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Kolhouse et al.

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(54) **SYSTEM, METHODS, AND APPARATUS FOR ENGINE COOLING SYSTEM MANAGEMENT**

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(52) **U.S. Cl.**

CPC ***B60K 11/085*** (2013.01); ***F01P 7/12*** (2013.01); *F01P 2025/13* (2013.01)

(58) **Field of Classification Search**

CPC B60K 11/00; B60K 11/02; B60K 11/04; B60K 11/08

See application file for complete search history.

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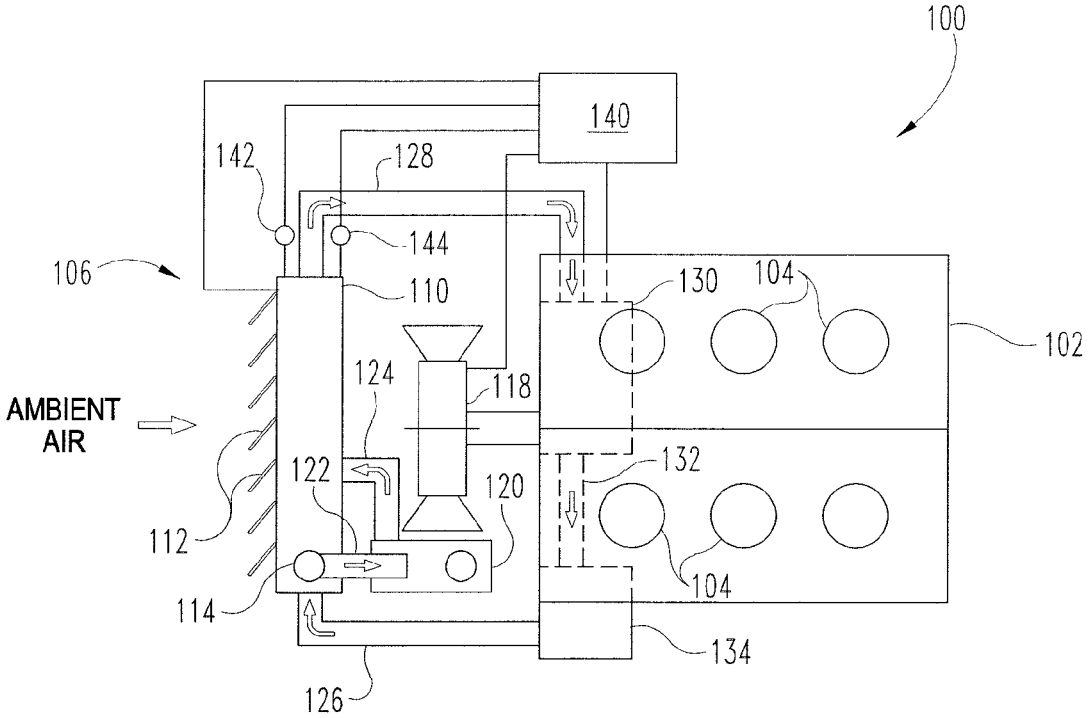
(57) **ABSTRACT**

System, apparatus, and methods are disclosed for opening one or more louvers of an engine cooling system to provide an airflow to the radiator to reduce a radiator fan on time.

30 Claims, 3 Drawing Sheets