

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

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
03 March 2022 (03.03.2022)



(10) International Publication Number  
**WO 2022/045983 A1**

(51) International Patent Classification:

*F16B 35/04* (2006.01) *E04B 1/48* (2006.01)  
*F16B 21/12* (2006.01)

(21) International Application Number:

PCT/SG2021/050514

(22) International Filing Date:

27 August 2021 (27.08.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10202008263P 27 August 2020 (27.08.2020) SG

(71) Applicant: **STONEHAVEN STRUCTURES PTE LTD**  
[SG/SG]; 33 Ubi Avenue 3, #08-28 Vertex, Singapore  
408868 (SG).

(72) Inventor: **VEDANAIGAM, Noah, Samuel**; c/o Stone-  
haven Structures Pte Ltd, 33 Ubi Avenue 3, #08-28 Vertex,  
Singapore 408868 (SG).

(74) Agent: **NG, Bingxiu Edward**; Marks & Clerk Singapore  
LLP, Tanjong Pagar Post Office, P.O. Box 636, Singapore  
910816 (SG).

(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, DJ, DK, DM, DO,  
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,  
HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN,  
KP, KR, KW, 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, ST, SV, SY, TH, TJ, TM, TN,  
TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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).

Published:

- with international search report (Art. 21(3))
- in black and white; the international application as filed  
contained color or greyscale and is available for download  
from PATENTSCOPE

(54) Title: STRUCTURAL FASTENER FOR CONSTRUCTION STRUCTURES

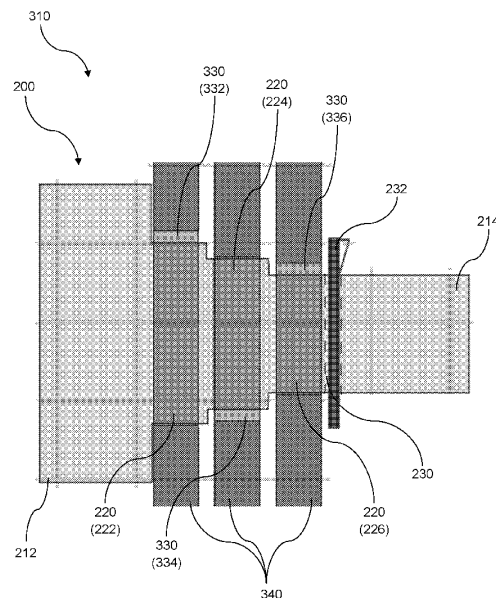


Figure 3C

(57) Abstract: The present disclosure generally relates to a structural fastener (200) for fastening a connection (310) between construction structures (320). The structural fastener (200) comprises: an elongated body (210) comprising a plurality of stepped sections (220), each stepped section (220) defining a cross-sectional diameter; and the cross-sectional diameters decreasing along the stepped sections (220) from a head end portion (212) to a tail end portion (214) of the elongated body (210), wherein the structural fastener (200) is configured to insert into the connection (310) beginning from the tail end portion (214); and wherein the stepped sections (220) are arranged to engage with respective sets of aligned connection holes (330) of the construction structures (320), each set of aligned connection holes (330) having hole diameters corresponding to the cross-sectional diameters of the respective stepped section (220).

WO 2022/045983 A1