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[Continued on next page]

(54) Title: TRAILER HITCH ALIGNMENT SYSTEMS AND METHODS

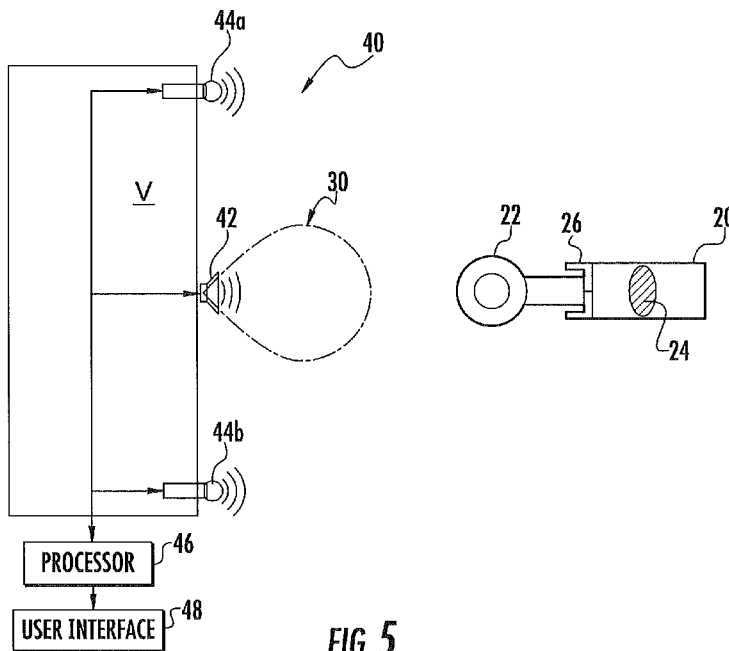


FIG. 5

(57) Abstract: Systems and methods for aligning a towing vehicle trailer hitch with the tongue of a trailer/towed vehicle are provided that enable a driver to know when the towing vehicle trailer hitch is close enough to the trailer tongue such that the two can be coupled. A trailer hitch includes a tow bar having a free end configured to be coupled to a trailer tongue. An alignment system includes at least one energy emitter secured to the vehicle that emits energy in the direction of the trailer tongue, and at least two sensors secured to the vehicle in spaced-apart relationship. The energy emitter(s) and sensors may be secured to the trailer or trailer hitch.

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A. CLASSIFICATION OF SUBJECT MATTER***B60D 1/36(2006.01)i, B60D 1/04(2006.01)i, B62D 53/00(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)

B60D 1/36; B60D 1/54; G08B 21/00; B60D 1/40

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: trailer , hitch , vehicle

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,729,194 A (DAN E. SPEARS et al.) 17 March 1998 See columns 12-16, figures 20, 33-34.	1,3-9,12-14,28 ,30-35,37
Y		2,15-20,22-23,26 ,29
A		10-11,21,24-25,27 ,36
Y	US 2007/0080516 A1 (RONALD SIMMONS) 12 April 2007	2,22-23,25,29
A	See columns 2-3, figure 1.	1,3-21,24,26-28 ,30-37
Y	US 6,259,357 B1 (HEIDER JOSEPH) 10 July 2001	15-16
A	See column 3, figure 1.	1-14,17-37
Y	US 6,886,847 B2 (ALAN L. PIPER et al.) 03 May 2005	17-18,27
A	See column 6.	1-16,19-26,28-37
Y	US 7,142,098 B2 (Lang et al.) 28 November 2006	19-20
	See column 8, figure 1.	

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

* Special categories of cited documents:

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"&" document member of the same patent family

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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		1-18,21-37
X	US 6,480,104 B1 (Wall et al.) 12 November 2002	24,36
Y	See column 3, figure 4.	25-27
A		1-23,28-35,37

INTERNATIONAL SEARCH REPORT

Information on patent family members

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