



- (51) International Patent Classification:
B66B 1/24 (2006.01) *B66B 1/28* (2006.01)
- (21) International Application Number:
PCT/US2014/040568
- (22) International Filing Date:
2 June 2014 (02.06.2014)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/829,996 31 May 2013 (31.05.2013) US
13/952,528 26 July 2013 (26.07.2013) 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, 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, LT, 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, 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).

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))

(88) Date of publication of the international search report:
11 June 2015

(54) Title: SYSTEM HAVING MULTIPLE CABS IN AN ELEVATOR SHAFT AND CONTROL METHOD THEREOF

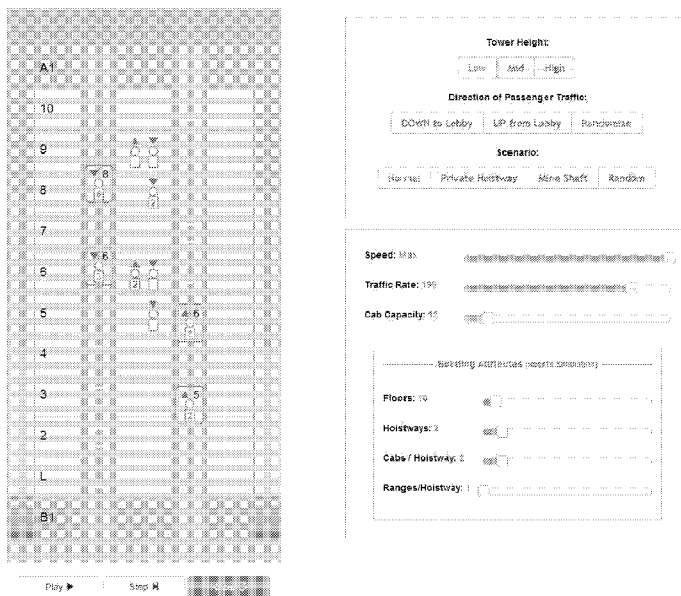


FIG. 17

(57) Abstract: An elevator system which utilizes a plurality of independently moving cabs in each elevator shaft. The lower cabs are connected to spatially separated counterweights in order to prevent interference between cables, pulleys and counterweights. The top cab may be connected to one or two counterweights by connection points on the roof of the cab. The cabs are mounted on tracks, to guide each cab through the elevator shaft. The system includes a motor attached to each of the cabs by lift cables to facilitate the independent movement of all cabs. Existing buildings can be retrofit for compatibility with the present invention. A system and method for controlling the motions of all cabs comprising determining and selecting an optimal cab and a best hoistway range to service passenger requests.

WO 2014/194330 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 14/40568

<p>A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - B66B 1/24 (2015.01); B66B 1/28 (2015.01) CPC - B66B1/18 According to International Patent Classification (IPC) or to both national classification and IPC</p>																	
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) CPC: B66B1/18; IPC(8): B66B 1/24 (2015.01); B66B 1/28 (2015.01); USPC: 187/247</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched CPC: B66B1/2466, B66B11/0095, B66B1/34, B66B1/3415, B66B1/18, B66B20/00, B66B1/3446; USPC: 187/247, 187/257, 187/254, 187/251, 187/249, 187/391 (keyword limited; terms below)</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PatBase; Google Scholar Search Terms: elevator, car, cab, hoist, shaft, control, admin, manage, computer, request, floor, level, service, direction, travel, up, down, optimum, optimal, best, select, choose</p>																	
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X -- Y</td> <td>US 2010/0282543 A1 (HSU et al.) 11 November 2010 (11.11.2010), entire document, especially abstract and para [0004], [0015]-[0021], [0023]-[0025], [0027], [0029], [0031]-[0034], Fig. 1, Fig. 2, Fig. 3, Fig. 6.</td> <td>21-22 ----- 1-20, 23</td> </tr> <tr> <td>Y</td> <td>US 2012/0012427 A1 (KOSTKA et al.) 19 January 2012 (19.01.2012), entire document, especially abstract and para [0008], [0011], [0025]-[0026], [0039]-[0040], [0043], [0045]-[0048], Fig. 3, claim 28.</td> <td>1-20, 23</td> </tr> <tr> <td>A</td> <td>US 2010/0078266 A1 (CHOI) 01 April 2010 (01.04.2010), entire document.</td> <td>1-23</td> </tr> <tr> <td>A</td> <td>US 2003/0217893 A1 (DUNSER et al.) 27 November 2003 (27.11.2003), entire document.</td> <td>1-23</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X -- Y	US 2010/0282543 A1 (HSU et al.) 11 November 2010 (11.11.2010), entire document, especially abstract and para [0004], [0015]-[0021], [0023]-[0025], [0027], [0029], [0031]-[0034], Fig. 1, Fig. 2, Fig. 3, Fig. 6.	21-22 ----- 1-20, 23	Y	US 2012/0012427 A1 (KOSTKA et al.) 19 January 2012 (19.01.2012), entire document, especially abstract and para [0008], [0011], [0025]-[0026], [0039]-[0040], [0043], [0045]-[0048], Fig. 3, claim 28.	1-20, 23	A	US 2010/0078266 A1 (CHOI) 01 April 2010 (01.04.2010), entire document.	1-23	A	US 2003/0217893 A1 (DUNSER et al.) 27 November 2003 (27.11.2003), entire document.	1-23
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<p>Date of the actual completion of the international search 03 March 2015 (03.03.2015)</p>		<p>Date of mailing of the international search report 13 APR 2015</p>															
<p>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. 571-273-3201</p>		<p>Authorized officer: Lee W. Young</p> <p>PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774</p>															