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HAYNES AND BOONE, LLP			RUGGLES, JOHN S	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BURN JENG LIN, JENG HORNG CHEN,
CHUN-KUANG CHEN, TSAI-SHENG GAU,
RU-GUN LIU, and JEN-CHIEH SHIH

Appeal 2010-003180
Application 10/964,842
Technology Center 1700

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and
PETER F. KRATZ, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-10, 12-17, and 31. We have jurisdiction under 35 U.S.C. § 6.

We AFFIRM.

Appellants claim a photomask 200 for forming a pattern during photolithography comprising a transparent substrate 202, an absorption layer 204 having at least one opening 208 formed therein, a layer of wavelength-reducing material 206 disposed in the at least one opening to thereby form a generally planar surface with the absorption layer, and "an antireflection coating layer [214, 216] disposed on at least a portion of the generally planar surface and aligned with the at least one opening" (claim 1; Fig. 4). In at least one claim embodiment, the wavelength-reducing material has a refractive index larger than 1 (claim 5).

Representative claims 1 and 5 read as follows:

1. A photomask for forming a pattern during photolithography when illuminated with a predetermined wavelength of light, the photomask comprising:

a transparent substrate;

an absorption layer proximate to the transparent substrate, wherein the absorption layer has at least one opening formed therein;

a layer of wavelength-reducing material disposed in the at least one opening, wherein the wavelength-reducing material and the absorption layer form a generally planar surface; and

an antireflection coating layer disposed on at least a portion of the generally planar surface and aligned with the at least one opening.

5. The photomask of claim 1 wherein the wavelength-reducing material has a refractive index larger than 1.

The references set forth below are relied upon by the Examiner as evidence of obviousness:

Moreau et al.	3,676,002	July 11, 1972
Kaneki	4,363,846	Dec. 14, 1982
Kuyel	4,537,813	Aug. 27, 1985
Asai	5,424,153	June 13, 1995
Troccoli	5,795,684	Aug. 18, 1998
Scott et al.	5,935,733	Aug. 10, 1999
Miyoshi et al.	6,576,375 B1	June 10, 2003

The Examiner rejects claims 5 and 9 under the 1st paragraph of 35 U.S.C. § 112 for failing to comply with the enablement requirement. According to the Examiner, the Specification disclosure would not enable a person with ordinary skill in this art to make or use, without undue experimentation, a photomask with wavelength-reducing material throughout the full scope of the claimed refractive index range (i.e., "larger than 1") (Ans. 7, 20-22).

The Examiner also rejects all appealed claims under 35 U.S.C. § 103(a) as unpatentable over Moreau, Kuyel, Asai, Troccoli, or Scott in view of Kaneki or Miyoshi. The Examiner concludes that it would have been obvious for one with ordinary skill in this art to provide the photomasks of the primary references with an anti-reflection coating of the type and for the reasons taught by either Kaneki or Miyoshi (Ans. para. bridging 19-20).

We affirm each of these rejections for the reasons well stated by the Examiner in the Answer. The following comments are added for emphasis.

Concerning the § 112 rejection, Appellants argue that an artisan could make or use the photomasks defined by claims 5 and 9 because paragraph [0018] of their Specification discloses specific wavelength-reducing materials which are known in the art to have a refractive index larger than 1 (App. Br. para. bridging 10-11; Reply Br. 7-8).

The deficiency of this argument is that it fails to address with any reasonable specificity the issue raised by the Examiner's rejection. Contrary to Appellants' belief, the issue under consideration is not whether specific wavelength-reducing materials disclosed in the Specification have a refractive index larger than 1. The Examiner acknowledges that these materials have a refractive index ranging from about 1.3 to 3.5 (Ans. 21).

Rather, the issue before us is whether the Specification would enable an artisan to make and use, without undue experimentation, a photomask with wavelength-reducing materials throughout the claimed refractive index range which has no upper limit (*id.* at 21-22). *See In re Goodman*, 11 F.3d 1046, 1050 (Fed. Cir. 1993) (the specification must teach those of skill in the art how to make and how to use the invention as broadly as it is claimed). Appellants' argument does not address this issue and therefore does not reveal any reversible error in the § 112, 1st paragraph, rejection.

With respect to the § 103 rejections, Appellants argue that neither Kaneki nor Miyoshi would have suggested an antireflection coating aligned with at least one absorption layer opening as required by independent claims

1 and 31 because the photomasks of these references do not include an absorption layer opening (App. Br. 15-17; Reply Br. 11-15).¹

This argument is unpersuasive for the reasons thoroughly detailed by the Examiner (Ans. 22-30, especially 28-29). Concerning the rejections based on the secondary reference to Miyoshi, we emphasize the Examiner's express finding that, contrary to Appellants' above argument, Miyoshi discloses a photomask embodiment wherein the anti-reflective coating is aligned with an absorption layer opening (*id.* at para. bridging 28-29, 1st full para. on 29). Appellants quote and thereby acknowledge this finding but, significantly, do not contest it (Reply Br. 13-15). Therefore, with regard to the rejections which include Miyoshi, Appellants' argument is based on a factually erroneous premise.

The decision of the Examiner 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).

AFFIRMED

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¹ Appellants do not separately argue the § 103 rejections of the dependent claims on appeal. It follows that these dependent claims will stand or fall with independent claims 1 and 31.