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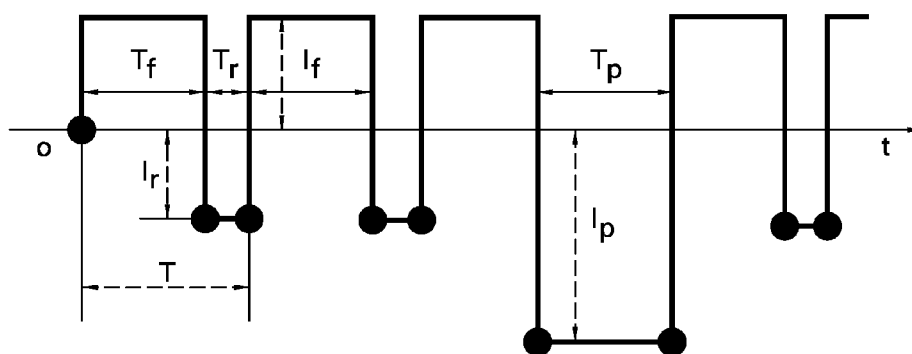


FIG. 4

(57) Abstract: A device includes a first electrode and a second electrode spaced from the first electrode to define a volume. An anion exchange membrane and a cation exchange membrane are disposed within the volume. A controller controls a supply of electrical current from an electrical source to the first electrode and to the second electrode. The electrical current supply is controlled to switch from a first mode of operation to a second mode of operation providing electrical current having a reverse polarity during each cycle. The electrical current is supplied at a controlled cycle rate and for a controlled duration. The cycle rate is greater than about 100 hertz and less than about 10 kilohertz.



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