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Declarations under Rule 4.17:

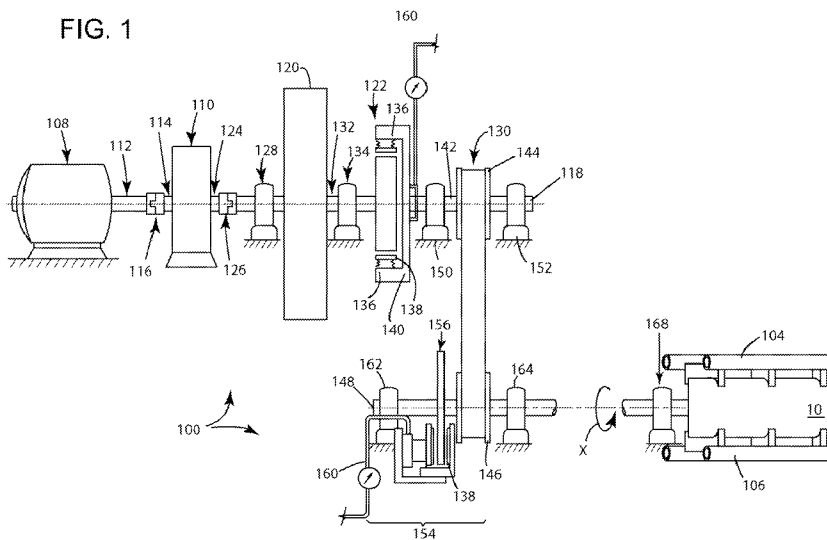
— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

Published:

— 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))

(88) **Date of publication of the international search report:**
20 January 2011

(54) **Title:** A TRACK-SWITCHING DEVICE AND METHOD



(57) **Abstract:** An apparatus and a method for switching a vehicle (306) from a first track to a second track. The track-switching device may be rotated by a motor (108), and may have a drive axle (148) and a primary axle (118). The drive axle (148) may have a barrel (102) located at one end of the drive axle (148), the barrel having a plurality of switch tracks (104,106) located thereon and a braking assembly (154) connected to the drive axle (148) and spaced from the barrel (102). The primary axle (118) may have a flywheel (120) and a clutch assembly (122). The drive axle (148) may then be driven by the primary axle (118) upon engagement of the clutch assembly (122) via the motor (108) and the flywheel (120).

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2009/066691

A. CLASSIFICATION OF SUBJECT MATTER
INV. E01B7/08 B61L5/02
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)
E01B B61L

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.
A	US 5 547 151 A (GIRAS THEO C [US] ET AL) 20 August 1996 (1996-08-20) cited in the application column 3, line 39 - column 4, line 38; claims 1,14	1,9,10, 15,16
A	DE 12 23 861 B (HEINRICH STEINHAGE) 1 September 1966 (1966-09-01) figures 1-7	1,10,16
A	US 3 760 739 A (BENNER J) 25 September 1973 (1973-09-25) column 2; figures 1,2	1,16
A	DE 24 38 756 A1 (BUTZBACHER WEICHENBAU GMBH) 26 February 1976 (1976-02-26) claim 1; figures 1-3c	1

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 document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "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.
- "&" document member of the same patent family

Date of the actual completion of the international search

26 November 2010

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07/12/2010

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/066691

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: 1-15

Independent claim 1 concerns a track-switching device for switching a vehicle from a first track to a second track, the track-switching device being rotated by a motor, and comprising:

(a) a drive axle comprising:

- a barrel located at one end of the drive axle, the barrel having a plurality of switch tracks located thereon; and
- a braking assembly connected to the drive axle and spaced from the barrel;

(b) a primary axle driven by the motor, the primary axle comprising:

- a flywheel; and
- a clutch assembly;

(c) wherein the drive axle is driven by the primary axle upon engagement of the clutch assembly via the motor and the flywheel.

Claims 2-9 are referred back to claim 1.

Method claims 10-15 concern the use of a track switching device with the features of claim 1.

2. claims: 16-19

Independent claim 16 concerns a method of switching tracks, comprising the following steps:

(i) connecting a high-inertia drive system to a switch track assembly;

(ii) accelerating the switch track assembly from a first position towards a second position;

(iii) disconnecting the inertia of all driving elements from the switch track assembly; and

(iv) braking the switch track assembly for stopping at a second position.

Claims 17-19 are referred back to claim 16.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2009/066691

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5547151	A	20-08-1996	AU 685334 B2 15-01-1998
			AU 4048895 A 18-07-1996
			CA 2166669 A1 07-07-1996
			DE 19600186 A1 11-07-1996
			FR 2730969 A1 30-08-1996
			GB 2296732 A 10-07-1996
			IT RM960003 A1 03-07-1997
DE 1223861	B	01-09-1966	NONE
US 3760739	A	25-09-1973	BE 768514 A1 03-11-1971
			DE 2129278 A1 23-12-1971
			FR 2094269 A5 04-02-1972
			GB 1346468 A 13-02-1974
			NL 7108073 A 17-12-1971
DE 2438756	A1	26-02-1976	NONE