International Bureau

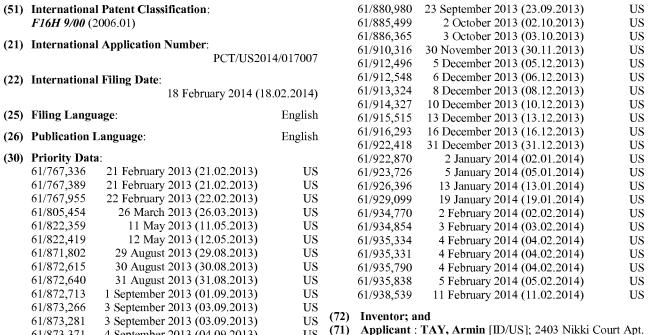
(43) International Publication Date

28 August 2014 (28.08.2014)





(10) International Publication Number WO 2014/130487 A3



(71)

2, West Covina, CA 91792 (US).

(81) Designated States (unless otherwise indicated, for every

kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,

BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,

US

US

US

US

US

US

[Continued on next page]

(54) Title: CONE WITH MEMBER CVT FOR WHICH BELT TENSION CAN BE REDUCED

4 September 2013 (04.09.2013)

8 September 2013 (08.09.2013)

9 September 2013 (09.09.2013)

15 September 2013 (15.09.2013)

16 September 2013 (16.09.2013)

22 September 2013 (22.09.2013)

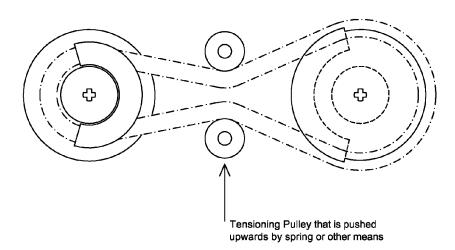


Fig. 1

(57) Abstract: A CVT 6 (Fig. 5) comprising of two substantially identical CVT 4's. Each CVT 4 comprises of two cones that are coupled by a transmission belt. The driving cones of the CVT 4's are mounted on a common shaft, and the driven cones of the CVT 4's are mounted on a common shaft. For each CVT 4, one of its cones is mounted on its shaft using an adjuster that can lock or release the rotational position of its cone relative to the shaft it is mounted. Each CVT 4 has a tense side tensioning/support pulley and a slack side tensioning/support pulley (Fig. 6) which can provide and remove slack as needed to compensate for "Transmission ratio change rotation", to accommodate for the transmission diameter change of a cone, and to compensate for having cones of different diameters mounted on the same shaft during axial position changing of a cone.



61/873,371

61/875,079

61/875,646

61/878,020

61/878,552

61/880,959

DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,

EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

- with international search report (Art. 21(3))
- (88) Date of publication of the international search report: 29 October 2015

INTERNATIONAL SEARCH REPORT

International application No. PCT/US2014/017007

A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - F16H 9/00 (2014.01)			
USPC - 474/83 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) - F16H 9/00 (2014.01) USPC - 474/70, 78, 83			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched CPC - F16H 9/08 (2014.02)			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PatBase, Google Patents, Google			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category*	Citation of document, with indication, where a	ppropriate, of the relevant passages	Relevant to claim No.
x	US 2013/0023366 A1 (TAY) 24 January 2013 (24.01.2013) entire document		1
x	US 2006/0252589 A1 (TAY) 09 November 2006 (09.11.2006) entire document		1
X ·	US 7,882,762 B2 (ARMSTRONG et al) 08 February 2011 (08.02.2011) entire document		1
Α	US 7,785,228 B2 (SMITHSON et al) 31 August 2010 (31.08.2010) entire document		1
Α	US 2011/0039645 A1 (NAUDE) 17 February 2011 (17.02.2011) entire document		1 .
Α	US 6,126,138 A (TSAI) 03 October 2000 (03.10.2000) entire document		1
			·
٠			
Further documents are listed in the continuation of Box C.			
* Special categories of cited documents: "A" document defining the general state of the art which is not considered date and not in conflict with the application but cited to understand			
"E" earlier a	particular relevance pplication or patent but published on or after the international	"X" document of particular relevance; the	claimed invention cannot be
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other		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	
special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means		considered to involve an inventive s	tep when the document is ocuments, such combination
was a second of the second of		"&" document member of the same patent family	
Date of the actual completion of the international search 28 April 2014		Date of mailing of the international search report 1 4 MAY 2014	
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents		Authorized officer: Blaine R. Copenheaver	
		PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774	