

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
19 July 2007 (19.07.2007)

PCT

(10) International Publication Number
WO 2007/081959 A3

(51) International Patent Classification:
G02C 7/06 (2006.01)

(21) International Application Number:
PCT/US2007/000549

(22) International Filing Date: 10 January 2007 (10.01.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/757,382 10 January 2006 (10.01.2006) US
60/759,814 19 January 2006 (19.01.2006) US

(71) Applicant (for all designated States except US): **E-VISION, LLC** [US/US]; 2840 Hershberger Road, Suite A, Roanoke, VA 24017 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HADDOCK, Joshua, N.** [US/US]; 17 Church Avenue, SW, Apt. 202, Roanoke, VA 24011 (US). **KOKONASKI, William**

[US/US]; 1807 44th Street Court, NW, Gig Harbor, WA 98335 (US). **BLUM, Ronald, D.** [US/US]; 5320 Silver Fox Road, Roanoke, VA 24018 (US). **IYER, Venkatramani, S.** [US/US]; 1932 Summerfield Drive, Roanoke, VA 24012 (US). **DUSTON, Dwight, P.** [US/US]; 59 Fairlane, Laguna Niguel, CA 92677 (US).

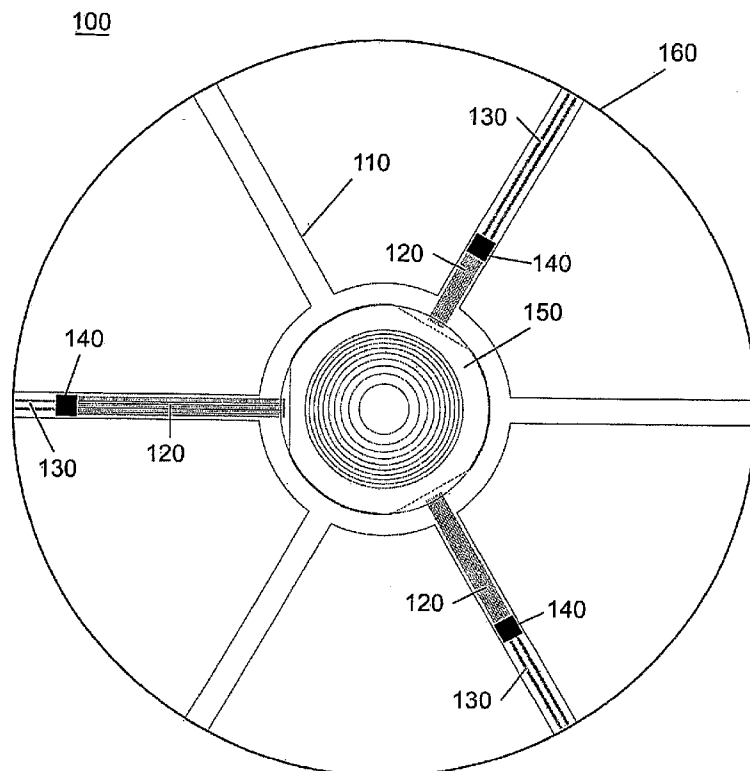
(74) Agent: **LEVI, Guy**; Pearl Cohen Zedek Latzer, LLP, 1500 Broadway, 12th Floor, New York, NY 10036 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, 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, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: AN IMPROVED DEVICE AND METHOD FOR MANUFACTURING AN ELECTRO-ACTIVE SPECTACLE LENS INVOLVING A MECHANICALLY FLEXIBLE INTEGRATION INSERT



(57) Abstract: An improved device and method for manufacturing electro-active spectacle lenses comprising electronic, electro-active optical, and bulk refractive optical elements is presented. In this method, electronic and electro-active optical elements are mounted to an optically transparent and mechanically flexible integration insert which is separate from any bulk refractive optical element(s). This method is advantageous for the manufacture of such spectacle lenses in that it allows for the mass production of many of the individual elements and enables the integration of the insert with the bulk refractive optical element(s) by multiple means. One such approach involves attaching the insert with a transparent adhesive to a rigid optical substrate and then encapsulating it by means of surface casting. Alternatively, the insert may be placed between the surfaces of a mold filled with an optical resin and encapsulated within the bulk refractive element as the resin is cured.



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,
RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments*

Published:

— *with international search report*

(88) Date of publication of the international search report:

8 May 2008