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- (71) Applicant: **POLARIS INDUSTRIES INC.** [US/US];
2100 Highway 55, Medina, MN 55340 (US).
- (72) Inventors: **LOVOLD, Jeff, S.**; 603 2nd Avenue SE,
Roseau, MN 56751 (US). **ERICKSON, Steven, C.**; 44039
281st Street, Roseau, MN 56751 (US). **RODRIGUEZ,
William, B.**; 308 B Center Street East, Roseau, MN 56751
(US). **EICHENBERGER, Jeremy, R.**; 36703 570th Av-
enue, Warroad, MN 56763 (US). **OLSON, Alan, S.**;
25501 County Road 13, Roseau, MN 56751 (US).
- (74) Agent: **GROEN, Eric, J.**; Faegre Baker Daniels LLP, 300
North Meridian Street, Suite 2700, Indianapolis, IN 46204
(US).

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[Continued on next page]

(54) Title: ALL-TERRAIN VEHICLE

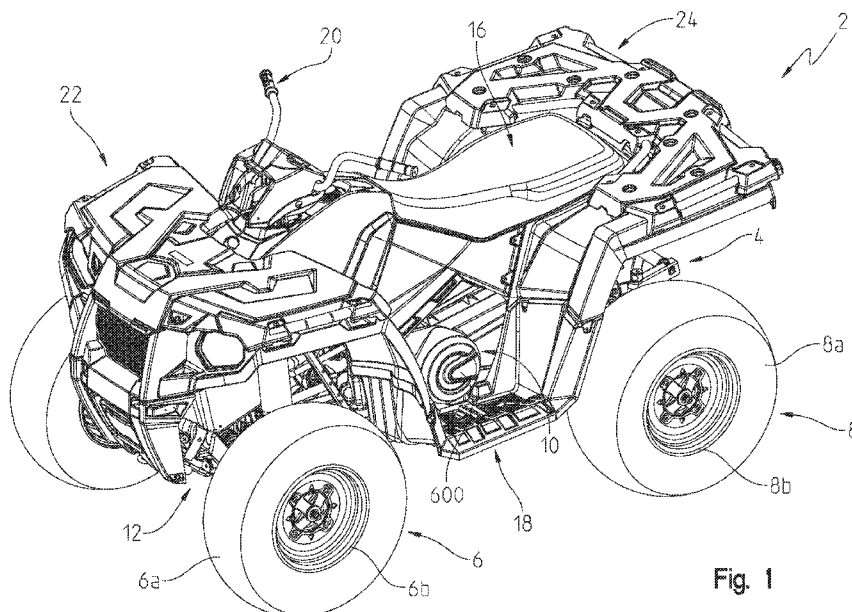


Fig. 1

(57) Abstract: An ATV is disclosed having a frame and a plurality of wheels. A power train is defined by an engine, transmission and front and rear final drives. The engine is mounted to the frame skid plate by way of die cast legs. The transmission may include a CVT, which includes a cooling system to cool the interior of the CVT. The cooling system include a fan positioned on the driven clutch causing a reverse suction air flow, back through the drive clutch, with the air exhausting at the front of the engine.



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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. B62K5/01
ADD.

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)
B62K F01N

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. |
|-----------|--|--------------------------|
| X | US 2010/243391 A1 (WAKABAYASHI TAKESHI [JP] ET AL) 30 September 2010 (2010-09-30) | 21-23 |
| Y | claims; figures | 1-13, 24-36, 43-52 |
| Y | ----- WO 2009/008779 A1 (HUSQVARNA AB [SE]; MALMBERG MATS [SE]) 15 January 2009 (2009-01-15) figures 2,3 | 1-13, 43-52, 55-57 |
| Y | ----- CA 2 390 603 A1 (BOMBARDIER INC [CA]) 13 December 2003 (2003-12-13) figure 1a | 1 |
| Y | ----- US 6 755 269 B1 (DAVIS RICHARD A [US] ET AL) 29 June 2004 (2004-06-29) paragraph [0040]; figure 9 ----- -/-- | 6,39-42, 48 |

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
- "E" earlier application or patent but published on or after the international filing date
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- "O" document referring to an oral disclosure, use, exhibition or other means
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- "&" document member of the same patent family

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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,
Fax: (+31-70) 340-3016

Authorized officer

Grunfeld, Michael

INTERNATIONAL SEARCH REPORT

International application No
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| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|--|--|-------------------------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| Y | JP S58 202111 A (HONDA MOTOR CO LTD) 25 November 1983 (1983-11-25) abstract; figures ----- | 9,10,50, 51 |
| Y | US 4 010 812 A (BOTHWELL PETER WILLIAM) 8 March 1977 (1977-03-08) column 5, line 14 - line 21; figures ----- | 11,24, 25, 27-36, 39-41,52 |
| X | JP H11 11171 A (YAMAHA MOTOR CO LTD) 19 January 1999 (1999-01-19) abstract; figures ----- | 14-20 |
| Y | US 2005/221936 A1 (SEKI BUNZO [JP] ET AL) 6 October 2005 (2005-10-06) paragraph [0094]; figure 1 ----- | 26,36,42 |
| X | US 2002/038737 A1 (MORISHITA YOSHIHIRO [JP] ET AL) 4 April 2002 (2002-04-04) paragraph [0080] - paragraph [0084]; figures 1,10 ----- | 14-20 |
| Y | US 2010/035078 A1 (STAUDT ERIC K [US] ET AL) 11 February 2010 (2010-02-11) claims; figures ----- | 53-57 |
| X | US 2011/108349 A1 (MCCLENDON WILLIAM [US] ET AL) 12 May 2011 (2011-05-12) figures 4,12 ----- | 37,38 |
| Y | | 39-42 |

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2014/025859

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 all searchable 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 report covers 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.:

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: 1-13, 43-52

An all-terrain vehicle with upper frame portion having an inward transition behind which various components are mounted

2. claims: 14-20

An all-terrain vehicle with cooling arrangement for a continuously variable transmission

3. claims: 21-26

An all-terrain vehicle with a vertically extending support having an opening through which the exhaust system extends

4. claims: 27-36

An all-terrain vehicle with a vertically extend support, a rear side of which is coupled to a front side of the transmission

5. claims: 37-42

An all-terrain vehicle with front and rear wheel drive

6. claims: 53-57

An all-terrain vehicle with an exhaust shield

INTERNATIONAL SEARCH REPORT

Information on patent family members

| |
|---|
| International application No PCT/US2014/025859 |
|---|

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|--|------------------|-------------------------|---|
| US 2010243391 | A1 | 30-09-2010 | CA 2691500 A1 30-09-2010 JP 2010234904 A 21-10-2010 US 2010243391 A1 30-09-2010 |
| WO 2009008779 | A1 | 15-01-2009 | CN 101730641 A 09-06-2010 EP 2170680 A1 07-04-2010 US 2011012334 A1 20-01-2011 WO 2009008779 A1 15-01-2009 |
| CA 2390603 | A1 | 13-12-2003 | NONE |
| US 6755269 | B1 | 29-06-2004 | NONE |
| JP S58202111 | A | 25-11-1983 | JP H0138717 B2 16-08-1989 JP S58202111 A 25-11-1983 |
| US 4010812 | A | 08-03-1977 | NONE |
| JP H1111171 | A | 19-01-1999 | NONE |
| US 2005221936 | A1 | 06-10-2005 | CA 2502131 A1 30-09-2005 CN 1676405 A 05-10-2005 US 2005221936 A1 06-10-2005 |
| US 2002038737 | A1 | 04-04-2002 | JP H1111371 A 19-01-1999 US 2002038737 A1 04-04-2002 |
| US 2010035078 | A1 | 11-02-2010 | US 2010035078 A1 11-02-2010 WO 2011019783 A2 17-02-2011 |
| US 2011108349 | A1 | 12-05-2011 | NONE |