

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL SEARCH REPORT**

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>P300553C</b>	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. <b>PCT/AU2018/000085</b>	International filing date ( <i>day/month/year</i> ) 31 May 2018	(Earliest) Priority Date ( <i>day/month/year</i> ) 02 June 2017
Applicant STUART, Michael Christopher		
This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau. This international search report consists of a total of <b>4</b> sheets. <input type="checkbox"/> It is also accompanied by a copy of each prior art document cited in this report.		
<p>1. <b>Basis of the report</b></p> <p>a. With regard to the <b>language</b>, the international search was carried out on the basis of:</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> The international application in the language in which it was filed.</p> <p style="margin-left: 20px;"><input type="checkbox"/> A translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).</p> <p>b. <input type="checkbox"/> This international search report has been established taking into account the <b>rectification of an obvious mistake</b> authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).</p> <p>c. <input type="checkbox"/> With regard to any <b>nucleotide and/or amino acid sequence</b> disclosed in the international application, see Box No. I.</p> <p>2. <input type="checkbox"/> <b>Certain claims were found unsearchable</b> (See Box No. II).</p> <p>3. <input type="checkbox"/> <b>Unity of invention is lacking</b> (See Box No. III).</p> <p>4. With regard to the <b>title</b>,</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> the text is approved as submitted by the applicant.</p> <p style="margin-left: 20px;"><input type="checkbox"/> the text has been established by this Authority to read as follows:</p> <p>5. With regard to the <b>abstract</b>,</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> the text is approved as submitted by the applicant.</p> <p style="margin-left: 20px;"><input type="checkbox"/> the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.</p> <p>6. With regard to the <b>drawings</b>,</p> <p>a. the figure of the <b>drawings</b> to be published with the abstract is Figure No. <b>19</b></p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> as suggested by the applicant.</p> <p style="margin-left: 20px;"><input type="checkbox"/> as selected by this Authority, because the applicant failed to suggest a figure.</p> <p style="margin-left: 20px;"><input type="checkbox"/> as selected by this Authority, because this figure better characterizes the invention.</p> <p>b. <input type="checkbox"/> none of the figures is to be published with the abstract.</p>		

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/AU2018/000085

## A. CLASSIFICATION OF SUBJECT MATTER

**E02D 5/80 (2006.01) E04H 12/22 (2006.01) E01F 9/60 (2016.01) E02D 27/50 (2006.01) B63B 21/24 (2006.01)**  
**E04C 5/12 (2006.01)**

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)

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)

Databases: EPODOC, WPIAP, PATENW, Google Patents, TXTE (cluster)

IPC/CPC: E02D5/[80,803], E04H12/[22,2215], E01F9/[60,685], B63B21/24, E04C5/12, E02D27/[02, 42,50].

Keywords: FOUNDATION, GROUND, STAKE, ANCHOR, MULTI, PLURAL, MEMBER, LEG, PUSH, EXPAND, ROTATE, DRIVE, CONCRETE, SLEEVE, HAMMER or the like in various combinations.

Cited/Citing of relevant documents.

Inventor/Applicant name search conducted on Espacenet, AusPat, and internal databases provided by IP Australia.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Documents are listed in the continuation of Box C		



Further documents are listed in the continuation of Box C



See patent family annex

* Special categories of cited documents:		
"A" document defining the general state of the art which is not considered to be of particular relevance	"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	
"E" earlier application or patent but published on or after the international filing date	"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	
"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)	"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	
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	
"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  
4 July 2018

Date of mailing of the international search report  
04 July 2018

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INTERNATIONAL SEARCH REPORT C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		International application No. <b>PCT/AU2018/000085</b>
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4189879 A (PATTERSON) 26 February 1980 Fig 1, 7, 8, 9; Column 1, 6	1 - 11, 13 - 23
X	US 3512319 A (PIACENTINO) 19 May 1970 Fig 1, 2, 5, 11, 13, 14; Column 3	1, 4 - 11, 13 - 16, 22, 23
X	US 4593500 A (WATSON) 10 June 1986 Fig 1b, 2, 3, 6, 7; Column 1	1 - 3, 5, 7 - 9, 13 - 23
X	US 1907759 A (DURBIN) 09 May 1933 Fig 1, 2; Page 1	1, 7 - 9, 12, 14, 16 - 21, 23
X	WO 2013/114055 A1 (COTILLON) 08 August 2013 Fig 1, 2, 3, 4, 5; Page 1, 13, 19	1, 4 - 11, 13 - 18, 22, 23
X	US 2002/0014570 A1 (JENNY) 07 February 2002 Fig 2, 4; [0023]	1, 4, 6, 15, 16, 23
X	US 5899640 A (YEH) 04 May 1999 Fig 1, 2; Column 4	1 - 6, 9, 13 - 16, 22, 23
A	EP 0844336 A2 (KNIGHT et al.) 27 May 1998 Column 8, 10	15, 19 - 21, 23

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/AU2018/000085**

This Annex lists known patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

<b>Patent Document/s Cited in Search Report</b>		<b>Patent Family Member/s</b>	
<b>Publication Number</b>	<b>Publication Date</b>	<b>Publication Number</b>	<b>Publication Date</b>
US 4189879 A	26 February 1980	US 4189879 A	26 Feb 1980
US 3512319 A	19 May 1970	US 3512319 A	19 May 1970
US 4593500 A	10 June 1986	US 4593500 A	10 Jun 1986
US 1907759 A	09 May 1933	US 1907759 A	09 May 1933
WO 2013/114055 A1	08 August 2013	WO 2013114055 A1	08 Aug 2013
		FR 2986542 A1	09 Aug 2013
		FR 2986542 B1	14 Feb 2014
US 2002/0014570 A1	07 February 2002	US 2002014570 A1	07 Feb 2002
		EP 1176258 A1	30 Jan 2002
US 5899640 A	04 May 1999	US 5899640 A	04 May 1999
EP 0844336 A2	27 May 1998	EP 0844336 A2	27 May 1998

**End of Annex**

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

Form PCT/ISA/210 (Family Annex)(January 2015)