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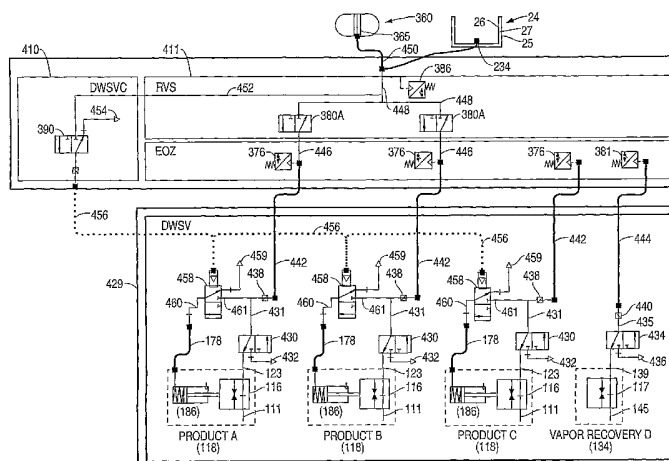
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(54) Title: VACUUM-ACTUATED SHEAR VALVE DEVICE, SYSTEM, AND METHOD, PARTICULARLY FOR USE IN SERVICE STATION ENVIRONMENTS



(57) Abstract: A vacuum-actuated shear valve (116) coupled between piping (106,140) from a storage tank and piping internal to a fuel dispenser (10) that automatically opens and closes in response to a vacuum level. A vacuum actuator (186) is provided to control a fuel flow valve inside the shear valve (116). When a sufficient vacuum level is generated to the vacuum actuator (186), the actuator keeps the flow path valve inside the shear valve (116) open. When the vacuum is lost, the vacuum actuator (186) releases the flow path valve inside the shear valve, which closes it. The vacuum actuator (186) is coupled to a secondary containment space of a fuel-handling component that is drawn under a vacuum level by a vacuum-generating source to monitor for leaks. Thus, if a leak occurs in the monitored secondarily contained space, the shear valve (116) is automatically closed to prevent the flow of fuel from continuing to be supplied to the source of the leak.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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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)
B67D F16K

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

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003/047211 A1 (BRAVO SERGIO M ET AL) 13 March 2003 (2003-03-13) paragraph [0105]; figure 14	
A	US 2004/234338 A1 (MONROE THOMAS K ET AL) 25 November 2004 (2004-11-25) the whole document	

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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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
US 2003047211 A1	13-03-2003	NONE	
US 2004234338 A1	25-11-2004	EP 1627283 A2 WO 2004104785 A2	22-02-2006 02-12-2004