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(54) Title: FAN POWERED AIR FILTRATION UNIT

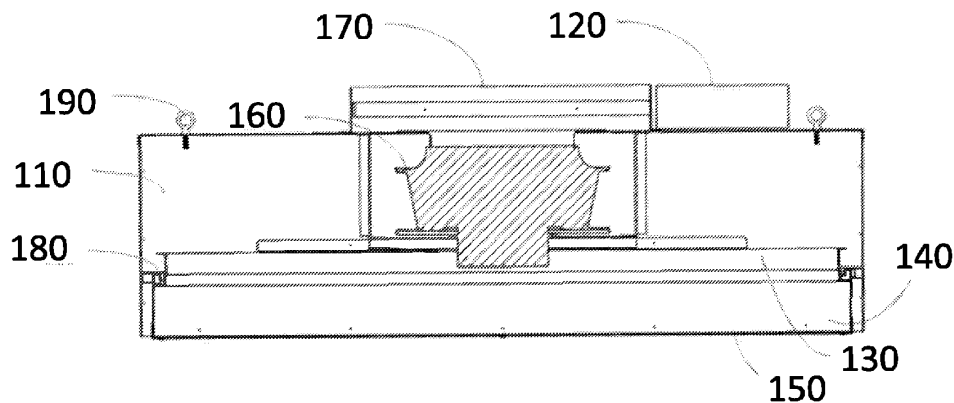


FIG. 1

(57) Abstract: The present disclosure is directed methods and apparatus that improve the energy efficiency of an air filtration apparatus while maintaining a high level of filtration capabilities. Air filtration apparatus consistent with the present disclosure may include an input, a fan, a pre-filter, and electrical conductors that provide a high voltage used to charge particles in an air flow. This apparatus may also include a secondary filter that traps charged particles. The pre-filter may filter air using conventional means, where a high energy electric field generated by high voltage conductors may charge particles in the air such that those particles may clump together and be captured in the secondary filter. These clumping effects may allow a less dense filter media to capture particles that would otherwise pass through the less dense filter. Micro-organisms attached to the captured particles may be degraded or destroyed after they are captured in the secondary filter.

[Continued on next page]

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