



(51) International Patent Classification:

E06B 9/56 (2006.01) *E06B 9/68* (2006.01)
E06B 9/60 (2006.01) *E06B 9/322* (2006.01)

(21) International Application Number:

PCT/US2015/060823

(22) International Filing Date:

16 November 2015 (16.11.2015)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

104101854 20 January 2015 (20.01.2015) TW

(71) Applicant (for all designated States except AO, BF, BJ, BW, CF, CG, CM, DZ, EG, GA, GH, GM, GN, GQ, GW, KE, KM, LR, LS, LY, MA, MG, ML, MR, MW, MZ, NA, NE, NG, RW, SC, SD, SL, SN, ST, SZ, TD, TG, TN, TZ, UG, ZM, ZW): **TEH YOR CO., LTD.**; 129, 2nd Floor, Chung Shan N. Road, Sec. 1, Taipei, 10418 (TW).

(71) Applicant (for AO, BF, BJ, BW, CF, CG, CI, CM, DZ, EG, GA, GH, GM, GN, GQ, GW, KE, KM, LR, LS, LY, MA, MG, ML, MR, MW, MZ, NA, NE, NG, RW, SC, SD, SL, SN, ST, SZ, TD, TG, TN, TZ, UG, ZM, ZW only):

HUANG, Chien-fong [US/US]; 770 S. Epperson Drive, City Of Industry, CA 91748 (US).

(72) Inventors: **HUANG, Chin-tien**; 1 & 36, Lane 338, Sidong Road, Sansia District, New Taipei City, 23743 (TW). **YU, Fu-lai**; 1 & 36, Lane 338, Sidong Road, Sansia District, New Taipei City, 23743 (TW).

(74) Agent: **ROCHE, David, I.**; Baker & McKenzie LLP, 300 E. Randolph Street, Chicago, IL 60601 (US).

(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,

[Continued on next page]

(54) Title: WINDOW SHADE AND CONTROL SYSTEM THEREOF

100

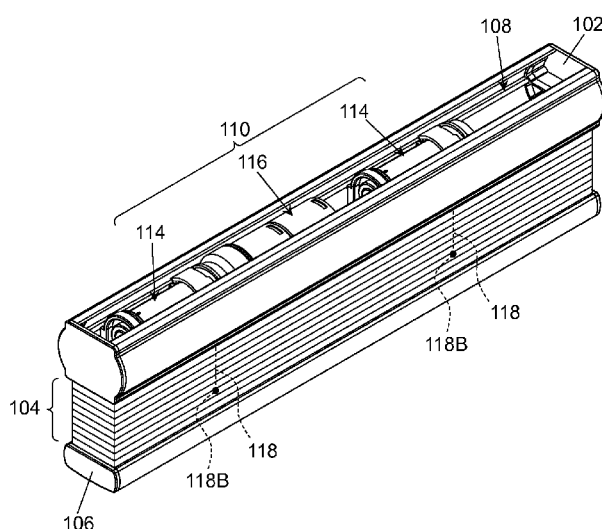


FIG. 1

(57) Abstract: A control system (110) for a window shade (100) includes a suspension member (118), a first and a second casing portion (120, 140), a rotary drum (122), a torsion spring (144), a coupling member (146), a transmission axle (112), a central gear (142), a ring (150) and planetary gears (148). The rotary drum is pivotally connected with the first casing portion, and is rotatable to wind and unwind the suspension member. The torsion spring can bias the rotary drum for winding the suspension member, and has a first and a second end respectively affixed with the second casing portion and a coupling member. The transmission axle is disposed through the torsion spring, and is rotationally coupled with the rotary drum and the central gear. The ring is affixed with the second casing portion and has protruding teeth. The planetary gears are pivotally supported by the coupling member, and are respectively meshed with the central gear and the teeth of the ring.



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).

Published:

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

Declarations under Rule 4.17:

- *of inventorship (Rule 4.17(iv))*