



Foreign Patents

Cam Followers		
Country	Patent No.	Title
EPO	3211257	CAM FOLLOWER WITH TIRE HAVING AXIAL MOVEMENT MITIGATION FEATURES
EPO	2971624	NEEDLE ROLLER CAM FOLLOWER FOR HIGHER MILEAGE APPLICATIONS OF LIGHT, MEDIUM AND HEAVY-DUTY VEHICLES
EPO	3048293	ROLLER FOR A FUEL PUMP ACTUATOR
EPO	3336370	CAM FOLLOWER AND YOKE ROLLER ASSEMBLIES
EPO	3680515	Maintenance Free Extended Life Cam Follower for a Necker Machine
EPO	4053431	Maintenance Free Extended Life Cam Follower for a Necker Machine
EPO	3885610	Maintenance Free Extended Life Cam Follower for a Necker Machine
Germany	602017005404.6	CAM FOLLOWER WITH TIRE HAVING AXIAL MOVEMENT MITIGATION FEATURES
Germany	602014022308-7	NEEDLE ROLLER CAM FOLLOWER FOR HIGHER MILEAGE APPLICATIONS OF LIGHT, MEDIUM AND HEAVY DUTY VEHICLES
UK	3211257	CAM FOLLOWER WITH TIRE HAVING AXIAL MOVEMENT MITIGATION FEATURES
UK	3412924	Ball Bearing Cam Follower for an Adjustable Aircraft Seat
UK	3680515	Maintenance Free Extended Life Cam Follower for a Necker Machine
UK	4053431	Maintenance Free Extended Life Cam Follower for a Necker Machine
UK	3885610	Maintenance Free Extended Life Cam Follower for a Necker Machine
Other Patents May Be Pending		

Collets and Tool Holders		
Country	Patent No.	Title
Australia	2012311558	ADJUSTABLE CLAMPING DEVICE
China	216029409	A CLAMPING DEVICE FOR CLAMPING A TOOL OR WORK PIECE
China	216279948	A CLAMPING DEVICE FOR CLAMPING A TOOL OR WORK PIECE
EPO	2758199	ADJUSTABLE CLAMPING DEVICE
EPO	3003614	Locking Mechanism for a Collet Assembly and Collet Assembly Including a Locking Mechanism
EPO	3272444	FLEXIBLE COUPLING FOR ATTACHING A COLLET TO A DRAW BAR
EPO	3546098	QUICK CHANGEABLE COLLET CLAMPING ASSEMBLY
EPO	3875193	A CLAMPING DEVICE FOR CLAMPING A TOOL OR WORK PIECE
France	2758199	ADJUSTABLE CLAMPING DEVICE

Collets and Tool Holders - continued		
Country	Patent No.	Title
France	3003614	Locking Mechanism for a Collet Assembly and Collet Assembly Including a Locking Mechanism
France	3272444	FLEXIBLE COUPLING FOR ATTACHING A COLLET TO A DRAW BAR
France	3546098	QUICK CHANGEABLE COLLET CLAMPING ASSEMBLY A CLAMPING DEVICE FOR CLAMPING A TOOL OR WORK PIECE
France	3875193	A CLAMPING DEVICE FOR CLAMPING A TOOL OR WORK PIECE
Germany	602012043042-7	ADJUSTABLE CLAMPING DEVICE
Germany	60 2019 054 874.5	QUICK CHANGEABLE COLLET CLAMPING ASSEMBLY
Germany	602021012459.7	A CLAMPING DEVICE FOR CLAMPING A TOOL OR WORK PIECE
Japan	6159331	ADJUSTABLE CLAMPING DEVICE
Japan	6185158	Locking Mechanism for a Collet Assembly and Collet Assembly Including a Locking Mechanism
Switzerland	2758199	ADJUSTABLE CLAMPING DEVICE
Switzerland	3003614	Locking Mechanism for a Collet Assembly and Collet Assembly Including a Locking Mechanism
Switzerland	3272444	FLEXIBLE COUPLING FOR ATTACHING A COLLET TO A DRAW BAR
Switzerland	3546098	QUICK CHANGEABLE COLLET CLAMPING ASSEMBLY
Switzerland	3875193	A CLAMPING DEVICE FOR CLAMPING A TOOL OR WORK PIECE
Other Patents May Be Pending		
Duct Couplings		
Country	Patent No.	Title
Germany	602004041494-8	Offset Stacked Sealing System
Other Patents May Be Pending		
Fasteners		
Country	Patent No.	Title
EPO	2994656	Spherical Roller Bearing Cage with Cylindrical Guidance Contact Surfaces
Other Patents May Be Pending		

Plain Bearings

Country	Patent No.	Title
EPO	2977627	Self-Aligning Outer Race
EPO	3173639	SELF-LUBRICATED THRUST BEARING FOR A HINGED AIRCRAFT WING
EPO	3255292	BEARING SYSTEM WITH SELF-LUBRICATION FEATURES, SEALS, GROOVES AND SLOTS FOR MAINTENANCE-FREE OPERATION
EPO	3591242	SLEEVES FOR INTERFERENCE FASTENERS
France	2977627	Self-Aligning Outer Race
Germany	2977627	Self-Aligning Outer Race

Other Patents May Be Pending

Rods

Country	Patent No.	Title
EPO	2937579	COMPRESSION ROD HAVING A BUCKLING INITIATING FEATURE
EPO	3176463	ROTATION ROD ASSEMBLY WITH SELF LUBRICATING LINER OR GROOVED BUSHINGS

Other Patents May Be Pending

Rolling Element Bearings

Country	Patent No.	Title
EPO	2 844 886	HYBRID BEARING ASSEMBLY WITH ROLLING ELEMENTS AND PLAIN BEARING
EPO	2927115	Composite Annular Seal Assembly for Bearings in Aircraft
EPO	2894359	ROLLER PROFILE FOR HOURGLASS ROLLER BEARINGS IN AIRCRAFT
EPO	2952758	CORROSION RESISTANT BEARING
EPO	2952760	PRONG CAGE FOR A DOUBLE-ROW CONCAVE ROLLER BEARING FOR THE SUPPORT STRUCTURE OF A FLAP AT THE REAR OF AN AIRCRAFT WING
EPO	2957781	SUPPORT STRUCTURE OF A FLAP AT THE REAR OF AN AIRCRAFT WING WITH DOUBLE-ROW CONCAVE ROLLER BEARING
EPO	3034899	Seal for Self Aligning Roller Bearing
EPO	3527488	SPLIT INNER OR OUTER RACE ROLLER BEARING WITH ROLLING ELEMENTS
EPO	3412924	Ball Bearing Cam Follower for an Adjustable Aircraft Seat
EPO	3462048	ROLLER HYDRAULIC VALVE LIFTER BEARING
Germany	2844886	HYBRID BEARING ASSEMBLY WITH ROLLING ELEMENTS AND PLAIN BEARING

Rolling Element Bearings - Continued

Country	Patent No.	Title
Germany	2927115	Composite Annular Seal Assembly for Bearings in Aircraft
Germany	602014009258-6	ROLLER PROFILE FOR HOURGLASS ROLLER BEARINGS IN AIRCRAFT
Germany	2952758	CORROSION RESISTANT BEARING
Germany	602015007527-7	PRONG CAGE FOR A DOUBLE-ROW CONCAVE ROLLER BEARING FOR THE SUPPORT STRUCTURE OF A FLAP AT THE REAR OF AN AIRCRAFT WING
Germany	2957781	SUPPORT STRUCTURE OF A FLAP AT THE REAR OF AN AIRCRAFT WING WITH DOUBLE-ROW CONCAVE ROLLER BEARING
Germany	3034899	Seal for Self Aligning Roller Bearing
Germany	3462048	ROLLER HYDRAULIC VALVE LIFTER BEARING

Other Patents May Be Pending

Self Lubricated Liners

Country	Patent No.	Title
EPO	2285884	Self-Lubricating Surface Coating Composition for Low Friction or Soft Substrate Applications
EPO	2565243	Self-Lubricating Surface Coating Composition for Low Friction or Soft Substrate Applications
EPO	3001090	Self-Lubricating Cam Follower Assembly
EPO	3782812	Permanent, Self-Adhering, Self-Lubricating, Anti-Wear Composite System
EPO	4134559	SELF LUBRICATING LINEAR GUIDE BUSHINGS FOR RECIPROCATING CANNING AND BOTTLING MACHINERY
France	3782812	Permanent, Self-Adhering, Self-Lubricating, Anti-Wear Composite System
Germany	602020014809.4	Permanent, Self-Adhering, Self-Lubricating, Anti-Wear Composite System
Germany	602022006473.2	SELF LUBRICATING LINEAR GUIDE BUSHINGS FOR RECIPROCATING CANNING AND BOTTLING MACHINERY
UK	4134559	SELF LUBRICATING LINEAR GUIDE BUSHINGS FOR RECIPROCATING CANNING AND BOTTLING MACHINERY

Other Patents May Be Pending

Spherical Plain Bearings

Country	Patent No.	Title
China	106170631	BEARING WITH ANCHOR MEMBER
China	110630635	HYBRID LINED TRUNNION BEARING FOR AIRCRAFT LANDING GEAR
China	109139709	HYBRID LINED TRUNNION BEARING FOR AIRCRAFT LANDING GEAR
China	217761692	Single Slot Loader Slot Bearing
Czech Republic	3453593	Kingpin Assembly with a Torque Receiving Configuration

Spherical Plain Bearings (cont.)

Country	Patent No.	Title
Denmark	3683439	MULTI SEGMENT WIND TURBINE BLADE JOINT BUSHING
EPO	2631501	Spherical plain bearing and a housing in combination with a spherical plain bearing
EPO	2726750	Spherical Plain Bearing with Constant Torque
EPO	EP2640986	Spherical Plain Bearing and Method for Assembling the Same
EPO	2505858	Spherical bearing with sealing member, method of sealing a spherical bearing and steering assembly comprising said bearing
EPO	2791518	SLOTTED BEARINGS WITH WEAR-RESISTANT TREATMENTS FOR GEARBOX MOUNTING IN A GEARED TURBOFAN ENGINE
EPO	2831434	SUPPORT FOR A SPHERICAL BEARING
EPO	2812590	BOOT SEAL WITH SLIDING RING FOR SPHERICAL PLAIN BEARING
EPO	3211254	Tabbed Washer for a Bearing Assembly
EPO	2981725	TWO STAGE SEAL FOR A BEARING ASSEMBLY
EPO	2981724	SPHERICAL BEARING AND METHOD OF MAKING THE SAME
EPO	2964968	LINKAGE APPARATUS HAVING A LOW PROFILE ASYMMETRICAL HEAD
EPO	2986862	Spherical Plain Bearing with Spring-Ball Configuration
EPO	2905486	Swaged Bearing Assembly with a Flange Mounted Thereon
EPO	2 905 445	TURBOCHARGER WASTEGATE ACTUATOR HIGH TEMPERATURE ROD END WITH A SPHERICAL BEARING AND A METHOD FOR OPERATING THE ACTUATOR
EPO	3066351	BEARING WITH ANCHOR MEMBER
EPO	2975277	BEARING ASSEMBLY HAVING SURFACE PROTRUSIONS AND A SEAL
EPO	3070350	BEARING ASSEMBLY HAVING AN ANTI-ROTATION DEVICE
EPO	3002472	A VARIABLE FIXED INSTALLATION TORQUE BEARING
EPO	3006751	System for Isolating Electrical Current in a Bearing for Use in an Aircraft Structure
EPO	3034897	SPHERICAL BEARING WITH ANNULAR SEAL HAVING AN AUXILIARY SEAL LEG EXTENDING THEREFROM
EPO	3263927	Multiple Stage Seal for a Bearing Assembly
EPO	2905485	SEAL AND ANCHOR SYSTEM FOR SPHERICAL BEARINGS
EPO	3141774	ROTATION ROD ASSEMBLY WITH SELF LUBRICATING LINER OR GROOVED BUSHINGS
EPO	3892873	BEARING SYSTEM WITH SELF-LUBRICATION FEATURES, SEALS, GROOVES AND SLOTS FOR MAINTENANCE-FREE OPERATION
EPO	3633219	BEARING SYSTEM WITH SELF-LUBRICATION FEATURES, SEALS, GROOVES AND SLOTS FOR MAINTENANCE-FREE OPERATION
EPO	3587846	HYBRID LINED TRUNNION BEARING FOR AIRCRAFT LANDING GEAR
EPO	3418593	HYBRID LINED TRUNNION BEARING FOR AIRCRAFT LANDING GEAR

Spherical Plain Bearings (cont.)

Country	Patent No.	Title
EPO	3450779	HYBRID LINED TRUNNION BEARING FOR AIRCRAFT LANDING GEAR ARRANGEMENT FOR MAINTAINING A POSITION OF A SPRING-BALL ON A SHAFT
EPO	3456991	BEARING AND SEALING ARRANGEMENT FOR A HAUL TRUCK ARTICULATED JOINT
EPO	3453593	Kingpin Assembly with a Torque Receiving Configuration
EPO	3620675	Anti-Pull Out Ring
EPO	EP3875793	Anti-Pull Out Ring
EPO	3530764	A SELF LUBRICATING TITANIUM ALUMINIDE COMPOSITE MATERIAL
EPO	3683439	MULTI SEGMENT WIND TURBINE BLADE JOINT BUSHING
EPO	3747765	SELF-LUBRICATED ELECTRICALLY CONDUCTIVE BUSHING
EPO	4047226	Single Slot Loader Slot Bearing
France	2831434	SUPPORT FOR A SPHERICAL BEARING
France	2812590	BOOT SEAL WITH SLIDING RING FOR SPHERICAL PLAIN BEARING
France	2981724	SPHERICAL BEARING AND METHOD OF MAKING THE SAME
France	2905486	Swaged Bearing Assembly with a Flange Mounted Thereon
France	3066351	BEARING WITH ANCHOR MEMBER
France	2905485	SEAL AND ANCHOR SYSTEM FOR SPHERICAL BEARINGS
France	3453593	Kingpin Assembly with a Torque Receiving Configuration
Germany	2791518	SLOTTED BEARINGS WITH WEAR-RESISTANT TREATMENTS FOR GEARBOX MOUNTING IN A GEARED TURBOFAN ENGINE
Germany	2831434	SUPPORT FOR A SPHERICAL BEARING
Germany	602012014656.7	BOOT SEAL WITH SLIDING RING FOR SPHERICAL PLAIN BEARING
Germany	2981724	SPHERICAL BEARING AND METHOD OF MAKING THE SAME
Germany	2905486	Swaged Bearing Assembly with a Flange Mounted Thereon
Germany	2905485 2 905 445	SEAL AND ANCHOR SYSTEM FOR SPHERICAL BEARINGS TURBOCHARGER WASTEGATE ACTUATOR HIGH TEMPERATURE ROD END WITH A SPHERICAL BEARING AND A METHOD FOR OPERATING THE ACTUATOR
Germany	3066351	BEARING WITH ANCHOR MEMBER
Germany	3587846	HYBRID LINED TRUNNION BEARING FOR AIRCRAFT LANDING GEAR
Germany	3418593	HYBRID LINED TRUNNION BEARING FOR AIRCRAFT LANDING GEAR
Germany	3453593	Kingpin Assembly with a Torque Receiving Configuration
Germany	602020028584.9	MULTI SEGMENT WIND TURBINE BLADE JOINT BUSHING
Germany	602022004693.9	Single Slot Loader Slot Bearing
Netherlands	3683439	MULTI SEGMENT WIND TURBINE BLADE JOINT BUSHING
Spain	3453593	Kingpin Assembly with a Torque Receiving Configuration

Spherical Plain Bearings (cont.)

Country	Patent No.	Title
Switzerland	3453593	Kingpin Assembly with a Torque Receiving Configuration
Turkey	2905485	SEAL AND ANCHOR SYSTEM FOR SPHERICAL BEARINGS
UK	2905485	SEAL AND ANCHOR SYSTEM FOR SPHERICAL BEARINGS
UK	3456991	BEARING AND SEALING ARRANGEMENT FOR A HAUL TRUCK ARTICULATED JOINT
UK	3453593	Kingpin with a Torque Receiving Configuration

Other Patents May Be Pending

Track Roller Bearings

Country	Patent No.	Title
EPO	2934999	ACTUATION SYSTEM FOR A LIFT ASSISTING DEVICE AND ROLLER BEARINGS USED THEREIN
EPO	2067696	ACTUATION SYSTEM FOR A LIFT ASSISTING DEVICE AND ROLLER BEARINGS USED THEREIN
EPO	3176076	SPLIT INNER OR OUTER RACE ROLLER BEARING WITH ROLLING ELEMENTS
EPO	3388702	A TWO-PART SEAL FOR A TRACK ROLLER BEARING
Germany	602015029734-2	SPLIT INNER OR OUTER RACE ROLLER BEARING WITH ROLLING ELEMENTS
Germany	3527488	SPLIT INNER OR OUTER RACE ROLLER BEARING WITH ROLLING ELEMENTS
Germany	3388702	A TWO-PART SEAL FOR A TRACK ROLLER BEARING
Mexico	317295	ACTUATION SYSTEM FOR A LIFT ASSISTING DEVICE AND ROLLER BEARINGS USED THEREIN

Other Patents May Be Pending

Lubricating Systems

Country	Patent No.	Title
China	ZL 202080070021.4	AUTOMATIC LUBRICATOR FOR LUBRICATING AN OBJECT

Other Patents May Be Pending

Couplings		
Country	Patent No.	Title
China	106030138	Winged Elastomeric Coupling with Minimized Separation Forces Between Elastomer and Clamp Ring
China	107498355	FLEXIBLE COUPLING FOR ATTACHING A COLLET TO A DRAW BAR
EPO	3084247	Winged Elastomeric Coupling with Minimized Separation Forces Between Elastomer and Clamp Ring
Germany	3272444	FLEXIBLE COUPLING FOR ATTACHING A COLLET TO A DRAW BAR
Germany	3084247	Winged Elastomeric Coupling with Minimized Separation Forces Between Elastomer and Clamp Ring
UK	3084247	Winged Elastomeric Coupling with Minimized Separation Forces Between Elastomer and Clamp Ring
Other Patents May Be Pending		
Sealing Systems		
Country	Patent No.	Title
EPO	2157340	Offset Stacked Sealing System
EPO	3324082	Elastomeric Seal Having Impact Protecting Protrusions
France	2157340	Offset Stacked Sealing System
Netherlands	2157340	Offset Stacked Sealing System
South Korea	10-1677080	Composite Annular Seal Assembly for Bearings in Aircraft
UK	2157340	Offset Stacked Sealing System
Other Patents May Be Pending		
Gearboxes		
Country	Patent No.	Title
EPO	3575639	Gearbox System with Add-On Cooling Fin Panels
EPO	3594534	Mechanical System with Cooling Apparatus
Other Patents May Be Pending		
Mounted Bearings		
Country	Patent No.	Title
China	104662317	Permanent Visual Indicator and Diametrical to Axial Relation Gage and Method of Using Same
EPO	2875247	Permanent Visual Indicator and Diametrical to Axial Relation Gage and Method of Using Same
Other Patents May Be Pending		

Mounted Bearing Accessory		
Country	Patent No.	Title
EUIPO	001095202-0001	Bearings
EUIPO	001095202-0002	Bearings
EUIPO	001095202-0003	Bearings
Other Patents May Be Pending		