The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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 KENNETH R. WILDNAUER and WILLIAM R. TRUTNA

Appeal No. 2006-2229
Application No. 10/347,069

ON BRIEF

Before THOMAS, HAIRSTON, and RUGGIERO, Administrative Patent Judges.

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellants have appealed to the Board from the examiner's final rejection of claims 12 through 25, claims 1 through 11 having been withdrawn.

Representative independent claim 12 is reproduced below:

12. A device to multiplex/de-multiplex light signals, the device comprising:

optical components configured to multiplex light signals when operated as a multiplexer and to de-multiplex light signals when operated as a de-multiplexer, the light signals following external input and output optical paths into and out of said device; and

a substrate configured with means for connecting to the external optical paths, the substrate defining an optical path therein for the multiplexed light signals and the de-multiplexed light signals, the substrate comprising a material having a base refractive index and that includes at least one region therein with a refractive index that differs from the base refractive index, the substrate being configured for the light signals to pass therethrough between the external input and output optical paths;

wherein at least one of the optical components comprises the region with the different refractive index.

The following reference is relied on by the examiner:

Tangonan	4,274,706	June 23, 1981

Claims 12 through 25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tangonan.

Rather than repeat the positions of the appellants and the examiner, reference is made to the brief and reply brief for appellants' positions, and to the answer for the examiner's positions.

OPINION

For the reasons set forth by the examiner in the answer, as expanded upon here, we sustain the rejection of all claims on appeal under 35 U.S.C. § 102. In the brief and reply brief, appellants argue independent claims 12 and 19 together, with an emphasis upon independent claim 12. No other claim on appeal is argued before us.

As repeatedly indicated in the answer, the examiner considers Tangonan's substrate to comprise plural elements/portions 10, 12 and 18. The examiner also considers substrate region 10 as having a base refractive index, whereas regions 12 and 18 are said to have different refractive indices.

The claimed "a substrate" is not stated in the claims on appeal to be of single piece construction, notwithstanding appellants' repeated arguments in the brief and reply brief to that effect. Contrary to appellants' position at

page 5 of the reply brief that Tangonan's planar waveguide layer 12 is formed "on" a substrate in accordance with the teaching at column 3, lines 60 through 63, this portion of Tangonan plainly indicates that the waveguide layer 12 is formed "within" the substrate region 10 notwithstanding the fact that it is also formed in the top region of this substrate layer. The formation of the waveguide in Tangonan as described here is the same as it is described in Tangonan's Abstract and Summary of the Invention. Moreover, the drawings are consistent with this description. Even appellants' arguments at the top page 11 of the principal brief on appeal indicate that regions 10 and 12 in Tangonan have different indices of refraction. In Tangonan, because waveguide 12 is fabricated within substrate area 10, waveguide region 12 is considered to be within the substrate and through which light signals pass. Moreover, this waveguide area 12 may be considered to be at least one optical component to the extent recited in representative independent 12 on appeal.

It appears to us that the artisan would also consider the diffraction grating 18 in the various figures in Tangonan as having an additional or separate index of refraction to the extent claimed. Even the discussion in the background of the invention at column 1, lines 21 through 41 indicates that different materials have different indices of refraction such as air, and different types of glass as discussed there. Moreover, as to Tangonan's contribution in the art, the discussion at column 4 plainly indicates that the attached region 18 comprising the diffraction grating is composed of a different material than the underlining sodium glass microscope slide substrate 10. As such, it would implicitly have a different index of refraction.

We do not agree with appellants' views expressed at the bottom of page 7 of the reply brief that element 18 does not have a refractive index. Even as discussed in the last paragraph and consistent with appellants' appendix B to the reply brief, because different mediums or materials are used, the artisan would well expect that a different index of refraction would be present. It also appears that appellants' arguments are not consistent with

their own disclosed invention. As stated at page 4 of appellants' specification in paragraph [0013] "[t]he optical components that include a region with an altered refractive index may include: a diffraction grating; a planar diffraction grating; a concave diffraction grating; an aberration-correcting diffraction grating; . . ." Diffraction gratings are shown in appellants' drawings as elements 170, 270, 370 and 570 in various figures. Therefore, to the same extent appellants disclose diffraction gratings as having different indices of refraction, the same may be well said of the teachings in Tangonan.

As indicated earlier, appellants' continued arguments in the brief and reply brief with respect to the different meanings of substrate between appellants' disclosed invention and Tangonan's teachings and showings are misplaced first of all because appellants' claimed invention is not coextensive with the arguments made. Additionally, appellants appear to be continuing to invite us to read the disclosed invention into the broadly claimed subject matter where appellants are free to amend the claims to exclude the teachings and showings in Tangonan. There's no proper

hindsight argument that appellants can make with respect to Tangonan as set forth at the bottom of page 13 of the principal brief on appeal within 35 U.S.C. § 102, since such an argument has a place only within 35 U.S.C. § 103 rejections.

Finally, we note that the background art at columns 1 and 2 of Tangonan relates to different embodiments in which different materials are affixed together to form a single optical device. Appellants have presented no arguments to us that Tangonan does not perform the claimed multiplexing and demultiplexing functions, which are well documented even in the background art of Tangonan. Significantly as well, the teachings at column 2, lines 1 through 18 make it clear that it was known in the art that a diffraction grating may be formed wholly <u>within</u> an optical waveguide in the manner disclosed but not claimed in independent claims 12 and 19 on appeal. Lastly, we note in passing that Tangonan's patent bears a publication date of 1981. We would speculate that during the more than 25 years since Tangonan's patent was issued, the nature of the teachings of the pertinent art throughout Tangonan would have significantly matured.

In view of the foregoing, the decision of the examiner rejecting claims 12 through 25 under 35 U.S.C. § 102 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv).

AFFIRMED

JAMES D. THOMAS Administrative Patent Judge	)	
KENNETH W. HAIRSTON Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JOSEPH F. RUGGIERO Administrative Patent Judge	)	

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