

PATENT COOPERATION TREATY

From the:
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing (*day/month/year*)
04 July 2018

Applicant's or agent's file reference
P300553C

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/AU2018/000085

International filing date (*day/month/year*)
31 May 2018

Priority date (*day/month/year*)
02 June 2017

International Patent Classification (IPC) or both national classification and IPC
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)

Applicant
STUART, Michael Christopher

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA
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Date of completion of this opinion
4 July 2018

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Box No. I **Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of:
 - The international application in the language in which it was filed
 - A translation of the international application into, , which is the language of a translation furnished for the purposes of international search (under Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account **the rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 15, 19 – 21 & 23	YES
	Claims 1 - 14, 16 – 18 & 22	NO
Inventive step (IS)	Claims None	YES
	Claims 1 - 23	NO
Industrial applicability (IA)	Claims 1 - 23	YES
	Claims None	NO

2. CITATIONS AND EXPLANATIONS:

CITATIONS

D1: US 4189879 A (PATTERSON) 26 February 1980
D2: US 3512319 A (PIACENTINO) 19 May 1970
D3: US 4593500 A (WATSON) 10 June 1986
D4: US 1907759 A (DURBIN) 09 May 1933
D5: WO 2013/114055 A1 (COTILLON) 08 August 2013
D6: US 2002/0014570 A1 (JENNY) 07 February 2002
D7: US 5899640 A (YEH) 04 May 1999
D8: EP 0844336 A2 (KNIGHT et al.) 27 May 1998

NOVELTY (N)

NOVELTY (NO) Claims 1 - 14, 16 – 18, 22

Claims 1 - 14, 16 – 18, 22 are not novel and therefore do not comply with PCT Article 33(2)

With regard to **claims 1 & 16,**

D1 discloses a foundation apparatus (and method of using therein) including: a body (**Fig 7 item 78**); a shaft extending from the body (**Fig 7 item 68**); and a plurality of legs (**Fig 7 item 82**) pivotally connected to the body, wherein the plurality of legs are movable from a stowed position (**Fig 7**) to a deployed position (**Fig 8**) in response to a driving force being applied to the foundation apparatus such that at least a portion of the shaft is driven into a ground surface whilst the plurality of legs engage the ground surface and splay outwardly relative to the shaft (**Column 6 Line 10 – 26**).

D2 discloses a foundation apparatus (and method) including: a body (**Fig 13 item 20**); a shaft (**Fig 13 item 12**); and a plurality of legs (**Fig 13 item 22**) pivotally movable from a stowed position (**Fig 13**) to a deployed position (**Fig 14**) in response to a driving force such that at least a portion of the shaft is driven into a ground surface whilst the plurality of legs engage the ground surface and splay outwardly relative to the shaft (**Column 3 Line 45 - 47**).

D3 discloses a foundation apparatus (and method) including: a body (**Fig 1b item 103**); a shaft (**Fig 1b item 53**); and a plurality of legs (**Fig 1b item 105**) pivotally movable from a stowed position (**Fig 2**) to a deployed position (**Fig 3**) in response to a driving force such that at least a portion of the shaft is driven into a ground surface whilst the plurality of legs engage the ground surface and splay outwardly relative to the shaft (**Column 1 Line 66 - 68**).

D4 discloses a foundation apparatus (and method) including: a body (**Fig 1 item 5**); a shaft (**Fig 1 item 4**); and a plurality of legs (**Fig 1 item 9**) pivotally movable from a stowed position (**Fig 1**) to a deployed position (**Fig 2**) in response to a driving force such that at least a portion of the shaft is driven into a ground surface whilst the plurality of legs engage the ground surface and splay outwardly relative to the shaft (**Page 1 Line 63 - 84**).

D5 discloses a foundation apparatus (and method) including: a body (**Fig 1 item 37**); a shaft (**Fig 2 item 10**); and a plurality of legs (**Fig 1 item 4A, 4B**) pivotally movable from a stowed position (**Fig 1**) to a deployed position (**Fig 3**) in response to a driving force such that at least a portion of the shaft is driven into a ground surface whilst the plurality of legs engage the ground surface and splay outwardly relative to the shaft (**Page 19 Line 3 – 5** see Espacenet translation Page 23 Paragraph 4).

D6 discloses a foundation apparatus (and method) including: a body (**Fig 2 item 28**); a shaft (**Fig 2 item 10**); and a plurality of legs (**Fig 2 item 34**) pivotally movable from a stowed position (**Fig 2**) to a deployed position (**Fig 4**) in response to a driving force such that at least a portion of the shaft is driven into a ground surface whilst the plurality of legs engage the ground surface and splay outwardly relative to the shaft **[0023]**.

D7 discloses a foundation apparatus (and method) including: a body (**Fig 1 item 61**); a shaft (**Fig 1 item 4**); and a plurality of legs (**Fig 1 item 62**) pivotally movable from a stowed position (**Fig 1**) to a deployed position (**Fig 2**) in response to a driving force such that at least a portion of the shaft is driven into a ground surface whilst the plurality of legs engage the ground surface and splay outwardly relative to the shaft (**Column 4 Line 24 – 37**).

With regard to **claims 2 & 3**, see **D1** Fig 7; **D3** Fig 1b; **D7** Fig 2.

With regard to **claims 4 & 6**, see **D1** Fig 7 item 72, 74; **D2** Fig 1 item 14, Fig 2 item 26; **D5** Fig 1 item 6, 20; **D6** Fig 2 item 14, 28; **D7** Fig 2 item 4, 41.

With regard to **claims 5 & 22**, see **D1** Fig 7 item 74; **D2** Fig 13; **D3** Fig 1b item 117; **D5** (translation) Page 13 Paragraph 2; **D7** Column 4 Line 41 - 46. The term configured has been construed as having the capability to be used with an electrically powered hammer tool.

With regard to **claims 7 - 8**, see **D1** Fig 7 item 86; **D2** Fig 5 item 34; **D3** Fig 1b item 109; **D4** Fig 2 item 2; **D5** Fig 5 item 42

With regard to **claim 9**, see **D1** Fig 7 item 84; **D2** Fig 2 item 24; **D3** Fig 1b item 107; **D4** Fig 1 item 3; **D5** Fig 1 item 80; **D7** Fig 1 connection between item 61 & 62.

With regard to **claims 10 - 11**, see **D1** Fig 9; **D2** Fig 2 item 24; **D5** Fig 4.

With regard to **claim 12**, see **D4** Fig 2 item 8.

With regard to **claim 13**, see **D1** Fig 7; **D2** Fig 11; **D3** Fig 6; **D5** Fig 1; **D7** Fig 1.

With regard to **claim 14**, see **D1** Fig 9 item 85; **D2** Fig 2 item 22; **D3** Fig 7, **D4** Fig 2 item 9; **D5** Fig 5; **D7** Fig 1.

With regard to **claim 17**, see **D1** Fig 1; **D3** Fig 2; **D4** Fig 1; **D5** Page 1;

With regard to **claim 18**; see **D1** Column 1 Line 13 – 15; **D3** Column 1 Line 5 – 8; **D4** Page 1 Line 1 – 5; **D5** Page 1.

NOVELTY (YES) Claims 15, 19 – 21, 23

Claims 15, 19 – 21 & 23 are novel and therefore comply with PCT article 33(2). None of the prior art discloses in combination with the claims they are appended to the features of claims 15, 19 – 21 & 23. The features that are not disclosed include: a mesh sleeve that is adapted to be coupled to at least a portion of the foundation apparatus and pouring a connecting material into the hole in order to connect the structure to at least a portion of the foundation apparatus.

INVENTIVE STEP (IS)

INVENTIVE STEP (NO) Claims 1 - 23

Claims 1 – 23 do not involve an inventive step and therefore do not comply with PCT Article 33(3).

Given the above novelty objection **claims 1 - 14, 16 – 18, 22** do not involve an inventive step.

Claims 15 & 23 do not involve an inventive step in light of either D1 to D7 individually.

Claims 19 – 21 do not involve an inventive step in light of either of D1, D3, D4 or D7 individually.

With regard to **claims 15, 19 – 21 & 23**

The claimed invention differs from the cited art in a mesh sleeve that is adapted to be coupled to at least a portion of the foundation apparatus and pouring a connecting material into the hole in order to connect the structure to at least a portion of the foundation apparatus.

However this difference resides only in what is merely a choice of one of several obvious known alternatives in the art and which would be available for use by the person skilled in the art (PSA).

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This choice provides the known benefit of stabilising the foundation apparatus, for example see D8 (Column 8 Line 8 – 10, Column 10 Line 7 – 23).

The specification describes no particular problem to be overcome which would act as a barrier in applying such a known alternative without an inventive solution, nor is such a solution described. Additionally the particular selection provides no new or surprising result. Therefore this is merely an obvious choice which the PSA would arrive at by a routine and non-inventive process.

INDUSTRIAL APPLICABILITY (IA)

The invention defined in the claims is considered to meet the requirements of Industrial Applicability under Article 33(4) of the PCT because it can be made by, or used in, industry.

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Box No. VIII Certain observations on the international application

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 16 is not clear because I cannot find an antecedent to *the ground engaging surface* when the claim is appended to claim 1. For the purpose of examination this has been considered to read “the shaft to be driven into the ground surface whilst the legs engage the *ground surface* and splay out relative to the shaft.