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(71) Applicant (for all designated States except US): **HONEYWELL INTERNATIONAL INC.** [US/US]; P.O. Box 2245, 101 Columbia Road, Morristown, NJ 07962 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **TREIER, Philip, P.** [US/US]; 616 N. Main Street, Bloomdale, OH 44817 (US). **HERALD, Michael, L.** [US/US]; 1906 Somerville Court, Maumee, OH 43537 (US). **MONTELAURO, Christopher, P.** [US/US]; 214 Napoleon. #258, Bowling Green, OH 43402 (US).

(74) Common Representative: **HONEYWELL INTERNATIONAL INC.**; Law Department Patent Services, P.O. Box 2245, 101 Columbia Road, Morristown, NJ 07962 (US).

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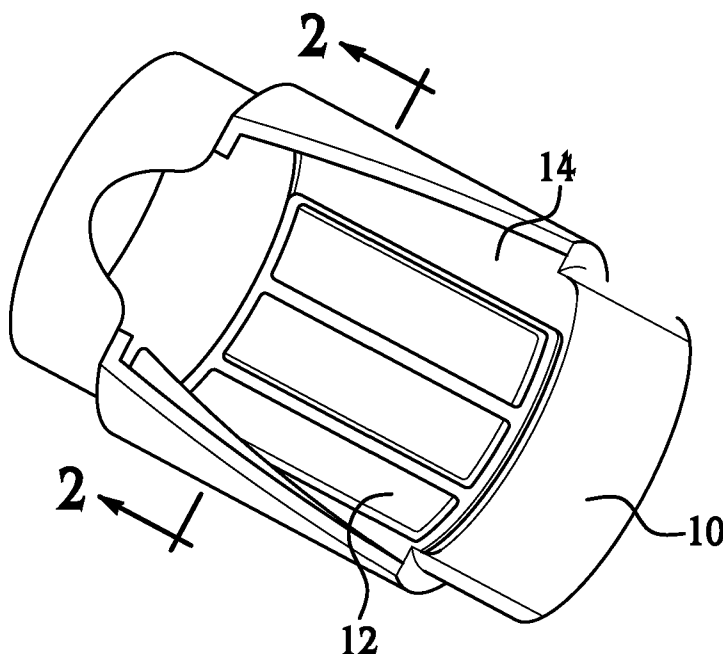
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- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: HYDROCARBON ADSORBER FOR AIR INDUCTION SYSTEMS



(57) Abstract: An inlet conduit (10) for an engine air induction system, comprising: a plurality of openings (14) located about the inlet conduit; a hydrocarbon vapor-adsorbent member disposed on an exterior surface of the inlet conduit, the hydrocarbon vapor-adsorbent member (12) covering the plurality of openings; and a covering member secured over the hydrocarbon vapor-adsorbent member, the covering member sealing the hydrocarbon vapor-adsorbent member to the inlet conduit, wherein hydrocarbon vapors present in the air induction system after engine shut-down are substantially retained in the hydrocarbon vapor-adsorbent member until air flows through the air induction system after the engine starts. A radial seal filter comprising a conventional filter element and a hydrocarbon vapor-adsorbent member.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

INV. F02M25/08 F02M35/024 F02M35/10 B01D46/24

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 B01D

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	US 2002/029693 A1 (SAKAKIBARA ET AL) 14 March 2002 (2002-03-14) page 1, paragraph 8 - page 4, paragraph 57	1-10
A	US 2004/182240 A1 (BAUSE ET AL) 23 September 2004 (2004-09-23) page 1, paragraph 11 - page 2, paragraph 27	1, 3, 5
A	US 2003/066427 A1 (ISHIDA) 10 April 2003 (2003-04-10) page 1, paragraph 11 - page 2, paragraph 40	1, 3
A	US 2002/179065 A1 (EVERINGHAM ET AL) 5 December 2002 (2002-12-05) page 2, paragraph 19 - page 3, paragraph 28	1, 2, 7



Further documents are listed in the continuation of Box C.



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
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- *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.

G document member of the same patent family

Date of the actual completion of the international search

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Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Doolan, Gerard

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/071774

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 allsearchable 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 reportcovers 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.:

1-10

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-10

An inlet conduit for an engine air induction system

2. claims: 11-17

A radial seal filter

3. claims: 18-20

An air induction system for an engine

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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