11/15/2017 504643931

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4690652

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JUSTIN M. WALSH	11/14/2007
JAMES P. RUNT	11/14/2007
ROBERT F. KUNZ	11/06/2007
STEPHEN A. HAMBRIC	11/08/2007
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

RECEIVING PARTY DATA

Name:	THE PENN STATE RESEARCH FOUNDATION	
Street Address:	304 OLD MAIN	
City:	UNIVERSITY PARK	
State/Country:	PENNSYLVANIA	
Postal Code:	16802	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14622339

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.com PATENT DOCKET DEPARTMENT Correspondent Name: Address Line 1: ARMSTRONG TEASDALE LLP Address Line 2: 7700 FORSYTH BLVD., SUITE 1800

Address Line 4: ST. LOUIS, MISSOURI 63105

ATTORNEY DOCKET NUMBER:	P04000C4
NAME OF SUBMITTER:	CHRISTOPHER M. GOFF

PAIENI REEL: 044136 FRAME: 0092 504643931

SIGNATURE:	/Christopher M. Goff/
DATE SIGNED:	11/15/2017
Total Attachments: 6	
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PATENT REEL: 044136 FRAME: 0093

former PTO/SB/15 (8-00) Modified LDLK&M

Aimee Crihfield 2012/012

. 11/05/2007 14:19 IFAX 1PO@PSU_FDU

· · · · · · · · · · · · · · · · · · ·	- Docket Number (Optional)	
ASSIGNMENT OF UTILITY APPLICATION	DSCOPE 3.0-039	
Whereas, I, Justin M. Walsh 2607 General Potter Highway; Spring Mills, Pennsylvania 16875		
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 11/227,277		
for which an application for a United States Letters Pa and	tent was executed by me on ,	
Whereas, The Penn State Research Foundation a corporation of herein referred to as "assi 304 Old Main, University Park, Pennsylvania 16803	gnee" whose mailing address is	
is destrous of acquiring the entire right, title and interest in the		
NOW, THEREFORE, In consideration of the sum of one dollars (\$ 1.00), the receipt whereof is ecknowledged, 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 aforesaid utility patent application and all original, divisional, continuation, continuation-in-part, substitute or relisue 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 lew 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 thereig; and the undersigned for me and my legal representatives, heirs and assigns do hereby agree and covenant without further remuneration, to execute and deliver all original, divisional, continuation, reissue and other applications for Letters Patent on said improvements and all assignments thereof to said assignee or its assigns, 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 caths, and to do generally everything necessary to aid assignee, its successors, assigns and nomlnees 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 when known.	the filing date and application number of said application	
	(Signature)	
State of tennsylvana) SS: County of Cotta)	(agains)	
On this 14th day of November Scott bef Walsh, to me personally known as the Individual who executed that the same was executed by him/her of his/her own free ay	uted the foregoing instrument, who acknowledged to me the purposes the set to the Notarial Seal	
Ruth A. Harpeter, Notary Public (Notary Public) Ruth A. Harpeter, Notary Public State College Boro, Centre County Opening of Express July 10:2011		
X Total of 5 forms are submitted.	Pennsylvania Association of Notaries	



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

······································	Docket Number (Optional)
ASSIGNMENT OF UTILITY APPLICATION	DSCOPE 3.0-039
Whereas, I, James P. Runt	of
338 Arbor Way; State College, Pennsylvania 16803	
hereafter referred to as assignor, have with others invented certa EXPANDABLE IMPELLER PUMP	ain new and useful improvements in
for which an application for a United States Letters Pate Application Number 11/227,277	ent was filed on September 15, 2005
for which an application for a United States Letters Pater	truce executed by me of
	it was executed by the off
and	
Whereas, The Penn State Research Foundation	ar where molling address is
a corporation ofherein referred to as "assigni	ee whose mailing address is
304 Old Main, University Park, Pennsylvania 16803 is desirous of acquiring the entire right, title and interest in the sa	ame:
	<u> </u>
NOW, THEREFORE, in consideration of the sum of one is acknowledged, and other good and valuable consideration, assignee my entire right, title and interest for the United Statistical and the eforesaid utility patent application and all substitute or reissue applications and patents applied for or grother countries, for said invention, including without limitation a priority or benefit of the aforesaid utility application pursuant to priority or benefit and the Commissioner of Patents and Tradel patents on said improvements or resulting therefrom to said therein; and the undersigned for me and my legal representative without further remuneration, to execute and deliver all original, for Letters Patent on said improvements and all assignments the said assignee or its representatives all facts known to the unequested, to testify in any interferences or other legal proceed become involved, to sign all lawful papers, make all rightful or assignee, its successors, assigns and nominees to obtain pater expenses incident to said applications to be borne and paid by a And I do hereby authorize my attorneys to insert on this deed the when known.	es of America and all other countries in and to sald original, divisional, continuation, continuation-in-part, anted therefor in the United States of America and all all applications and patents for sald Invention claiming any law or treaty, and including the right to claim such marks is hereby authorized and requested to issue all assignee herein, as assignee of the entire interest was, heirs and essigns do hereby agree and covenant divisional, continuation, reissue and other applications hereof to sald assignee or its assigns, to communicate undersigned respecting said improvements, whenever lings in which any of said applications or patents may aths, and to do generally everything necessary to aid at protection for said improvements in all countries, the said assignee.
(Date)	(Signature)
State of CENTRE) SS: 1664	
On this 44 day of NOVLm bis 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	he foregoing instrument, who acknowledged to me that
Cherip 1 Gran Public)	
	<u> </u>
Total of 5 forms are submitted.	

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NOTARIAL SEAL CHERML A GEORGE Motory Public MATION TWP, CENTRE COUNTY My Commission Expires Oct 6, 2010 11/05/2607 14:16 IFAX IPO@PSU.EDU

± Aimee Cribfield 2008/012

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	ESTIMAT PT CASC 13 (0-00) MODIFIED COLUMN	
ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional)	
ASSIGNMENT OF OTHER LAFTERATION	DSCOPE 3.0-039	
Whereas I, Robert F. Kunz	of	
Control of the State College, Pennsylvania 16803	· · · · · · · · · · · · · · · · · · ·	
hereafter referred to as assignor, have with others invented certain	ain new and useful improvements in	
EXPANDABLE IMPELLER PUMP		
X for which an application for a United States Letters Pote	ent was filed on September 15, 2005	
x for which an application for e United States Letters Patent was filed on September 15, 2005 Application Number 11/227,277		
for which an application for a United States Letters Pater and	it was executed by me on ,	
and		
	1	
Whereas. The Penn State Research Foundation		
a corporation ofherein referred to as "assigne	æ" whose mailing address is	
304 Old Main, University Park, Pennsylvania 16803		
is desirous of acquiring the entire right, title and interest in the sa	eme;	
	,	
NOW, THEREFORE, in consideration of the sum of one	dollars (\$ <u>1.00</u>), the receipt whereof	
is acknowledged, and other good and valuable consideration, I assignee my entire right, title and interest for the United Stat	as assignor nereby sell, assign and set over to said i es of America and all other countries in and to said i	
invention and the aforesaid utility patent application and all	original, divisional, continuation, continuation-in-part,	
substitute or release applications and patents applied for or pro-	anted therefor in the United States of America and all	
other countries, for said invention, including without limitation a priority or benefit of the aforesaid utility application pursuant to:	ili applications and patents for each invention claiming	
priority or benefit and the Commissioner of Patents and Trader	marks 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 representative without further remuneration, to execute and deliver all original,	res, heirs and assigns do hereby agree and covenant in divisional continuation, relative and other applications.	
for Letters Patent on said improvements and all assignments th	ereof to said assignee or its assigns, to communicate	
to said assignee or its representatives all facts known to the u	indersigned respecting said improvements, whenever	
requested, to testify in any interferences or other legal proceed become involved, to sign all tawful papers, make all rightful or	ings in which any of said applications or patents may	
essignee, its successors, essigns and nominees to obtain pater	it protection for said improvements in all countries, the	
expenses incident to said applications to be borne and paid by s	aid assignee.	
And I do hereby authorize my attorneys to insert on this deed the	a Clina data and application number of cold application	
when known.	e ming date and appropriation regions of said apprication	
1. / · / -	11 A 7A /	
11/6/07	199 / 19	
(Dete)	(Signature)	
State of Pennsylvania) ss:		
County of $(+i)+\ell\ell$	•	
11		
On this <u>だい</u> day of <u>りのどかわててみの</u> 7before	me personally came the above-named Robert F.	
<u>Kunz</u> , 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 a	NOTARIAL SEAL	
HORDONAL BROWN	Barbara S Barnett, Notary Public	
(Notary Public) Registon Twp, Centre County		
(My commission expires Mar 24, 2011	
x *Total of 5 forms are submitted.		

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<u> </u>	former PTO/SB/15 (8-00) Modified LDLK&M
ASSIGNMENT OF UTILITY APPLICATION	Docket Number (Optional) DSCOPE 3.0-039
	D3COFE 3.0-039
. A. I., A. Hamber	of
Whereas, t, Stephen A. Hambric 520 McKee Street; State College, Pennsylvania 16803	
hereafter referred to as assignor, have with others invented certa	ain new and useful improvements in
EXPANDABLE IMPELLER PUMP	
X for which an application for a United States Letters Pate	ent was filed on September 15, 2005
Application Number11/227,277	
for which an application for a United States Letters Pater	nt was executed by me on ,
and	
Whereas, The Penn State Research Foundation	
a corporation of herein referred to as "assigned	e" whose mailing address is
304 Old Main, University Park, Pennsylvania 16803	
is desirous of acquiring the entire right, title and interest in the s	ame;
NOW, THEREFORE, in consideration of the sum of one	dollars (\$ 1.00), the receipt whereo
is acknowledged, and other good and valuable consideration, assignee my entire right, title and interest for the United Stat	i as assignor hereby sell, assign and set over to said tes 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 grother countries, for said invention, including without limitation	anted therefor in the United States of America and all 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
I priority or benefit and the Commissioner of Patents and Trade	marks is hereby authorized and requested to issue al
patents on said improvements or resulting therefrom to said therein; and the undersigned for me and my legal representation	ves, heirs and assigns do hereby agree and covenan
without further remuneration, to execute and deliver all original,	divisional, continuation, reissue and other applications
for Letters Patent on said improvements and all assignments that 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 proceed	dings in which any of said applications or patents may
become involved, to sign all lawful papers, make all rightful o assignee, its successors, assigns and nominees to obtain pate	aths, and to do generally everything necessary to all nt protection for said improvements in all countries, th
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 the	ne filing date and application number of said applicatio
when known.	
11/8/07	5/2 ambii
	(Signature)
State of Pennsulvaria) SS:	
County of (errite)	
On this Standard day of November, 2000 before A. Hambric, to me personally known as the individual who ex	e me personally came the above-named <u>Stephe</u>
me that the same was executed by him/her of his/her own free.	will for the pulitises therein set forth.
	Notarial Seal
/NI_AThulkia\	Harpster, Notary Public liege Boro, Centre County
ha. Comm	icelon Expires July 10, 2011)
x *Total of 5 forms are submitted.	na ",seeletier: of Materias
LD-528\	

PATENT REEL: 024330 FRAWE: 02277

Assignment of Rights, Title and Interest in Invention (Multiple inventors; single assignee) Docket No. PST-16002/36		
his is an Assignment of the following rights, t	itle and interest: (check all that apply):	
United States of America rights, i		
Foreign rights, title and interest i		
		_
☑ United States Patent Application Serial No. 11/227,277 Date of Execution: Date of Filing: Sept. 15, 2005		
		<u> </u>
☐ United States Provisional Patent Application Serial No. ☐ United States Patent No(s).		
☐ International (PCT) Patent Appl	lication Serial No.	<u></u>
Other (specify)		
al - Cal - Variantian		
IT INVENTION EXPANDABLE IMPELLER PUMP		
iventors (assignors)		
Name	Address	
Mark W. McBride	194 N. Fillmore, Bellefonte, PA 16823	
Thomas M. Mallison	1836 Kings Ct., State College, PA 16803	
Gregory Dillon	308 Toftrees Ave., #131, State College, PA 16803	
Robert L. Campbell	State College PA 16903	
David Boger 217 Runnymede Ave., Jenkintown, PA 19046		9046
		<u>. </u>
		<u>.</u>
		<u> </u>
Assignee		
Name	Address	
The Penn State Research Foundation	304 Old Main University Park, PA 16803	
	(Page 1 of 2)	A\$03A/REV01

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Assignment of Rights, Title and Interest in Invention (Multiple inventors; single assignee)

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 Assigned:

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

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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 accord to us with respect to the filing of applications for patents or securing of patents in the United States and countries foreign thereto, unto said Assignee;

And we hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Letters Patent which may issue for said Invention to said Assignee, as assignee of the whole right, little and interest thereto;

And we further agree to sign and execute all necessary and knotted friture documents, including applications for foreign patents, for filing divisions, confinuations and continuations-in-part of sold application for patent, and/or, for obtaining any relessue or reissues 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
Maris W. McBride	Muku Masus Oct 18 2005
Thomas M. Mallison	- DET 17 200 C
Gregory Dillon	Greg Dellen OCT 18 2005
Robert L. Campbell	Part & Ocabell Oct 17,2005
David Boger	OCT 11 200S
·	<u> </u>
	, 10 , 17 , 10 , 10 , 10 , 10 , 10 , 10
	Section 2.

Page 2 of 2]