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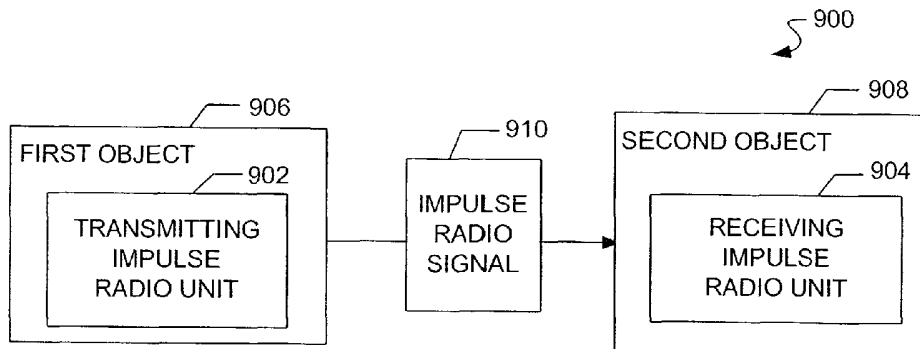
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(54) Title: RAILROAD COLLISION AVOIDANCE SYSTEM AND METHOD FOR PREVENTING TRAIN ACCIDENTS



(57) Abstract: A railroad collision avoidance system (900) and method (1000) are disclosed that utilize impulse radio technology to effectively warn a person when there is a locomotive in their vicinity. In one embodiment, the railroad collision avoidance system (900) includes a transmitting impulse radio unit (902) coupled to a locomotive (906) and a receiving impulse radio unit (904) coupled to a vehicle (908). The transmitting impulse radio unit (902) operates to transmit an impulse radio signal (910) towards the vehicle (908) when the locomotive (906) is a predetermined distance from a railroad crossing. Upon receiving the impulse radio signal (910), the receiving impulse radio unit (904) makes sure the person operating the vehicle (908) is informed about the potentially dangerous situation. Several embodiments of the railroad collision avoidance system (900) and method (1000) are disclosed all of which operate to warn a person when there is a locomotive in their vicinity.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/29335

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B60Q 1/00
 US CL : 340/435, 901, 902, 903; 375/200, 210, 259

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)
 U.S. : 340/435, 901, 902, 903; 375/200, 210, 259

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)
 BRS, EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,677,927 A (FULLERTON et al) 14 October 1997 (14.10.1997), see entire document	1-49
A	US 6,031,862 A (FULLERTON et al) 29 February 2000 (29.02.2000), see entire document	1-49
A	US 6,133,876 A (FULLERTON et al) 17 October 2000 (17.10.2000), see entire document	1-49
A, P	US 6,300,903 B1 (RICHARDS et al) 09 October 2001 (09.10.2001), see entire document	1-49
A, P	US 6,430,208 B1 (FULLERTON et al) 06 August 2002 (06.08.2002), see entire document	1-49
A,E	US 6,469,628 B1 (RICHARDS et al) 22 October 2002 (22.10.2002), see entire document	1-49
A,E	US 6,489,893 B1 (RICHARDS et al) 03 December 2002 (03.12.2002), see entire document	1-49
A,E	US 6,492,906 B1 (RICHARDS et al) 10 December 2002 (10.12.2002), see entire document	1-49
A,E	US 6,501,393 B1 (RICHARDS et al) 31 December 2002 (31.12.2002), see entire document	1-49

Further documents are listed in the continuation of Box C. See patent family annex.

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"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	

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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,E	US 6,504,483 B1 (RICHARDS et al) 07 January 2003 (07.01.2003), see entire document	1-49