

(51) International Patent Classification:
E04B 2/74 (2006.01)(21) International Application Number:
PCT/US2014/000078(22) International Filing Date:
14 February 2014 (14.02.2014)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/850,931 26 February 2013 (26.02.2013) US

(72) Inventor; and

(71) Applicant : TRELA, Richard, Steven [US/US]; 625 Island Place, Tampa, FL 33602 (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, 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).

Declarations under Rule 4.17:

- as to the identity of the inventor (Rule 4.17(i))
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

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:
12 May 2016

(54) Title: AN APPARATUS FOR RAPIDLY ERECTING A STABLE STRUCTURE

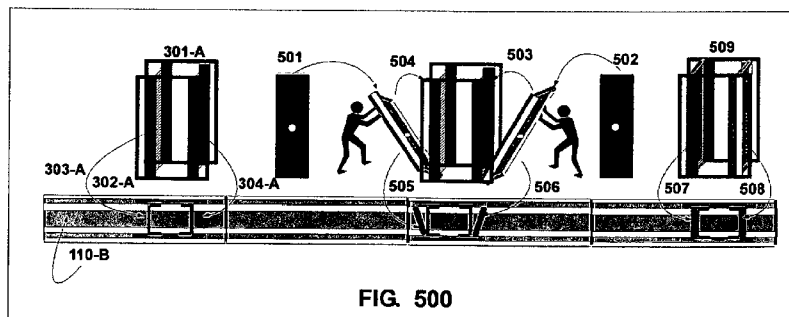


FIG. 500

(57) Abstract: The presented inventive subject matter discloses a rapid and tool-free construction method and apparatus for combining the main construction steps of framing, wall-paneling and finish steps into one simultaneous action without the need for tools, materials handling equipment, extensive training or experience by the construction crew. The presented inventive subject matter, described herein, also discloses a new rapid system and method of constructing many types of useful structures of "permanent quality and stability" without the need for tools, scaffolding, cranes or other materials handling equipment to construct. The presented inventive subject matter also outlines an assembly facilitating base, capping channel track layout and a repetitive action system of construction that enables unskilled assemblers to construct high-quality structures without previous construction experience. The inventive subject matter further comprises an innovative system of components that are designed to interrelate in an off-set and counterbalancing manner that effectively distributes structural component weight and force in a way that favorably assists in the ease of assembly, and in the creation of an extremely stable final structural assembly not before realized in other rapidly deployable systems of construction.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US14/00078

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - E04B 2/74 (2016.01)

CPC - E04B 2/74, 2/7437

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): E04B 2/74, 2/76, 2/78, 2/80, 2/82 (2016.01)

CPC: E04B 2/74, 2/7407, 2/7437, 2/76, 2/761, 2/762, 2/78, 2/80, 2/82, 2002/7487; USPC: 52/127.1, 239; 211/187

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

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

PatSeer (US, EP, WO, JP, DE, GB, CN, FR, KR, ES, AU, IN, CA, INPADOC Data); Google; Google Scholar; EBSCO; IP.com; keywords: expand, stretch, flexible, board, panel, track, corner, frame, track

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,748,997 B2 (FRICANO N et al.) June 15, 2004; figures 1, 3; column 4, lines 10-15, 30-40	1, 1a-1c, 2, 3a-3c, 17, 17a-17d
---		---
Y		1d, 2a, 3
Y	US 2007/0283642 A1 (SUROWIECKI MF et al.) December 13, 2007; figure 3	1d, 2a, 3
E, X	US 2015/0233137 A1 (TRELA RS) August 20, 2015; entire document	1, 1a-1d, 2, 2a, 3, 3a-3c, 17, 17a-17d
A	US 6,112,485 A (BEYER PJ et al.) September 5, 2000; entire document	1, 1a-1d, 2, 2a, 3, 3a-3c, 17, 17a-17d
A	US 2009/0313928 A1 (MONTGOMERY JC) December 24, 2009; entire document	1, 1a-1d, 2, 2a, 3, 3a-3c, 17, 17a-17d
A	US 2010/0018141 A1 (KELLY KP) January 28, 2010; entire document	1, 1a-1d, 2, 2a, 3, 3a-3c, 17, 17a-17d

☐ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent but published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"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	

Date of the actual completion of the international search 29 February 2016 (29.02.2016)	Date of mailing of the international search report 11 MAR 2016
Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US14/00078

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☒ Claims Nos.: 4-16
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.