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(54) **Title**: DESALINATION SYSTEM AND METHOD

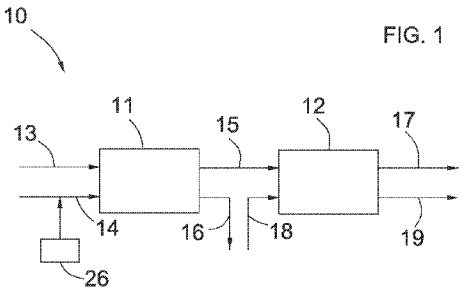


FIG. 1

(57) **Abstract**: A desalination system is provided. The desalination system comprises a desalination apparatus. The desalination apparatus comprises first and second electrodes, and a first group of paired ion exchange membranes disposed between the first and second electrodes to form a first group of alternating first and second channels. The first channels are configured to receive a first stream for desalination and the second channels are configured to receive a second stream to carry away ions removed from the first stream, respectively. The desalination apparatus further comprises a plurality of spacers disposed between each pair of the adjacent ion exchange membranes and between the first and second electrodes and the respective ion exchange membranes. Wherein each of the ion exchange membranes in the first group is a cation exchange membrane. A desalination system and a method for removing ions from an aqueous stream area also presented.

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