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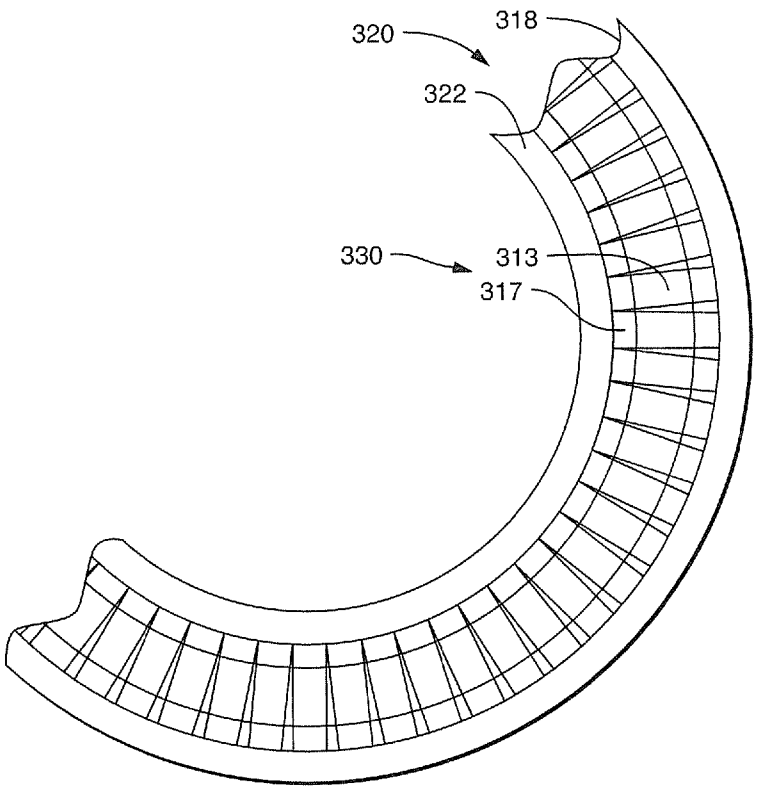
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[Continued on next page]

(54) Title: SHIELDED POWER COUPLING DEVICE



(57) Abstract: Axisymmetric solid of revolution derivable from section at FIG. 5 is generally toroidal with electric current(s) in windings (110, 160) preferably flowing circumferentially along major circle(s) during power coupling device operation. Current(s) in windings (110, 160); current(s) in half-shields (120, 170); and the volume of space swept out by shield airgap(s) (101) emerge from plane of paper perpendicularly at FIG. 5 but as these emerge therefrom they curve to follow toroidal major circle(s). Cores (115, 165) preferably shunt and align magnetic flux such that magnetic field lines escape therefrom primarily only in region(s) of core airgap(s) and such that magnetic flux loops lie in planes of toroidal minor circle(s). Half-shield(s) (120, 170) preferably have electrically conductive material(s) distributed therein as is sufficient to substantially cancel magnetic flux lines impinging thereon before effects of such impinging magnetic flux lines would reach shield airgap(s) (101) and/or outer surface(s) of half-shields (120, 170).

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All Prior Art Databases (text search - see terms below) USPC 336/84R, 84C, 87, 130-132, 229 (text search - see terms below)Information Disclosure Statement for US Patent Application 11/699,529

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST (PGPB, USPT, USOCEPABJPAB), Google Scholar; Google Patents, FreePatentsOnline
Search Terms air, aligned, cancel$4, conical, core, coupl$3, current, efficien$4, ferrite, field, flux, gap, increasing, inductive, leak$3, magnetic, misalignment, net, power, primary, recess, secondary, shield$3, toroidal, winding

C DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X --- Y	US 2006/0022785 A1 (DOBBS) 02 February 2006 (02 02 2006), entire document especially FIG 1, FIG 2A, FIG 2B, FIG 3, FIG 6A, FIG 6B, para [0009], [0015], [0017], [0028], [0033], [0037], [0040], [0046], [0047], [0048], [0050]	1-11, 15-17. 23, 25-31, 33-40 and 52-59 --- 12-14, 18-22, 24, 32, 41-51
Y	US 6,794,792 B2 (WANG) 21 September 2004 (21 09 2004), entire document especially FIG 4, col 1, ln 7-10, col 5, ln 66 - col 6, ln 6	12-14, 18-22
Y	US 4,293,884 A (SCHILLER) 06 October 1981 (06 10 1981), FIG 5, col 1, ln 6-11, col 7, ln 58-61	24
Y	US 5,191,309 A (LAROS) 02 March 1993 (02 03 1993), FIG 1, col 1, ln 5-18, col 2, ln 65 - col 3, ln 4	32
Y	US 4,335,423 A (KOIZUMI et al) 15 June 1982 (15 06 1982), FIG 4, col 1, ln 6-8, col 4, ln 62 -67	41-48
Y	US 2006/0208727 A1 (MATSUMOTO) 21 September 2006 (21 09 2006), para [0075]	49-51

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