

(11) **EP 3 301 227 A3**

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3: **20.06.2018 Bulletin 2018/25**

(51) Int Cl.: **E01H** 5/06 (2006.01)

E01H 10/00 (2006.01)

(43) Date of publication A2: **04.04.2018 Bulletin 2018/14**

(21) Application number: 17190126.7

(22) Date of filing: **08.09.2017**

(84) Designated Contracting States:

AL 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 RS SE SI SK SM TR

Designated Extension States:

BA ME

Designated Validation States:

MA MD

(30) Priority: 12.09.2016 FI U20164182 U

(71) Applicant: Idea - Keksi Oy 80400 Ylämylly (FI)

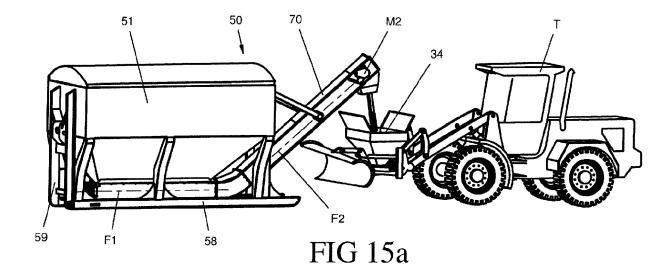
(72) Inventor: MANTSINEN, Yrjö Juhani 80400 Ylämylly (FI)

(74) Representative: Kolster Oy Ab (Salmisaarenaukio 1) P.O. Box 204 00181 Helsinki (FI)

(54) MAINTENANCE ARRANGEMENT AND METHOD IN ANTISKID TREATMENT

(57) Device for antiskid treatment which is hooked up to a vehicle and which comprises means for dealing with snow. The device further comprises in connection with it a container (34) from which the antiskid material

is spread. The antiskid material is first brought to a storage container (51). From the storage container, the antiskid substance is transferred to the container in connection with the device.



EP 3 301 227 A3



EUROPEAN SEARCH REPORT

Application Number EP 17 19 0126

5

	DOCUMENTS CONSIDERED TO BE RELEVANT						
	Category	Citation of document with ir of relevant passa		opriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)	
10	X A	SE 525 940 C2 (MAEH [SE]) 31 May 2005 (* page 1, lines 2-4 * page 4, line 10 - * figures 2-4 *	2005-05-31)		1-7, 21-24 8-20	INV. E01H5/06 E01H10/00	
15 20	X Y A	DE 199 27 308 A1 (E 4 January 2001 (200 * the whole documen	1-01-04)		1-6,23 8,9, 16-18, 20-22,24 7,10-15,		
25	X Y	DE 30 11 867 A1 (EL KAISER GM [DE]) 27 * page 3, paragraph * page 4, paragraph * page 5, paragraph * claims 1,4,5; fig	May 1981 (19 3-5 * s 3,4 * s 3,4 *	81-05-27)	19 1,2,4-6, 23 8,9, 16-18, 20-22,24 3,7,		
30	X	US 3 065 556 A (KAM 27 November 1962 (1 * column 1, lines 9	962-11-27)		10-15,19 1,2,4-8, 10,12, 13,23 15	TECHNICAL FIELDS SEARCHED (IPC) E01H E01C	
35	A Y	* column 2, lines 3 * column 3, line 15 * claims 1,2; figur US 6 467 199 B1 (CH	5-45 * - column 4, es 1-5 * RISTY JODY [line 35 *	3,9,11, 14, 16-22,24 7-9,11,		
40	A	22 October 2002 (2002-10-22) * column 1, lines 11-16 * * column 2, line 55 - column 3, line 15 * * column 4, lines 9-52 * * figures 1,2,3,4 *			12,14, 20,21 1-6,10, 13, 15-19, 22-24		
45		Th		-/			
2 (P04C01)	The present search report has b		·	oletion of the search		Examiner Msler, Stefan	
05 PPO FORM 1503 03.82 (P	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			E : earlier patent docu after the filing date D : document cited in L : document cited for	ment cited in the application ment cited for other reasons ber of the same patent family, corresponding		

55



EUROPEAN SEARCH REPORT

Application Number EP 17 19 0126

5

5	
10	
15	
20	
25	
30	
35	
40	
45	
50	

2
(P04C01)
1503 03.82
EPO FORM

55

	DOCUMENTS CONSID	ERED TO BE F	ELEVANT		
Category	Citation of document with i of relevant pass		ppriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Υ	US 4 491 275 A (HOI 1 January 1985 (198		RT [US])	1-4,6,7 9,11,12 15,16, 18,21-2	,
А	* column 1, lines 6 * column 2, lines 2 * column 3, line 54 * figures 1-9 *	line 3 *	5,8,10, 13,14, 17,19,2		
Υ	WO 96/23108 A1 (NOF 1 August 1996 (1996	[SE])	1-4,6,7 9,11,12 14, 16-18, 21-24		
A	* page 1, paragraph * page 3, paragraph * page 4, lines 14- * page 5, paragraph * page 6, paragraph * claims 1,11; figu		5,8,10, 13,15, 19,20		
A,P	US 2017/254035 A1 (7 September 2017 (2 * the whole documer	2017-09-07)	1 [US])	1-24	TECHNICAL FIELDS SEARCHED (IPC)
	The present search report has	been drawn up for all	olaims		
Place of search Date of complet			letion of the search		Examiner
	Munich	8 May	2018	Kr	emsler, Stefan
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		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			

page 2 of 2



5

Application Number

EP 17 19 0126

	CLAIMS INCURRING FEES						
	The present European patent application comprised at the time of filing claims for which payment was due.						
10	Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):						
15	No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.						
20	LACK OF HAITY OF INVENTION						
	LACK OF UNITY OF INVENTION						
	The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:						
25							
	see sheet B						
30							
	All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.						
35	As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.						
40	Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:						
45	None of the further search fees have been paid within the fixed time limit. The present European search						
	report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:						
50							
55	The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).						



LACK OF UNITY OF INVENTION SHEET B

Application Number

EP 17 19 0126

5

10

15

20

25

30

35

40

45

50

55

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-7, 23

maintenance arrangement with snow bucket having an integral antiskid substance container

2. claims: 8-15

maintenance arrangement with a curved snow plough being attached by cylinders to an antiskid substance container

3. claims: 16-22, 24

maintenance arrangement with a storage container having a conveyor arranged at a bottom end of the storage container for elevating the antiskid substance stored in the storage container to a position for loading an antiskid substance container arranged on a vehicle

EP 3 301 227 A3

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

EP 17 19 0126

5

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.

08-05-2018

10	Patent document cited in search report		Publication date	Patent family member(s)		Publication date
	SE 525940	C2	31-05-2005	FI SE	20050585 A 525940 C2	04-12-2005 31-05-2005
15	DE 19927308	A1	04-01-2001	NONE		
	DE 3011867	A1	27-05-1981	NONE		
	US 3065556	Α	27-11-1962	NONE		
20	US 6467199	B1	22-10-2002	NONE		
	US 4491275	Α	01-01-1985	NONE		
25	WO 9623108	A1	01-08-1996	AU CA FI WO	4593396 A 2211407 A1 973100 A 9623108 A1	14-08-1996 01-08-1996 26-08-1997 01-08-1996
30	US 2017254035	A1	07-09-2017	NONE		
35						
40						
45						
50						
55 CS						

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