



- (51) **International Patent Classification:**
G02B 5/18 (2006.01) *G02B 27/01* (2006.01)
- (21) **International Application Number:**
PCT/US2024/054243
- (22) **International Filing Date:**
01 November 2024 (01.11.2024)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
63/596,108 03 November 2023 (03.11.2023) US
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(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, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG,
KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY,
MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA,
NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO,
RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,
ZA, ZM, ZW.

(84) **Designated States** (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, CV,
GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST,
SZ, TZ, 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,

(54) **Title:** BLAZED GRATING FORMATION BY STAIRCASE ETCH

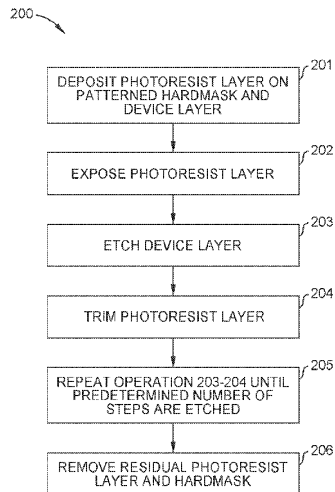


FIG. 2

(57) **Abstract:** Embodiments herein are generally directed to methods of forming waveguide structures with blazed gratings. The method includes depositing a photoresist layer on a patterned hardmask disposed over a device layer or a substrate, exposing the photoresist layer to produce a plurality of photoresist segments, etching the device layer or the substrate to produce at least one step, the at least one step forming a blazed grating, trimming the plurality of photoresist segments horizontally, and removing the plurality of photoresist segments and the patterned hardmask. The method may further include repeating steps to produce a second step and a third step of the blazed grating.

LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,
SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

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