(12) United States Patent Degler et al.

(54) FORCE TRANSMISSION DEVICE IN PARTICULAR FOR POWER TRANSMISSION BETWEEN A DRIVE ENGINE AND AN OUTPUT

(75) Inventors: Mario Degler, Baden-Baden (DE);
Thorsten Krause, Bühl (DE); Kai
Schenck, Offenburg (DE); Markus
Werner, Bühl (DE); Dominique
Engelmann, Offendorf (FR)

(73) Assignee: Schaeffler Technologies AG & Co. KG, Herzogenaurach (DE)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 12/800,937

(22) Filed: May 26, 2010

(65) **Prior Publication Data**US 2010/0236228 A1 Sep. 23, 2010

Related U.S. Application Data

(63) Continuation of application No. PCT/DE2008/001900, filed on Nov. 17, 2008.

(30) Foreign Application Priority Data

Nov. 29, 2007 (DE) 10 2007 057 448

(10) Patent No.: US 8,161,739 B2

(45) **Date of Patent:** Apr. 24, 2012

(51) **Int. Cl. F16D 3/14** (2006.01) F16F 15/10 (2006.01)

(52) **U.S. Cl.** 60/338; 192/30 V

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

6,026,940 A * 2/2000 Sudau 192/3.28

FOREIGN PATENT DOCUMENTS

DE	198 04 227	A1		8/1999
DE	10 2006 028 556	A1		1/2007
EP	1744074	A2	ж	1/2007
GB	2 186 054	Α		8/1987
JΡ	63 251644	Α		10/1988

* cited by examiner

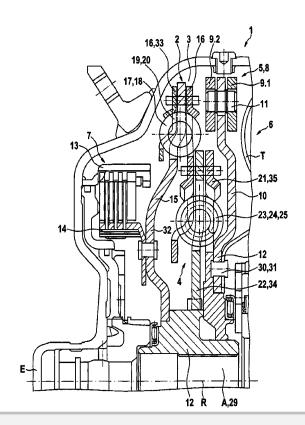
Primary Examiner — Thomas E Lazo

(74) Attorney, Agent, or Firm — Von Rohrscheidt Patent

(57) ABSTRACT

A force transmission device, in particular or power transmission between a drive engine and an output, comprising a damper assembly with at least two dampers, which can be connected in series, and a rotational speed adaptive absorber, wherein the rotational speed adaptive tuned mass damper is disposed between the dampers at least in one force flow direction through the force transmission device.

29 Claims, 7 Drawing Sheets





US 8,161,739 B2

Fig. 1a

Apr. 24, 2012

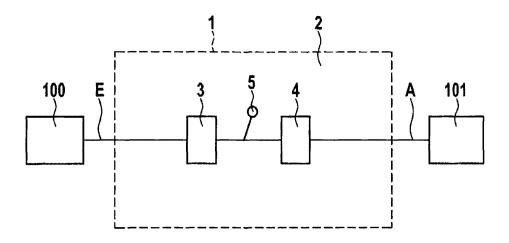


Fig. 1b

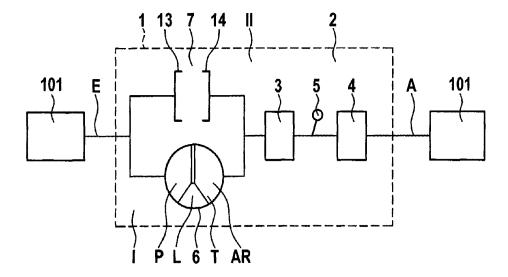


Fig. 1c

Apr. 24, 2012

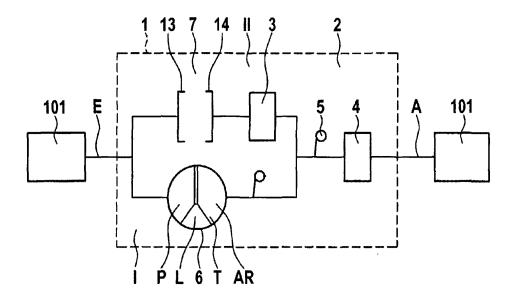
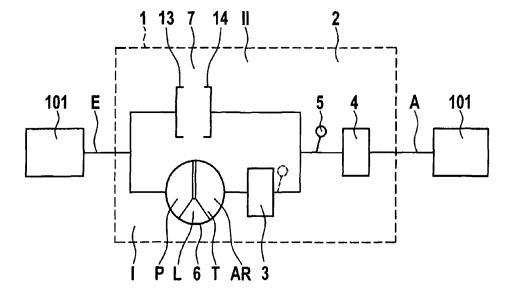
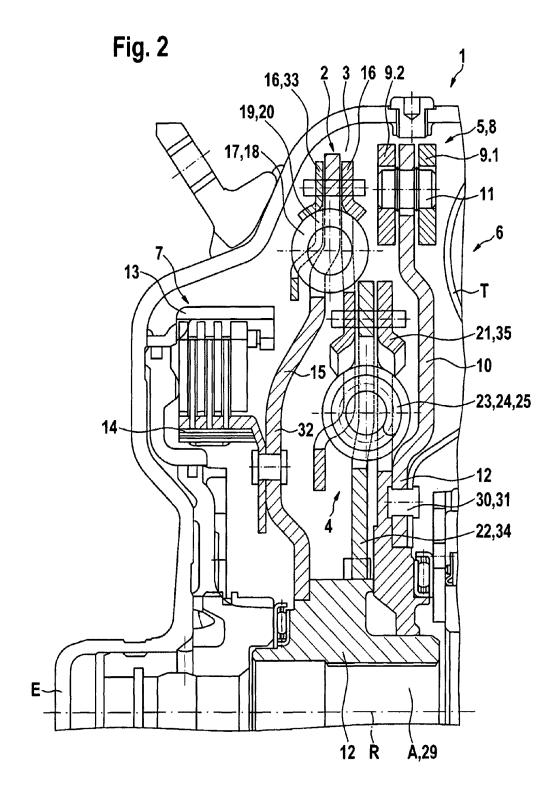
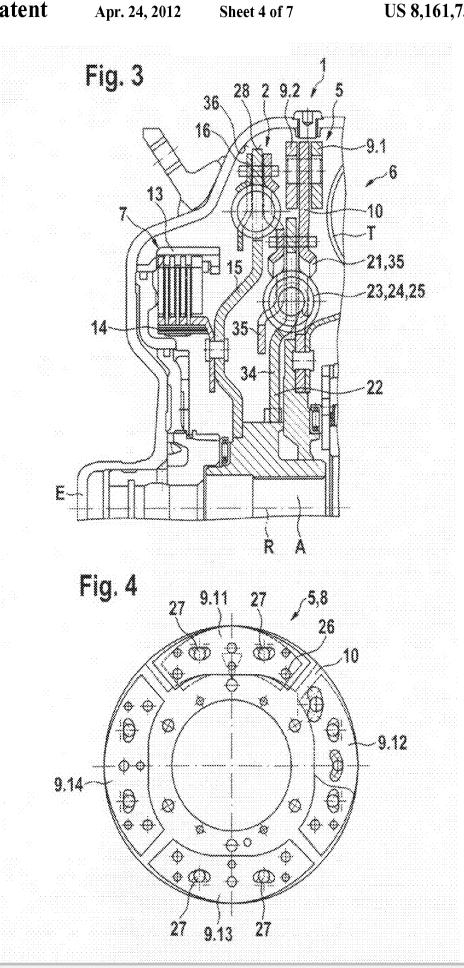


Fig. 1d









DOCKET A L A R M

Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

