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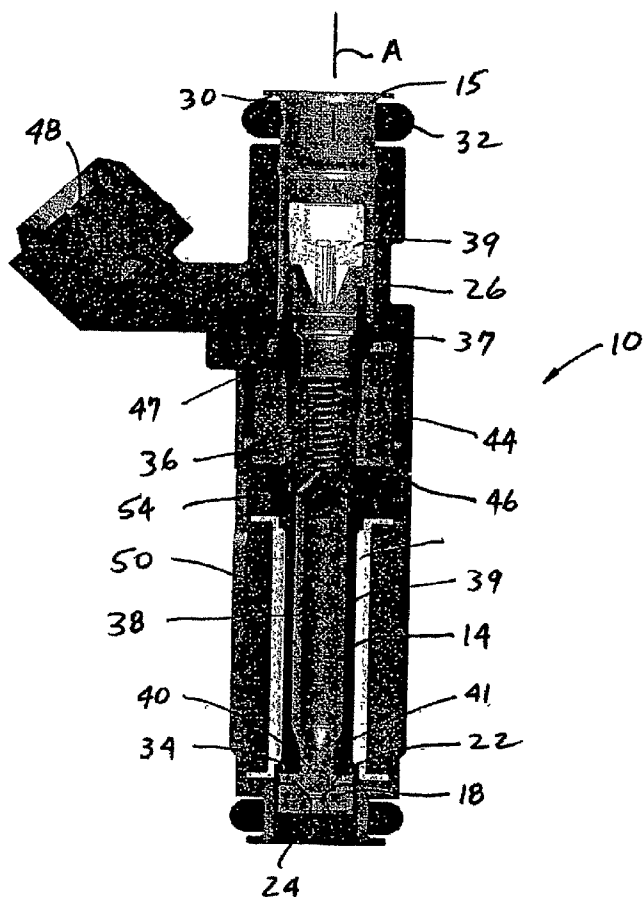
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[Continued on next page]

(54) **Title:** VARIABLE INDUCTIVE HEATED INJECTOR



(57) **Abstract:** A fuel injector for an internal combustion engine includes a valve body (14). A valve seat (18) is associated with the valve body (14). The valve seat (18) defines an outlet opening (24) through which fuel may flow. An armature (38) is associated with the valve body (14) and is movable with respect to the valve body between a first position and a second position. The armature (38) is associated with a closure member (34) proximate the outlet opening (24) and contiguous to the valve seat (18) when in the first position, and spaced from the valve seat (18) when in the second position. An electromagnetic coil (44) is energizable to provide magnetic flux that moves the armature (38) between the first and second positions to control liquid fuel flow through the outlet opening (24). A heating coil (50) is energizable to provide heat and thereby vaporize liquid fuel as it exits the outlet opening (24).

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## INTERNATIONAL SEARCH REPORT

International application No

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## A. CLASSIFICATION OF SUBJECT MATTER

INV. F02M53/06

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)  
F02M

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
X	JP 2002 180919 A (TOYOTA MOTOR CORP) 26 June 2002 (2002-06-26)	1-4, 6, 9, 15-17, 24, 25
Y	abstract; figures 1-7 -----	5, 18
Y	US 6 176 226 B1 (NINES JERRY EDWARD [US] ET AL) 23 January 2001 (2001-01-23) figures 1-10 -----	5, 18
X	US 6 334 418 B1 (HUBBARD WILLIAM A [US]) 1 January 2002 (2002-01-01) figure 4 -----	1
A	US 6 685 112 B1 (HORNBY MICHAEL J [US] ET AL) 3 February 2004 (2004-02-03) cited in the application figure 1 -----	1

**D**

Further documents are listed in the continuation of Box C



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\* Special categories of cited documents

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"&amp;" document member of the same patent family

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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
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