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- (71) **Applicant: BIOACTIVE MATERIALS PTY LTD**
[AU/AU]; PO Box 312, Blackburn, Victoria 3130 (AU).
- (72) **Inventors: HE, Lizhong;** PO Box 312, Blackburn, Victoria 3130 (AU). **DIXON, Ian Edward;** PO Box 312, Blackburn, Victoria 3130 (AU). **PAUL, Puja;** PO Box 312, Blackburn, Victoria 3130 (AU). **SHANBHAG, Bhuvana;** PO Box 312, Blackburn, Victoria 3130 (AU). **JI, Li;** PO Box 312, Blackburn, Victoria 3130 (AU).
- (74) **Agent: FB RICE;** Level 33/477 Collins St, Melbourne, Victoria 3000 (AU).
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(54) **Title:** DEVICES AND METHODS FOR THE ISOLATION OF PARTICLES

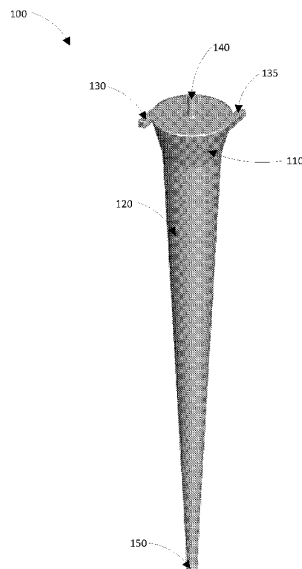


Figure 1

(57) **Abstract:** Described embodiments generally relate to a hydrocyclone for isolating particles within a fluid. The hydrocyclone comprises an upper conical section defining at least one inlet to receive the fluid, a vortex finder extending into the upper conical section, and an overflow port fluidly connected to the vortex finder and configured to expel a portion of the fluid out of the upper conical section; and a lower conical section defining an underflow port to expel the remaining fluid out of the lower conical section, the lower conical section being fluidly connected to the upper conical section to define a single hollow volume. The shape of the hydrocyclone causes particles smaller than a predetermined size to be isolated by expelling the particles from the overflow port.

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