

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT4193250

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
CHRISTOPHER HSU	12/08/2016
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	ILLINOIS TOOL WORKS INC.
<b>Street Address:</b>	155 HARLEM AVENUE
<b>City:</b>	GLENVIEW
<b>State/Country:</b>	ILLINOIS
<b>Postal Code:</b>	60025
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	15373230
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(312)775-8100
<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>Phone:</b>	312-775-8000
<b>Email:</b>	mhmpto@mcandrews-ip.com
<b>Correspondent Name:</b>	MCANDREWS, HELD & MALLOY, LTD.
<b>Address Line 1:</b>	500 W. MADISON STREET
<b>Address Line 2:</b>	34TH FLOOR
<b>Address Line 4:</b>	CHICAGO, ILLINOIS 60661
<b>ATTORNEY DOCKET NUMBER:</b>	29947US02
<b>NAME OF SUBMITTER:</b>	MICHAEL T. CRUZ
<b>SIGNATURE:</b>	/Michael T. Cruz/
<b>DATE SIGNED:</b>	12/20/2016
<b>Total Attachments: 3</b>	
source=29947US02_66172_Assignment_FINAL#page1.tif	
source=29947US02_66172_Assignment_FINAL#page2.tif	
source=29947US02_66172_Assignment_FINAL#page3.tif	

ASSIGNMENT

FOR GOOD AND VALUABLE CONSIDERATION, the receipt, sufficiency and adequacy of which are hereby acknowledged, the undersigned, does hereby:

SELL, ASSIGN AND TRANSFER to **Illinois Tool Works Inc.** (the "Assignee"), a corporation of the State of Delaware, having a place of business at **155 Harlem Avenue, Glenview, Illinois 60025**, the entire right, title and interest for the United States and all foreign countries in and to any and all inventions and improvements which are disclosed in the application for United States Letters Patent, which is entitled "**Wire Manufactured by Additive Manufacturing Methods**," and which may be further identified below, such application and all divisional, continuing, substitute, renewal, reissue and all other applications for patent which have been or shall be filed in the United States, including all provisional and non-provisional applications, and all foreign countries on any of such improvements; all original and reissued patents which have been or shall be issued in the United States and all foreign countries on such improvements; and specifically including the right to file foreign applications under the provisions of any convention or treaty and claim priority based on such application in the United States;

AUTHORIZE AND REQUEST that any attorney associated with PTO Customer No. 23446 may delete, insert, or alter any information identifying this application, or any related application, below after execution of this assignment;

AUTHORIZE AND REQUEST the issuing authority to issue any and all United States and foreign patents granted on such improvements to the Assignee;

WARRANT AND COVENANT that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been or will be made to others by the undersigned, and that the full right to convey the same as herein expressed is possessed by the undersigned;

COVENANT, when requested and without further consideration, but at the expense of the Assignee, to carry out in good faith the intent and purpose of this assignment, the undersigned will (1) execute all provisional, non-provisional, divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all such improvements; (2) execute all rightful oaths, declarations, assignments, powers of attorney and other papers; (3) communicate to the Assignee all facts known to the undersigned relating to such improvements and the history thereof; (4) cooperate with the Assignee in any interference, opposition, dispute, or litigation involving any of the applications or patents for such improvements; and (5) generally do everything possible which the Assignee shall consider desirable for vesting title to such improvements in the Assignee, and for securing, maintaining and enforcing proper patent protection for such improvements;

TO BE BINDING on the heirs, assigns, representatives and successors of the undersigned and extend to the successors, assigns and nominees of the Assignee.

<u>Additional Application Information</u>	
U.S. Provisional Application No. <u>62/269,247</u>	filed on <u>December 18, 2015</u>
U.S. Non-Provisional Application No. <u>15/373,230</u>	filed on <u>December 8, 2016</u>
International Application No. _____	filed on _____

INVENTOR:

Signature:

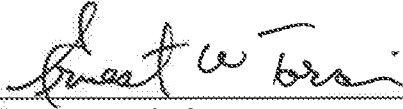
  
\_\_\_\_\_  
Christopher Hsu

Date:

12/8/16  
\_\_\_\_\_

ASSIGNEE:

Signature:



Ernest W. Torain, Jr.  
Deputy General Counsel, Intellectual Property  
On Behalf of Assignee

Date:

12/19/16