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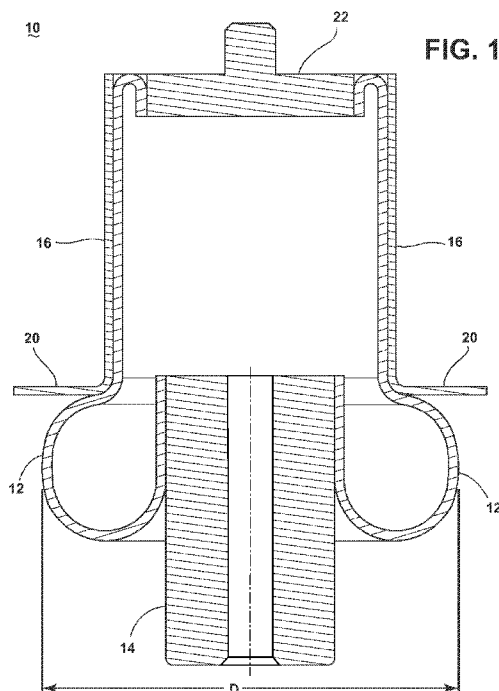
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(54) Title: AIR SPRING WITH CONSTRAINED ELASTIC SLEEVE



(57) Abstract: An air spring (10) comprises a hollow elastic sleeve (12), an upper component (22) for securing the air spring to a first frame, a hollow piston (14) for securing the air spring (10) to a second frame that is movable relative to the first frame, and a cylinder (16) surrounding the hollow elastic sleeve to constrain the diameter of the hollow sleeve (12) and reduce the effective area of the air spring to reduce the natural frequency of the air spring (10).

A. CLASSIFICATION OF SUBJECT MATTER***B60G 17/052(2006.01)i, B60G 17/048(2006.01)i, B60G 17/044(2006.01)i***

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)

B60G 17/052; F16D 100; F16F 9/05; F16F 3/08; F16F 904; F16F 9/04

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: air spring, suspension, bellows, sleeve, cover and cylinder

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 2006-0208403 A1 (ARVINMERITOR TECHNOLOGY, LLC.) 21 September 2006 See pages 1 - 3 and figures 1 - 3.	1-2 3-5
Y A	US 05009401 A (WEITZENHOF, DAVID A.) 23 April 1991 See columns 5 - 10 and figures 1 - 10.	3-5 1-2
A	US 6845973 B2 (FERRER, DAVID A.) 25 January 2005 See figures 1 - 7.	1-5
A	JP 2004-360884 A (BRIDGESTONE CORP.) 24 December 2004 See figures 1 - 11.	1-5



Further documents are listed in the continuation of Box C.



See patent family annex.

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"&" document member of the same patent family

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Information on patent family members

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