



- (51) International Patent Classification:
G02B 6/26 (2006.01) *G11B 7/135* (2012.01)
G02B 6/136 (2006.01)
- (21) International Application Number:
PCT/SG2012/000242
- (22) International Filing Date:
6 July 2012 (06.07.2012)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/505,568 8 July 2011 (08.07.2011) US
- (71) Applicant (for all designated States except US):
**AGENCY FOR SCIENCE, TECHNOLOGY AND RE-
SEARCH** [SG/SG]; 1 Fusionopolis Way, #20-10 Connex-
is, Singapore 138632 (SG).

- (72) Inventors; and
(75) Inventors/Applicants (for US only): **WANG, Qian**
[SG/SG]; c/o DSI Building, 5 Engineering Drive 1, Singa-
pore 117608 (SG). **HO, Seng-Tiong** [US/SG]; c/o DSI
Building, 5 Engineering Drive 1, Singapore 117608 (SG).
- (74) Agent: **VIERING, JENTSCHURA & PARTNER LLP**;
P.O. Box 1088, Rochor Post Office, Rochor Road, Singa-
pore 911833 (SG).
- (81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD,
SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ,

[Continued on next page]

- (54) Title: LIGHT COUPLING STRUCTURE, METHOD OF FORMING A LIGHT COUPLING STRUCTURE AND A MAG-
NETIC RECORDING HEAD

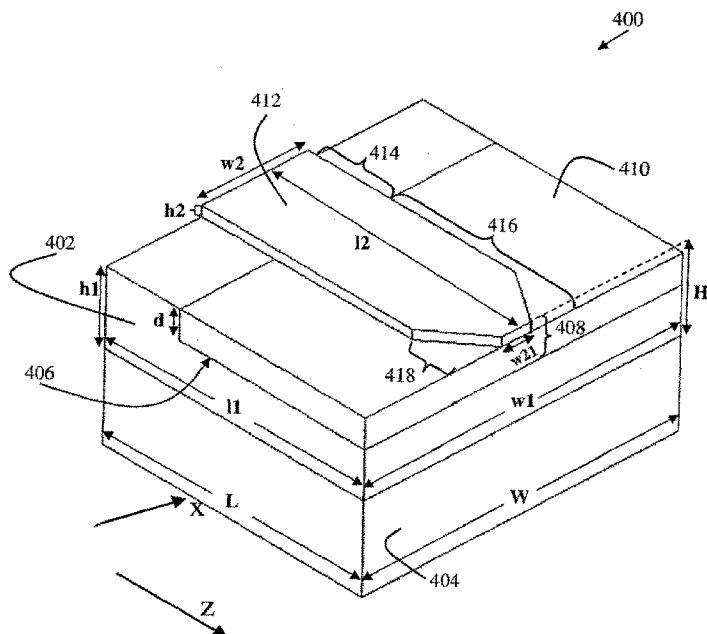


Figure 4

- (57) Abstract: A light coupling structure, a method of manufacturing a memory cell, and a magnetic recording head are provided. The light coupling structure includes a light coupling layer having a cavity; a waveguide having a cladding layer and a core layer; wherein the cladding layer of the waveguide is disposed in the cavity of the light coupling layer and the core layer of the waveguide is disposed over the light coupling layer and the cladding layer of the waveguide; wherein the light coupling layer is configured to receive light from a light source and couple the received light into the core layer of the waveguide.



UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*