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(54) **DEVICE FOR SELECTED DEPLOYMENT OF A TIRE DEFLATOR**

(57) A device (100) for stopping an approaching target vehicle by deflating the vehicle's tires. The device (100) has a scissor-like extendable and retractable construction with upward facing spikes. After deployment, the deflator (200) may be retracted automatically and/or by the push of a button. The deflator (200) can be stored in the enclosure (130) to which it is attached. The deflator (200) is extended by pushing a central hinge (202) of the scissor construction forward, almost completely out of the enclosure (130). The propulsion means is actuated

by a compressed gas capsule, preferably carbon dioxide, and an air cylinder (120) with a linear movable piston (121) connected to the deflator (200). The gas capsule releases gas under pressure to the air cylinder (120) and moves the piston (121) in a first direction, thereby extending the deflator (200). By leading compressed gas of the gas capsule to the opposite side of the cylinder (120), the piston (121) moves in the opposite direction and the deflator (200) is retracted.

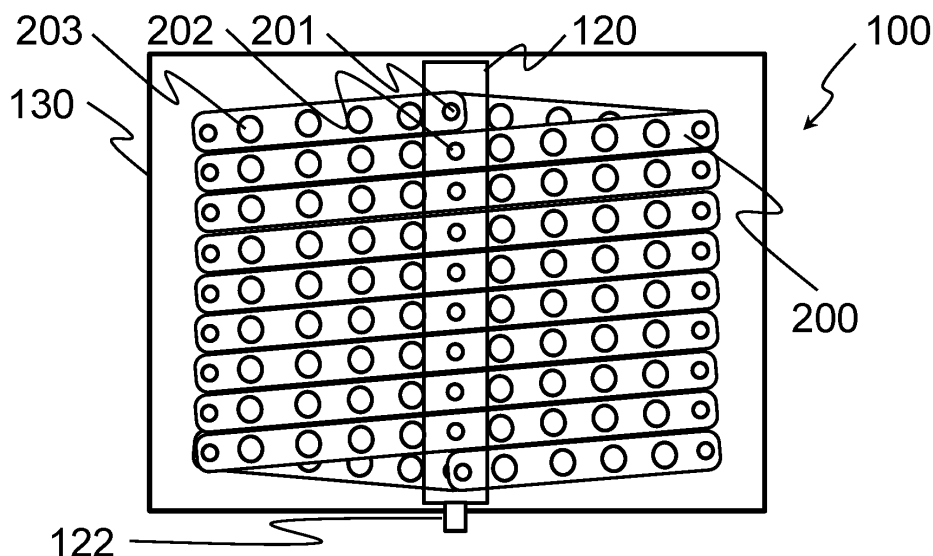


Fig. 2



EUROPEAN SEARCH REPORT

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EPO FORM 1503 03.82 (P04C01)

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 2012/243935 A1 (SPENCER ETHAN [US] ET AL) 27 September 2012 (2012-09-27)	1-3, 7-13	INV.
Y	* paragraph [0002] *	14-19	E01F13/12
A	* paragraph [0016] - paragraph [0030]; figures 1-4 *	4, 5	E01F13/08
Y	US 9 297 128 B1 (TANG XUE BING [CN] ET AL) 29 March 2016 (2016-03-29) * column 7, line 7 - line 32; figures 1, 2 *	14-19	
A	US 11 091 889 B1 (BARRETT PETER [US]) 17 August 2021 (2021-08-17) * column 7, line 4 - column 8, line 10; figures 11-13 *	1-20	
A	US 8 152 407 B1 (AL-QAHTANI BANDAR ALI [SA]) 10 April 2012 (2012-04-10) * figure 9 *	1-20	
A	GB 2 138 883 A (DICKINSON HARRY DAVID) 31 October 1984 (1984-10-31) * figure 4 *	1-20	TECHNICAL FIELDS SEARCHED (IPC)
A	US 4 893 119 A (NASATKA KENNETH F [US]) 9 January 1990 (1990-01-09) * figures 1, 5 *	1-20	E04F E01F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 10 May 2023	Examiner Giannakou, Evangelia
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	

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

EP 22 02 0447

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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
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2012243935 A1	27-09-2012	NONE	
US 9297128 B1	29-03-2016	NONE	
US 11091889 B1	17-08-2021	NONE	
US 8152407 B1	10-04-2012	US 8152407 B1	10-04-2012
		US 2012315086 A1	13-12-2012
		WO 2012064450 A1	18-05-2012
GB 2138883 A	31-10-1984	GB 2138883 A	31-10-1984
		US 4490068 A	25-12-1984
		ZA 843076 B	29-05-1985
US 4893119 A	09-01-1990	NONE	