### (12)

## **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3: 02.12.2009 Bulletin 2009/49

(51) Int Cl.: **F41H 5/04** (2006.01)

(43) Date of publication A2: 23.09.2009 Bulletin 2009/39

(21) Application number: 09155487.3

(22) Date of filing: 18.03.2009

(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 TR

Designated Extension States:

AL BA RS

(30) Priority: 20.03.2008 IL 19036008

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#### (54) Ballistic armor

(57) A composite armor plate (10) for ballistic protection of a body against a threat, is provided, the plate comprising an inner, main armor layer (12) of high density pellets (18) in a binder matrix (26), and a front layer (11) adapted for facing the threat, each pellet having a domed front face (22) and a body portion (20) merging with the front face (22) along a perimeter line. The domed front face (22) has a juncture point (112) and is formed of sectors (108), each defined between two side edges (116) have the form of arcs and a portion of the perimeter line (106) extending between two spaced-apart points lying

thereon, and constituting the sector's base edge. Each side edge spans between the juncture point and one of the spaced apart points. The shape of each sector (108) is such that the intersection of the sector (108) and a first plane (P1) crossing said two side edges, has a form of a straight line extending therebetween, and the intersection of the sector (108) and a second plane (P2) crossing said base edge, has a form of a convexly curved line. The front layer (11) is made of a material other than the binder matrix and is bonded to at least the majority of the pellets (18) at the domed front faces (22) thereof.

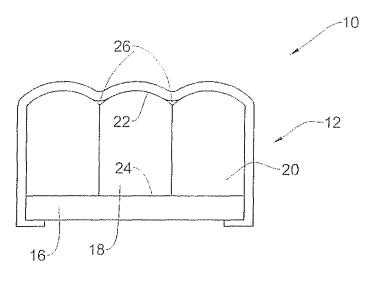


FIG. 1



# **EUROPEAN SEARCH REPORT**

Application Number EP 09 15 5487

T	Citation of decument with in			olovost.	OLARRIEDATION OF THE
Category	of relevant pass	ndication, where appropriate, ages		elevant claim	CLASSIFICATION OF THE APPLICATION (IPC)
Х,Р	EP 1 980 813 A2 (PL 15 October 2008 (20 * paragraphs [0025] * figures 2A-2D *		1-1	12	INV. F41H5/04
Υ	EP 1 734 332 A2 (PL 20 December 2006 (2 * the whole documen		1-1	12	
Y	US 2004/083880 A1 ( 6 May 2004 (2004-05 * paragraph [0090] * paragraph [0095] * figure 8 *	*	1-1	12	
A	GMBH & C [DE]) 27 September 2006 (	AUSS MAFFEI WEGMANN 2006-09-27) - paragraph [0022] *	1-1	.2	TECHNICAL FIELDS SEARCHED (IPC)
A	US 2003/167910 A1 ( 11 September 2003 ( * the whole documen		2,1	11-12	F41H
	The present search report has I	oeen drawn up for all claims			
	Place of search	Date of completion of the sear	ch		Examiner
	The Hague	23 October 20	09	Gex	-Collet, A
X : parti Y : parti docu	TEGORY OF CITED DOCUMENTS cularly relevant if taken alone cularly relevant if combined with anothent of the same category nological background	L : document o	nt document ng date cited in the ap ited for other	, but publis oplication reasons	

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

EP 09 15 5487

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23-10-2009

	1980813						1
EP 1		A2	15-10-2008	NON	E		
	1734332	A2	20-12-2006	US	2007034074	A1	15-02-200
JS 2	2004083880	A1	06-05-2004	AT	418058	T	15-01-2009
EP 1	1705453	A1	27-09-2006	DE :	102005013660	A1	28-09-200
JS 2	2003167910	A1	11-09-2003	AU CA EP JP TR WO	2003217635 2479242 1490648 2005520116 200402290 03077631	A1 A2 T T1	29-09-200 25-09-200 29-12-200 07-07-200 21-10-200 25-09-200

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