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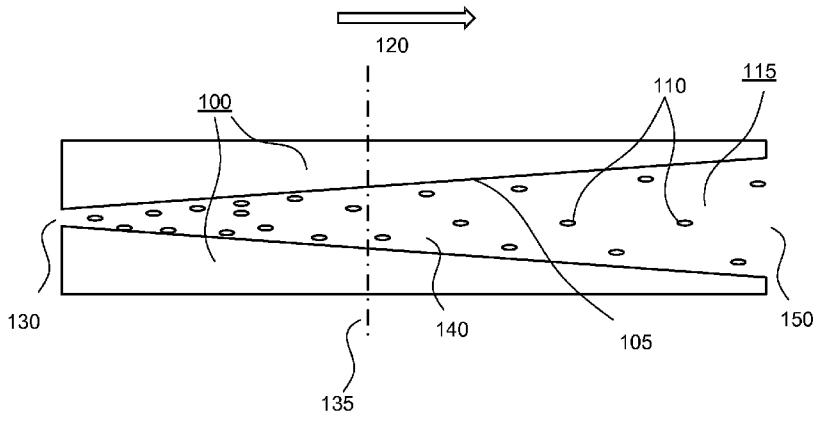

FIG. 1

(57) Abstract: Materials, components, and methods consistent with the present invention are directed to the fabrication and use of micro-scale channels with a fluid, where the temperature and flow of the fluid is controlled through the geometry of the micro-scale channel and the configuration of at least a portion of the wall of the micro-scale channel and the constituent particles that make up the fluid. Moreover, the wall of the micro-scale channel and the constituent particles are configured such that collisions between the constituent particles and the wall are substantially specular.

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