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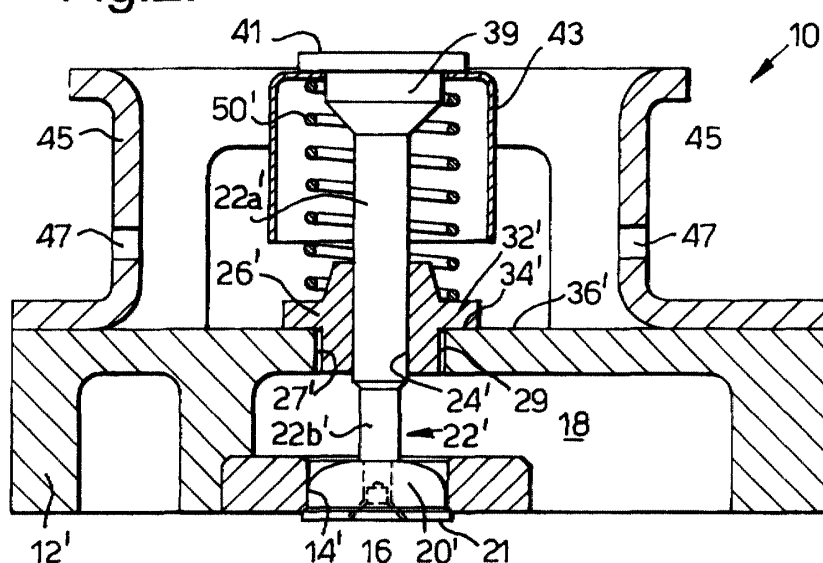
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(54) **Pressure balancing metering subassembly for use with a modular egr valve**

(57) A leakage arresting system comprising a novel gas arrestor 43, 43' for installation on an interrupted pintle shaft in a pintle-type valve 10', 10", such as an exhaust gas recirculation valve for an internal combustion engine, for preventing leakage of gas and moisture along the pintle shaft 22'a, 22"a into the actuator, to pre-

vent corrosion and failure of the actuator. The system comprises two elements: a pintle shaft which is interrupted outside the actuator, and a positive vapor block in the form of a cup-shaped arrestor disposed across the pintle interruption. The invention is applicable to both unbalanced and force-balanced valves.

Fig.2.





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EUROPEAN SEARCH REPORT

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EP 01 20 0650

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	WO 99 18344 A (SIEMENS CANADA LTD) 15 April 1999 (1999-04-15) * page 7, line 14 - page 14, line 30; figures 1,2 *	1-4,6	F02M25/07
X	US 5 988 147 A (EVERINGHAM GARY) 23 November 1999 (1999-11-23) * column 2, line 65 - column 5, line 67; figures 1-3 *	1-4,6	
X	WO 99 47842 A (ROBERTSHAW CONTROLS CO) 23 September 1999 (1999-09-23) * page 4, line 13 - page 10, line 5; figures 1-3 *	1-4,6	
X	DE 40 39 351 A (PIERBURG GMBH) 11 June 1992 (1992-06-11) * column 2, line 38 - column 4, line 50; figures 1-3 *	1-3,6	
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The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 1 July 2002	Examiner Marsano, F
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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