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Search fn=(21805801 or 217531 or 1173641 or 3027896 or 3027896 or 31307741 or 43984363 or 46711288 or 22038059 or 22213945 or 6: 22592490 or 22766622 or 22904414 or 217531 or 836552 or 26243233 or 1173641 or 4968618 or 29668992 or 4875170 or 4898392 or 2986388 or 2020764 or 5262462 or 3787664 or 5342863 or 16228627 or 3787661 or 3787663 or 2176608 or 2905914 or 2836729 or 29817980 or 10820865 or 15909373 or 31307741 or 46711288 or 43984363) (Results 32)

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7:

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8:

Search 7 and 8 (Results 13021)

9:

Search relation or ratio (Results 1000000)

10:

Search 9 and 10 (Results 6031)

11:

Search counterweight (Results 110231)

12:

Search 11 and 12 (Results 480)

13:

Search torque and wheel (Results 245246)

14:

Search 13 and 14 (Results 68)

15:

1) Family number: 20166237 (US1824630A)

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Title: INTERNAL COMBUSTION ENGINE

Abstract: What I claim is as follows: ` 1. In an internal combustion engine and in combination with the crank shaft thereof, and a crank case having an end wall; a rotating torsional vibration damping member located within said crank case and having a laterally extending tubular bearing sleeve rotatably supported in a bearing carried by said end wall, and through which sleeve one end of said crank shaft extends; and yieldable means whereby said rotating member is driven from said crank shaft. 2. In an internal combustion engine and in combination with the crank shaft thereof, and a crank case having an end wall; a rotating torsional vibration damping member located within said crank case and having a laterally extending tubular bearing sleeve rotatably supported in a bearing carried by said end wall, and through which sleeve one end of said crank shaft extends; and two yieldable shock absorbing members acting in opposition to one another and through which said crank shaft and said rotating member are coupled together so as to rotate in unison. _ 3. In an internal combustion engine and in combination with the crank shaft thereof, and a crankcase having an end wall; a rotating torsional vibration damping member located within said crank case and having a laterally extending tubular bearing sleeve rotatably supported in a bearing carried by said end wall, and through which sleeve one end of said crank shaft extends; yieldable means whereby said rotating member is driven from said crank shaft; and a driving gear fastened to the outer end of said sleeve so as to be driven thereby. 4. In an internal combustion engine and in combination with the crank shaft thereof, and a crank case having an end wall; a rotating torsional vibration damping member located within said crank case and having a recess adapted to receive an arm or throw of said crank shaft, and also two other recesses arranged in alignment and at right angles to said first mentioned recess; and two yieldable shock absorbing members arranged within said last mentioned recesses and acting in opposition to one another upon opposite sides of said crank arm. 5. In an internal combustion engine and in combination with the crank shaft thereof, and a crank case having an end wall; a rotating torsional vibration damping member located within said crank case and having a laterally extending tubular bearing sleeve rotatably supported in a bearing carried by said end wall, and through which sleeve one end of said crank shaft extends; and two yieldable shock absorbing members carried by said rotating member and acting in opposition to one another upon opposite sides of an arm or throw of said crank shaft. 6. In an internal combustion engine and in combination with the crank shaft thereof, and a crank case having an end wall; a tubular sleeve rotatably supported in a bearing carried by said end wall, and through which sleeve one end of said crank shaft extends; means including a yieldable member whereby the inner end of said tubular sleeve is driven from said crank shaft; a driving gear fastened to the outer end of said sleeve so as to be driven thereby; and a torsional vibration damping member carried by and rotatable with said sleeve. _ 7. Means for damping torsional vibrations in a shaft including, a rotating mass driven by said shaft in either direction through yieldable shock absorbing material, said rotating mass being so arranged as to act as a balance weight for said rotating shaft. 8. In an internal combustion engine having a crank shaft, in combination, a counterweight yieldingly secured to said shaft to permit a slight relative displacement therewith, and imperfectly elastic means to or to retain said counterweight in its correct relative position upon said shaft whereby

torsionsf) vibrations in said shaft are eliminated, ` » _ , 9. In an internal combustion engine a, crank shaft adapted to have a Hywheel at one end thereof, in combination, a counterweight yieldingly secured to said shaft substantially opposite the crank throw most distant from said flywheel to permit a slight relative displacement therewith, and imperfectly elastic means to ordinarily retain said counterweight in its correct relative position upon said shaft whereby torsional vibrations in said shaft are eliminated. 10. In an internal combustion engine having a crankshaft adapted to have a fly-wheel at one end thereof, Lu combination, a counterweight, and means whereby said counterweight is yieldably mounted upon said shaft beyond the most distant crank pin from said Hy-Wheel, said yieldable mounting means being provided with shock absorbin means which Yermi': only slight angular displacement o said courhnrweight. 11; Means for damping torsional vibrations in a shaft including, a rotating mass driven by said shaft in either direction through non-metallic energy absorbing material, said material transnutting the drivhig force by being compressed. \ 12. In a crank shaft having a crank arm, an inertia mass rotatable with the crank shaft in the plane of the arm and movable relatively thereto in response to inertia forces. 13. In a crank shaft having a crank arm an inertia mass on the shaft adjacent said arm and movable relatively thereto, and resilient means directly connecting said mam and arm to resist said relative movement. 14. In a crank shaft havin a crank arm, an inertia mass movable m\$\\tively to the shaft in the plane of said arm and resilient means between the mass and said arm opposiv relative movement in either direction. 15.bI11 a crnnk shaft, a, mass means to movably mount the mass on' said shaft for rotation about an axis fixed in relation to the shaft, and resilient non-metallic energy absorbing means between said shaft and said mass opposing said movement. _ _ 16. In a crank shaft havi.n% a. crank throw, an inertia member. movab y mounted on said shaft adjacent said throw to rotate about an axis fixed in relation to the shaft, and yieldable means directly connectt' ,said member to said throw. '17].:n% n a crank shaft having a crank ann, an inertia mass mounted on said' shaft in the lane of said arm and movable relativelytgereto, and resilient means between the crank arm- and the mass to limit said relative movement. _ _ ' 18. In a crank shaft having a. crank arm, an inertia mam mounted on said shaft in the plane of said arm. and movable relative? thereto, and means to yieldably oppose sai relative movement. ' 19, In a crank shaft having a crank throw, a mass movably mounted adjacent said throw, and opposed means yieldably and directly connectmg the mass to said throw. 20. In a crank shaft having a crank throw, an inertia mass movably mounted on said shaft adjacent said throw, and yieldable means abutting said mass andthrow for oppoéng relative movement in _either direction of rotation. ` , 21. In a crank shaft having a crank arm, a mass movably mounted in the plane of said arm, and adjustable yielding means between said arm and"said mass opposing relative movement therebetween. 22. In a crank shaft having a crank arm, an inertia mass in the plane of said arm and movable relatively thereto, yieldable means between said arm and said mass, and means to adjust the resistance of said yieldable- means. 2.- In a crank shaft having a crank arm, an inertia mass in the plane of said arm and movable relatively thereto, yieldable means carried by said mass to resist said relative movement, and means on said mass to adjust the resistance of said yieldable means. \ ` ' . 24. In a crank shaft having a crank arm, a mass surroundin said arm in the plane thereof, and movabde relatively thereto during operation of said shaft in response to torsional vibrations of the shaft. ~ 25. The combination with a crank shaft of a counter-weight therefor, and means associated with the counter-Wei ht to damp torsional vibration in said shag. 26. The combination with a crank shaft of fa vibration damper including an inertia member associated with friction damping means, said inertia member being disposed tp! ptounter-balance a crank of said crank s a . ' "27. In an internal combustion engine, the combination of a vibration damper and a counter-weight, said counter-weight forming the inertia member of said vibration damper. _V _ ' _ 28. In an internal combustion engine, a crank shaft, and ,a combined vibration damper and counter-weight for said crank shaft. \ . ' 29. In an internal combustion en ' e and in combination with the crank shaftfntthereof, an inertia member movable relative to said crank shaft, and yieldable means ` of energy absorbing material including rubber connected between the crank shaft and the inertia member to distort in response to said relative movement. - p 30. A vibration damper for crank shafts comprising an inertia member movable relative to the shaft, 'and a member of energy absorbing material including rubber eformable in response to said relative movement. . ` 31. vibration damper for crank shafts comprising an inertia member movable relative to the shaft, and yieldable means cõn~ nected between said shaft and inertia member and including rubber, adapted to absorb energy upon deformation in response to said movement. 32. A vibration damper comprising a. relatively movable inertia member including rubber deformable in response to said relative movement. In testimony whereof I hereto allix my signature.

Classifications:

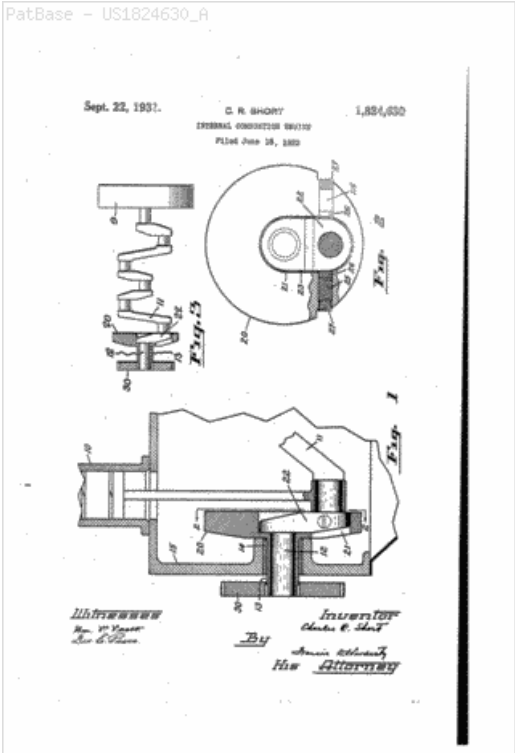
International (IPC 8-9): F16F15/28 (Advanced/Invention); F16F15/00 (Core/Invention)

International (IPC 1-7): F16F15/12

CPC: F16F15/283 Y10T74/2184

European: F16F15/28C

US: 74/604



Family:

Publication number	Publication date	Application number	Application date
US1824630 A	19310922	US19230646041	19230618

Priority:

US19230646041 19230618

Probable Assignee:

PACKARD MOTOR CAR CO

Assignee(s): (std):

PACKARD MOTOR CAR CO

Assignee(s):

PACKARD MOTOR CAR COMPANY

Inventor(s): (std):

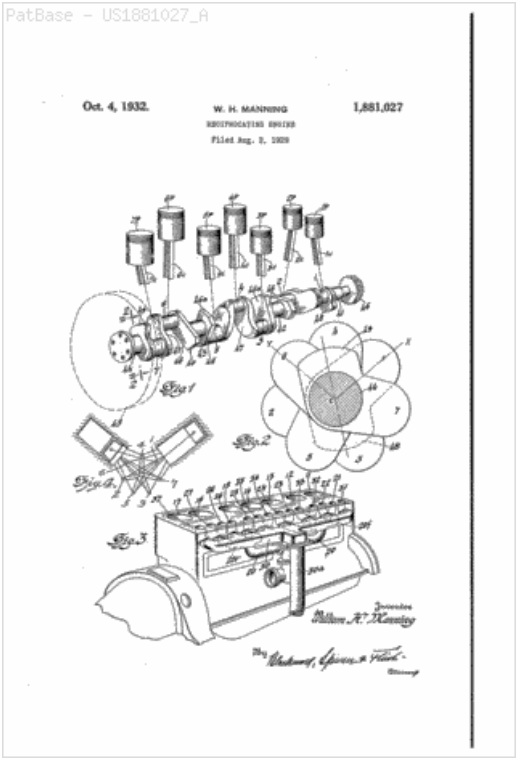
SHORT CHARLES R

Title: RECIPROCATING ENGINE

Abstract: I claim : ` 1. A reciprocating engine provided with cylinders, pistons and a crank shaft having seven throws no two of which lie in the same radial plane, said throws being angularly disposed from 'one end to the other of the shaft in such order that if the shaft be rotated the throws will pass through a radial plane including the shaft axis in the order 1, T, 3, 5, Q, 6, 4, or the reverse according to the sense of rotation. 2, A founstroke cycle internal combustion engine having seven cylinders arranged in tandem and suitable inlet and outlet ports; a piston in each cylinder; an engine shaft having seven throws no two of which lie in the same radial plane, and angularly disposed from one end to the other of the shaft in such order that if the shaft be rotated the throws will pass through a radial plane including the shaft axis in the order 1, 7, 3, 5, 2, (3, 4 or the reverse, said throws reachinrqj Hring position in the order 1, 3, 2, 4, 7, 5, 6 or the reverse, in accordance with the sense of 1'ota» tion; rods connecting the several pistons with the several throws; means for conducting eXhaust ga ses from the outlet ports; an intake manifold communicating with all cylinder inlet ports by delivery ports so disposed that no two cylinders firing in succession draw mixture from the intake manifold adjacent the same delivery port. 3. A four stroke cycle internal combustion engine having seven cylinders arranged in' tandem and suitable inlet and outlet ports, a piston in each cylinder and suitable connecting rods, an engine shaft having seven throws angnlarly disposed from one end to the other in such order that if the shaft be rotated the throws will _pass through a radial plane including the shaft axis in the order 1, 7, 3, 5, 2. 6, 4, or the reverse, according to the sense of rotation, reaching firing position in the order 1, 3, 2, 4, 7, 5, 6, or the reverse ; rods connect-ing the several pistons with the several throws; an intake manifold having four delivery ports, three pairs of adjacent cylinders having their inlet ports twinned, and communicating each with a single-delivery port of the manifold, and one cylinder having an individual inlet coniinunicating solely with the remaining delivery port in the manifold; the arrangement providing that no two cylinders firing in succession draw mixture from thc same delivery port of the manifold. 4. A combination as defined in claim 3 in which the intake manifold has a main section extending fore and aft of the engine on oppositc sides of a central riser, each end of said main section connecting with U-shaped branches, each end of one branch delivering to twin cylinder inlets; one end of the other branch delivering to twin inlets and the other end of the last named branch delivering to an individual cylinder inlet. 5. An internal combustion engine having an odd number of cylinders, pistons, and connecting rods arranged in tandem, a crankshaft having a corresponding odd number of throws, no two of which are disposed in the same radial plane, the relative angular ar» rangenient of thc throws being such that no two throws that are longitudinally adjacent are in angularly adjacent planes. 6. An internal combustion engine having suitable inlet and outlet ports, pistons, connecting rods and balanced crankshaft, said crankshaft having seven throws no two of which lie in the same radial plane, said throws being angularly disposed from one end to thc other of the shaft- in such order that if the shaft be rotated no two longitudinally adjacent throws will pass through a radial plane including the shaft axis in succession, means for conducting combustible mixture to the inlet ports, said means having delivery ports arranged with respect to the inlet ports so that no two cylinders firing in succession draw mixture from the manifold adjacent the same deliveijv port. In testimony whereof I ai'HX my signature. WM. H.

Classifications:

International (ipc 8-9): F16F15/24 (Advanced/Invention); F02B75/18 F02B75/20 (Advanced/Non-invention); F16F15/22 (Core/Invention); F02B75/00 (Core/Non-invention)
CPC: F16F15/24 F02B75/20 F02B2075/1828 Y10T74/2174
European: F16F15/24 R02B75/18C7 R02B75/20
US: 123/184.41 123/54.8 123/58.1 74/596



Family:

Publication number	Publication date	Application number	Application date
US1881027 A	19321004	US19290382968	19290802

Priority:

US19290382968 19290802

Probable Assignee: MANNING WILLIAM H
Assignee(s): (std): MANNING WILLIAM H
Inventor(s): (std): MANNING WILLIAM H

Title: OSCILLATION DAMPING MEANS

Abstract: 401,962. Vibration-dampers. SALOMON, F. M. M. B., 3, Rue de l'Universite, Paris. April 6, 1933, No. 10333. Convention date, April 7, 1932. [Class 108 (iii).] The elimination of superimposed vibrations or oscillations in any system but particularly in continuously rotating shafts is accomplished by means of auxiliary masses which are preferably free and which absorb the vibrations and c. by the change in their radial and tangential inertia forces. Fig. 1 shows part of a fly-wheel 3

keyed to a shaft 1 the speed oscillations and the flexure vibrations of which are to be absorbed and as shown the devices are arranged at different points and are each adapted to absorb vibrations of its own frequency or combination of frequencies. The auxiliary masses may be either balls or rollers. Figs. 1 and 4 show a recess in the flywheel comprising a core 6 and a race 7 in which a roller 8, 10 is free to roll, the roller being hollow and containing a ball 9 also free to roll. Constant speed of the shaft 1 causes the roller and ball to assume a position of equilibrium which is disturbed by a change of speed due to a superimposed vibration so that the movement of the roller and ball absorbs the speed variation if of its own frequency or frequencies. Fig. 4 also shows an auxiliary mass comprising liquid 68 free to move in the recess between a core 67 and an outer ring 66. In the device shown in Fig. 1 comprising a ball 16 free to move in a double curvature race, flexure of the shaft as well as a torque disturbance are absorbed as indicated in Fig. 1a and such devices may be arranged at intervals along a shaft. A device for absorbing disturbances of another frequency comprises a series of balls 39 spaced by a cage 53 and arranged to move freely in a race 37, 38, Figs. 1 and 2. Fig. 2 shows also an epicycloidal race 45, 48 and ball 46. Fig. 7 shows devices for absorbing disturbances which are at an angle to the shaft and comprise a tube 103 with a series of recesses having balls or rollers of different mass and different radii of gyration to absorb different frequency disturbances. Fig. 8 shows an arrangement of cranks 124, 126, 128 in which the absorption devices may be arranged on the flywheels or discs 125, 129. Various other arrangements of races, such as spiral, and auxiliary masses are described in the Specification.

Classifications:

International (IPC 8-9): F16F15/14 (Advanced/Invention);
F16F15/10 (Core/Invention)

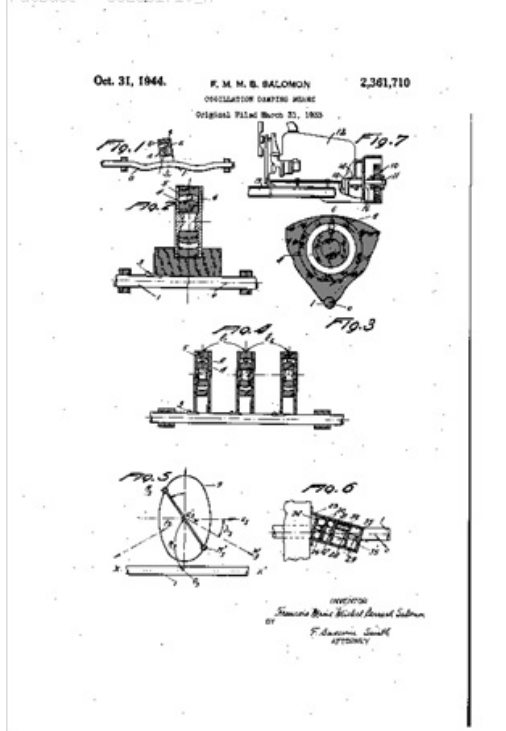
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CPC: Y10T74/2112 Y10T74/2115 Y10T74/213 Y10T74/2184
F16F15/14

European: F16F15/14

US: 74/570.21 74/571.11 74/574 74/574.3 74/604

PatBase - US2361710_A



Family:

Publication number	Publication date	Application number	Application date
BE395488 A	19330731		00000000
BE407592 A	00000000		00000000
FR46797 E	19360911		00000000
FR50556 E	19410121		00000000
FR748909 A	19330712		00000000
FR768000 A	19340726		00000000
FR770981 A	19340926		00000000
GB401962 A	19331123	GB19330010333	19330406
GB439768 A	19351213	GB19340034064	19341127
US2103643 A	19371228	US19330663866	19330331
US2181610 A	19391128	US19370149775	19370622
US2361710 A	19441031	US19370177226	19371130

Priority:

19320407	US19330663866	19330331	US19330663866	19330331
19331129		19331129	US19370149775	19370622
US19370149775	19370622	US19370177226	19371130	US19370177226
			19371130	

Probable Assignee: FRANCOIS MARIE MICHEL BERNARD

Assignee(s): (std): BERNARD SALOMON FRANCOIS MARIE ; FRANCOIS MARIE MICHEL BERNARD

Assignee(s): FRANCOIS MARIE MICHEL BERNARD SALOMON

Inventor(s): (std): BERNARD SALOMON FRANCOIS MARIE ; SALOMON ; SALOMON FRANCOIS MARIE MICHE ; BERN SALOMON FRANCOIS MARIO MI

Inventor(s): BERN SALOMON FRANCOIS MARIO MICHEL ; BERN SALOMON ; SALOMON FRANCOIS MARIE MICHEL BERNARD

4) Family number: 20887107 (US2306852A)

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Title: VIBRATION DAMPING MEANS FOR ROTATING MEMBERS

Abstract: 543,844. Torsional-vibration dampers. ELECTRICAL RESEARCH PRODUCTS, Inc. Sept. 10, 1940, No. 14045. Convention date, Sept. 14, 1939. [Class 108 (iii)] [Also in Groups XXVI and XXXVIII] A device of the flywheel type for damping vibrations of a rotating shaft, such as the driven shaft 2 of a sound film recording or reproducing apparatus, comprises a rotating drum 5 mounted on the shaft and having a hollow annular peripheral portion 6 containing a liquid, such as mercury, of high density and low viscosity, and one or more internal baffles 18 each built up of a series of spaced rectangular plates 19 the apertures between which lie in the direction of the peripheral flow of liquid in the drum, and the size

of the apertures being so related to the density and viscosity of the liquid that at the resonant frequency of the system the impedance is mainly due to the frictional resistance to the flow of liquid through the baffles, whilst the volume of the liquid is such that its moment of inertia is substantially greater than the moment of inertia of the container, the object being to suppress oscillations having small frequency and small amplitude in addition to those having small frequency and large amplitude and those having large frequency. Formulae are given in the Specification for selecting the distance that the baffle plates should be spaced apart in accordance with the density and viscosity of the liquid, and for determining the resistance of the baffle to the flow of liquid therethrough. In the apparatus shown in Figs. 1 and 2 the travel of the film F is controlled by a driving sprocket 7 and feed take-up sprocket 8, the film being guided by guiderollers 9.. 12 and passing over a driven roller 4, between which and the film slip is prevented by a pressure roller 13. The roller 4 is mounted on one end of the shaft 2, which is supported in ball bearings 3 and carries at its other end the liquid-containing drum 5. In this construction the plates 19 are spaced apart radially and are arranged in two separated groups, while in a modification, Fig. 7, the plates 19 are spaced apart in a direction parallel to the axis of the drum. The Specification as open to inspection under Sect. 91 also describes a modification in which each baffle is formed of a radially disposed plate having a number of orifices or short tubes arranged therein. This subject-matter does not appear in the Specification as accepted.

Classifications:

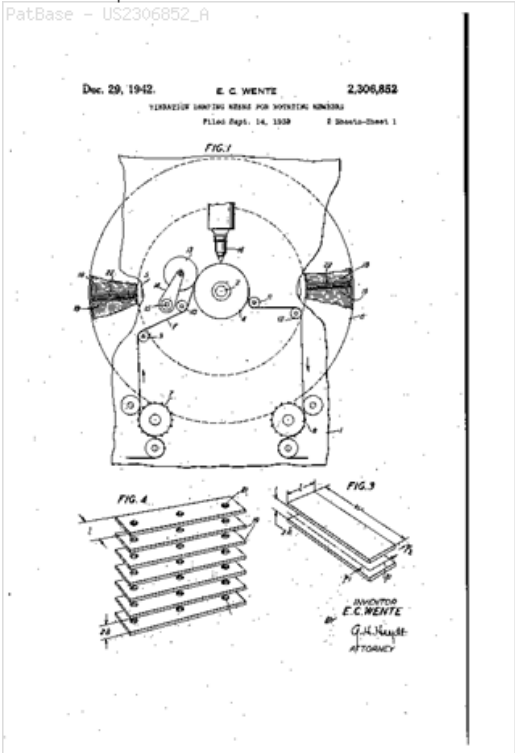
International (IPC 8-9): F16F15/16 (Advanced/Invention);
F16F15/16 (Core/Invention)

International (IPC 1-7): F16F15/16

CPC: F16F15/161 Y10T74/2122

European: 42G18C F16F15/16C

US: 74/573.1



Family:

Publication number	Publication date	Application number	Application date
GB543844 A	19420316	GB19400014045	19400910
US2306852 A	19421229	US19390294855	19390914

Priority:

US19390294855 19390914

Probable Assignee: BELL TELEPHONE LABOR INC

Assignee(s): (std): BELL TELEPHONE LABOR INC ; ELECTRICAL RES PROD INC

Assignee(s): ELECTRICAL RESEARCH PRODUCTS INC ; BELL TELEPHONE LABORATORIES INC

Inventor(s): (std): WENTE EDWARD C

5) Family number: 21977737 (US2895282A)

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Title: MECHANISM FOR DYNAMICALLY BALANCING THE WORK FORCE OF A WORK LOAD

Abstract: (Claim 1) 1. A drive mechanism for a reciprocating type mower comprising a cutter bar, a sickle mounted for reciprocation on said cutter bar, a combined drive support and shoe on the inner end of said cutter bar, a power-driven crank shaft mounted in said support normal to the longitudinal axis of said cutter bar, said crank shaft having oppositely disposed crank engaging portions, a pitman interconnecting a first of said portions and said sickle, a counterweight slideably mounted on said support in substantially the same plane as that of said sickle, a pitman interconnecting a second of said portions and said counterweight, and a lubricant containing housing enclosing said counterweight and said second crank engaging portion of said crank shaft.

Classifications:

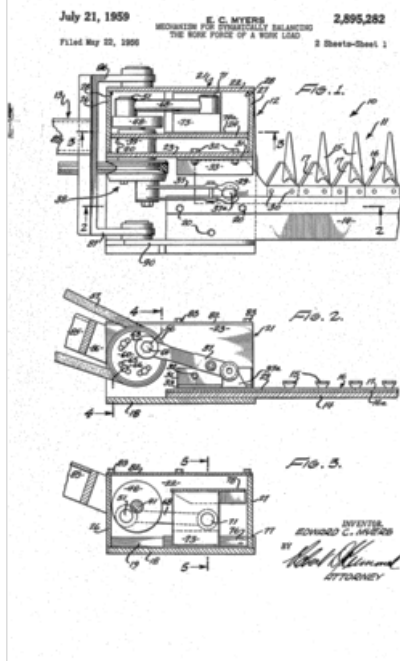
International (IPC 8-9): A01D34/30 F16F15/22 (Advanced/Invention);
A01D34/02 F16F15/22 (Core/Invention)

International (IPC 1-7): A01D55/26

CPC: A01D34/305 F16F15/22 Y10T74/18256

European: A01D34/30B F16F15/22

US: 56/306 74/50

**Family:**

Publication number	Publication date	Application number	Application date
US2895282 A	19590721	US19560586492	19560522

Priority:

US19560586492 19560522

Probable Assignee:

CHARLES MYERS EDWARD

Assignee(s): (std):

CHARLES MYERS EDWARD

Inventor(s): (std):

CHARLES MYERS EDWARD

Inventor(s):

MYERS EDWARD CHARLES

6) Family number: 29739930 (US3312125A)

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Title: DEVICE FOR STORING KINETIC ENERGY, USABLE AS A TORSIONAL VIBRATION DAMPER AND COUPLER

Abstract: 1,001,361. Momentum power-storing apparatus; flywheels. O. DUROUCHOUX. Nov. 7, 1961 [Nov. 9, 1960; Oct. 20, 1961], No. 39859/61. Headings F2T and F2X. A flywheel comprises an outer casing 5 rotatably mounted on a hub portion 2, the intervening space containing a coiled metal strip 6, one end of which is attached to the hub 2. The other end of the strip 6 may be connected to the casing 5 or, alternatively, left free. The casing 5 may be rotated at high speed through a coupling 7 and its kinetic energy may be discharged by connecting the hub 2 to a shaft 1 by means of a coupling 3. For reducing shock loading when the hub is slowed down, a plurality of flexible blades 25 may be located between the hub 2 and strip 6. In a modification, shown in Figs. 4, 5, two flexible strips 6a, 6b are employed having diametrically opposed attachment points 8a, 8b and rollers 9a, 9b which maintain balance of the assembly. Flywheels may be arranged in series, Fig. 7, or in parallel, Fig. 8. The flywheel casing 5 may be driven from an electric motor 11 through a coupling 13 and shaft 12, Fig. 9. Alternatively, as shown in Fig. 10, a shaft 1 carries planet wheels 14 meshing with a sleeve 15 concentric with the shaft and also meshing with a toothed rim 16 fitted with a brake 17. This may be applied to a vehicle in which the brake 17 is operated at the same time as the conventional brake in order to store energy in the flywheel 5. In the arrangement shown in Fig. 11, a shaft 31 may be coupled directly to a sleeve 32 to transmit the drive from a shaft 30, or, alternatively, a coupling 35 may be engaged with a hub 2 to receive energy from a flywheel, the system including a freewheeling device 34. In a further modification, shown in Fig. 12, a shaft 1 is coupled with a hub 2 through a shaft 37, differential gear provided with a brake 39, and a coupling 40.

Classifications:

International (IPC 8-9): F03G1/00 F16D3/60 F16D43/18 F16D7/02
F16F15/121 F16F15/31 F16H33/02 (Advanced/Invention);
F03G1/00 F16D3/50 F16D43/00 F16D7/00 F16F15/121 F16F15/30
F16H33/00 (Core/Invention)

International (IPC 1-7): B60K9/02 B60K9/04 F03G3/08 F16D13/26
F16F15/12 F16F15/30 H04N5/781 H04N7/173 H04N7/26
CPC: Y10T74/2119 Y10T74/211 F16D3/60 F16D7/02 F16D43/18
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F03G1/00

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Y02E60/16

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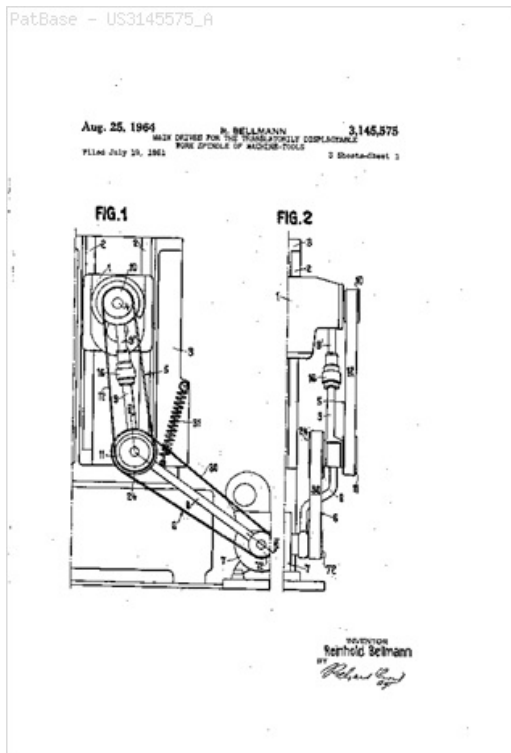
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DE1253962 A	00000000		00000000
DE1253962 B	19671109	DE1961D037408	19611108
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FR1408218 A	19650813	FR19640974059	19640511
FR80536 E	19630510	FR19610876578	19611020
GB1001361 A	19650818	GB19610039859	19611107
GB1085354 A	19670927	GB19650019390	19650507
US3208303 A	19650928	US19610150091	19611103
US3312125 A	19670404	US19650454938	19650511

FR19600843421 19601109 FR19610876578 19611020 FR19640974059 19640511

Probable Assignee:	OLIVIER DUROUCHOUX
Assignee(s): (std):	DUROUCHOUX OLIVIER ; OLIVIER DUROUCHOUX
Inventor(s): (std):	DUROUCHOUX OLIVIER ; OLIVIER DUROUCHOUX

Abstract: 981,225. Belt gearing; variable-ratio gearing. DIXI S.A. Feb. 21, 1961 [Sept. 5, 1960], No. 6249/61. Headings F2D and F2Q. [Also in Division B3] A drive from an electric motor 7 to a shaft 4 of an horizontal milling and boring machine comprises two co-operating belt drives 6, 5 arranged in series along two pivoted arms 8, 9 the arm 9 being adjustable in length by means of a screw sleeve 16 in order to vary the belt tension and hence to vary the natural frequency of vibration of the drive system. The shaft 4 is mounted in a spindle head 1 which is adapted to slide in a guide way 2 in the machine frame 3. The spindle head weight may be balanced by a spring 31 or by means provided within the machine frame 3. The shaft 4 is connected to a work spindle through two-speed toothed gearing, Fig. 4, and a torsionally resilient coupling 50 comprising coupling halves 50¹, 50¹¹, connected by pins 52 in rubber sleeves 53, the part 50¹ being coupled to a hollow shaft 44 by key 48. In a modification, pivoted links 32, 33 and a spring 31 are arranged as shown in Fig. 6. The two-speed gear comprises a double lever 56 which may be swung in one direction to engage dogs 35 on a pinion 34 with dogs 42 on a spur gear 41, for direct drive, and in the other direction to mesh pinion 34 with a spur gear 36 on an intermediate shaft 37 and to mesh a pinion 40 on shaft 37 with spur gear 41 for low speed drive.

International (IPC 8-9): B23B19/00 B23Q11/00 B23Q5/14
F16F15/10 (Advanced/Invention);
B23B19/00 B23Q11/00 B23Q5/00 F16F15/10 (Core/Invention)
International (IPC 1-7): B23B39/02 B23F15/08 B23Q1/08 F16F15/10
F16H7/02 F16H7/10
CPC: Y10T74/19502 B23Q11/0025 B23Q5/142 B23Q17/0976
F16F15/10
European: B23Q11/00C5D B23Q17/09E8B B23Q5/14B F16F15/10
US: 474/58 474/89 74/380

**Family:**

Publication number	Publication date	Application number	Application date
CH393034 A	19650531	CH19600010000	19600905
DE1402928 A1	19691002	DE19611402928	19610127
DE1402928 B2	19711104	DE19611402928	19610127
FR1299265 A	19620720	FR19610872057	19610831
GB981225 A	19650120	GB19610006249	19610221
US3145575 A	19640825	US19610125274	19610719

Priority:

CH19600010000 19600905 FR19610872057 19610831

Probable Assignee: DIXI SA**Assignee(s):** (std): DIXI SA**Assignee(s):** DIXI S A**Inventor(s):** (std): BELLMAN REINHOLD**Inventor(s):** BELLMANN REINHOLD ; BELLMANN REINHOLD DIPL ING ; REINHOLD BELLMAN DIPL ING**8) Family number: 164678** (GB1197002A)

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Title: Improvements in crank assemblies for reciprocating-piston machines

Abstract: 1,197,002. Connecting rods; crossheads. W. E. SALZMANN. 30 April, 1968 [1 May, 1967; 31 Dec., 1967; 14 March, 1968], No. 20340/68. Heading F2T. [Also in Division F1] In a reciprocating piston machine, the connecting rod is inclined and is connected to the drive shaft by means of a spherical joint. The connecting rod may be connected directly to the piston by means of an inclined gudgeon pin or a spherical joint, or it may be connected to an inclined crosshead pin. The lower end of the connecting rod may be connected to a crankshaft or eccentric shaft and the upper end connected to a piston providing a self-adjustable compression ratio. A V-engine, Figs. 4-6 (not shown), consists of side-by-side connecting rods connected to discs (30), (31), the pistons being shaped to pass close to one another at lower dead centre. Guiding ramps or cams (25), Fig. 3 (not shown), may be used with the spherical joint (22) to prevent undesirable displacement of the connecting rod (18).

Classifications:**International (IPC 8-9):** F02B75/22 F02B75/32 F02B75/34

F16J1/22 (Advanced/Invention);

F02B75/18 (Advanced/Non-invention);

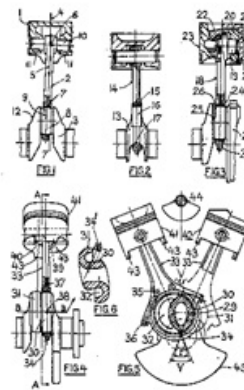
F02B75/00 F02B75/32 F16J1/10 (Core/Invention)

International (IPC 1-7): F16C3/06 F16C7/00 F16C7/02 F16H21/18

F16J1/16

CPC: F02B75/22 F02B75/32 F02B75/34 F02B2075/184 F16J1/22**European:** 46A30 F02B75/22 F02B75/32 F02B75/34 F16J1/22

R02B75/18C10

**Family:**

Publication number	Publication date	Application number	Application date
CH502536 A	19710131	CH19670006252	19670501
DE1750425 A1	19710128	DE19681750425	19680430
FR1581517 A	19690919		19680430
GB1197002 A	19700701	GB19680020340	19680430

Priority:

CH19670006252 19670501 CH19670018408 19671231 CH19680004012 19680314

Probable Assignee: SALZMANN WILLI E DIPL ING

Assignee(s): (std): SALZMANN DIPL ING WILLI ; SALZMANN WILLI E DIPL ING ; SALZMANN WILLI ERNST

Assignee(s): WILLI ERNST SALZMANN ; SALZMANN DIPL ING WILLI

Inventor(s): (std): SALZMANN WILLI ERNST ; WILLI E DIPL ING SALZMANN ; SALZMANN DIPL ING WILLI

Inventor(s): SALZMANN DIPL ING WILLI ; E DIPL ING SALZMANN WILLI ; WILLI ERNST SALZMANN ; E

9) Family number: 559864 (DE2117306B2)

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Title: VORRICHTUNG ZUM AUSGLEICHEN DER SCHWINGENDEN MASSES BEI EINEM SAEGERGATTER

Abstract: Source: AT318894B [DE] [Source: Claim 1] 1. Vorrichtung zum Ausgleichen der schwingenden Massen bei einem Saegegatter, insbesondere derjenigen des Saegerahmens, mit je einem aussermittig an den beidseitigen Gatterschwungraedern sitzenden ersten 55 Gegengewicht und zwei koaxial aber gegenlaeufig zu den ersten Gegengewichten umlaufenden, zu deren Symmetrieebene symmetrisch angeordneten, mit den Gatterschwungraedern fuer einen Umlauf mit gleicher mittlerer Drehzahl antriebsmaessig gekoppelten zweiten Gegengewichten, deren GD jeweils etwa in der gleichen Grosseordnung liegt wie dasjenige der ersten Gegengewichte, wobei die ersten und die zweiten Gegengewichte so gross und in bezug aufeinander so angeordnet sind, dass die von ihnen erzeugten resultierenden Massenkraefte etwa 60 so gross sind wie die Massenkraefte der in Richtung der Saegerahmenbewegung schwingenden Gattermassen, diesen - 4 - Nr.318894 aber entgegenwirken, dadurch gekennzeichnet, dass in die Antriebsverbindung (8) von den Gatterschwungraedern (3) zu den zweiten Gegengewichten (7) jeweils eine elastische Kupplung (9) eingeschaltet ist, deren Elastizitaet so bemessen ist, dass sie bei der uebertragung des Antriebsmomentes fuer die mit der mittleren Betriebsdrehzahl im wesentlichen gleichfoermig umlaufenden zweiten Gegengewichte (7) die zwischen 5 den letzteren und den ungleichfoermig umlaufenden Gatterschwungraedern (3) periodisch auftretende Winkelgeschwindigkeitsdifferenz aufnimmt. **Machine translation:** [Source: claim 1] 1 device to the offset of the vibrating masses saw gates, in particular those of the saw frame, with one off-center to the duplex gate flywheel seated first 55 is counterweight and two rotating coaxial but opposite to the first counterweights, symmetrically arranged to its plane of symmetry, with the gates of flywheel for a round with identical medium-speed drive moderately coupled second balance weights, their DG roughly in the same order of magnitude as the first counterweights, where the first and the second counter weights as large and in reference are grouped together so that the resulting inertia forces generated by them about 60 are as big as the inertia forces of gate mass swinging in the direction of the movement of the saw frame, this - 4 - Nr. counter 318894 however, characterised in that a flexible coupling (9) is turned on in the drive connection (8) of the gate (3) flywheel to the second balance weights (7) each, whose elasticity is calculated so that she (3) periodically appearing angular velocity difference takes on the latter and the imperfect surrounding gate flywheel in the transmission of the drive torque for the essentially uniform rotating with the average operating speed second counterweights (7) between 5.

Classifications:

International (IPC 8-9): B27B3/26 F16F15/22 (Advanced/Invention);
B27B3/00 F16F15/22 (Core/Invention)

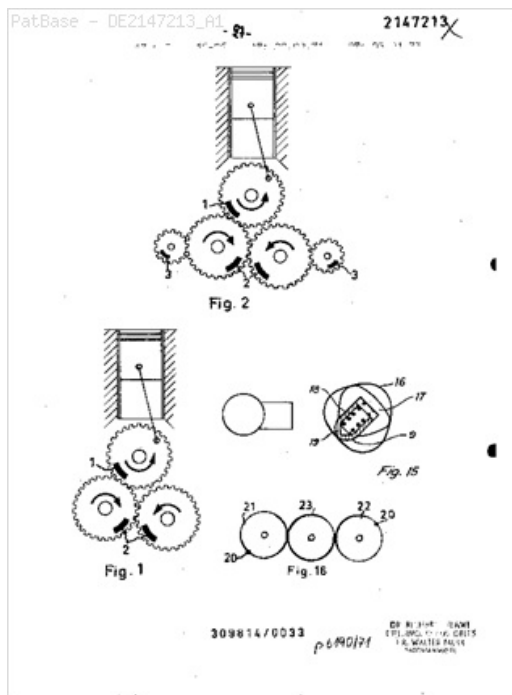
International (IPC 1-7): B27B3/00 B27B3/12 B27B3/26

CPC: B27B3/26 F16F15/22

European: B27B3/26 F16F15/22



PatBase PDF Export - Page: 10 21/06/2018



Family:

Publication number	Publication date	Application number	Application date
DE2147213 A1	19730405	DE19712147213	19710922
DE2147213 B2	19750213	DE19712147213	19710922
DE2147213 C3	19750918	DE19712147213	19710922

Priority:

DE19712147213 19710922

Probable Assignee: HUSQVARNA VAPENFABRIKS AB

Assignee(s): (std): HUSQVARNA VAPENFABRIKS AB

Assignee(s): HUSQVARNA VAPENFABRIKS AB HUSKVARNA SCHWEDEN

Inventor(s): (std): BLOMBERG FOLKE PROF

Inventor(s): BLOMBERG FOLKE PROF LIDINGOE SCHWEDEN

11) Family number: 1738772 (DE2201068A1)

© PatBase

Title: TRAGBARE MASCHINENSAEGE PORTABLE MASCHINENSAEGE (Machine translation)

Abstract: Source: DE2201068A1 [DE] P A T E N T A N S P R U E C H E: 1 Tragbare Maschinensäge mit Schneidwerkzeug, das durch einen Verbrennungsmotor antreibbar ist, der durch elastische Daempfer mit einem Tragrahmen verbunden ist, welcher miteinander starr verbundene Handgriffe und einen Kraftstoff behälter aufweist, d a d u r c h g e k e n n z e i c h d e r a r t n e t, dass die Daempfer (24 angeordnet sind, dass ihre Laengschsen (25-25) senkrecht oder fast senkrecht zur Schneidebene (D) liegen.

Machine translation: Patent Ue CHE: 1 Portable Maschinensäge with a cutting tool which is driven by an internal combustion engine, which is connected by elastic dampers with a supporting frame, which mite iNAND rigidly connected to the handles and a fuel has capacities, dadurchgekennzeich so in that the dampers (24 arranged such that their Laengschsen (25-25) perpendicular or nearly perpendicular to the cutting plane (D).

Classifications:

International (ipc 8-9): B27B17/00 B27B17/08 F16F15/067 F16F15/26 (Advanced/Invention);

F02B63/02 F02B67/00 F02B75/02 (Advanced/Non-invention);

B27B17/00 F16F15/06 F16F15/22 (Core/Invention);

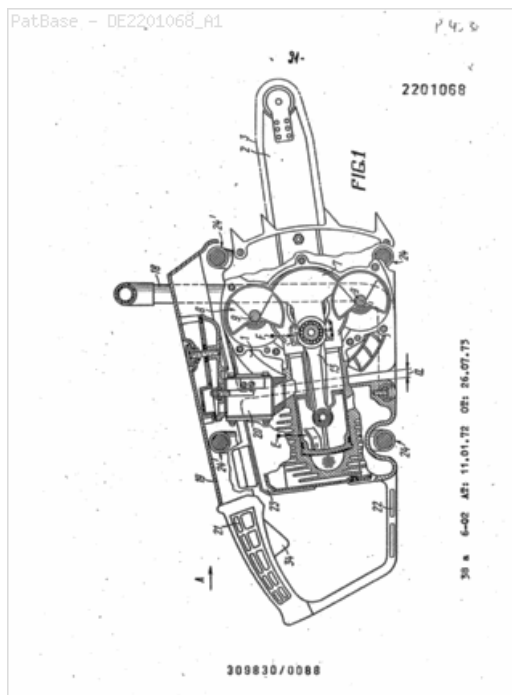
F02B63/00 F02B67/00 F02B75/02 (Core/Non-invention)

International (ipc 1-7): B27B17/00 F16F15/06

CPC: B27B17/0033 B27B17/08 F02B63/02 F02B67/00 F02B2075/025 F16F15/067 F16F15/264

European: B27B17/00E B27B17/08 F16F15/067 F16F15/26R

R02B63/02 R02B67/00 R02B75/02S2



Family:

Publication number	Publication date	Application number	Application date
DE2201068 A1	19730726	DE19722201068	19720111

Priority:

DE19722201068 19720111

Probable Assignee: TSNI P KI MEKH ENERGETIKI LESN

Assignee(s): (std): TSNI P KI MEKH ENERGETIKI LESN ; TSNI PK I MEKH I ENERGETIKI LE

Assignee(s): ZENTRALNY NAUTSCHNO ISSLEDOWATELSKIY PROYEKTNO KONSTRUKTORSKIY INSTITUT MECHANISAZIII ENERGETIKI LESNOY PROMYSCHLENNOSTI

Inventor(s): (std): KUSNEZOW GENNADIY A ; JAKOWLEW VALENTIN I ; OBLIWIN WLADIMIR N ; DUDOLADOW WALERIY G ; BELOWSOROW LEW N

Inventor(s): A KUSNEZOW GENNADIY ; N OBLIWIN WLADIMIR ; N BELOWSOROW LEW ; I JAKOWLEW VALENTIN ; G DUDOLADOW WALERIY

12) Family number: 1045741 (US3843275A)

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Title: VIBRATORY COMPACTING ROLLER

Abstract: 1426775 Road and like rollers MASCHINENFABRIK BUCKAU R WOLF AG 18 Sept 1973 [19 Oct 1972] 43849/73 Heading B7H A vibrating compactor roller comprises a rotating unbalanced weight 7 disposed within a roller drum 2 and driven by vibrator drive means 12 on the roller frame 1 through a vibrator shaft 8 extending through a hollow shaft 16 which is connected inside the drum 2 to a cylinder 17 attached by resilient elements 5, 6 to the end plates 3, 4 of the drum and is rotatably mounted in a support member 21 on the frame 1 by spaced bearings 22, 23. The unbalanced weight 7 is mounted by bearings 11 in a housing 9 carried inside the drum 2 on supports 10. The vibrator shaft 8 is connected to the weight 7 and the drive means 12 by resilient couplings 13, 14. A balance weight 24 is connected through the resilient element 5 to the end plate 3 to obtain even ground loading along the length of the drum 2. A disc spring 27 provides an axial pre-load on the bearings 22, 23. The hollow shaft 16 is driven through worm gearing 19, 20 by an hydraulic motor mounted on the frame 1.

Classifications:

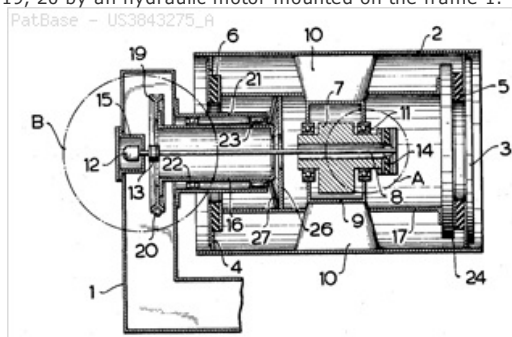
International (IPC 8-9): E01C19/28 F16C13/00 (Advanced/Invention); E01C19/22 F16C13/00 (Core/Invention)

International (IPC 1-7): B06B1/16 E01C19/28 E01C19/38 E02D3/04

CPC: E01C19/286

European: E01C19/28E

US: 404/117



Family:

Publication number	Publication date	Application number	Application date
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AT718373 A	19750815	AT19730007183	19730816
CH564650 A	19750731	CH19730013015	19730911
DD108131 C	19740905	DD19730174092	19731016
DE2251242 A1	19731108	DE19722251242	19721019
DE2251242 B2	19750528	DE19722251242	19721019
DE2251242 C3	19770512	DE19722251242	19721019

FR2203913 A1	19740517	FR19730033767	19730920
GB1426775 A	19760303	GB19730043849	19730918
JP49093758 A2	19740906	JP19730116988	19731019
US3843275 A	19741022	US19730406783	19731016

Priority:

DE19722251242 19721019

Probable Assignee: BUCKAU WOLF MASCHF R

Assignee(s): (std): BUCKAU WOLF MASCHF R ; WOLF R MASCHF BUCKAU ; WOLF R MASCHINENFABRIK BUCKAU

Assignee(s): WOLF R MASCHINENFABRIK BUCKAU AG ; WOLF R MASCHF BUCKAU AG ; MASCHINENFAB WOLF B AG DT ; MASCHINENFABRIK BUCKAU R WOLF AG ; MASCHINENFABRIK BUCKAU R WOLF AG 4048 GREVENBROICH ; MASCHINENFABRIK BUCKAU R WOLF AG DT ; MASCHINENFABRIK BUCKAU R WOLF AKTIENGESellschaft

Inventor(s): (std): BIRKHOLZ M ; BIRKHOLZ MANFRED ; PIATKOWSKI P ; PIATKOWSKI PAUL

Inventor(s): PIATKOWSKI PAUL 2300 KIEL ; PIATKOWSKI P DT ; BIRKHOLZ MANFRED 2301 SCHOENKIRCHEN ; BIRKHOLZ M DT

13) Family number: 1600425 (DE2629529A1)

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Title: BALANCING SYSTEM FOR RECIPROCATING ENGINE INERTIA FORCES - HAS ECCENTRIC WEIGHT ON PLANETARY GEAR ALSO BALANCING TRANSVERSE DYNAMIC FORCES

Abstract: The balancing system is used for inertia forces of reciprocating piston engines, esp. for the second order forces in a four cylinder four stroke in line engine. The planetary gear output has an eccentric balancing weight. The balancing mass (14) is dimensioned for compensation of inertia forces acting along the cylinder axis and connecting rod forces acting at right angles. The driving wheel (7) is driven in the same rotating direction as the crankshaft (4) to compensate the transverse dynamic force components. The driving wheel can be rotated in the opposite direction. The driving wheel can be driven by a toothed belt driven by crankshaft or camshaft (4, 5).

Classifications:

International (IPC 8-9): F16F15/26 (Advanced/Invention); F02B67/00 F02B75/02 F02B75/18 F02B75/20 (Advanced/Non-invention);

F16F15/22 (Core/Invention);

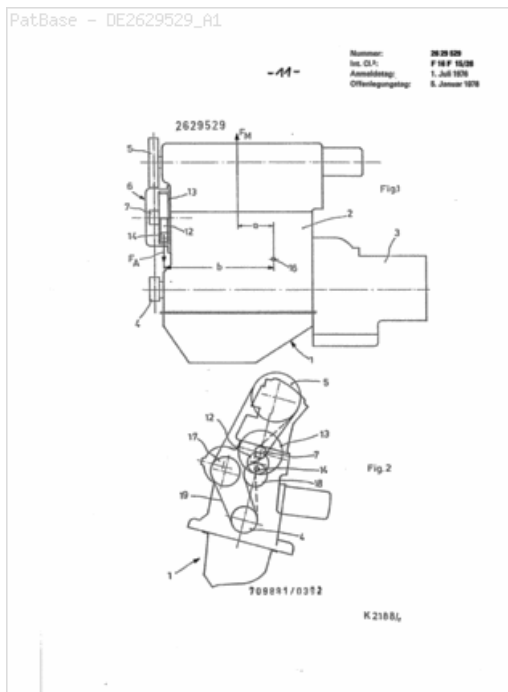
F02B67/00 F02B75/00 F02B75/02 (Core/Non-invention)

International (IPC 1-7): F16F15/26

CPC: F02B67/00 F02B75/20 F02B2075/027 F02B2075/1816

F02B2275/20 F16F15/262

European: F16F15/26P F16F15/26R R02B275/20 R02B67/00 R02B75/02S4 R02B75/18C4 R02B75/20



Family:

Publication number	Publication date	Application number	Application date
DE2629529 A1	19780105	DE19762629529	19760701

Priority:

DE19762629529 19760701

Probable Assignee: VOLKSWAGENWERK AG

Assignee(s): (std): VOLKSWAGENWERK AG

Inventor(s): (std): PAPEZ STANISLAV DIPL ING

14) Family number: 1668824 (DE2742091A1)

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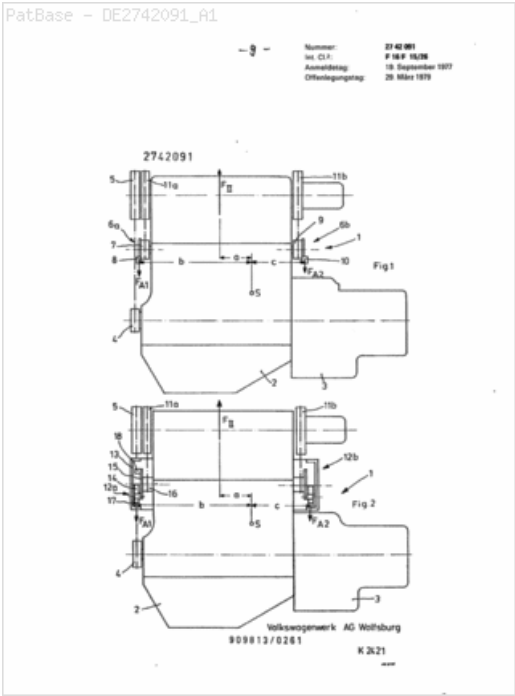
Title: PISTON ENGINE COUNTERBALANCING SYSTEM - HAS MECHANISMS AT EACH ENGINE END GENERATING COUNTERBALANCING FORCES PERPENDICULAR TO CRANKSHAFT AXIS

Abstract: The system counterbalances the out-of-balance forces and moments of inertia of piston engines, being particularly for those of the second order in 4-cylinder in-line engines with gearboxes forming motor vehicle power units. Mechanisms (6a, 6b) are provided at each end of the engine (2), generating counterbalancing forces rotating in a plane at right angles to the crankshaft axis. The mechanisms are driven at an increased speed in relation to the crankshaft to correspond with the order of forces to be counterbalanced.

Classifications:

International (IPC 8-9): F16F15/26 (Advanced/Invention); F02B75/02 F02B75/18 F02B75/20 (Advanced/Non-invention);

F16F15/22 (Core/Invention);
F02B75/00 F02B75/02 (Core/Non-invention)
International (ipc 1-7): F16F15/26
CPC: F02B75/20 F02B2075/027 F02B2075/1816 F16F15/264
European: F16F15/26R R02B75/02S4 R02B75/18C4 R02B75/20



Family:

Publication number	Publication date	Application number	Application date
DE2742091 A1	19790329	DE19772742091	19770919

Priority:

DE19772742091 19770919

Probable Assignee: VOLKSWAGENWERK AG
Assignee(s): (std): VOLKSWAGENWERK AG
Inventor(s): (std): PAPEZ STANISLAV DIPL ING

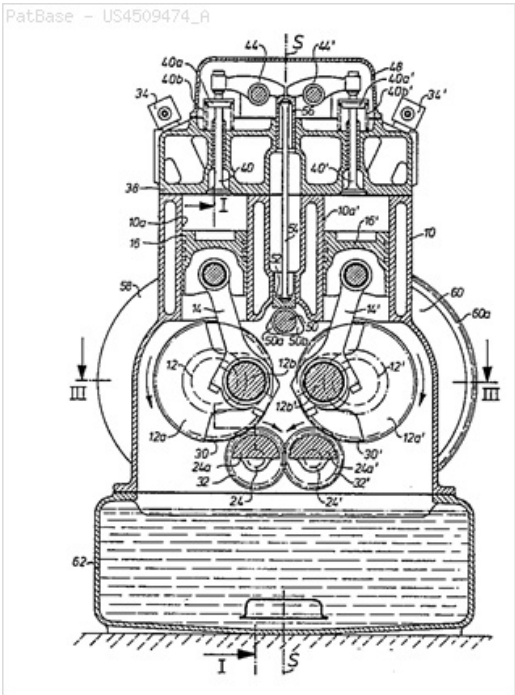
15) Family number: 2977975 (US4509474A) © PatBase

Title: Piston machine

Abstract: A machine has two cylinders with respective pistons slidably supported therein, and has two crankshafts carrying counterweights operatively coupled to the respective pistons. A balance shaft carrying a balance weight is associated with and extends parallel to each crankshaft. The cylinders, crankshafts and balance shafts are parallel to and arranged in mirror-image fashion on opposite sides of a plane of symmetry. The crankshafts rotate synchronously in opposite directions, and each balance shaft rotates in an opposite direction from and at twice the speed of the associated crankshaft. In one embodiment the machine is an internal combustion engine and fuel is supplied to the cylinders through an eddy chamber which communicates with both cylinders through respective ducts. Two machines of the above type, an internal combustion engine and a compressor, can be operationally coupled, each crankshaft and balance shaft of the engine directly driving a respective crankshaft or balance shaft of the compressor.

Classifications:

International (ipc 8-9): F02B67/04 F02B73/00 F02B75/18 F02B75/22 F02B75/32 F16F15/26 (Advanced/Invention);
F02B1/04 F02B3/06 F02B67/00 (Advanced/Non-invention);
F02B67/04 F02B73/00 F02B75/00 F02B75/32
F16F15/22 (Core/Invention);
F02B1/00 F02B3/00 F02B67/00 (Core/Non-invention)
International (ipc 1-7): F02B15/0 F02B15/00 F02B67/04 F02B75/18 F02B75/32 F16F15/22 F16F15/24 F16F15/26
CPC: F02B1/04 F02B3/06 F02B67/00 F02B67/04 F02B73/00 F02B75/225 F02B75/228 F02B75/32 F02B2275/34 F16F15/265
European: F02B67/04 F02B73/00 F02B75/22D F02B75/22U F02B75/32 F16F15/26R2 R02B1/04 R02B275/34 R02B3/06 R02B67/00
US: 123/192.2 123/192B 123/198C 417/364



Family:

Publication number	Publication date	Application number	Application date
DE3109778 A1	19821007	DE19813109778	19810313
DE3132502 A1	19830324	DE19813132502	19810818
EP0076358 A1	19830413	EP19820101900	19820310
ES510390 A0	19830201	ES19820510390	19820312
ES8303641 A1	19830201	ES19820510390	19820312
JP57163749 A2	19821008	JP19820038207	19820312
US4509474 A	19850409	US19820345831	19820204

Priority:

DE19813109778 19810313 DE19813132502 19810818

Probable Assignee: JOHANN SCHMUCK

Assignee(s): (std): SCHMUCK JOHANN ; YOHAN SHIYUMUTSUKU

Assignee(s): JOHANN SCHMUCK ; SCHMUCK JOHANN 8201 BAD FEILNBACH DE

Inventor(s): (std): SCHMUCK JOHANN ; YOHAN SHUMUTSUKU ; YOHAN SHIYUMUTSUKU

Inventor(s): SCHMUCK JOHANN 8201 BAD FEILNBACH DE

Designated states: AT BE CH DE FR GB IT LI LU NL SE

16) Family number: 1890813 (GB2125165A)

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Title: Ultrasonic transducer scanning head

Abstract: In a section surface-scanning mechanism which is intended to be used in a section image-displaying ultrasonic equipment and adapted to scan a sector-shaped area of a section surface with a sound beam that is projected into an object by a sound transducer head, which is oscillated about an axis, vibration of the mechanism is avoided in that oscillating masses (4, 10) rotate about different axes. The axes (D1, D2) are parallel and defined by members which are supported by a common, rigid mounting (1). The masses I and II that are rotatable about the axes (D1, D2) are arranged (6, 7, 10) to rotate in mutually opposite senses. For the masses associated with the axes of the pair, the product of the moment of inertia and angular velocity is about the same as that reaction forces on the mounting and thus vibrations (1) are reduced.

Classifications:

International (IPC 8-9): G10K11/35 (Advanced/Invention);

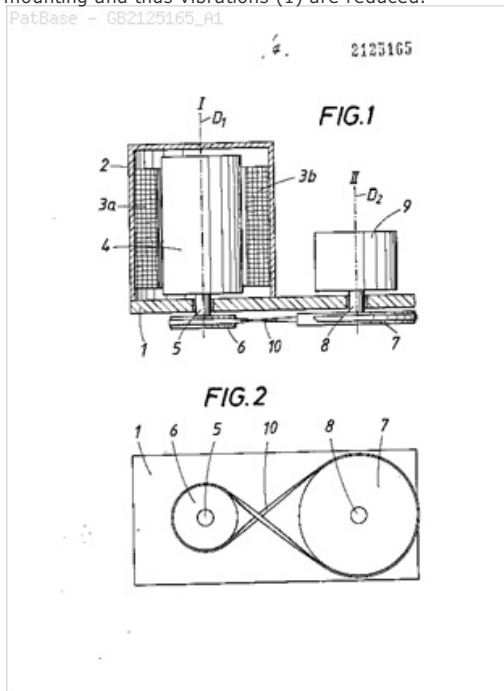
G10K11/00 (Core/Invention)

International (IPC 1-7): A61B10/00 A61B8/00 F16F15/20 G01N29/00

G01N29/04 G03B42/06 G03X

CPC: G10K11/355

European: G10K11/35B2



Family:

Publication number	Publication date	Application number	Application date
AT278682 A	19850415	AT19820002786	19820719
AT379071 A	19851111	AT19820002786D	19820719
AT379071 B	19851111	AT19820002786	19820719
DE3322550 A1	19840119	DE19833322550	19830623
GB2125165 A1	19840229	GB19830018526	19830708
GB8318526 A0	19830810	GB19830018526	19830708

Priority:

AT19820002786 19820719

Probable Assignee: KRETZTECHNIK GMBH

Assignee(s): (std): KRETZTECHNIK GMBH

Assignee(s): KRETZTECHNIK GESELLSCHAFT M B H ; KRETZTECHNIK GESELLSCHAFT MBH

Inventor(s): (std): KRETZ CARL ; KRETZ CARL DIPL ING

Inventor(s): CARL KRETZ

17) Family number: 5482370 (WO8401606A1)

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Title: DRIVE MECHANISM OF THE ROD-CRANK TYPE PROVIDED WITH A DYNAMIC BALANCING DEVICE, AND CUTTING MACHINE PROVIDED WITH SUCH A MECHANISM

Abstract: Balancing device for a rod-crank mechanism. A rod-crank mechanism (8, 10, 11, 12) sets in motion an assembly (2, 3, 17, 18, 19) having a mass M1. The balancing device comprises on one hand a mass M2 movable about the axis (16) and connected by a rod (13) to the axis (12) common to the rods (8 and 12) and, on the other hand, a counterweight m which balances the resultant of the reactions to the efforts applied by the masses M1 and M2 to the axis (12). The efforts and torques about the axis (11) are thereby balanced. Application to the dynamic balancing of the blades of a machine cutting strip or band products.

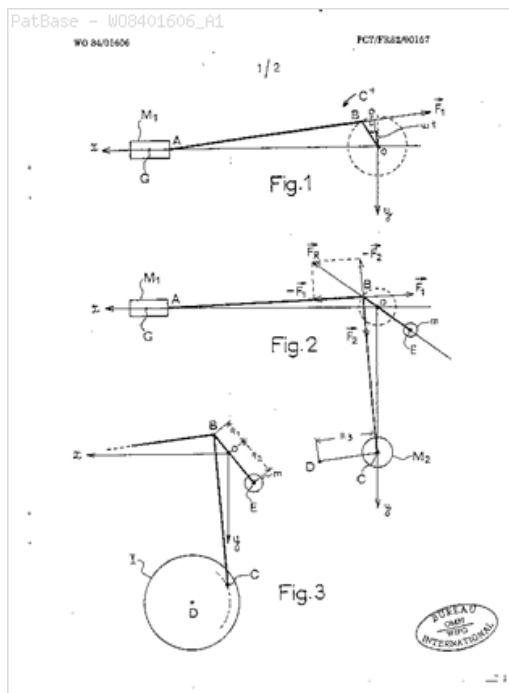
Classifications:

International (IPC 8-9): B23D25/04 B26D5/14 F16F15/22 F16F15/26 F16F15/28 (Advanced/Invention); B26D7/00 (Advanced/Non-invention); B23D25/00 B26D5/08 F16F15/00 F16F15/22 (Core/Invention); B26D7/00 (Core/Non-invention)

International (IPC 1-7): B23D25/04 F16F15/26

CPC: B23D25/04 B26D5/14 B26D7/00 F16F15/22 F16F15/28

European: B23D25/04 B26D5/14 F16F15/22 F16F15/26L F16F15/28 L26D7/00



Family:

Publication number	Publication date	Application number	Application date
BR8208109 A	19850319	BR19820008109	19821013
DE3277126 D1	19871008	DE19823277126	19821013
EP0139628 A1	19850508	EP19820903048	19821013
EP0139628 B1	19870902	EP19820903048	19821013
WO8401606 A1	19840426	WO1982FR00167	19821013

Priority:

WO1982FR00167 19821013

Probable Assignee: EASTMAN KODAK COMPANY

Assignee(s): (std): EASTMAN KODAK CO ; KODAK PATHE

Assignee(s): EASTMAN KODAK COMPANY

Inventor(s): (std): GAUDILLAT JACQUES ; GAUDILLAT JACQUES FERNAND ; MARTIN ANDRE ; MARTIN ANDRE ROBERT

Inventor(s): JACQUES FERNAND GAUDILLAT ; ANDRE ROBERT MARTIN

Designated states: BE BR CH DE GB JP LI NL US

18) Family number: 29668992 (US4509378A)

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Title: RECIPROCATING MACHINES WITH BOTH PRIMARY AND SECONDARY COUNTER ROTATING BALANCERS

Abstract: This invention is best suited for counterbalancing a single reciprocating (recip) member (such as a piston). A con rod interconnects a rotary crankshaft to a recip member. Two main counterweights are attached to the crankshaft and rotate therewith. Two coaxial contra-weights rotate in the opposite direction from the crankshaft and at the same RPM as the crankshaft. The two main counterweights plus the two contra-weights combine forces so as to balance the primary recip inertia forces. Two secondary weights are mounted on two parallel countershafts and they rotate at twice crankshaft RPM and in opposite directions from each other so as to balance the secondary recip inertia forces. A positive toothed driving means (such as gearing) is used to drive the two said countershafts from the crankshaft. The same gearing plus the two said countershafts are also used to assist in driving the two said contra-weights so as to minimize the total number of shafts, bearings, and gears. So as to further cut down on the number of gears and cost, two of the drive gears are extra wide; they mesh in two separate planes; and thus perform a double function. In one species, the said two contra-weights are attached to a single hollow shaft which surrounds the main shaft of the crankshaft. The said secondary weights have a large L/D so as to reduce their flywheel effect for a given static moment.

Classifications:

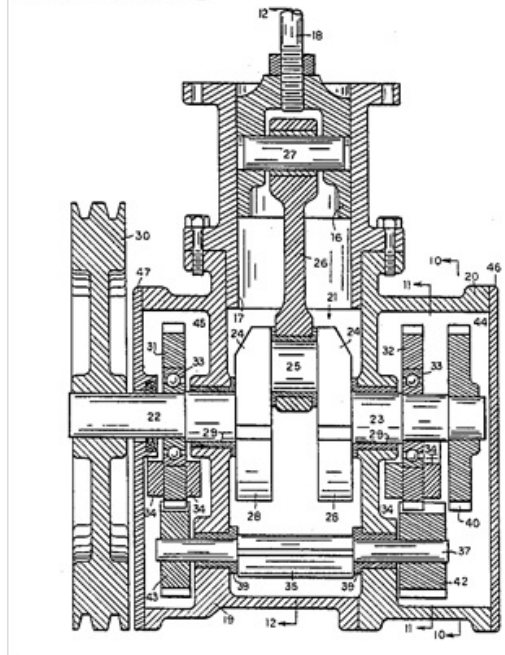
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International (IPC 1-7): F02B75/06 F16C3/04 F16F15/26 F16H21/22

CPC: Y10T74/18208 Y10T74/2157 Y10T74/2183 F16F15/265

European: F16F15/26R2

US: 123/192.2 123/192B 74/44 74/440 74/591 74/603

**Family:**

Publication number	Publication date	Application number	Application date
DE3512056 A1	19861002	DE19853512056	19850402
GB2172662 A1	19860924	GB19850005880	19850307
GB2172662 B2	19881130	GB19850005880	19850307
GB8505880 A0	19850411	GB19850005880	19850307
US4509378 A	19850409	US19830468139	19830222

Priority:

US19830468139 19830222 GB19850005880 19850307 DE19853512056 19850402

Probable Assignee:

BROWN A E

Assignee(s): (std):

BROWN A E ; BROWN ARTHUR E

Assignee(s):

ARTHUR E BROWN

Inventor(s): (std):

BROWN ARTHUR E

Inventor(s):

E BROWN ARTHUR ; ARTHUR E BROWN

19) Family number: 5285791 (US4667532A)

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Title: METHOD AND APPARATUS FOR CORRECTING THE IMBALANCE OF A TURBOJET ENGINE ROTOR

Abstract: An apparatus for correcting the imbalance of a turbojet engine rotor is disclosed wherein a pair of counterbalanced weights are mounted in the interior of the rotor shaft. The relative positions of the counterbalance weights are mutually adjustable such that any residual imbalances may be counteracted. A tool for adjusting the weights and a method for utilizing the tool are also disclosed.

Classifications:

International (ipc 8-9): F01D5/02 F16F15/36 (Advanced/Invention); F01D5/02 F16F15/00 (Core/Invention)

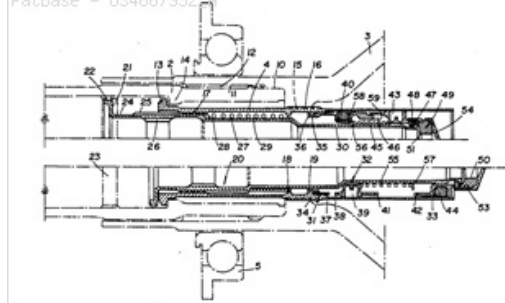
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European: F01D5/02L F16F15/36

US: 174/573R 464/180 74/571.1

PatBase - US4667532_A

**Family:**

Publication number	Publication date	Application number	Application date
DE3560203 D1	19870702	DE19853560203	19850206
EP0153887 A1	19850904	EP19850400195	19850206
EP0153887 B1	19870527	EP19850400195	19850206
FR2559901 A1	19850823	FR19840002646	19840222
FR2559901 B1	19860530	FR19840002646	19840222
US4667532 A	19870526	US19850704161	19850222

Priority:

FR19840002646 19840222

Probable Assignee: SNECMA**Assignee(s):** (std): SNECMA

Assignee(s): NATIONALE D'ETUDE ET DE CONSTRUCTION DE METEUR D' ; NATIONALE D'ETUDE ET DE CONSTRUCTION DE METEUR D'A ; SOCIETE NATIONALE D ETUDE ET DE CONSTRUCTION DE MOTEURS D AVIATION S N E C M A ; NATIONALE D ETUDE ET DE CONSTRUCTION DE MOTEURS D AVIATION SNECMA SOC ; NATIONALE D'ETUDE ET DE CONSTRUCTION DE METEUR D'AVIATION S N E C M A SOC ; NATIONALE D ETUDE ET DE CONSTRUCTION DE ; NATIONALE D ETUDE ET DE CONSTRUCTION DE METEUR D A ; NATIONALE D ETUDE ET DE CONSTRUCTION DE METEUR D AVIATION S N E C M A SOC ; NATIONALE D ETUDE ET DE CONSTRUCTION DE MO SOC

Inventor(s): (std): VERCHERIN DENIS J N ; VERCHERIN DENIS JEAN NOEL ; VERCHERINA DENIS JEAN NOEL ; VERSCHERIN DENIS JEAN NOEL ; HOLZ ROBERT G ; HOLZ ROBERT GUSTAVE

Inventor(s): ROBERT GUSTAVE HOLZ ET DENIS JEAN NOEL VERCHERIN

Designated states: DE FR GB

20) Family number: 11506560 (EP0184685A2)

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Title: Split-engine for motor-vehicles, with a divided crankshaft, and an engine cross-shaft for auxiliary-drives.

Abstract: To additionally reduce the noxious emissions of motor vehicles, the gasoline or diesel engines are splitted into a primary and a secondary engine, both having own partial crankshafts. The primary engine is conventionally used, and it drives the vehicle auxiliaries by a novel engine cross-shaft, while the secondary engine is automatically started and clutched-in for higher loads, and automatically separated and stopped under no-load conditions. The clutching-in and separation of the secondary engine is performed by a novel clutch between the two partial crankshafts, controlled by the accelerator pedal without the driver's help, which also effects an automatical synchronization of the crank positions of the partial crankshafts. An additional hand-switch can exclude the clutching-in of the secondary engine for motor-queueings. The split-engine establishes a whole engine family, contributes a multiplicative reduction of noxious emissions, saves additionally fuel, and enables economy-priced engine optionals.

Classifications:

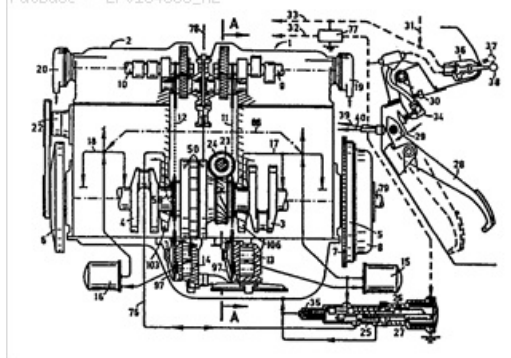
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International (IPC 1-7): F01P7/16 F02B61/00 F02B67/04 F02B73/00 F02B77/14 F02D25/04 F16D25/0632 F16D25/11 F16D35/00 F16D47/00 F16F15/24 F16F15/26

CPC: F02B67/04 F02D17/02 F02D25/04 F16D35/005 B60K5/08 F01M1/02 F02B1/04 F02B3/06 F02B67/00 F02B73/00 F02B77/14 F02B2075/025 F16F15/264

European: B60K5/08 F02B67/04 F02B73/00 F02B77/14 F02D17/02 F02D25/04 F16D35/00B F16F15/26R R01M1/02 R02B1/04 R02B3/06 R02B67/00 R02B75/02S2

PatBase - EP0184685_A2



Family:

Publication number	Publication date	Application number	Application date
DE3522988 A1	19860626	DE19853522988	19850627
DE3522988 C2	19920305	DE19853522988	19850627
DE3619351 A1	19871022	DE19863619351	19860609
DE3619351 C2	19950427	DE19863619351	19860609
EP0184685 A2	19860618	EP19850114482	19851114
EP0184685 A3	19870408	EP19850114482	19851114
JP1885624 C3	19941122	JP19850278085	19851212
JP6010425 B4	19940209	JP19850278085	19851212
JP61182424 A2	19860815	JP19850278085	19851212

Priority:

DE19843445409 19841213 DE19853522988 19850627 DE19863610798 19860401
DE19863619351 19860609

Probable Assignee: KANIUT SEN HERBERT DIPL ING 5000 KOELN DE

Assignee(s): (std): KANIUT CLAUDIUS H ; KANIUT JUN CLAUDIUS DR ; KANIUT HERBERT M ; KANIUT JUN CLAUDIUS DR ING ; KANIUT SEN ; KANIUT SEN HERBERT DIPL ING ; KURAUDEIUSU KANIUTO

Assignee(s): HERUBERTO MAKISHIMIRIAN KANIUTO ; KANIUT JUN CLAUDIUS DR ING 5000 KOELN DE ; KANIUT SEN HERBERT DIPL ING 5000 KOELN DE ; KANIUT HERBERT MAXIMILIAN

Inventor(s): (std): KANIUT HERBERT DIPL ING ; KANIUT SEN HERBERT DIPL ING ; KANIUT JUN CLAUDIUS DR ; KANIUT HERBERT MAXIMILIAN ; KANIUT JUN CLAUDIUS DR ING ; KURAUDEIUSU KANIUTO ; HERUBERTO MAKISHIMIRIAN KANIUT

Inventor(s): HERUBERTO MAKISHIMIRIAN KANIUTO ; KANIUT SEN ; KANIUT JUN ; SEN HERBERT DIPL ING KANIUT ; SEN ; KANIUT JUN CLAUDIUS DR ING 5000 KOELN DE ; JUN CLAUDIUS DR KANIUT ; KANIUT HERBERT DIPL ING 5000 KOELN DE ; JUN

Designated states: BE FR GB IT NL SE

21) Family number: 6350036 (EP0205386A1)

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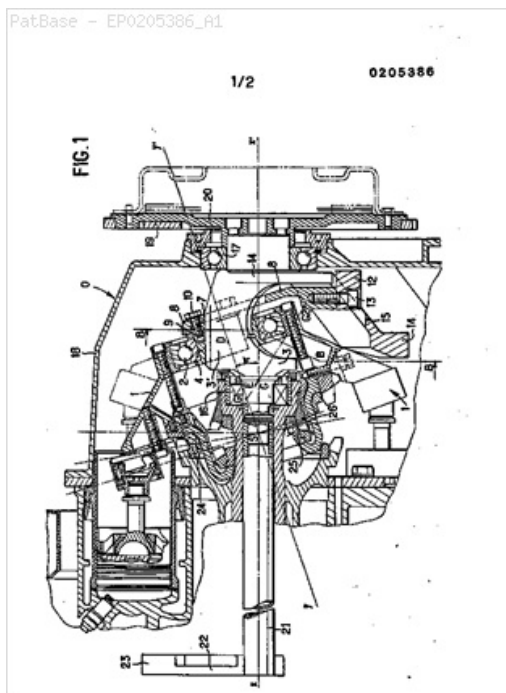
Title: General balancing device for axial motors.

Abstract: According to the invention, this general balancing device intended for a barrel motor (0) with a pivoting seat (1) comprises: an external counterweight (19) joined to a steering wheel (20); an external counterweight (22) joined to a front pulley; an internal counterweight (14) fixed on a crankshaft (3); and an internal counterweight (8) joined to a seat (1). Application, in particular, to the balancing of an axial motor by means of counterweights.

Classifications:

International (IPC 8-9): F02B75/26 F16F15/26 F16F15/28 (Advanced/Invention);

F02B67/00 (Advanced/Non-invention);
F16F15/00 (Core/Invention)
International (ipc 1-7): F02B75/06 F02B75/26 F16F15/22 F16F15/26
CPC: F02B67/00 F16F15/26 F16F15/283
European: F16F15/26 F16F15/28C R02B67/00



Family:

Publication number	Publication date	Application number	Application date
EP0205386 A1	19861217	EP19860401246	19860610
FR2583487 A1	19861219	FR19850008857	19850612
FR2583487 B1	19870724	FR19850008857	19850612
JP62132050 A2	19870615	JP19860135115	19860612

Priority:

FR19850008857 19850612

Probable Assignee: PEUGEOT

Assignee(s): (std): RENAULT ; S C R E B ; RENAULT VEHICULES IND ; PEUGEOT ; CITROEN SA ; PEUGEOT PSA SA ; SUKUREBU

Assignee(s): AUTOMOBILES CITROEN ; AUTOMOBILES PEUGEOT ; PEUGEOT AUTOMOBILES ; REGIE NATIONALE DES USINES RENAULT ; RENAULT VEHICULES INDUSTRIELS SOCIETE ANONYME DITE ; PEUGEOT SA PSA ; REGIE NATL USINES RENAULT ; PEUGEOT SA

Inventor(s): (std): AAMEDO AFUIFU ; AHMED AFIF ; BRILLE MAURICE ; BURIRU MOORISU

Inventor(s): AFIF AHMED ET MAURICE BRILLE

Designated states: DE GB IT NL SE

22) Family number: 5342863 (US4683849A)

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Title: RECIPROCATING MULTICYLINDER VEE MACHINES WITH SECONDARY COUNTERBALANCERS

Abstract: An engine is disclosed in which two cylinders or guideways are mounted in a Vee or L formation with a reciprocable piston or crosshead in each. Connecting rods interconnect each reciprocable member to a crankshaft. Countershafts with balance weights thereon are referred to as balance shafts and these are driven at twice crankshaft speed in opposite directions and they serve to counterbalance the secondary reciprocating inertia forces. The balance shafts are mounted substantially parallel to the crankshaft instead of at right angles to the crankshaft as taught by Lanchester in a Vee machine. Thus, ordinary gearing can be used to drive the balance shafts instead of the skew gearing taught by Lanchester in a Vee machine. When the angle between the two cylinders is 90 degrees, only two not four balance shafts are required. When the machine has four cylinders in a 90 degree Vee, only two parallel balance shafts are required to serve all four cylinders. For some applications, three balance shafts are used.

Classifications:

International (ipc 8-9): F02B75/22 F16F15/26 (Advanced/Invention);

F01B1/04 F02B67/00 F02B75/18 (Advanced/Non-invention);

F02B75/00 F16F15/22 (Core/Invention);

F01B1/00 F02B67/00 (Core/Non-invention)

International (ipc 1-7): F02B75/06

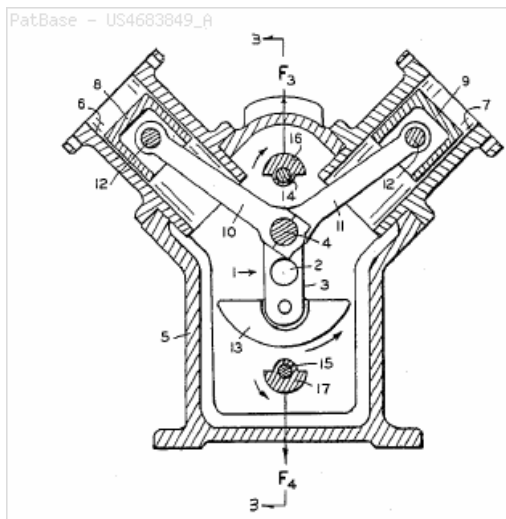
CPC: F02B75/22 F01B1/04 F02B67/00 F02B2075/1808

F02B2075/1816 F16F15/265 Y10T74/2183

European: F02B75/22 F16F15/26R2 R01B1/04 R02B67/00

R02B75/18C2 R02B75/18C4

US: 123/1.92R 123/192.1 123/192.2 123/192B 74/603



Family:

Publication number	Publication date	Application number	Application date
US4683849 A	19870804	US19840673393	19841120

Priority:

US19840673393 19841120

Probable Assignee:

BROWN ARTHUR E

Assignee(s): (std):

BROWN ARTHUR E

Inventor(s): (std):

BROWN ARTHUR E

23) Family number: 2714910 (SE458554B)

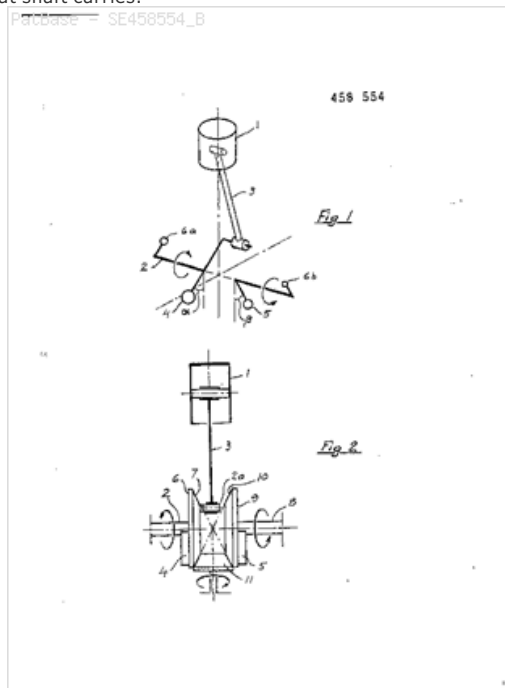
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Title: COUNTER-ROTATING BALANCING MECHANISM

Abstract: The piston (1) of the machine is connected to a crankshaft (2) by a connecting rod (3), the crankshaft being fitted with a primary counterweight (4). A secondary counterweight (5) is fitted on a second shaft (8) coaxial with the crankshaft. The second shaft rotates at the same angle speed as the crankshaft, but in the opposite direction. The primary counterweights have greater static torque than the secondary in relation to the common centre line of the shafts. On the crankshafts is fitted a tert. counterweight, the position of which is displaced through 180 deg. in relation to the primary counterweight on that shaft. On the second shaft is also a tert. counterweight, the position of which is likewise displaced through 180 deg. in relation to the secondary counterweight which that shaft carries.

Classifications:**International (IPC 8-9):** F16F15/26 F16J15/26 (Advanced/Invention);

F16F15/22 F16J15/16 (Core/Invention)

International (IPC 1-7): F16F15/26 F16J15/26**CPC:** F16F15/264**European:** F16F15/26R**Family:**

Publication number	Publication date	Application number	Application date
SE458554 B	19890410	SE19870003612	19870918
SE458554 C	19890803	SE19870003612	19870918
SE8703612 A	19890319	SE19870003612D	19870918
SE8703612 A0	19870918	SE19870003612	19870918

Priority:

SE19870003612 19870918

Probable Assignee:

SWEDSTEAM AB

Assignee(s): (std):

SWEDSTEAM AB

Inventor(s): (std):

NILSON C G

Inventor(s):

C G NILSON

24) Family number: 12073736 (US5024287A)

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Title: ENGINE UNIT FOR VEHICLE

Abstract: Several embodiments of power units particularly adapted for transverse engine operation for driving the wheels of a motor vehicle. In all of the embodiments, the axles are disposed on one side of the engine and a change speed transmission is located on the other side of the engine. The change speed transmission is driven from a gearing arrangement located between the ends of the crankshaft and in some embodiments torsional vibration dampers are included in the drive for the change speed transmission. Vibration dampers are affixed to one or both ends of the crankshaft in some embodiments and an auxiliary shaft is driven from the transmission primary shaft for operating the camshafts of the engine.

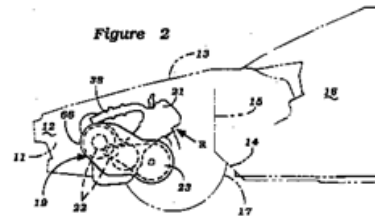
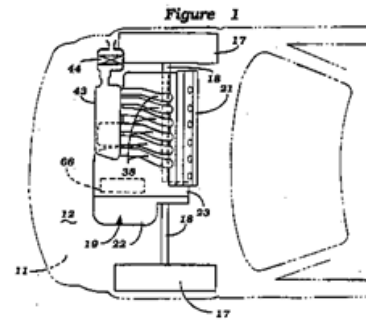
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F01N13/12 F01P3/02 F01P3/20 F01P5/10 F01P5/12 F02B27/00

F02B61/00 F02B61/06 F02B67/00 F02B67/04 F02B67/06 F02B75/18

F02B75/20 F02B77/00 F02F1/00 F02F1/10 F02F1/14 F02F1/40
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F02F1/24 (Advanced/Non-invention);
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F02B75/00 F02B77/00 F02F1/00 F02F1/02 F02F1/26 F02F7/00
F02M35/104 F16C3/04 F16F15/12 F16F15/121
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F01M1/00 F02B67/06 F02B75/00 (Core/Non-invention)
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US: 123/184.42 123/195A 123/195AC 123/195H 123/195R 123/196R
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180/68.3 60/302 74/15.8 74/606R 74/665B



Family:

Publication number	Publication date	Application number	Application date
DE69005030 D1	19940120	DE19906005030	19900601
DE69005030 T2	19940421	DE19906005030T	19900601
DE69005035 D1	19940120	DE19906005035	19900601
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DE69032625 D1	19981008	DE19906032625	19900627
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EP0318971 A2	19890607	EP19880120003	19881130
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EP0406697 B1	19960306	EP19900112310	19900627
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EP0411319 B1	19950913	EP19900112311	19900627
EP0415022 A1	19910306	EP19900112308	19900627
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EP0653553 B1	19980902	EP19950101307	19900627
ES2048893 T3	19940401	ES19900110498T	19900601
ES2048894 T3	19940401	ES19900110499T	19900601
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ES2054159 T3	19940801	ES19900112308T	19900627
ES2061790 T3	19941216	ES19890109715T	19890530
JP1147123 A2	19890608	JP19870301542	19871201
JP1249922 A2	19891005	JP19880078535	19880331
JP1301410 A2	19891205	JP19880131491	19880531
JP1301921 A2	19891206	JP19880131492	19880531
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JP1394850 A2	19880306	JP1989031493	19890531
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JP2617114 B2	19970604	JP19880131491	19880531
JP2666145 B2	19971022	JP19880131492	19880531
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JP2829595 B2	19981125	JP19960206359	19960718
JP3007622 A2	19910114	JP19890216995	19890823
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JP3009027 A2	19910116	JP19890141495	19890603
JP3043628 A2	19910225	JP19890174676	19890706
JP3050317 A2	19910304	JP19890186614	19890719
JP3050318 A2	19910304	JP19890186616	19890719
JP3061620 A2	19910318	JP19890195649	19890728
JP3089013 A2	19910415	JP19890222966	19890831
JP3130534 A2	19910604	JP19890216994	19890823
JP8338258 A2	19961224	JP19960206358	19960718
JP9021326 A2	19970121	JP19960206359	19960718
US5024287 A	19910618	US19880270357	19881114
US5050701 A	19910924	US19890346545	19890502
US5063897 A	19911112	US19900548019	19900705
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US5099945 A	19920331	US19900628485	19901217
US5113807 A	19920519	US19900554256	19900717
US5113807 B1	19941025	US19900554256	19900717
US5154144 A	19921013	US19910782745	19911018
US5184582 A	19930209	US19920818839	19920110
US5240088 A	19930831	US19900532200	19900601
US5257674 A	19931102	US19930018285	19930216

Priority:

JP19870301542	19871201	JP19870301543	19871201	JP19880078535	19880331
JP19880131493	19880531	JP19880131491	19880531	JP19880131492	19880531
US19880270357	19881114	EP19880120003	19881130	US19890346545	19890502
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JP19890186614	19890719	JP19890186616	19890719	JP19890195649	19890728
JP19890216995	19890823	JP19890216994	19890823	JP19890222966	19890831
US19900532200	19900601	EP19900112308	19900627	EP19930105961	19900627
US19900570314	19900821	US19900628485	19901217	US19920818839	19920110
US19930018285	19930216	JP19960206358	19960718	JP19960206359	19960718

Probable Assignee: YAMAHA MOTOR CO LTD

Assignee(s): (std): YAMAHA HATSUDIKI KABUSHIKI KAI ; YAMAHA MOTOR CO LTD

Assignee(s): YAMAHA MOTOR CO ; MANABU KOBAYASHI ; YAMAHA HATSUDIKI KABUSHIKI KAISHA ; YAMAHA HATSUDIKI KK ; YAMAHA HATSUDOKI D B A YAMAHA MOTOR CO LTD KK ; YAMAHA HATSUDOKI KK ; YAMAHA HATSUDOKI KABUSHIKI KAISHA ; YAMAHA HATSUDOKI DBA YAMAHA MOTOR CO LTD KK ; YAMAHA HATSUDOKI KABUSHIKI KAISHA YAMAHA MOTOR CO ; YAMAHA HATSUDOKI K K IWATA SHIZUOKA JP ; YAMAHA HATSUDOKI K K IWATA SHIZUOKA ; YAMAHA HATSUDOKI YAMAHA MOTOR CO LTD A CORP OF JAP ; YAMAHA HATSUDOKI K K ; YAMAHA HATSUDOKI KABUSHIKI KAISHA YAMAHA MOTOR CO LTD ; YAMAHA HATSUDOKI YAMAHA MOTOR CO LTD A CORP OF JAPAN KK

Inventor(s): (std): KOBAYASHI MANABU ; MANABU KOBAYASHI ; OKUI KAORU ; YAMAHA HATSUDOKI KABUSHIKI KAI

Inventor(s): YAMAHA HATSUDOKI KABUSHIKI KAISHA ; OKUI KAORU IWATA SHI SHIZUOKA KEN 438 ; OKUI KAORU IWATA SHI SHIZUOKA KEN 438 JP ; OKUI KAORU SHIZUOKA KEN 438 JP ; KOBAYASHI MANABU IWATA SHI SHIZUOKA KEN 438 ; KOBAYASHI MANABU IWATA SHI SHIZUOKA KEN 438 JP ; KOBAYASHI MANABU SHIZUOKA KEN 438 JP

Designated states: DE ES FR GB IT

25) Family number: 7499878 (JP1153331A)

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Title: PROPELLER SHAFT AND MANUFACTURE THEREOF

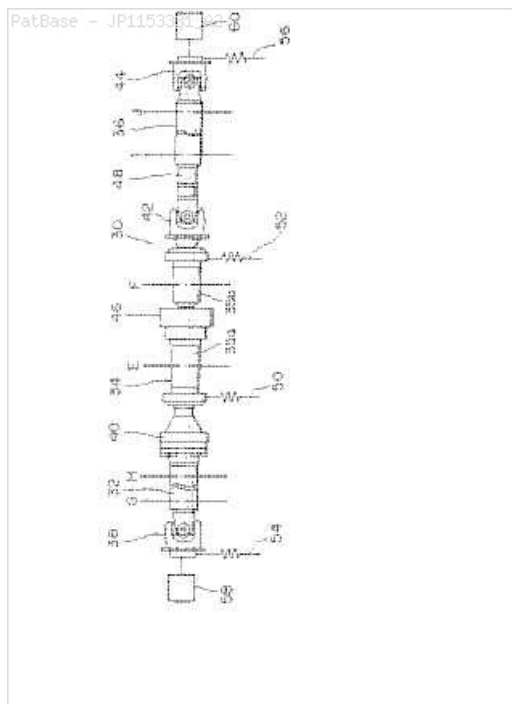
Abstract: PURPOSE: To make it possible to take the balance of a propeller shaft by setting unbalancing correcting surfaces in a first shaft section and a second shaft section which are located with a viscous joint being positioned therebetween, and by welding balance weights thereto. CONSTITUTION: First and second shaft sections 35a, 35b which are located with a viscous joint therebetween are supported by bearings 50, 52, and are rotated at different rotational speeds. Amounts of unbalance of correcting surfaces E, F of the first and second shaft sections 35a, 35b are obtained from data of vibration from both bearings 50, 52, and thereafter the unbalance is corrected.

Classifications:

International (IPC 1-7): B60K17/22 B60K17/34 F16C1/04 F16F15/20 G01M1/32

CPC: B60K17/22 B60K17/351

European: B60K17/22 B60K17/35B1



Family:

Publication number	Publication date	Application number	Application date
DE3841052 A1	19890831	DE19883841052	19881206
DE3841052 C2	19930506	DE19883841052	19881206
JP1153331 A2	19890615	JP19870309552	19871209
JP2629218 B2	19970709	JP19870309552	19871209

Priority:

JP19870309552 19871209

Probable Assignee: TOYOTA MOTOR CORP

Assignee(s): (std): TOYOTA MOTOR CO LTD ; TOYOTA MOTOR CORP

Assignee(s): TOYOTA JIDOSHA K K ; TOYOTA JIDOSHA K K TOYOTA AICHI JP

Inventor(s): (std): OKANO NOBUHIKO ; SUZUKI YASURO ; TANIYAMA KIYOSHI ; WAKAMATSU MINORU

Inventor(s): WAKAMATSU MINORU OKAZAKI AICHI JP ; TANIYAMA KIYOSHI TOYOTA AICHI JP ; SUZUKI YASURO TOYOTA AICHI JP ; OKANO NOBUHIKO OKAZAKI AICHI JP

26) Family number: 5176267 (US5092293A)

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Title: CRANKSHAFT-SYSTEMS FOR SPLIT ENVIRONMENTAL ENGINES AND MULTI-SPLIT ENVIRONMENTAL ENGINES

Abstract: Crankshaft systems for split and multi-split environmental engines are disclosed which are comprised of partial crankshafts, split balance shafts, and selectively adapted self-synchronizing clutches, all which cooperate dynamically with each other such that the split and multi-split environmental engines have equal firing distances, a secured balancing of the free dynamical forces and free dynamical couples of the 1st order, and an acceptable balancing of the free dynamical forces and free dynamical couples of the 2d order, and smooth running of the partial engines operating singly and of the clutched-un complete engines. Said crankshaft systems having the objective, to reduce effectively the total amount of exhaust gases, and to reduce extensively CO2 emissions and the fuel consumption.

Classifications:

International (IPC 8-9): F02B61/00 F02B73/00 F02B75/18

F02D17/02 F02D25/04 F16F15/16 F16F15/26 (Advanced/Invention);

F02B75/02 (Advanced/Non-invention);

F02B61/00 F02B73/00 F02B75/00 F02D17/00 F02D25/00 F16F15/16

F16F15/22 (Core/Invention);

F02B75/02 (Core/Non-invention)

International (IPC 1-7): F02B61/00 F02B73/00 F02B75/18 F02B77/00

F02D17/02 F02D25/00 F02D25/04 F16C3/20 F16F15/26

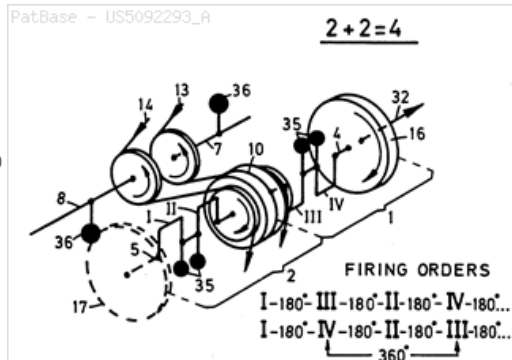
CPC: F02B73/00 F02B2075/027 F02D17/02 F16F15/162 F16F15/265

F16F15/264 F02D25/04

European: F02B73/00 F02D17/02 F02D25/04 F16F15/16D

F16F15/26R F16F15/26R2 R02B75/02S4

US: 123/192.2 123/198F 192/53.1 192/53H 192/67A 192/69.1



Family:

Publication number	Publication date	Application number	Application date
DE3917494 A1	19901206	DE19893917494	19890530
DE3917494 C2	19980604	DE19893917494	19890530
DE4036492 A1	19920521	DE19904036492	19901116
JP4265424 A2	19920921	JP19910300599	19911115
US5092293 A	19920303	US19900527825	19900524
US5156122 A	19921020	US19910792387	19911115

Priority:

DE19893917494 19890530 US19900527825 19900524 DE19904036492 19901116

Probable Assignee: KANIUT HERBERT M**Assignee(s):** (std): HERUBERUTO MAKUSHIMIRIAN KANIU ; KANIUT HERBERT DIPL ING ; KANIUT HERBERT M**Assignee(s):** KANIUT HERBERT DIPL ING 50374 ERTSTADT DE ; KANIUT HERBERT DIPL ING 5000 KOELN DE ; HERUBERUTO MAKUSHIMIRIAN KANIUTO**Inventor(s):** (std): HERUBERUTO MAKUSHIMIRIAN KANIU ; KANIUT HERBERT DIPL ING ; KANIUT HERBERT M**Inventor(s):** KANIUT HERBERT DIPL ING 5000 KOELN DE ; KANIUT HERBERT DIPL ING 50374 ERTSTADT DE ; HERUBERUTO MAKUSHIMIRIAN KANIUTO**27) Family number: 11097078 (GB2270292A)**

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Title: Lift with vibration damping counterweight

Abstract: A vibration preventing device for a lift is arranged such that a main rope (3) is trained around a sheave (1) of a hoisting motor and a deflector wheel (2) disposed on the side of the sheave (1), the main rope (3) is connected to the upper sides of a passenger cage (6) and a counterweight, respectively, by a thimble rod spring (5a) through a thimble rod (4a), a compensating rope (11) is attached to the lower sides of the passenger cage (6) and the counterweight by a thimble rod spring (5b) through a thimble rod (4b) and trained around a compensating pulley (12), and a counterweight includes a vibration damping means (8a, b, 9a, b) for suppressing a vibration mode caused by the rotation of the sheave (1) and the compensating pulley (12). The counterweight preferably includes a plurality of mass members which are connected to each other by vibration damping means each composed of an elastic member (8a, b) and a damping member (9a, b). Fig 9 shows an alternative vibration tamping arrangement with a rope which is fixed at its ends and supports the lift and counterweight by respective pulleys.

Classifications:**International (IPC 8-9):** B66B11/00 B66B17/12 B66B7/06

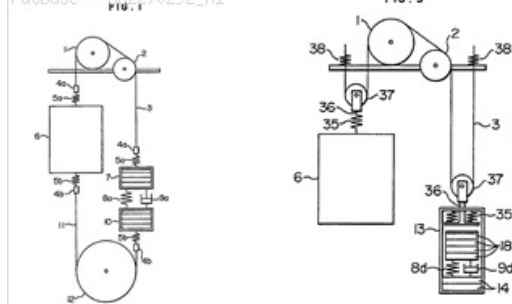
C04B28/16 F16F15/02 (Advanced/Invention);

B66B11/00 B66B17/00 B66B7/06 C04B28/00

F16F15/02 (Core/Invention)

International (IPC 1-7): B66B B66B11/00 B66B17/12 B66B7/06**CPC:** B66B7/06 B66B17/12 F16F15/022**European:** B66B17/12 B66B7/06 C04B28/16 F16F15/02D

PatBase - GB2270292_A1

**Family:**

Publication number	Publication date	Application number	Application date
GB2270292 A1	19940309	GB19930016482	19930809
GB2270292 B2	19960619	GB19930016482	19930809
GB9316482 A0	19930922	GB19930016482	19930809
HK193796 A	19961101	HK19960001937	19961024
JP3428042 B2	20030722	JP19920236825	19920904
JP6100273 A2	19940412	JP19920236825	19920904
SG44469 A1	19971219	SG19960000666	19930809

Priority:

JP19920236825 19920904

Probable Assignee: HITACHI LTD**Assignee(s):** (std): HITACHI LTD**Inventor(s):** (std): MIYOSHI HIROSHI ; MIYOSHI KAN ; SATO TAICHI ; SHIGETA MASAYUKI ; TANAKA KIHACHIRO**Inventor(s):** TAICHI SATO ; KAN MIYOSHI ; KIHACHIRO TANAKA ; MASAYUKI SHIGETA**28) Family number: 12979954 (WO9503503A1)**

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Title: CONTINUOUSLY VARIABLE POSITIVE PLANETARY GEAR

Abstract: The invention relates to a continuously variable positive planetary gear in which the transmission ratio can be varied via the eccentric shifting of planet wheels (21-24).

Classifications:**International (IPC 8-9):** F16H35/00 F16H55/54 F16H9/10 F16H9/16

F16H9/24 F16H9/26 (Advanced/Invention);

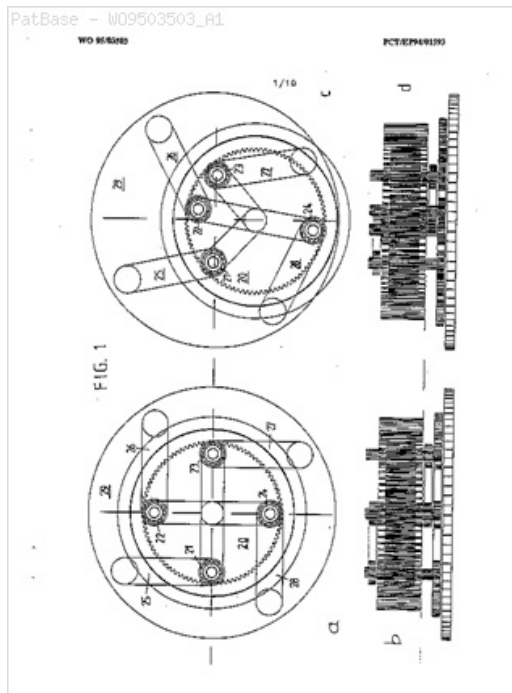
F16H29/18 F16H9/16 (Advanced/Non-invention)

International (IPC 1-7): F16F15/28 F16H29/16 F16H29/18 F16H3/76

F16H35/00 F16H55/54 F16H59/06 F16H9/02 F16H9/16 F16H9/24

F16H9/26

CPC: F16H9/16 F16H29/18 F16H9/10 F16H9/24 F16H55/54**European:** F16H55/54 F16H9/10 F16H9/16 F16H9/24 R16H29/18



Family:

Publication number	Publication date	Application number	Application date
AT155558 E	19970815	AT19940917640T	19940510
CN1127543 A	19960724	CN19941092811	19940510
DE4317478 A1	19940310	DE19934317478	19930526
DE4324123 A1	19950126	DE19934324123	19930719
DE4329441 A1	19950302	DE19934329441	19930901
DE59403404 D1	19970821	DE19945003404	19940510
EP0708896 A1	19960501	EP19940917640	19940510
EP0708896 B1	19970716	EP19940917640	19940510
ES2107227 T3	19971116	ES19940917640T	19940510
JP9502499 T2	19970311	JP19950504873T	19940510
KR19960704179 A	19960831	KR19960700245	19940510
WO9503503 A1	19950202	WO1994EP01593	19940510

Priority:

DE19924229011 19920902	DE19934317478 19930526	DE19934324123 19930719
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DE19945003404 19940510	WO1994EP01593 19940510	

Probable Assignee: SATELLITE GEAR SYSTEMS LTD

Assignee(s): (std): FISCHER INA ; SATELLITE GEAR SYSTEMS LTD ; SATELLITE GEAR SYSTEM LTD ; CHILMAN JOHN ALFRED ; FISCHER AND PARTNER

Assignee(s): FISCHER AND PARTNER 41063 MOENCHENGLADBACH DE ; SATELLITE GEAR SYSTEMS LTD DUBLIN IE ; FISCHER INA 41063 MOENCHENGLADBACH DE

Inventor(s): (std): CHILMAN JOHN ; CHILMAN JOHN ALFRED

Inventor(s): CHILMAN JOHN ALFRED PAINSWICK GB ; JOHN ALFRED CHILMAN ; CHILMAN JOHN ALFRED PAINSWICK GLOS GB ; CHILMAN JOHN ALFRED PAINSWICK GLOS ; CHILMAN JOHN ALFRED PAINSWICK GLOS GB

Designated states: AT BE CH CN DE DK ES FR GB GR IE IT JP KR LI LU MC NL PT SE US

29) Family number: 28640527 (US5770913A)

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Title: Actuators, motors and wheelless autonomous robots using vibratory transducer drivers

Abstract: A device providing one of an actuator, motor and a wheelless autonomous robot using vibratory transducer drivers. The vibratory transducer driver is connected to a reciprocating element, driven reciprocally by the vibration driver. A friction surface is provided for translating reciprocating movement of the reciprocating element into motion. A driven member is moved by contact with the friction surface.

Classifications:

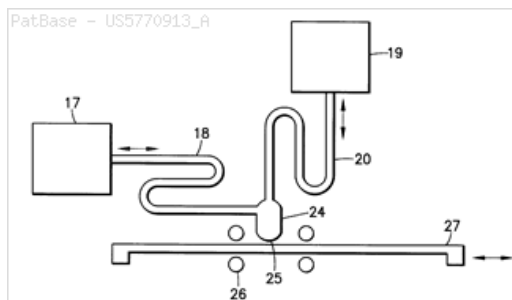
International (IPC 8-9): B25J5/00 B60S1/10 F15B11/12 F15B11/18 F15B15/10 F16C1/12 F16D5/00 F16H19/02 F16H27/02 F16H31/00 H01L41/04 H01L41/09 H02K11/00 H02K16/00 H02K33/02 H02K33/16 H02K7/06 H02K7/065 H02K7/07 (Advanced/Invention); H02K16/00 (Advanced/Non-invention)

International (IPC 1-7): F16D5/00 F16H27/02 F16H31/00 G02B7/182 H01L41/08 H01L41/09 H02K11/00 H02K16/00 H02K33/00 H02K41/04 H02K7/00 H02K7/06

CPC: B25J5/00 Y10T74/15 Y10T74/1526 H02N2/021 F15B11/128 F15B11/18 F15B15/103 F16H27/02 H02K7/065 H02K7/07 H02K16/00 H02K33/16 H02K2201/18 H02N2/002 H02N2/0065 H02N2/026 H02N2/103

European: B25J5/00 F15B11/12D8 F15B11/18 F15B15/10B F16H27/02 H02K33/16 H02K7/065 H02K7/07 H02N2/00B2D H02N2/00B4F H02N2/02B H02N2/02D H02N2/10D T02K16/00 T02K201/18

US: 310/15 310/20 310/328 310/40.0MM 310/40MM 310/68B 359/877 74/111 74/126



Family:

Publication number	Publication date	Application number	Application date
AU199937562 A1	19991108	AU19990037562	19990421
CA2328887 AA	20001017	CA19992328887	19990421
US5770913 A	19980623	US19960735713	19961023
US6069420 A	20000530	US19990296158	19990421
WO9954988 A1	19991028	WO1999US08813	19990421
WO9954988 B1	19991125	WO1999US08813	19990421

Priority:

US19950006018P 19951023 US19960735713 19961023 US19980082814P 19980423
US19980098115P 19980827 US19990296158 19990421 WO1999US08813 19990421

Probable Assignee: OMNIFIC INT LTD

Assignee(s): (std): OMNIFIC INT LTD ; OMNIFIC INTERNATIONAL LTD

Assignee(s): SMACKEY BRUCE M ; WOO EDWARD K ; MIZZI JOHN ; MIZZI JOHN V ; OMNIFIC INT

Inventor(s): (std): BRUCE M SMACKEY ; EDWARD K WOO ; JOHN MIZZI ; MIZZI JOHN ; MIZZI JOHN V ; SMACKEY BRUCE M ; WOO EDWARD K

Agent(s): MCFADDEN FINCHAM; OSLER HOSKIN AND HARCOURT LLP

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG UZ VN YU ZA ZW

30) Family number: 28672418 (US2002194987A)

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Title: PISTON ENGINE BALANCING

Abstract: A piston assembly includes first and second pistons, a transition arm coupled to each of the pistons, and a rotating member rotating in a first direction about a first axis. The transition arm includes a drive member coupled to the rotating member off-axis of the rotating member. A first counterbalance is mounted to rotate in the first direction, and a second counterbalance is mounted to rotate in a second direction opposite the first direction. The second counterbalance rotates about a second axis offset and parallel to the first axis. Alternatively, the second counterbalance rotates about the first axis. A method of counterbalancing a piston assembly includes mounting a first counterbalance to the piston assembly to rotate in the first direction, and mounting a second counterbalance to the piston assembly to rotate in the second direction.

Classifications:

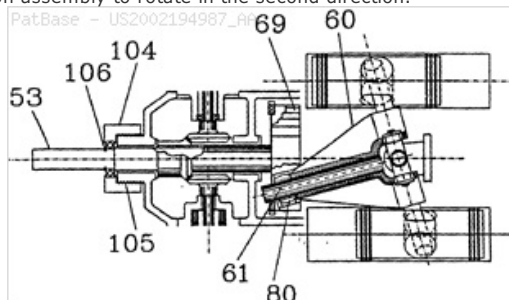
International (ipc 8-9): F01B1/08 F01B13/04 F01B3/00 F01B3/02 F01B3/10 F01B31/14 F01B9/04 F02B5/18 F02B75/02 F02B75/04 F02B75/18 F02B75/26 F02B75/32 F02B77/00 F02D15/02 F04B1/14 F04B1/22 F04B1/29 F04B1/32 F04B15/08 F04B27/08 F04B27/10 F04B49/00 F16C3/20 F16F15/26 F16F15/28 F16H23/06 F16H23/08 F16J1/10 (Advanced/Invention); F02B75/02 F02B75/04 F04B27/08 F04B49/00 F16J1/10 (Advanced/Non-invention); F01B3/00 F02B75/00 F04B1/12 F04B1/20 F04B27/08 F04B27/10 F04B49/00 F16F15/00 F16F15/22 F16H23/00 F16J1/10 (Core/Invention); F02B75/02 (Core/Non-invention)

International (ipc 1-7): F01B1/08 F01B3/00 F01B3/02 F01B3/10 F01B31/04 F01B31/14 F01B9/04 F02B75/04 F02B75/18 F02B75/26 F02B75/32 F02B77/00 F02D15/02 F04B1/14 F04B1/22 F04B1/32 F04B27/08 F04B49/00 F16F15/14 F16F15/26 F16H23/00 F16H23/06 F16H23/08 F16H27/02 F16J1/00 F16J1/10

CPC: F04B15/08 Y10T403/32631 Y10T403/32704 Y10T403/32737 Y10T74/1692 F01B3/0002 F01B3/0023 F01B3/102 F02B75/04 F02B75/26 F02B2075/025 F04B1/146 F04B1/22 F04B1/295 F04B1/324 F04B27/1072 F16F15/261 F16F15/264 F16F15/28 F16H23/06 F16H23/08 Y10T74/18336 F01B3/0005

European: F01B3/00A F01B3/00A2 F01B3/00A4G F01B3/10A2 F02B75/04 F02B75/26 F04B1/14C7 F04B1/22 F04B1/29A F04B1/32C F04B15/08 F04B27/10C4P F16F15/26L F16F15/26R F16F15/28 F16H23/06 F16H23/08 R02B75/02S2

US: 123/48.00B 123/48B 123/56.1 123/56.100P 123/63 123/78.00F 123/78.00R 123/78F 123/78R 403/122 403/131 403/135 63/78R 74/60 74/839 92/12.2 92/12.200P 92/172 92/172.2 92/172P 92/71 92/710 92/76 92/76P

**Family:**

Publication number	Publication date	Application number	Application date
AT283422 E	20041215	AT19990949653T	19990914
AT324523 E	20060515	AT20000950972T	20000803
AT362043 E	20070615	AT20000950956T	20000803
AT362044 E	20070615	AT19990077177T	19990914
AT397149 E	20080615	AT19980948218T	19980915
AU200022405 A1	20010920	AU20000022405	20000320
AU200022405 A5	20010920	AU20000022405D	20000320
AU200063979 A1	20010305	AU20000063979	20000803
AU200063979 A5	20010305	AU20000063979	20000803
AU200063991 A1	20010305	AU20000063991	20000803
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Priority:

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Probable Assignee: R SANDERSON MANAGEMENT INC

Assignee(s): (std): R SANDERSON MANAGEMENT INC ; R SANDERSON MEHNEDZHMENT INK ; SANDERSON MAN INC A TEXAS CORP ; SANDERSON MANAGEMENT INC R ; SANDERSON MAN INC R ; SANDERSON ROBERT A ; SANDERSON MEHNEDZHMENT INK R ; SANDERSON MAN A TEXAS CORP R ; SANDERSON MANAGMENT INC R ; SANDERSON MAN R ; HEBERT KAY ; HERBERT KAY ; SANDERSON ALBERT E ; SANDERSON R MAN INC

Assignee(s): AL SANDERSON MANAGEMENT INCREDIBLE ; ANDLINGER CAPITAL XIX LLC ; R SANDERSON MANAGEMENT A TEXAS CORP ; R SANDERSON MANAGEMENT INC A TEXAS CORP ; R SANDERSON MANAGMENT INC ; R SANDERSON MANAGEMENT ; SANDERSON ENGINE DEVELOPMENT CO ; SANDERSON ENGINE DEVELOPMENT CO LLC

Inventor(s): (std): ALBERT E SANDERSON ; HEBERT KAY ; HERBERT KAY ; KAY HERBERT ; ROBERT A SANDERSON ; SANDERSON A ; SANDERSON ALBERT E ; SANDERSON ROBERT A ; SANDERSON E ; SANDERSON ROBERT ; SANDERSON ALBERT

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; SMART AND BIGGAR; HITCHCOCK ESMOND ANTONY ET AL; FISH AND RICHARDSON PC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CR CU CY CZ DE DK DM DZ EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Title: Internal combustion cylinder engine

Abstract: An internal combustion engine is provided. The engine includes a housing (9) having at least first and second pairs of chambers (20) formed in the housing. Each chamber extends from the exterior of the housing to a predetermined point therein. The first pair of chambers being aligned with the housing along a first axis and the second pair of chambers being aligned within the housing along a second axis extending substantially normal to the first axis. The engine further including a plurality of piston assemblies (6). Each chamber having one of the piston assemblies rigidly fastened thereto. A cylinder (1) is reciprocally mounted on an elongate cylinder pin assembly (2). The cylinder pin assembly extending within the housing and disposed between the cylinders for reciprocating the cylinders along a predetermined stroke length and relative to the fixed piston assemblies in an opposed manner during operation of the engine. The cylinder pin assembly having two axes of rotation. The engine also including a power takeoff shaft (12) coupled to an end of the cylinder pin assembly for transmitting energy generated by operation of the engine.

Classifications:

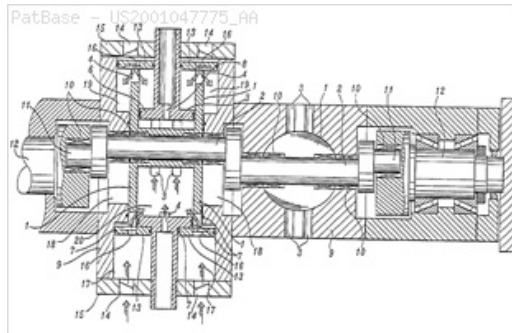
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International (ipc 1-7): F01B15/00 F01B15/00 F01L7/00 F02B25/08 F02B59/00 F02B75/04 F02B75/22 F02B75/24 F02B75/28

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European: F01B15/00A F01B15/00B F01B15/02 F01B15/04 F01B9/02R F01L1/047 F02B41/04 F02B41/06 F02B59/00 F02B75/04

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US: 123/197.4 123/197.400P 123/197.5 123/42 123/42P 123/48 123/48.00AS 123/48.00BS 123/48.00RP 123/48A 123/48B 123/48R 123/51 123/51.00BP 123/51B 123/568.11 123/78 123/78.00AS 123/78.00CS 123/78.00RS 123/78A 123/78B 123/78C 123/78R



Family:

Publication number	Publication date	Application number	Application date
AT312279 E	20051215	AT19990305178T	19990630
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Priority:

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US20000520265	20000307	US20010819938	20010327	US20020136780	20020501
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Probable Assignee: MOTORPAT LLC

Assignee(s): (std): GRAHAM JIM ; KILIAN JR JOSEPH P ; JOLLIFFE MICHAEL ; LANDBANK PROPERTIES INC ; KEARNEY LIVING TRUST DATED ; KRMPOTICH DANIEL ; KEARNEY LIVING TRUST DATED MAY ; JORDAN DON ; GRAHAM JOHN ; KILIAN JOSEPH P ; HANSON KAREN K ; HANSON BRADLEY D ; BLACK GREGORY ; BLACK GWENDOLYN ; BONNER MOTOR CORP ; DIX CHRISTINA ; COOK CHRISTOPHER LEE ; COLLIN ROGER ; COLLIN GEORGIA ; DILLBECK HERMAN A ; GRAHAM CAROL ; BRADY RON ; GRAHAM AUREL ; CHRISTINA DIX ; PRESTON ROBERT D ; PRESTON VICTORIA ; SCIENT MOTOR WORKS INC ; SCHMIED WALTER ; ROSE CAPITAL INC ; WALTER SCHMIED ; KILIAN JOSEPH P JR ; MOTORPAT L L C ; THE KEARNEY LIVING TRUST DATED MAY 27 1997

Assignee(s): MOTORPAT LLC ; ZIMMERMAN BRIAN ; NEWHOUSE CHUCK ; POHL CARROLL K ; KEARNEY LIVING TRUST DATED MAY 27 1997 ; BILLS MARK ; BILLS MARK PO BOX ; POHL STEVEN P PO BOX ; MATSON DAVID ; ROSE CAPITAL INC HCR ; SCIENTIFIC MOTOR WORKS INC ; POHL STEVEN P ; POHL GARY H ; POHL RONALD K ; THE KEARNEY LIVING TRUST DATED ; DIX CHRISTINA PO BOX 83476FAIRBANKS ALASKA ; JORDAN DON PO BOX ; JOHN AND AUREL GRAHAM ; KRMPOTICH DANIEL R ; HANSON BRADLEY D HCR ; KILIAN JR ; HINSON KAREN K

Inventor(s): (std): SCHMIED WALTER ; WALTER SCHMIED

Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; HERBERT SMITH FREEHILLS; FPA PATENT ATTORNEYS PTY LTD; OYEN WIGGS GREEN AND MUTALA LLP; LAMBERT ANTHONY R; CHRISTENSEN OCONNOR JOHNSON KINDNESS PLLC; CHRISTENSEN O'CONNOR JOHNSON KINDNESS PLLC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

32) Family number: 20694015 (US6231011B)

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Title: SATELLITE ANGULAR MOMENTUM CONTROL SYSTEM USING MAGNET-SUPERCONDUCTOR FLYWHEELS

Abstract: A torque/reactive momentum wheel control system for use in satellites for dynamic attitude maintenance and alteration where the flywheel of each momentum wheel is levitated by a high-temperature superconducting element repulsively interacting with permanent magnets in the flywheel. The spin rate (rpm) of the flywheel being controlled by either an active magneto or electromagneto drive system. Each momentum wheel is cooled by a cryo-cooler and can have a total weight of about 10 Kg to a fraction of 1 Kg and delivering 3.5 Js with less than 1 W loss.

Classifications:

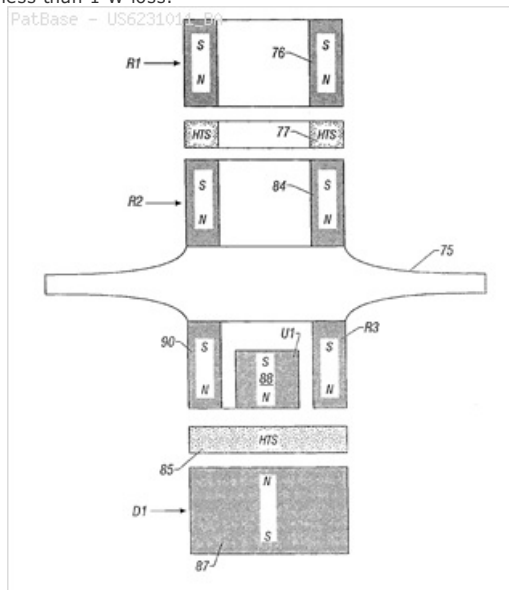
International (IPC 8-9): B64G1/28 B64G1/32 B64G1/36 F16C39/06 G01C19/02 G05D1/08 (Advanced/Invention); B64G1/24 B64G1/36 F16C39/00 G01C19/00 G05D1/08 (Core/Invention)

International (IPC 1-7): B64G1/28 F16C39/06 G01C19/02 G05D1/08

CPC: F16C2361/55 G05D1/0883 B64G1/283 B64G1/285 B64G1/32 B64G1/36 F16C32/0438 F16C2326/47

European: B64G1/28B B64G1/28C B64G1/32 B64G1/36 F16C32/04M2S2 F16C32/04MAC G05D1/08D

US: 244/165 244/166 505/166

**Family:**

Publication number	Publication date	Application number	Application date
AU200014628 A1	20000522	AU20000014628	19991101
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JP2002528342 T2	20020903	JP20000579485T	19991101
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WO0026084 A1	20000511	WO1999US25727	19991101

Priority:

US19980184914 19981102 WO1999US25727 19991101

Probable Assignee: UNIV HOUSTON SYSTEM

Assignee(s): (std): UNIV HOUSTON SYSTEM

Assignee(s): UNIVERSITY OF HOUSTON SYSTEM ; OF HOUSTON SYSTEM UNIV ; THE UNIVERSITY OF HOUSTON SYSTEM

Inventor(s): (std): CHEN QUARK YUNG SUNG ; CHU WEI KAN ; LEE EUJEONG ; LEE EUNJEONG ; MA KI BUI ; POSTREKHIN YEVGENIY ; YU JANG HORNG

Inventor(s): QUARK YUNG SUNG CHEN ; WEI KAN CHU ; YEVGENIY POSTREKHIN ; EUNJEONG LEE ; JANG HORNG YU ; KI BUI MA

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HR HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA

33) Family number: 12982776 (EP1031760A1)

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Title: Device for balancing masses and moments in an internal combustion piston engine

Abstract: The device has two balance shafts (16,22) driven in opposite directions by the crankshaft, separated from each other radially and perpendicularly wrt. the centre line of the engine, with axes parallel to the crankshaft axis and with eccentrically mounted balance wts. One balance shaft has two gear wheels (14,18) fixed to it, one engaged with a gear wheel on the crankshaft to drive the balance shaft and the other having a balance wt. and driving a further gear wheel (20) coaxial with the crankshaft.

Classifications:**International (IPC 8-9):** F02B67/04 F02B77/00

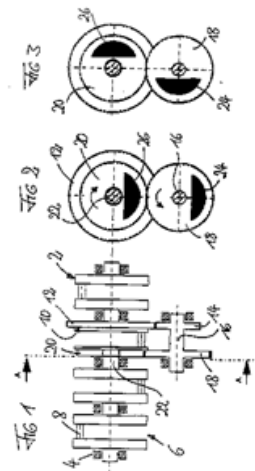
F16F15/26 (Advanced/Invention);

F02B67/04 F02B77/00 F16F15/22 (Core/Invention)

International (IPC 1-7): F02B75/06 F02B77/00 F16F15/26**CPC:** F02B67/04 F16F15/265**European:** F02B67/04 F16F15/26R2

PatBase - EP1031760_A1

EP 1 031 760 A1

**Family:**

Publication number	Publication date	Application number	Application date
DE19908437 C1	20000914	DE19991008437	19990226
EP1031760 A1	20000830	EP20000103238	20000217
JP2000249191 A2	20000912	JP20000048607	20000225

Priority:

DE19991008437 19990226

Probable Assignee: META MOTOREN ENERGIETECH**Assignee(s):** (std): META MOTOOREN UNTO ENERUGII TE ; META MOTOREN AND ENERG TECHNIK G ; META MOTOREN ENERGIETECH**Assignee(s):** META MOTOREN UND ENERGIE TECHNIK GMBH ; META MOTOREN AND ENERG TECHNIK GMBH**Inventor(s):** (std): SCHANDER KLEMENS ; SCHANDER KLEMENS DIPL ING**Designated states:** AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE**34) Family number: 28691534** (US2002189749A)

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Title: METHOD FOR MAKING A COVER FOR A ROLL CORE HAVING A MULTIPLE LAYER CONSTRUCTION AND HAVING MINIMAL RESIDUAL STRESSES

Abstract: A method is disclosed for producing a covered roll having a multi-layered construction. A first embodiment includes a plurality of steps. The first step is to provide a cylindrical roll core having two ends, a length therebetween, and an outer surface. Next, a dry fiber mat layer is tightly wrapped over the roll core outer surface. A fabric, in the form of a strip, is impregnated with a thermoset resin such as epoxy or urethane. The roll core is then rotated and the thermoset resin impregnated fabric strip is helically wound over the tightly wrapped dry fiber mat layer. Tension is maintained while winding the thermoset resin impregnated fabric strip to form a fabric layer.

Classifications:**International (IPC 8-9):** B29C53/56 B29C63/10 B29C70/06

B29C70/16 B29C70/32 B29C70/36 B29C70/86 D06C15/08 D21F1/40

D21F3/08 D21G1/02 F16C13/00 (Advanced/Invention);

B29C35/02 B29C63/00 B29K105/08 B29K105/22

B29L23/00 (Advanced/Non-invention);

B29C53/00 B29C63/02 B29C70/00 B29C70/04 B29C70/10

D06C15/00 D21F1/00 D21F3/02 D21G1/00

F16C13/00 (Core/Invention);

B29C35/02 B29C63/00 (Core/Non-invention)

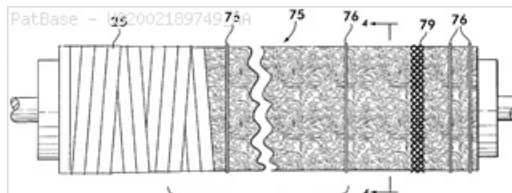
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B65H81/00 B65H81/08 D06C15/08 D21G1/02 F16C13/00

CPC: B29C35/02 B29C63/0013 B29C63/10 B29C70/32 B29C70/86 B29K2063/00 B29K2075/00 B29K2105/0809

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F16C13/00

European: B29C63/10 B29C70/32 B29C70/36 B29C70/86 D21F1/40 D21F3/08 D21G1/02D D21G1/02F F16C13/00

L29C35/02 L29C63/00A2 L29K105/08B L29K105/08C L29K63/00 L29K705/00 L29K75/00 L29L31/32B L29L9/00
US: 156/153 156/154 156/172 156/187 156/187S 156/190 156/195 156/244.13 156/285 156/285S 156/286 156/305
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492/56

Family:

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Priority:

US19990362430 19990728 US19990363328 19990728 US20000573262 20000518
EP20000306338 20000725 US20000723448 20001128 US20000723701 20001128
US20000723697 20001128 US20020147753 20020516 US20040773687 20040206

Probable Assignee: ROBERT H NEESE TRUST

Assignee(s): (std): ADVANCED MATERIALS CORP ; SHIEH YANG T

Assignee(s): ADVANCED MATERIALS CORP LESTER ; AVANCED MATERIALS CORP ; GE INVESTMENTS INC ; ROBERT H NEESE TRUST

Inventor(s): (std): RODAL JOSE JA ; SHIEH YANG T ; VAALER ERIK ; VALEER ERIK ; RODAL JOSE J A

Agent(s): MOORE CHRISTOPHER MARK

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

35) Family number: 23372014 (DE10061042A1)

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Title: Crankshaft built up from several components has incongruent rotation position of journals and receiving aperture for them less than diameter of receiving aperture

Abstract: The crankshaft has incongruent rotation position of journals and receiving aperture for them less than the diameter of the receiving aperture. An axial stop (4) acts with the journals at the side facing the aperture. It is supported by the edge of the receiving aperture. The components are tightened up by turning the journals relative to the aperture.

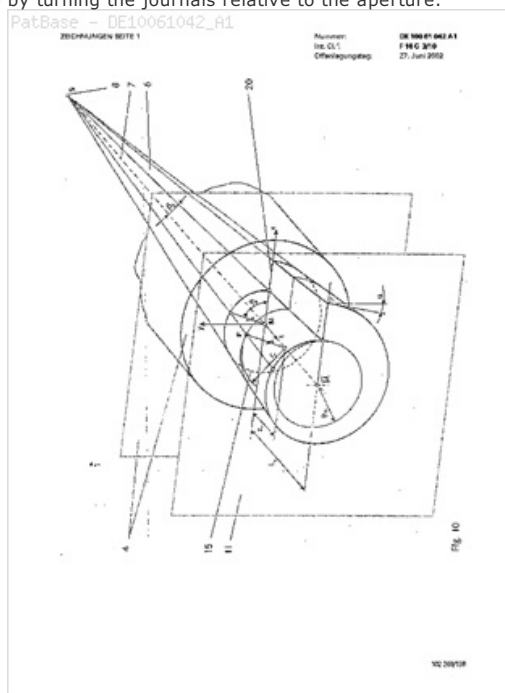
Classifications:

International (IPC 8-9): B23P11/00 F16C3/10 (Advanced/Invention); B23P11/00 F16C3/04 (Core/Invention)

International (IPC 1-7): B23P11/00 B23P11/00 B23P13/00 B23P13/00 F16C3/10 F16C3/12 F16D1/08

CPC: B23P11/00 B23P2700/07 F16C3/10 F16D1/0817

European: B23P11/00 F16C3/10 F16D1/08E L23P700/07



Family:

Publication number	Publication date	Application number	Application date
DE10061042 A1	20020627	DE20001061042	20001208
DE10061042 C2	20021107	DE20001061042	20001208

Priority:

DE20001061042 20001208

Probable Assignee:

DAIMLER CHRYSLER AG

Assignee(s): (std):

DAIMLER CHRYSLER AG

Assignee(s):

DAIMLERCHRYSLER AG

Inventor(s): (std):

FRANK ADOLF ; SCHMID ALOIS

36) Family number: 24114930 (US2004099455A)

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Title: FIXING METHOD OF IN-WHEEL MOTOR AND IN-WHEEL MOTOR SYSTEM

Abstract: A non-rotary case to which the motor stator of an inwheel motor is fixed is connected to a knuckle which is a part around the wheel of a vehicle by a first elastic member, a rotary case to which the rotor of the motor is fixed and rotatably connected to the non-rotary case through a bearing is connected to the wheel 2 by a second elastic member so as to float-mount the inwheel motor to parts around the wheel.

Classifications:

International (ipc 8-9): B60G13/16 B60G3/20 B60G7/00 B60K1/00 B60K17/04 B60K17/32 B60K7/00 F16D3/04 F16F15/02 F16F15/04 F16F15/18 F16F7/104 H02K7/08 H02K7/14 (Advanced/Invention); B60G13/00 B60G3/18 B60G7/00 B60K17/00 B60K7/00 F16F15/02 F16F15/04 F16F15/10 H02K7/14 (Core/Invention)

International (ipc 1-7): B60G13/16 B60K1/00 B60K17/04 B60K7/00 F16D3/04 F16F15/02 F16F15/04 F16F7/104 H02K7/08 H02K7/14

CPC: B60G3/20 B60G7/008 B60G2200/144 B60G2200/422 B60G2200/44 B60G2202/312 B60G2204/148 B60G2204/30 B60G2204/418 B60G2300/50 B60G2300/60 B60K7/0007 B60K17/046 B60K17/32 B60K2007/0038 B60K2007/0092 F16F15/04 F16F15/18

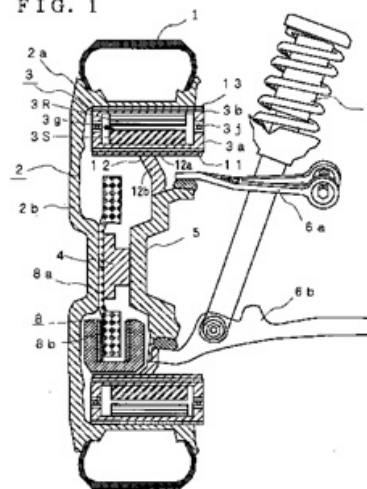
European: B60G3/20 B60G7/00W B60K17/32 B60K7/00E F16F15/04 F16F15/18 L60G200/144 L60G200/422 L60G200/440 L60G202/312 L60G204/148 L60G204/30 L60G204/418 L60G300/50 L60G300/60 L60K17/04B1 L60K7/00R L60K7/00W

US: 180/65.5 180/65.51 180/65.510P 280/124.157 280/124.177 301/6.91 301/69.1

PatBase - US2004099455_AA

Patent Application Publication May 27, 2004 Sheet 1 of 65 US 2004/099455 A1

FIG. 1



Family:

Publication number	Publication date	Application number	Application date
CN100475589 C	20090408	CN20028001093	20020415
CN1460076 A	20031203	CN20028001093	20020415
DE60217661 D1	20070308	DE20026017661	20020415
DE60217661 T2	20071115	DE20026017661T	20020415
EP1380459 A1	20040114	EP20020717154	20020415
EP1380459 A4	20041013	EP20020717154	20020415
EP1380459 B1	20070117	EP20020717154	20020415
ES2280523 T3	20070916	ES20020717154T	20020415
JP2002083446 A1	20040805	JP20020581220T	20020415
JP2004115014 A2	20040415	JP20030345710	20031003
JP3638586 B1	20050413	JP20020581220T	20020415
JP3638586 B2	20050413	JP20020581220T	20020415
US2004099455 AA	20040527	US20030470307	20030729
US7306065 BB	20071211	US20030470307	20030729
WO02083446 A1	20021024	WO2002JP03730	20020415

Priority:

JP20010117110 20010416 JP20010132342 20010427 JP20010160686 20010529
JP20010314514 20011011 JP20010314518 20011011 JP20010314522 20011011
WO2002JP03730 20020415 JP20020581220 20020415 JP20030345710 20031003

Probable Assignee: BRIDGESTONE CORP

Assignee(s): (std): NAGAYA GO ; BRIDGESTONE CORP

Assignee(s): BRIDGESTONE CORPORATON ; KABUSHIKI KAISHA BRIDGESTONE ; K K BRIDGESTONE ; BRIDGESTONE KK

Inventor(s): (std): GO NAGAYA ; NAGAYA GO ; NAGAYA TAKESHI

Designated states: AT BE CH CN CY DE DK ES FI FR GB GR IE IT JP LU MC NL PT SE TR US

Title: VIBRATION REDUCTION APPARATUS FOR POWER TOOL AND POWER TOOL INCORPORATING SUCH APPARATUS

Abstract: A vibration reduction apparatus (501) for use with a hammer tool having a hammer piston (520) is shown. The hammer piston (520) is caused to reciprocate in cylinder (530) by rotation of a gear wheel (523) about axis (524), the hammer piston (520) being mounted to the gear wheel (523) via piston arm (531) and pivot pin (522). Reciprocating motion of the hammer piston causes a flying mass (569) to be driven along cylinder (530) to impart a hammer action to a bit of the tool. The gear wheel (523) is caused to rotate about axis (524) by meshing of gear (514) on drive shaft (511) with gear teeth (532) on the periphery of gear wheel (524), the drive shaft (511) being caused to rotate by a motor (not shown) of the tool. a cam (533) is rigidly mounted around gear wheel (523), a counterweight 5219 surrounds piston cylinder (530), and a cam follower (534) is provided on counterweight 521. The cam follower 534 on counterweight 521 is urged into contact with cam (533) by means of a compression spring (535). The external profile of the cam (533) is such that rotation of gear wheel (534) to cause reciprocating motion of hammer piston (520) causes oscillation of counterweight (521) relative to piston cylinder (530) in antiphase to motion of the hammer piston (520) to counteract vibrations produced by operation of the hammer action of the tool

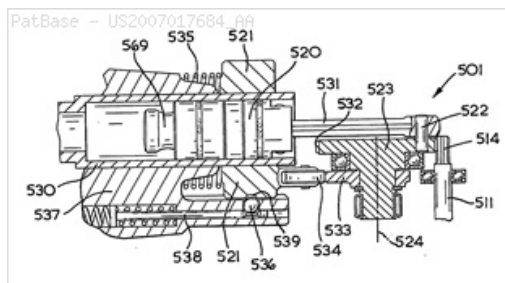
Classifications:

International (IPC 8-9): B23B51/04 B25C11/00 B25D11/00 B25D11/06 B25D11/12 B25D16/00 B25D17/00 B25D17/06 B25D17/24 B25D9/00 B25F5/00 F16F15/12 F16F15/22 F16F15/26 F16F15/28 (Advanced/Invention); B25C11/00 B25D11/00 B25D16/00 B25D17/00 B25D9/00 F16F15/00 F16F15/12 (Core/Invention)

International (IPC 1-7): B25D17/06 B25D17/24 F16F15/12 **CPC:** B25D11/062 B25D17/06 B25D2211/061 B25D2250/185 B25D2250/221 B25D2250/231 F16F15/22 B25D17/24 B25D2211/068 B25D2217/0084 B25D2217/0088 B25D2217/0092 B25D2250/045 F16F15/28 B25D2250/391 B25D17/245 F16F15/12 F16F15/1201

European: B25D11/06B B25D11/12B B25D17/06 B25D17/24 B25D17/24B F16F15/12 F16F15/12A F16F15/22 F16F15/28 L25D209/00A L25D211/06A L25D211/06D L25D217/00F1D L25D217/00F1G L25D217/00F1J L25D250/045 L25D250/185 L25D250/221 L25D250/231 L25D250/391

US: 173/109 173/162.1 173/201 173/201S 173/205 173/205S 173/210 173/210S 173/212 173/48 173/90 173/90S

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Publication number	Publication date	Application number	Application date
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US2008196915 AA	20080821	US20080082652	20080411
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Priority:

GB20030006525	20030321	WO2003GB06525	20030321	GB20030023885	20031010
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US20070966542	20071228	US20080082650	20080411	US20080082652	20080411
AU20100200596	20100205	AU20120203415	20120612		

Probable Assignee: BLACK AND DECKER INC

Assignee(s): (std): BLACK AND DECKER INC ; FAATZ HEINZ WERNER ; STIRM MICHEAL ; STIRM MICHAEL

Assignee(s): BLACK AND DECKER INC NEWARK ; BLACK AND DECKER INC STIRM MICHAEL FAATZ HEINZ WER ; BLACK AND 38 DECKER INC

Inventor(s): (std): STIRM MICHAEL ; STIRM MICHEAL ; FAATZ HEINZ WERNER ; MICHAEL STIRM ; HEINZ WERNER STIRM MICHAEL FAA ; HEINZ WERNER FAATZ

Inventor(s): FAATZ HEINZ WERNER BLACK AND DECKER GMBH ; STIRM MICHAEL BLACK AND DECKER GMBH ; STIRM MICHAEL FAATZ HEINZ WERNER ; STIRM MICHAEL 61440 ; STIRM MICHAEL BLACK AND DECKER GMBH ; FAATZ HEINZ WERNER BLACK AND DECKER GMBH ; FAATZ HEINZ WERNER D 61389

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; BELL IAN STEPHEN; BELL IAN STEPHEN ET AL; SBD IPADMIN; NISHIYAMA MASAYA; TSURUTA JUNICHI; AOKI ATSUSHI; SHIMADA TETSURO; MICHEAL P LEARY BLACK AND DECKER CORP; HARNES DICKY AND PIERCE PLC; AYALA ADAN; LEARY MICHAEL P; YOCUM CHARLES E; ADAN; CHARLES E; MICHAEL P

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

38) Family number: 31940980 (JP2005106219A)

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Title: GEAR ASSEMBLY STRUCTURE

Abstract: PROBLEM TO BE SOLVED: To improve workability in assembling a gear into a shaft by stably holding a key member with a collar member being fitted into the shaft, so as to prevent the key member from coming off. SOLUTION: In assembling a balancer shaft 2 where a rotation driving force of a crankshaft 1 is transmitted to the balancer shaft 2, a balancer driven gear 3 is assembled into the balancer shaft 2 with a key member and a key groove through engagement of a balancer drive gear 1h on the crankshaft 1 and the balancer driven gear 3 on the balance shaft 2. Part of a key member 4 is inserted into a key groove 51 of a collar member 5 and a key groove 23 of the shaft 2 to be held, and a key groove 3g of the gear 3 is inserted into the key member 4, thus the gear 3 can be assembled into the shaft 2.

Classifications:

International (IPC 8-9): F16B3/00 F16F15/26 F16H21/18

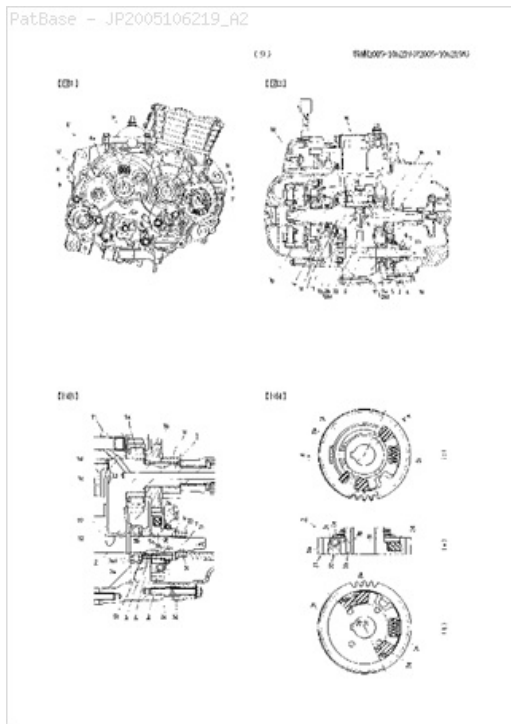
F16H55/17 (Advanced/Invention);

F16B3/00 F16F15/22 F16F15/26 F16H21/00

F16H55/17 (Core/Invention)

International (IPC 1-7): D06F37/40 F16B3/00 F16F15/26 F16H21/18

F16H55/17

**Family:**

Publication number	Publication date	Application number	Application date
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BRPI0404103 B1	20151229	BR2004PI04103	20040924
CN1329672 C	20070801	CN200410064425	20040824
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TH41661 B	20140925	TH20041003184	20040819
TH71325 A	20051020	TH20041003184	20040819

Priority:

JP20030342283 20030930

Probable Assignee: HONDA MOTOR CO LTD**Assignee(s):** (std): HONDA MOTOR CO LTD**Assignee(s):** HONDA MOTOR CO**Inventor(s):** (std): KIHARA TERUO ; SATO TOMOYASU ; SATOH TOMOYASU ; TERUO KIBARA ; TERUO SATO TOMOYASU KIBARA ; TEURO KIHARA ; TOMOYASU SATO**Inventor(s):** TOMOYASU SATOH ; TERUO KIHARA ; SATO TOMOYASU KIBARA TERUO ; KIBARA TERUO**39) Family number: 31959393 (US2006055077A)**

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Title: EXTRUSION METHOD FORMING AN ENHANCED PROPERTY METAL POLYMER COMPOSITE**Abstract:** The invention relates to an extrusion method and to an extrudable metal polymer composite having increased density, improved viscoelastic properties, malleability and ductility and thermoplastic extrusion or injection molding properties.**Classifications:**

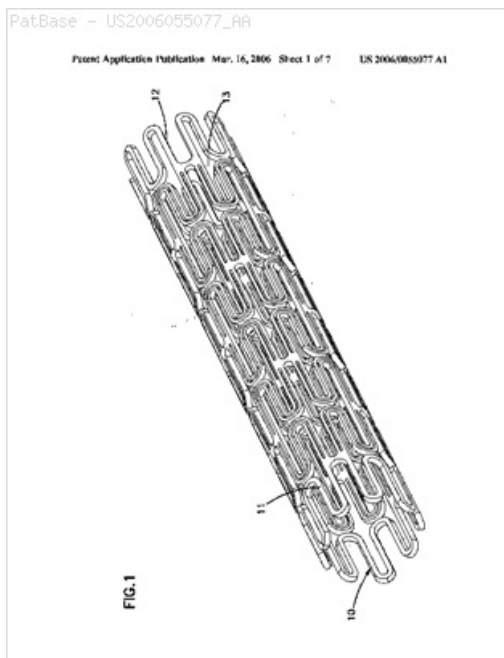
International (IPC 8-9): A01K85/00 A01K91/00 A01K95/00 A01L5/00 A61F2/06 A61L31/00 B22F1/02 B29B9/02 B29C45/00 B29C45/14 B29C47/00 B29C47/04 B29C47/06 B29C70/58 B32B15/02 B32B15/08 B32B27/04 B32B27/18 B32B3/06 B32B3/26 B32B5/16 B60R99/00 C03C3/00 C08J3/20 C08J5/00 C08K3/08 C08K3/10 C08K3/22 C08K5/098 C08K7/06 C08K7/16 C08K7/18 C08K9/00 C08K9/04 C08K9/06 C08K9/10 C08L101/00 C08L77/00 C23C26/00 E04C2/20 E04H9/02 E04H9/14 F02F11/00 F16F15/02 F16F15/32 F16J15/10 F16J15/12 F42B12/00 F42B12/74 F42B30/00 F42B7/04 F42B7/10 G21C3/02 G21F1/10 (Advanced/Invention); C08K3/08 C08K7/06 F42B12/74 G21F1/10 (Advanced/Non-invention); A01K95/00 A01L5/00 B32B15/02 B32B27/04 B32B27/18 B32B3/06 B32B3/26 B60R99/00 C03C3/00 C08K3/00 C08K7/00 C08K9/00 C08L101/00 E04C2/10 E04H9/02 E04H9/14 F02F11/00 F16F15/02 F16J15/10 F16J15/12 F42B12/00 G21F1/00 (Core/Invention); A01K C08K F42B G21F (Subclass/Invention)

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European: A01K85/00 A01K95/00A B29C70/58 C08K3/08 E04B1/98A F16J15/32E2B4 F42B12/74B F42B7/04C L29L31/22

US: 102/501 102/501S 102/517 102/517S 168/4 168/4S 180/313 180/313S 264/173.16 264/173.160P 264/211 264/211S 264/328.17 264/328.170S 264/328.18 264/328.180S 264/349 264/349S 277/591 277/591P 376/409 376/409S 428/319.3 428/319.300S 428/323 428/323S 428/328 428/328S 428/457 428/457P 428/99 428/99P 43/42.39 43/42.390S 52/167.1 52/167.100S 52/204.59 52/204.590S 52/309.13 52/309.130S 52/573.1 52/573.100S 524/394 524/394S 524/406 524/406S 524/413 524/413S 524/606 524/606S 623/1.15 623/1.150P



Family:

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EP1689811 A2	20060816	EP20040810911	20041112
EP1987089 A1	20081105	EP20060734741	20060210
EP1987089 A4	20110406	EP20060734741	20060210
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EP2261278 A1	20101215	EP20100182673	20041112
EP2270085 A1	20110105	EP20100182628	20041112
IN03229DN2006 A	20070824	IN2006DN03229	20060605
IN03655KN2008 A	20090220	IN2008KN03655	20080908
IN256783 B	20130802	IN2006DN03229	20060605
JP2007516320 T2	20070621	JP20060539937T	20041112
JP2009526119 T2	20090716	JP20080554209T	20060210
JP2012062489 A2	20120329	JP201110285940	20111227
JP2013147660 A2	20130801	JP20130077196	20130402
JP2015145509 A2	20150813	JP20150095221	20150507
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JP6067970 B2	20170125	JP201110285940	20111227
JP6306619 B2	20180404	JP20160014515	20160128
KR101060411 B1	20110829	KR20067011547	20041112
KR101477451 B1	20141229	KR20137027321	20060210
KR101477451 B9	20151218	KR20137027321	20060210
KR20070021112 A	20070222	KR20067011547	20041112
KR20130124586 A	20131114	KR20137027321	20060210
MX2008010212 A1	20081017	MX20080010212	20060210
MXPA06005515 A1	20070130	MX2006PA05515	20041112
US2006055077 AA	20060316	US20040988193	20041112
US2009127801 AA	20090521	US20080278638	20081107
US2009254171 AA	20091008	US20080276947	20081124
US2009324875 AA	20091231	US20040988214	20041112
US2011236699 AA	20110929	US20110074626	20110329
US7491356 BB	20090217	US20040988193	20041112
WO05049714 A2	20050602	WO2004US37931	20041112
WO05049714 A3	20050804	WO2004US37931	20041112
WO07092018 A1	20070816	WO2006US04725	20060210
ZA200604047 A	20071031	ZA20060004047	20060519

Priority:

US20030520507	20031114	US20030520507P	20031114	US20040571456P	20040514
US20040571060P	20040514	CA20042546109	20041112	EP20040810911	20041112
JP20060539937	20041112	JP20110285940	20041112	JP20060539937T	20041112
JP20130077196	20041112	JP20160014515	20041112	US20040988214	20041112
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WO2006US04725	20060210	US20060278638	20060210	US20080278638	20081107
US20080276947	20081124	US20110074626	20110329	CA20152546109	20150119
CA20152546109	20150120	JP20150095221	20150507	JP20160100660	20160519

Probable Assignee: TUNDRA COMPOSITES LLC**Assignee(s):** (std): HEIKKILA KURT E ; TUNDRA COMPOSITES LLC ; TUNDRA COMPSITES LLC ; WILD RIVER CONSULTING GROUP LL ; WILDER RIVER CONSULTING GROUP CO ; WILDER RIVER CONSULTING GROUP ; WILD RIVER CONSULTING GROUP LLC**Assignee(s):** TUNDRA COMPOSITES LLC WHITE BEAR LAKE**Inventor(s):** (std): HEIKKILA KURT E ; KURT E HEIKKILA**Inventor(s):** HEIKKILA KURT E MARINE ON STCR ; HEIKKILA KURT ; KURTEHEIKKILA**Agent(s):** ROBC; LEINWEBER AND ZIMMERMANN; COMOGLIO ELENA ET AL; NAYLOR MATTHEW JOHN; GERBINO ANGELO; AOKI ATSUSHI; KOGA TETSUJI; ISHIDA TAKASHI; MERCHANT AND GOULD PC**Designated states:** AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW**40) Family number: 32199595 (US2005191049A)**

© PatBase

Title: TELESCOPING CAMERA CRANE

Abstract: A telescoping camera crane has mechanical drive and camera platform leveling systems, allowing for water resistant or submerged operation. Telescoping sections of the crane arm are driven by a hydraulic system, for smooth and near silent extension and retraction movement. The telescoping sections of the crane arm have a slight upward curvature, to compensate for deflection the arm, thereby improving performance. A riser section on the arm increases the effective length or reach of the arm. The extender section may also be pivotably mounted on the arm, so that it can quickly be moved into upright, inverted, or side positions.

Classifications:

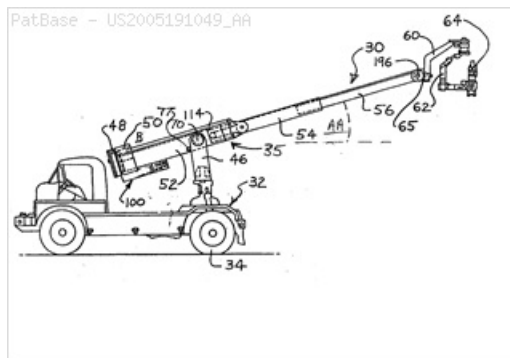
International (ipc 8-9): B66C23/00 B66C23/42 B66C23/693 B66C23/70 B66C23/76 B66F11/04 E04G3/00 F16F15/02 F16M1/00 F16M11/00 F16M11/02 F16M11/04 F16M11/12 F16M11/18 F16M11/20 F16M11/42 F16M13/00 F16M13/02 F16M3/00 G03B17/00 G03B17/56 G03B39/00 H04N5/222 H04N5/225 H04N5/228 H04N7/18 (Advanced/Invention); B66C23/00 B66F11/04 E04G3/00 F16F15/02 F16M11/00 F16M11/02 F16M13/00 F16M13/02 F16M3/00 G03B17/00 H04N5/225 H04N5/228 (Core/Invention)

International (ipc 1-7): B66C23/42 B66C23/76 F16M13/00 G03B17/00 H04N5/225

CPC: F16M11/28 F16M2200/041 G03B17/02 B60R11/04 B60R2011/004 B60R2011/0084 F16M11/2021 F16F15/022 F16M11/24 F16M2200/063 G03B17/561 F16M13/00 B66F11/048 F16M11/123 F16M11/18 F16M11/2064 F16M11/2092 F16M11/42 F16M2200/044

European: B60R11/04 B66F11/04D F16F15/02D F16M11/04 F16M11/12 F16M11/12A1 F16M11/18 F16M11/20A2 F16M11/20A3C F16M11/20C F16M11/24 F16M11/42 F16M13/00 G03B17/02 G03B17/56 G03B17/56B L60R11/00P3 L60R11/00R6C R16M200/04B R16M200/06B

US: 212/198 212/296 212/347 248/123.2 248/123.200S 248/178.1 248/187.1 248/274.1 248/562 248/588 248/638 348/208.7 348/208.700P 348/208.99 348/373 348/373P 348/375 348/61 348/722 348/E5.031 348/E50.31S 352/243 396/12 396/13 396/419 396/419P 396/421 396/428 396/428P

**Family:**

Publication number	Publication date	Application number	Application date
CA2557186 AA	20060822	CA20052557186	20050228
CA2557186 C	20080930	CA20052557186	20050228
DE602005037769 D1	20130221	DE200560037769T	20050228
DE602005041111 D1	20131024	DE200560041111T	20050228
EP1721213 A1	20061115	EP20050724101	20050228
EP1721213 A4	20070411	EP20050724101	20050228
EP1721213 B1	20130904	EP20050724101	20050228
EP2228682 A1	20100915	EP20100166294	20050228
EP2228682 B1	20130102	EP20100166294	20050228
US2005191049 AA	20050901	US20040791118	20040301
US2005191050 AA	20050901	US20040934804	20040903
US2005231634 AA	20051020	US20040826819	20040416
US2005232625 AA	20051020	US20040938021	20040909
US2006228105 AA	20061012	US20060332836	20060113
US2007058968 AA	20070315	US20060555124	20061031
US2007230947 AA	20071004	US20070760582	20070608
US2008002967 AA	20080103	US20070836509	20070809
US2009231451 AA	20090917	US20090423712	20090414
US7121745 BB	20061017	US20040791118	20040301
US7128479 BB	20061031	US20040934804	20040903
US7137747 BB	20061121	US20040938021	20040909
US7252441 BB	20070807	US20060555124	20061031
US7311452 BB	20071225	US20070760582	20070608
US7522213 BB	20090421	US20040826819	20040416
US7544001 BB	20090609	US20060332836	20060113

US7854555 BB	20101221	US20070836509	20070809
US8077212 BB	20111213	US20090423712	20090414
WO05085948 A1	20050915	WO2005US06491	20050228

Priority:

US20040791118 20040301	US20040826819 20040416	US20040934804 20040903
US20040938021 20040909	US20050643817P 20050114	EP20050724101 20050228
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US20090423712 20090414		

Probable Assignee: CHAPMAN LEONARD STUDIO EQUIPMENT INC

Assignee(s): (std): CHAPMAN LEONARD STUDIO EQUIP ; CHAPMAN LEONARD T

Assignee(s): CHAPMAN LEONARD STUDIO EQUIPMENT NORTH HOLLYWOOD ; CHAPMAN AND LEONARD STUDIO EQUIPMENT INC ; CHAPMAN LEONARD STUDIO EQUIPMENT ; CHAPMAN LEONARD STUDIO EQUIPMENT INC ; CHAPMAN LEONARD STUDIO EQUIPMENT INC NORTH HOLLYWOOD

Inventor(s): (std): CHAPMAN LEONARD T

Inventor(s): CHAPMAN LEONARD T NORTH HOLLYWOOD ; CHAPMAN LEONARD

Agent(s): SMART AND BIGGAR; VIERING JENTSCHURA AND PARTNER; PERKINS COIE LLP; OHRINER KENNETH H; KENNETH H

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

41) Family number: 32395490 (EP1595593A1)

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Title: BIAXIAL MIXER FOR MIXING PRODUCTS OF HIGH VISCOSITY, AS PASTY PRINTING INKS

Abstract: The bi-axial mixer, especially for the mixing of a product with a high viscosity such as a paste-form printing ink, has a U-shaped clamping frame (4) with co-axially orientated rotary plates (5,5') on the U-members formed as clamping jaws between which is clamped a holder for the mixing product. A dynamic unbalanced mass is created on the clamping frame by a corresponding mass distribution (26,27) which counteracts a gyroscopic torque resulting from the rotational speed of at least one rotary plate and compensates for this in its action on the clamping frame or at least reduces it.

Classifications:

International (IPC 8-9): B01F15/00 B01F9/00

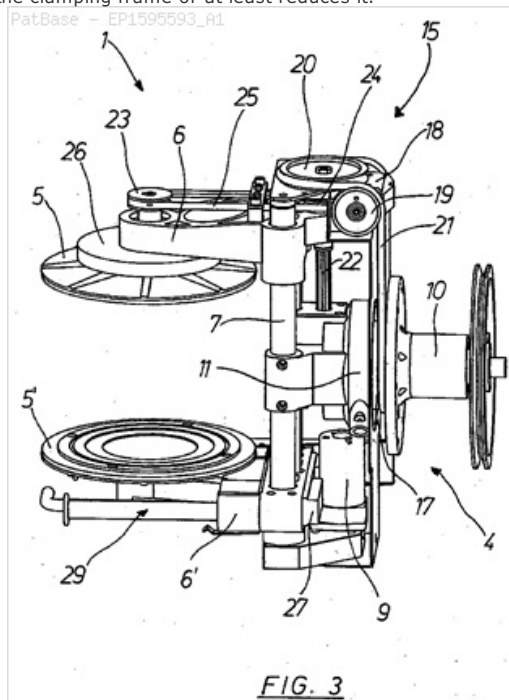
F16F15/32 (Advanced/Invention);

B01F15/00 B01F9/00 F16F15/00 (Core/Invention)

International (IPC 1-7): B01F15/00 B01F9/00 F16F15/32

CPC: B01F9/0001 B01F15/00435 B01F15/00753 B01F2015/00623

European: B01F15/00L B01F15/00M4F B01F9/00B L01F15/00L20



Family:

Publication number	Publication date	Application number	Application date
AT392946 E	20080515	AT20040010556T	20040504
DE502004006905 D1	20080605	DE200450006905T	20040504
EP1595593 A1	20051116	EP20040010556	20040504
EP1595593 B1	20080423	EP20040010556	20040504

Priority:

EP20040010556 20040504

Probable Assignee: COLLOMIX RUEHR MISCHGERAETE

Assignee(s): (std): COLLOMIX RUEHR MISCHGERAETE

Assignee(s): COLLOMIX RUEHR U MISCHGERAETE GMBH ; COLLOMIX RUEHR UND MISCHGERAETE GMBH

Inventor(s): (std): ESSING ALEXANDER ; VIEHBOECK INGO

Agent(s): LIEBL THOMAS ET AL

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

Title: ARRANGEMENT FOR PISTON MACHINES TO INFLUENCE THE FORCE/MOMENT ARISING DURING OPERATION ON THE SUPPORTS OF THE CYLINDER BLOCK HAVING A MAIN SHAFT CASING

Abstract: The invention is an arrangement (1) for piston type machines or power machines, for influencing the force/torque arising during operation on the clamping/supporting members (17) of the cylinder block (2) with a main shaft casing, which arrangement (1) has a main shaft (5) running on bearings in the cylinder block (2) with a main shaft casing, and the said main shaft (5) has a first flywheel (21) connected torsionally rigidly to it, and it has at least another second flywheel (22), the first (21) and the second flywheel (22) are linked by a dual shaft engaged drive unit (4) and it has a power output shaft (23). According to our invention the first (21) and the second flywheel (22) has geometrical axes parallel with each other, and they are preferably identical, the drive unit reversing mechanism connecting them is designed as a drive unit (4) with constant momentary ratio transmission, the first flywheel (21) is torsionally rigidly linked to the first shaft (30) of the reversing drive unit (4) with constant momentary ratio transmission, the second flywheel (22) is torsionally rigidly connected to the second shaft (27), the cylinder block (2) with a main shaft casing is torsionally rigidly connected to the gear case (24) of the reversing drive unit (4) with a constant momentary ratio transmission, the power output shaft (23) is linked torsionally rigidly or via a drive unit to the second flywheel, the angular momentum of the first (21) and second flywheel (22) is the same in an absolute sense, in a way that the angular momentum of all the unidirectionally turning members is to be imputed in the angular momentum of the first flywheel, and the angular momentum of the second flywheel includes the angular momentum of all the members rotating in the same direction.

Classifications:

International (IPC 8-9): F16F15/10 F16F15/12 F16F15/131 F16F15/26 F16F15/30 F16H1/28 (Advanced/Invention);

F16H1/28 (Advanced/Non-invention);

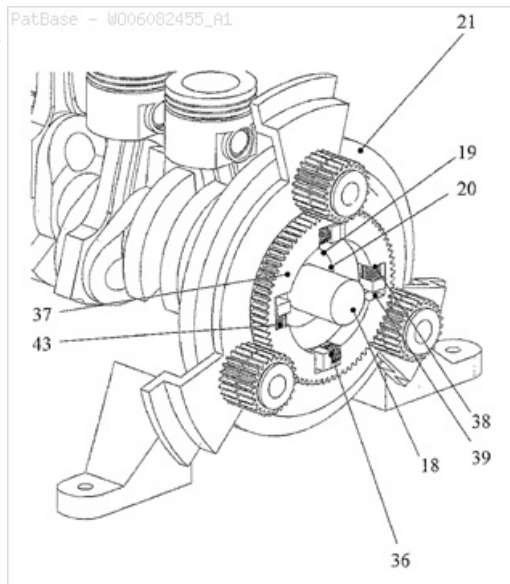
F16F15/10 F16F15/12 F16F15/131 F16F15/22 F16F15/30

F16H1/28 (Core/Invention);

F16H1/28 (Core/Non-invention)

CPC: F16F15/10 F16F15/1206 F16F15/26 F16F15/30 F16H1/2863

European: F16F15/10 F16F15/12P2 F16F15/26 F16F15/30 F16H1/28D



Family:

Publication number	Publication date	Application number	Application date
EP1904758 A1	20080402	EP20060710204	20060131
HU0500168 A0	20050428	HU20050000168	20050202
HU0500168 AB	20070502	HU20050000168	20050202
WO06082455 A1	20060810	WO2006HU00011	20060131

Priority:

HU20050000168 20050202 WO2006HU00011 20060131

Probable Assignee: IFT HUNGARIA AUTOIPARI FEJLESZ

Assignee(s): (std): HALMAI GEZA ; IFT HUNGARIA AUTOIPARI FEJLESZ ; RICARDO DEUTSCHLAND GMBH

Assignee(s): IFT HUNGARIA AUTOIPARI FEJLESZTESI KFT

Inventor(s): (std): HALMAI GEZA ; RICARDO DEUTSCHLAND GMBH

Agent(s): GOEDOELLE ISTVAN

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

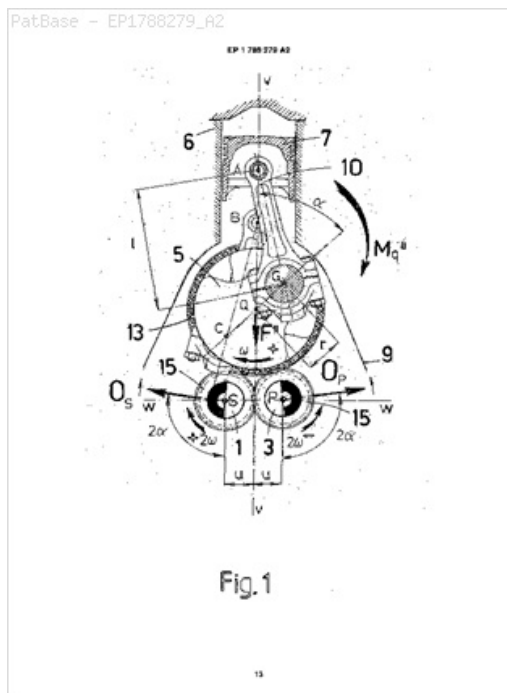
Title: MULTI-FUNCTIONAL COMPENSATION SYSTEM

Abstract: Source: EP1788279A3 [DE] Das multifunktionelle Ausgleichssystem ist eine einbaugerechte kompakte dreiwellige Einrichtung mit den rotierenden und geeignet einander eingestellten behelflichen Gegengewichten, die besonders fuer die Befriedung der Kolbenmaschinen mit den Kurbelmechanismen von ihren naturlichen dominierenden stoerenden Restunwucht-Produkten bestimmt ist. Solche Anordnung der Ausgleichwellen ist faehig, eine optimale Ausgleich-Wirkung an der Maschine ohne Notwendigkeit unerwuenschter beschraenkender konstruktiver Kompromisse zu erzielen, was mit der vollkommenden simultanen Liquidierung von den allen, wenn auch einander phasenverschobenen stoerenden harmonischen Anregungskomponenten konkreter dominierender Ordnung, bedingt ist. Das Ausgleichssystem, das auf dem Prinzip hier angefuhrter Dimensions- und Unterbringungsregeln fuer die Dreiheit der rotierenden auszentrierten Ausgleichgewichte-Massen bei der harmonischen Schwingung zweiter Ordnung entworfen ist, wird in mehreren Applikationsvarianten am Beispiel eines ueblichen Reihenvierzylinder-Verbrennungsmotors mit zentrischem Kurbelmechanismus in der Konfrontation mit den bekannten Ausfuehrungen von den zweiwelligen Ausgleichssystemen vorgestellt. Die vorgelegte Loesung ist hauptsaechlich fuer die mobilen Reihenvierzylinder-Motoren groesserer Kubatur mit langem Kolbenhub aktuell, die Monoblock-Bestandteil der in drei Punkten quergelagerten Antriebsaggregaten in den Kraftfahrzeugen hoeherer Klasse mit dem Frontantrieb sind.

Classifications:

International (IPC 8-9): F16F15/22 F16F15/26

F16F15/28 (Advanced/Invention);
F16F15/00 F16F15/22 (Core/Invention)
CPC: F16F15/265
European: F16F15/26R2



Family:

Publication number	Publication date	Application number	Application date
CZ20050717 A3	20070321	CZ20050000717	20051116
CZ297752 B6	20070321	CZ20050000717	20051116
EP1788279 A2	20070523	EP20060466015	20061110
EP1788279 A3	20100623	EP20060466015	20061110

Priority:

CZ20050000717 20051116

Probable Assignee: SKODA AUTO AS

Assignee(s): (std): SKODA AUTO AS

Assignee(s): SKODA AUTO A S

Inventor(s): (std): BABAK JAN

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK NL PL PT RO RS SE SI SK TR YU

44) Family number: 34380675 (US2007079657A)

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Title: GOVERNOR AND A POWER GENERATING DEVICE AND AN APPARATUS USING THE GOVERNOR

Abstract: It is intended to provide a governor that is small, does not produce wear particles or noise, is low cost, is not affected by differences in attitude, is not affected by magnetism, and has outstanding durability. The governor has a rotor that rotates using energy supplied from an energy storage means through a power transfer means, a wing having wing surfaces perpendicular to the rotational axis of the rotor, and disposed movably to an outside circumference side radially to the rotor by means of centrifugal force produced by rotor rotation, a zigzag spring disposed between the rotor and wing for pulling the wing to the inside circumference side radially to the rotor, and an opposing member disposed to the outside circumference of the rotor and having an opposing surface located opposite and separated a predetermined gap from the wing surface when the wing moves to the outside circumference side radially to the rotor.

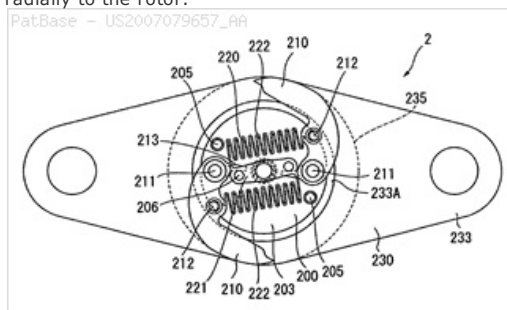
Classifications:

International (IPC 8-9): F16D57/00 F16F1/18 F16F9/12 F16H35/00 G01F1/06 G01P3/16 G04B17/00 G04B17/26 G04B21/02 G04B21/06 G04B25/00 G05D13/18 G10F1/06 H02K7/10 H02K7/18 (Advanced/Invention); F16D57/00 F16F1/02 F16F9/10 F16H35/00 G01F1/05 G01P3/02 G04B17/00 G04B21/00 G04B25/00 G05D13/00 G10F1/00 H02K7/10 H02K7/18 (Core/Invention)

CPC: G04B17/30 G05D13/18

European: G04B17/30 G05D13/18

US: 310/77 368/272 368/75 475/260 73/535 84/94.1



Family:

Publication number	Publication date	Application number	Application date
CN100478578 C	20090415	CN200610141690	20061008
CN1945046 A	20070411	CN200610141690	20061008
DE602006000697 D1	20080424	DE200660000697T	20061005
DE602006000697 T2	20090312	DE200660000697T	20061005
EP1772791 A1	20070411	EP20060020930	20061005
EP1772791 B1	20080312	EP20060020930	20061005
JP2007127268 A2	20070524	JP20060178251	20060628
JP2008020212 A2	20080131	JP20060189813	20060710

JP4830667 B2	20111207	JP20060178251	20060628
TW200720866 A	20070601	TW20060136952	20061004
US2007079657 AA	20070412	US20060543133	20061005
US7590030 BB	20090915	US20060543133	20061005

Priority:

JP20050293875 20051006 JP20060178251 20060628 JP20060189813 20060710

Probable Assignee: SEIKO EPSON CORP

Assignee(s): (std): SEIKO EPSON CORP

Inventor(s): (std): OSAMU MOTEKI MASATOSHI TAKAHAS ; OSAMU TAKAHASHI ; TAKAHASHI OSAMU ; MOGI MASATOSHI ; MASATOSHI MOTEKI ; MOTEKI MASATOSHI

Inventor(s): MOTEKI MASATOSHI TAKAHASHI OSAMU

Agent(s): HOFFMANN EITLE; ISHIZAKI TAKESHI; NAKAYAMA KANJI; KINOSHITA JITSUZO; GLOBAL IP COUNSELORS LLP

Designated states: AL BA CH DE FR GB HR LI MK YU

45) Family number: 41605475 (US2008060602A)

© PatBase

Title: SELF-LUBRICATING PISTON

Abstract: An engine assembly including a piston for rectilinear reciprocation within a cylinder. Rectilinear reciprocation of the piston allows for a sealing off of a fuel chamber such that fuel may be maintained and delivered to a combustion chamber independent of any lubrication oil to be employed at the interface of the piston and an inner wall of the cylinder. Additionally, the piston may be considered self-lubricating or monolithic in nature due to the presence of passageways for transferring engine fluids therethrough.

Classifications:

International (IPC 8-9): F02B75/04 F02B75/32 F02F1/00 F02F1/20

F16C7/00 F16H19/08 (Advanced/Invention);

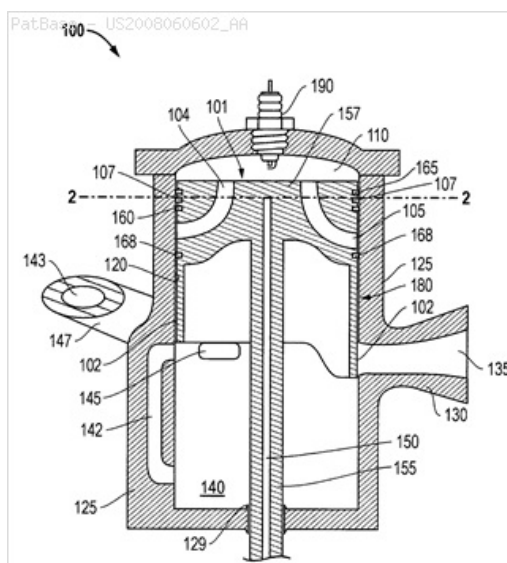
F02B75/00 F02B75/32 F02F1/00 F02F1/18 F16C7/00

F16H19/00 (Core/Invention)

CPC: F02B33/12 Y10T74/18088 F01B9/047 F01B9/06

European: F01B9/04R F01B9/06 F02B33/12

US: 123/193.2 123/197.1 123/197.4 123/65PE 74/29



Family:

Publication number	Publication date	Application number	Application date
US2008060602 AA	20080313	US20070890343	20070806
US2008060628 AA	20080313	US20070801488	20070510
US2008092846 AA	20080424	US20060517159	20060907
US7475666 BB	20090113	US20060517159	20060907
WO08030421 A2	20080313	WO2007US19276	20070904
WO08030421 A3	20080424	WO2007US19276	20070904

Priority:

US20060517159 20060907 US20070801488 20070510 US20070890343 20070806

Probable Assignee: HEIMBECKER JOHN A

Assignee(s): (std): HEIMBECKER JOHN A

Inventor(s): (std): HEIMBECKER JOHN A

Agent(s): WILLIAM F RYANN STE 1629; WILLIAM F RYANN; LAW OFFICE OF WILLIAM F RYANN; RYANN WILLIAM F

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

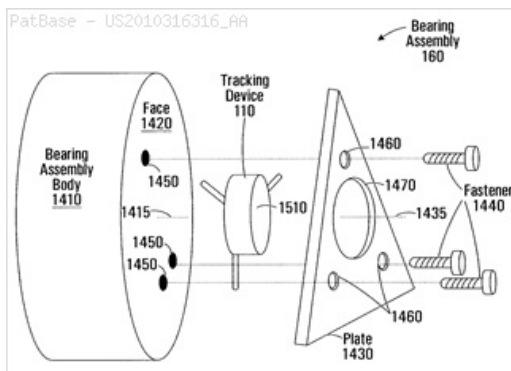
46) Family number: 42002463 (US2010316316A)

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Title: APPARATUS, SYSTEM AND METHOD FOR TRACKING A ROTATABLE OBJECT

Abstract: Embodiments of the present invention provide a method, system and apparatus for tracking a rotatable object. A device for tracking a rotatable object comprises a body, the body comprising a tracking portion. A device for tracking a rotatable object further comprises an attachment section connected to the body, for attaching the device to the rotatable object. The body and the attachment section are configured for balanced rotation when the rotatable object rotates.

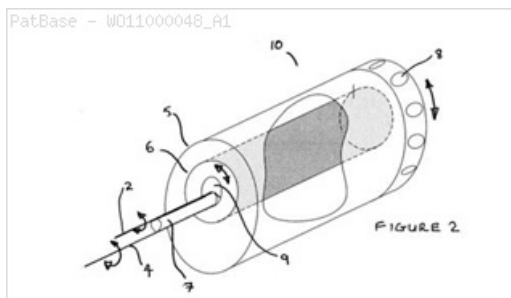
Classifications:



Publication number	Publication date	Application number	Application date
CA2673909 AA	20090626	CA20062673909	20061228
CA2673909 C	20150616	CA20062673909	20061228
US2010316316 AA	20101216	US20060521501	20061228
US8424374 BB	20130423	US20060521501	20061228
WO08080211 A1	20080710	WO2006CA02144	20061228

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG UM UY VC VN ZA ZM ZW

International (IPC 8-9): B02C17/08 B02C17/22 B02C17/24
B02C23/16 B02C25/00 F16F15/16 F16F15/28 (Advanced/Invention)
CPC: B02C17/08 B02C17/183 B02C17/24
European: B02C17/08 B02C17/18G B02C17/24



Publication number	Publication date	Application number	Application date
NZ578218 A	20091030	NZ20090578218	20090707
WO11000048 A1	20110106	WO2010AU00838	20100630

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN VA ZM ZW

Title: Plattenartige Traegerstruktur zur Aufnahme einer oelpumpe

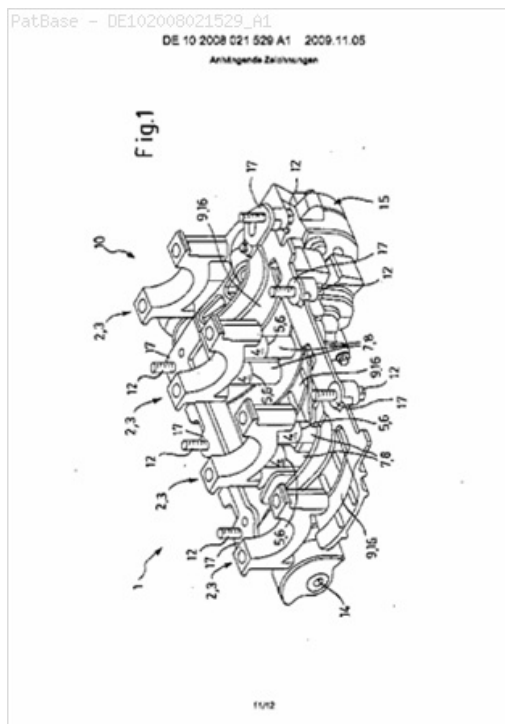
Abstract: Source: DE102008021529B4 [DE] Die Erfindung betrifft eine Traegerstruktur (1) zur Anordnung in einem Kurbelgehäuse einer Brennkraftmaschine, welche plattenartig ausgebildet ist und die eine oelpumpe (15) traegt, welche ein Gehaeuse (18) aufweist und der Versorgung der Brennkraftmaschine mit oel dient. Es soll eine Traegerstruktur (1) der genannten Art bereitgestellt werden, die hinsichtlich ihrer Funktionen optimiert ist. Erreicht wird dies durch eine Traegerstruktur (1) der genannten Art, die dadurch gekennzeichnet ist, dass das Gehaeuse (18) der oelpumpe (15) mit der Traegerstruktur (1) einteilig ausgebildet ist, so dass das Gehaeuse (18) und die Traegerstruktur (1) ein monolithisches Bauteil bilden.

Classifications:

International (IPC 8-9): F01M11/00 F02B67/04 F02F7/00 F16F15/26 (Advanced/Invention); F01M11/00 (Core/Invention)

CPC: F01M11/0004 F01M11/02 F01M2011/005 F01M2011/0079 F02F7/0053 F02F2007/0056 F16F15/264

European: F01M11/00B F16F15/26R R01M11/00B16 R01M11/00B30 R01M11/02 R02F7/00C4 R02F7/00C4B



Family:

Publication number	Publication date	Application number	Application date
■ CN201437746 U	20100414	CN200920151049U	20090430
■ DE102008021529 A1	20091105	DE200810021529	20080430
■ DE102008021529 B4	20131128	DE200810021529	20080430

Priority:

DE200810021529 20080430

Probable Assignee: FORD GLOBAL TECH LLC

Assignee(s): (std): FORD GLOBAL TECH LLC ; FORD GLOBAL TECHNOLOGIES INC

Assignee(s): FORD GLOBAL TECHNOLOGIES LLC

Inventor(s): (std): LENZ INGO ; MOELLERVIETZ URBAN ; MORAWITZ URBAN ; STAJNER BERND ; STEINER BERND

Inventor(s): URBAN MOELLERVIETZ ; BERND STAJNER ; INGO LENZ

Title: Baugruppe fuer eine Brennkraftmaschine mit einer oberen Kurbelgehausehaelfte, einer oelwanne und einer Traegerstruktur

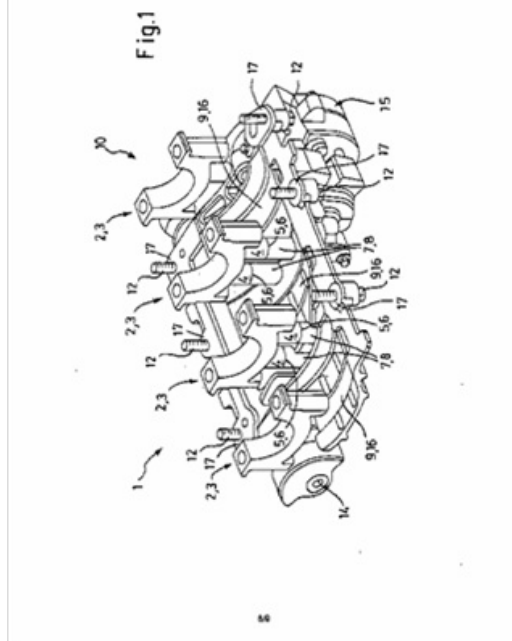
Abstract: Source: DE102008021528B4 [DE] Die Erfindung betrifft eine Baugruppe fuer eine Brennkraftmaschine umfassend eine obere Kurbelgehausehaelfte zur Aufnahme einer Kurbelwelle in mindestens zwei Lagern (2), eine an die obere Kurbelgehausehaelfte montierbare und als untere Kurbelgehausehaelfte dienende oelwanne und eine an die obere Kurbelgehausehaelfte montierbare Traegerstruktur (1), bei der and #8226; die obere Kurbelgehausehaelfte eine Flanschflaeche zur Aufnahme der oelwanne aufweist, and #8226; die obere Kurbelgehausehaelfte eine Aufnahme flaeche zur Aufnahme der Traegerstruktur (1) aufweist, and #8226; die mindestens zwei Lager (2) zur Aufnahme und Lagerung der Kurbelwelle zweiteilig ausgebildet sind, wobei jedes Lager (2) einen Lagersattel, der im Kurbelgehause auf der der Traegerstruktur (1) abgewandten Seite der Kurbelwelle angeordnet ist, und einen Lagerdeckel (3), der mit dem Lagersattel verbindbar und auf der der Traegerstruktur (1) zugewandten Seite der Kurbelwelle angeordnet ist, aufweist. Es soll eine Baugruppe der genannten Art bereitgestellt werden, die hinsichtlich Ihres akustischen Verhaltens und ihrer Fertigung optimiert ist. Erreicht wird dies durch eine Baugruppe der genannten Art, die dadurch gekennzeichnet ist, dass and #8226; der Lagerdeckel (3) mindestens eines Lagers (2) mindestens einen zur Traegerstruktur (1) hingerichteten Zapfen (4) aufweist, der an der Stirnseite (5) unter Ausbildung einer Auflageflaeche (6) mit einem Stempel (7) in Verbindung steht, der zwischen Zapfen (4) und Traegerstruktur (1) angeordnet ist, und and #8226; die Flanschflaeche zur Aufnahme der oelwanne, die Aufnahme flaeche zur Aufnahme der Traegerstruktur (1) und die Auflageflaeche (6) in einer Ebene liegen.

Classifications:

International (IPC 8-9): F01M11/00 F02F7/00 F02M37/06 F16F15/26 (Advanced/Invention)

CPC: F01M1/02 F01M11/0004 F01M2011/005 F02F7/0053 F02F2007/0056

European: F01M11/00B F02F7/00C4 R01M1/02 R01M11/00B16 R02F7/00C4B

**Family:**

Publication number	Publication date	Application number	Application date
■ CN201437745 U	20100414	CN200920151040U	20090430
■ DE102008021528 A1	20091105	DE200810021528	20080430
■ DE102008021528 B4	20131031	DE200810021528	20080430

Priority:

DE200810021528 20080430

Probable Assignee: FORD GLOBAL TECH LLC**Assignee(s):** (std): FORD GLOBAL TECH LLC ; FORD GLOBAL TECHNOLOGIES INC**Assignee(s):** FORD GLOBAL TECHNOLOGIES LLC**Inventor(s):** (std): LENZ INGO ; MORAWITZ URBAN ; STEINER BERND ; STAJNER BERND ; MOELLERVIETZ URBAN**Inventor(s):** INGO LENZ ; BERND STAJNER ; URBAN MOELLERVIETZ**50) Family number: 44050731 (US2009297080A)**

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Title: WALKING BEARING SYSTEMS STRUCTURES AND PROCESSES

Abstract: A bearing system comprises a support member and a rotational element having a generally cylindrical bearing surface, and a plurality of detents defined upon and extending in from the cylindrical bearing surface, and may include means for rotating the rotational element in relation to the support member. The bearing system also comprises at least three bearing assemblies, each comprising a cam member rotatably mounted to the support member. Each of the cam members comprises a cam surface having a profile that contacts the cylindrical bearing surface and rotates away from a home position when the cam is rotatably positioned to meet one of the bearing regions, and does not contact the cylindrical bearing surface when the cam is rotatably positioned to meet one of the detent regions. Each of the cam members are rotationally biased toward their home position.

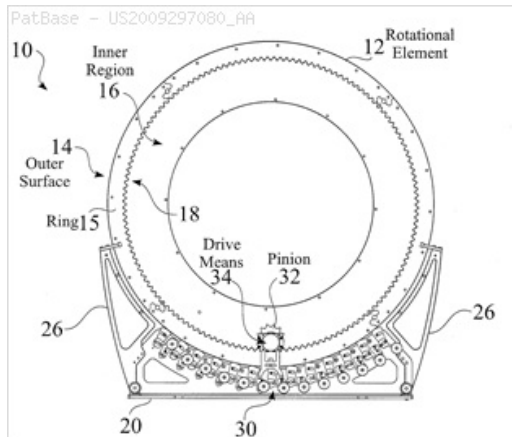
Classifications:

International (IPC 8-9): F16C19/50 F16C32/00 (Advanced/Invention); F16C32/00 (Core/Invention)

CPC: F16C19/50 F16C29/00 F16C2300/14

European: F16C19/50 F16C29/00 R16C300/14

US: 188/83 384/447 384/447P 384/549 384/627 384/7 384/91

**Family:**

Publication number	Publication date	Application number	Application date
■ US2009297080 AA	20091203	US20090355897	20090119
■ US8016487 BB	20110913	US20090355897	20090119

Priority:

US2008005686P 20080529 US20090355897 20090119
Probable Assignee: LONG NOW FOUNDATION
Assignee(s): (std): LONG NOW FOUNDATION
Assignee(s): THE LONG NOW FOUNDATION
Inventor(s): (std): SALVAGIONE PAOLO ; STAPLES GREGORY
Agent(s): GLENN PATENT GROUP; MICHAEL A

51) Family number: 48890019 (WO11080061A2)

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Title: STABILIZATION DEVICE

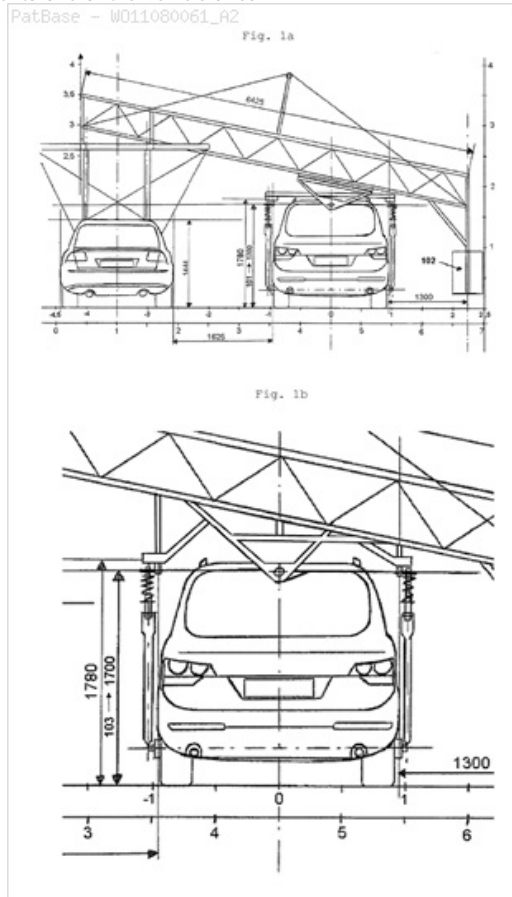
Abstract: The invention relates to a stabilization device for vehicles, comprising a connection element on which the first ends of at least two supports are arranged for resolving reversible crash tests and wherein the second ends of said supports are arranged on an, which is connected to the vehicle and which is parallel to one of the vehicle axes.

Classifications:

International (IPC 8-9): E01F15/14 F16F7/12 F16S3/08 G01M17/00 G01M17/007 G01M7/08 (Advanced/Invention)

CPC: G01M17/0078 F16F7/003 F16F7/121 F16F9/049 G01M7/08

European: F16F7/00B F16F7/12A F16F9/04H G01M17/007C G01M7/08



Family:

Publication number	Publication date	Application number	Application date
DE112010004152 A5	20121108	DE201011004152T	20101214
DE202010016206 U1	20110428	DE201020016206U	20101203
DE202010016509 U1	20120315	DE201020016509U	20101213
DE202010016523 U1	20110512	DE201020016523U	20101213
WO11080061 A2	20110707	WO2010EP69555	20101214
WO11080061 A3	20120209	WO2010EP69555	20101214
WO11082979 A2	20110714	WO2010EP69554	20101214
WO11082979 A3	20110922	WO2010EP69554	20101214

Priority:

DE200920016906U 20091214	DE200920017527U 20091224	DE201020001925U 20100205
DE201020001927U 20100205	DE201020007156U 20100522	DE201020007157U 20100522
DE201020016204U 20101203	DE201020016206U 20101203	DE201020016523U 20101213
DE201020016509U 20101213	DE201011004152T 20101214	WO2010EP69555 20101214

Probable Assignee: SEMCON INGOLSTADT GMBH

Assignee(s): (std): HOERING JOSEF ; RUDZEWSKI STEPHEN ; SEMCON INGOLSTADT GMBH ; WALTER DIETER

Assignee(s): WALTER ; RUDZEWSKI

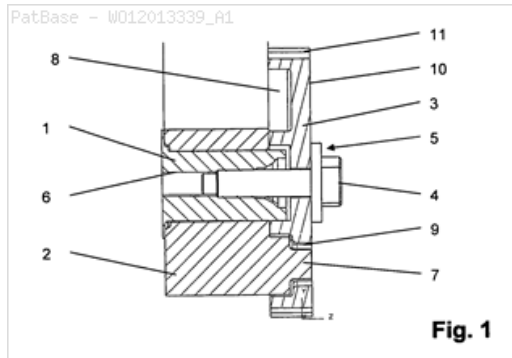
Inventor(s): (std): HOERING JOSEF ; RUDZEWSKI STEPHAN ; RUDZEWSKI STEPHEN ; WALTER DIETER

Agent(s): AUE HANS PETER

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LR LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: ARRANGEMENT OF A BALANCE WEIGHT ON A BALANCE SHAFT

Abstract: The invention relates to a balance shaft (1, 27), in particular for an internal combustion engine, having at least one balance weight (2, 13, 23, 31, 40) which is removably fastened to the balance shaft (1, 27) and a drive wheel (3, 12, 22, 39) which is removably fastened to the balance shaft (1, 27) for transferring a driving torque, wherein the drive wheel (3, 12, 22, 39) is fastened to the balance shaft (1, 27) on the end face side by at least one axial connection element (4, 24, 25) and the drive wheel (3, 12, 22, 39) and the balance weight (2, 13, 23, 31, 40) directly contact each other, wherein the balance weight (2, 13, 23, 31, 40) is a powder-metallurgically produced component (2, 13, 23, 31, 40), in particular a sintered component.

Classifications:**International (IPC 8-9):** F16F15/26 (Advanced/Invention)**CPC:** F16F15/264**European:** F16F15/26R**Family:**

Publication number	Publication date	Application number	Application date
DE102010032530 A1	20120202	DE201010032530	20100728
WO12013339 A1	20120202	WO2011EP03758	20110727

Priority:

DE201010032530 20100728

Probable Assignee: GKN SINTER METALS HOLDING GMBH**Assignee(s):** (std): GKN SINTER METALS HOLDING GMBH ; HOFNER MARC ; JAEGER WINFRIED ; KOHLHEPP MANFRED ; ZELLER ANDREAS**Inventor(s):** (std): HOFNER MARC ; JAEGER WINFRIED ; KOHLHEPP MANFRED ; ZELLER ANDREAS ; ZELLER ANDREAS DR**Agent(s):** MAXTON LANGMAACK AND PARTNER

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: ROLLING FRICTION OR SUSPENSION FRICTION IMPACT MINING METHOD AND WEAR-RESISTANT IMPACT MINING MACHINE USING SAID METHOD

Abstract: A rolling friction or suspension friction impact mining method and a wear-resistant impact mining machine using said method. The mining machine comprises a reciprocating impact part (3). The reciprocating impact part comprises an impact drive device (4), a rolling reciprocating device, and an impact head (6). The rolling reciprocating device comprises a rubbing body (38), a rubbing body support (39), an impact guiding element (5.1), and a position-limiting mechanism. The rubbing body (5.3) are disposed between the rubbing body support (39) and the impact guiding element (5.1), and inside of the position-limiting mechanism to form rolling guiding. The impact drive device is disposed with a damage-prevention mechanism, a rotary power buffer device, and a structural buffer device, such that the impact head reciprocatingly move and have rolling or suspending friction under the support of the impact guiding element, thereby preventing the damage-prevention force to damage a power drive device and a rolling channel guiding device, and preventing the impact vibration caused by the reciprocating impact part to affect the machine body and other parts. The overall stability is therefore enhanced, and the service life is extended.

Classifications:

International (IPC 8-9): B66C23/687 E02F3/18 E02F3/22 E02F3/24 E02F3/28 E02F3/36 E02F3/38 E02F3/39 E02F3/96 E02F5/08 E02F5/30 E02F9/20 E21B E21B1/02 E21B1/14 E21B10/36 E21C E21C25/00

E21C25/02 E21C25/04 E21C25/08 E21C27/00 E21C27/01 E21C27/02 E21C27/12 E21C27/14 E21C27/20 E21C27/24 E21C27/28 E21C27/30 E21C27/46 E21C29/22 E21C31/00 E21C31/02 E21C31/04 E21C31/08 E21C31/10 E21C31/12 E21C35/00 E21C35/02 E21C35/04 E21C35/08 E21C35/18 E21C35/183 E21C35/19 E21C35/193 E21C35/197 E21C35/20 E21C35/22 E21C37/00 E21C47/06 E21D9/10 E21D9/12 E21F5/04 F02B65/00 F02B75/00 F02B75/40 F02F1/00 F02F1/18 F02F11/00 F02F3/00 F02F5/00 F03C1/28 F03C1/32 F04B17/04 F04B39/00 F04B39/12 F04B53/00 F04B53/14 F04B53/16 F15B15/14 F15B15/20 F16C19/54 F16C29/04 F16C3/18 F16C32/04 F16C32/06 F16C33/30 F16C33/32 F16C33/34 F16C33/38 F16C33/46 F16C33/58 F16C33/78 F16C7/02 F16F15/04 F16H1/04 F16J1/00 F16J1/08 F16J10/02 F16J15/16 F16J15/32 F16J15/3276 F16J15/44 F16J15/56 F16N1/00 (Advanced/Invention); E21C27/12 E21C27/14 E21C31/10 (Core/Invention); E21C (Subclass/Invention)

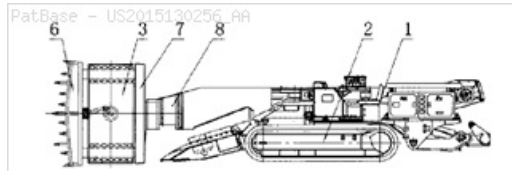
International (IPC 1-7): E21C27/12**CPC:** E21B10/36 E21C27/02 E21D9/106 E21D9/1086 E21C35/04 E21C27/46 E21C35/193 E21C35/197 E21C2035/1826

E21D9/1026 E21C27/01 E02F5/305 E02F3/964 F16J1/02 B25D2250/275 F16J15/3208 F16J15/3224 F16J15/3252 F16J15/56

E02F3/181 E21C27/24 Y10T29/49842 E21C31/10 E21C35/19 E21C27/14 E21C27/12 E21C35/18 E21C35/1936 E21D9/12

E02F3/245 E02F5/08 E21C27/00 E21C35/20 F16J15/441 E21C35/00 E21C31/04 F16C3/18 E21C25/02 E21C27/28 E21C31/02

E02F3/966 E21B1/02 F16J15/3276 F16C19/54 E21C31/12 F16C9/02 F16C9/04 F16J15/16 E21C35/183 E21C35/08

US: 277/305 29/434 299/10 299/113 299/18 299/39.2 299/56 299/69 37/189 74/11**Family:**

Publication number	Publication date	Application number	Application date
AP201408131 A0	20141231	AP20140008131	20130510
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AP201508300 A0	20150331	AP20150008300	20131008
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AU2012331962 AA	20130510	AU20120331962	20121107
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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

54) Family number: 51335462 (DE102010055584A1)

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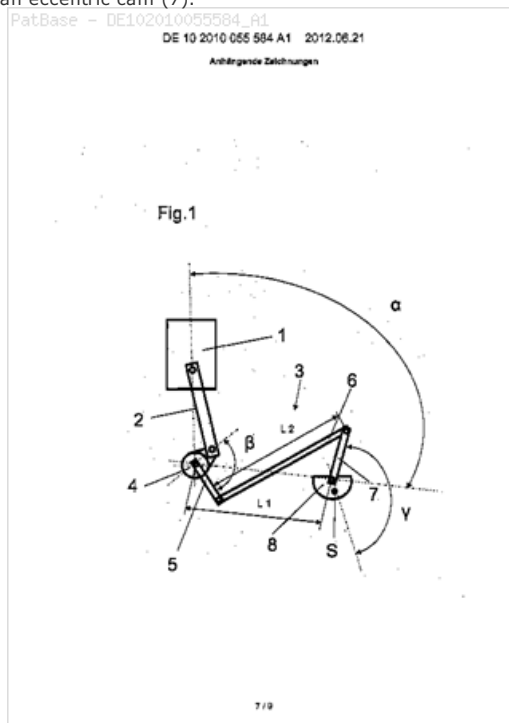
Title: DEVICE FOR BALANCING IDLE MASS FORCE OF LIFTING CYLINDER CRANKSHAFT MACHINE, HAS ANTI-PARALLEL CRANKSHAFT-AND-CONNECTING-ROD DRIVE ELEMENT TO DRIVE BALANCER SHAFT WHICH IS CONNECTED FIRMLY TO COUPLING ELEMENT THROUGH ECCENTRIC CAM

Abstract: The device has an anti-parallel crankshaft-and-connecting-rod drive element (3) to drive a balancer shaft (8). One end of a coupling element (6) is firmly connected with a crankshaft (4) through an eccentric cam (5). The other end of the coupling element is firmly connected with the balancer shaft through an eccentric cam (7).

Classifications:

International (ipc 8-9): F16F15/26 (Advanced/Invention)

CPC: F02B75/06 F16F15/264



Family:

Publication number	Publication date	Application number	Application date
DE102010055584 A1	20120621	DE201010055584	20101221

Priority:

DE201010055584 20101221

Probable Assignee: IAV GMBH**Assignee(s):** (std): IAV GMBH**Assignee(s):** IAV GMBH INGENIEURGESELLSCHAFT AUTO U VERKEHR ; IAV GMBH INGENIEURGESELLSCHAFT AUTO UND VERKEHR**Inventor(s):** (std): BUDDE ROGER ; GRUND THOMAS ; SCHREITER CARSTEN**55) Family number: 50919317** (US2012204841A)

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Title: OPPOSED-PISTON, OPPOSED-CYLINDER ENGINE WITH COLLINEAR CYLINDERS

Abstract: An opposed-piston, opposed-cylinder OPOC engine is disclosed in which the central axis of the two cylinders is collinear. In four-stroke engines, this is possible with a built up crankshaft. Disclosed are connecting rod configurations that are suitable for a two-stroke engine that can be assembled to a unitary crankshaft, including both pullrods in tension and pushrods in compression. The configuration includes pistons arranged symmetrically, but with offset timing of the intake and exhaust pistons. The offset timing leads to a slight imbalance which can partially overcome by having the center of gravity of the crankshaft offset from the axis of rotation.

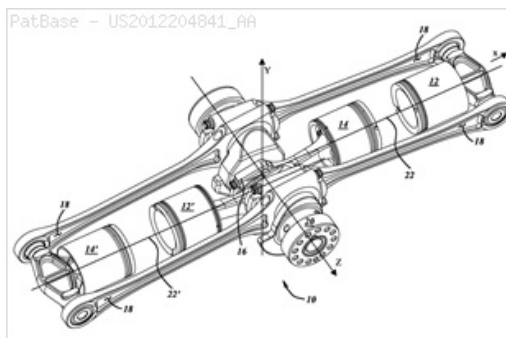
Classifications:

International (IPC 8-9): A45B25/02 A45B25/08 B23P11/00 B23P17/00 F01B7/08 F01B7/14 F01L1/38 F01L21/02 F02B25/00 F02B25/04 F02B25/08 F02B25/14 F02B31/08 F02B33/00 F02B67/00 F02B67/04 F02B75/06 F02B75/18 F02B75/22 F02B75/24 F02B75/28 F02B75/32 F02F1/22 F02F1/42 F02M35/108 F16C17/00 F16C17/02 F16C19/26 F16C3/04 F16C33/10 F16C7/00 F16C7/02 F16C9/00 F16C9/02 F16C9/04 F16F15/00 F16F15/26 F16J1/14 F16J7/00 (Advanced/Invention); F02B75/02 F02B75/22 F16J1/14 (Advanced/Non-invention)

CPC: F16J1/14 F01B7/08 F02B25/08 F02B75/32 F02B25/04 F01L1/38 F01L21/02 F02B75/22 F02B2075/025 F02F1/22 Y10T29/49895 Y10T29/49954 Y10T29/49229 F16J7/00 F02B75/243 F02B75/246 F02B75/282 F16C7/023 F16C17/022 F02B75/28 F01B7/14 F16C9/04 Y10T29/49826 Y10T29/49959 Y10T29/49963 F02B31/08 F02M35/108

European: F02B25/04 F02B75/24B F02B75/24P F02B75/28A F02F1/22 F16J7/00 R02B75/02S2

US: 1/1 123/192.2 123/193.5 123/197.3 123/197.4 123/518A 123/518D 123/52.1 123/52.2 123/52.3 123/52.5 123/53.3 123/53.4 123/53.5 123/53.6 123/55.2 123/55.4 123/55.6 123/55.7 123/562 123/58.1 123/65A 123/65PE 123/69R 123/90.1 29/428 29/428S 29/464 29/464S 29/525.05 29/525.050S 29/525.08 29/525.11 29/525.110S 29/888 29/888S 384/270 384/270P 384/548 384/548S 74/603

**Family:**

Publication number	Publication date	Application number	Application date
CN102635625 A	20120815	CN201210025890	20120207
CN102734310 A	20121017	CN201210096501	20120401
CN102734310 B	20161214	CN201210096501	20120401
CN102758658 A	20121031	CN201210123987	20120425
CN103061863 A	20130424	CN201210409885	20121018
CN103061863 B	20170301	CN201210409885	20121018
DE102012100911 A1	20120816	DE201210100911	20120203
DE102012102557 A1	20121004	DE201210102557	20120326
DE102012103389 A1	20121025	DE201210103389	20120418
GB201202117 A0	20120321	GB20120002117	20120208
GB201206060 A0	20120516	GB20120006060	20120404
GB201206467 A0	20120530	GB20120006467	20120412
GB201218257 A0	20121128	GB20120018257	20121011
GB2488031 A1	20120815	GB20120002117	20120208
GB2489816 A1	20121010	GB20120006060	20120404
GB2490397 A1	20121031	GB20120006467	20120412
GB2495827 A1	20130424	GB20120018257	20121011
IN00196MU2012 A	20121221	IN2012MU00196	20120120
IN00876MU2012 A	20130201	IN2012MU00876	20120328
IN01284MU2012 A	20131213	IN2012MU01284	20120423
JP2012167669 A2	20120906	JP20120024538	20120207
JP2012220027 A2	20121112	JP20120084920	20120403
JP2012229694 A2	20121122	JP20120099201	20120424
JP5984477 B2	20160906	JP20120099201	20120424
US2012204841 AA	20120816	US20120368390	20120208
US2012207415 AA	20120816	US20120365558	20120203
US2012247419 AA	20121004	US20120437207	20120402
US2012266851 AA	20121025	US20120453129	20120423
US2013098328 AA	20130425	US20120654474	20121018
US8757123 BB	20140624	US20120654474	20121018
US8763583 BB	20140701	US20120368390	20120208
US8826869 BB	20140909	US20120453129	20120423
US8844494 BB	20140930	US20120365558	20120203
US9133932 BB	20150915	US20120437207	20120402

Priority:

US20110441915P 20110211

US20110471236P 20110404

US20110478736P 20110425

US20110549678P 20111020	US20120365558 20120203	US20120368390 20120208
DE201210102557 20120326	US20120437207 20120402	US20120453129 20120423
US20120654474 20121018		

Probable Assignee: ECOMOTORS INC

Assignee(s): (std): ECOMOTORS INC ; ECOMOTORS INT INC ; ECOMOTORS INTERNAT INC ; ECOMOTORS INTERNATIONAL INC ; ECOMOTORS INTERNATL INC ; HOFBAUER PETER ; TUSINEAN ADRIAN

Assignee(s): ECOMOTORS INTERNATIONAL ; ACHATES POWER INC

Inventor(s): (std): ADRIAN TUSINEAN ; HOFBAUER PETER ; HOFBAUER PETER P ; PETER HOFBAUER ; TUSINEAN ADRAIN ; TUSINEAN ADRIAN

Agent(s): YAMAMOTO OSAMU; TAKEUCHI SHIGEO; ONO SHINJIRO; TAGAMI YASUKO; KOBAYASHI YASUSHI; DIANA D; BARNES AND THORNBURG LLP

56) Family number: 51803017 (CH704457A)

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Title: HOROLOGICAL INERTIA REGULATOR FOR REGULATING ROTATION SPEED OF SOUND OR MUSIC GENERATION MOBILE IN MUSICAL OR RINGING MECHANISM OF E.G. REPEATER WATCH, HAS COUNTERWEIGHT INCLUDING PERIPHERAL PORTION COOPERATED WITH REGULATING UNIT

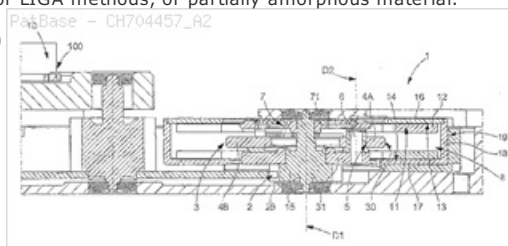
Abstract: The regulator (1) has a mobile (3) including a counterweight pivotally mounted around a primary pivot (6). The counterweight is contained in a first revolution volume around a pivoting axis (D1). The counterweight is engaged in a second revolution volume around the axis. The counterweight includes a peripheral portion cooperated with a regulating unit for enabling braking of the mobile and reducing rotation speed of the mobile to reference speed and for dissipating excess energy. An elastic return unit (7) with a spring (71) maintains the counterweight in the first revolution volume. The spring is made of micro-machinable material or silicon or quartz or compounds, or alloy obtained from microelectromechanical system technologies, or alloy obtained by deep reactive ion etching method or LIGA methods, or partially amorphous material.

Classifications:

International (IPC 8-9): F16F1/00 G04B13/00 G04B21/06 G04B23/00 G05D13/10 G10F5/02 (Advanced/Invention)

CPC: G04B21/06 G04B23/00 G05D13/28 G10F1/06 G10F5/02

European: G05D13/28



Family:

Publication number	Publication date	Application number	Application date
CH704457 A2	20120815	CH20110000241	20110211

Priority:

CH20110000241 20110211

Probable Assignee: MONTRES BREGUET SA

Assignee(s): (std): MONTRES BREGUET SA

Inventor(s): (std): SARCHI DAVIDE ; RAGOT PATRICK ; PITTET JEAN ; MARECHAL SYLVAIN ; GOELLER ERIC ; FAVRE JEROME ; CONUS THIERRY ; BORN JEAN JACQUES

Inventor(s): THIERRY CONUS ; SYLVAIN MARECHAL ; ERIC GOELLER ; DAVIDE SARCHI ; JEROME FAVRE ; JEAN PITTET ; JEAN JACQUES BORN ; PATRICK RAGOT

57) Family number: 52530563 (EP2530023B1)

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Title: DEVICE FOR TRANSPORTING TOBACCO INDUSTRY PRODUCTS DISPOSITIF DE TRANSPORT DE PRODUITS DE L'INDUSTRIE DU TABAC

Abstract: The conveyor (10) has a conveying element (13) e.g. pocket chain, including receivers (16) for products e.g. cigarettes, to be transported. The conveying element is intermittently driven by a drive shaft (17) over a stepping gear, and a rotary balancing mass (38) is driven with the drive shaft over another stepping gear (37). A gear wheel (23) is set on a drive shaft of the former stepping gear, and the balancing mass and the latter stepping gear are formed such that the torque fluctuations of the drive shaft resulting from mass inertia of the conveying element is counteracted. The stepping gears are formed as cam gears.

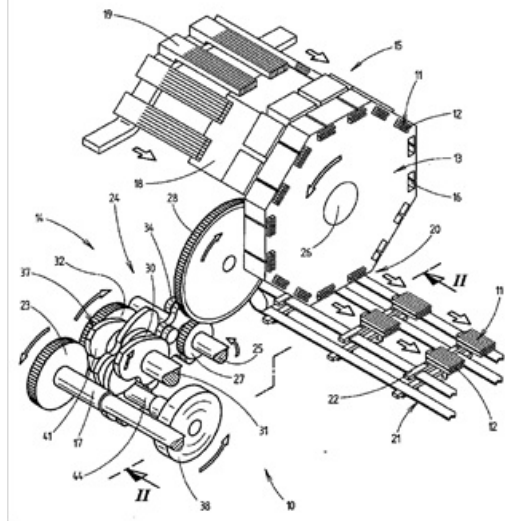
Classifications:

International (IPC 8-9): B65B19/10 B65B65/04 F16F15/14

F16H27/04 (Advanced/Invention)

CPC: B65B65/04 B65B19/10 F16F15/1464 F16H27/04

European: B65B19/10 B65B65/04 F16F15/14B5 F16H27/04

**Family:**

Publication number	Publication date	Application number	Application date
■ CN102806998 A	20121205	CN201210178355	20120601
■ CN102806998 B	20150805	CN201210178355	20120601
■ DE102011110251 A1	20121206	DE201110110251	20110603
■ DE502012001048 D1	20140911	DE201250001048T	20120515
■ EP2530023 A1	20121205	EP20120003823	20120515
■ EP2530023 B1	20140730	EP20120003823	20120515

Priority:

DE201110110251 20110603 EP20120003823 20120515

Probable Assignee: FOCKE AND CO

Assignee(s): (std): FOCKE AND CO

Assignee(s): FOCKE AND CO GMBH AND CO KG

Inventor(s): (std): BLOME HERMANN ; BUSE HENRY

Agent(s): MEISSNER BOLTE AND PARTNER GBR; AULICH MARTIN

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

58) Family number: 54624633 (JP2013181567A)

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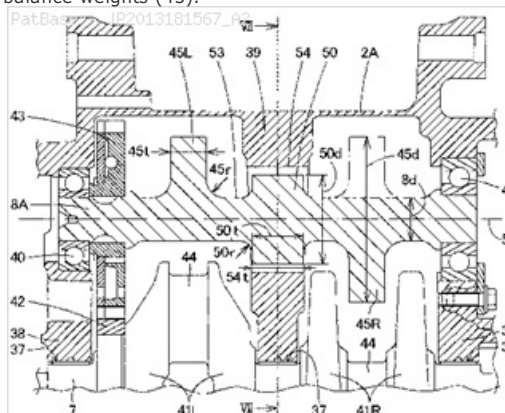
Title: BALANCER SHAFT

Abstract: PROBLEM TO BE SOLVED: To provide a shape of a balancer shaft (8) in which stress concentration is not generated without uniformly increasing an axial diameter, in the balancer shaft (8) including at least a pair of balance weights (45), both ends of which are rotatably supported by a crank case (2) of an internal combustion engine (1), which are rotated following the rotation of a crankshaft (7) supported by the crank case (2) and are integrally formed apart from each other. SOLUTION: A diameter increasing part (50) having a circular cross section larger than an outer diameter of a balancer shaft (8) is integrally formed at a center position between the pair of balance weights (45).

Classifications:

International (IPC 8-9): F02B77/00 F02F7/00 F16F15/24 F16F15/26 (Advanced/Invention)

CPC: F02F7/0043 F16F15/264

**Family:**

Publication number	Publication date	Application number	Application date
■ DE102013202179 A1	20130829	DE201310202179	20130211
■ DE102013202179 B4	20161208	DE201310202179	20130211
■ JP2013181567 A2	20130912	JP20120044316	20120229

Priority:

JP20120044316 20120229

Probable Assignee: HONDA MOTOR CO LTD

Assignee(s): (std): HONDA MOTOR CO LTD
Assignee(s): HONDA MOTOR CO
Inventor(s): (std): HARADA MOTOKI ; HARADA NORITAKA ; IKEDA KAZUHIRO ; KAMIYA MITSUYOSHI

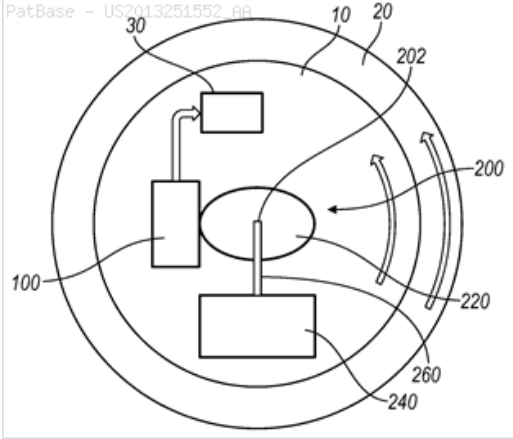
59) Family number: 54823465 (US2013251552A) © PatBase

Title: ENERGY EXTRACTION SYSTEM

Abstract: An energy extraction system for a rotational surface including a drive mechanism having a rotational axis and configured to rotatably couple to the rotational surface and an energy extraction mechanism coupled to the drive mechanism. The drive mechanism includes a cam rotatable about the rotational axis and an eccentric mass coupled to the cam that offsets a center of mass of the drive mechanism from the rotational axis, the eccentric mass cooperatively formed by a first and a second section, the eccentric mass operable between a connected mode wherein the first and second sections are adjacent and a disconnected mode wherein the first and second sections are separated. The energy extraction mechanism is connected to the cam and is statically coupled to the rotating surface, wherein the energy extraction mechanism configured to extract energy from relative rotation between the energy extraction mechanism and the cam.

Classifications:

International (IPC 8-9): B01D19/00 B01D61/02 B01D61/08
B01D71/36 B60C23/00 B60C23/12 B60S5/04 C02F1/20 F03G3/06
F04B17/00 F04B35/01 F04B39/16 F04B41/02 F04B43/12 F04B49/06
F04B49/08 F04B49/22 F04B9/04 F04C25/00 F04D29/00 F16F15/14
F16H25/08 F17D3/00 G05D7/06 H02K7/18 (Advanced/Invention)
CPC: F04C25/00 F16H25/08 B01D19/0031 C02F1/20 F16F15/1485
H02K7/18 Y10T74/2107 Y10T74/2128 B60C23/00 B60C23/001
B60C23/003 F04B9/04 F04B17/00 F17D3/00 B01D61/025 B01D71/36
Y10T137/86002 F04B35/01 Y10T74/2117 F04B39/16 F04B41/02
F04B9/042 G05D7/0617 F04B49/22 F04B49/065 B60C23/12
B60S5/043 F04B49/08 F04B9/045 F04B49/06 H02K7/1846 F03G7/08
US: 1/1 137/1 137/565.13 141/4 152/415 152/418 290/1R 417/221
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74/574.2 95/46 96/6



Family:

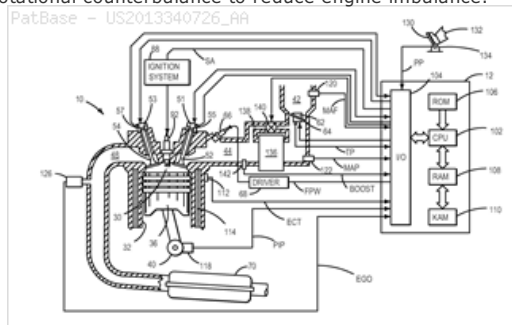
Publication number	Publication date	Application number	Application date
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BR112014022974 A8	20170718	BR20141122974	20130312
CN104254452 A	20141231	CN201380015057	20130312
CN104254452 B	20170707	CN201380015057	20130312
CN105163833 A	20151216	CN201480024541	20140311
CN105163833 B	20170222	CN201480024541	20140311
DE602013017708 D1	20170330	DE201360017708T	20130312
DE602014021304 D1	20180322	DE201460021304T	20140311
EP2828103 A1	20150128	EP20130763929	20130312
EP2828103 A4	20151118	EP20130763929	20130312
EP2828103 B1	20170222	EP20130763929	20130312
EP2969148 A1	20160120	EP20140779011	20140311
EP2969148 A4	20161123	EP20140779011	20140311
EP2969148 B1	20180221	EP20140779011	20140311
ES2619629 T3	20170626	ES20130763929T	20130312
IN08332DN2014 A	20150508	IN2014DN08332	20141007
PL2828103 T3	20170929	PL20130763929T	20130312
TR201703951 T4	20170421	TR20170003951T	20130312
TR201805206 T4	20180424	TR20180005206T	20140311
US2013251552 AA	20130926	US20130797811	20130312
US2013251553 AA	20130926	US20130797826	20130312
US2014000755 AA	20140102	US20130019941	20130906
US2014000756 AA	20140102	US20130020250	20130906
US2014003969 AA	20140102	US20130019899	20130906
US2014010680 AA	20140109	US20130019885	20130906
US2014093402 AA	20140403	US20130797846	20130312
US2014186195 AA	20140703	US20140198967	20140306
US2014260969 AA	20140918	US20140204674	20140311
US2015367693 AA	20151224	US20150839009	20150828
US2015369219 AA	20151224	US20150838981	20150828
US2016008739 AA	20160114	US20150863119	20150923
US2017015159 AA	20170119	US20160280737	20160929
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US9604157 BB	20170328	US20140204674	20140311
WO13142158 A1	20130926	WO2013US30604	20130312
WO14164794 A1	20141009	WO2014US23499	20140311

Priority:

US20120613406P	20120320	US20120637206P	20120423	US20120469007	20120510
US20120672223P	20120716	EP20130763929	20130312	US20130797826	20130312
US20130797811	20130312	US20130797846	20130312	US20130778288P	20130312
WO2013US30604	20130312	US20130019941	20130906	US20130020250	20130906
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EP20140779011	20140311	US20140204674	20140311	WO2014US23499	20140311
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US20150235121P	20150930	US20160280737	20160929		

Probable Assignee: APERIA TECHNOLOGIES INC**Assignee(s):** (std): APERIA TECH ; APERIA TECH INC ; APERIA TECHNOLOGIES ; APERIA TECHNOLOGIES INC ; APERIA TECHNOLOGIES INC**Assignee(s):** APERIA TECHNOLOGIES INC SOUTH SAN FRANCISCO ; APERIA TECHNOLOGIES SOUTH SAN FRANCISCO**Inventor(s):** (std): CARLBERG DAVE ; CARLBERG DAVID ; RICHARDSON BRANDON ; SHELANDER ACE ; SHELANDER AGUSTUS**Inventor(s):** SHELANDER ACE SOUTH SAN FRANCISCO ; RICHARDSON BRANDON SOUTH SAN FRANCISCO ; DAVE CARLBERG ; CARLBERG DAVE SOUTH SAN FRANCISCO ; ACE SHELANDER ; BRANDON RICHARDSON**Agent(s):** STANNERS DAVID RALPH; DE ELZABURU ALBERTO; UGUR GUERSAD YALCINER; JEFFREY; DIANA; SCHOX JEFFREY**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW**60) Family number: 55405998 (US2013340726A)**

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Title: ENGINE BALANCING SUPERCHARGER**Abstract:** An engine is provided. The engine includes a piston operable to reciprocate in a cylinder, a crankshaft rotatably coupled to the piston, and a supercharger rotatably coupled to the crankshaft. The supercharger has an unequal distribution of mass along a longitudinal plane of the supercharger to provide a rotational counterbalance to reduce engine imbalance.**Classifications:****International (IPC 8-9):** F02B33/00 F02B39/04 F02B75/06 F02C6/12 F16F15/26 (Advanced/Invention)**CPC:** F02B33/38 F02B67/10 F04C18/16 F04C23/00 F04C2230/605**US:** 123/559.1 123/559.3 123/561 123/564 60/605.1 60/611**Family:**

Publication number	Publication date	Application number	Application date
CN103511068 A	20140115	CN201310258285	20130626
CN103511068 B	20160224	CN201310258285	20130626
DE102013211982 A1	20140522	DE201310211982	20130625
US2013340726 AA	20131226	US20120533199	20120626
US8925528 BB	20150106	US20120533199	20120626

Priority:

US20120533199 20120626

Probable Assignee: FORD GLOBAL TECHNOLOGIES LLC**Assignee(s):** (std): CHOTTINER JEFFREY ELIOT ; FORD GLOBAL TECH LLC ; FORD GLOBAL TECHNOLOGIES INC ; KACH RAY ALAN ; WADE ROBERT ANDREW ; SOLFERINO VINCE PAUL ; MAGNAN MICHAEL BRUNO ; MASSER DAVID E**Assignee(s):** FORD GLOBAL TECHNOLOGIES LLC**Inventor(s):** (std): CHOTTINER JEFFREY ELIOT ; DAVID E MASSER ; JEFFREY ELIOT CHOTTINER ; KACH RAY ALAN ; MAGNAN MICHAEL BRUNO ; MASSER DAVID E ; MICHAEL BRUNO MAGNAN ; RAY ALAN KACH ; ROBERT ANDREW WADE ; SOLFERINO VINCE PAUL ; VINCE PAUL SOLFERINO ; WADE ROBERT ANDREW**Agent(s):** JAMES; ALLEMAN HALL MCCOY RUSSELL AND TUTTLE LLP**61) Family number: 57131993 (DE102013002142A1)**

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Title: CRANKSHAFT FOR INTERNAL COMBUSTION ENGINE OF MOTOR VEHICLE, HAS DRIVE WHEEL, WHICH IS PROVIDED FOR DIVERTING MOMENT, AND DRIVE WHEEL HAS MATERIAL DEFECTS PROVIDED FOR WEIGHT REDUCTION, WHERE MATERIAL DEFECT IS FORMED AS COUNTERWEIGHT**Abstract:** The crankshaft (10) has a drive wheel (11), which is provided for diverting a moment. The drive wheel has material defects (12,13,14) provided for weight reduction, where the material defect is formed as a counterweight. The material defect is formed independently by a power fault. Independent claims are included for the following: (1) an internal combustion engine with a balancing system; and (2) a method for manufacturing a crankshaft.**Classifications:****International (IPC 8-9):** F02B75/06 F16C3/20 F16F15/26

F16F15/32 (Advanced/Invention)

CPC: F16F15/26 F16C3/20

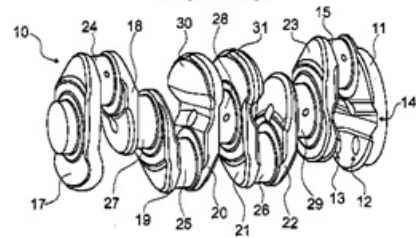


Fig. 1

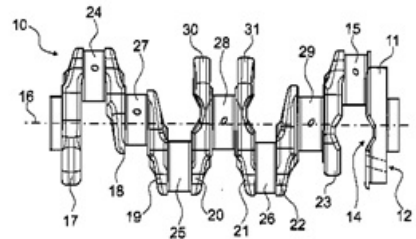


Fig. 2

69

Family:

Publication number	Publication date	Application number	Application date
DE102013002142 A1	20140807	DE201310002142	20130207

Priority:

DE201310002142 20130207

Probable Assignee:

DAIMLER AG

Assignee(s): (std):

DAIMLER AG

Inventor(s): (std):

LIEBMANN FRANK ; RUOFF ANDREAS

62) Family number: 58229471 (WO15003860A1)

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Title: DRIVE HAVING A PISTON MACHINE AND A DEVICE PROVIDED FOR SUCH A DRIVE, AND THE USE OF SUCH A DEVICE FOR COMPENSATING ALTERNATING TORQUES

Abstract: The invention relates to a drive (1) comprising a piston machine in particular in the form of a combustion engine, said drive having a device for efficiently reducing alternating torques produced by rotational nonuniformities on the basis of the engine speed- and torque pulsation of the combustion engine and the mass forces created by the reciprocating motion of the piston and the connecting rod during operation. For this purpose, a crankshaft (2) of the combustion engine carries a sun wheel (3) of a planetary gearbox (4). In a per se known manner, the planetary gearbox (4) also comprises three planet gears (5, 6, 7) and a ring gear (8). In the embodiment shown, the planet gear (5) is used to drive a balancing shaft (9) which can be driven thereby in the opposite direction. In order to be able to drive, in addition to this balancing shaft (9), also another balancing shaft (10) in the same direction of rotation as the crankshaft (2), the ring gear (8) has, in addition to inner teeth (11) which engage with the planet gears (5, 6, 7), outer teeth (12) for a toothed wheel (13) which drives the second balancing shaft (10), wherein the number of teeth of the inner toothing (11) and of the outer toothing (12) match.

Classifications:**International (IPC 8-9):** F01B31/04 F16F15/26

F16H57/08 (Advanced/Invention)

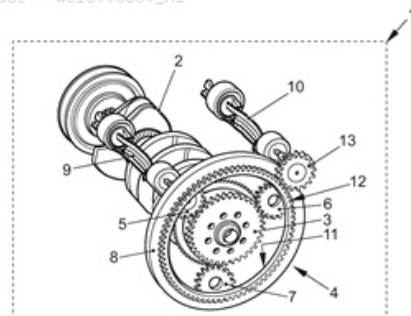
CPC: F16F15/264 F16F15/265

FIG. 1

Family:

Publication number	Publication date	Application number	Application date
DE102013213358 A1	20150108	DE201310213358	20130708
EP3019770 A1	20160518	EP20140734015	20140606
WO15003860 A1	20150115	WO2014EP61867	20140606

Priority:

DE201310213358 20130708

WO2014EP61867 20140606

Probable Assignee: VOLKSWAGEN AG
Assignee(s): (std): VOLKSWAGEN AG
Inventor(s): (std): REINHARDT MICHAEL ; WESTPHAL CHRISTIAN
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

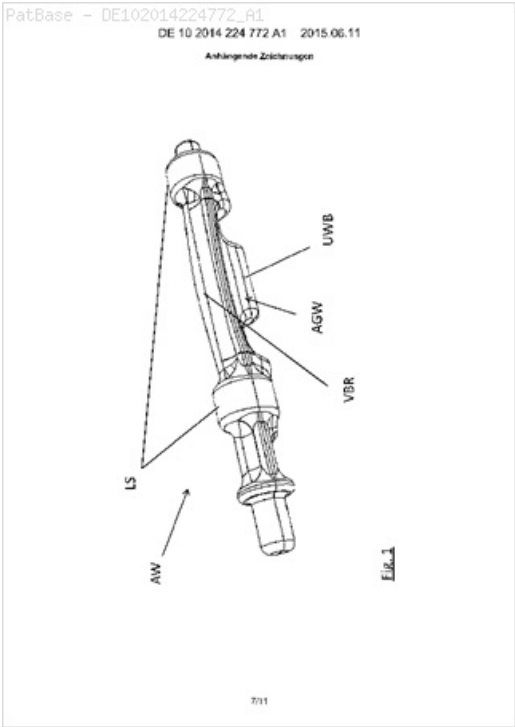
63) Family number: 59456623 (DE102014224772A1)

© PatBase

Title: AUSGLEICHSWELLE Balance shaft (Machine translation)

Abstract: Source: DE102014224772A1 [DE] Die vorliegende Erfindung betrifft eine Ausgleichswelle fuer eine Verbrennungskraftmaschine eines Kraftfahrzeuges, wobei die Ausgleichswelle (AW) wenigstens ein Ausgleichsgewicht (AGW) aufweist, welches umfangsseitig von einer geschlossenen Kunststoffschicht (R) umgeben ist, wobei die Kunststoffschicht (R) einen um eine Achse drehbaren Koerper bildet, der ueber seinen Aussenumfang drehbar in einem Gehaeuse lagerbar ist.
Machine translation: The present invention relates to a balance shaft for an internal combustion engine of a motor vehicle, the balance shaft (AW) at least one balancing weight (AGW) which is surrounded circumferentially by a closed plastic layer (R), wherein the plastic layer (R) a to a axis rotary body forms rotatable storable its outer circumference in a housing.

Classifications:
International (ipc 8-9): F16C3/20 F16F15/26 F16F15/28 G01M1/32 (Advanced/Invention)
CPC: F16C3/02 F16C3/026 F16C2361/53 F16F15/264



Family:

Publication number	Publication date	Application number	Application date
DE102014224772 A1	20150611	DE201410224772	20141203

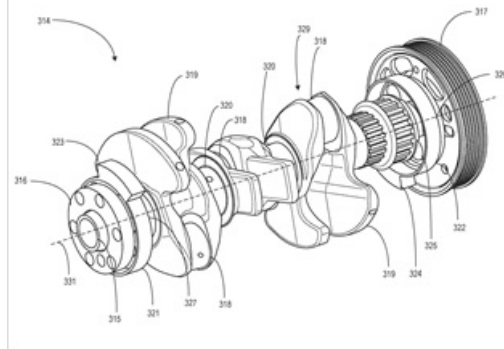
Priority:
DE201310224893 20131204 DE201410224772 20141203
Probable Assignee: MAGNA POWERTRAIN AND CO AG KG
Assignee(s): (std): MAGNA POWERTRAIN AND CO AG KG
Inventor(s): (std): HOFER MICHAEL

64) Family number: 59519373 (US2016298722A)

© PatBase

Title: ENGINE CRANKSHAFT INCLUDING A PLANETARY GEAR BALANCE UNIT

Abstract: Methods and systems are provided for an engine crankshaft including an un-balanced mass coupled to a planetary gear set driven by the engine crankshaft. In one example, a system may include an engine crankshaft as a sun gear for a planetary gear set, with a single un-balanced mass coupled to an outer ring of the planetary gear set. In another example, a method may include driving an engine crankshaft in a first direction and driving an un-balanced mass coupled to an outer ring of a planetary gear set in a second direction opposite to the first direction, with rotation of the outer ring being driven by the engine crankshaft.
Classifications:
International (ipc 8-9): F01B1/08 F01B9/04 F02B75/06 F02B75/32 F16C3/20 F16F15/26 F16H1/28 F16H1/46 (Advanced/Invention)
CPC: F02B75/06 F16H1/46 F16F15/26 F02B75/32
US: 475/269

**Family:**

Publication number	Publication date	Application number	Application date
■ CN106051042 A	20161026	CN201610356400	20160408
■ DE102015206245 A1	20161013	DE201510206245	20150408
■ DE102015206247 A1	20161013	DE201510206247	20150408
■ DE202015101918 U1	20150625	DE201520101918U	20150417
■ US2016298722 AA	20161013	US20160093100	20160407
■ US9885399 BB	20180206	US20160093100	20160407

Priority:

DE201510206245 20150408 DE201510206247 20150408 DE201520101918U 20150417

Probable Assignee: FORD GLOBAL TECHNOLOGIES LLC

Assignee(s): (std): FORD GLOBAL TECH LLC ; FORD GLOBAL TECHNOLOGIES INC

Assignee(s): FORD GLOBAL TECHNOLOGIES LLC ; FORD GLOBAL TECHNOLOGIES

Inventor(s): (std): QUIRING STEFAN ; LUTZ MARTIN ; KHOSRAVI MAZIAR

Agent(s): MCCOY RUSSELL LLP; JULIA

65) Family number: 59607312 (US2016355083A)

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Title: IN-WHEEL MOTOR DRIVE DEVICE

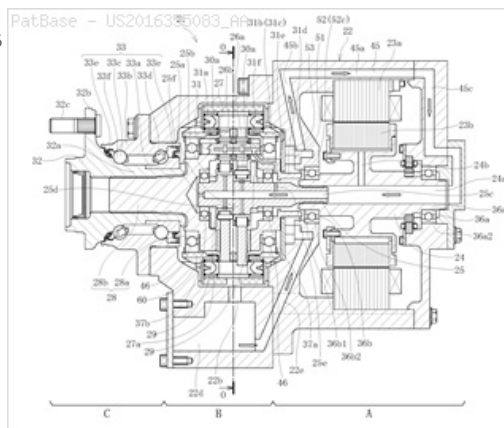
Abstract: An in-wheel motor drive device includes: a motor part; a speed reduction part; a wheel bearing part; and a casing, the motor part including: a stator, which is fixed to the casing; a rotation shaft of a motor, which is rotatably supported on the casing through intermediation of a plurality of rolling bearings; and a rotor, which is mounted to the rotation shaft of the motor, the rotation shaft of the motor being configured to rotationally drive an input shaft of a speed reducer, the speed reduction part being configured to reduce a speed of rotation of the input shaft of the speed reducer to transmit the rotation to an output shaft of the speed reducer, the wheel bearing part being connected to the output shaft of the speed reducer, the rotation shaft of the motor being made of case hardening steel and subjected to carburizing, quenching, and tempering.

Classifications:

International (IPC 8-9): B60K17/04 B60K17/14 B60K7/00 F16C19/06 F16C35/063 F16H1/32 H02K1/22 H02K1/28 H02K1/30 H02K15/14 H02K7/00 H02K7/04 H02K7/08 H02K7/116 (Advanced/Invention)

CPC: F16C19/06 F16C35/063 H02K1/22 H02K15/00 B60K17/046 B60K2001/006 B60K2007/0038 B60Y2306/03 Y02T10/641 F16H1/32 H02K7/08 B60K7/0007 B60K7/00 B60K11/02 B60K2007/0092 F16C19/186 F16C2326/02 H02K1/28 H02K7/003 H02K7/116 H02K15/14

US: 310/67R

**Family:**

Publication number	Publication date	Application number	Application date
■ CN105830317 A	20160803	CN201480068424	20141118
■ EP3086449 A1	20161026	EP20140872248	20141118
■ EP3086449 A4	20170913	EP20140872248	20141118
■ JP2015116876 A2	20150625	JP20130260181	20131217
■ JP2018002149 A2	20180111	JP20170182334	20170922
■ JP6301125 B2	20180328	JP20130260181	20131217
■ US2016355083 AA	20161208	US20140102334	20141118
■ WO15093215 A1	20150625	WO2014JP80489	20141118

Priority:

JP20130260181 20131217 WO2014JP80489 20141118 JP20170182334 20170922

Probable Assignee: NTN CORP

Assignee(s): (std): KURODA MASARU ; NTN CORP ; NTN TOYO BEARING CO LTD ; SUZUKI KENICHI ; UOZUMI TOMOHISA

Inventor(s): (std): KURODA MASARU ; SUZUKI KENICHI ; UOZUMI TOMOHISA

Agent(s): GRUENECKER PATENT U RECHTSANWAELTE PARTG MBB; SHIROMURA KUNIIHIKO ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

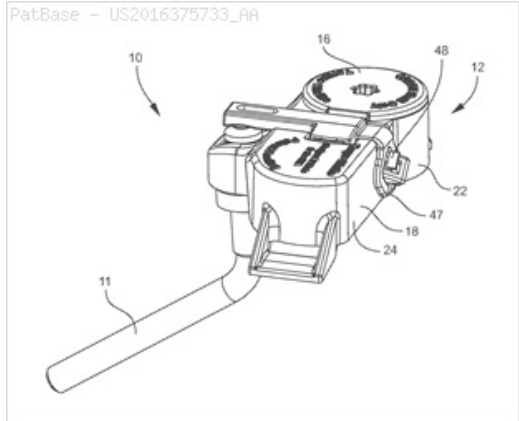
66) Family number: 60356755 (US2016375733A) © PatBase

Title: SMART TAG ASSEMBLY FOR MOUNTING ON AN OBJECT TO BE TRACKED

Abstract: A smart tag assembly is designed for mounting on an object to be tracked. The smart tag assembly comprises a multiple layer RFID laminate adapted for electronically storing and processing data, and wireless communicating data when interrogated by an RFID reader. The laminate comprises an RFID inlay including a microchip and antenna formed with a substrate, and laminated between an outside label cover and backing. A low-profile tag carrier defines a recessed pocket designed for receiving and holding the RFID laminate.

Classifications:

International (IPC 8-9): A61B17/80 B60C23/04 F16F15/32
G06K19/077 G08B25/10 H04B7/00 (Advanced/Invention)
CPC: F16F2230/08 B60C23/0452 B60C23/0488 B60C2019/004
B60C23/0479 B60C23/0494 B60C23/20 G06K19/07764
B60C23/0498 B60C23/0493 F16F15/324 A61B17/8057 A61B17/8061
A61B17/809 B60C23/0483 G06K19/07758
US: 340/442 D24/155
Locarno class: 24/02



Family:

Publication number	Publication date	Application number	Application date
AU2016215127 AA	20160811	AU20160215127	20160205
CA2976063 AA	20170804	CA20162976063	20160205
EP3253312 A1	20171213	EP20160747336	20160205
US2016375733 AA	20161229	US20150646848	20150310
US2017259631 AA	20170914	US20150519727	20151019
US2017325859 AA	20171116	US20170668856	20170804
USD819209 S1	20180529	US20150535566F	20150807
WO15138431 A2	20150917	WO2015US19675	20150310
WO15138431 A3	20151126	WO2015US19675	20150310
WO16061573 A1	20160421	WO2015US56213	20151019
WO16127060 A1	20160811	WO2016US16786	20160205

Priority:

US20140950507P 20140310	US20140983541P 20140424	US20140002479P 20140523
US20140112329P 20141017	US20140122329P 20141017	US20150112329P 20150205
US20150115370P 20150212	WO2015US19675 20150310	US20150646848 20150310
US20150173698P 20150610	US20150535566F 20150807	WO2015US56213 20151019
US20150519727 20151019	WO2016US16786 20160205	US20170668856 20170804

Probable Assignee: ITIRE LLC

Assignee(s): (std): ITIRE LLC ; PARAGON 28 INC

Assignee(s): LINTULA ERIC ; RAYMOND SPANKY ; ZB NA D B A VECTRA BANK COLORADO ; BONO FRANK ;
CLENDENIN JOSH ; DACOSTA ALBERT

Inventor(s): (std): BONO FRANK ; CLENDENIN JOSH ; DACOSTA ALBERT ; DRINKARD SAMUEL DUKE ; LESESKY ALAN C ;
LINTULA ERIC ; RAYMOND SPANKY

Agent(s): IN LEGAL LTD; SMART AND BIGGAR; BUZZI FRANCO; HESLIN ROTHENBERG FARLEY AND MESITI PC;
SCHWARTZ JEFFREY J; GRAFF JACQUELYN A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

67) Family number: 62065159 (US2017292444A) © PatBase

Title: ANTI-VIBRATION DEVICE FOR VEHICLE

Abstract: A variable compression ratio engine (1) is provided with a multi-link mechanism (101) between a piston (102) and a crankshaft (103). The multi-link mechanism (101) includes an upper link (104), a lower link (105) and a control link (106). An anti-vibration device (6) for vehicles is attached between the upper part of the engine (1) and a vehicle body to which the engine (1) is mounted. The anti-vibration device (6) includes a rod body (63) having a first elastic connecting part (61) at one end and a second elastic connecting part (62) at another end. The first elastic connecting part (61) is connected to the engine (1). The second elastic connecting part (62) is connected to the vehicle body. The anti-vibration device (6) further includes an inertial mass (641) supported by the rod body (63), an actuator (64) configured to reciprocate the inertial mass (641) in an axial direction (C) of the rod body (63), and a control unit (65) configured to control the actuator (64) so that the inertial mass (641) receives force in accordance with a displacement speed of the rod body (63) in the axial direction (C). The rod body (63) has a rigid body resonance frequency lower than a resonant frequency of bending and

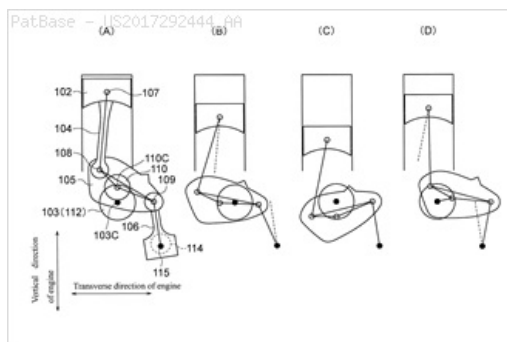
torsion of the engine (1).

Classifications:

International (IPC 8-9): B60K5/12 F02B75/04 F02B75/32 F02B77/00

F02D15/02 F16F15/02 F16F15/03 F16F15/08 (Advanced/Invention)

CPC: F02B77/00 F16F15/02 F16F15/08 F02D15/02 F02B75/32 F02B75/04



Family:

Publication number	Publication date	Application number	Application date
■ CN107076021 A	20170818	CN201480082148	20140929
■ EP3203051 A1	20170809	EP20140902982	20140929
■ EP3203051 A4	20171011	EP20140902982	20140929
■ JP2016051461 A1	20170831	JP20160551350T	20140929
■ JP6229801 B1	20171122	JP20160551350T	20140929
■ US2017292444 AA	20171012	US20140513697	20140929
■ WO16051461 A1	20160407	WO2014JP75885	20140929

Priority:

WO2014JP75885 20140929

Probable Assignee: NISSAN MOTOR CO LTD

Assignee(s): (std): NISSAN MOTOR

Assignee(s): NISSAN MOTOR CO ; NISSAN MOTOR CO LTD

Inventor(s): (std): EBATA SHUNSUKE ; HIRANO YOSHINORI ; KONDO MASAHIKO ; MATSUMOTO KEIICHIRO ; TANIMURA KOJI

Agent(s): HOFER AND PARTNER PATENTANWALTE MBH; TOKOSHIE PATENT FIRM

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

68) Family number: 62829823 (WO16110646A1)

© PatBase

Title: TORQUE TRANSMISSION DEVICE WITH ELASTIC BLADE EQUIPPED WITH A CENTRIFUGAL-MASS TORSION DAMPER

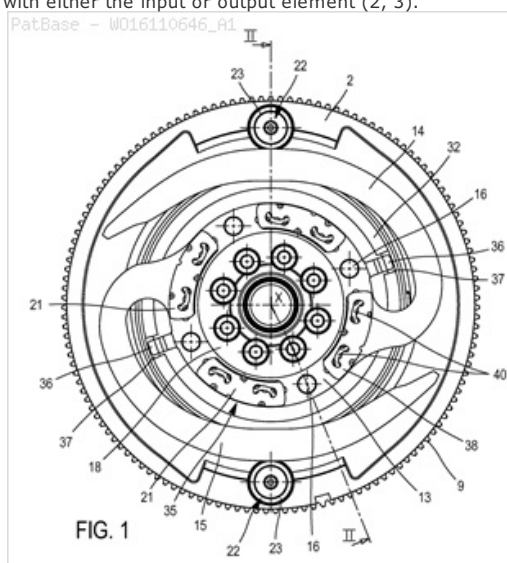
Abstract: The invention relates to a torque transmission device (1) for a motor vehicle drive train, comprising: - a torque input element (2) and a torque output element (3) which are capable of rotating one with respect to the other about an axis of rotation X; - elastic damping means comprising at least one elastic blade (14, 15) coupling the input element (2) and the output element (3) in such a way as to allow a transmission of torque with damping of vibrations between the input element (2) and the output element (3); and - a centrifugal-mass torsion damper (35) comprising at least one inertial mass (21) mounted to oscillate in rotation on a support (13) that rotates as one with either the input or output element (2, 3).

Classifications:

International (IPC 8-9): F16D41/20 F16F15/133 F16F15/139

F16F15/14 (Advanced/Invention)

CPC: F16F15/1333 F16F15/1336 F16F15/145 F16F2230/0064



Family:

Publication number	Publication date	Application number	Application date
■ FR3031367 A1	20160708	FR20150050117	20150107
■ FR3031367 B1	20170728	FR20150050117	20150107
■ WO16110646 A1	20160714	WO2016FR50016	20160106

Priority:

FR20150050117 20150107

Probable Assignee: VALEO EMBRAYAGES

Assignee(s): (std): VALEO EMBRAYAGES

Inventor(s): (std): BOULET JEROME ; FENIOUX DANIEL

Inventor(s): JEROME BOULET ; DANIEL FENIOUX

Agent(s): VALEO TRANSMISSIONS; CARDON NICOLAS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR
CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID
IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN
MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG
SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW