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EXAMINER
PAYEN, MARVIN

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SIMONE ALBA,
ALESSANDRO SPANDRE and
BARBARA ZANDERIGHI

Appeal 2010-010286
Application 11/855,229
Technology Center 2800

Before CARL W. WHITEHEAD, JR., ERIC S. FRAHM and ANDREW J. DILLON, *Administrative Patent Judges*.

WHITEHEAD, JR., *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants are appealing claims 8-24. Appeal Brief 5. We have jurisdiction under 35 U.S.C. § 6(b) (2012).

We affirm.

Introduction

The present invention is directed to a semiconductor device having an oxide layer deposited on an antireflection coating (ARC) film. Specification 6.

Illustrative Claim

8. A semiconductor device comprising:

a semiconductor layer;

at least one conductive layer adjacent the semiconductor layer;

an antireflection coating (ARC) layer adjacent the at least one conductive layer, the ARC layer including microfissures therein; and

a dielectric covering layer, on the ARC layer, said dielectric covering layer extending into, filling and covering the microfissures in the ARC layer.

Rejections on Appeal

Claims 8, 10-13, 15, 17 and 18 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Ngo (U.S. Patent Number 6,093,973; issued July 25, 2000) and Shields (U.S. Patent Number 6,153,504; issued November 28, 2000). Answer 4-7.

Claims 9, 16 and 20-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ngo, Shields and Ruelke (U.S. Patent Application Publication 2002/0076843 A1; published June 20, 2002). Answer 7-11.

Claims 14 and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ngo, Shields and Applicant's Prior Art. Answer 10-11.

Claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ngo, Shields, Ruelke and Applicant's Prior Art. Answer 11.

Issue on Appeal

Does Appellants' configuration of a dielectric covering layer on an ARC layer distinguishes over Ngo's disclosure of a dielectric layer on an ARC layer?

ANALYSIS

We have reviewed the Examiner's rejections in light of Appellants' arguments that the Examiner has erred. We disagree with Appellants' conclusions. We concur with the findings and reasons set forth by the Examiner in the action from which this appeal is taken and the reasons set forth by the Examiner in the Answer in response to Appellants' Appeal Brief. However, we highlight and address specific findings and arguments for emphasis as follows.

The Examiner finds that Ngo does not disclose that the ARC layer has microfissures and that Ngo's dielectric layer covers the ARC layer and fills

the ARC layer's fissures as claimed. Answer 4-5. Appellants argue that nothing within Shields suggest filling fissures of an ARC layer as claimed and therefore modifying Ngo, as the Examiner suggests, is problematic. Appeal Brief 10. The Examiner finds that Ngo discloses a semiconductor device having an ARC layer (34) with a dielectric layer (36) covering thereon. Answer 4-5. Therefore we do not find Appellant's arguments to be persuasive because Ngo, in itself, anticipates the invention as claimed in claim 8. *See* Appeal Brief 10. A disclosure that anticipates under 35 U.S.C. § 102 also renders the claim unpatentable under 35 U.S.C. § 103, for "anticipation is the epitome of obviousness." *Jones V. Hardy*, 727 F.2d 1524, 15292 (Fed. Cir. 1984). *See also In re Fracalossi*, 681 F.2d 792,794 (CCPA 1982); *In re Pearson*, 494 F.2d 1399, 1402 (CCPA 1974).

In view of the above discussion, it is our view, that since Ngo reasonably teaches the features of claim 8, the remaining references are not actually necessary for a proper rejection under 35 U.S.C. § 103 of representative claim 8, as Ngo discloses all that is claimed. The Board may rely on less than all of the references applied by the Examiner in an obviousness rationale without designating it as a new ground of rejection. *In re Bush*, 296 F.2d 491, 496 (CCPA 1961); *In re Boyer*, 363 F.2d 455, 458 n.2 (CCPA 1966).

Appellants readily admit that ARC layers are known to have microfissures. Specification [0013]. Further, Appellants admit that the claimed dielectric covering layer is formed by an undisclosed method of deposition. *Id.* at [0044]. Ngo's ARC layer (34) inherently has microfissures and the deposited dielectric layer (36) inherently covers and fill the microfissures in the same manner as Appellants' invention in claim 8.

Ngo, Figure 3; column 4 lines 29-59. "It is well settled that a prior art reference may anticipate when the claim limitations not expressly found in that reference are nonetheless inherent in it. Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates." *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349 (Fed. Cir. 2002) (citations omitted) (internal quotation marks omitted).

As indicated above, Appellants merely deposit the dielectric covering layer with an undisclosed deposition process. *See* Specification [0044]. Ngo discloses multiple deposition methods to utilize in covering the ARC layer with a covering dielectric layer and therefore Ngo inherently discloses that the microfissures that exist in an ARC layer are covered and filled just as the ones claimed in claim 8. *See* Ngo, column 4, lines 41-59. We find no reversible error in the Examiner's obviousness rejection of claim 8 based on Ngo as obviousness rejections can be based on references that happen to anticipate the claimed subject matter. *See In re Meyer* 599 F.2d 1026, 1031 (CCPA 1979). Therefore Appellants' arguments in regard to Shield are not persuasive. Appeal Brief 10. We sustain the Examiner's rejection of claim 8, as well as, independent claims 15 and 20, not separately argued. *See* Appeal Brief 10-11. Further, we sustain the Examiner's rejections of claims 9-14, 16-19 and 21-24, not separately argued, for the same reasons as above, dependent therefrom on claims 8, 15 and 20 respectively.

DECISION

The obviousness rejections of claims 8-24 are 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)(iv). *See* 37 C.F.R. § 41.50(f).

AFFIRMED

Vsh