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(54) **ADHESIVE PARTICLE FILTER/TRAP FOR PRESSURIZED HEAT ENGINES**

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CPC ***F01N 5/02*** (2013.01); ***B01D 39/1623*** (2013.01); ***F01N 3/022*** (2013.01); *Y02T 10/20* (2013.01)

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,340,402	A *	7/1982	Catron	55/487
5,017,758	A *	5/1991	Kirkman	F01M 5/021 123/142.5 E
5,338,340	A *	8/1994	Kasmark et al.	96/135
5,811,184	A *	9/1998	Anderson et al.	428/343
6,051,302	A *	4/2000	Moore	B29C 70/08 239/265.19
6,634,342	B1 *	10/2003	Wouters	B60K 15/035 123/516
7,473,301	B2 *	1/2009	Klebanoff et al.	95/285
7,727,915	B2 *	6/2010	Skirius et al.	442/389
2003/0096079	A1 *	5/2003	Messina	B60N 3/048 428/85
2004/0112884	A1 *	6/2004	Uhl	B60H 1/034 219/202
2006/0137313	A1 *	6/2006	Simon	B01D 46/0056 55/400
2014/0262633	A1 *	9/2014	Kunzler	F16D 65/0031 188/72.1

* cited by examiner

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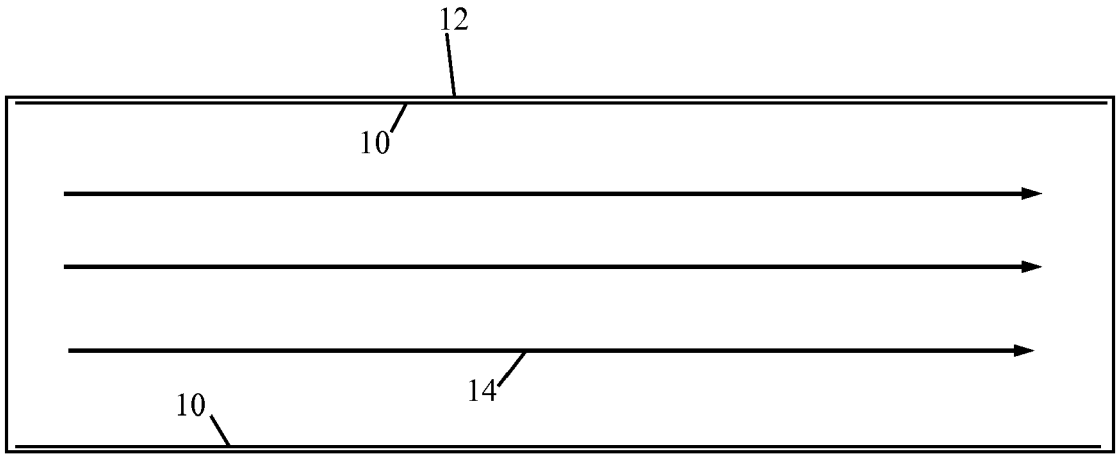
(57) **ABSTRACT**

A filter assembly includes an adhesive layer disposed, coated or otherwise mounted on interior surfaces of a pressurized heat engine, and located in a gas flow path through the engine.

11 Claims, 1 Drawing Sheet