

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 May 2002 (23.05.2002)

PCT

(10) International Publication Number
WO 02/040900 A2

(51) International Patent Classification⁷: **F16H 63/30**,
F16D 25/0638, 43/21, 67/04

Roumen [FR/FR]; 139, Boulevard Saint Germain,
F-75006 Paris (FR). **MORANT, Frédéric** [FR/FR];
F-05230 La Plaine d'Avançon (FR).

(21) International Application Number: PCT/EP01/13398

(74) Agents: **PONTET, Bernard** et al.; Pontet Allano & Asso-
cies SELARL, 25, rue Jean Rostand, Parc-Club Orsay-Uni-
versité, F-91893 Orsay Cedex (FR).

(22) International Filing Date:
15 November 2001 (15.11.2001)

(25) Filing Language: English

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZM, ZW.

(26) Publication Language: English

(30) Priority Data:
00/14839 17 November 2000 (17.11.2000) FR

(71) Applicant (*for all designated States except US*):
ANTONOV AUTOMOTIVE TECHNOLOGIES
B.V. [NL/NL]; Weena 89, NL-3013 CH Rotterdam (NL).

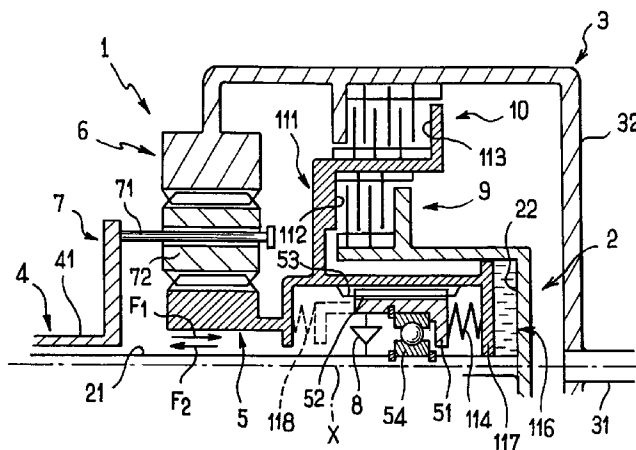
(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **ANTONOV**,

[Continued on next page]

(54) Title: TRANSMISSION DEVICES, FOR GROUND VEHICLES AND MORE PARTICULARLY FOR MOTORS-CARS



(57) Abstract: The epicyclic train is able to operate as a speed reducing gear when sun-wheel (5) is stuck by a one-way clutch (8), and in direct drive when clutch (10) is engaged. The whole coupling and control structure for the ratio change is essentially grouped on the sun-wheel element (5) which is slidably movable and integral with an inverter control means (111) which engages brake (9) when disengaging clutch (10), and conversely. The brake (9) is mounted mechanically in parallel with a one way clutch (8), and allows speed reducing operation when the torque applied to the input shaft (31) is a retarding torque. The one-way clutch is mounted in parallel with an axially unslidable bearing (54) between a stator shaft (21) and a support (51) coupled for common rotation with and mutual slidability with respect to the sun-wheel element (5). For actuation of the control member (111) there is provide an hydraulic actuator (116), spring (114), and involvement of the helical teeth axial thrust (F1, F2). Useful for simplifying the control, keeping a possibility of other selective couplings, allowing other operating conditions, with the other rotary elements (6, 7) of the train, and avoiding the thrust bearings.



WO 02/040900 A2



(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(15) Information about Correction:

see PCT Gazette No. 38/2002 of 19 September 2002, Section II

Published:

— *without international search report and to be republished upon receipt of that report*

(48) Date of publication of this corrected version:

19 September 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.