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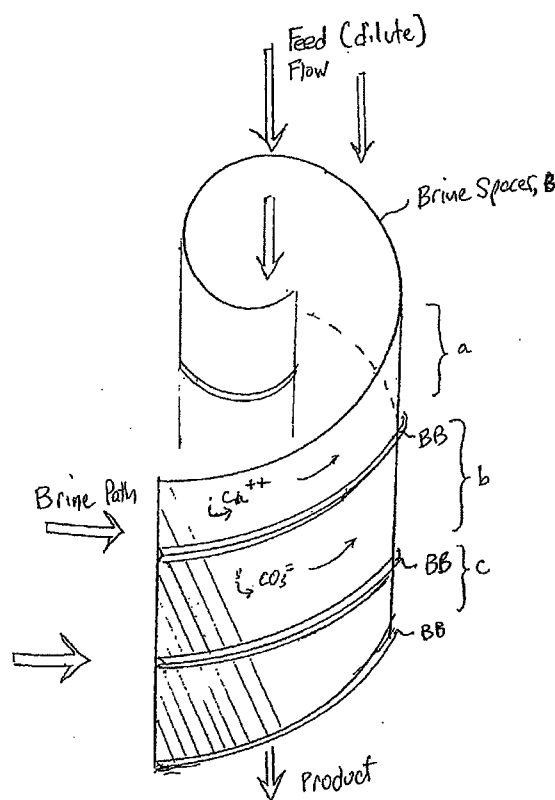
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(54) Title: SPIRAL ELECTRODEIONIZATION DEVICE AND COMPONENTS THEREOF



(57) Abstract: A spiral electrodeionization device comprising flow paths within helical cells, which form a path-lengthening maze. Impermeable barriers between membranes prevent the feed and concentrate flows from mixing. Seals along or between portions of the flow path may define a multi-stage device, a separate feed device and/or concentrate flows for different stages, and/or direct the feed and concentrate flows along preferred directions which may be co-current, counter-current or cross-current with respect to each other. Bands (BB) in the concentrate compartments may channel scale-forming species along separate paths in different regions so that scaling does not occur, and the separation of species may be enhanced by arranging the feed flows along an axial direction through layers of different monotype resins that enhance species transport into one region of the concentrates and/or inhibit transport of the complementary sealant species in that region.

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