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[Continued on next page]

(54) Title: DETENT PLUNGER FOR AUTOMATIC TRANSMISSION SHIFTER

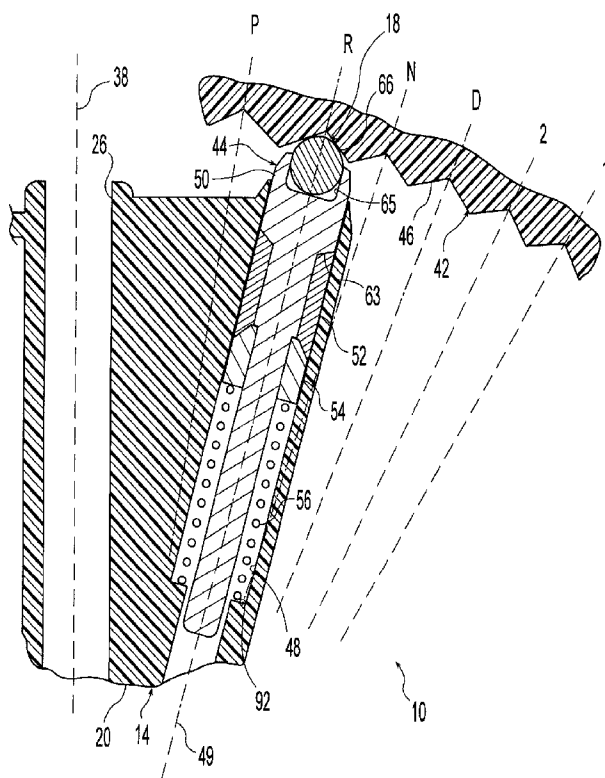


Fig. 2

(57) Abstract: A shifter mechanism includes a shift lever movable along a shift path and a detent assembly. The detent assembly includes a detent profile defining a plurality of gear positions, a bore, a detent plunger located at least partially within the bore, a spring member resiliently biasing the detent plunger into engagement with the detent profile, a split bushing located between the detent plunger and the bore, and a spacer located between the spring member and the bushing. The bushing is located between the spacer and an abutment of the detent plunger, and the spring member is located between the spacer and an abutment of the bore. Contact surfaces between the bushing and the abutment and between the bushing and the spacer are each angled so that a force of the spring member automatically expands the bushing to remove any free-play formed between the detent plunger and the bore.



NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG,
CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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A. CLASSIFICATION OF SUBJECT MATTER

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USPC - 74/335

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 59/00 (2008.04)

USPC: 74/335

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

USPC: 74/325, 640 and 477/124, 115 and all classes as limited by search terms below

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

PubWEST(USPT,PGPB,EPAB,JPAB); DialogPRO(Engineering); Google Scholar

Search Terms Used: transmission, detent, plunger, shifter, expandable bushing, bias, conical, split ring,

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
Y	US 5,913,935 A (Anderson et al.) 22 June 1999 (22.06.1999); fig 3, 4, col 3 ln 3-35, col 4 ln 19-50	1-20
Y	US 5,730,540 A (Duran et al.) 24 March 1998 (24.03.1998); fig 1, 4, col 2 ln 1-35, col 3 ln 1-31	1-20
Y	US 6,840,485 B2 (Richter) 11 January 2005 (11.01.2005); fig 1, col 2 ln 15, col 3 ln 18-20	18-20
Y	US 6,655,091 B1 (Iwasaki) 02 December 2003 (02.12.2003); fig 5, col 12 ln 20-22	6, 16

1 Further documents are listed in the continuation of Box C.

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