



(11) **EP 2 319 992 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**22.08.2012 Bulletin 2012/34**

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

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

(21) Application number: **11155948.0**

(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 Harmelen B.V.**  
**3481 MC Harmelen (NL)**

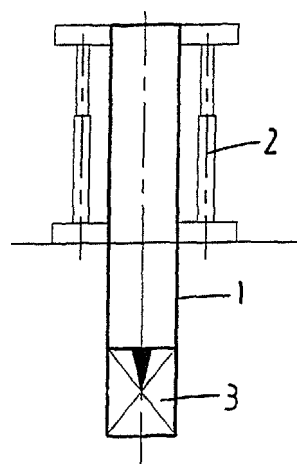
(72) Inventor: **Van Leeuwen, Marinus Teunis, sr.**  
**3481 LP, HARMELEN (NL)**

(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 excavating 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.

**Fig. 2**



**EP 2 319 992 A3**



## EUROPEAN SEARCH REPORT

Application Number  
EP 11 15 5948

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) * column 3; figures 1-6,17 *	1,4-8, 12-15	INV. E02D7/26 E02D7/28
X	EP 0 217 995 A2 (PACCAGNELLA & CO CELSO [IT]) 15 April 1987 (1987-04-15) * figure 2 *	1,2,4,8, 9,12-14	
X	DE 42 35 427 A (PREUSSAG STAHL AG) 28 April 1994 (1994-04-28) * abstract; claim 1; figure 1 * * column 1, lines 48-68 - column 3, lines 12-68 *	1-5,8,9, 12-15	
X	JP 2001 032274 A (KANSAI ELECTRIC POWER CO; KINKI CONCRETE INDUSTRY CO LTD; YOKOYAMA KIS) 6 February 2001 (2001-02-06) * the whole document *	1,2,4, 6-8, 12-14	
X	GB 2 002 047 A (LEFFER STAHL & APP) 14 February 1979 (1979-02-14) * abstract; figures 1-6,8,9 *	8,9, 11-14	TECHNICAL FIELDS SEARCHED (IPC)
X	US 4 637 758 A (TAMAKI HIROAKI [JP] ET AL) 20 January 1987 (1987-01-20) * columns 5-6; figure 6 *	1,2,4,5, 8,9	E02D
X	FR 2 418 301 A1 (CEGEO CIE ETU GEOTECHNIQUES [FR]) 21 September 1979 (1979-09-21) * figure 3 *	8,9,11, 12	
A	JP 60 088250 A (NISSAN MOTOR) 18 May 1985 (1985-05-18) * abstract *	10	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 18 July 2012	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	

1  
EPO FORM 1503 03.02 (P04C01)

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

EP 11 15 5948

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.

18-07-2012

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4046205	A	06-09-1977	NONE	
EP 0217995	A2	15-04-1987	AU 6076986 A EP 0217995 A2 IT 1200133 B	09-04-1987 15-04-1987 05-01-1989
DE 4235427	A	28-04-1994		
JP 2001032274	A	06-02-2001	JP 3468724 B2 JP 2001032274 A	17-11-2003 06-02-2001
GB 2002047	A	14-02-1979	CH 628941 A5 DE 2734185 A1 FR 2398846 A1 GB 2002047 A IT 1097980 B	31-03-1982 08-02-1979 23-02-1979 14-02-1979 31-08-1985
US 4637758	A	20-01-1987	NONE	
FR 2418301	A1	21-09-1979	NONE	
JP 60088250	A	18-05-1985	NONE	