



(51) International Patent Classification:

B32B 37/00 (2006.01) *G02F 1/1333* (2006.01)
B60J 3/04 (2006.01) *G02F 1/1334* (2006.01)
G02F 1/15 (2006.01)

(21) International Application Number:

PCT/IL2015/050461

(22) International Filing Date:

4 May 2015 (04.05.2015)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/990,120 8 May 2014 (08.05.2014) US

(71) Applicant: **GAUZY LTD** [IL/IL]; 14th Ha'tehiya St,
6816914 Tel Aviv (IL).

(72) Inventors: **LOFER, Adrian**; 31 Avraham Keren Street,
4420831 Kfar Saba (IL). **PESO, Eyal**; 50/2 Raines Str,
6458741 Tel Aviv (IL). **DOBRENKO, Dimitri**; 22
Borochoy Str, 4343311 Raanana (IL). **ASULIN, Yair**; 28
Motzkin St., 4331414 Raanana (IL).

(74) Agent: **BRESSLER, Eyal**; Dr. Eyal Bressler LTD., 11
Tuval St, 5252226 Ramat Gan (IL).

(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, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, 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, 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, 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, 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, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

Published:

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

[Continued on next page]

(54) Title: DEVICE FOR PRODUCING AND TESTING ELECTRICAL SWITCHABLE GLASSES AND METHOD OF DOING THE SAME

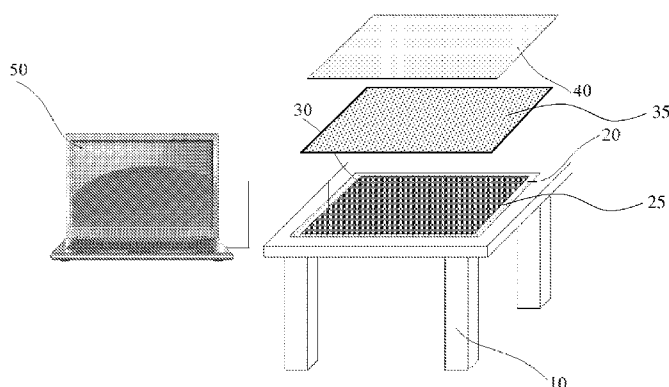


Fig. 2

(57) Abstract: Electrical switchable glasses production comprising the steps of: (a) providing a first and second cover glass; (b) providing a PDLC or other electrically switchable film; (c) providing a first and second layer of adhesive interlayer; (d) providing a PDLC inspection station further comprising: (i) a levelled-up table; (ii) means for inspecting properties of the PDLC film and/or glasses selected from the group consisting of electric properties, optical properties, mechanical properties and any combination thereof; (e) placing the first cover glass onto the levelled-up table; (f) spreading a first layer of adhesive interlayer (g) spreading the PDLC film over the previously placed adhesive interlayer; (h) spreading a second layer of adhesive interlayer; (i) covering the PDLC film by means of the second cover glass; (j) laminating the PDLC film between the first and second cover glasses; and (k) inspecting the glass properties by means of the PDLC inspection station before and after laminating the PDLC film.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) **Date of publication of the international search report:**
30 December 2015

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL 15/50461

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - B32B 37/00; B60J 3/04; G02F 1/15, 1/1333, 1/1334 (2015.01)

CPC - B32B 37/00; B60J 3/04; G02F 1/15, 1/1333, 1/1334

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8): B32B 37/00; B60J 3/04; G02F 1/15, 1/1333, 1/1334 (2015.01)

CPC: B32B 37/00; B60J 3/04; G02F 1/15, 1/1333, 1/1334

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

IPC(8): B32B 37/00; B60J 3/04; G02F 1/15, 1/1333, 1/1334 (2015.01); CPC: B32B17/00, 17/06, 37/00; G02F 1/01, 1/0102, 1/13, 1/15, 1/1306, 1/133, 1/1333, 1/1334, 1/1335, 1/135, 1/1351; B60J 3/04; USPC: 349/16, 19, 33, 41, 86, 104; 359/600, 614 (text search)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PatBase; PubWEST; Google

Search Terms Used: polymer dispersed liquid crystal, pdlc, window, skylight, glass, two, second, switch, electric, electronic, level, table, support, platform, inspect, test, liquid crystal, film, layer, substrate, pane, extend, extension, bars, support, tubes, rods, bars, extenders

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y -- A	US 6,982,178 B2 (LECAIN et al.) 03 January 2006 (03.01.2006), entire document especially Figs 4-5, 18-20; col 17, lns 57-col 18, ln 37; col 19, lns 49-59; col 27, lns 7-9; col 27, ln 9-col 28, ln 14	1-4, 17, 18, 20, 24-27, 39, 40, 46, 47 ----- 5-16, 19, 21-23, 28-38, 41-45
Y -- A	US 5,459,594 A (NAKANISHI et al.) 17 October 1995 (17.10.1995), entire document especially col 1, lns 30-45; col 2, lns 63-67; col 3, lns 6-19	1-4, 17, 18, 20, 24-27, 39, 40, 46, 47 ----- 5-16, 19, 21-23, 28-38, 41-45
Y -- A	US 2012/0307337 A1 (BARTUG et al.) 06 December 2012 (06.12.2012), entire document especially Fig 4; paras [0020]-[0024], [0026], [0028]-[0029]	1-4, 17, 18, 20, 24-27, 39, 40, 46 ----- 5-16, 19, 21-23, 28-38, 41-45
Y -- A	US 2012/0169987 A1 (LI et al.) 05 July 2012 (05.07.2012), entire document especially paras [0015]-[0019]	1-4, 17, 18, 20, 24-27, 39, 40, 46 ----- 5-16, 19, 21-23, 28-38, 41-45
Y	US 4,934,423 A (WITHROW) 19 June 1990 (19.06.1990), entire document especially Fig 1; col 2, lns 42-46; col 3, lns 53-56	2, 25



Further documents are listed in the continuation of Box C.



* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

30 September 2015 (30.09.2015)

Date of mailing of the international search report

02 NOV 2015

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-8300

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL 15/50461

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2013/0272833 A1 (DUNCAN et al.) 17 October 2013 (17.10.2013), entire document especially paras [0009]-[0015], [0047]-[0049]	4, 27
Y — A	US 20130321744 A1 (LIN et al.) 05 December 2013 (05.12.2013), entire document especially Abstract; para [0028]-[0029]	17, 18, 20, 39, 40 ----- 19, 21, 41-43
A	US 2013/0053468 A1 (LEE et al.) 28 February 2013 (28.02.2013), entire document especially paras [0060], [0071]	5-11, 28-34
A	US 2004/0222814 A1 (KIM et al.) 11 November 2004 (11.11.2004), entire document especially paras [0017]-[0019]	12-15, 22, 23, 35-37, 44, 45
A	DEPARTMENT of DEFENSE, "FILTER, POLARIZING (FOR OPTICAL INSTRUMENTS)." MIL-F-21424A(OS) 31 July 1975 (31.07.1975), pgs 3-7	1-47
A	US 2006/0046017 A1 (ADICKES) 02 March 2006 (02.03.2006), entire document especially para [0043]	1-47
A	US 2008/0218752 A1 (HAGLER) 11 September 2008 (11.09.2008), entire document especially para [0005]	1-47