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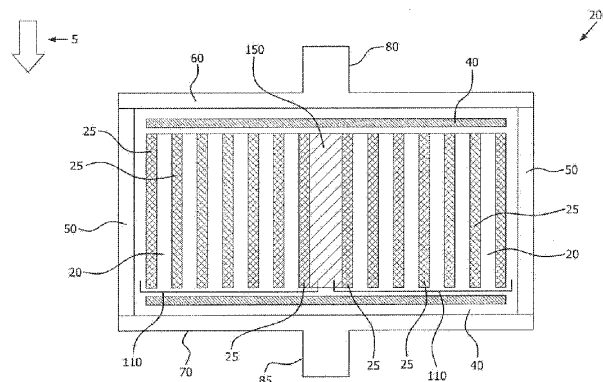


FIG. 7

(57) Abstract: The present invention is directed to affinity chromatography devices that separate a targeted protein or antibody from an aqueous mixture containing the targeted protein or antibody. The chromatography device may contain a stacked membrane assembly or a wound membrane assembly. The membrane assemblies' include (1) at least one polymer membrane that contains therein inorganic particles and (2) at least one impermeable layer (e.g., a thermoplastic polymer in a solid state). The polymer membrane and/or the inorganic particles have an affinity ligand bonded thereto. The affinity ligand may be a protein, an antibody, or a polysaccharide that reversibly binds to the targeted protein or antibody. The chromatography device may be repeatedly used and may be cleaned with a caustic solution between uses. The chromatography devices has a dynamic binding capacity (DBC) of at least 30 mg/ml (or 0.07 micromol/ml) at 10% breakthrough at a residence time of 20 seconds or less.