

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 JOHN DAVID MILLER

Appeal 2007-1203
Application 10/420,140
Technology Center 2600

Decided: May 30, 2007

Before JOSEPH F. RUGGIERO, HOWARD B. BLANKENSHIP,
and ST. JOHN COURTENAY III, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1-24. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM the Examiner's rejection of claims 1-24.

THE INVENTION

Appellant claims to have invented a method and system for controlling image transparency. In one embodiment of the disclosed invention, a method for controlling the transparency of an image of an object includes modulating the transparency of the image as a function of an angle of incidence of a vector normal to a viewing surface and the surface of the object (Specification 2).

The appeal contains claims 1-24. Claims 1, 6, 12, 16, and 20 are independent claims. Claim 1 is representative of the claimed invention:

1. A method, comprising:
identifying a vector normal to a viewing surface and incident at a planar surface of an object, the vector having an angle of incidence at the planar surface;
and
modulating a transparency of an image of the object as a function of the angle of incidence.

THE REFERENCE

The Examiner relies upon the following reference as evidence of anticipation:

Shinohara

U.S. Pat. 5,880,735

Mar. 9, 1999

THE REJECTION

Appellant seeks our review of the Examiner's rejection of claims 1-24 under 35 U.S.C. § 102(e) as being anticipated by Shinohara.

ISSUES

The principal issue before us is whether Appellant has shown the Examiner erred in rejecting claims 1-24 based on anticipation. More particularly, we decide whether the following claim limitations argued by Appellant (shown in italics) read on Shinohara in the manner asserted by the Examiner:

identifying a vector normal to a viewing surface *and incident at a planar surface of an object*, the vector having *an angle of incidence at the planar surface*; and

modulating a transparency of an image of the object as *a function of the angle of incidence*.

FINDINGS OF FACT

At the outset, we note that the Examiner's factual findings are not in dispute except with respect to the specific claim limitations argued by Appellant in the Briefs. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant could have made but chose not to make in the Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii)(2004). *See also In re Watts*, 354 F.3d 1362, 1368, 69 USPQ2d 1453, 1458 (Fed. Cir. 2004).

Anticipation is a question of fact. *Glaverbel Societe Anonyme v. Northlake Mktg. & Supply*, 45 F.3d 1550, 1554, 33 USPQ2d 1496, 1498 (Fed. Cir. 1995) (internal citations omitted). Here, we find the argued language of the representative claim does read on the Shinohara reference in the manner asserted by the Examiner. Specific findings of fact appear in the Analysis *infra*.

STATEMENT OF LAW

In rejecting claims under 35 U.S.C. § 102, a single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation. *Perricone v. Medicis Pharm.*, 432 F.3d 1368, 1375-76, 77 USPQ2d 1321, 1325-26 (Fed. Cir. 2005) (citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565, 24 USPQ2d 1321, 1326 (Fed. Cir. 1992)). Anticipation of a patent claim requires a finding that the claim at issue “reads on” a prior art reference. *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1346, 51 USPQ2d 1943, 1945 (Fed Cir. 1999) (“In other words, if granting patent protection on the disputed claim would allow the patentee to exclude the public from practicing the prior art, then that claim is anticipated, regardless of whether it also covers subject matter not in the prior art.”) (internal citations omitted).

ANALYSIS

We consider the Examiner’s rejection of claims 1-24 as being anticipated by Shinohara. Since Appellant’s arguments with respect to this rejection have treated these claims as a single group which stand or fall together, we will select claim 1 as the representative claim for this rejection because we find it is the broadest independent claim before us. *See* 37 C.F.R. § 41.37(c)(1)(vii)(2004).

Appellant points out that the language of each independent claim has been amended to recite “planar surface” to more clearly establish that the claimed angle of incidence is formed between the viewing surface normal vector and the planar surface of an object. Appellant argues that Shinohara explicitly teaches pixel transparency changes are made using vertex normal vectors, and not the incident

angle created by the intersection of a viewing surface normal vector with a planar surface, as claimed. Appellant concludes that Shinohara's approach to determining transparency is "strikingly different" than the approach taken by Appellant (Br. 10-11).

The Examiner disagrees. The Examiner asserts that Appellant is arguing limitations that are not claimed (Answer 8). The Examiner points out that claim 1 merely recites *an angle of incidence at the planar surface*, i.e., broadly reading on an angle of incidence at *any point* on the planar surface (Answer 10). The Examiner broadly equates a normal vector at a vertex along the planar surface of a general polygon with a normal vector at each pixel of a planar surface of the polygon (Answer 9). The Examiner finds that Shinohara's transparency output [i.e., " α out," see col. 7, l. 44] is a function of N_z [i.e., where N_z is disclosed by Shinohara as corresponding to the Z (depth) component of N , the unit normal vector at each vertex of the polygon, as shown in Fig. 5] (Answer 11).

After carefully considering the evidence before us, we find the language of the claim broadly but reasonably *reads on* Shinohara in the manner argued by the Examiner. In particular, we agree with the Examiner that *an angle of incidence at the planar surface* (as recited in the claim) broadly but reasonably *reads on* an angle of incidence at *any point* on the planar surface (Answer 10). As pointed out by the Examiner, Shinohara discloses that the magnitude of the Z (depth) component (i.e., N_z as shown in FIG. 5) depends upon the angle (i.e., angle of incidence) formed by the planar surface of the polygon and the direction of the line-of-sight (i.e., where the direction of the line-of-sight corresponds to the instant

claimed “vector normal to a viewing surface”), as shown in FIG. 5, and described as follows:

In other words, as FIG. 5 indicates, even when the sizes of the normal vectors N at the individual vertices are equal to one another, *their Z components vary depending upon the angle formed by the planar surface of the polygon and the direction of the line-of-sight*, and the closer the angle formed by the planar surface of the polygon and the direction of the line-of-sight becomes to 90° , the larger the Z component of the unit normal vector becomes [emphasis added]. (Shinohara, col. 9, ll. 15-23).

We acknowledge that Shinohara’s transparency function (*see* col. 7, l. 44) is different from the exemplary transparency function described by Appellant in the Specification.¹ Nevertheless, we note that the broad language of the claim merely requires “modulating a transparency of an image of the object *as a function of the angle of incidence*” (claim 1, emphasis added). In particular, we note that the Z component (N_z) of the unit normal vector at each vertex is incorporated as a variable in Shinohara’s transparency function (col. 7, l. 44, *see also* FIG. 5). Because Shinohara discloses the magnitude of the Z components (i.e., N_z as shown in FIG. 5) depends upon (i.e., is a function of) the angle (i.e., angle of incidence) formed by the planar surface of the polygon and the direction of the line-of-sight (i.e., corresponding to the recited “vector normal to a viewing surface”), we find that Shinohara discloses all that is claimed. Therefore, we will sustain the Examiner’s rejection of representative claim 1.

¹ *See* Specification, p. 5, ll. 14-15, i.e., “For example, a cosine function applied to an angle of incidence of zero at cube face 200 yields a modulating factor of one.”

Appeal 2007-1203
Application 10/420,140

Pursuant to 37 C.F.R. § 41.37(c)(1)(vii)(2004), we have decided the appeal with respect to claims 2-24 on the basis of the selected claim alone. Therefore, we will sustain the Examiner's rejection of these claims as being anticipated by Shinohara for the same reasons discussed *supra* with respect to representative claim 1.

CONCLUSION OF LAW

On the record before us, we find Appellant has not shown the Examiner failed to establish a prima facie case of anticipation for each of claims 1-24.

DECISION

We affirm the Examiner's rejection of claims 1-24.

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

KIS

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P. O. BOX 2938
MINNEAPOLIS, MN 55402