



(11) **EP 2 233 592 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**16.02.2011 Bulletin 2011/07**

(51) Int Cl.:  
**C21B 7/12 (2006.01) F27D 3/15 (2006.01)**

(43) Date of publication A2:  
**29.09.2010 Bulletin 2010/39**

(21) Application number: **10150985.9**

(22) Date of filing: **18.01.2010**

(84) Designated Contracting States:  
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR  
HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL  
PT RO SE SI SK SM TR**

(30) Priority: **27.03.2009 GB 0905254**

(71) Applicant: **Siemens VAI Metals Technologies Ltd.  
Bournemouth International Airport  
Christchurch  
Dorset BH23 6EW (GB)**

(72) Inventor: **McDonald, Ian  
Middlesbrough, Cleveland TS7 9AR (GB)**

(74) Representative: **Morgan, Marc  
Siemens AG  
Postfach 22 16 34  
80506 München (DE)**

(54) **A taphole drill**

(57) A taphole drill is provided with a mounting arrangement including a jib arm which may be slewed about a primary pivot. The jib arm is pivoted itself to provide a first and a second limb and a control arm is included which is attached to the second of the limbs and the primary pivot. The control arm sets the angle of the first and second limbs as the arrangement is slewed. A pivoting link is provided to link the control arm to the primary pivot.

As rotation about the primary pivot occurs the link pivots to provide two pivoting positions for the control arm. This increases the angle between the first and second limbs and extends the arrangement until the drill is in a drilling position. Rotation in the opposite direction retracts the arm until the arrangement is in a parked position. This reduces the floor area taken up by the taphole drill.

**EP 2 233 592 A3**



## EUROPEAN SEARCH REPORT

Application Number  
EP 10 15 0985

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	KR 2003 0048813 A (POSCO [KR]) 25 June 2003 (2003-06-25) * figure 3 *	1-5	INV. C21B7/12 F27D3/15
A	WO 99/04044 A1 (WURTH PAUL SA [LU]; KREMER VICTOR [LU]; LONARDI EMILE [LU]; MALIVOIR P) 28 January 1999 (1999-01-28) * figures 1,2 * -----	1-5	
			TECHNICAL FIELDS SEARCHED (IPC)
			C21B F27D
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 4 January 2011	Examiner Gimeno-Fabra, Lluís
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			

3  
EPO FORM 1503 03.82 (P04C01)

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

EP 10 15 0985

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.

04-01-2011

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 20030048813 A	25-06-2003	NONE	
-----			
WO 9904044 A1	28-01-1999	AT 206767 T	15-10-2001
		AU 8806198 A	10-02-1999
		BR 9810889 A	26-09-2000
		CN 1263562 A	16-08-2000
		DE 59801701 D1	15-11-2001
		EP 0994971 A1	26-04-2000
		HK 1027599 A1	08-02-2002
		LU 90093 A2	18-01-1999
		US 6248288 B1	19-06-2001
-----			