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(54) Title: LIFT AXLE CONTROL VALVE ASSEMBLY FOR A MOTOR VEHICLE

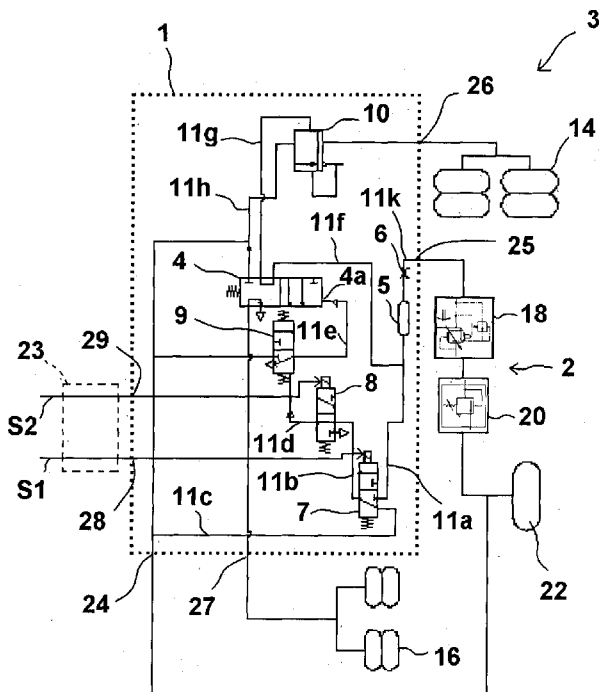


Fig. 2

(57) Abstract: A lift axle control valve assembly (1) for a lift axle suspension system comprises: a pneumatic spool valve (4) for adjusting the air volume of at least a suspension bellows (14) and a lift bellow (16), a pressure differential valve (9) for controlling said spool valve (4), an electrically actuated pneumatic valve device (7, 8) for receiving at least one electric control signal (S1, S2) and controlling said pressure differential valve (9), and a relay valve (10) controlled by said pneumatic spool valve (4), wherein said lift axle control valve assembly (1) comprises a multilayer construction with at least two valve levels and at least two layers comprising air passages (11a, 11b, 11c, 11d, 11e, 11f, 11g, 11h, 11k) for conducting air, wherein said valve levels are separated by at least two layers, wherein said valves are positioned in said valve levels and connected with each other by said air passages (11) of said layers.

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A. CLASSIFICATION OF SUBJECT MATTER

see the extra sheet

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)

IPC:B60G

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)

EPODOC,WPI,CNPAT:lift,axle,shaft,valve,suspension,air,gas,pneumatic,signal,vehicle,magnetic,solenoid

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN1922044A (WABCO GMBH & CO OHG) 28 Feb.2007(28.02.2007) see the whole document	1-15
A	CN1882446A (WABCO GMBH & CO OHG) 20 Dec.2006(20.12.2006) see the whole document	1-15
A	US5466007A (DUNLOP LIMITED) 14 Nov.1995(14.11.1995) see the whole document	1-15
A	US2002117823A1 (Alexander M. Mlsna et al.) 29 Aug.2002(29.08.2002) see the whole document	1-15
A	WO2008101627A1 (KNORR BREMSE SYSTEME et al.) 28 Aug.2008(28.08.2008) see the whole document	1-15

Further documents are listed in the continuation of Box C.

See patent family annex.

<p>* Special categories of cited documents:</p> <p>“A” document defining the general state of the art which is not considered to be of particular relevance</p> <p>“E” earlier application or patent but published on or after the international filing date</p> <p>“L” document which may throw doubts on priority claim (S) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>“O” document referring to an oral disclosure, use, exhibition or other means</p> <p>“P” document published prior to the international filing date but later than the priority date claimed</p>	<p>“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 invention</p> <p>“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</p> <p>“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 in the art</p> <p>“&”document member of the same patent family</p>
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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	EP0170794A2 (WABCO WESTINGHOUSE FAHRZEUG) 12 Feb.1986(12.02.1986) see the whole document	1-15

INTERNATIONAL SEARCH REPORT
Information on patent family members

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Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
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Continuation of: second sheet A. CLASSIFICATION OF SUBJECT MATTER

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