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(56) Documents Cited:
JP 2007185413 A **JP 2001304172 A**
US 20050123398 A1

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INT CL **A47L**
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(54) Title of the Invention: **Upright vacuum with reduced noise**
Abstract Title: **An arrangement to reduce noise in a vacuum cleaner**

(57) A method of reducing noise generated by a vacuum cleaner 100 comprises providing a vacuum cleaner that includes a motor 240 which has a motor shaft 244 adapted to operate at a rotational speed of n revolutions per minute; attaching a centrifugal fan 250 with t number of blades attached to the motor shaft 244 and enclosing the fan 250 between the motor 244 and a motor housing end bracket 246 disposed about the shaft 244, the motor housing end bracket 246 defining an air input opposite an air output. The variables of speed n and the number of blades t are selected so that a blade pass frequency (BPF) of the centrifugal fan 244 is greater than about 5000 Hertz, and the BPF is calculated as $BPF = n * t / 60$. A vacuum (100) implementing the method is also described.

Fig. 11

