

<b>PATENT ASSIGNMENT COVER SHEET</b>
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6864458

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	INTELLECTUAL PROPERTY SECURITY INTEREST ASSIGNMENT AGREEMENT

**CONVEYING PARTY DATA**

Name	Execution Date
CITIBANK, N.A.	08/09/2021

**RECEIVING PARTY DATA**

<b>Name:</b>	BANK OF AMERICA, N.A.
<b>Street Address:</b>	900 W. TRADE ST., 6TH FLOOR
<b>City:</b>	CHARLOTTE
<b>State/Country:</b>	NORTH CAROLINA
<b>Postal Code:</b>	28255

**PROPERTY NUMBERS Total: 118**

Property Type	Number
Patent Number:	5868078
Patent Number:	6089162
Patent Number:	6096260
Patent Number:	6112670
Patent Number:	6170401
Patent Number:	6228319
Patent Number:	6334396
Patent Number:	6386114
Patent Number:	6515249
Patent Number:	6536354
Patent Number:	6572675
Patent Number:	6581524
Patent Number:	6595140
Patent Number:	6662729
Patent Number:	6669895
Patent Number:	6737978
Patent Number:	7157042
Patent Number:	7258069
Patent Number:	7537655
Patent Number:	7624952

**PATENT**

Property Type	Number
Patent Number:	7762197
Patent Number:	8025013
Patent Number:	8061662
Patent Number:	8109474
Patent Number:	8206486
Patent Number:	8222893
Patent Number:	8245646
Patent Number:	8433462
Patent Number:	8446057
Patent Number:	8485103
Patent Number:	8505459
Patent Number:	8606439
Patent Number:	8617458
Patent Number:	8641801
Patent Number:	8685138
Patent Number:	8734560
Patent Number:	9074792
Patent Number:	9108889
Patent Number:	9121139
Patent Number:	9133069
Patent Number:	9206558
Patent Number:	9260766
Patent Number:	9315428
Patent Number:	9416060
Patent Number:	9441330
Patent Number:	9598822
Patent Number:	9605386
Patent Number:	9777440
Patent Number:	9790644
Patent Number:	9803922
Patent Number:	9822986
Patent Number:	9850624
Patent Number:	9878729
Patent Number:	9902411
Patent Number:	9920487
Patent Number:	9937761
Patent Number:	9994242
Patent Number:	10008914

<b>Property Type</b>	<b>Number</b>
<b>Patent Number:</b>	10011958
<b>Patent Number:</b>	10106934
<b>Patent Number:</b>	10124466
<b>Patent Number:</b>	10125456
<b>Patent Number:</b>	10151067
<b>Patent Number:</b>	10179596
<b>Patent Number:</b>	10196782
<b>Patent Number:</b>	10207726
<b>Patent Number:</b>	10266187
<b>Patent Number:</b>	10336352
<b>Patent Number:</b>	10358150
<b>Patent Number:</b>	10404148
<b>Patent Number:</b>	10752272
<b>Patent Number:</b>	10760221
<b>Patent Number:</b>	10787771
<b>Patent Number:</b>	10796192
<b>Patent Number:</b>	10814892
<b>Patent Number:</b>	10844550
<b>Patent Number:</b>	10889310
<b>Patent Number:</b>	10913472
<b>Patent Number:</b>	10919547
<b>Patent Number:</b>	10946704
<b>Patent Number:</b>	10975526
<b>Application Number:</b>	14252010
<b>Application Number:</b>	15202042
<b>Application Number:</b>	12899905
<b>Application Number:</b>	62262068
<b>Application Number:</b>	16559002
<b>Application Number:</b>	17248130
<b>Application Number:</b>	62379012
<b>Application Number:</b>	62235747
<b>Application Number:</b>	29524500
<b>Application Number:</b>	17248961
<b>Application Number:</b>	62071816
<b>Application Number:</b>	62083006
<b>Application Number:</b>	62095092
<b>Application Number:</b>	62235764
<b>Application Number:</b>	62380277

Property Type	Number
Application Number:	62237137
Application Number:	16445424
Application Number:	63105057
Application Number:	16550787
Application Number:	17248802
Application Number:	14019640
Application Number:	14120488
Application Number:	62380288
Application Number:	29062185
Application Number:	62235648
Application Number:	15720793
Application Number:	16946411
Application Number:	14498381
Application Number:	29561137
Application Number:	29561140
Application Number:	16948883
Application Number:	15937739
Application Number:	16593222
Application Number:	62071815
Application Number:	16055724
Application Number:	62071817
Application Number:	16947908

**CORRESPONDENCE DATA**

**Fax Number:** (650)838-5109

*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.*

**Phone:** 650-838-3743

**Email:** jlik@shearman.com

**Correspondent Name:** MAEVE WILSON

**Address Line 1:** 599 LEXINGTON AVENUE

**Address Line 2:** SHEARMAN & STERLING LLP

**Address Line 4:** NEW YORK, NEW YORK 10022

<b>ATTORNEY DOCKET NUMBER:</b>	35611/40
<b>NAME OF SUBMITTER:</b>	MAEVE WILSON
<b>SIGNATURE:</b>	/MAEVE WILSON/
<b>DATE SIGNED:</b>	08/13/2021

**Total Attachments: 17**  
source=0 - Harsco IPSA Assignment Agreement#page1.tif

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INTELLECTUAL PROPERTY SECURITY INTEREST ASSIGNMENT AGREEMENT

INTELLECTUAL PROPERTY SECURITY INTEREST ASSIGNMENT AGREEMENT, dated as of August 9, 2021 (this "Assignment"), by CITIBANK, N.A., as the predecessor or retiring Administrative Agent and Collateral Agent (in such capacity, "Assignor"), in favor of BANK OF AMERICA, N.A., as the successor Administrative Agent and Collateral Agent (in such capacity, "Assignee").

W I T N E S S E T H:

WHEREAS, Harsco Corporation, a Delaware corporation (the "Company"), entered into that certain Third Amended and Restated Credit Agreement, dated as of November 2, 2016 (as amended, restated, supplemented and otherwise modified from time to time prior to the date hereof, the "Credit Agreement"), by and among the Company, the Approved Borrowers from time to time party thereto, the Issuing Lenders from time to time party thereto, the Lenders from time to time parties thereto, Citibank N.A., as Administrative Agent and as Collateral Agent, and the other agents parties thereto. Capitalized terms used but not otherwise defined in this Agreement (including the Schedules hereto) shall have the respective meanings assigned to such terms in the Credit Agreement;

WHEREAS, pursuant to those certain agreements listed on Schedule I (collectively, as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "IP Security Agreements"), each of the undersigned Grantors has granted to Assignor a first lien security interest in, and lien on, all of its right, title and interest in and to all of the Grantors' right, title and interest in, to and under to the Patent Collateral, Trademark Collateral and Copyright Collateral (each as defined in the IP Security Agreements, and which Patent Collateral, Trademark Collateral and Copyright Collateral are also listed on Schedule II) (collectively, the "IP Collateral"), subject to certain subsequent partial releases thereof;

WHEREAS, pursuant to that certain Notice of Resignation, dated as of May 10, 2021 and delivered by the Predecessor Agent to the Company and the Lenders in accordance with Section 9.04 of the Credit Agreement (the "Resignation Notice"), the Predecessor Agent has notified the Company and the Lenders that it has elected to resign as Administrative Agent and Collateral Agent under the Credit Agreement and each other Loan Document, effective upon the date on which a successor Administrative Agent and Collateral Agent is appointed in accordance with Section 9.04 of the Credit Agreement;

WHEREAS, pursuant to Section 9.04 of the Credit Agreement, the Company has appointed BANA as the successor Administrative Agent and Collateral Agent, and BANA accepts and consents to such appointment as successor Administrative Agent and Collateral Agent, in each case, effective as of the Effective Time;

WHEREAS, pursuant to that certain Successor Agent Appointment and Agency Transfer Agreement, dated as of August 9, 2021, among Assignor, Assignee, the Company, and the other Loan Parties thereto, Assignee has assumed and succeeded to all of the rights, powers, discretions, privileges and duties of Assignor as administrative agent under the Credit Agreement and the other Loan Documents; and

WHEREAS, Assignor and Assignee desire to enter into this Assignment to evidence the assignment by Assignor to Assignee of all of Assignor's right, title and interest in and to Assignor's security interest in, and lien on, the IP Collateral pursuant to the IP Security Agreements.

NOW, THEREFORE, for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. ASSIGNMENT. Assignor does hereby transfer, assign, grant and convey to Assignee all of its right, title and interest in and to Assignor's security interest in, and lien on, the IP Collateral pursuant to the IP Security Agreements.

2. ACKNOWLEDGMENT OF GRANTORS. Each Grantor hereby (i) confirms its grant to Assignee of a security interest in, and lien on, the IP Collateral to secure the prompt and complete payment and performance when due (whether at stated maturity, by acceleration or otherwise) of the Secured Obligations and (ii) acknowledges and affirms that the rights and remedies of Assignee with respect to its security interest in, and lien on, the IP Collateral are more fully set forth in the IP Security Agreements, the terms and provisions of which are hereby incorporated herein by reference as if fully set forth herein.

3. RECORDATION. Assignor hereby authorizes the United States Patent and Trademark Office, the United States Copyright Office and any other applicable government office to record this Assignment.

4. GOVERNING LAW. THIS AGREEMENT AND ANY CLAIM, CONTROVERSY, DISPUTE OR CAUSE OF ACTION BASED UPON, ARISING OUT OF OR RELATED TO THIS AGREEMENT AND THE TRANSACTIONS CONTEMPLATED HEREBY (INCLUDING, WITHOUT LIMITATION, ANY CLAIMS SOUNDING IN CONTRACT LAW OR TORT LAW OR OTHERWISE ARISING OUT OF THE SUBJECT MATTER HEREOF) SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED BY THE LAW OF THE STATE OF NEW YORK.

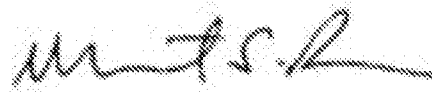
5. COUNTERPARTS. This Assignment may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such separate counterparts shall together constitute but one and the same instrument. Any signatures delivered by a party by facsimile transmission or by e-mail transmission shall be deemed an original signature hereto.

[signature pages follow]

IN WITNESS WHEREOF, the parties hereto have executed this Assignment as of the date first above written.

**ASSIGNOR:**

CITIBANK, N.A.

A handwritten signature in black ink, appearing to read "M.S. Burke", written over a horizontal line.

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

Name: Matthew S. Burke

Title: Managing Director & Vice President



**ASSIGNEE:**

BANK OF AMERICA, N.A.

A handwritten signature in black ink, enclosed within a dotted rectangular border. The signature appears to be 'Kevin Dobosz'.


By:

Name: Kevin Dobosz


Title: SVP

**ACKNOWLEDGED AND AGREED BY:**

HARSCO CORPORATION, as a Grantor

By:   
Name: Michael H. Kolinsky  
Title: Vice President - Treasurer, Tax and Real Estate

HARSCO MINERALS TECHNOLOGIES LLC, as a Grantor

By:   
Name: Michael H. Kolinsky  
Title: President

HARSCO TECHNOLOGIES LLC, as a Grantor

By: \_\_\_\_\_  
Name: Daniel G. King  
Title: President

ALTEK, L.L.C., as a Grantor

By: \_\_\_\_\_  
Name: Jon S. Ploetz  
Title: Secretary

CLEAN EARTH OF ALABAMA, INC., as a Grantor

By: \_\_\_\_\_  
Name: Sarah Kowalczyk  
Title: Secretary

CLEAN EARTH, LLC, as a Grantor

By: \_\_\_\_\_  
Name: Jon S. Ploetz  
Title: Secretary

HARSCO RAIL, LLC, as a Grantor

By: \_\_\_\_\_  
Name: Jon S. Ploetz  
Title: Secretary

ACKNOWLEDGED AND AGREED BY:

HARSCO CORPORATION, as a Grantor

By: \_\_\_\_\_  
Name: Michael H. Kolinsky  
Title: Vice President - Treasurer, Tax and Real Estate

HARSCO MINERALS TECHNOLOGIES LLC, as a Grantor

By: \_\_\_\_\_  
Name: Michael H. Kolinsky  
Title: President

HARSCO TECHNOLOGIES LLC, as a Grantor

By: *Daniel G. King*  
Name: Daniel G. King  
Title: President

ALTEK, L.L.C., as a Grantor

By: \_\_\_\_\_  
Name: Jon S. Ploetz  
Title: Secretary

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Name: Jon S. Ploetz  
Title: Secretary

**ACKNOWLEDGED AND AGREED BY:**

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Name: Michael H. Kolinsky  
Title: Vice President - Treasurer, Tax and Real Estate

HARSCO MINERALS TECHNOLOGIES LLC, as a Grantor

By: \_\_\_\_\_  
Name: Michael H. Kolinsky  
Title: President

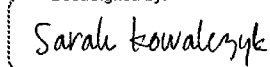
HARSCO TECHNOLOGIES LLC, as a Grantor

By: \_\_\_\_\_  
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Title: President

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By: \_\_\_\_\_  
Name: Jon S. Ploetz  
Title: Secretary

**ACKNOWLEDGED AND AGREED BY:**

HARSCO CORPORATION, as a Grantor

By: \_\_\_\_\_  
Name: Michael H. Kolinsky  
Title: Vice President - Treasurer, Tax and Real Estate

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By: \_\_\_\_\_  
Name: Michael H. Kolinsky  
Title: President

HARSCO TECHNOLOGIES LLC, as a Grantor

By: \_\_\_\_\_  
Name: Daniel G. King  
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Name: Jon S. Ploetz  
Title: Secretary

HARSCO RAIL, LLC, as a Grantor

By: \_\_\_\_\_  
Name: Jon S. Ploetz  
Title: Secretary

**SCHEDULE I**  
**to**  
**INTELLECTUAL PROPERTY SECURITY INTEREST ASSIGNMENT AGREEMENT**

**COPYRIGHT SECURITY AGREEMENTS**

1. Grant of Security Interest in Copyright Rights, dated as of December 2, 2015, made by Harsco Corporation, a Delaware corporation, in favor of Citibank, N.A., as Collateral Agent for the Secured Parties (as defined in the Guarantee and Collateral Agreement referred to above), including the several banks and other financial institutions from time to time party to the Credit Agreement, as recorded with the United States Copyright Office on December 7, 2015 at Vol. 9930, Doc. 833.
2. Grant of Security Interest in Copyright Rights, dated as of November 2, 2016, made by Harsco Corporation, a Delaware corporation, in favor of Citibank, N.A., as Collateral Agent for the Secured Parties (as defined in the Guarantee and Collateral Agreement referred to above), including the several banks and other financial institutions from time to time party to the Credit Agreement as recorded with the United States Copyright Office on November 4, 2016 at Vol. 9940, Doc. 148.

**TRADEMARK SECURITY AGREEMENTS**

1. Grant of Security Interest in Trademark Rights, dated as of December 2, 2015, made by Harsco Corporation, a Delaware corporation, Harsco Minerals Technologies LLC, a Delaware limited liability company, and Harsco Technologies LLC, a Minnesota limited liability company, in favor of Citibank, N.A., as Collateral Agent for the Secured Parties (as defined in the Guarantee and Collateral Agreement referred to above), including for the several banks and other financial institutions from time to time party to the Credit Agreement, as recorded with the United States Patent and Trademark Office on December 2, 2015 at Reel 5680, Frame 0492.
2. Grant of Security Interest in Trademark Rights, dated as of November 2, 2016, made by Harsco Corporation, a Delaware corporation, Harsco Minerals Technologies LLC, a Delaware limited liability company, and Harsco Technologies LLC, a Minnesota limited liability company, in favor of Citibank, N.A., as Collateral Agent for the Secured Parties (as defined in the Guarantee and Collateral Agreement referred to above), including for the several banks and other financial institutions from time to time party to the Credit Agreement, as recorded with the United States Patent and Trademark Office on November 4, 2016] at Reel 5934, Frame 0649.
3. Grant of Security Interest in Trademark Rights, dated as of June 28, 2019, made by Altek, L.L.C., an Ohio limited liability company, in favor of Citibank, N.A., as Collateral Agent for the Secured Parties (as defined in the Guarantee and Collateral Agreement referred to above), including for the several banks and other financial institutions from time to time party to the Credit Agreement, as recorded with the United States Patent and Trademark Office on July 3, 2019 at Reel 6686, Frame 0512.
4. Grant of Security Interest in Trademark Rights, dated as of August 28, 2019, made by Clean Earth, Inc., a Delaware corporation, and Clean Earth of Alabama, Inc., a Delaware corporation, in favor of Citibank, N.A., as Collateral Agent for the Secured Parties (as defined in the Guarantee and Collateral Agreement referred to above), including for the several banks and other financial institutions from time to time party to the Credit Agreement, as recorded with the United States Patent and Trademark Office on September 4, 2019 at Reel 6736, Frame 0276.
5. Grant of Security Interest in Trademark Rights, dated as of May 21, 2021, made by Harsco Rail, LLC, a Delaware limited liability company, in favor of Citibank, N.A., as Collateral Agent for the Secured Parties (as defined in the Guarantee and Collateral Agreement referred to above), including for the several banks and other financial institutions from time to time party to the Credit Agreement.

## PATENT SECURITY AGREEMENTS

1. Grant of Security Interest in Patent Rights, dated as of November 2, 2016, made by Harsco Corporation, a Delaware corporation, Harsco Minerals Technologies LLC, a Delaware limited liability company, and Harsco Technologies LLC, a Minnesota limited liability company, in favor of Citibank, N.A., as Collateral Agent for the Secured Parties (as defined in the Guarantee and Collateral Agreement referred to above), including for the several banks and other financial institutions from time to time party to the Credit Agreement, as recorded with the United States Patent and Trademark Office on November 4, 2016 at Reel 040567, Frame 0832.
2. Grant of Security Interest in Patent Rights, dated as of June 28, 2019, made by Altek, L.L.C., an Ohio limited liability company, in favor of Citibank, N.A., as Collateral Agent for the Secured Parties (as defined in the Guarantee and Collateral Agreement referred to above), including for the several banks and other financial institutions from time to time party to the Credit Agreement, as recorded with the United States Patent and Trademark Office on July 8, 2019 at Reel 049686, Frame 0661.
3. Grant of Security Interest in Patent Rights, dated as of May 21, 2021, made by Harsco Rail, LLC, a Delaware limited liability company, in favor of Citibank, N.A., as Collateral Agent for the Secured Parties (as defined in the Guarantee and Collateral Agreement referred to above), including for the several banks and other financial institutions from time to time party to the Credit Agreement.

**SCHEDULE II**  
to  
**INTELLECTUAL PROPERTY SECURITY INTEREST ASSIGNMENT AGREEMENT**

**COPYRIGHTS**

Title	Reg. No.	Reg. Date
COMPUTER PROGRAM, "ARCDUST".	TXU000081565	1981-09-02
SHERWOOD MAXIMUS SRB-3600 : OWNER'S MANUAL.	TX0002933020	1990-06-21
SPANALL, THE MODERN HORIZONTAL SHORING SYSTEM : SP 10A.	TX0000279097	1979-03-20
ENGINEERING DRAWINGS FOR SPECIAL DOORS AND WINDOWS.	VA0000399242	1990-03-28

**TRADEMARKS**

Trademark	Reg. No.	Reg. Date	App. No.	Filed
AGROWSIL	4472135	21-JAN-2014	85753904	15-OCT-2012
AGROWSIL	3920694	15-FEB-2011	77829088	17-SEP-2009
AGROWSIL PRO	4472136	21-JAN-2014	85753920	15-OCT-2012
AGROWSILPRO	4800104	25-AUG-2015	85821082	11-JAN-2013
AGROWSILPRO	4512074	08-APR-2014	85821093	11-JAN-2013
AIR-X-CHANGER	2852702	15-JUN-2004	76474461	06-DEC-2002
ANTICIPATOR	1805952	23-NOV-1993	74087328	13-AUG-1990
AXC	3073448	28-MAR-2006	78601172	04-APR-2005
BLACK BEAUTY	1512240	15-NOV-1988	73681538	31-AUG-1987
BLACK BEAUTY GLASS	4522717	29-APR-2014	85711822	24-AUG-2012
BLACK BEAUTY IRON	4522718	29-APR-2014	85711827	24-AUG-2012
BLOODHOUND	5156686	07-MAR-2017	86543965	24-FEB-2015
BLOODHOUND	4887032	12-JAN-2016	86977914	24-FEB-2015
BRIGHTLINE	4801190	25-AUG-2015	86432116	23-OCT-2014
CE	5856201	10-SEP-2019	88301632	14-FEB-2019
CE	5856210	10-SEP-2019	88301801	14-FEB-2019
CE	4976654	14-JUN-2016	86718296	07-AUG-2015
CE	3798791	08-JUN-2010	77823800	10-SEP-2009
CE CLEAN EARTH	4972161	07-JUN-2016	86718303	07-AUG-2015
CE CLEAN EARTH	5857588	10-SEP-2019	88342039	15-MAR-2019
CE CLEAN EARTH	5856207	10-SEP-2019	88301690	14-FEB-2019
CE CLEAN EARTH	3798790	08-JUN-2010	77823767	10-SEP-2009
CE CLEAN EARTH RECYCLING & DISPOSAL SOLUTIONS	5857589	10-SEP-2019	88342053	15-MAR-2019
CE CLEAN EARTH RECYCLING & DISPOSAL SOLUTIONS	5856199	10-SEP-2019	88301593	14-FEB-2019
CLEAN EARTH	1740437	15-DEC-1992	74042514	26-MAR-1990
CROSSOVER	4516167	15-APR-2014	85887490	27-MAR-2013
CROSSOVER FROM SOIL TO PLANT	4610616	23-SEP-2014	85887486	27-MAR-2013
CROSSOVER G	4795649	18-AUG-2015	85887517	27-MAR-2013
DESIGN ONLY	4512397	08-APR-2014	85887479	27-MAR-2013
DESIGN ONLY	4157827	12-JUN-2012	85455471	25-OCT-2011
ENVI	3819582	13-JUL-2010	77750027	02-JUN-2009
EWS	4563441	08-JUL-2014	86118455	14-NOV-2013
EWS ALABAMA, INC ENVIORMENTAL WASTE SERVICE	4583335	12-AUG-2014	86118562	14-NOV-2013
EXCELLERATOR	3781105	27-APR-2010	77830771	21-SEP-2009
EZ WELD	1734348	24-NOV-1992	74114714	13-NOV-1990
FAIRMONT	1468207	08-DEC-1987	73659617	08-MAY-1987
FAIRMONT	1156992	09-JUN-1981	73153279	23-DEC-1977
FAIRMONT	0781303	08-DEC-1964	72174949	13-AUG-1963
FAIRMONT TAMPER	2007683	15-OCT-1996	74661422	14-APR-1995
FASTER, SMARTER, GREENER SOLUTIONS.	4955098	10-MAY-2016	86728745	18-AUG-2015



Trademark	Reg. No.	Reg. Date	App. No.	Filed
FASTER, SMARTER, GREENER SOLUTIONS, FROM SOIL TO PLANT	3798792 4610618	08-JUN-2010 23-SEP-2014	77823831 85888728	10-SEP-2009 28-MAR-2013
GALOK	0699241	14-JUN-1960	72064339	15-DEC-1958
GARY	0699242	14-JUN-1960	72064340	15-DEC-1958
GRANDURA	1556854	19-SEP-1989	73777119	27-JAN-1989
GRATECOAT	3277401	07-AUG-2007	78717232	21-SEP-2005
GRATEGUARD	5586498	16-OCT-2018	86538787	18-FEB-2015
GREEN FROM THE START	3623944	19-MAY-2009	77345311	06-DEC-2007
GREEN FROM THE START	3623945	19-MAY-2009	77345316	06-DEC-2007
HAMMCO	4572284	22-JUL-2014	86152141	24-DEC-2013
HARSCO	3994444	12-JUL-2011	77790194	27-JUL-2009
HARSCO	3898524	04-JAN-2011	77788052	23-JUL-2009
HECKETT MULTISERV	2155260	05-MAY-1998	75023070	21-NOV-1995
HECKETT MULTISERV	2080122	15-JUL-1997	75023071	21-NOV-1995
HECKETT MULTISERV	2133105	27-JAN-1998	75023072	21-NOV-1995
HY-RAIL	0541762	01-MAY-1951	71584900	16-SEP-1949
IKG	3217891	13-MAR-2007	78887467	19-MAY-2006
IKG INDUSTRIES	3217893	13-MAR-2007	78887498	19-MAY-2006
IRON HORSE	4219362	02-OCT-2012	85455494	25-OCT-2011
IRON HORSE	4231249	23-OCT-2012	85432748	27-SEP-2011
JK	4765489	30-JUN-2015	86223161	17-MAR-2014
MACH	2858656	29-JUN-2004	76492697	26-FEB-2003
MEBAC	1502796	06-SEP-1988	73708069	28-JAN-1988
MODU-FIRE	2720017	27-MAY-2003	76380133	11-MAR-2002
MULTISERV	3235873	01-MAY-2007	78564291	10-FEB-2005
NURO	4740775	19-MAY-2015	86310412	16-JUN-2014
ONSPEC CONTINUOUS MOLTEN METAL ANALYSIS	5835413	13-AUG-2019	87667025	31-OCT-2017
PEDS AND TREADS	4074278	20-DEC-2011	85344404	13-JUN-2011
PERFORMIX	2301937	21-DEC-1999	75557354	23-SEP-1998
P-K COMPACT	1497578	26-JUL-1988	73640523	20-JAN-1987
PK GEMINI	2343796	18-APR-2000	75766511	02-AUG-1999
P-K SONIC	4611004	23-SEP-2014	86012478	17-JUL-2013
P-K THERMIFIC	1432839	17-MAR-1987	73610846	22-JUL-1986
PROTRAN TECHNOLOGY	5237666	04-JUL-2017	86775102	01-OCT-2015
RECLIME	2287423	19-OCT-1999	75477671	01-MAY-1998
RECYCLE & LIVE	1973846	14-MAY-1996	74306159	21-AUG-1992
REED MINERALS	2361316	27-JUN-2000	75518974	10-JUL-1998
RHINO-CAST	4096909	07-FEB-2012	85159414	22-OCT-2010
SAFE T GRID	1737483	01-DEC-1992	74143088	28-FEB-1991
SMARTGRIND	2098002	16-SEP-1997	74645453	13-MAR-1995
SORELMIX	2947237	10-MAY-2005	76405665	10-MAY-2002
STEELSTOP	3872270	09-NOV-2010	77851540	19-OCT-2009
TAMPER	1156655	02-JUN-1981	73152518	19-DEC-1977
THE ORIGINAL BLACK BEAUTY	3623833	19-MAY-2009	77301280	11-OCT-2007
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TIEINSPECT	2319781	15-FEB-2000	75422804	26-JAN-1998
TIGER TAMPER	3558342	06-JAN-2009	77218692	29-JUN-2007
TIGER TAMPER	3558340	06-JAN-2009	77217574	28-JUN-2007
TOTAL QUALITY KEEPS US ON TRACK	1989156	23-JUL-1996	74571923	12-SEP-1994
WEATHERMASTER	2589790	02-JUL-2002	76172622	30-NOV-2000
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AGRICULTURAL BINDER SYSTEM, AGRICULTURAL BLEND, AND PROCESS OF FORMING AN AGRICULTURAL BLEND	9133069	2015-09-15	14528547	2014-10-30
AGRICULTURAL BLEND AND PROCESS OF FORMING AN AGRICULTURAL BLEND	8734560	2014-05-27	12879432	2010-09-10
AGRICULTURAL BLEND AND PROCESS OF FORMING AN AGRICULTURAL BLEND	9108889	2015-08-18	13821985	2011-09-09
AGRICULTURAL BLEND AND PROCESS OF FORMING AN AGRICULTURAL BLEND	N/A	N/A	14252010	2014-04-14
AGRICULTURAL BLEND, AGRICULTURAL BINDER SYSTEM, AND PROCESS OF FORMING AN AGRICULTURAL BLEND	9416060	2016-08-16	14612909	2015-02-03
APPARATUS AND METHOD FOR TAMPING BALLAST	N/A	N/A	15202042	2016-07-05
ARTICULATED RAIL VEHICLE	8245646	2012-08-21	12359742	2009-01-26
BATTERY-POWERED RAIL VEHICLE	N/A	N/A	12899905	2010-10-07
BOILER CONTROL SYSTEM	9822986	2017-11-21	14559267	2014-12-03
BUS LEFT AND RIGHT TURN STABILITY DETECTION, OVER SPEED AND PEDESTRIAN WARNING SYSTEM	N/A	N/A	62262068	N/A
COIL-OSCILLATOR VIBRATION UNIT FOR RAIL WORKHEAD	10404148	2019-09-03	16017405	2018-06-25
COIL-OSCILLATOR VIBRATION UNIT FOR RAIL WORKHEAD	10008914	2018-06-26	15211769	2016-07-15
COIL-OSCILLATOR VIBRATION UNIT FOR RAIL WORKHEAD	N/A	N/A	16559002	2019-09-03
COLLISION PROTECTION AND SAFETY SYSTEM FOR RAIL VEHICLES	10889310	2021-01-12	15685103	2017-08-24
COLLISION PROTECTION AND SAFETY SYSTEM FOR RAIL VEHICLES	N/A	N/A	17248130	2021-01-11
COMMUNICATION COLLISION LOCATION PROTECTION SYSTEM FOR MOW VEHICLES	N/A	N/A	62379012	N/A
CONTINUOUS ACTION SPIKE PULLER FOR RAIL APPLICATIONS	10196782	2019-02-05	15276045	2016-09-26
CONTINUOUS ACTION SPIKE PULLER FOR RAIL APPLICATIONS	N/A	N/A	62235747	N/A
CONVERSION DEVICE FOR CONVERTING A ROTATIONAL MOTION INTO A RECIPROCAL MOTION	6581524	2003-06-24	10121413	2002-04-12
COOLING SYSTEM FOR DROSS PRESSING HEAD USING SAND	6096260	2000-08-01	09476676	1999-12-30
COOLING SYSTEM, A MOTOR HANDLING SYSTEM, AND A METHOD OF POSITIONING A MOTOR IN A COOLING SYSTEM	8446057	2013-05-21	13011561	2011-01-21
DEVICE FOR GENERATING VERTICAL FORCE WITH ROTATING MASS	9441330	2016-09-13	14185733	2014-02-20
DISPLAY SCREEN WITH GRAPHICAL USER INTERFACE FOR A BOILER	D806728	2018-01-02	29524500	2015-04-21
DRONE TAMPER	8433462	2013-04-30	12827596	2010-06-30
DRONE VEHICLE	8606439	2013-12-10	13854325	2013-04-01
DROSS COMPRESSION APPARATUS INCLUDING A COOLING SYSTEM FOR COOLING THE COMPRESSION HEAD AND COOLING METHOD	7157042	2007-02-01	10778456	2004-02-13
DROSS COOLING SYSTEM AND COOLING METHOD	9260766	2016-02-16	14045904	2013-10-04

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DROSS COOLING SYSTEM AND COOLING METHOD	8206486	2012-06-26	12784767	2010-05-21
DROSS COOLING SYSTEM AND COOLING METHOD	8641801	2014-02-04	13466460	2012-05-08
DROSS COOLING SYSTEM AND COOLING METHOD	8617458	2013-12-31	13466475	2012-05-08
DUAL ULTRASONIC TRAIN DETECTOR	8109474	2012-02-07	12592452	2009-11-27
ENCODER BEARING HUB ASSEMBLY FOR RAIL VEHICLES	10919547	2021-02-16	15947290	2018-04-06
ENCODER BEARING HUB ASSEMBLY FOR RAIL VEHICLES	N/A	N/A	17248961	2021-02-15
ENHANCED RAIL WORKER PROTECTION WARNING SYSTEM (PWS)	10207726	2019-02-19	15722673	2017-10-02
FAILSAFE RAIL MOUNTED SHUNT DEVICE	9878729	2018-01-30	14873589	2015-10-02
FAILSAFE RAIL MOUNTED SHUNT DEVICE	N/A	N/A	62071816	N/A
GRINDING MOTOR AND METHOD OF OPERATING THE SAME FOR RAIL APPLICATIONS	10124466	2018-11-13	14519571	2014-10-21
HEAT EXCHANGER PLENUM APPARATUS	N/A	N/A	62083006	N/A
HINGE APPARATUS	N/A	N/A	62095092	N/A
HINGE APPARATUS	N/A	N/A	62095092	N/A
HYBRID CONTINUOUS INDEXING FOR TAMPING MACHINE	N/A	N/A	62235764	N/A
HYBRID CONTINUOUS INDEXING TAMPER VEHICLE	10151067	2018-12-11	15276019	2016-09-26
INERTIAL TRACK MEASUREMENT SYSTEM AND METHODS	10336352	2019-07-02	15687460	2017-08-26
INERTIAL TRACK MEASUREMENT SYSTEM AND METHODS	N/A	N/A	62380277	N/A
LATERALLY ADJUSTABLE NIPPER-CLIPPER ASSEMBLY AND METHOD OF OPERATING A LATERALLY ADJUSTABLE NIPPER-CLIPPER ASSEMBLY	7258069	2007-08-21	10210385	2002-08-01
LEAD RAIL VEHICLE WITH DRONE VEHICLE AND METHOD	9598822	2017-03-21	14751735	2015-06-26
LIGHT REFERENCE SYSTEM	10011958	2018-07-03	15286009	2016-10-05
LIGHT REFERENCE SYSTEM	N/A	N/A	62237137	N/A
LINEAR ACTUATOR FOR RAIL APPLICATIONS	10975526	2021-04-13	15955472	2018-04-17
METHOD OF RAILROAD RAIL REPAIR	6515249	2003-02-04	09675350	2000-09-29
METHOD OF TREATING SOIL AND A METHOD OF SEQUESTERING HEAVY METALS IN SOIL	9315428	2016-04-19	13821987	2011-09-09
MOBILE AUTOMATED TIE REPLACEMENT SYSTEM	9850624	2017-12-26	14692243	2015-04-21
MOVING PLATFORM ON RAIL VEHICLE	8025013	2011-09-27	12263654	2008-11-03
MULTIPLE-RING HEAT EXCHANGER	9074792	2015-07-07	13034738	2011-02-25
PORTABLE AUTOMATIC TRAIN TRIP COCK TRIPPER	8061662	2011-11-22	12658272	2010-02-09
PORTABLE DROSS PRESS WITH RISING AND DUMPING POT	6228319	2001-05-08	09245817	1999-02-05
RAIL ANCHOR SPREADER	6662729	2003-12-16	10208067	2002-07-30
RAIL ANCHOR SPREADER AND COMBINATION SPIKE PULLER	8485103	2013-07-16	13021621	2011-02-04

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RAIL CAMP	10358150	2019-07-23	14213886	2014-03-14
RAIL CLAMP WITH STRAIGHT LINE TOOL	N/A	N/A	16445424	2019-06-19
RAIL FEATURE IDENTIFICATION SYSTEM	N/A	N/A	63105057	2020-10-23
RAIL MILLING VEHICLE	N/A	N/A	16550787	2019-08-26
RAIL VEHICLE FOR TIE LOADING AND UNLOADING	6089162	2000-07-18	09125126	1998-08-11
RAIL VEHICLE FOR USE IN THE COLLECTION AND DISTRIBUTION OF RAILROAD CROSSTIES	6170401	2001-01-09	09072586	1998-05-04
RAIL VEHICLE HAVING ROLLER CLAMP ASSEMBLY AND TOWING ARM	9605386	2017-03-28	14457990	2014-08-12
RAIL VEHICLE HAVING STABILIZER WORKHEAD WITH POWERED AXLES	10787771	2020-09-29	15666872	2017-08-02
RAIL WARNING SYSTEM AND METHOD	10179596	2019-01-15	15211390	2016-07-15
RAIL WARNING SYSTEM AND METHOD	10913472	2021-02-09	16206635	2018-11-30
RAIL WARNING SYSTEM AND METHOD	N/A	N/A	17248802	2021-02-08
RAILROAD TRAILER CHASSIS	9937761	2018-04-10	14615535	2015-02-06
RAILROAD TRAILER CHASSIS	10946704	2021-03-16	15894553	2018-02-12
RAILWAY TIE BED SCARIFIER	6536354	2003-03-25	09994976	2001-11-26
RAILWAY TIE PLATE INSERTION APPARATUS AND METHOD	6595140	2003-07-22	10164037	2002-06-05
RECIPROCATION SYSTEM AND METHOD FOR RAIL VEHICLE	9206558	2015-12-08	13909878	2013-06-04
REFERENCE MEASUREMENT SYSTEM FOR RAIL APPLICATIONS	N/A	N/A	14019640	2013-09-06
ROAD AND RAIL VEHICLE USING RAIL WHEEL DRIVE AND APPARATUS	5868078	1999-02-09	08820897	1997-03-19
ROAD RAIL STONEBLOWER	10760221	2020-09-01	16014474	2018-06-21
SAFETY SYSTEM FOR RAILROAD PERSONNEL	7624952	2009-12-01	12150706	2008-05-01
SAFETY SYSTEM FOR RAILROAD PERSONNEL	N/A	N/A	14120488	N/A
SINGLE SHAFT TAMPER WITH RECIPROCATING ROTATIONAL OUTPUT	6386114	2002-05-14	09614999	2000-07-12
SLAG CONCRETE MANUFACTURED AGGREGATE	7537655	2009-05-26	11879324	2007-07-17
STABILIZER WORKHEAD WITH POWERED AXLES	N/A	N/A	62380288	N/A
STAIR TREAD HAVING A SLIP-RESISTANT SURFACE	D389588	1998-01-20	29062185	1996-11-08
STONEBLOWER FOR RAIL APPLICATIONS	N/A	N/A	62235648	N/A
STRINGLINE AND CROSS-LEVEL GAUGE	8222893	2012-07-17	12408160	2009-03-20
SWITCH STONEBLOWER	6334396	2002-01-1	09366040	1999-08-02
SYSTEM AND METHOD FOR MELTING LIGHT GAUGE METAL STOCK	N/A	NN/A	15720793	2017-09-29
SYSTEM AND METHOD FOR MELTING LIGHT GAUGE SCRAP	9803922	2017-10-31	14273717	2014-05-09

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SYSTEM AND METHOD FOR PROVIDING RAILWAY WORKER SAFETY VIA MULTIPLE RADIOS	10266187	2019-04-23	15836513	2017-12-08
SYSTEMS AND METHODS FOR USE IN RAIL TRACK CORRECTIONS	9777440	2017-10-03	14495335	2014-09-24
SYSTEMS FOR RAILROAD SWITCH POSITION DETECTION	N/A	N/A	16946411	2020-06-19
TAMPER WITH INERTIAL TRACK MEASUREMENT SYSTEM AND METHODS	N/A	N/A	62380288	N/A
TAMPING TOOL	N/A	N/A	14498381	2014-09-26
TAMPING TOOL	D800805	2017-10-24	29561137	2016-04-13
TAMPING TOOL	D800806	2017-10-24	29561140	2016-04-13
TIE EJECTION APPARATUS FOR USE WITH A RAILROAD CROSSTIE DISTRIBUTION VEHICLE	6112670	2000-09-05	09072537	1998-05-04
TILTING ROTARY FURNACE SYSTEM AND METHODS OF ALUMINUM RECOVERY	8685138	2014-04-01	13610551	2012-09-11
TILTING ROTARY FURNACE SYSTEM FOR RECOVERY OF NON-FERROUS METALS FROM SCRAP OR DROSS AND METHOD OF OPERATION	6572675	2003-06-03	09923224	2001-08-06
TILTING ROTARY FURNACE SYSTEM FOR RECOVERY OF NON-FERROUS METALS FROM SCRAP OR DROSS AND METHOD OF OPERATION	6669895	2003-12-30	09995357	2001-11-27
TRACK FEATURE DETECTION USING MACHINE VISION	10796192	2020-10-06	15933004	2018-03-22
TRACK FEATURE DETECTION USING MACHINE VISION	N/A	N/A	16948883	2020-10-05
TRACK GEOMETRY MEASUREMENT SYSTEM WITH INERTIAL MEASUREMENT	N/A	N/A	15937739	2018-03-27
TRACK MAINTENANCE APPARATUS AND METHOD	9121139	2015-09-01	13734883	2013-01-04
TRACK MAINTENANCE APPARATUS AND METHOD	9920487	2018-03-20	14812667	2015-07-29
TRAIN DETECTOR FOR EMBEDDED RAIL	N/A	N/A	16593222	2019-10-04
V-AWARE END OF TRAIN DEVICE	9994242	2018-06-12	14873578	2015-10-02
V-AWARE END OF TRAIN DEVICE	10814892	2020-10-27	15946972	2018-04-06
V-AWARE END OF TRAIN DEVICE	N/A	N/A	62071815	N/A
VENTED HYDRAULIC VIBRATOR ASSEMBLY	7762197	2010-07-27	11903838	2007-09-25
VERTICAL FORCE STABILIZER	8505459	2013-08-13	12986286	2011-01-07
VERTICAL RIDE QUALITY SYSTEM FOR A RAIL VEHICLE	9790644	2017-10-17	14968372	2015-12-14
VIBRATION SENSOR PACKAGE	N/A	N/A	16055724	2018-08-06
VOLTAGE TESTING APPARATUS FOR ELECTRICAL RAILWAYS	6737978	2004-05-18	10287948	2002-11-06
WORK BLOCK ENCROACHMENT SYSTEM	N/A	N/A	62071817	N/A
WORK BLOCK ENCROACHMENT WARNING SYSTEM	9902411	2018-02-27	14873609	2015-10-02
WORK BLOCK ENCROACHMENT WARNING SYSTEM	10752272	2020-08-25	15797330	2017-10-30

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WORK BLOCK ENCROACHMENT WARNING SYSTEM	N/A	N/A	16947908	2020-08-24
WORKHEAD ASSEMBLY	10106934	2018-10-23	15072693	2016-03-17
WORKHEAD ASSEMBLY FOR RAIL APPLICATIONS	10125456	2018-11-13	15192483	2016-06-24
WORKHEAD ASSEMBLY FOR RAIL APPLICATIONS	10844550	2020-11-24	16129292	2018-09-12