

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3072609

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	PATENT SECURITY AGREEMENT	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	METALDYNE BSM, LLC	10/20/2014
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	GOLDMAN SACHS BANK USA, AS COLLATERAL AGENT	
<b>Street Address:</b>	200 WEST STREET	
<b>City:</b>	NEW YORK	
<b>State/Country:</b>	NEW YORK	
<b>Postal Code:</b>	10282	
<b>PROPERTY NUMBERS Total: 8</b>		
<b>Property Type</b>	<b>Number</b>	
Patent Number:	5987728	
Patent Number:	5918573	
Patent Number:	6170453	
Patent Number:	6682437	
Patent Number:	7086366	
Patent Number:	7748288	
Patent Number:	8522925	
Patent Number:	8613268	
<b>CORRESPONDENCE DATA</b>		
<b>Fax Number:</b>	(714)755-8290	
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>		
<b>Email:</b>	IPDOCKET@LW.COM, KRISTIN.AZCONA@LW.COM	
<b>Correspondent Name:</b>	LATHAM & WATKINS LLP	
<b>Address Line 1:</b>	650 TOWN CENTER DRIVE, 20TH FLOOR	
<b>Address Line 4:</b>	COSTA MESA, CALIFORNIA 92626	
<b>NAME OF SUBMITTER:</b>	KRISTIN J AZCONA	
<b>SIGNATURE:</b>	/kja/	
<b>DATE SIGNED:</b>	10/20/2014	
<b>Total Attachments: 17</b>		
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**PATENT SECURITY AGREEMENT**

**(Patents and Patent Licenses)**

PATENT SECURITY AGREEMENT, dated as of October 20, 2014, between **CLOYES GEAR AND PRODUCTS, INC.**, an Ohio corporation ("**Cloyes**"), **GREDE II LLC**, a Delaware limited liability company ("**Grede**"), **KYKLOS BEARING INTERNATIONAL, LLC**, a Delaware limited liability company ("**Kyklos**"), **THE MESH COMPANY, LLC**, an Arkansas limited liability company ("**Mesh**"), **METALDYNE, LLC**, a Delaware limited liability company ("**Metaldyne**"), and **METALDYNE BSM, LLC**, a Delaware limited liability company ("**BSM**" and together with Cloyes, Grede, Kyklos, Mesh and Metaldyne, each a "**Grantor**" and collectively, the "**Grantors**"), and **GOLDMAN SACHS BANK USA**, as Collateral Agent.

WHEREAS, each Grantor owns, or in the case of Patent Licenses is a party to, the Patent Collateral (as defined below);

WHEREAS, MPG Holdco I Inc. (the "**Borrower**"), Metaldyne Performance Group Inc. ("**Holdings**"), certain Subsidiaries party thereto from time to time, the Lenders party thereto and Goldman Sachs Bank USA, as Collateral Agent and Administrative Agent, are parties to a Credit Agreement, dated as of the date hereof (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "**Credit Agreement**");

WHEREAS, pursuant to (i) a Security Agreement, dated as of the date hereof (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "**Security Agreement**"), among the Borrower, the Guarantors party thereto and Goldman Sachs Bank USA, as Collateral Agent for the Secured Parties referred to therein (in such capacity, together with its successors in such capacity, the "**Grantee**"), and (ii) certain other Security Documents (including this Patent Security Agreement), each Grantor has secured its guarantee of certain obligations of the Borrower (the "**Grantor's Secured Guarantee**") by granting to the Grantee for the benefit of such Secured Parties a continuing security interest in the Collateral of such Grantor, including all right, title and interest of such Grantor in, to and under the Patent Collateral (as defined below); and

WHEREAS, terms defined in the Security Agreement (or whose definitions are incorporated by reference in Section 1 of the Security Agreement) and not otherwise defined herein have, as used herein, the respective meanings provided for therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, subject to and upon the terms and conditions contained in the Security Agreement, each Grantor hereby grants to the Grantee, to secure such Grantor's Secured Guarantee, a continuing security interest in all of such Grantor's right, title and interest in, to and under the following (all of the following items or types of property being herein collectively referred to as the "**Patent Collateral**"), whether now owned or existing or hereafter acquired or arising:

- (i) each United States Patent constituting Recordable Intellectual Property owned by such Grantor, including, without limitation, each Patent referred to in Schedule 1 hereto;
- (ii) each Patent License constituting Recordable Intellectual Property to which such Grantor is a party, including, without limitation, each Patent License identified in Schedule 1 hereto; and
- (iii) all Proceeds of and revenues from the foregoing;

provided that, notwithstanding anything herein to the contrary, in no event shall the Patent Collateral include any Excluded Assets.

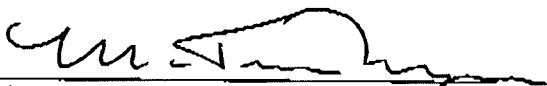
THE PARTIES HERETO AUTHORIZE AND REQUEST THAT THE COMMISSIONER OF PATENTS AND TRADEMARKS OF THE UNITED STATES RECORD THIS SECURITY INTEREST IN THE PATENT COLLATERAL.

The foregoing security interest is granted in conjunction with the security interests granted by each Grantor to the Grantee pursuant to the Security Agreement. Each Grantor acknowledges and affirms that the rights and remedies of the Grantee with respect to the security interest in the Patent Collateral granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event of any conflict between the provisions of this Patent Security Agreement and the provisions of the Security Agreement, the provisions of the Security Agreement shall govern.

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IN WITNESS WHEREOF, the Grantor has caused this Patent Security Agreement to be duly executed by its officer thereunto duly authorized as of the date first written above.

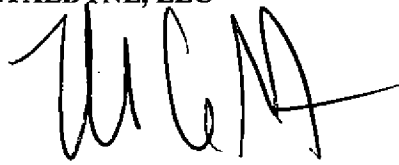
**CLOYES GEAR AND PRODUCTS, INC.  
THE MESH COMPANY, LLC**

By:   
Name: M. Trevor Myers  
Title: President and Chief Executive Officer

[Signature Page to Patent Security Agreement]

**PATENT  
REEL: 034024 FRAME: 0363**

**METALDYNE BSM, LLC**  
**METALDYNE, LLC**

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By: \_\_\_\_\_

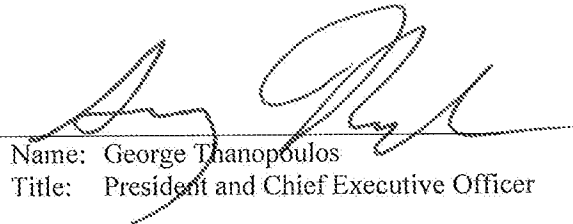
Name: Thomas A. Amato

Title: President and Chief Executive Officer

[Signature Page to Patent Security Agreement]

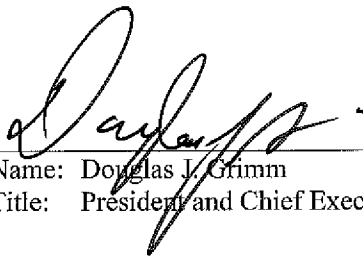
**PATENT**  
**REEL: 034024 FRAME: 0364**

**KYKLOS BEARING INTERNATIONAL, LLC**

By:   
Name: George Thanopoulos  
Title: President and Chief Executive Officer

[Signature Page to Patent Security Agreement]

**GREDE II LLC**

By:   
Name: Douglas J. Grimm  
Title: President and Chief Executive Officer

[Signature Page to Patent Security Agreement]

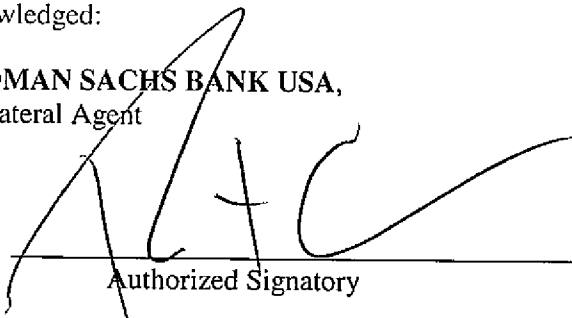
**PATENT**  
**REEL: 034024 FRAME: 0366**



Acknowledged:

**GOLDMAN SACHS BANK USA,**  
as Collateral Agent

By:

A large, stylized handwritten signature in black ink, appearing to be 'REH', is written over a horizontal line.

Authorized Signatory

**Robert Ehudin**  
**Authorized Signatory**

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**Schedule 1  
to Patent Security Agreement**

**PATENTS**

<b>Grantor</b>	<b>Title</b>	<b>Filing Date/Issued Date</b>	<b>Status (Application/Regis tered)</b>	<b>Application/ Registration No.</b>
Cloyes Gear and Products, Inc.	Adjustable Camshaft Sprocket	October 29,2012 / (March 7, 2013)	Pending Published	13/663067 / (20130055836)
Cloyes Gear and Products, Inc.	Captive Fastener Apparatus for Chain Guide or Tensioner Arm	March 8, 2013 / (July 25, 2013)	Pending Published	13/790931 / (20130190115)
Cloyes Gear and Products, Inc.	Inverted Tooth Chain and Sprocket Drive System with Reduced Meshing Impact	March 17, 2014 / (July 17, 2014)	Pending Published	14/217025 / (20140200106)
Cloyes Gear and Products, Inc.	Chain Tensioner	December 9, 2013 / (June 12, 2014)	Pending Published	14/101157 / (20140162819)
Cloyes Gear and Products, Inc.	Display Device and Driving Method Thereof	October 29, 2012 / (January 9, 2014)	Pending published	13/663047 / (20140009456)
Cloyes Gear and Products	Camshaft End-Play Device	October 26, 1995 / July 8, 1997	Granted	08/548872 / 5645024
Cloyes Gear and Products, Inc.	Chain Tensioner Apparatus and Method	April 30, 1996 / January 27, 1998	Granted	08/640333 / 5711732
Cloyes Gear and Products, Inc.	Adjustable Camshaft Timing Device	April 1, 1997 / April 14, 1998	Granted	08/831390 / 5738055
Cloyes Gear and Products	Automatic Tensioner with One-Pin Locking Mechanism	December 7, 1995 / July 21, 1998	Granted	08/568657 / 5782625
Cloyes Gear and Products, Inc.	Chain Tensioner with Damping Feature	February 26, 1997 / August 25, 1998	Granted	08/806844 / 5797818
Cloyes Gear and Products,	Roller Chain Timing Drive Having Reduced	August 2, 1996 / December 15, 1998	Granted	08/691350 /

Inc.	Noise			5848948
Cloyes Gear and Products, Inc.	Roller Chain Drive System Having Improved Noise Characteristics	January 23, 1997 / March 2, 1999	Granted	08/787675 / 5876295
Cloyes Gear and Products, Inc.	Roller Chain Drive System Having Improved Noise Characteristics	June 19, 1997 / July 13, 1999	Granted	08/879157 / 5921878
Cloyes Gear and Products, Inc.	Random Engagement Roller Chain Sprocket with Staged Meshing and Flank Relief to Provide Improved Noise Characteristics	December 17, 1997 / July 13, 1999	Granted	08/992306 / 5921879
Cloyes Gear and Products, Inc.	Random Engagement Roller Chain Sprocket Having Improved Noise Characteristics	July 25, 1997 / November 2, 1999	Granted	08/900661 / 5976045
Cloyes Gear and Products, Inc.	Roller Chain Drive System Having Improved Noise Characteristics	May 12, 1999 / November 30, 1999	Granted	09/310804 / 5993344
Cloyes Gear and Products, Inc.	Random Engagement Roller Chain Sprocket with Staged Meshing and Root Relief to Provide Improved Noise Characteristics	March 26, 1999 / December 7, 1999	Granted	09/277058 / 5997424
Cloyes Gear and Products, Inc.	Method for Chain Meshing Phasing on a V-Engine Camshaft Drive to Reduce Noise	August 14, 1998 / February 29, 2000	Granted	09/134125 / 6030306
Cloyes Gear and Products, Inc.	Random Engagement Roller Sprocket Having Improved Noise Characteristics	October 15, 1999 / July 18, 2000	Granted	09/419336 / 6090003
Cloyes Gear and Products, Inc.	Random Engagement Roller Chain Sprocket with Cushion Rings and Root Relief for Improved Noise Characteristics	August 25, 1999 / January 30, 2001	Granted	09/383128 / 6179741
Cloyes Gear and Products, Inc.	Random Engagement Roller Chain Sprocket	May 27, 1999 / December 4, 2001	Granted	09/321246 /

Inc.	with Staged Meshing and Flank Relief to Provide Improved Noise Characteristics			6325734
Cloyes Gear and Products, Inc.	Chain Tensioner Assembly Having a Single-Fastener Mounting Arrangement	December 23, 1999 / March 12, 2002	Granted	09/471783 / 6354972
Cloyes Gear and Products, Inc.	Random Engagement Roller Chain Sprocket with Cushion Rings and Root Relief for Improved Noise Characteristics	December 1, 2000 / April 16, 2002	Granted	09/728698 / 6371875
Cloyes Gear and Products, Inc.	Adjustable Cam Sprocket	June 28, 2002 / March 18, 2003	Granted	10/186169 / 6532923
Cloyes Gear and Products, Inc.	Chain Tensioner for Use in a Confined Space	February 10, 2000 / June 3, 2003	Granted	09/502541 / 6572502
Cloyes Gear and Products, Inc.	Blade-Type Mechanical Chain Tensioner with External Strengthening Rib	October 16, 2001 / September 23, 2003	Granted	09/981044 / 6623391
Cloyes Gear and Products, Inc.	Snap-Fit Guide with Locking Connector Arrangement	November 16, 2001 / July 6, 2004	Granted	09/992470 / 6758777
Cloyes Gear and Products, Inc.	Roller Chain Sprocket with Added Chordal Pitch Reduction	December 4, 2001 / July 13, 2004	Granted	10/004544 / 6761657
Cloyes Gear and Products, Inc.	Cushion Ring Sprocket Assembly and Method	March 18, 2003 / June 28, 2005	Granted	10/391268 / 6910980
Cloyes Gear and Products, Inc.	Snap-Fit Chain Guide with Saw-Tooth Fixing Feature	January 23, 2003 / July 5, 2005	Granted	10/349679 / 6913552
Cloyes Gear and Products, Inc.	Integrated Drive Sprocket and Gear for Balance Shaft	April 22, 2003 / January 24, 2006	Granted	10/420380 / 6988479
Cloyes Gear and Products, Inc.	Roller Chain Sprocket with	April 16, 2002 / July 11, 2006	Granted	10/123940 / 7074147

Cloyes Gear and Products, Inc.	Cushioned Sprocket and Improved Inverted Tooth Chain for Use with Same	May 6, 2003 / August 22, 2006	Granted	10/430536 / 7094170
Cloyes Gear and Products, Inc.	Snap-Fit Chain Guide with Locking Connector Arrangement	June 4, 2004 / January 16, 2007	Granted	10/860873 / 7163479
Cloyes Gear and Products, Inc.	Cushion Ring Sprocket Assembly and Method	April 4, 2005 / June 19, 2007	Granted	11/098285 / 7232392
Cloyes Gear and Products, Inc.	Integrated Drive Sprocket and Gear for Balance Shaft	January 23, 2006 / August 7, 2007	Granted	11/337886 / 7252066
Cloyes Gear and Products, Inc.	Roller Chain Sprocket with Resilient Cushion Rings and Root Relief	July 6, 2006 / May 13, 2008	Granted	11/481678 / 7371200
Cloyes Gear and Products, Inc.	Random Engagement Roller Chain Sprocket and Timing Chain System Including Same	April 1, 2004 / August 26, 2008	Granted	10/815316 / 7416500
Cloyes Gear and Products, Inc.	Inverted Tooth Chain System with Inside Flank Engagement	September 16, 2005 / September 7, 2010	Granted	11/228186 / 7789783
Cloyes Gear and Products, Inc.	Adjustable Camshaft Sprocket Assembly and Tool for Same	June 8, 2007 / December 7, 2010	Granted	11/811187 / 7845320
Cloyes Gear and Products, Inc.	Multiple-Cushion Ring Sprocket Assembly	September 29, 2006 / March 29, 2011	Granted	11/541209 / 7914408
Cloyes Gear and Products, Inc.	Inverted Tooth Chain System With Inside Flank Engagement	August 24, 2005 / August 30, 2011	Granted	11/210599 / 8007387
Cloyes Gear and Products, Inc.	Roller Chain Sprocket Having an Improved Tooth Form and Metal Cushion Rings	September 29, 2006 / December 27, 2011	Granted	11/541210 / 8083624
Cloyes Gear and Products, Inc.	Automotive Parts Kit Differentiation System	March 9, 2007 / January 31, 2012	Granted	11/716326 / 8106774
Cloyes Gear and Products, Inc.	Adjustable Camshaft Sprocket Assembly and	November 4, 2010 / October 30, 2012	Granted	12/939437 /

Inc.	Tool for Same			8297246
Cloyes Gear and Products, Inc.	Captive Fastener Apparatus for Chain Guide or Tensioner Arm	January 7, 2009 / March 12, 2013	Granted	12/349826 / 8393986
Cloyes Gear and Products, Inc.	Inverted Tooth Chain and Sprocket Drive System with Reduced Meshing Impact	June 14, 2010 / September 10, 2013	Granted	12/814963 / 8529389
Cloyes Gear and Products, Inc.	Blade Tensioner with Captured Spring	November 18, 2009 / December 31, 2013	Granted	12/621001 / 8617012
Cloyes Gear and Products, Inc.	Inverted Tooth Chain and Sprocket Drive System with Reduced Noise Characteristics	September 9, 2009 / January 14, 2014	Granted	12/556332 / 8628440
Cloyes Gear and Products, Inc.	Inverted Tooth Chain Sprocket with Frequency Modulated Meshing	May 9, 2008 / February 4, 2014	Granted	12/151944 / 8641565
Cloyes Gear and Products, Inc.	Investor Tooth Chain Sprocket with Frequency Modulated Meshing	August 29, 2011 / March 11, 2014	Granted	13/220567 / 8668609
Cloyes Gear and Products, Inc.	Blade Tensioner with Pocket Pivot Feature	August 29, 2011 / March 18, 2014	Granted	13/220021 / 8672785
Cloyes Gear and Products, Inc.	Inverted Tooth Chain and Sprocket Drive System with Reduced Meshing Impact	March 9, 2011 / March 18, 2014	Granted	13/043932 / 8672786
Cloyes Gear and Products, Inc.	Inverted Tooth Chain Sprocket with Frequency Modulated Meshing Features	April 6, 2011 / April 29, 2014	Granted	13/081283 / 8708849
Cloyes Gear and Products, Inc.	Blade Tensioner with Spring Retaining Features	August 8, 2011 / May 6, 2014	Granted	13/205590 / 8715122
Grede II LLC	Axle assembly	October 30, 2003 / February 7, 2006	Registered	10/696855 / 6994405
Kyklos Bearing	Wheel Bearing	November 6, 2008 / (September 3, 2009)	Pending	12/291144 /

International, LLC	Assembly			(20090220183)
Kyklos Bearing International, LLC	Sensor Wire Lead Strain Relief	March 27, 1997 / March 16, 1999	Granted	08/824986 / 5883511
Kyklos Bearing International, LLC	Integrally Retained Bearing Race With Improved Twisting Resistance	October 20, 1997 / August 22, 2000	Granted	08/954050 / 6105251
Kyklos Bearing International, LLC	Wheel Bearing with Self-Aligning Wheel Speed Sensor Ring	August 31, 1998 / March 14, 2000	Granted	09/143812 / 6036370
Kyklos Bearing International, LLC	Bearing Separator with Random Spacing	December 16, 1998 / January 9, 2001	Granted	09/212588 / 6170993
Kyklos Bearing International, LLC	Self-Retained Wheel Bearing Assembly	October 24, 2000 / November 26, 2002	Granted	09/695350 / 6485187
Kyklos Bearing International, LLC	Wheel Bearing With Separable Inner Race Processing Feature	October 24, 2000 / September 23, 2003	Granted	09/695733 / 6622377
Kyklos Bearing International, LLC	Method for Forming an Opening In A Wheel Spindle	November 15, 2000 / June 25, 2002	Granted	09/713681 / 6408669
Kyklos Bearing International, LLC	Performance Sensor Ring With Reduced Mass	March 6, 2001 / December 24, 2002	Granted	09/800161 / 6498475
Kyklos Bearing International, LLC	Vehicle Wheel Bearing	February 11, 2002 / October 26, 2004	Granted	10/073792 / 6808311
Kyklos Bearing International, LLC	Vehicle Wheel Bearing and Method for Controlling A Vehicle	March 4, 2002 / October 12, 2004	Granted	10/091396 / 6802208
Kyklos Bearing International, LLC	Vehicle Wheel Bearing and Wheel Speed Sensor Connector-Plug Bracket	March 20, 2002 / August 10, 2004	Granted	10/101762 / 6773164
Kyklos Bearing International, LLC	Self-Retained Wheel Bearing Assembly	April 5, 2002 / June 10, 2003	Granted	10/117643 / 6574865
Kyklos Bearing	Vehicle Wheel Bearing, Wheel-Speed Sensor	April 29, 2002 / August 10, 2004	Granted	10/134292 /

International, LLC	Mechanism Assembly, and Wheel Speed Sensor			6774622
Kyklos Bearing International, LLC	Method and Apparatus for Wheel Spindle and the Like With Improved LRO	May 8, 2002 / June 10, 2003	Granted	10/141382 / 6575535
Kyklos Bearing International, LLC	Retaining A Brake Rotor In An Vehicle Corner Apparatus	August 29, 2002 / February 8, 2005	Granted	10/230622 / 6851759
Kyklos Bearing International, LLC	Separator Grease Retention and Feed System for Wheel Spindle Bearings	September 19, 2002 / October 5, 2004	Granted	10/247214 / 6799896
Kyklos Bearing International, LLC	Automotive Brake Corner Module	November 26, 2002 / April 26, 2005	Granted	10/304268 / 6883816
Kyklos Bearing International, LLC	Wheel Bearing Assembly Mount with Force Attenuation	November 10, 2005 / December 30, 2008	Granted	11/271606 / 7470067
The Mesh Company, LLC	Short Pitch Tooth Chain	February 9, 1999 / February 13, 2001	Granted	09/247211 / 6186920
The Mesh Company, LLC	Short Pitch Tooth Chain	December 21, 2000 / September 11, 2001	Granted	09/742655 / 6287229
The Mesh Company, LLC	Short Pitch Tooth Chain	September 7, 2001 / September 23, 2003	Granted	09/949180 / 6623392
Metaldyne, LLC	HOLLOW BALANCE SHAFT	April 21, 1994 / January 16, 1996	Registered	08/230642 / 5483932
Metaldyne, LLC	ACTIVE TORSIONAL VIBRATION DAMPER	June 4, 1996 / October 21, 1997	Registered	08/660343 / 5678460
Metaldyne, LLC	BALANCE SHAFTS HAVING MINIMAL MASS	July 9, 1996 / January 12, 1999	Registered	08/677085 / 5857388
Metaldyne BSM, LLC	ENERGY EFFICIENT FLUID PUMP	September 19, 1997 / November 23, 1999	Registered	08/933389 / 5987728
Metaldyne, LLC	HIGH VALUE STATIC UNBALANCE-TYPE BALANCE SHAFTS	January 11, 1999 / May 29, 2001	Registered	09/227952 / 6237442
Metaldyne,	FORGED BUSHING	September 6, 2001 /	Registered	09/947981 /



LLC	ARTICLE AND METHOD OF MAKING	June 17, 2003		6579492
Metaldyne, LLC	HIGH VALUE STATIC UNBALANCE-TYPE BALANCE SHAFTS	May 25, 2001 / September 30, 2003	Registered	09/866240 / 6626063
Metaldyne, LLC	METHOD OF MANUFACTURING CONNECTING RODS	December 23, 2003 / July 12, 2005	Registered	10/744275 / 6915568
Metaldyne, LLC	HOUSING AND METHOD OF MANUFACTURING SAID HOUSING	March 25, 2004 / April 11, 2006	Registered	10/809200 / 7024751
Metaldyne, LLC	FLUID JET FOR PROVIDING FLUID UNDER PRESSURE TO A DESIRED LOCATION	August 9, 2004 / December 26, 2006	Registered	10/914297 / 7152623
Metaldyne, LLC	DAMPER AND METHOD FOR TUNING A DAMPER UTILIZING A SURFACE CONTACT REDUCING RESILIENT MEMBER	June 4, 2004 / August 12, 2008	Registered	10/860871 / 7410035
Metaldyne, LLC	STRUCTURE OF DIFFERENTIAL HOUSING	March 22, 2007 / January 20, 2009	Registered	11/726685 / 7479086
Metaldyne, LLC	PINION SHAFT AND DIFFERENTIAL HOUSING ASSEMBLY	April 3, 2007 / January 20, 2009	Registered	11/732183 / 7479087
Metaldyne, LLC	FLUID JET WITH NOISE REDUCING SLEEVE	January 2, 2008 / May 4, 2010	Registered	12/006363 / 7708026
Metaldyne, LLC	BEARING CAP WITH WEIGHT REDUCTION FEATURES	September 13, 2006 / July 13, 2010	Registered	11/520322 / 7753592
Metaldyne, LLC	PIN RETENTION AND ASSEMBLY SYSTEM FOR LOCKING DIFFERENTIAL	March 22, 2007 / July 20, 2010	Registered	11/726743 / 7758462
Metaldyne, LLC	FLUID JET FOR PROVIDING FLUID UNDER PRESSURE TO A DESIRED LOCATION	December 6, 2006 / August 3, 2010	Registered	11/634489 / 7766035
Metaldyne, LLC	OVER-CENTER LINKAGE FOR ENGAGING A LOCKING DIFFERENTIAL OR	March 30, 2007 / February 22, 2011	Registered	11/731688 / 7892133

	OTHER MECHANISM			
Metaldyne, LLC	COMPACT PUMP ARRANGEMENT	May 31, 2007 / September 6, 2011	Registered	11/809361 / 8011899
Metaldyne, LLC	ELASTOMETRIC SEAL SIZER	June 4, 2008 / November 22, 2011	Registered	12/156781 / 8062012
Metaldyne, LLC	METHOD AND APPARATUS FOR HONING A WORKPIECE AND A WORKPIECE	August 17, 2009 / August 7, 2012	Registered	12/542489 / 8235771
Metaldyne, LLC	PISTON COOLING JET WITH TRACKING BALL ORIFICE	September 8, 2008 / March 19, 2013	Registered	12/231950 / 8397749
Metaldyne, LLC	SUPPORT STRUCTURE FOR DIFFERENTIAL	July 21, 2008 / April 30, 2013	Registered	12/220028 / 8430780
Metaldyne, LLC	INVERTED PRESSURE REGULATING VALVE FOR ENGINE OIL PUMP	May 10, 2007 / January 29, 2013	Registered	11/801608 / 8360746
Metaldyne, LLC	DIFFERENTIAL ASSEMBLY AND METHOD FOR MANUFACTURING SAME	October 17, 2008 / July 30, 2013	Registered	12/288230 / 8500594
Metaldyne BSM, LLC	ENERGY EFFICIENT FLUID PUMP	April 30, 1998 / July 6, 1999	Registered	09/069807 / 5918573
Metaldyne BSM, LLC	OIL/AIR SCAVENGING SYSTEM FOR BALANCE SHAFT HOUSING	June 30, 1999 / January 9, 2001	Registered	09/3443396 / 6170453
Metaldyne BSM, LLC	STATIC UNBALANCE-TYPE BALANCE SHAFTS WITH AXIS ALIGNMENT PRESERVATION	January 14, 2002 / January 27, 2004	Registered	10/047487 / 6682437
Metaldyne BSM, LLC	IMPROVED ENERGY EFFICIENT FLUID PUMP	January 21, 2000 / August 8, 2006	Registered	09/489525 / 7086366
Metaldyne BSM, LLC	GEAR-DRIVEN BALANCE SHAFT APPARATUS WITH BACKLASH CONTROL	June 27, 2006 / July 6, 2010	Registered	11/475330 / 7748288
Metaldyne BSM, LLC	DEBRIS FLUSH SYSTEM FOR BALANCE SHAFT BEARINGS	August 22, 2007 / September 3, 2013	Registered	11/895002 / 8522925

Metaldyne BSM, LLC	METHOD AND APPARATUS FOR SECURING A BALANCER SHAFT MODULE	October 27, 2010 / December 24, 2013	Registered	12/913248 / 8613268
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### PATENT LICENSES

<b>Name of Agreement</b>	<b>Parties  Licensor/Licensee</b>	<b>Date of Agreement</b>	<b>Subject Matter</b>
Amended and Restated Intellectual Property License and Service Agreement	Kyklos Bearing International LLC/BWI (Shanghai) Co., Ltd.	April 13, 2010 (as amended December 22, 2011)	License to use certain intellectual property to produce, market, and sell certain licensed products
Patent License Agreement	Cloyes Gear and Products, Inc./Schaeffler Group/INA	November 4, 2006	License to use scheduled patents to develop, manufacture, use, offer to sell and advertise asymmetrical tooth profiles used on the cam phaser sprocket that is then assembled into the cam phaser VCT that is sold to General Motors Corporation or its affiliates for engine application in the V6 version of the Gen 5 V-8 engine.
Memorandum of Agreement	Cloyes Gear and Products, Inc./Renold PLC	April 20, 2006	License to use scheduled patents world-wide