);
(C) Whether the prior art element(s) is a structural equivalent of the corresponding element(s) disclosed in the specification. In re Bond, 910 F.2d 831, 833, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990);
(D) Whether there are insubstantial differences between the prior art element(s) and the corresponding element(s) disclosed in the specification. IMS Technology, Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1436, 54 USPQ2d 1129, 1138-39 (Fed. Cir. 2000); Valmont Indus., Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 1043, 25 USPQ2d 1451, 1455 (Fed. Cir. 1993).

The obviousness rejections of claims 3 to 7

We will not sustain the rejection of claims 3 to 7 under 35 U.S.C. § 103.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A prima facie case of obviousness is established by presenting evidence that would have led one of ordinary skill in the art to combine the relevant teachings of the references to arrive at the claimed invention. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988) and In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Claim 3, the only independent claim subject to a rejection under 35 U.S.C. § 103, reads as follows:

> An apparatus for imaging photons and neutrons, comprising:
> a frame, said frame having a disk guide and a rod guide;
> a drive rod mounted in said rod guide of said frame, said drive rod having an end;
> a first disk having a first real grid and a first imaginary grid, said first disk is attached to said end of said drive rod;
> a second disk having a second real grid aligned with said first real grid whereby a real grid pair is formed and having a second imaginary grid aligned with said first imaginary grid whereby an imaginary gird pair is formed, said second disk is rotationally guided by said disk guide in said frame;
> a connecting rod slidably mounted to said first disk and attached to said second disk;

a detector aligned with said real grid pair and said imaginary grid pair and mounted to said frame; and

a means for simultaneously rotating and translating said drive rod.

Oda does not disclose the following elements of claim 3: (1) a frame having a disk guide and a rod guide; (2) a drive rod mounted in the rod guide of the frame; (3) a first disk attached to an end of the drive rod; (4) a second disk rotationally guided by the disk guide in the frame; (5) a connecting rod slidably mounted to the first disk and attached to the second disk; and (6) means for simultaneously rotating and translating the drive rod.[2]

We have reviewed the patents to Jeganathan and Sato but find nothing therein which makes up for the deficiencies of Oda. Specifically, the combined teachings of Oda, Jeganathan and Sato do not suggest the claimed "means for simultaneously rotating and translating said drive rod."

For the reasons set forth above, the decision of the examiner to reject claims 3 to 7 under 35 U.S.C. § 103 is reversed.

[2] The means clause clearly requires simultaneously rotation and translation of the drive rod.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1 and 2 under 35 U.S.C. § 102(b) is reversed and the decision of the examiner to reject claims 3 to 7 under 35 U.S.C. § 103 is reversed.

REVERSED

IRWIN CHARLES COHEN Administrative Patent Judge	)
LAWRENCE J. STAAB Administrative Patent Judge	) BOARD OF PATENT) APPEALS) AND) INTERFERENCES
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