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CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
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(54) Title: ANGULAR WORM GEAR REDUCER

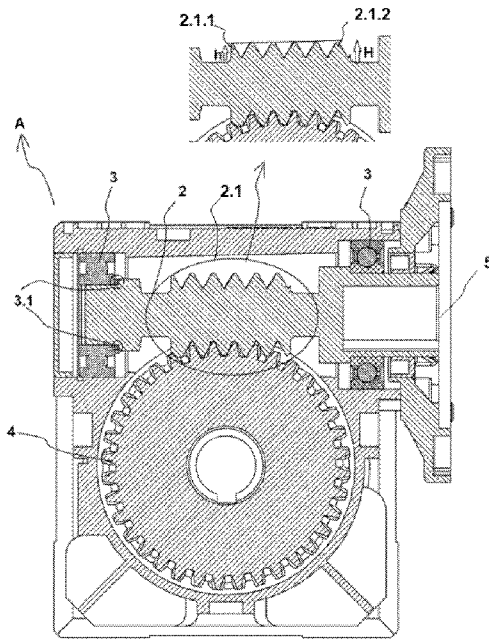


Figure- 2

(57) Abstract: The present invention is a worm gear (2) reducer (A) comprising a worm gear and (2) and a output shaft (6), which do not intersect and are not parallel to each other, serving as a drive shaft whose angle between projection thereof is 90°, a worm wheel (4) positioned on said output shaft (6) and connected with worm gear (2). In particular, the present invention relates to preventing failure and efficiency loss without replacing worm wheel (4) that may occur in reducer (A) because of plays (axial dislocation of worm gear) occurring due to wearing of teeth of worm wheel (4) which transmits drive to output shaft (6) on which it is located by obtaining drive from worm gear (2), which is a drive shaft, in said worm gear (2) reducer (A).

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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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)

F16H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

TURKPATENT Database

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO Abstract & Fulltext Database, 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 Y	US 5836076 A (EMERSON ELECTRIC CO [US]) 17 November 1998 (1998-11-17) abstract; figures 1, 2	1,3 2
Y	CN 101705987 A (UNIV CHONGQING) 12 May 2010 (2010-05-12) figure 1	2
A	WO 2007048516 A2 (BGI AUTOMOTIVE GMBH & CO KG [DE]) 03 May 2007 (2007-05-03) abstract; figures 1, 2; page 2, lines 10-15	1-3
A	JP 2003269578 A (TSUJITA HIROKI) 25 September 2003 (2003-09-25) abstract; figure 1	1-3
A	JP 2003080564 A (ENPLAS CORP) 19 March 2003 (2003-03-19) figures 1, 2	1-3
A	SU 795677 A1 (RADZEVICH STEPAN P [SU]) 15 January 1981 (1981-01-15) figure 1	1-3

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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US	5836076	A	17 November 1998	NONE	
JP	2003269578	A	25 September 2003	NONE	
JP	2003080564	A	19 March 2003	JP 3839287 B2	01 November 2006
SU	795677	A1	15 January 1981	NONE	
CN	101705987	A	12 May 2010	NONE	
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