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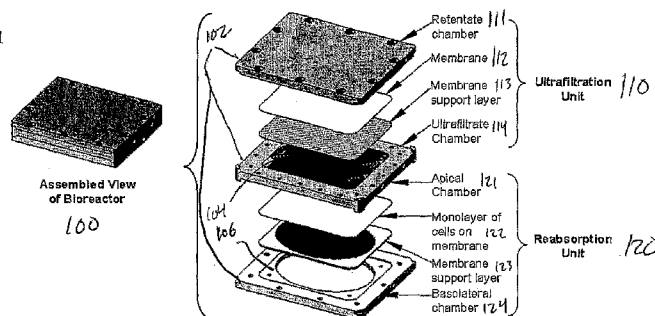
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
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(54) Title: IMPROVED BIOARTIFICIAL KIDNEYS

FIG. 1



(57) Abstract: The present invention generally relates to improved bioartificial kidneys (BAKs), and in certain embodiments to improved bioartificial kidneys that are portable and/or wearable by a user. In some embodiments, the BAKs may comprise an ultrafiltration unit and a reabsorption unit. The reabsorption unit may contain a reabsorption membrane having a layer of renal proximal tubule cells disposed thereon, where the renal proximal tubule cells selectively allow solutes to pass through the reabsorption membrane. In some embodiments, at least the reabsorption unit may be configured as a substantially flat-plate filtration device, which can impart advantageous properties such as improved maintenance of the renal proximal tubule cell layer, more facile monitoring of the renal proximal tubule cell layer as well as enhanced profile for wearability.



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