

(11) **EP 2 236 675 A3**

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 01.01.2014 Bulletin 2014/01

(51) Int Cl.: **E01F 15/08** (2006.01)

(43) Date of publication A2: **06.10.2010 Bulletin 2010/40**

(21) Application number: 10159083.4

(22) Date of filing: 06.04.2010

(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
Designated Extension States:

AL BA ME RS

(30) Priority: 03.04.2009 FI 20095368

(71) Applicant: Rudus Betonituote Oy 00441 Helsinki (FI)

(72) Inventors:

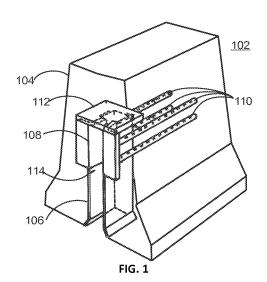
 Pietikäinen, Olli-Heikki 01900, Nurmijärvi (FI)

 Rönnblad, Göran 15500, Lahti (FI)

 Koivunen, Kari 27430, Panelia (FI)

(74) Representative: Kupiainen, Juhani Kalervo IPR Partners Oy Bulevardi 2-4 00120 Helsinki (FI)

- (54) Barrier comprising barrier elements and a method for connecting and disconnecting barrier elements to and from each other
- (57)The object of the invention is a method for connecting barrier elements (102) to and from each other and a barrier to be placed in a side of a roadway comprising of barrier elements (102). In particularly, the objective of the invention is a barrier element (102), in which an anchoring part (108) attached to the barrier element (102) with reinforcement parts (110) is formed to barrier element (102) so that the barrier element (102) extends over the top of the anchoring part (108) forming a shield for the anchoring part (108). Barrier elements of this type typically have a top-open groove, which in collision situation weakens the strength of the concrete end in environmental conditions, which contains humidity and temperature variations of the both sides of zero Celsius degree. In the solution according to the invention, the barrier elements (102) are connected together with a connecting member (116), which is placed in the anchoring part (108) through the slot part (106) provided to the barrier elements (102) and which is fastened to the anchoring part (108) with fastening means (114). The barrier elements (102) are easy to disconnect from each other by removing the fastening means (114), in which case the elements (102) can be exchanged or transferred and reattach.



EP 2 236 675 A3



EUROPEAN SEARCH REPORT

Application Number EP 10 15 9083

	DOCUMENTS CONSID	ERED TO BE RELEVANT					
Category	Citation of document with in of relevant pass	ndication, where appropriate, ages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)			
Х	EP 0 641 893 A1 (RA 8 March 1995 (1995- * the whole documer	03-08)	1-15	INV. E01F15/08			
Х	DE 23 31 168 A1 (BC 16 January 1975 (19	OFINGER PETER DIPL ING) 175-01-16)	1,3-6,8, 10,11, 13,15				
	* the whole documer	the whole document *					
Х	CO KG [DE]) 12 Apri	IFF BETON ROHR GMBH & l 1989 (1989-04-12) 12-47; figures 7-9 *	1,2,4,8, 11-15				
Х	FR 2 783 535 A1 (BU 24 March 2000 (2000 * the whole documer	JETUS SEORGES [FR]) D-03-24) Dt *	1,3,4,6				
				TECHNICAL FIELDS SEARCHED (IPC)			
				E01F			
	The present search report has	been drawn up for all claims	1				
	Place of search	Date of completion of the search	1	Examiner			
	Munich	20 November 2013	F1o	res Hokkanen, P			
C	ATEGORY OF CITED DOCUMENTS	T : theory or princip					
Y : part docu	icularly relevant if taken alone icularly relevant if combined with anot ument of the same category	after the filing da her D : document cited L : document cited f	E : earlier patent dooument, but published on, or after the filing date D : dooument cited in the application L : document cited for other reasons				
O : non	nological background -written disclosure rmediate document		& : member of the same patent family, corresponding document				

EPO FORM 1503 03.82 (P04C01)

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

EP 10 15 9083

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.

20-11-2013

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 0641893	A1	08-03-1995	AT DE EP ES	156548 T 59403623 D1 0641893 A1 2107095 T3	15-08-1997 11-09-1997 08-03-1995 16-11-1997
DE 2331168	A1	16-01-1975	DE US	2331168 A1 3980279 A	16-01-1975 14-09-1976
EP 0310754	A2	12-04-1989	DE EP	3733846 A1 0310754 A2	27-04-1989 12-04-1989
FR 2783535	A1	24-03-2000	NONE		

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