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- (71) Applicant: SAFETY CRITICAL ANALYSIS LIMITED
[GB/GB]; High Street, Cleator Moor, Cumbria CA25 5BS
(GB).
- (72) Inventor: CANFIELD, Kurt; Safety Critical Analysis
Limited, High Street, Cleator Moor, Cumbria CA25 5BS
(GB).

(74) Agent: MOHUN, Stephen; Dehns Mohun LLP, 13/14
Park Place, Leeds, West Yorkshire LS1 2SJ (GB).

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[Continued on next page]

(54) Title: ANNULAR VALVE

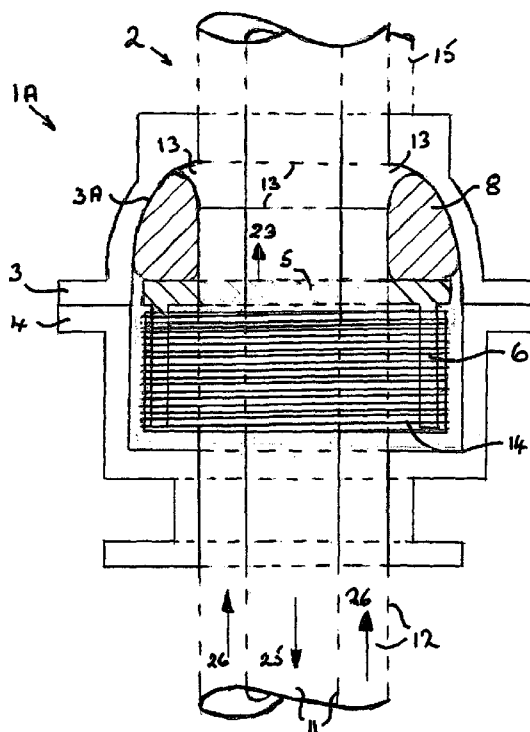


FIG. 3

(57) Abstract: An annular valve is constructed with an annular housing located coaxially around an axial pipe, a means to close, partly close or fully open the bore of the pipe thus stopping, partly stopping or fully opening the bore for fluid or slurry flow through the pipe and an electrical means operable to close, partly close or open the means to stop or permit flow in the pipe. The means to close, partly close or fully open the bore of the pipe may be an annular slide valve or an extrudable, packing member, which can be forced through an annular aperture into the bore to partially, or wholly, block the bore. The slide valve or extrudable, packing member is operated by an electrical means in the form of a solenoid-type of arrangement. The pipe in the housing may be a single pipe or a double, coaxial pipe, consisting of a bore and annular passage surrounding it, and the valve may be operable to close, partly close or fully open the annular passage. Means to monitor the position of the valve and hence the degree of closure are taught as are fail safe means.



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

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INTERNATIONAL SEARCH REPORT

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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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)

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 6 325 159 B1 (PETERMAN CHARLES P [US] ET AL) 4 December 2001 (2001-12-04) figure 3A -----	1-20
A	US 2012/000664 A1 (NAS STEPHANUS WILHELMUS MARIA [US] ET AL) 5 January 2012 (2012-01-05) figure 4B -----	1-20
A	US 2013/062071 A1 (RYTLEWSKI GARY L [US] ET AL) 14 March 2013 (2013-03-14) figures 2,3 -----	1-20



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European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Morrish, Susan

INTERNATIONAL SEARCH REPORT

Information on patent family members

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