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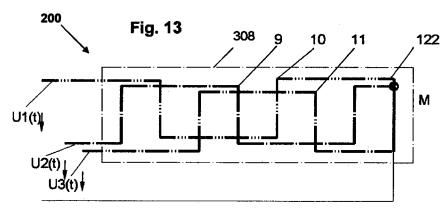
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(54) Title: INDUCTIVELY RECEIVING ELECTRIC ENERGY FOR A VEHICLE



(57) **Abstract**: The invention relates to an arrangement for providing a vehicle, in particular a track bound vehicle, with electric energy, wherein the arrangement comprises a receiving device (200) adapted to receive an alternating electromagnetic field and to produce an alternating electric current by electromagnetic induction. The receiving device (200) comprises a plurality of windings and/or coils (9, 10, 11) of electrically conducting material, wherein each winding or coil (9, 10, 11) is adapted to produce a separate phase of the alternating electric current.





INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER INV. B60L5/00 B60M7 B60M7/00 B60L9/08 ADD. According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) B60L B60M Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Category* Citation of document, with indication, where appropriate, of the relevant passages EP 0 187 526 A2 (URBAN TRANSPORTATION DEV 1-3,11X 12,16-19 [CA]) 16 July 1986 (1986-07-16) 4-7,13page 6, line 1 - page 10, line 13; figures Α 1-6 JP 58 043104 A (JAPAN NATIONAL RAILWAY; X 1-3, HITACHI LTD) 12 March 1983 (1983-03-12) 11-13. 17.19 * abstract; figures 1,3 X DE 18 06 977 A1 (MERLIN GERIN) 1,16,17, 19 June 1969 (1969-06-19) page 2 - page 4; figure 1 Further documents are listed in the continuation of Box C. See patent family annex. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to filing date involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 5 October 2010 18/10/2010 Name and mailing address of the ISA/ Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016 Bolder, Arthur

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report			Publication date	Patent family member(s)		Publication date
EP	0187526	A2	16-07-1986	AU CA DE ES IN JP MX US	580826 B2 5183586 A 1235761 A1 3581798 D1 8700614 A1 164527 A1 61218304 A 159850 A 4635560 A	02-02-1989 10-07-1986 26-04-1988 28-03-1991 16-01-1987 01-04-1989 27-09-1986 21-09-1989 13-01-1987
JP	58043104	Α	12-03-1983	NONE		
DE	1806977	A1	19-06-1969	BE FR GB US	723857 A 1553871 A 1194438 A 3513338 A	16-04-1969 17-01-1969 10-06-1970 19-05-1970