(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
28 August 2025 (28.08.2025)

WIPO | PCT

(10) International Publication Number
WO 2025/177011 A1

(51) International Patent Classification:
E04B 1/04 (2006.01) *E04C 5/08* (2006.01)
E04B 5/04 (2006.01) *E04C 5/10* (2006.01)
E04C 3/20 (2006.01) *E01C 11/14* (2006.01)
E04C 3/22 (2006.01) *E04B 1/61* (2006.01)
E04C 5/01 (2006.01)

(21) International Application Number:
PCT/GB2025/050357

(22) International Filing Date:
24 February 2025 (24.02.2025)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2402520.7 22 February 2024 (22.02.2024) GB

(71) Applicant: **PRAETER ENGINEERING LIMITED** [GB/GB]; PO Box 67091, London Greater London SW2 9LD (GB).

(72) Inventors: **LITTLEJOHNS, Tristan**; c/o Praeter Engineering Limited, PO Box 67091, London Greater London SW2 9LD (GB). **NADARAJAH, Surendran**; c/o Praeter Engineering Limited, PO Box 67091, London Greater London SW2 9LD (GB).

(74) Agent: **MURGITROYD & COMPANY**; Murgitroyd House, 165-169 Scotland Street, Glasgow Strathclyde G5 8PL (GB).

(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,

(54) Title: MODULAR CONCRETE BUILDING SYSTEM

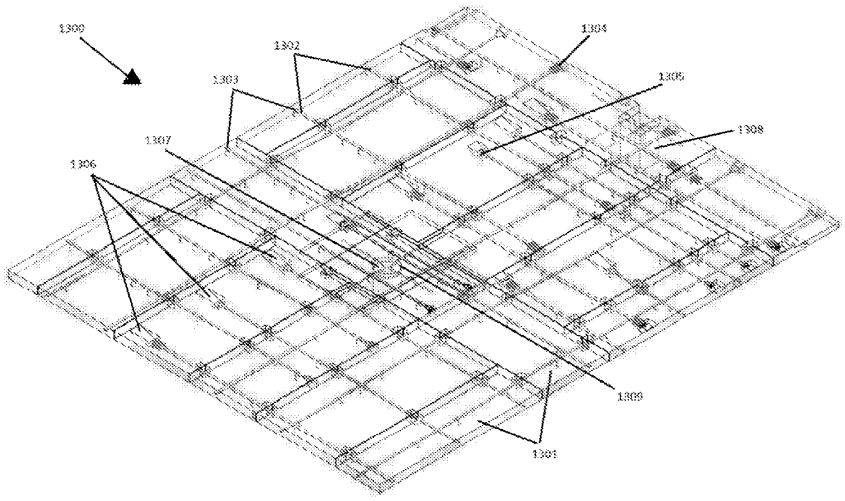


Figure 13

(57) Abstract: The is provided a method of assembling a modular concrete building component. The modular concrete building component may comprise two or more pre-cast concrete slabs (100), wherein each pre-cast concrete slab (100) may comprise a duct (112) extending through the pre-cast concrete slab. Wherein the method may comprise positioning a first pre-cast concrete slab adjacent to a second pre-cast concrete slab such that the duct of the first pre-cast concrete slab is positioned proximate the duct of the second pre-cast concrete slab to provide an extended duct; threading a strand through the extended duct; and tensioning the strand (740). The duct of each pre-cast concrete slab may extend into a coupling cavity (720) located at a first side of said pre-cast concrete slab. The method may further comprise positioning the first pre-cast concrete slab adjacent to the second pre-cast concrete slab such that a coupling cavity (720) of the first pre-cast concrete slab is aligned with a coupling cavity of the second pre-cast concrete slab to provide an extended

WO 2025/177011 A1

[Continued on next page]

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, UY, 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, 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))*

coupling cavity into which the duct of the first pre-cast concrete slab and the duct of the second pre-cast concrete slab extends. There is further provided a modular concrete building component. By the above method, post-tensioning may be used to provide continuity to the structure without the need for further reinforcement.