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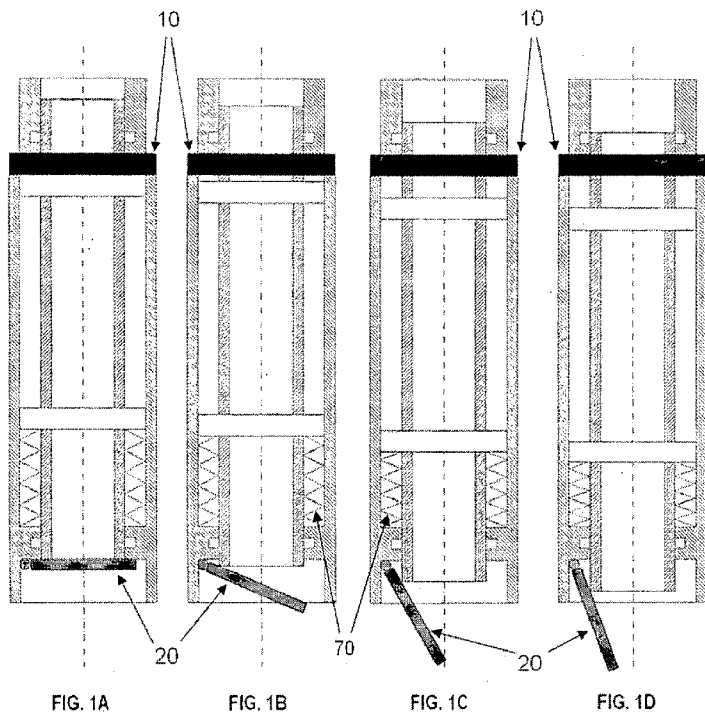
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[Continued on next page]

(54) Title: LINEAR ACTUATION SYSTEM IN THE FORM OF A RING



(57) Abstract: A device for use in actuating a valve to control the flow of fluids through a flow tube comprises a stationary ring surrounding the flow tube, the ring having an inner diameter greater than an outer diameter of the flow tube. An interior of the ring and an exterior of the flow tube have complementary screw threads. At least three actuators are equally circumferentially spaced along an exterior of the ring. When activated an actuator induces a screw thread on the interior of the ring to engage a screw thread on the exterior of the flow tube such that the flow tube is moved in an axial direction relative to the ring.



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- *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))*

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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)

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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

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

eKOMPASS(KIPO internal) & Keywords: valve, actuator, ring

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6321845 B1 (DEATON; THOMAS M.) 27 November 2001 See the whole document.	1-22
A	US 2004-0173362 A1 (JAMES C. P. WAITHMAN et al.) 09 September 2004 See the whole document.	1-22
A	US 2005-0230118 A1 (JOE NOSKE et al.) 20 October 2005 See the whole document.	1-22

 Further documents are listed in the continuation of Box C. See patent family annex.

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