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(54) Title: ELECTROSURGICAL INSTRUMENT

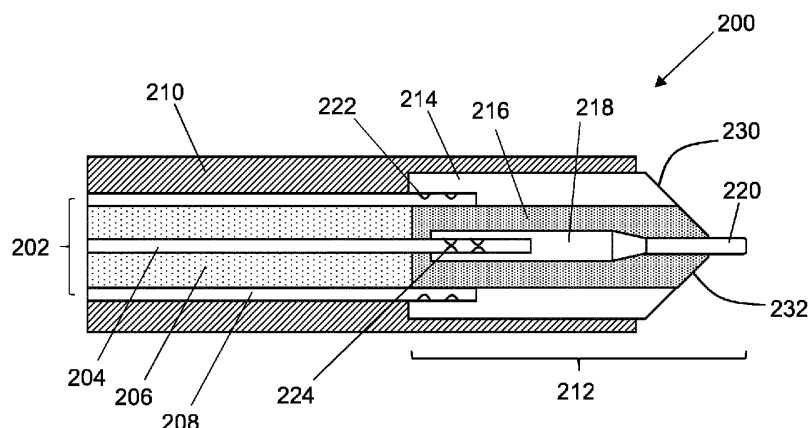


FIG. 3

(57) Abstract: The invention provides an electrosurgical instrument for delivering radiofrequency and microwave energy to biological tissue in order to cut and coagulate the tissue. The electrosurgical instrument comprises a coaxial transmission line for conveying radiofrequency (RF) energy and microwave energy, and an energy delivery tip coupled to a distal end of the coaxial transmission line. The energy delivery tip comprises: a first electrode electrically coupled to an inner conductor of the coaxial transmission line and protruding beyond a distal end of an outer conductor of the coaxial transmission line; a second electrode electrically coupled to the outer conductor of the coaxial transmission line and extending coaxially along a portion of the first electrode; and a dielectric body disposed between the first electrode and second electrode. The first electrode comprises a projecting nib that protrudes beyond a distal end of the dielectric body. The second electrode and the dielectric body comprise portions that are exposed at the distal end of the energy delivery tip. The first electrode and second electrode are configured as (i) a bipolar structure for delivering the RF energy conveyed by the coaxial transmission line, and (ii) an antenna for radiating the microwave energy conveyed by the coaxial transmission line.

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