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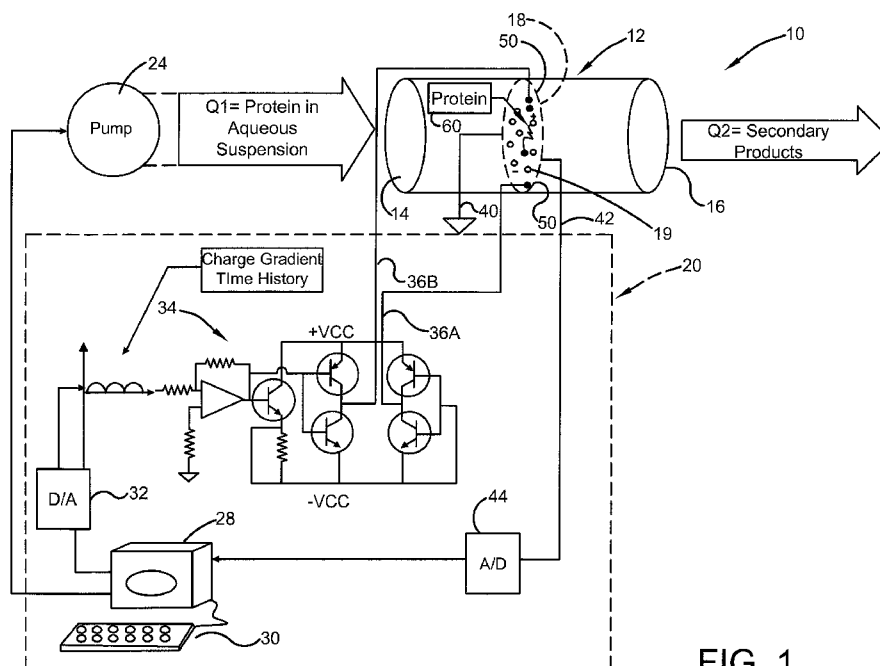


FIG. 1

(57) Abstract: A molecular separation device includes a chamber having an inlet and an outlet through which flows an aqueous sus-
 pension and a porous separation membrane positioned in the chamber substantially orthogonally to the flow of the aqueous suspen-
 sion. An electrical charging device connects to the separation membrane to apply a periodic electric charge so as to collect compon-
 ents blocked by the porous separation membrane. Related methods are also disclosed.