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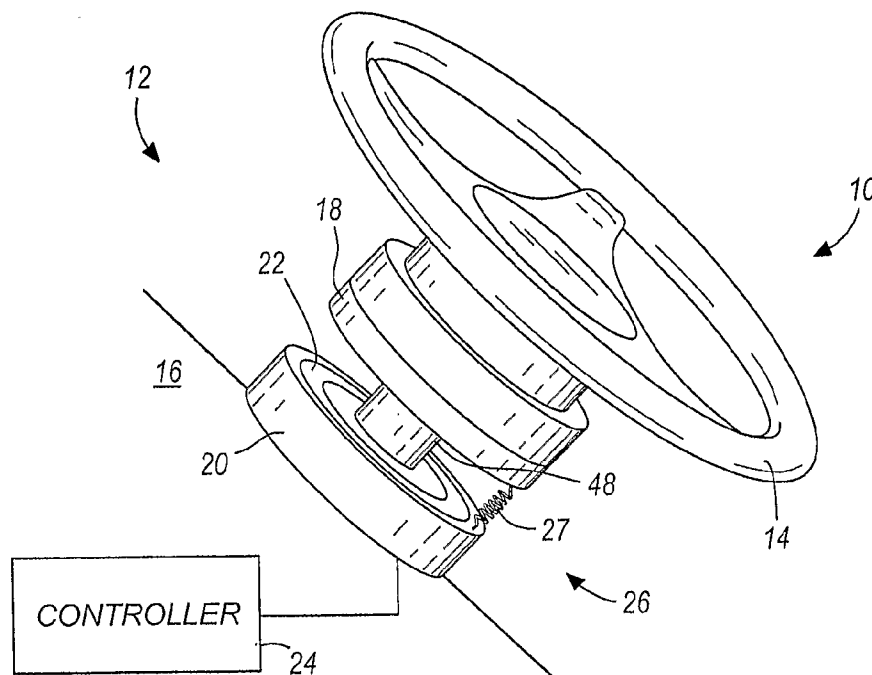
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[Continued on next page]

(54) Title: RESIDUAL MAGNETIC DEVICES AND METHODS



(57) Abstract: This application discloses residual magnetic devices in the form of locks (12), brakes (140,1020), rotation inhibitors (78), clutches (194), actuators (200) and latches (170). These devices can include an armature (18), a coil (22), a biasing member (27) and a housing core (20). The coil receives a magnetization current to create an irreversible residual magnetic force between the core housing and the armature.



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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 practicable, search terms used)
EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2,091,268 A (COLMAN) 05 March 1934 (05.03.1934), see the entire document.	1-58
Y	US 2,395,772 A (WINTHER) 27 January 1945 (27.01.1945), see the entire document.	1-58
Y	US 3,224,540 A (STRAUB) 26 February 1962 (26.02.1962), see the entire document.	1-58
A	US 3,763,968 A (NOLY) 09 October 1973 (09.10.1973), see the entire document.	1-58
Y	5,494,219 A (MALEY et al.) 27 February 1996 (27.02.1996), see the entire document.	1-58
Y	US 5,791,442 A (ARNOLD) 11 August 1998 (11.08.1998), see the entire document.	1-58
A	US 2002/0104494 A1 (OZAWA et al.) 08 August 2002 (08.08.2002), see the entire document.	1-58



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"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"P"	document published prior to the international filing date but later than the priority date claimed		

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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2004/0146417 A1 (DUNN) 29 July 2004 (29.07.2004), see the entire document.	1-58
A	US 2004/0169989 A1 (BABICH) 02 September 2004 (02.09.2004), see the entire document.	1-58
A	US 2006/0219498 A1 (ORGANEK et al.) 05 October 2006 (05.10.06), see the entire document.	1-58
A	US 2006/021499 A1 (ORGANEK et al.) 05 October 2006 (05.10.2006), see the entire document.	1-58
A	US 2006/0219513 A1 (ORGANEK et al.) 05 October 2006 (05.10.2006), see the entire document.	1-58
A	US 2006/0237959 A1 (DIMIG et al.) 26 October 2006 (26.10.2006), see the entire document.	1-58