UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALEXANDER BRAUN and WOLFGANG WELSCH

Appeal 2007-3922
Application 10/496,280
Technology Center 2800

Decided: March 31, 2008

Before KENNETH W. HAIRSTON, ROBERT E. NAPPI, and JOHN A. JEFFERY, *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 1-3 and 5-10. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

INVENTION

Appellants' claimed invention is a displacement sensor having a magnetic circuit which includes a permanent magnet (Fig. 4, element 30), two flux conductors (Fig. 4, elements 20 and 21), and one magnetoelectric transducer (Fig. 4, element 5) fixed in position between the two ends of the flux conductors (Fig. 4, elements 20 and 21; Spec. 4:3-7 and Spec. 5:1-8). When the permanent magnet 30 moves along path x, the magnetic flux in measurement air gap g changes due to the change in working air gap d and the material thickness of the flux conductors (Fig. 4 and Spec. 4:29-31). The magnetoelectric transducer 5 detects the change in the magnetic flux due to the movement of the permanent magnet 30 (Spec. 2:13-15).

Claim 1, reproduced below, is representative of the subject matter on appeal:

> 1. A displacement sensor with at least one magnetoelectric transducer element and a magnetic circuit composed of at least one flux conductor and at least one magnet, with which an influence on the magnetic flux - that is capable of being measured with the transducer element - caused by the movement of an element is induced, wherein the flux conductors and the transducer element are situated in an unchanged position relative to each other during the displacement measurement, whereby these flux conductors

and the at least one magnet are capable of being moved relative to each other, and a change in the magnetic field that is capable of being evaluated by the transducer element is inducible by a change in the air gap (d) in the magnetic circuit while the magnet moves, wherein the flux conductors have a nearly constant thickness, and the flux conductors have a curved shape at least in the region of the opening.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Juds	US 4,841,246	Jun. 20, 1989
Gandel	US 6,593,734 B1	Jul. 15, 2003 (filed Feb. 09, 2000)

The following rejections are before us for review:

1. Claims 1-3, 5-7, and 9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Juds.[1]

2. Claims 1, 8, and 10 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Gandel.

[1] Claim 4 was cancelled by an Amendment filed on 03/03/2006.

ANTICIPATION UNDER § 102

Claims 1-3, 5-7, and 9 were argued as a group with claim 1 as representative (Br. 4-5). Claims 1, 8, and 10 were argued as a group with claim 1 as representative (Br. 5-6).[2]

There are two issues before us. The first issue is whether the Examiner erred in rejecting claim 1 under 35 U.S.C. § 102(b) as anticipated by Juds. The second issue is whether the Examiner erred in rejecting claim 1 under 35 U.S.C. § 102(e) as anticipated by Gandel. Both issues turn on whether limitations from the specification are read into the claims.

FINDINGS OF FACT

The relevant facts include the following:

1. Juds discloses in Figure 2 two flux conductors which have a constant wall thickness (50, 55) (Fig. 2).
2. Juds discloses in Figure 2 a gap/opening (53) wherein the magnetoelectric transducer (70) is disposed to detect the magnitude of the magnetic flux which appears across the narrow gap/opening (53) (Fig. 2 and col. 3, ll. 53-58).
3. Juds discloses in Figure 2 flux conductor plates (50, 55) having a curved shape at the region of the opening (53) (Fig. 2).

[2] Only arguments made by Appellants have been considered in this decision. Arguments, which Appellants could have made but did not make in the Brief, have not been considered and are deemed waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2004).

4. Juds shows in Figure 2 bent or curved "ends" of the flux conductor plates (50, 55) at the region of the opening 53 (Fig. 2).
5. Gandel discloses in Figures 2 and 4 bent or curved ends of the flux conductors (3, 4) at the region of the gap/opening (9) (Figs. 2 and 4; and col. 5, ll. 39-45).
6. Gandel discloses flux conductors having annular quadrant shapes (Figs. 2 and 4; and col. 5, ll. 32-33).

PRINCIPLES OF LAW

"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. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

Analysis of whether a claim is patentable over the prior art under 35 U.S.C. § 102 begins with a determination of the scope of the claim. We determine the scope of the claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

Although claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

ANALYSIS

A. Rejection of claims 1-3, 5-7, and 9 under 35 U.S.C. § 102(b) as being anticipated by Juds.

Claims 1-3, 5-7, and 9 were argued as a group with claim 1 as representative (Br. 4-5).

Appellants state that claim 1 recites: "the flux conductors (20, 21) have nearly constant wall thickness, and the flux conductors (20, 21) have a curved shape at least in the region of the opening (22)" (Br. 4). Appellants state that in Juds, Figure 2 shows two flux plates 50 and 55 running at an angle to one another (Br. 4). Appellants argue that the ends of the flux plates 50 and 55 do not have any bending or curvature as seen by Juds' Figure 2 (Br. 4). Appellants further argue that Juds does not disclose any flux plates having bent or curved ends and the advantages connected with them (Br. 5). Furthermore, Appellants argue that Juds' Figure 4 shows the inner sides of the flux plates 51, 56 having walls that run parallel to one another and the variation of the magnetic flux thickness is affected via the different thicknesses 59 of the flux plates 51, 56 (Br. 4).

The Examiner notes that there is no mention of an end being claimed but, rather, the claim is directed to a curved shape at the region of the opening (Ans. 7). The Examiner finds that Juds discloses a pair of flux conductors having a nearly constant wall thickness (Fig. 2, flux conductors 50 and 55) (Ans. 7). The Examiner further finds that in a region of an opening between the flux conductors containing a sensor (Fig. 2, sensor 70), the flux conductors are curved or bent in towards each other such that the conductors point towards the sensor (Fig. 2) (Ans. 7). The Examiner further finds that the curved portions of the flux conductors 50

and 55 occur at the "ends" of the flux conductors (Ans. 7). Finally, the Examiner notes that Figure 4 of Juds was not relied upon in the rejection (Ans. 4).

We agree with the Examiner's findings of facts and legal conclusion of anticipation as set out in the Answer and adopt them as our own. We add the following primarily for emphasis.

As previously stated, the disputed limitation of claim 1 recites: "the flux conductors (20, 21) have nearly constant wall thickness, and the flux conductors (20, 21) have a curved shape at least in the region of the opening (22)."[3] Figure 2 of Juds shows two flux conductors which have a constant wall thickness (50, 55) (Finding of Fact 1). Figure 2 of Juds shows a gap/opening (53) wherein the magnetoelectric transducer (70) is disposed to detect the magnitude of the magnetic flux which appears across the narrow gap/opening (53) (Finding of Fact 2). Figure 2 of Juds shows the flux conductor plates (50, 55) having a curved shape at the region of the opening (53) (Finding of Fact 3). Thus, Juds discloses the disputed claim limitation.

Furthermore, as stated *supra*, although claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *In re Van Geuns*, 988 F.2d at 1184. Thus, we are not persuaded by Appellants' argument that Juds does not disclose any flux plates having bent or curved ends and the advantages connected with them (Br. 5) because claim 1 does not claim any "bent or curved ends" nor any of the advantages connected with them.

[3] We note that "the opening" lacks antecedent basis. If there is further prosecution on this case this error must be corrected.

However, even if the claim did recite "bent or curved ends," Juds still shows in Figure 2 bent or curved ends of the flux conductor plates (50, 55) at the region of the opening 53 (Finding of Fact 4). The claim is silent as to the orientation of the flux conductors (i.e., identifying which "end," proximal or distal, top or bottom) and the relationship of that orientation to the opening and/or the magnetoelectric transducer.

With respect to Figure 4, the Examiner did not apply this embodiment in the rejection, but, rather, applied the embodiment of Juds' Figure 2.

For the foregoing reasons, we find that the Examiner did not err in rejecting claims 1-3, 5-7, and 9 under 35 U.S.C. § 102(b) as anticipated by Juds.

B. Rejection of claims 1, 8, and 10 under 35 U.S.C. § 102(e) as being anticipated by Gandel.

Claims 1, 8, and 10 were argued as a group with claim 1 as representative (Br. 5-6).

Appellants argue that the Gandel reference does not apply because in the Gandel reference a completely different measurement principle is used than that of the present invention by having two stators (3, 4), a rotation part (5) on which a permanent magnet is attached (Br. 5). Appellants further argue that the Gandel reference does not disclose bent or curved ends (Br. 5).

The Examiner determined that bent or curved "ends" of the flux conductors are not claimed, but, rather, the claim recites: "the flux conductors (20, 21) have a curved shape at least in the region of the opening (22)" (Ans. 8). The Examiner finds that there is no mention of an end in the claim, but, rather, the claim is

directed to a region of the opening (Ans. 8). The Examiner finds that Gandel discloses a pair of flux conductors (Figs. 2 or 4, flux conductors 3 and 4) having a generally constant thickness in a radial direction and having an opening between them wherein a sensor is located (Figs. 2 or 4, sensor 10) (Ans. 8). The Examiner further finds that the flux conductors are curved into a generally arc shape along their entire length thereof including the portions near the sensor opening (Figs. 2 or 4) (Ans. 8). Therefore, the Examiner concludes that the flux conductors have a curved shape at least in the region of an opening (Ans. 8-9).

We agree with the Examiner's findings of facts and legal conclusion of anticipation as set out in the Answer and adopt them as our own. We add the following primarily for emphasis.

As stated *supra*, although claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *In re Van Geuns*, 988 F.2d at 1184. Thus, we are not persuaded by Appellants' argument that Gandel does not disclose any bent or curved ends or that Gandel's invention is based on a completely different measurement principle (Br. 5), because claim 1 does not claim any "bent or curved ends" nor do any of the limitations of this claim address different measurement principles.

However, even if the claim did recite "bent or curved ends," Gandel still shows in Figures 2 and 4 bent or curved ends of the flux conductors (3, 4) at the region of the gap/opening (9) (Finding of Fact 5). Furthermore, Gandel discloses flux conductors having annular quadrant shapes (Finding of Fact 6) and, thus, both ends of each of the flux conductors are bent or curved.

For the foregoing reasons, we find that the Examiner did not err in rejecting claims 1, 8, and 10 under 35 U.S.C. § 102(e) as anticipated by Gandel.

CONCLUSION OF LAW

We conclude that the Appellants have not shown that the Examiner erred in rejecting claims 1-3, 5-7, and 9 under 35 U.S.C. § 102(b), and claims 1, 8, and 10 under 35 U.S.C. § 102(e).

DECISION

The decision of the Examiner to reject claims 1-3 and 5-10 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).

AFFIRMED

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