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(54) **Title:** APPARATUS AND METHODS FOR DEACTIVATING MICROORGANISMS WITH NON-THERMAL PLASMA

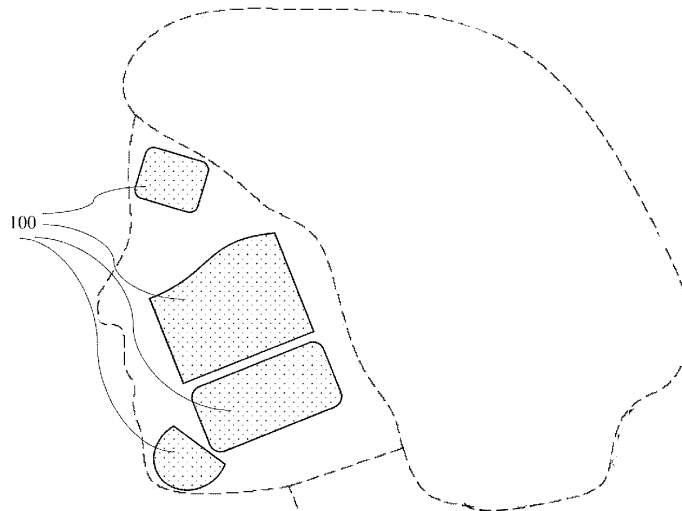


FIG. 14

(57) **Abstract:** An array of non-thermal plasma emitters is controlled to emit plasma based on application of an electric current at desired frequencies and a controlled power level. A power supply for an array controller includes a transformer that operates at the resonant frequency of the combined capacitance of the array and the cable connecting the array to the power supply. The power into the array is monitored by the controller and can be adjusted by the user. The controller monitors reflected power characteristics, such as harmonics of the alternating current, to determine initiation voltage of the plasma and/or resonant frequency plasma emitters. The array of non-thermal plasma emitters may be used in therapeutic, diagnostic, and/or medical sanitization applications, such as to prevent, limit, and/or treat the development of diseases caused in humans by infectious agents.

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