

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 MARC EPITAUX, WILFRIED NOELL, YVES PETREMAND,
and NICOLAAS-F DE ROOIJ

Appeal 2006-2967
Application 10/832,598
Technology Center 2800

Decided: March 13, 2007

Before JOSEPH F. RUGGIERO, ALLEN R. MACDONALD,
and JEAN R. HOMERE, *Administrative Patent Judges*.

HOMERE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal from the Examiner's final rejection of claims 1 through 26, 28 and 29 pursuant to 35 U.S.C. § 134. We have jurisdiction under 35 U.S.C. § 6(b) to decide this appeal.

Appeal 2006-2967
Application 10/832,598

The Examiner rejects the pending claims as follows:

- A. Claims 1 through 5, 9, and 18 through 22 stand rejected under 35 U.S.C. § 102 (b) as being unpatentable over Miracky.
 - B. Claims 6 through 8, 10 through 17, 23 through 26, 28 and 29 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Miracky.

The Examiner relies on the following reference:

Miracky US 2002/0105699 A1 Aug. 8, 2002

Independent claims 1 and 11 are illustrative and representative of the Appellants' invention. They read as follows:

- ### 1. A method comprising:

generating a light beam; and

activating complementarily a plurality of actuators to move, compress or extend at least one compliant suspension beam to effectuate movement of a suspended stage, to which the stage is coupled and on which a lens is disposed, to position the lens to steer the light beam onto a target.

- ### 11. A method comprising:

forming an electromechanical system having a substrate, a stage suspended over the substrate, and a lens disposed on the suspended substrate;

forming an optoelectronic module that includes the electromechanical system;

moving the stage to position the lens at a desired operational location; and

rendering the stage unmovable thereafter to lock the lens in place.

Appellants contend that Miracky does not anticipate claims 1 through 5, 9, and 18 through 22. Particularly, Appellants contend that Miracky does not fairly teach or suggest complementarily activating actuators to move, compress or extend one or more suspension beams to effectuate movement of a suspended stage, as recited in independent claim 1. (Br. 4, Reply Br. 6). Appellants also contend that Miracky does not render claims 6 through 8, 10 through 17, 23 through 26, 28 and 29 unpatentable under 35 U.S.C. § 103 (a). Particularly, Appellants argue that Miracky does not fairly teach or suggest rendering the stage unmovable to lock the lens in place, as recited in independent claim 11. (Br. 14, Reply Br. 7).

The Examiner contends that Miracky teaches the claimed complementary actuator activation to move the suspension beams to effectuate movement of a suspended stage, recited in independent claim 1, as actuators that move a stage, which in turn move the suspended beams. (Answer 4 and 8). The Examiner further concludes that it would have been obvious to one of ordinary skill in the art to modify Miracky's teaching to yield the claimed invention, as recited in independent claim 11. (Answer 6 and 13).

We affirm in part.

ISSUES

The *pivotal* issues on appeal before us are as follows:

- (1) Under 35 U.S.C. § 102 (b), does Miracky's disclosure anticipate the claimed invention when Miracky teaches an actuator that moves a suspended stage to effectuate movement of a suspension beam?
- (2) Under 35 U.S.C. § 103 (a), would one of ordinary skill in the art at the time of the present invention, have found that Miracky's disclosure renders the claimed invention unpatentable when Miracky teaches disposing the actuators in a fixed position with respect to the stage?

FINDINGS OF FACT

Appellants invented an optoelectronic module (100) for aligning an optical light beam (102) with a movable lens (112) and an optical fiber (106). Particularly, the movable lens (112) is mounted on a stage (110), which is suspended on a substrate (108) via a plurality of suspension beams (114) attached to a plurality of electrodes (116). (Specification 5 and 6). Upon selectively and complementarily activating the electrodes (116), the suspension beams (114) are moved, extended or compressed. Upon such movement, extension or compression, the beams move the suspended stage (110) to in turn position the microlens (112) to steer the light beam (102) onto a target. (Specification 7 and 9).¹

Miracky discloses an integrated optical micro-electromechanical system (MEMS) structure (50) to align an optical light beam (62) with a

¹ Appellants' Specification, at page 8, paragraphs 30 and 31, indicates that the holding or locking down of the lens (as in claims 11 and 24) can be performed in accordance with known principles, electromagnetic, piezoelectric bimorph, and so forth.

microlens (65) and an optical fiber. (Page 5, par. 50). The MEMS also includes a comb drive actuator (70) with fixed combs (75A, 75B) and movable combs (80A, 80B). The latter combs are attached to a stage (85) upon which the microlens (65) is mounted. Further, the suspension members (90A, 90B) are fixedly attached to the suspended stage (85) and the substrate (95). (Page 5, par. 51). The microlens (65) and the MEMS actuator (70) are disposed in a fixed position in relation to the substrate (95). (Page 6, par. 58). In response to an actuating force (e.g. application of potential voltage to MEMS drive actuator), the movable combs (80A, 80B) are displaced to cause the stage (85) and the suspension members (90A, 90B) to successively move. As a result, the stage movement causes the microlens (65) to be positioned to steer the light onto a target. (Page 5, par. 54).

PRINCIPLES OF LAW

1. ANTICIPATION

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. *See In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

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 Pharmaceutical Corp.*, 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).

2. OBVIOUSNESS (Prima Facie)

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). See also *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants. *Oetiker*, 977 F.2d at 1445, 24 USPQ2d at 1444. See also *Piasecki*, 745 F.2d at 1472, 223 USPQ at 788. Thus, the Examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the Examiner’s conclusion.

ANALYSIS

In Miracky a stage is moved directly by an actuator's activation, and a suspension beam's movement is subsequently induced by the stage movement. In contrast, claim 1 requires that the actuator's activation induce movement of the suspension beams, which in turn effectuates the movement of the suspended stage. Therefore, Miracky does not teach a suspension beam that effectuates movement in a suspended stage.

The Examiner erred in finding Miracky's teachings anticipate claim 1. For the same reasons, the Examiner erred in finding Miracky's teachings anticipate dependent claims 2 through 10 and 18 through 23.

Next, we address independent claims 11 and 24. Miracky teaches a microlens and MEMS actuators being located at a fixed position with respect to the substrate. We recognize that Miracky does not particularly teach locking the lens in place to render the stage unmovable. However, we find that in order to dispose the microlens in a fixed position with respect to the substrate, the stage upon which the microlens is mounted must at least momentarily be held in place during that process. Therefore, we conclude the ordinarily skilled artisan would have aptly appreciated that the stage must remain immovable while the lens is being positioned in a fixed location to align with the light beam. Therefore, we conclude that Miracky's teaching of the microlens and the MEMS actuators being located at a fixed position with respect to the substrate would have led one of ordinary skill in the art to render the stage unmovable to lock the microlens in place.

After considering the entire record before us, we conclude that Appellants have not established the Examiner erred in rejecting claims 11

and 24 as being unpatentable over Miracky. We also conclude for the same reasons that Appellants have not established the Examiner erred in rejecting dependent claims 12 through 17, 25, 26, 28 and 29 as being unpatentable over Miracky.²

CONCLUSION OF LAW

(1) Appellants have established that the Examiner erred in rejecting claims 1 through 5, 9, and 18 through 22 as being unpatentable under 35 U.S.C. § 102(e) over Miracky.

(2) Appellants have established that the Examiner erred in rejecting claims 6 through 8, 10, and 23 as being unpatentable under 35 U.S.C. § 103(a) over Miracky.

(3) On this record, 1 through 10 and 18 through 23 have not been shown to be unpatentable.

(4) Appellants have failed to establish that the Examiner erred in rejecting claims 11 through 17, 24 through 26, 28, and 29 as being unpatentable under 35 U.S.C. § 103(a) over Miracky.

(5) Claims 11 through 17, 24 through 26, 28 and 29 are not patentable.

2 Appellants have not presented any substantive arguments directed separately to the patentability of the dependent claims. In the absence of a separate argument with respect to the dependent claims, those claims stand or fall with the representative independent claim. *See In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991). *See also* 37 C.F.R. § 41.37(c)(1)(vii)(2004).

DECISION

We reverse the Examiner's decision to reject claims 1 through 5, 9, and 18 through 22 under 35 U.S.C. § 102 (e) as being anticipated by Miracky. We also reverse the Examiner's decision to reject claims 6 through 8, 10 and 23 under 35 U.S.C. § 103 (a) as being unpatentable over Miracky. We, however, affirm the Examiner's decision to reject claims 11 through 17, 24 through 26, 28 and 29 under 35 U.S.C. § 103 (a) as being unpatentable over Miracky.

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-IN-PART

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