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[Continued on next page]

(54) Title: COOLER BYPASS APPARATUS

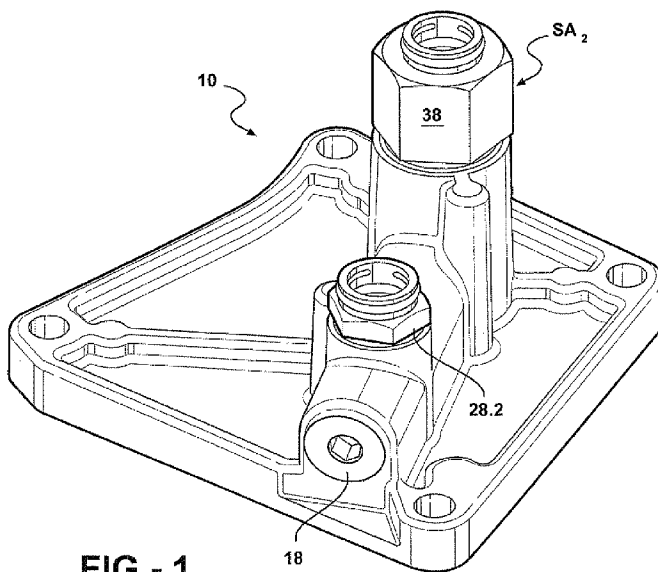


FIG - 1

(57) Abstract: A cooler bypass apparatus housing has a first fluid passageway connecting a first inlet and a first outlet port, and a second fluid passageway connecting a second inlet port and outlet port. A transverse passageway extends between the first and second fluid passageway. A first valve is disposed in the transverse passageway for one-way fluid flow from the first to the second passageway. A second valve and a thermal actuator coupled to the second valve are disposed in the second passageway. The thermal actuator moves the second valve to fluid flow blocking or fluid flow allowing positions dependent upon fluid temperature.

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INTERNATIONAL SEARCH REPORT

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PCT/US2008/070179**A. CLASSIFICATION OF SUBJECT MATTER***F01M 5/00(2006.01)i, F01P 7/02(2006.01)i, G05D 23/00(2006.01)i*

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)

IPC 8 : F01M, F01P, G05D

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 since 1975
Japanese Utility models and applications for Utility models since 1975

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

eKIPASS(KIPO internal) & Keywords: "cooler", "temperature", "valve", "bypass"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 12-045773 A (DENSO CORP) 15 February 2000 See figure 1-3 and claim 1.	1-10
A	US 5,586,449 A (KRIST; GENE) 24 December 1996 See figure 1 and abstract..	1-10
A	US 3,913,831 A (DEERE & COMPANY) 21 October 1975 See figure 1 and abstract..	1-10

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

* Special categories of cited documents:

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"&" 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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US 3,913,831 A	21.10.1975	NONE	