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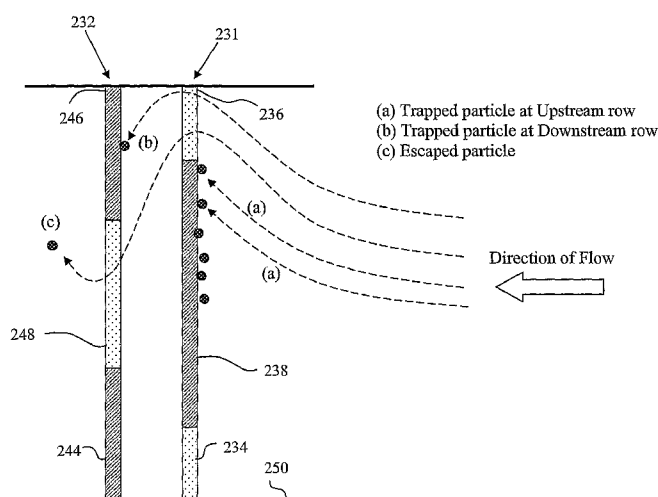
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(54) Title: MICROFLUIDIC FILTRATION UNIT, DEVICE AND METHODS THEREOF



(57) Abstract: A microfluidic filtration unit for trapping particles of a predetermined nominal size present in a fluid is provided. The unit comprises a fluid chamber connected to an inlet for introducing the fluid to be filtered and an outlet for discharging filtered fluid, a filtration barrier arranged within the fluid chamber, said filtration barrier comprising a plurality of pillars arranged substantially perpendicular to the path of fluid flow when fluid is introduced into the fluid chamber, said pillars being aligned to form at least one row extending across said path of fluid flow, wherein each of said at least one row of pillars in the filtration barrier comprises at least one fine filtration section comprising a group of pillars that are spaced apart to prevent particles to be filtered from the fluid from moving between adjacent pillars, and at least one coarse filtration section comprising a group of pillars that are spaced apart to permit the movement of particles between adjacent pillars.

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