

(12) **UK Patent Application** (19) **GB** (11) **2 399 225** (13) **A**

(43) Date of A Publication **08.09.2004**

(21) Application No: **0409705.1**

(22) Date of Filing: **13.05.2003**

Date Lodged: **30.04.2004**

(30) Priority Data:

(31) **0210886** (32) **13.05.2002** (33) **GB**

(31) **0213024** (32) **07.06.2002**

(31) **0225006** (32) **28.10.2002**

(31) **0228425** (32) **06.12.2002**

(62) Divided from Application No  
**0310956.8** under Section 15(4) of the Patents Act 1977

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(continued on next page)

(51) INT CL<sup>7</sup>:  
**H01F 38/14 // H02J 7/02 , H04B 5/00**

(52) UK CL (Edition W ):  
**H1T T1C T1F T12 T6 T7A11 T7A13 T7A2A T7A2B T7A5**  
**T7C1A T7C5**

(56) Documents Cited:  
**SE 008704910 A** **US 6100663 A**  
**US 3673334 A**

(59) Field of Search:  
UK CL (Edition W ) **H1T**  
INT CL<sup>7</sup> **H01F, H02J, H04B**  
Other:

(54) Abstract Title: **Inductive power transfer system having a horizontal magnetic field**

(57) A primary unit for use in a power transfer system has a power transfer surface shaped and arranged such that a secondary device 820, separable from the primary unit, can be placed in a working disposition on or in proximity to a power transfer area of the surface to receive power from the primary unit without requiring direct electrical conductive contacts between the primary unit and the secondary device. The primary unit comprises a field generating unit having a plurality of substantially coplanar conductive elements 711 arranged at or beneath the power transfer surface in a generating area. The elements extend generally in parallel with one another across the generating area, and generate an electromagnetic field 1 distributed across the power transfer area. The respective instantaneous currents which flow simultaneously through all the conductive elements in the generating area have the same general direction.

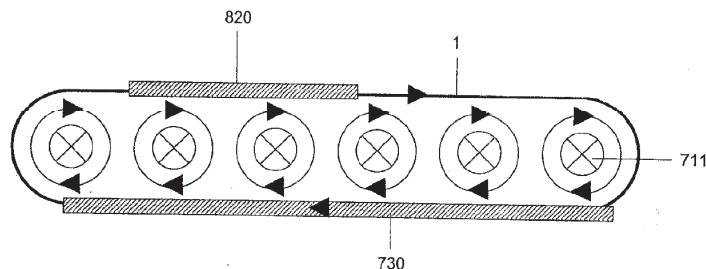


Figure 4d

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Original Printed on Recycled Paper

**GB 2399225 A continuation**

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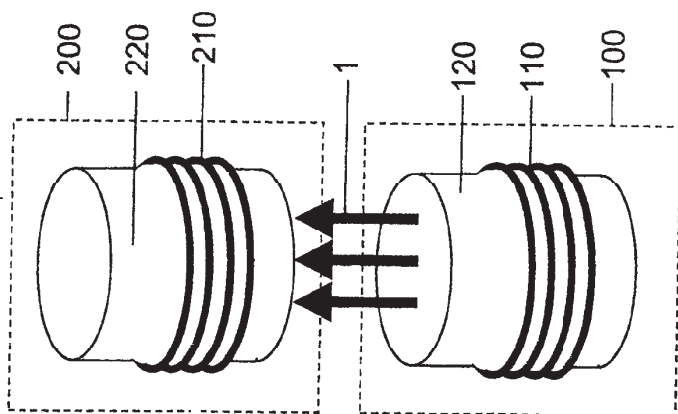


Figure 1a  
(Prior Art)

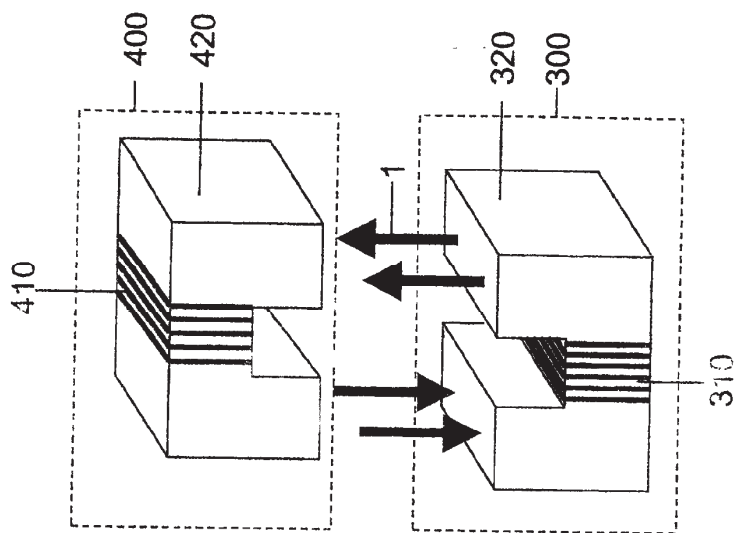


Figure 1b  
(Prior Art)

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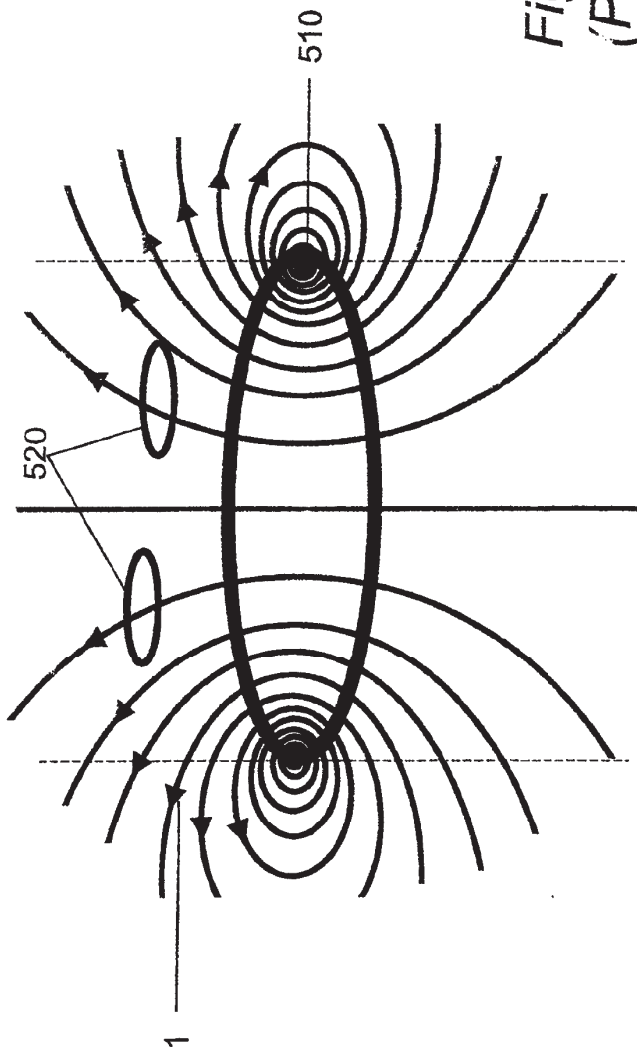


Figure 2a  
(Prior Art)

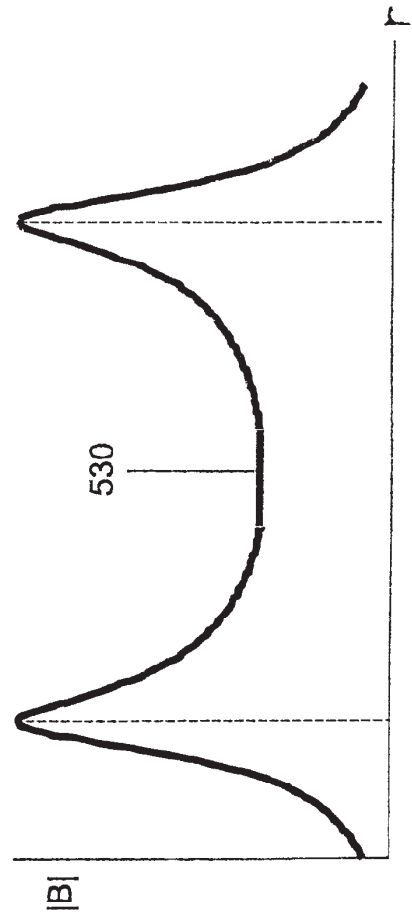


Figure 2b

X = 5mm

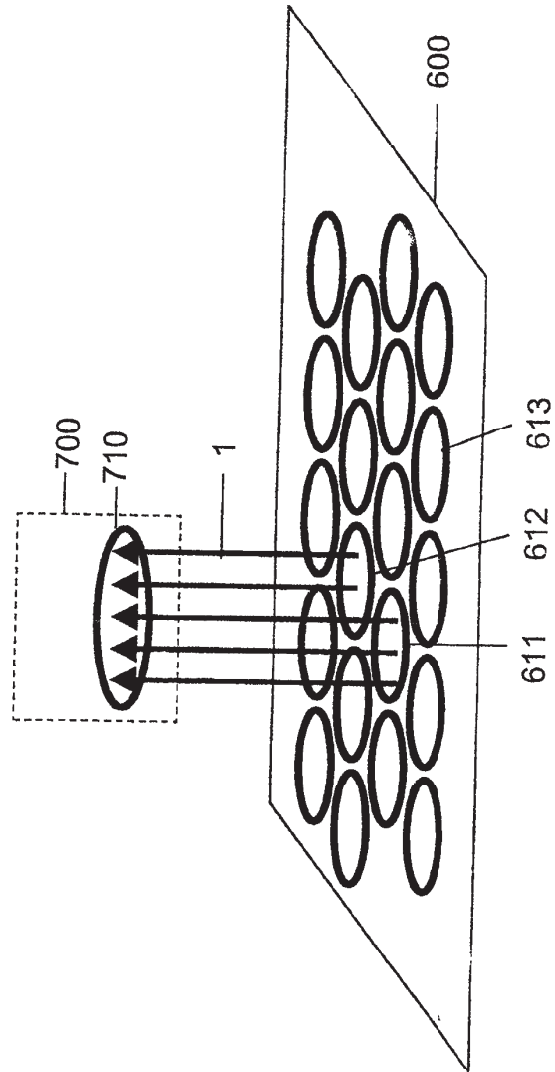


Figure 3

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