505541274 06/24/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5588071

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
MARK W. MCBRIDE	10/18/2005
THOMAS M. MALLISON	10/17/2005
GREGORY DILLON	10/18/2005
ROBERT L. CAMPBELL	10/17/2005
DAVID BOGER	10/11/2005
JUSTIN M. WALSH	11/14/2007
JAMES P. RUNT	11/14/2007
ROBERT F. KUNZ	11/06/2007
STEPHEN A. HAMBRIC	11/08/2007

RECEIVING PARTY DATA

Name:	THE PENN STATE RESEARCH FOUNDATION	
Street Address:	304 OLD MAIN	
City:	UNIVERSITY PARK	
State/Country:	PENNSYLVANIA	
Postal Code:	16803	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16254184

CORRESPONDENCE DATA

Fax Number: (314)612-2307

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: 314-621-5070

Email:uspatents@armstrongteasdale.comCorrespondent Name:PATENT DOCKET DEPARTMENTAddress Line 1:ARMSTRONG TEASDALE LLPAddress Line 2:7700 FORSYTH BLVD., SUITE 1800

Address Line 4: ST. LOUIS, MISSOURI 63105

ATTORNEY DOCKET NUMBER:	P04000USC5
NAME OF SUBMITTER:	ALESIA MARRA

505541274 REEL: 049570 FRAME: 0947

SIGNATURE:	/Alesia Marra/	
DATE SIGNED:	06/24/2019	
Total Attachments: 6		
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PATENT REEL: 049570 FRAME: 0948

A	Assignment of Rights, Title and Interest in Invention (Multiple inventors; single assignee) Docket No. PST-16002/36		
This is an As	signment of the following rights, title	e and interest: (check all that apply):	
図	United States of America rights, titl	le and interest in the invention	
×	Foreign rights, title and interest in	the invention	
[2]	United States Patent Application Se	erial No. 11/227,277	
	Date of Execution:	Date of Filing: Sept. 15, 20	005
	United States Provisional Patent Ap	oplication Serial No.	
	United States Patent No(s).		
	International (PCT) Patent Applica	ntion Serial No.	
	Other (specify)		
Title of the I	nvention		
	LE IMPELLER PUMP		
<u> </u>			
Inve nt ors (a.	ssignors)		· · · · · · · · · · · · · · · · · · ·
	Name	Address	
Mark W. McBride 194 N. Fillmore, Bell		194 N. Fillmore, Bellefonte, PA 16823	
Thomas M	Mallison	1836 Kings Ct., State College, PA 1680	3
Gregory Di	Gregory Dillon 306 Toftrees Ave., #131, State College, PA 16803		PA 16803
Robert L. Campbell 225 Amblewood Way, State College, PA 16803			
David Bogo	rid Boger 217 Runnymede Ave., Jenkintown, PA 19046		19046
		<u> </u>	
 			
<u> </u>			
 			
<u> </u>			
<u> </u>			
Assignee			
	Name	Address	
The Penn S	State Research Foundation	304 Old Main University Park, PA 16803	

www.ldlkm.com

[Page 1 of 2]

AS03A/REV01

PATENT REEL: 021326 FRAME: 0208 REEL: 049570 FRAME: 0949

Docket No. PST-16002/36

Whereas, we, the above-identified Inventors, have invented certain new and useful improvements in the Invention identified above and described in the above-identified patent application(s) and/or patent(s) (hereinafter referred to as "invention");

And, whereas we desire to assign our above-identified rights, title and interest in the Invention to the above-identified Assigner;

Now, this indenture witnesseth, that for good and valuable consideration, the receipt whereof is hereby acknowledged;

We hereby assign, sell and transfer our above-identified rights, title and interest in said Invention, said application(s) as identified above, including any divisions, continuations, and continuations-in-part thereof, and in and to any and all Letters Patent of the United States, and countries foreign thereto, which may be granted or have granted for said Invention, and in and to any and all priority rights, Convention rights, and other benefits according or to account to us with respect to the filing of applications for patents or securing of patents in the United States and countries foreign thereto, anto said Assignce;

And we hereby authorize and reguest the Director of the United States Patent and Trademork Office to (sine pay United States Letters Patent which may itsue for said Invention to said Assignee, at assignee of the whole right, title and interest thereto;

And we further agree to sign and execute all necessary and lawful fitture documents, including applications for foreign patents, for filing divisions, continuations and continuations in-part of said application for patent, and/or, for obtaining any relesse or relesses of any Letters Patent which may be granted for my aforesaid invention, as the Assignee or its Designee(s) may from time to time require and prepare at its own expense.

Inventors' Signatures (if Notarization is desired, do not sign here and proceed to next page)

Name	Signature/Date
Mark W. McBride	Marke Master OFT 18 2005
Thomas M. Mallison	1 NOT 17 200 5
Gregory Dillon	Greg Dellan OCT 18 2005
Robert L Campbell	Pult & Destill Oct 17,2005
David Boger	Qalat 00- 11 200S
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	the extra
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[Puge 2 of 2]

PATENT REEL: 021**\$20 FRAME**: 0209 REEL: 049570 FRAME: 0950

RECORDED: 07/30/2008

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Aimee Crihfield 2012/012

	former PTC/SB/16 (8-00) Modified LDLK&M
	Docket Number (Optional)
ASSIGNMENT OF UTILITY APPLICATION	DSCOPE 3.0-039
	,
Whereas, I, <u>Justin M. Walsh</u>	cf
2607 General Potter Highway, Spring Mills, Pennsyl	
hereafter referred to as assignor, have with others invented	certain new and useful improvements in
EXPANDABLE IMPELLER PUMP	
x for which an application for a United States Letters	Patent was filed on September 15, 2005
Application Number <u>11/227,277</u>	 _
for which an application for a United States Letters I	Patent was executed by me on ,
and	
·	
Whereas, The Penn State Research Foundation	;
a corporation ofherein referred to as "as	sinnee" whose mailing address is
304 Old Main, University Park, Pennsylvania 16803	
is desirous of acquiring the entire right, title and interest in t	he same;
	La Name of the organization has no selection to the second
NOW, THEREFORE, in consideration of the sum of one is acknowledged, and other good and valuable considerate.	dollars (\$ 1.00), the receipt whereof life, I as assign a hereby sell, assign and set over to said
assignee my entire right, title and interest for the United	States of America and all other countries in and to said
invention and the aforesaid utility patent application and	all original, divisional, continuation, continuation-in-part, or granted therefor in the United States of America and all
other countries, for said Invention, including without limital	ion all applications and patents for said invention claiming
priority or benefit of the aforessid utility application pursuan	nt to any law or treaty, and including the right to claim such
priority or benefit and the Commissioner of Patents and Ti	rademarks is hereby authorized and requested to Issue all
thereto: and the understaned for me and my legal represe	said assignee herein, as assignee of the entire interest ntatives, heirs and assigns do hereby agree and covernant
without further remuneration, to execute and deliver all original	Ingl, divisional, continuation, reissue and other applications
for Letters Patent on said improvements and all assignments	ts thereof to said assignee or its assigns, to communicate the undersigned respecting said improvements, whenever
to said assignee of its representatives all facts known to requested to testify in any interferences or other legal not	ceedings in which any of said applications or patents may
become involved, to sign all lawful papers, make all right	ful caths, and to do generally everything necessary to aid
	patent protection for said improvements in all countries, the
expenses incident to said applications to be borne and paid	by said assignee.
	ed the filing date and application number of said application
when known.	
11/14/2007	1) AM. Walk
(Date)	(Signature)
	(Oig. Zic.io)
State of tennsylvana) SS:	
County of Centre.)	
On this 14th day of November 2007 b	efore me personally came the above-named Justin M.
<u> Walsh,</u> to me personally known as the individual who exc	ecuted the foregoing instrument, who acknowledged to me
that the same was executed by him/her of his/her own free	will for the purposes therein that to find I.A.
T	Notarial Seal Ruth A. Harpster, Notary Public
(Notary Public)	er Catego Roto Cente Couπ∜ I — Ts
(1323) 0040)	Ny Commission Extrinos, fully 10:2011
x Total of 5 forms are submitted.	Pennsylvania Association of Notaries
LD-328\	



former PTO/SB/18 (8-00) Modified LDLKAM

	Docket Number (Optional)
ASSIGNMENT OF UTILITY APPLICATION	DSCOPE 3.0-039
	of
Whereas, I, <u>James P. Runt</u> 338 Arbor Way; State College, <u>Pennsylvania</u> 16803	"
ass Arbor way, State Conege, Perinsylvania Troccs pereafter referred to as assignor, have with others invented cer	tala new and useful improvements in
EXPANDABLE IMPELLER PUMP	<u> </u>
for which an application for a United States Letters Pa Application Number 11/227,277	stent was filed on September 15, 2005
for which an application for a United States Letters Pate and	ent was executed by me on
Whereas,The Penn State Research Foundationherein referred to as "assign	noof whose mailing address is
a corporation ofnerent referred to as assign 304 Old Main, University Park, Pennsylvania 16803	(IEE ANDSE MEINING BASICSO IS
is desirous of acquiring the entire right, title and interest in the	same;
NOW, THEREFORE, in consideration of the sum of <u>one</u> is acknowledged, and other good and valuable consideration, assignee my entire right, title and interest for the United Stainvention and the aforesaid utility patent application and all substitute or reissue applications and patents applied for or gother countries, for said invention, including without limitation priority or benefit of the aforesaid utility application pursuant to priority or benefit and the Commissioner of Patents and Tradipatents on said improvements or resulting therefrom to said therein; and the undersigned for me and my legal represental without further remuneration, to execute and deliver all original for Letters Patent on said improvements and all assignments to said assignee or its representatives all facts known to the requested, to testify in any interferences or other legal proceed become involved, to sign all lawful papers, make all rightful cassignee, its successors, assigns and nominees to obtain pate expenses incident to said applications to be borne and paid by	ates of America and all other countries in and to sald all original, divisional, continuation, continuation-in-part, irranted therefor in the United States of America and all applications and patents for sald Invention claiming any law or treaty, and including the right to claim such emarks is hereby authorized and requested to issue all id assignee herein, as assignee of the entire interest tives, heirs and essigns do hereby agree and covenant it, divisional, continuation, reissue and other applications thereof to sald assignee or its assigns, to communicate undersigned respecting said improvements, whenever edings in which any of said applications or patents may oaths, and to do generally everything necessary to aid and protection for said improvements in all countries, the read assignee.
when known.	(Signature)
State of PA) SS: 166 Y County of CENTRE)	
On this 44 day of November 2007 before Runt, to me personally known as the individual who executed the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her of his/her own free will for the same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her own free will have been same was executed by him/her	
Chiring a Control (Notary Public)	
Total of 5 forms are submitted.	

LD-528\

NOTARIAL SEAL CHERML A GEORGE Motory Public MATION TWP, CENTRE COUNTY My Commission Expires Oct 6, 2010

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Almee Cribfield @006/012

712 Menee Street, Earmer PTC/98/15 (6-00) Modified LOLKAM Docket Number (Optional) ASSIGNMENT OF UTILITY APPLICATION **DSCOPE 3.0-039** Whereast I. Robert F. Kunz ൂട്ട് (Pion Addia) et State College, Pennsylvania 16803 hereafter referred to as assignor, have with others invented certain new and useful improvements in EXPANDABLE IMPELLER PUMP for which an application for a United States Letters Patent was filed on September 15, 2005 Application Number 11/227,277 for which an application for a United States Latters Patent was executed by me on Whereas, The Penn State Research Foundation herein referred to as "assignee" whose mailing address is a corporation of 304 Old Main, University Park, Pennsylvania 16803 is desirous of acquiring the entire right, title and interest in the same; NOW, THEREFORE, in consideration of the sum of one dollars (\$), the receipt whereof is acknowledged, and other good and valuable consideration. I as assignor hereby sell, assign and set over to said assignee my entire right, title and interest for the United States of America and all other countries in and to said invention and the eforesaid utility patent application and all original, divisional, continuation, continuation-in-part, substitute or relissue applications and patents applied for or granted therefor in the United States of America and all other countries, for said invention, including without limitation all applications and patents for said invention claiming priority or benefit of the aforesaid utility application pursuant to any law or treaty, and including the right to claim such priority or benefit and the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all patents on said improvements or resulting therefrom to said assignee herein, as assignee of the entire interest therein; and the undersigned for me and my legal representatives, heirs and essigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, relessue and other applications for Letters Patent on said improvements and alt assignments thereof to said assignee or its assigne, to communicate to said assignee or its representatives all facts known to the undersigned respecting said improvements, whenever requested, to testify in any interferences or other legal proceedings in which any of said applications or patents may become involved, to sign all lawful papers, make all rightful oaths, and to do generally everything necessary to aid assignee, its successors, assigns and nominees to obtain patent protection for said improvements in all countries, the expenses incident to said applications to be borne and paid by said assignee. And I do hereby authorize my attorneys to insert on this deed the filing date and application number of said application when known. State of County of day of Nokmbac 2co before me personally came the above-named Robert F. Kunz, to me personally known as the Individual who executed the foregoing instrument, who acknowledged to me that the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her of his/her own free will for the purposes because the same was executed by him/her own free will for the purposes because the same was executed by the sa

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Barbara S Barnett, Notary Public Perguson Twp, Centre County My commission expires Mar 24, 2011

	former PTO/SB/15 (8-00) Modified LDLK&M
A COLONIAGNIT OF LITTUITY ABOUT ATTOMS	Docket Number (Optional)
ASSIGNMENT OF UTILITY APPLICATION	DSCOPE 3.0-039
Whereas, t, Stephen A. Hambric	of
520 McKee Street; State College, Pennsylvania 16803	
hereafter referred to as assignor, have with others invented cert	ain new and useful improvements in
EXPANDABLE IMPELLER PUMP	<u></u>
x for which an application for a United States Letters Pa	tent was filed on September 15, 2005
Application Number 11/227,277	
for which an application for a United States Letters Pate	ent was executed by me on
and	<u></u> ·
Whereas, <u>The Penn State Research Foundation</u> a corporation of herein referred to as "assigned"	pe" whose mailing address is
304 Old Main, University Park, Pennsylvania 16803	SE MILOSE MIGHING GOODS &
is desirous of acquiring the entire right, title and interest in the	same;
NOW, THEREFORE, in consideration of the sum of one is acknowledged, and other good and valuable consideration,	dollars (\$ 1.00), the receipt whereof
assignee my entire right, title and interest for the United Sta	ites of America and all other countries in and to said
invention and the aforesaid utility patent application and all	। original, divisional, continuation, continuation-in-part
substitute or reissue applications and patents applied for or g other countries, for said invention, including without limitation	ranted therefor in the United States of America and Si all applications and patents for said invention claiming
priority or benefit of the aforesaid utility application pursuant to	any law or treaty, and including the right to claim such
priority or benefit and the Commissioner of Patents and Trade patents on said improvements or resulting therefrom to sai	emarks is hereby authorized and requested to issue all
therein; and the undersigned for me and my legal representati	ives, heirs and assigns do hereby agree and covenan
without further remuneration, to execute and deliver all original for Letters Patent on said improvements and all assignments	, divisional, continuation, reissue and other applications
tor Letters Patent on said improvements and all assignments to said assignee or its representatives all facts known to the	undersigned respecting said improvements, wheneve
requested, to testify in any interferences or other legal process	idings in which any of said applications or patents may
become involved, to sign all lawful papers, make all rightful assignee, its successors, assigns and nominees to obtain pate	paths, and to do generally everything necessary to ake ant protection for said improvements in all countries, the
expenses incident to said applications to be borne and pald by	said assignee.
And I do hereby authorize my attorneys to insert on this deed t	he filing date and application number of said application
when known.	The filling date and appropriation number of acid appropriation
, ,	-12/2 bi
11/8/07	>// Clauton
(Date)	(Signature)
State of Pennsylvania) SS:	
County of Contre)	
On this 844 day of Nontring back 2000 have	
On this <u>or again wowers the individual who experience</u>	es are marropally some the shall beyond Ctanhai
me that the same was executed by him/her of his/her own free	re me personally came the above-named <u>Stephe</u> r secuted the foregoing instrument, who acknowledged to
T	recuted the foregoing instrument, who acknowledged t
T T T . (1) . A . T	kecuted the foregoing instrument, who acknowledged to will for the purposes therein set forth. Notarial Seal
(Nintern Colors)	kecuted the foregoing instrument, who acknowledged to will for the purposes therein set forth. Notarial Seal A Hamster, Notary Public
(Notary Public) State Comm	kecuted the foregoing instrument, who acknowledged to will for the purposes therein set forth. Notarial Seal L Harpster, Notary Public Diego Boro, Centre County Dieson Expires July 10, 2011
(Notary Public) State C	Notarial Seal L. Harpster, Notary Public Nego Boro, Centre Countly
(Notary Public) State Comm	kecuted the foregoing instrument, who acknowledged to will for the purposes therein set forth. Notarial Seal L Harpster, Notary Public Diego Boro, Centre County Dieson Expires July 10, 2011

PATENT REEL: 049520 FRANCE: 09207