



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
03.09.2014 Bulletin 2014/36

(51) Int Cl.:
E02D 7/26 (2006.01) **E02D 7/28 (2006.01)**
E02D 7/20 (2006.01) **E21B 7/20 (2006.01)**

(43) Date of publication A2:
11.05.2011 Bulletin 2011/19

(21) Application number: **11155945.6**

(22) Date of filing: **04.04.2003**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

(30) Priority: **04.04.2002 NL 1020304**
24.07.2002 NL 1021143

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
03723499.4 / 1 497 503

(71) Applicant: **Gebr. Van Leeuwen Boringen B.V.**
3603 CV Maarssen (NL)

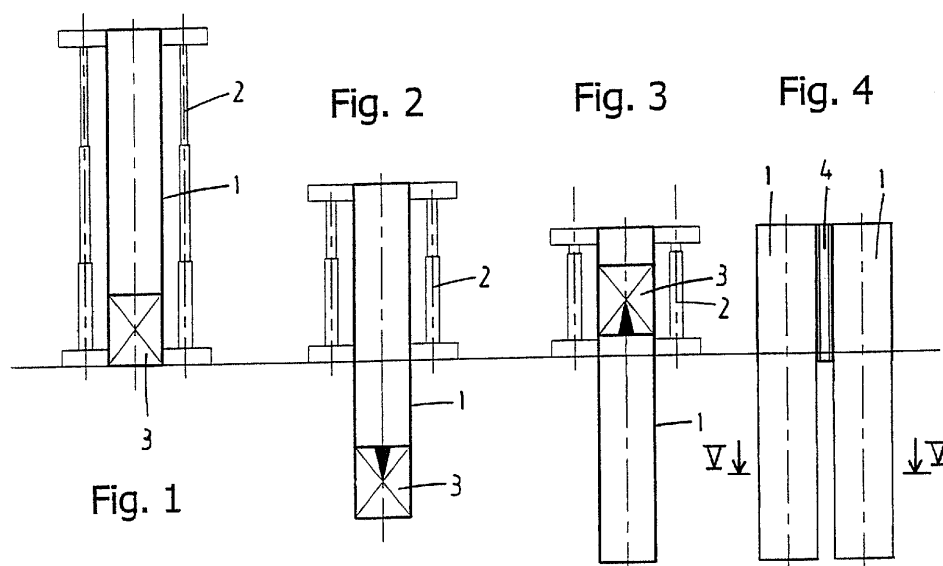
(72) Inventor: **Van Leeuwen, Marinus Teunis, sr.**
3481 LP, HARMELEN (NL)

(74) Representative: **Riemens, Roelof Harm et al**
Exter Polak & Charlouis B.V. (EP&C)
P.O. Box 3241
2280 GE Rijswijk (NL)

(54) **Method and system for placing at least one foundation element in the ground**

(57) Method for forming at least one foundation pile or deep wall in the ground, comprising the step of sinking one or more hollow foundation elements (1) into the ground with a substantially vertical orientation. The sinking of the foundation element (1) into the ground takes place during driving of a removable drilling head (3), which drilling head (3), during the sinking of the foundation element (1), extends at least partially below a bottom part of the foundation element (1), by means of excavat-

ing members, which can rotate with respect to the foundation element (1) and have radial dimensions which in particular are greater than or equal to external dimensions of the foundation element (1), in which the excavation members, at the same time as the foundation element (1) is being sunk, drills out earth beneath the said bottom part of the foundation element (1), and in which at least the drilling head (3), after the foundation element (1) has been sunk, is removed again from the ground.





EUROPEAN SEARCH REPORT

Application Number
EP 11 15 5945

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 046 205 A (ASAYAMA KINGO) 6 September 1977 (1977-09-06) * figures 1-7 *	1-5	INV. E02D7/26 E02D7/28 E02D7/20 E21B7/20
Y	----- EP 0 265 344 A1 (SOLETANCHE [FR]) 27 April 1988 (1988-04-27) * columns 3-8; figures 1-61 *	6,7	
X	----- FR 2 418 301 A (CEGEO CIE ETU GEOTECHNIQUES) 21 September 1979 (1979-09-21) * page 4, line 12 - page 8, line 16; figures 1-3 *	7-15	
Y	----- US 3 799 276 A (MATSUSHITA K ET AL) 26 March 1974 (1974-03-26) * abstract; figures 1-4 *	6,7	
X	----- DE 43 08 856 C1 (LEFFER STAHL & APP [DE]) 26 May 1994 (1994-05-26) * columns 2-3; figures 1-2 *	7,8, 10-12,14	
X	----- BE 1 002 952 A3 (SMET HUGO) 24 September 1991 (1991-09-24) * the whole document *	7-11,15	
A	----- BE 1 002 952 A3 (SMET HUGO) 24 September 1991 (1991-09-24) * the whole document *	1-15	TECHNICAL FIELDS SEARCHED (IPC) E02D E21B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 28 July 2014	Examiner Leroux, Corentine
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 11 15 5945

5

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

28-07-2014

10

15

20

25

30

35

40

45

50

55

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4046205	A	06-09-1977	NONE
EP 0265344	A1	27-04-1988	AU 592678 B2 18-01-1990
		AU 7999987 A	28-04-1988
		BR 8705631 A	31-05-1988
		CA 1277975 C	18-12-1990
		DE 265344 T1	24-11-1988
		DE 3769074 D1	08-05-1991
		EP 0265344 A1	27-04-1988
		FR 2605657 A1	29-04-1988
		IN 171369 A1	26-09-1992
		JP S63217016 A	09-09-1988
		NO 874393 A	25-04-1988
		US 4904119 A	27-02-1990
		ZA 8707914 A	26-04-1988
FR 2418301	A	21-09-1979	
US 3799276	A	26-03-1974	JP S4850514 A 17-07-1973
			JP S5245130 B2 14-11-1977
			US 3799276 A 26-03-1974
DE 4308856	C1	26-05-1994	NONE
BE 1002952	A3	24-09-1991	NONE

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82