

The opinion in support of the decision being entered today
is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte XIANMIN YI

Appeal 2007-1777
Application 10/448,760
Technology Center 2800

Decided: August 16, 2007

Before KENNETH W. HAIRSTON, JOSEPH F. RUGGIERO, and JEAN R.
HOMERE, *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from the final rejection of claims 1 to 4, 6 to 8, and 11 to 14. We have jurisdiction under 35 U.S.C. § 6(b).

We hereby reverse all of the rejections of record.

STATEMENT OF THE CASE

Appellant has invented a method of tuning waveguides to reduce amplitude aberration. According to Appellant, the optimal tuning point is at

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a stigmatic point not at the center of a Rowland circle for a coupler (Figure 2; Specification 5 to 7).

Claims 1 and 7 are representative of the claims on appeal, and they read as follows:

1. A method comprising:

tuning an arrayed waveguide grating having input and output waveguides coupled to couplers to reduce amplitude aberration.

7. A method comprising:

tuning an arrayed waveguide grating having couplers coupled to input and output waveguides and an array of waveguides so that a stigmatic point of at least one of said input or output waveguides is not at the center of a Rowland circle for a coupler.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Trouchet	US 6,141,152	Oct. 31, 2000
Akiba	US 6,466,715 B1	Oct. 15, 2002

The Examiner rejected claims 1, 2, and 6 under 35 U.S.C. § 102(e) based upon the teachings of Akiba. The Examiner rejected claims 7 and 12 to 14 under 35 U.S.C. § 102(b) based upon the teachings of Trouchet. The Examiner rejected claims 3, 4, 8, and 11 under 35 U.S.C. § 103(a) based upon the teachings of Akiba and Trouchet.

The Examiner contends that the angle adjustment in Akiba “provides a reduction in amplitude aberrations of the electric field distribution(s) as is shown from comparing the prior art in Figure 5 of Akiba with Figure 11 of Akiba” (Answer 3 and 4). The Examiner also contends that Trouchet discloses focal points displaced from the center of Rowland circles (Answer 5).

ISSUE

Does Akiba teach a reduction in amplitude aberrations?

Does Touchet teach a stigmatic point not at the center of a Rowland circle?

FINDINGS OF FACT

1. The Examiner acknowledges that Akiba is concerned with phase aberration (Answer 6).

2. Akiba shows waveguide structure (Figures 1, 7A and 7B) that resembles the waveguide structure shown in the subject application (Figure 1); however, Akiba is silent as to amplitude aberration, and the reduction of the same.

3. In Figures 5 and 11 of Akiba, the noted electric field distributions are not described in connection with amplitude aberrations.

4. A Rowland circle is described in Touchet (Figures 1A and 1B; col. 6, l. 2 to col. 10, l. 4), but a stigmatic point located relative to the Rowland circle is not described in Touchet.

5. In Touchet, the noted focal points are not described as stigmatic points.

6. In Touchet, the noted focal points are located at the center of the Rowland circle (col. 6, ll. 6 to 8; col. 7, ll. 8 to 10).

PRINCIPLE OF LAW

Anticipation is established when a single prior art reference discloses expressly or under the principles of inherency each and every limitation of the claimed invention. *Atlas Powder Co. v. IRECO Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1946 (Fed. Cir. 1999); *In re Paulsen*, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994).

ANALYSIS

As indicated *supra*, Akiba is silent as to a reduction of amplitude aberration. Nothing in the record teaches that a reduction in phase aberration leads to a reduction in amplitude aberration (Br. 6 and 7).

With respect to Trouchet, none of the focal points are described as “a stigmatic point” not at or displaced from the center of the Rowland circle.

CONCLUSION OF LAW

Anticipation has not been established by the Examiner for claims 1, 2, and 5 because Akiba lacks a teaching of amplitude aberration reduction. Anticipation has not been established by the Examiner for claims 7 and 12 to 14 because Trouchet lacks a teaching of a stigmatic point not at or displaced from the center of a Rowland circle. Obviousness has not been established by the Examiner for claims 3, 4, 8, and 11 because the combined teachings of the references neither teach nor would have suggested to the skilled artisan the claimed subject matter.

DECISION

The anticipation rejections of claims 1, 2, 5, 7, and 12 to 14 are reversed. The obviousness rejection of claims 3, 4, 8, and 11 is reversed.

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REVERSED

gw

TROP PRUNER & HU, PC
1616 S. VOSS ROAD, SITE 750
HOUSTON, TX 77057-2631