#### (12)

# **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3: 09.09.2009 Bulletin 2009/37

(51) Int Cl.: **B61F** 5/24<sup>(2006.01)</sup>

(43) Date of publication A2: **04.02.2009 Bulletin 2009/06** 

(21) Application number: 08013274.9

(22) Date of filing: 23.07.2008

(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 MT NL NO PL PT RO SE SI SK TR

**Designated Extension States:** 

AL BA MK RS

(30) Priority: 30.07.2007 KR 20070076123

(71) Applicant: KAYABA INDUSTRY CO., LTD.

Minato-ku

Tokyo 105-6111 (JP)

(72) Inventor: Murata, Mitsuru Tokyo 105-6111 (JP)

(74) Representative: Grünecker, Kinkeldey, Stockmair & Schwanhäusser Anwaltssozietät Leopoldstrasse 4 80802 München (DE)

## (54) Vibration suppression device for railway vehicle

(57)A vibration suppression device that suppresses vibration in a railway vehicle 1 includes a damper 9 having a variable damping force, which extends and compresses in accordance with lateral vibration of a vehicle body 10 relative to a bogie 3, first control means that control the damping force of the damper 9 using sky-hook semiactive control in order to suppress the lateral vibration of the vehicle body 10, vertical direction acceleration detecting means 15 that detect acceleration in a vertical direction of the vehicle body 10, determining means that determine whether or not lateral vibration has occurred in the bogie 3 on the basis of the acceleration detected by the vertical direction acceleration detecting means 15, second control means that cause the damper 9 to operate so as to suppress the lateral vibration of the bogie (3), and switching control means that switch from the first control means to the second control means when lateral vibration is determined to have occurred in the bogie 3.

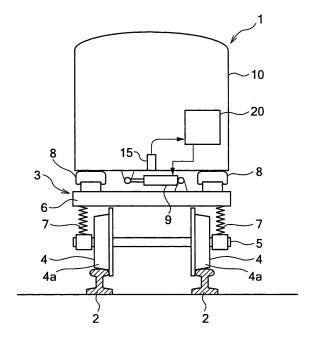


FIG.1

EP 2 020 356 A3



# **EUROPEAN SEARCH REPORT**

Application Number EP 08 01 3274

ategory	Citation of document with inc		Relevant	CLASSIFICATION OF THE		
	of relevant passag		to claim	APPLICATION (IPC)		
Ą	JP 2007 131204 A (RA INST; TOKAI RYOKAKU INDUSTRY) 31 May 200 * abstract *	TETSUDO KK; KAYABA	1,3,5	INV. B61F5/24		
A	JP 2006 327529 A (KA 7 December 2006 (200 * abstract *	WASAKI HEAVY IND LTD) 6-12-07)	1			
A	EP 0 704 364 A (KAYA [JP]; RAILWAY TECHNI 3 April 1996 (1996-6 * column 6, line 18 figures 1,2 *	CAL RES INST [JP])	1,3,4,6			
				TECHNICAL FIELDS SEARCHED (IPC)		
				B61F		
				B60G G05D		
	The present search report has be	een drawn up for all claims				
	Place of search	Date of completion of the search		Examiner		
	The Hague	4 August 2009	Ch1	Chlosta, Peter		
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		E : earlier patent door after the filing date or D : document cited in L : document cited for	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			

EPO FORM 1503 03.82 (P04C01)

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

EP 08 01 3274

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.

04-08-2009

Pate cited i	Patent document cited in search report		Publication date	Patent family member(s)		Publication date
JP 2	007131204	Α	31-05-2007	NONE		
JP 2	006327529	Α	07-12-2006	NONE		
EP 0	704364	A	03-04-1996	DE DE	69524173 D1 69524173 T2	10-01-200 29-05-200
			icial Journal of the Euro			