PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT8260869

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Execution Date
H.C. STARCK SOLUTIONS COLDWATER, LLC	11/06/2023
H.C. STARCK SOLUTIONS EUCLID, LLC	11/06/2023

RECEIVING PARTY DATA

Name:	WELLS FARGO BANK, NATIONAL ASSOCIATION
Street Address:	ONE BOSTON PLACE
City:	BOSTON
State/Country:	MASSACHUSETTS
Postal Code:	02108

PROPERTY NUMBERS Total: 66

Property Type	Number
Patent Number:	8703233
Patent Number:	9108273
Patent Number:	9293306
Patent Number:	8734896
Patent Number:	8425833
Patent Number:	9309591
Patent Number:	9926623
Patent Number:	8743926
Patent Number:	9521706
Patent Number:	8562715
Patent Number:	9233419
Patent Number:	8784729
Patent Number:	7754185
Patent Number:	9976212
Patent Number:	11203809
Patent Number:	9455283
Patent Number:	10923514
Patent Number:	10604434
Patent Number:	10105671

Property Type	Number
Patent Number:	10507449
Patent Number:	11110426
Patent Number:	10668566
Patent Number:	11198197
Patent Number:	11077524
Patent Number:	10730089
Patent Number:	10099267
Patent Number:	10926311
Patent Number:	11077964
Patent Number:	8449817
Patent Number:	9945023
Patent Number:	8449818
Patent Number:	9837253
Patent Number:	9334562
Patent Number:	9922808
Patent Number:	10727032
Patent Number:	11328912
Patent Number:	9334565
Patent Number:	10643827
Patent Number:	7837929
Patent Number:	8911528
Patent Number:	11306388
Patent Number:	10100438
Patent Number:	10335880
Patent Number:	11072032
Patent Number:	11040408
Patent Number:	10807168
Patent Number:	11179780
Patent Number:	11739416
Patent Number:	11814312
Patent Number:	11642644
Patent Number:	11554397
Patent Number:	11458519
Patent Number:	11753702
Patent Number:	11389872
Patent Number:	10717142
Patent Number:	10829849
Patent Number:	9457405

Property Type	Number
Application Number:	17525110
Application Number:	17355462
Application Number:	17354064
Application Number:	17693666
Application Number:	17358334
Application Number:	17504580
Application Number:	17839800
Application Number:	18083748
Application Number:	17895290

CORRESPONDENCE DATA

Fax Number:

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.

Email: kareem.ansley@blankrome.com
Correspondent Name: KAREEM ANSLEY
Address Line 1: BLANK ROME LLP
Address Line 2: 717 TEXAS AVENUE, SUITE 1400
Address Line 4: HOUSTON, TEXAS 77002

NAME OF SUBMITTER:	KAREEM ANSLEY
SIGNATURE:	/Kareem Ansley/
DATE SIGNED:	11/06/2023

Total Attachments: 11
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PATENT SECURITY AGREEMENT

This PATENT SECURITY AGREEMENT (this "Patent Security Agreement") is made this 6th day of November, 2023, by and among the Grantors listed on the signature pages hereof (collectively, jointly and severally, "Grantors" and each individually "Grantor"), and **WELLS FARGO BANK, NATIONAL ASSOCIATION**, a national banking association ("Wells Fargo"), in its capacity as Secured Party for itself, as Lender, and the Bank Product Providers (in such capacity, together with its successors and assigns in such capacity, "Secured Party").

W I T N E S S E T H:

WHEREAS, pursuant to that certain Amended and Restated Credit Agreement dated as of November 6, 2023 (as amended, restated, supplemented, or otherwise modified from time to time, the "Credit Agreement") by and among Elmet Technologies LLC ("Parent"), H.C. Starck Solutions Coldwater, LLC ("Coldwater"), H.C. Starck Solutions Euclid, LLC ("Euclid"), those additional entities that become parties to the Credit Agreement as Borrowers in accordance with the terms thereof (together with Parent, Coldwater and Euclid, collectively, "Borrowers", and each a "Borrower") and Wells Fargo, as lender ("Lender"), Lender has agreed to make certain financial accommodations available to Borrower from time to time pursuant to the terms and conditions thereof; and

WHEREAS, Lender and the Bank Product Providers are willing to make the financial accommodations to Borrower as provided for in the Credit Agreement, the other Loan Documents, and the Bank Product Agreements, but only upon the condition, among others, that the Grantors shall have executed and delivered to Secured Party, for the benefit of itself, as Lender, and the Bank Product Providers, that certain Amended and Restated Guaranty and Security Agreement, dated as of November 6, 2023 (including all annexes, exhibits or schedules thereto, as from time to time amended, restated, supplemented or otherwise modified, the "Guaranty and Security Agreement"); and

WHEREAS, pursuant to the Guaranty and Security Agreement, Grantors are required to execute and deliver to Secured Party, for the benefit of itself, as Lender, and the Bank Product Providers, this Patent Security Agreement;

NOW, THEREFORE, in consideration of the premises and mutual covenants herein contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each Grantor hereby agrees as follows:

1. DEFINED TERMS. All initially capitalized terms used but not otherwise defined herein have the meanings given to them in the Guaranty and Security Agreement or, if not defined therein, in the Credit Agreement, and this Patent Security Agreement shall be subject to the rules of construction set forth in Section 1(b) of the Guaranty and Security Agreement, which rules of construction are incorporated herein by this reference, *mutatis mutandis*.

2. GRANT OF SECURITY INTEREST IN PATENT COLLATERAL. Each Grantor hereby unconditionally grants, assigns, and pledges to Secured Party, for the benefit of itself, as Lender, and each of the Bank Product Providers, to secure the Secured Obligations, a continuing security interest (referred to in this Patent Security Agreement as the "Security Interest") in all of such Grantor's right, title and interest in and to the following, whether now owned or hereafter acquired or arising (collectively, the "Patent Collateral"):

(a) all of its Patents and Patent Intellectual Property Licenses to which it is a party including those referred to on Schedule I;

(b) all divisionals, continuations, continuations-in-part, reissues, reexaminations, or extensions of the foregoing; and

(c) all products and proceeds of the foregoing, including any claim by such Grantor against third parties for past, present or future infringement of any Patent or any Patent exclusively licensed under any Intellectual Property License, including the right to receive damages, or right to receive license fees, royalties, and other compensation under any Patent Intellectual Property License.

3. SECURITY FOR SECURED OBLIGATIONS. This Patent Security Agreement and the Security Interest created hereby secures the payment and performance of the Secured Obligations, whether now existing or arising hereafter. Without limiting the generality of the foregoing, this Patent Security Agreement secures the payment of all amounts which constitute part of the Secured Obligations and would be owed by Grantors, or any of them, to Secured Party, Lender, the Bank Product Providers or any of them, whether or not they are unenforceable or not allowable due to the existence of an Insolvency Proceeding involving any Grantor.

4. SECURITY AGREEMENT. The Security Interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interests granted to Secured Party, for the benefit of itself, as Lender, and the Bank Product Providers, pursuant to the Guaranty and Security Agreement. Each Grantor hereby acknowledges and affirms that the rights and remedies of Secured Party with respect to the Security Interest in the Patent Collateral made and granted hereby are more fully set forth in the Guaranty and Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. To the extent there is any inconsistency between this Patent Security Agreement and the Guaranty and Security Agreement, the Guaranty and Security Agreement shall control.

5. AUTHORIZATION TO SUPPLEMENT. If any Grantor shall obtain rights to any new patent application or issued patent or become entitled to the benefit of any patent application or patent for any divisional, continuation, continuation-in-part, reissue, or reexamination of any existing patent or patent application, the provisions of this Patent Security Agreement shall automatically apply thereto. Grantors shall give prompt notice in writing to Secured Party with respect to any such new patent rights. Without limiting Grantors' obligations under this Section, Grantors hereby authorize Secured Party unilaterally to modify this Patent Security Agreement by amending Schedule I to include any such new patent rights of each Grantor. Notwithstanding the foregoing, no failure to so modify this Patent Security Agreement or amend Schedule I shall in any way affect, invalidate or detract from Secured Party's continuing security interest in all Collateral, whether or not listed on Schedule I.

6. COUNTERPARTS. This Patent Security Agreement is a Loan Document. This Patent Security Agreement may be executed in any number of counterparts and by different parties on separate counterparts, each of which, when executed and delivered, shall be deemed to be an original, and all of which, when taken together, shall constitute but one and the same Patent Security Agreement. Delivery of an executed counterpart of this Patent Security Agreement by telefacsimile or other electronic method of transmission shall be equally as effective as delivery of an original executed counterpart of this Patent Security Agreement. Any party delivering an executed counterpart of this Patent Security Agreement by telefacsimile or other electronic method of transmission also shall deliver an original executed counterpart of this Patent Security Agreement but the failure to deliver an original executed counterpart shall not affect the validity, enforceability, and binding effect of this Patent Security Agreement.

7. CHOICE OF LAW AND VENUE, JURY TRIAL WAIVER, AND JUDICIAL REFERENCE PROVISION. THIS PATENT SECURITY AGREEMENT SHALL BE SUBJECT TO THE PROVISIONS REGARDING CHOICE OF LAW AND VENUE, JURY TRIAL WAIVER, AND JUDICIAL REFERENCE SET FORTH IN SECTION 25 OF THE GUARANTY AND SECURITY AGREEMENT, AND SUCH PROVISIONS ARE INCORPORATED HEREIN BY THIS REFERENCE, *MUTATIS MUTANDIS*.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have caused this Patent Security Agreement to be executed and delivered as of the day and year first above written.

GRANTORS:

H.C. STARCK SOLUTIONS COLDWATER, LLC
By: Elmet Technologies LLC, as its sole member

By: _____
Name: Peter V. Anania
Title: President

[SIGNATURE PAGE TO PATENT SECURITY AGREEMENT]

H.C. STARCK SOLUTIONS EUCLID, LLC
By: Elmet Technologies LLC, as its sole member

By: _____
Name: Peter V. Anania
Title: President

ACCEPTED AND ACKNOWLEDGED BY:

SECURED PARTY:

WELLS FARGO BANK, NATIONAL ASSOCIATION

By: _____

Name: Sean Mullaney

Title: Authorized Signatory

SCHEDULE I
TO
PATENT SECURITY AGREEMENT

Patents

Grantor	Country	Patent No.	Description
Euclid	United States	8,703,233	METHODS OF MANUFACTURING LARGE-AREA SPUTTERING TARGETS BY COLD SPRAY
Euclid	United States	9,108,273	METHODS OF MANUFACTURING LARGE-AREA SPUTTERING TARGETS USING INTERLOCKING JOINTS
Euclid	United States	9,293,306	METHODS OF MANUFACTURING LARGE-AREA SPUTTERING TARGETS USING INTERLOCKING JOINTS
Euclid	United States	8,734,896	METHODS OF MANUFACTURING HIGH-STRENGTH LARGE-AREA SPUTTERING TARGETS
Coldwater	United States	8,425,833	METHODS OF FORMING MOLYBDENUM SPUTTERING TARGETS
Coldwater	United States	9,309,591	METHODS OF DEPOSITING THIN FILMS USING MOLYBDENUM SPUTTERING TARGETS
Coldwater	United States	9,926,623	METHODS OF FORMING MOLYBDENUM SPUTTERING TARGETS
Coldwater	United States	8,743,926	LIQUID COOLED GLASS MELT ELECTRODE
Coldwater	United States	9,521,706	LIQUID COOLED GLASS MELT ELECTRODE
Coldwater	United States	8,562,715	PRODUCTION OF MOLYBDENUM METAL POWDER
Coldwater	United States	9,233,419	PRODUCTION OF MOLYBDENUM METAL POWDER
Coldwater	United States	8,784,729	HIGH DENSITY REFRACTORY METALS & ALLOYS SPUTTERING TARGETS

Grantor	Country	Patent No.	Description
Coldwater	United States	7,754,185	METHOD OF MAKING MOO2 POWDERS, PRODUCTS MADE FROM MOO2 POWDERS, DEPOSITION OF MOO2 THIN FILMS, AND METHODS OF USING SUCH MATERIALS
Euclid	United States	9,976,212	PARTIAL SPRAY REFURBISHMENT OF SPUTTERING TARGETS
Euclid	United States	11,203,809	PARTIAL SPRAY REFURBISHMENT OF SPUTTERING TARGETS
Coldwater	United States	9,455,283	ETCH CHEMISTRIES FOR METALLIZATION IN ELECTRONIC DEVICES
Coldwater	United States	10,923,514	ETCH CHEMISTRIES FOR METALLIZATION IN ELECTRONIC DEVICES
Coldwater	United States	10,604,434	CORROSION-RESISTANT GLASS MELT ELECTRODES AND METHODS OF USING THEM
Coldwater	United States	10,105,671	MICROREACTOR SYSTEMS AND METHODS
Coldwater	United States	10,507,449	MICROREACTOR SYSTEMS AND METHODS
Coldwater	United States	11,110,426	MICROREACTOR SYSTEMS AND METHODS
Coldwater	United States	10,668,566	FABRICATION OF HIGH-ENTROPY ALLOY WIRE AND MULTI-PRINCIPAL ELEMENT ALLOY WIRE
Coldwater	United States	11,198,197	FABRICATION OF HIGH-ENTROPY ALLOY WIRE AND MULTI-PRINCIPAL ELEMENT ALLOY WIRE
Coldwater	United States	11077524	ADDITIVE MANUFACTURING UTILIZING METALLIC WIRE
Coldwater	United States	10,730,089	FABRICATION OF METALLIC PARTS BY ADDITIVE MANUFACTURING

Grantor	Country	Patent No.	Description
Coldwater	United States	10,099,267	HIGH-DENSITY, CRACK-FREE METALLIC PARTS
Coldwater	United States	10,926,311	HIGH-DENSITY, CRACK-FREE METALLIC PARTS
Coldwater	United States	11,077,964	HIGH-TEMPERATURE ELECTROTHERMAL PROPULSION SYSTEM
Euclid	United States	8,449,817	MOLYBDENUM CONTAINING TARGETS
Euclid	United States	9,945,023	MOLYBDENUM CONTAINING TARGETS
Euclid	United States	8,449,818	MOLYBDENUM CONTAINING TARGETS
Euclid	United States	9,837,253	MOLYBDENUM CONTAINING TARGETS
Euclid	United States	9,334,562	MULTI-BLOCK SPUTTERING TARGET AND ASSOCIATED METHODS AND ARTICLES
Euclid	United States	9,922,808	MULTI-BLOCK SPUTTERING TARGET AND ASSOCIATED METHODS AND ARTICLES
Euclid	United States	10,727,032	MULTI-BLOCK SPUTTERING TARGET AND ASSOCIATED METHODS AND ARTICLES
Euclid	United States	11,328,912	MULTI-BLOCK SPUTTERING TARGET AND ASSOCIATED METHODS AND ARTICLES
Euclid	United States	9,334,565	MULTI-BLOCK SPUTTERING TARGET WITH INTERFACE PORTIONS AND ASSOCIATED METHODS AND ARTICLES
Euclid	United States	10,643,827	MULTI-BLOCK SPUTTERING TARGET WITH INTERFACE PORTIONS AND ASSOCIATED METHODS AND ARTICLES
Coldwater	United States	7,837,929	METHODS OF MAKING MOLYBDENUM TITANIUM SPUTTERING PLATES AND TARGETS

Grantor	Country	Patent No.	Description
Coldwater	United States	8,911,528	METHODS OF MAKING MOLYBDENUM TITANIUM SPUTTERING PLATES AND TARGETS
Coldwater	United States	11,306,388	SPUTTERING TARGETS AND DEVICES INCLUDING MO, NB, AND TA, AND METHODS
Euclid	United States	10,100,438	METALLIC CRUCIBLES AND METHODS OF FORMING THE SAME
Euclid	United States	10,335,880	RACKS FOR HIGH-TEMPERATURE METAL PROCESSING
Euclid	United States	11,072,032	RACKS FOR HIGH-TEMPERATURE METAL PROCESSING
Euclid	United States	11,040,408	RACKS FOR HIGH-TEMPERATURE METAL PROCESSING
Euclid	United States	10,807,168	TUNGSTEN HEAVY METAL ALLOY POWDERS AND METHODS OF FORMING THEM
Euclid	United States	11,179,780	FABRICATION OF METALLIC PARTS BY ADDITIVE MANUFACTURING
Euclid	United States	11,739,416	PARTIAL SPRAY REFURBISHMENT OF SPUTTERING TARGETS
Coldwater	United States	11,814,312	CORROSION-RESISTANT GLASS MELT ELECTRODES AND METHODS OF USING THEM
Coldwater	United States	11,642,644	MICROREACTOR SYSTEMS AND METHODS
Coldwater	United States	11,554,397	FABRICATION OF METALLIC PARTS BY ADDITIVE MANUFACTURING
Coldwater	United States	11,458,519	HIGH-DENSITY, CRACK-FREE METALLIC PARTS
Euclid	United States	11,753,702	MOLYBDENUM CONTAINING TARGETS
Euclid	United States	11,389,872	TUNGSTEN HEAVY METAL ALLOY POWDERS AND METHODS OF FORMING THEM

Grantor	Country	Patent No.	Description
Euclid	United States	10,717,142	RACKS FOR HIGH-TEMPERATURE METAL PROCESSING
Euclid	United States	10,829,849	MOLYBDENUM CONTAINING TARGETS
Euclid	United States	9,457,405	METALLIC CRUCIBLES AND METHODS OF FORMING THE SAME

Patent Applications

Grantor	Country	Application No.	Description
Coldwater	United States	17/525,110	FABRICATION OF HIGH-ENTROPY ALLOY WIRE AND MULTI-PRINCIPAL ELEMENT ALLOY WIRE
Coldwater	United States	17/355,462	ADDITIVE MANUFACTURING UTILIZING METALLIC WIRE
Coldwater	United States	17/354,064	HIGH-TEMPERATURE ELECTROTHERMAL PROPULSION SYSTEM
Coldwater	United States	17/693,666	SPUTTERING TARGETS AND DEVICES INCLUDING Mo, Nb, and Ta, AND METHODS
Euclid	United States	17/358,334	RACKS FOR HIGH-TEMPERATURE METAL PROCESSING
Euclid	United States	17/504,580	FABRICATION OF METALLIC PARTS BY ADDITIVE MANUFACTURING
Euclid	United States	17/839,800	TUNGSTEN HEAVY METAL ALLOY POWDERS AND METHODS OF FORMING THEM
Coldwater	United States	18/083,748	FABRICATION OF METALLIC PARTS BY ADDITIVE MANUFACTURING
Coldwater	United States	17/895,290	HIGH-DENSITY, CRACK-FREE METALLIC PARTS