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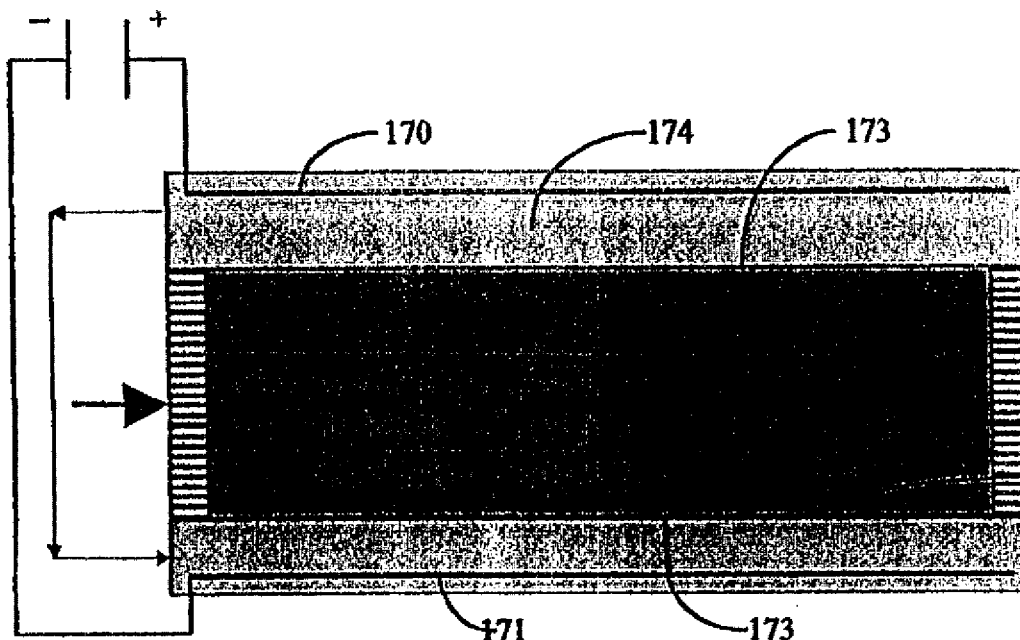
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(54) Title: A PROCESS AND DEVICE FOR CONTINUOUS IONIC MONITORING OF AQUEOUS SOLUTIONS



(57) Abstract: An electrolytic process and apparatus are disclosed for continuously producing the cation conductivity, anion conductivity, and temperature data required for continuous monitoring of the pH of high-purity aqueous solution flows. The cation exchange material and the anion exchange material used for conditioning water samples for conductivity measurements are continuously regenerated by applying a DC electric voltage between an anode and a cathode either across the cation exchange material, whereby hydrogen ions generated at the anode move through the cation exchange material displacing cations previously absorbed and these displaced cations under the influence of the electric field migrate to the cathode, or across the anion exchange material, whereby hydroxyl ions generated at the cathode regenerate the anion exchange material. The temperature-corrected cation conductivity and the temperature-corrected anion conductivity are then used together with measurement of the specific conductivity of the sample to calculate the pH of the sample.



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