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Lee

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(54) **HYBRID BLADE**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,003,174	A *	10/1961	Anderson	15/250.44
3,107,384	A	10/1963	Wise	
3,419,932	A *	1/1969	Linker	15/250.06
4,793,020	A	12/1988	Stratton et al.	
5,661,871	A *	9/1997	Scorsiroli	15/250.452
7,523,522	B2	4/2009	Herring et al.	
8,381,349	B2 *	2/2013	Ku	15/250.32
8,510,898	B2 *	8/2013	Ku	15/250.44
2005/0086759	A1 *	4/2005	Torii et al.	15/250.201
2011/0131750	A1 *	6/2011	Kwon et al.	15/250.31

(Continued)

FOREIGN PATENT DOCUMENTS

EP	0461987	B1 *	12/1991
EP	0695246	B1 *	7/1997
EP	0849133	A1 *	6/1998
EP	1201516	A2 *	5/2002

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(57) **ABSTRACT**

A windshield wiper blade including a primary part having an elongated main body and an interior space formed in the main body, and at least two secondary parts is provided. Each secondary part has a first end and a second end, the first end being received into the interior space of the main body, and the second end being exposed, wherein the secondary parts are hingedly connected to the primary part to swivel relative to the primary part to accommodate a changing curvature of a surface of a windshield based on pressure applied thereto against the windshield.

13 Claims, 22 Drawing Sheets