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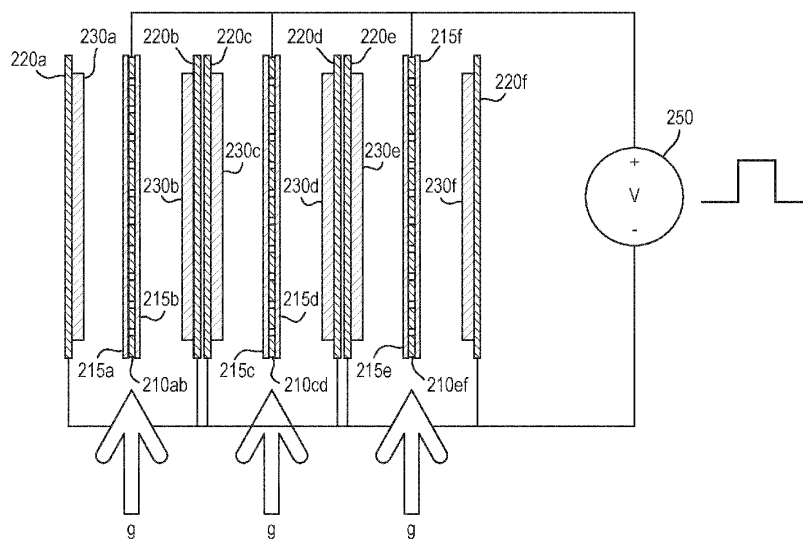
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(54) Title: APPARATUS AND METHOD FOR ELECTRON IRRADIATION SCRUBBING

Fig. 2



(57) Abstract: There is provided a dielectric barrier electrical discharge apparatus and corresponding system and method. The apparatus comprises: at least two electrodes arranged in use to provide at least one anode and at least one cathode, the at least two electrodes being separated to allow a fluid to be present between the electrodes in use, and at least one of the electrodes has a dielectric portion connected to at least part of said electrode; a sub-macroscopic structure connected to at least one of the at least two electrodes and/or to the dielectric portion; and a drive circuit connected to each of the at least two electrodes and arranged in use to establish an electric field between the electrodes, wherein in response to the presence of the electric field between the electrodes, the sub-macroscopic structure is arranged to field-emit electrons and electrical discharge is establishable between the dielectric portion and one of the at least two electrodes, and the drive circuit is further arranged to provide real power to the fluid in use.

[Continued on next page]

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