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(71) Applicant (for all designated States except US): **GENERAL ELECTRIC COMPANY** [US/US]; 1 River Road, Schenectady, NY 12345 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **TRIMMER, Andrew, Lee** [US/US]; 169 Taber Court, Latham, NY 12110 (US). **KRAY, Nicholas, Joseph** [US/US]; 10538 Kenridge Drive, Blue Ash, OH 45242 (US). **MILLER, Joshua, Leigh** [US/US]; 7252 Leemel Drive, Westchester, OH 45069 (US). **LAMPHERE, Michael, Scott** [US/US]; 25 Evelyn Street, Hooksett, NH 03106 (US). **WEI, Bin** [US/US]; 8 Dansforth Road, Mechanicville, NY 12118 (US).

(74) Agents: **MCQUAY, Mardson et al.**; General Electric Company, Global Patent Operation, 187 Danbury Road, Suite 204, Wilton, CT 06897 (US).

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(54) Title: APPARATUS AND METHOD FOR HYBRID MACHINING A CONTOURED, THIN-WALLED WORKPIECE

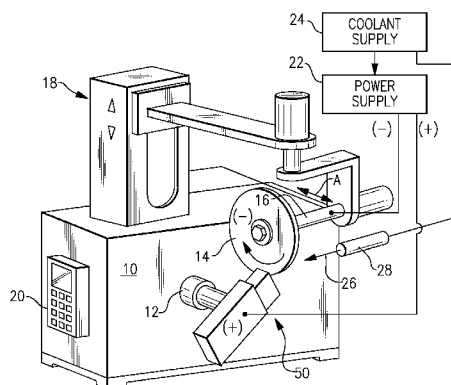


FIG.1

(57) Abstract: An apparatus and method for hybrid machining a workpiece is disclosed. The workpiece (50) is powered as an anode, a cutter (14) is powered as a cathode and a cutting fluid or coolant is circulated therebetween. The cutter is made of a conductive material and a non-conductive abrasive material. The hybrid machine (10) performs a roughing pass machining operation in which material is removed from the workpiece at a relatively high rate using a high-speed electro-erosion (HSEE) process. Then, the hybrid machine performs a finish pass machining operation in which material is removed from the workpiece using precision electro-grinding (PEG) process at a different differential electrical potential and/or flushing rate than the roughing pass machining operation to provide a smooth finish without thermal effects on the workpiece.

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