

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2018/099693

A. CLASSIFICATION OF SUBJECT MATTER		
B61L 23/00(2006.01)i		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
B61L		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
CNPAT, CNKI, WPI, EPODOC: 比亚迪, 潘磊, 苏波, 卓开阔, 王发平, 列车, 火车, 轨道, 排序, 调度, 控制, 通信, 通讯, 虚拟, 非通信, 位置, 位移, 偏移量, 授权, 占用, 占道, 路线, 比较, 安全, train, rail, order, collat+, communicate. virtual, position, accredit, compare		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 106672020 A (TRAFFIC CONTROL TECHNOLOGY CO., LTD.) 17 May 2017 (2017-05-17) description, paragraphs [0053]-[0117], and figures 1-8	1-25
A	CN 102963399 A (BEIJING TRAFFIC CONTROL TECHNOLOGY CO., LTD.) 13 March 2013 (2013-03-13) entire document	1-25
A	CN 101239623 A (BEIJING JIAXUN FEIHONG ELECTRICAL CO., LTD.) 13 August 2008 (2008-08-13) entire document	1-25
A	CN 106476846 A (CRRC QINGDAO SIFANG ROLLING STOCK RESEARCH INSTOTUTE CO., LTD.) 08 March 2017 (2017-03-08) entire document	1-25
A	US 5533695 A (HARMON INDUSTRIES, INC.) 09 July 1996 (1996-07-09) entire document	1-25
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
16 October 2018		31 October 2018
Name and mailing address of the ISA/CN		Authorized officer
State Intellectual Property Office of the P. R. China No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088 China		
Facsimile No. (86-10)62019451		Telephone No.

INTERNATIONAL SEARCH REPORT
Information on patent family members

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Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
CN	106672020	A	17 May 2017	WO	2018107508	A1	21 June 2018
CN	102963399	A	13 March 2013	CN	102963399	B	13 July 2016
CN	101239623	A	13 August 2008	CN	101239623	B	09 June 2010
CN	106476846	A	08 March 2017	CN	106476846	B	30 January 2018
				WO	2017143835	A1	31 August 2017
				EP	3326887	A1	30 May 2018
				US	2018194378	A1	12 July 2018
US	5533695	A	09 July 1996	AU	696153	B2	03 September 1998
				CA	2156026	A1	20 February 1996
				AU	2845595	A	29 February 1996
				CA	2156026	C	02 November 2004