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[Continued on next page]

(54) Title: CONTROLLING FLUID FLOW

(57) Abstract: Some embodiments of a shutoff valve system (100) for a fluid flow system can include a plug assembly (140) that is biased to adjust from a first position in which the fluid flow path is open to a second position in which the fluid flow path is closed. The plug assembly may automatically adjust from the first position to the second position in response to a downstream pressure condition that is detected by a sensor assembly (160).

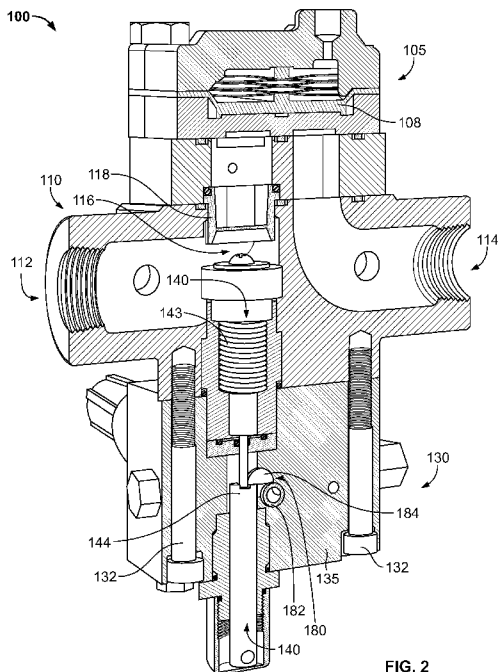


FIG. 2



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SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG). **Published:**

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
12 January 2012

INTERNATIONAL SEARCH REPORT

International application No PCT/US2011/032523
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A. CLASSIFICATION OF SUBJECT MATTER INV. F16K17/32 ADD.				
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) 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, PAJ				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	US 2 327 055 A (MICHAEL MCMAHON) 17 August 1943 (1943-08-17) page 1, column 2, line 39 - page 2, column 2, line 48; figures 1-7 -----	1-23		
X	US 3 635 239 A (FARRER SYDNEY) 18 January 1972 (1972-01-18) column 1, line 49 - column 4, line 1; figures 1-5 -----	1-23		
X	GB 2 007 332 A (MASUYA T; MASUYA Y) 16 May 1979 (1979-05-16) page 1, line 96 - page 4, line 18; figures 1-5 -----	1-23		
X	JP 61 103677 U (EAGLE INDUSTRY CO. LTD.) 1 July 1986 (1986-07-01) figures 1-4 -----	1-23		
-/--				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.</td> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> See patent family annex.</td> </tr> </table>			<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.			
* Special categories of cited documents :				
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "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) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"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 "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 "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. "&" document member of the same patent family			
Date of the actual completion of the international search	Date of mailing of the international search report			
30 August 2011	29/11/2011			
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Heneghan, Martin			

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/032523

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-23

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2011/032523

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 709 239 A (MACALELLO FRANK [US] ET AL) 20 January 1998 (1998-01-20) column 4, line 51 - column 13, line 5; figures 1-8	1-23
X	----- US 4 457 334 A (BECKER HENRY [US] ET AL) 3 July 1984 (1984-07-03) column 2, line 26 - column 4, line 14; figures 1-4c	1-23
A	----- US 2 638 928 A (ALBERT STADLER) 19 May 1953 (1953-05-19) figures 1-4 -----	1,12,16, 19,22

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2011/032523

Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
US 2327055	A	17-08-1943	NONE	

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US 4457334	A	03-07-1984	NONE	

US 2638928	A	19-05-1953	NONE	

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-23

Shut-off valve having a plug assembly that closes a passageway in response to movement of a trigger system that moves in response to a pressure condition and a method of using this shut-off valve.

2. claims: 24-26

Shut-off valve having a closure member with a specific type of spring mechanism.

3. claims: 27-29

Shut-off valve having a closure member with only a single sealing ring member engaging the closure member.

4. claims: 30-32

Slam shut valve system having a regulator body and a slam shut valve assembly that is removably connected to the regulator body using only two mounting bolts.

5. claims: 33, 34

Slam shut valve assembly having a plug assembly that closes a passageway when released by a trip mechanism and a viewing window giving a visible indication of the actuation of the trip mechanism.
