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(54) Title: TUNABLE LAYERED GRAPHENE MEMBRANE CONFIGURATION FOR FILTRATION AND SELECTIVE ISOLATION AND RECOVERY DEVICES

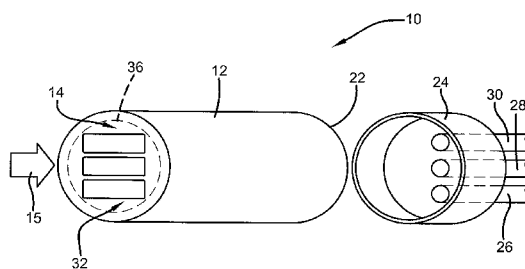


FIG. 1

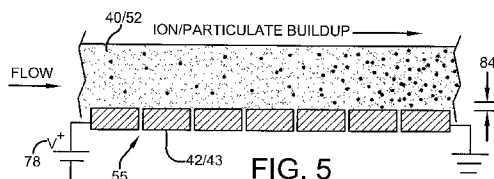


FIG. 5

(57) Abstract: A tunable membrane configuration (10) for a filtration or selective fluidic isolation and recovery device includes a housing (12) having an inlet at one end and an outlet at an opposite end with an opening extending from the inlet to the outlet. An internal support structure is maintained in the opening, and layered filtration media comprising graphene membranes (42/43) is carried by the internal support structure, the media separating feedwater received at the inlet into at least three separate output flows (26,28,30). Concentration polarisation (84) and pore size (55) can be controlled via an electrical charge control (78).