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(54) **DRIVER HANDHELD COMPUTING DEVICE LOCK-OUT**

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CPC ***H04W 48/04*** (2013.01)
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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,483,261	A	1/1996	Yasutake	
5,488,204	A	1/1996	Mead et al.	
5,825,352	A	10/1998	Bisset et al.	
5,835,079	A	11/1998	Shieh	
5,880,411	A	3/1999	Gillespie et al.	
6,188,391	B1	2/2001	Seely et al.	
6,310,610	B1	10/2001	Beaton et al.	
6,323,846	B1	11/2001	Westerman et al.	
6,690,387	B2	2/2004	Zimmerman et al.	
7,015,894	B2	3/2006	Morohoshi	
7,184,064	B2	2/2007	Zimmerman et al.	
7,415,126	B2	8/2008	Breed et al.	
7,427,024	B1 *	9/2008	Gazdzinski et al.	235/384
7,474,264	B2 *	1/2009	Bolduc et al.	342/463
7,646,312	B2 *	1/2010	Rosen	340/937
7,650,864	B2 *	1/2010	Hassan et al.	123/179.2
7,663,607	B2	2/2010	Hotelling et al.	
7,898,428	B2 *	3/2011	Dietz et al.	340/670
2001/0006886	A1 *	7/2001	Suzuki	455/63
2006/0026521	A1	2/2006	Hotelling et al.	
2006/0097991	A1	5/2006	Hotelling et al.	
2006/0197753	A1	9/2006	Hotelling	
2008/0214211	A1 *	9/2008	Lipovski	455/456.4

(Continued)

FOREIGN PATENT DOCUMENTS

JP	2000-163031	A	6/2000
JP	2002-342033	A	11/2002

OTHER PUBLICATIONS

Software Holds Your Calls While You're Driving, Nov. 10, 2008, http://www.msnbc.com/id/27168350.

(Continued)

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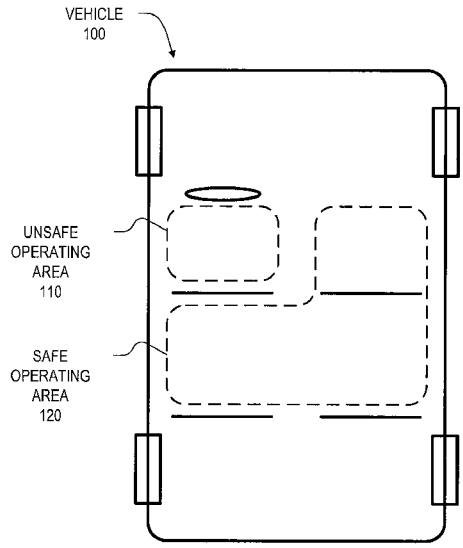
(57) **ABSTRACT**

Lock-out mechanisms for driver handheld computing devices. The lock-out mechanisms disable the ability of a handheld computing device to perform certain functions, such as texting, while one is driving. In one embodiment, a handheld computing device can provide a lock-out mechanism without requiring any modifications or additions to a vehicle by using a motion analyzer, a scenery analyzer and a lock-out mechanism. In other embodiments, the handheld computing device can provide a lock-out mechanism with modifications or additions to the vehicle, including the use of signals transmitted by the vehicle or by the vehicle key when engaged with the vehicle.

15 Claims, 8 Drawing Sheets