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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/456,777	10/05/2021	11136870	047158.100055	4763

132858 7590 09/15/2021
Hogan Lovells US LLP
609 Main Street
Suite 4200
Houston, TX 77002

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

U.S. Well Services, LLC, Houston, TX

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		16456777
Filing Date		2019-06-28
First Named Inventor	Joel N. Broussard	
Art Unit		
Examiner Name		
Attorney Docket Number	047158.100055	

Change(s) applied
to document
/D.M./
6/9/2021

	142	20160341281		2016-11-24	Brunvold, et al. ~~Onesubsea IP UK Limited~~	
	143	20050274508		2005-12-15	Folk	
	144	20070131410		2007-06-14	Hill	
	145	20190003329		2019-01-03	Morris	
	146	20090045782		2009-02-19	Datta	
	147	20150097504		2015-04-09	Lamascus	
	148	20170241221		2017-08-24	Seshadri	
	149	20150330172		2015-11-19	Allmaras	
	150	20110166046		2011-07-07	Weaver	
	151	20160265457		2016-09-15	Stephenson	
	152	20190120024		2019-04-25	Oehring	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

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First Named Inventor	Joel N. Broussard	
Art Unit		
Examiner Name		
Attorney Docket Number	047158.100055	

	131	20170022807		2017-01-26	Dursun	
	132	20160208595		2016-07-21	Tang	
	133	20150075778		2015-03-19	Walters	
	134	20180320483		2018-11-08	Zhang	
	135	20180038216		2018-02-08	Zhang	
	136	20160102537		2016-04-14	Lopez	
	137	20140290768		2014-10-02	Randle	
	138	20140277772		2014-09-18	Lopez	
	139	20170096885		2017-04-06	Oehring	
	140	20070277982		2007-12-06	Shampine	
	141	20170051732		2017-02-23	Hernandez, et al. ~~Baker Hughes Incorporated~~	

Change(s) applied
to document

DM4
EPS-Web 2.1.17
6/9/2021

HALLIBURTON EXHIBIT 1003

Halliburton Energy Services, Inc. v. U.S. Well Services, LLC, IPR2023-00558, Page 3

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /K.L.T/

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		16456777
Filing Date		2019-06-28
First Named Inventor	Joel N. Broussard	
Art Unit		
Examiner Name		
Attorney Docket Number	047158.100055	

	16	20190100989		2019-04-04	Stewart	
	17	20190178057		2019-06-13	Hunter	
	18	20180216455		2018-08-02	Andreychuk	
	19	20190203567		2019-07-04	Ross	
	20	20170146189		2017-05-25	Herman	
	21	20190292891		2019-09-26	Kajaria	
	22	20190292866		2019-09-26	Ross	
	23	20190128080		2019-05-02	Ross	
Change(s) applied to document /D.M./ 6/9/2021	24	20180363437		2018 2019-12-20	Coli	
	25	20170030177		2017-02-02	Oehring	
	26	20080017369		2008-01-24	Sarada	

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
16456777	28-Jun-2019	Joel N. BROUSSARD	047158.100055	4763

TITLE OF INVENTION :

SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Regular Undiscounted	Utility under 35 USC 111(a)	3676	308100	
Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
\$1200	\$0	\$1200	03-Sep-2021	\$0

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
132858 Hogan Lovells US LLP 609 Main Street Suite 4200 Houston TX 77002 UNITED STATES 713-632-1400 hlusdocketing@hoganlovells.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status**Change in Entity Status**

Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.

Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
☐ If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

☐ Applicant asserting small entity status. See 37 CFR 1.27.

Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

☒ Applicant changing to regular undiscounted fee status.

Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:

☒ Issue Fee

☐ I authorize USPTO to apply my previously paid issue fee to the current fees due

☐ Publication Fee

☐ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number _____

☐ Advance Order - # of copies _____

☒ If in **addition** to the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency, or credit any overpayment, to Deposit Account Number 501349.
The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. HOGAN LOVELLS US LLP
2.
3.

5.Assignee Name(s) and Residence Data To Be Printed

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
U.S. Well Services, LLC	Houston	TEXAS	UNITED STATES	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/TAYLOR P. EVANS/	Date	09-02-2021
Name	Taylor P. Evans	Registration Number	60506

Electronic Patent Application Fee Transmittal

Application Number:	16456777			
Filing Date:	28-Jun-2019			
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS			
First Named Inventor/Applicant Name:	Joel N. BROUSSARD			
Filer:	Taylor P. Evans/Stephanie McDonough			
Attorney Docket Number:	047158.100055			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPL ISSUE FEE	1501	1	1200	1200
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1200

Electronic Acknowledgement Receipt

EFS ID:	43656322
Application Number:	16456777
International Application Number:	
Confirmation Number:	4763
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
First Named Inventor/Applicant Name:	Joel N. BROUSSARD
Customer Number:	132858
Filer:	Taylor P. Evans/Stephanie McDonough
Filer Authorized By:	Taylor P. Evans
Attorney Docket Number:	047158.100055
Receipt Date:	02-SEP-2021
Filing Date:	28-JUN-2019
Time Stamp:	14:16:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 1200
RAM confirmation Number	E202192E16101748
Deposit Account	501349
Authorized User	Stephanie McDonough

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

HALLIBURTON EXHIBIT 1003

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	62700	no	2
			38195b3997d4da72f902b6f2bb4f7e7efd6b4e5b		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	40278	no	2
			79b07f04ec34dfa5487e0672e877edf72afb8527		
Warnings:					
Information:					
Total Files Size (in bytes):			102978		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/456,777	06/28/2019	Joel N. BROUSSARD	047158.100055	4763
132858	7590	06/30/2021	EXAMINER	
Hogan Lovells US LLP			THOMPSON, KENNETH L	
609 Main Street			ART UNIT	PAPER NUMBER
Suite 4200			3676	
Houston, TX 77002			NOTIFICATION DATE	DELIVERY MODE
			06/30/2021	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

hlusdocketing@hoganlovells.com
stephanie.mcdonough@hoganlovells.com

Corrected Notice of Allowability	Application No. 16/456,777	Applicant(s) BROUSSARD et al.	
	Examiner KENNETH L THOMPSON	Art Unit 3676	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Information Disclosure Statement filed 8 June 2021.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are See Continuation Sheet. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov**.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)	5. ☐ Examiner's Amendment/Comment
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ____	6. ☐ Examiner's Statement of Reasons for Allowance
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material ____	7. ☐ Other ____
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date ____	

/KENNETH L THOMPSON/ Primary Examiner, Art Unit 3676	
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Continuation of 3. The allowed claim(s) is/are: 2,4-8,10,12-17 and 19-21

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		16456777
	Filing Date		2019-06-28
	First Named Inventor	Joel N. BROUSSARD	
	Art Unit	3676	
	Examiner Name	Kenneth L. THOMPSON	
	Attorney Docket Number	047158-100055	

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5950726	A	1999-09-14	Roberts	
	2	6097310	A	2000-08-01	Harrell et al.	
	3	5114239	A	1992-05-19	Allen	
If you wish to add additional U.S. Patent citation information please click the Add button.						
U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20190040727	A1	2019-02-07	Oehring et al.	
	2	20110110793	A1	2011-05-12	Leugemores et al.	
	3	20170096889	A1	2017-04-06	Blanckaert et al.	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		16456777
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First Named Inventor	Joel N. BROUSSARD	
Art Unit	3676	
Examiner Name	Kenneth L. THOMPSON	
Attorney Docket Number	047158-100055	

4	20120150455	A1	2012-06-14	Franklin et al.	
5	20180313677	A1	2018-11-01	Warren et al.	
6	20080257449	A1	2008-10-23	Weinstein et al.	
7	20150147194	A1	2015-05-28	Foote	
8	20180181830	A1	2018-06-28	Luharuka et al.	
9	20120063936	A1	2012-03-15	Baxter et al.	
10	20170204852	A1	2017-07-20	Barnett	
11	20190145251	A1	2019-05-16	Johnson	
12	20190128104	A1	2019-05-02	Graham et al.	
13	20190257462	A1	2019-08-22	Rogers	
14	20060109141	A1	2006-05-25	Huang	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

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Art Unit	3676
Examiner Name	Kenneth L. THOMPSON
Attorney Docket Number	047158-100055

15	20150233530	A1	2015-08-20	Sandidge	
16	20110081268	A1	2011-04-07	Ochoa et al.	
17	20080164023	A1	2008-07-10	Dykstra et al.	
18	20050201197	A1	2005-09-15	Duell et al.	
19	20010000996	A1	2001-05-10	Grimland et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	112196508	CN	A	2021-01-08	China Nat. Petroleum Corp.	English-language abstract	☐
	2	104117308	CN	A	2014-10-29	Danyan Hisense Paint Chemical Plant	English-language abstract	☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. BROUSSARD
Art Unit	3676
Examiner Name	Kenneth L. THOMPSON
Attorney Docket Number	047158-100055

1	International Search Report and Written Opinion mailed in PCT/US20/67526 mailed May 6, 2021	☐
2	International Search Report and Written Opinion mailed in PCT/US20/67608 mailed March 30, 2021	☐
3	International Search Report and Written Opinion mailed in PCT/US20/67528 mailed March 19, 2021	☐
4	International Search Report and Written Opinion mailed in PCT/US20/67146 mailed March 29, 2021	☐
5	International Search Report and Written Opinion mailed in PCT/US20/67523 mailed March 22, 2021	☐
6	International Search Report and Written Opinion mailed in PCT/US2020/066543 mailed May 11, 2021	☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/KENNETH L THOMPSON/	Date Considered	06/25/2021
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.



UNITED STATES PATENT AND TRADEMARK OFFICE

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NOTICE OF ALLOWANCE AND FEE(S) DUE

132858 7590 06/03/2021
Hogan Lovells US LLP
609 Main Street
Suite 4200
Houston, TX 77002

EXAMINER	
THOMPSON, KENNETH L	
ART UNIT	PAPER NUMBER
3676	

DATE MAILED: 06/03/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/456,777	06/28/2019	Joel N. BROUSSARD	047158.100055	4763

TITLE OF INVENTION: SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	09/03/2021

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

132858 7590 06/03/2021
Hogan Lovells US LLP
609 Main Street
Suite 4200
Houston, TX 77002

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/456,777	06/28/2019	Joel N. BROUSSARD	047158.100055	4763

TITLE OF INVENTION: SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	09/03/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
THOMPSON, KENNETH L	3676	166-308100

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

1 _____

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/456,777	06/28/2019	Joel N. BROUSSARD	047158.100055	4763
132858	7590	06/03/2021	EXAMINER	
Hogan Lovells US LLP			THOMPSON, KENNETH L	
609 Main Street			ART UNIT	
Suite 4200			PAPER NUMBER	
Houston, TX 77002			3676	

DATE MAILED: 06/03/2021

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 16/456,777	Applicant(s) BROUSSARD et al.	
	Examiner KENNETH L THOMPSON	Art Unit 3676	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment and Terminal Disclaimer filed 24 May 2021.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are See Continuation Sheet. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov**.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892) 2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ____. 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material ____. 4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.	5. ☐ Examiner's Amendment/Comment 6. ☐ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____.
--	---

/KENNETH L THOMPSON/
Primary Examiner, Art Unit 3676

Continuation of 3. The allowed claim(s) is/are: 2,4-8,10,12-17 and 19-21

Issue Classification 	Application/Control No. 16/456,777	Applicant(s)/Patent Under Reexamination BROUSSARD et al.	
	Examiner KENNETH L THOMPSON	Art Unit 3676	

CPC						
Symbol					Type	Version
E21B	/	43	/	26	F	2013-01-01
E21B	/	43	/	267	I	2013-01-01
F01D	/	15	/	08	I	2013-01-01
F01D	/	15	/	10	I	2013-01-01
F02C	/	3	/	22	I	2013-01-01
F04B	/	17	/	03	I	2013-01-01
F04B	/	19	/	22	I	2013-01-01
F04B	/	49	/	20	I	2013-01-01
H02P	/	23	/	00	I	2013-01-01
F05D	/	2220	/	32	A	2013-01-01

CPC Combination Sets					
Symbol				Type	Set

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 16	
/KENNETH L THOMPSON/ Primary Examiner, Art Unit 3676 (Primary Examiner) _____ (Date) _____		26 May 2021 (Date)	O.G. Print Claim(s) 4 O.G. Print Figure 1

Issue Classification 	Application/Control No. 16/456,777	Applicant(s)/Patent Under Reexamination BROUSSARD et al.
	Examiner KENNETH L THOMPSON	Art Unit 3676

INTERNATIONAL CLASSIFICATION			
CLAIMED			
E21B	/	43	/ 26
NON-CLAIMED			
/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	16	
/KENNETH L THOMPSON/ Primary Examiner, Art Unit 3676	26 May 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	4	1

Issue Classification 	Application/Control No. 16/456,777	Applicant(s)/Patent Under Reexamination BROUSSARD et al.
	Examiner KENNETH L THOMPSON	Art Unit 3676

☐ Claims renumbered in the same order as presented by applicant
 ☐ CPA
 ☒ T.D.
 ☐ R.1.47

CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	2	10	14												
2	4	11	15												
3	5	12	16												
4	6	13	17												
5	7	14	19												
6	8	15	20												
7	10	16	21												
8	12														
9	13														

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	16	
/KENNETH L THOMPSON/ Primary Examiner, Art Unit 3676	26 May 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	4	1

<i>Search Notes</i> 	Application/Control No. 16/456,777	Applicant(s)/Patent Under Reexamination BROUSSARD et al.
	Examiner KENNETH L THOMPSON	Art Unit 3676

CPC - Searched*		
Symbol	Date	Examiner
E21B 43/26	11/18/2020	KT

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
References cited in U.S. 9,410,410 and U.S. 8,789,601 and updated search	11/18/2020	KT
See attached interference text search	05/26/2021	KT

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
Same as above		05/26/2021	KT

--	--

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)

Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. BROUSSARD
Art Unit	3676
Examiner Name	Kenneth L. THOMPSON
Attorney Docket Number	047158-100055

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	10695950	B2	2020-06-30	Igo et al.	
	2	9706185	B2	2017-07-11	Ellis	
	3	9482086	B2	2016-11-01	Richardson et al.	
	4	5517822	A	1996-05-21	Haws et al.	
	5	6626646	B2	2003-09-30	Rajewski	
	6	6765304	B2	2004-07-20	Baten et al.	
	7	10627003	B2	2020-04-21	Dale et al.	
	8	8763387	B2	2014-07-01	Schmidt	

**INFORMATION DISCLOSURE
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Art Unit	3676	
Examiner Name	Kenneth L. THOMPSON	
Attorney Docket Number	047158-100055	

9	9051923	B2	2015-06-09	Kuo	
10	10711576	B2	2020-07-14	Bishop	
11	10669471	B2	2020-06-02	Schmidt et al.	
12	10184465	B2	2019-01-22	Enis et al.	
13	8795525	B2	2014-08-05	McGinnis et al.	
14	9739546	B2	2017-08-22	Bertilsson et al.	
15	8506267	B2	2013-08-13	Gambier et al.	

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U.S.PATENT APPLICATION PUBLICATIONS

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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20200047141	A1	2020-02-13	Oehring et al.	
	2	20170138171	A1	2017-05-18	Richards et al.	

**INFORMATION DISCLOSURE
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Art Unit	3676	
Examiner Name	Kenneth L. THOMPSON	
Attorney Docket Number	047158-100055	

3	20120152716	A1	2012-06-12	Kikukawa et al.
4	20080095644	A1	2008-04-24	Mantei et al.
5	20130255271	A1	2013-10-03	Yu et al.
6	20160273456	A1	2016-09-22	Zhang et al.
7	20170043280	A1	2017-02-16	Vankouwenberg
8	20170074076	A1	2017-03-16	Joseph et al.
9	20200088152	A1	2020-03-19	Allion et al.
10	20130189629	A1	2013-07-25	Chandler

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	3067854	CA	A1	2019-01-03	Morris et al.		

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
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Examiner Name	Kenneth L. THOMPSON
Attorney Docket Number	047158-100055

2	108049999	CN	A	2018-05-18	Kailong High Tech Co. Ltd.	English-Language Translation
3	205986303	CN	U	2017-02-22	Zhenjiang Daqo Secheron Traction Power Co. Ltd.	English-Language Abstract

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	Non-Final Office Mailed October 26, 2020 in US Patent Application 15/356,436	
	2	Non-Final Office Mailed October 5, 2020 in US Patent Application No.16/443,273	
	3	Non-Final Office Action Mailed September 29, 2020 in US Patent Application No. 16/943,727	
	4	Non-Final Office Action Mailed September 2, 2020 in US Patent Application No. 16/356,263	
	5	Non-Final Office Action Mailed August 31, 2020 in US Patent Application No. 16/167,083	
	6	ALBONE, "Mobile Compressor Stations for Natural Gas Transmission Service," ASME 67-GT-33, Turbo Expo, Power for Land, Sea and Air, Vol. 79887, p. 1-10, 1967	
	7	Canadian Office Action issued September 22, 2020 in Canadian Application No. 2,982,974	

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8	International Search Report and Written Opinion Mailed September 3, 2020 in PCT/US2020/36932
9	"Process Burner" (https://www.cebass.com/products/oil-gas/process-burner) 06 September 6, 2018 (06.09.2018), entire document, especially para (Burners for refinery Heaters]
10	"Water and Glycol Heating Systems" (https://www.heat-inc.com/wg-series-water-glycol-systems/) 18 June 2018 (18.06.2018), entire document, especially WG Series Water Glycol Systems
11	"Heat Exchanger" (https://en.wikipedia.org/w/index.php?title=Heat_exchanger&oldid=89300146) 12-18-19 April 2019 (18.04.2019), entire document, especially para (0001]
12	Canadian Office Action issued September 8, 2020 in Canadian Patent Application No. 2,928,707
13	Canadian Office Action issued August 31, 2020 in Canadian Patent Application No. 2,944,980
14	International Search Report and Written Opinion Mailed August 28, 2020 in PCT/US20/23821

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/KENNETH L THOMPSON/	Date Considered	05/26/2021
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

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Filing Date	2019-06-28
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Art Unit	3676
Examiner Name	Kenneth L. Thompson
Attorney Docket Number	047158.100055

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	9506333	B2	2016-11-29	Castillo et al.	
	2	3878884		1975-04-22	Raleigh	
	3	9062545	B2	2015-06-23	Roberts et al.	
	4	5439066		1995-08-08	Gipson	
	5	10221639	B2	2019-03-05	Romer et al.	
	6	10408030	B2	2019-09-10	Oehring et al.	
	7	10408031	B2	2019-09-10	Oehring et al.	
	8	6985750	B1	2006-01-10	Vicknair et al.	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
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Art Unit	3676	
Examiner Name	Kenneth L. Thompson	
Attorney Docket Number	047158.100055	

9	10740730	B2	2020-08-11	Altamirano et al.
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If you wish to add additional U.S. Patent citation information please click the Add button.

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U.S.PATENT APPLICATION PUBLICATIONS

Remove

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20160326853	A1	2016-11-10	Fred et al.	
	2	20190249527	A1	2019-08-15	Kraynek	
	3	20170082033	A1	2017-03-23	Wu et al.	
	4	20170370639	A1	2017-12-28	Barden et al.	
	5	20180312738	A1	2018-11-01	Rutsch et al.	
	6	20180181830	A1	2018-06-28	Laharuka et al.	
	7	20170212535	A1	2017-07-27	Shelman et al.	
	8	20180298731	A1	2018-10-18	Bishop	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		16456777
Filing Date		2019-06-28
First Named Inventor	Joel N. BROUSSARD	
Art Unit	3676	
Examiner Name	Kenneth L. Thompson	
Attorney Docket Number	047158.100055	

9	20110110793	A1	2011-05-11	Leugemors et al.
10	20190154020	A1	2019-05-23	Glass
11	20080277120	A1	2008-11-13	Hickie
12	20180090914	A1	2018-03-29	Johnson et al.
13	20180259080	A1	2018-09-13	Dale et al.
14	20180284817	A1	2018-10-04	Cook et al.
15	20130284455	A1	2013-10-31	Kajaria et al.
16	20180266217	A1	2018-09-18	Funkhauser et al.

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FOREIGN PATENT DOCUMENTS

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	2018044307	WO	A1	2018-03-08	Evolution Well Services, LLC		

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. BROUSSARD
Art Unit	3676
Examiner Name	Kenneth L. Thompson
Attorney Docket Number	047158.100055

2	2018213925	WO	A1	2018-11-29	Rouse Industries Inc.	
3	104196613	CN	A	2014-12-10	SJ PETROLEUM MACHINERY CO LTD	English-language abstract

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NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	Morris et al., 62/526,869; Hydration-Blender Transport and Electric Power Distribution for Fracturing Operation; 28 June 2018; USPTO; see entire document	
	2	Final Office Action mailed February 4, 2021 in US 16/597,014	
	3	International Search Report and Written Opinion mailed February 4, 2021 in PCT/US20/59834	
	4	International Search Report and Written Opinion mailed February 2, 2021 in PCT/US20/58906	
	5	International Search Report and Written Opinion mailed February 3, 2021 in PCT/US20/58899	
	6	Non-Final Office Action mailed January 29, 2021 in US 16/564,185	
	7	Final Office Action mailed January 21, 2021 in US 16/458,696	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. BROUSSARD
Art Unit	3676
Examiner Name	Kenneth L. Thompson
Attorney Docket Number	047158.100055

8	Final Office Action mailed January 11, 2021 in US 16/404,283
9	Non-Final Office Action mailed January 4, 2021 in US 16/522,043
10	International Search Report and Written Opinion mailed December 14, 2020 in PCT/US2020/53980

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/KENNETH L THOMPSON/	Date Considered	05/26/2021
--------------------	----------------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

EAST Search History

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L8	21	(hydraulic\$4 fractur\$3 gas variable frequency electric motor diagnostic).clm.	US-PGPUB; USPAT	AND	ON	2021/05/26 11:13
L9	8	(hydraulic\$4 fractur\$3 gas variable frequency electric motor heat sink).clm.	US-PGPUB; USPAT	AND	ON	2021/05/26 11:20

5/26/2021 11:22:49 AM

C:\Users\kthompson\Documents\EAST\Workspaces\lysol.wsp



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
16/456,777	06/28/2019	3676	1880	047158.100055	20	3

132858
Hogan Lovells US LLP
609 Main Street
Suite 4200
Houston, TX 77002

CONFIRMATION NO. 4763
REPLACEMENT FILING RECEIPT



Date Mailed: 06/01/2021

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Joel N. BROUSSARD, Lafayette, LA;
Jeff McPHERSON, Spring, TX;
Robert KURTZ, Fairmont, WV;

Applicant(s)

U.S. Well Services, LLC, Houston, TX

Assignment For Published Patent Application

U.S. Well Services, LLC, Houston, TX

Power of Attorney: The patent practitioners associated with Customer Number 132858

Domestic Priority data as claimed by applicant

This application is a CON of 15/202,085 07/05/2016 PAT 10337308
which is a CON of 13/679,689 11/16/2012 PAT 9410410

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 07/29/2019

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/456,777**

Projected Publication Date: Not Applicable

Non-Publication Request: No

Early Publication Request: No
Title

SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

Preliminary Class

166

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

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UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/456,777	06/28/2019	Joel N. BROUSSARD	047158.100055

CONFIRMATION NO. 4763

POA ACCEPTANCE LETTER



132858
Hogan Lovells US LLP
609 Main Street
Suite 4200
Houston, TX 77002

Date Mailed: 06/01/2021

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/27/2021.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/ltaba/

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA/82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	16/456,777
Filing Date	2019-06-28
First Named Inventor	Joel N. Broussard
Title	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
Art Unit	3676
Examiner Name	Kenneth L. Thompson
Attorney Docket Number	047158.100055

SIGNATURE of Applicant or Patent Practitioner

Signature	/Taylor P. Evans/	Date (Optional)	2021-05-27
Name	Taylor P. Evans	Registration Number	60506
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)	U.S. Well Services, LLC		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.



*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number

Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)



I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

132858

OR



I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:



The address associated with the above-mentioned Customer Number

OR



The address associated with Customer Number:

OR



Firm or
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

U.S. Well Services, LLC



Inventor or Joint Inventor (title not required below)



Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)



Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)



Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Date (Optional)

18 - Nov - 2020

Name

Lon Robinson

Title

Chief Technology Officer

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.



Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	42835521
Application Number:	16456777
International Application Number:	
Confirmation Number:	4763
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
First Named Inventor/Applicant Name:	Joel N. BROUSSARD
Customer Number:	132858
Filer:	Taylor P. Evans/Stephanie McDonough
Filer Authorized By:	Taylor P. Evans
Attorney Docket Number:	047158.100055
Receipt Date:	27-MAY-2021
Filing Date:	28-JUN-2019
Time Stamp:	12:00:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Req to correct/update/change appl name until pay issue fee	047158-100055_Change-Applicant.pdf	205018	no	2
			687b6b6797c8f1a29d411e2c2589bbbe2a7b8670		

Warnings:

HALLIBURTON EXHIBIT 1003

Information:					
2	Application Data Sheet	047158-100055_Supplemental-ADS.pdf	1249538 521ec8688546ed6de2b4e2a4eaa165cc1c790e2f	no	8
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
3	Power of Attorney	047158-100055_POA.pdf	452985 14fd06fb888e14c9bee6d93549d0030dcc5115ab	no	2
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
Total Files Size (in bytes):			1907541		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

Doc Code: R46C.REQ

Document Description: Request under 37 CFR 1.46(c) to correct, update or change the applicant.

PTO/AIA/41 (04-15)

Approved for use through 11/30/2020. OMB 0651-0031

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**REQUEST TO CORRECT OR UPDATE
THE NAME OF THE APPLICANT UNDER
37 CFR 1.46(c)(1), OR CHANGE THE
APPLICANT UNDER 37 CFR 1.46(c)(2)
(FOR USE ONLY IN APPLICATIONS FILED ON OR AFTER
SEPTEMBER 16, 2012)**

Application Number	16/456,777
Filing Date	2019-06-28
First Named Inventor	Joel N. Broussard
Art Unit	3676
Examiner Name	Kenneth L. Thompson
Practitioner Docket Number	047158.100055

**To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

Applicant hereby requests that the name of the applicant be corrected or updated under 37 CFR 1.46(c)(1), or that the applicant be changed under 37 CFR 1.46(c)(2), in the above-identified application. Requests under 37 CFR 1.46(c)(1) or (c)(2) cannot be submitted after payment of the issue fee or if the application has been patented.

Please check the applicable box(es) below.

☒ 1. This request is to **correct or update the name of the applicant (under 37 CFR 1.46(c)(1))** and includes:

☒ An application data sheet (ADS) in accordance with 37 CFR 1.76(c) with the corrected or updated information shown with markings (e.g., underlining for insertions, strikethrough for deletions). A Corrected Web-based ADS may be used.

Note: Requests under 37 CFR 1.46(c)(1) may be filed to correct typographical errors in the name of the § 1.46 applicant, or for updating the name of the § 1.46 applicant (i.e., where there is no change in the applicant itself but just in the applicant's name). See the Manual of Patent Examining Procedure (MPEP) section 605.01.

☐ 2. This request is to **change the applicant (under 37 CFR 1.46(c)(2))** and includes:

☐ An application data sheet (ADS) in accordance with 37 CFR 1.76(c) that identifies the changes with proper markings (underlining for insertions and strikethrough for deletions). A Corrected Web-based ADS may be used.

☐ A Statement Under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent). See MPEP 325.

I am the

☐ applicant*

☒ attorney or agent of record

Registration number 60,506

☐ attorney or agent acting under 37 CFR 1.34

Registration number _____

Signature /Taylor P. Evans/

Typed or printed name Taylor P. Evans

Date May 27, 2021

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. *Juristic entities must be represented by a patent practitioner (See 37 CFR 1.31, applicable to any paper filed on or after September 16, 2012 that is presented on behalf of a juristic entity, regardless of application filing date). Submit multiple forms if more than one signature is required, see below**.

☒ ** Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND**

TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

SUPPLEMENTAL APPLICATION DATA SHEET

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	047158.100055
		Application Number	<u>16/456,777</u>
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

Inventor Information:

Inventor 1				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
	Joel	N.	BROUSSARD	
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				
City	Lafayette	State/Province	LA	Country of Residence ⁱ US
Mailing Address of Inventor:				
Address 1		117 Oak Terrace Drive		
Address 2				
City	Lafayette	State/Province	LA	
Postal Code	70508	Country ⁱ	US	
Inventor 2				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
	Jeff		McPHERSON	
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				
City	Spring	State/Province	TX	Country of Residence ⁱ US
Mailing Address of Inventor:				
Address 1		25818 Overlake Dr.		
Address 2				
City	Spring	State/Province	TX	
Postal Code	77380	Country ⁱ	US	
Inventor 3				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
	Robert		KURTZ HALLIBURTON EXHIBIT 1003	

SUPPLEMENTAL APPLICATION DATA SHEET

PTO/AIA/14 (08-15)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	047158.100055
	Application Number	<u>16/456,777</u>
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS	

Residence Information (Select One)				☒ US Residency	☐ Non US Residency	☐ Active US Military Service
City	Fairmont	State/Province	WV	Country of Residence ⁱ	US	
Mailing Address of Inventor:						
Address 1		Rt. 7, 573-1				
Address 2						
City	Fairmont	State/Province	WV			
Postal Code	26554	Country ⁱ	US			
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.						

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence information of this application.			
Customer Number	132858		
Email Address	hlusdocketing@hoganlovells.com	Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS		
Attorney Docket Number	047158.100055	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country ⁱ

SUPPLEMENTAL APPLICATION DATA SHEET

PTO/AIA/14 (08-15)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	047158.100055
		Application Number	<u>16/456,777</u>
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS		

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)		
Customer Number	132858				
Prefix	Given Name	Middle Name	Family Name	Suffix	Remove
Registration Number					
Prefix	Given Name	Middle Name	Family Name	Suffix	Remove
Registration Number					

Additional Representative Information blocks may be generated within this form by selecting the **Add** button.

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	Continuation of	15202085	2016-07-05	10337308	2019-07-02
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15202085	Continuation of	13679689	2012-11-16	9410440	2016-08-09

SUPPLEMENTAL APPLICATION DATA SHEET

PTO/AIA/14 (08-15)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	047158.100055
	Application Number	<u>16/456,777</u>
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS	

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ⁱ (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

SUPPLEMENTAL APPLICATION DATA SHEET

PTO/AIA/14 (08-15)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	047158.100055
	Application Number	<u>16/456,777</u>
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

SUPPLEMENTAL APPLICATION DATA SHEET

PTO/AIA/14 (08-15)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	047158.100055
	Application Number	<u>16/456,777</u>
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

[Clear](#)

- | | | |
|--|--|--------------------------------------|
| ☐ Assignee | ☐ Legal Representative under 35 U.S.C. 117 | ☐ Joint Inventor |
| ☒ Person to whom the inventor is obligated to assign. | ☐ Person who shows sufficient proprietary interest | |

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name ~~U.S. Well Services, Inc.~~ U.S. Well Services, LLC

Mailing Address Information For Applicant:

Address 1	1360 Post Oak Boulevard		
Address 2	Suite 1800		
City	Houston	State/Province	TX
Country ⁱ	US	Postal Code	77056
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

SUPPLEMENTAL APPLICATION DATA SHEET

PTO/AIA/14 (08-15)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	047158.100055
		Application Number	<u>16/456,777</u>
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS		

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1						
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.						
If the Assignee or Non-Applicant Assignee is an Organization check here.			☒			
Organization Name	~~U.S. Well Services, Inc.~~ <u>U.S. Well Services, LLC</u>					
Mailing Address Information For Assignee including Non-Applicant Assignee:						
Address 1		1360 Post Oak Boulevard				
Address 2		Suite 1800				
City	Houston	State/Province	TX			
Country i	US	Postal Code	77056			
Phone Number		Fax Number				
Email Address						
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.						

SUPPLEMENTAL APPLICATION DATA SHEET

PTO/AIA/14 (08-15)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	047158.100055
		Application Number	<u>16/456,777</u>
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS		

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Taylor P. Evans/			Date (YYYY-MM-DD)	
First Name	Taylor P.	Last Name	Evans	Registration Number	60506
Additional Signature may be generated within this form by selecting the Add button.					

Application Number * 16/456,777 *	Application/Control No. 16/456,777	Applicant(s)/Patent under Reexamination BROUSSARD et al.	
	Examiner THOMPSON, KENNETH L	Art Unit 3676	
Document Code - DISQ		Internal Document - DO NOT MAIL	

TERMINAL DISCLAIMER	☒ APPROVED	☐ DISAPPROVED
Date Filed: <u>24 May 2021</u>	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:
2/Tds both approved. /LAWANA R HIXON/ Technology Center: <u>OPLC</u> Telephone: <u>(571)272-6074</u> _____

U.S. Patent and Trademark Office
TSS-IFW

Terminal Disclaimer

Part of Paper No. 20210524

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/456,777	Filing Date 06/28/2019	☐ To be Mailed
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ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

	(Column 1)	(Column 2)	RATE (\$)	FEE (\$)
FOR	NUMBER FILED	NUMBER EXTRA		
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	x \$100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	x \$460 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED - PART II

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)	
AMENDMENT	05/24/2021		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		
	Total (37 CFR 1.16(i))	*	16	Minus	** 20	= 0	x \$100 = 0
	Independent (37 CFR 1.16(h))	*	3	Minus	*** 3	= 0	x \$480 = 0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE						0	
AMENDMENT			CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		
	Total (37 CFR 1.16(i))	*		Minus	**	=	x \$0 =
	Independent (37 CFR 1.16(h))	*		Minus	***	=	x \$0 =
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
TOTAL ADD'L FEE							
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						ADMIN	
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/KREIGHTON LAMBERT SR/	
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".							
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.							

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Patent Application Fee Transmittal

Application Number:	16456777			
Filing Date:	28-Jun-2019			
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS			
First Named Inventor/Applicant Name:	Joel N. BROUSSARD			
Filer:	Taylor P. Evans/Tina Fluharty			
Attorney Docket Number:	047158.100055			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 3 months with \$0 paid	1253	1	1480	1480
Miscellaneous:				
STATUTORY OR TERMINAL DISCLAIMER	1814	2	170	340
Total in USD (\$)				1820

Electronic Acknowledgement Receipt

EFS ID:	42804936
Application Number:	16456777
International Application Number:	
Confirmation Number:	4763
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
First Named Inventor/Applicant Name:	Joel N. BROUSSARD
Customer Number:	132858
Filer:	Taylor P. Evans/Tina Fluharty
Filer Authorized By:	Taylor P. Evans
Attorney Docket Number:	047158.100055
Receipt Date:	24-MAY-2021
Filing Date:	28-JUN-2019
Time Stamp:	17:03:23
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (SB06)	fee-info.pdf	32693	no	2
			e83f43818555334e08378b45aa85513c359e993e		

Warnings:

HALLIBURTON EXHIBIT 1003

Information:	
Total Files Size (in bytes):	32693
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.	

Electronic Patent Application Fee Transmittal

Application Number:	16456777			
Filing Date:	28-Jun-2019			
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS			
First Named Inventor/Applicant Name:	Joel N. BROUSSARD			
Filer:	Taylor P. Evans/Stephanie McDonough			
Attorney Docket Number:	047158.100055			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 3 months with \$0 paid	1253	1	1480	1480
Miscellaneous:				
STATUTORY OR TERMINAL DISCLAIMER	1814	2	170	340
Total in USD (\$)				1820

Electronic Acknowledgement Receipt

EFS ID:	42804722
Application Number:	16456777
International Application Number:	
Confirmation Number:	4763
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
First Named Inventor/Applicant Name:	Joel N. BROUSSARD
Customer Number:	132858
Filer:	Taylor P. Evans/Stephanie McDonough
Filer Authorized By:	Taylor P. Evans
Attorney Docket Number:	047158.100055
Receipt Date:	24-MAY-2021
Filing Date:	28-JUN-2019
Time Stamp:	16:53:11
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (SB06)	fee-info.pdf	32768	no	2
			44817cb6b60870bda366d409a5d6feb90f600f64		

Warnings:

HALLIBURTON EXHIBIT 1003

Information:	
Total Files Size (in bytes):	32768
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.	

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First Named Inventor/Applicant Name:	Joel N. BROUSSARD			
Filer:	Taylor P. Evans/Tina Fluharty			
Attorney Docket Number:	047158.100055			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
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Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
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Miscellaneous:				
STATUTORY OR TERMINAL DISCLAIMER	1814	2	170	340
Total in USD (\$)				1820

Electronic Acknowledgement Receipt

EFS ID:	42805140
Application Number:	16456777
International Application Number:	
Confirmation Number:	4763
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
First Named Inventor/Applicant Name:	Joel N. BROUSSARD
Customer Number:	132858
Filer:	Taylor P. Evans/Tina Fluharty
Filer Authorized By:	Taylor P. Evans
Attorney Docket Number:	047158.100055
Receipt Date:	24-MAY-2021
Filing Date:	28-JUN-2019
Time Stamp:	17:13:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 1820
RAM confirmation Number	E20215NH13330108
Deposit Account	501349
Authorized User	Tina Fluharty

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

HALLIBURTON EXHIBIT 1003

37 CFR 1.19 (Document supply fees)
37 CFR 1.20 (Post Issuance fees)
37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (SB06)	fee-info.pdf	32692	no	2
			1f5fb9b97c34663d8a279bf761e195350a8a585a		

Warnings:

Information:

Total Files Size (in bytes):	32692
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**TERMINAL DISCLAIMER TO OBIATE A DOUBLE PATENTING
REJECTION OVER A "PRIOR" PATENT**

Docket Number (Optional)

047158.100055

In re Application of: Joel N. Broussard

Application No.: 16/456,777

Filed: 06/28/2019

For: SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

The applicant, U.S. Well Services, LLC, owner of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 8,789,601 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The applicant hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the applicant does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

expires for failure to pay a maintenance fee;

is held unenforceable;

is found invalid by a court of competent jurisdiction;

is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;

has all claims canceled by a reexamination certificate;

is reissued; or

is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ The undersigned is the applicant. If the applicant is an assignee, the undersigned is authorized to act on behalf of the assignee.

I hereby acknowledge that any willful false statements made are punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 60,506

/Taylor P. Evans/

Signature

2021-05-24

Date

Taylor P. Evans

Typed or printed name

Partner

Title

713-632-1400

Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

**TERMINAL DISCLAIMER TO OBIATE A DOUBLE PATENTING
REJECTION OVER A "PRIOR" PATENT**

Docket Number (Optional)

047158.100055

In re Application of: Joel N. Broussard

Application No.: 16/456,777

Filed: 06/28/2019

For: SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

The applicant, U.S. Well Services, LLC, owner of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 9,410,410 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The applicant hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

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1. ☐ The undersigned is the applicant. If the applicant is an assignee, the undersigned is authorized to act on behalf of the assignee.

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/Taylor P. Evans/

Signature

2021-05-24

Date

Taylor P. Evans

Typed or printed name

Partner

Title

713-632-1400

Telephone Number

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Electronic Patent Application Fee Transmittal

Application Number:	16456777			
Filing Date:	28-Jun-2019			
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS			
First Named Inventor/Applicant Name:	Joel N. BROUSSARD			
Filer:	Taylor P. Evans/Stephanie McDonough			
Attorney Docket Number:	047158.100055			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
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Pages:				
Claims:				
Miscellaneous-Filing:				
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Electronic Acknowledgement Receipt

EFS ID:	42804439
Application Number:	16456777
International Application Number:	
Confirmation Number:	4763
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
First Named Inventor/Applicant Name:	Joel N. BROUSSARD
Customer Number:	132858
Filer:	Taylor P. Evans/Stephanie McDonough
Filer Authorized By:	Taylor P. Evans
Attorney Docket Number:	047158.100055
Receipt Date:	24-MAY-2021
Filing Date:	28-JUN-2019
Time Stamp:	16:45:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		047158-100055_Response.pdf	153908	yes	6
			50cc65df7760fbd32dab5e591c9c4c86cba5b0bf		

	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	4	
	Applicant Arguments/Remarks Made in an Amendment		5	6	
Warnings:					
Information:					
2	Terminal Disclaimer Filed	047158-100055_terminal-disclaimer-8789601.pdf	214664	no	2
			04988bc05fd2e583db531588dee7b7b30f963f39		
Warnings:					
Information:					
3	Terminal Disclaimer Filed	047158-100055_terminal-disclaimer-9410410.pdf	214662	no	2
			f29aaab4c0b5965f1135e9615da37d96f4f63517		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	32768	no	2
			25cc9fc9f44c8168bdb8c0c51c5ba6655d07cfc9		
Warnings:					
Information:					
Total Files Size (in bytes):			616002		

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	§	
Joel N. Broussard	§	Attorney Docket No.: 047158.100055
	§	
Application No.: 16/456,777	§	Confirmation No.: 4763
	§	
Filed: June 28, 2019	§	Art Unit: 3676
	§	
Title: SYSTEM FOR PUMPING	§	Examiner: Thompson, Kenneth L.
HYDRAULIC FRACTURING FLUID	§	
USING ELECTRIC PUMPS	§	

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT AND RESPONSE

In response to the Non-Final Office Action mailed November 23, 2020, Applicants hereby request reconsideration of the above-referenced application for patent, and reconsideration of the rejections in view of the amendments and the following arguments. If any additional fees are necessary for continued prosecution of this Application, the commissioner is hereby authorized to charge those fees to **Hogan Lovells US LLP's Deposit Account Number 501349**.

Amendments to the Claims are reflected in the listing of claims that begin on page 2 of this paper.

Remarks/Arguments begin on page 5 of this paper.

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listing of claims in the application.

Listing of claims:

1. (Cancelled)
2. (Currently Amended) A system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the system comprising:
 - a trailer for attachment to a truck;
 - two or more pumps attached to the trailer and fluidly connected to the well, the pumps configured to pump fluid into the wellbore ~~at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation;~~
 - one or more electric motors attached to the pumps to drive the pumps, the electric motors attached to the trailer; and
 - a variable frequency drive connected to the electric motor to control the speed of the motor, wherein the variable frequency drive performs electric motor diagnostics to prevent damage to the one or more electric motors.
3. (Cancelled)
4. (Previously Presented) The system of claim 2, further comprising:
 - a skid to which at least one of the pumps and the one or more electric motors are attached.
5. (Previously Presented) The system of claim 2, further comprising:
 - a natural gas powered generator for connection to the electric motor that provides electric power to the electric motor.

6. (Currently Amended) A method of hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the method comprising:

pumping fluid into the wellbore ~~at high pressure using hydraulic fracturing pumps so that the fluid passes from the wellbore into the formation, and fractures the formation;~~

powering the hydraulic fracturing pumps using ~~electricity from~~ an electric motor; and

controlling the speed of the motor using a variable frequency drive, wherein the variable frequency drive performs electric motor diagnostics to prevent damage to the electric motor.

7. (Previously Presented) The method of claim 6, further comprising:

powering the electric motor using a generator.

8. (Previously Presented) The method of claim 7, further comprising:

powering the generator using natural gas.

9. (Cancelled)

10. (Currently Amended) A system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the system comprising:

a pump fluidly connected to the well; and

an electric motor to power the pump;

the pump configured to pump fluid into the wellbore ~~at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation;~~ and

a variable frequency drive connected to the electric motor to control the speed of the motor and having one or more power semiconductor heat sinks having thermal sensors monitored by a microprocessor to prevent damage caused by excessive heat.

11. (Cancelled)
12. (Previously Presented) The system of claim 10, wherein the electric pump is mounted on a vehicle, and can be ported from one well to another.
13. (Previously Presented) The system of claim 10, further comprising:

a generator electrically connected to the electric motor to provide electric power to the motor.
14. (Previously Presented) The system of claim 13, wherein the generator is fueled by natural gas.
15. (Previously Presented) The system of claim 13, wherein the generator is a turbine generator.
16. (Previously Presented) The system of claim 13, wherein the pump, electric motor, and generator are mounted on a vehicle, and can be ported from one well to another.
17. (Previously Presented) The system of claim 16, wherein the vehicle is a truck having at least five axles.
18. (Cancelled)
19. (Previously Presented) The system of claim 10, wherein the pump is a triplex or a quinteplex pump rated at about 2250 hydraulic horsepower or more.
20. (Previously Presented) The system of claim 10, wherein the electric motor has a maximum continuous power output of about 1750 brake horsepower or more.
21. (Previously Presented) The system of claim 10, wherein the electric motor has a maximum continuous torque of about 8750 lb-ft or more.

REMARKS

This amendment is in response to the Non-Final Office Action mailed on November 23, 2020. The shortened statutory period for reply having expired on February 23, 2021, Applicants submit herewith a request for a three-month extension of time, thereby extending the deadline to and including May 24, 2021. Claims 2-21 are pending in the application. Claims 2, 6, and 10 have been amended. Claims 3, 9, 11, and 18 have been cancelled. In the application, claims 2, 6, and 10 are written in independent form.

In the Office Action, claims 6-9 are objected to due to certain informalities. Applicants have amended claim 6 to remove the phrase “using electricity” and respectfully submits that the objection is overcome.

The Examiner next rejected claims 6, 10, 12, 19 and 20 under 35 U.S.C. 102(b) as being allegedly anticipated by U.S. Patent No. 7,845,413 to Shampine (“*Shampine*”). In addition, claims 2, 4-8, 10-17, and 20 are rejected under 35 U.S.C. 102(e) as being allegedly anticipated by U.S. Patent No. 8,997, 904 to Cryer (“*Cryer*”). Claims 2, 3, 5-15, and 17-21 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1, 2, 3, 5, 8, 9, 11, 12, 16, and 18 of U.S. Patent No. 8,789,601. Claims 2 and 3-20 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1, 3-6, 8, 9, 11, 13, 14, and 19-21 of U.S. Patent No. 9,410,410. Claims 3, 9, and 18 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form. Applicants submit herewith terminal disclaimers to overcome the double patenting rejections.

Applicants have amended claims 2, 6, and 10 to recite the features previously recited in claims 3, 9, and 18, indicated by the Examiner as being allowable. Applicants have further

amended claims 2, 6, and 10 to clarify the language. Accordingly, Applicants respectfully submit that claims 2, 6, and 10 are allowable.

Applicants further submit that claims 4, 5, 7, 8, 12-18, 19, and 21 are patentable at least by virtue of their dependence from claims 2, 6, and 10 as well as for other patentable features recited therein.

CONCLUSION

The foregoing response is full, complete, and timely filed. Amendments to the claims are made without prejudice, including under the doctrine of equivalents. In addition, the comments made herein are without prejudice. Applicants respectfully request reconsideration of the instant application in light of the foregoing response and amendments. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of the application, the Examiner is invited to contact the Applicants' representative by telephone or fax.

Respectfully submitted,

Date: May 24, 2021

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/456,777	06/28/2019	Joel N. BROUSSARD	047158.100055	4763
132858	7590	11/23/2020	EXAMINER	
Hogan Lovells US LLP			THOMPSON, KENNETH L	
609 Main Street			ART UNIT	
Suite 4200			PAPER NUMBER	
Houston, TX 77002			3676	
			NOTIFICATION DATE	
			DELIVERY MODE	
			11/23/2020	
			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

hlusdocketing@hoganlovells.com
stephanie.mcdonough@hoganlovells.com

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

Claim Objections

Claims 6-9 are objected to because of the following informalities:

The limitation “powering the hydraulic fracturing pumps using electricity from an electric motor” in the last line of claim 6 is misleading because the disclosure sets forth the electric motor is provided with electricity to mechanically power the pumps. The dependent claims are likewise objected to. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6, 10, 12, 19 and 20 are rejected under pre-AIA 35 U.S.C. 102(b) as being anticipated by Shampine et al., U.S. 7,845,413.

Shampine et al. discloses hydraulically fracturing an underground formation (col. 2, lines 23-31) in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the system comprising:

pumping fluid into the wellbore at high pressure using hydraulic fracturing pumps so that the fluid passes from the wellbore into the formation (col. 3, line 65 – col. 4, line 8) and fractures the formation;

powering the hydraulic fracturing pumps using electricity from an electric motor (col. 11, lines 18-23).

Shampine et al. discloses the electric pump is mounted on a vehicle (fig 1, 102, 104), and can be ported from one well to another.

Shampine et al. discloses the pump is a triplex or a quinteplex pump (col. 1, lines 42-53) rated at about 2250 hydraulic horsepower or more (col. 4, lines 9-17).

Shampine et al. discloses the electric motor has a maximum continuous power output of about 1750 brake horsepower or more (col. 4, lines 9-14).

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 2, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17 and 20 are rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by Cryer et al., U.S. 8,997,904.

Cryer et al. discloses hydraulically fracturing an underground formation (col. 4, lines 12-19) in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the system comprising:

a trailer (tractor trailers or vehicles 102, 502, 602) for attachment to a truck;

two or more pumps (col. 7, lines 41-50) attached to the trailer and fluidly connected to the well, the pumps configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation;

one or more electric motors (112; col. 7, lines 10-32) attached to the pumps to drive the pumps, the electric motors attached to the trailer.

Cryer et al. discloses a skid (rotary devices inherently require support cradles) to which the pumps and electric motors are attached.

Cryer et al. discloses a natural gas powered generator (col. 4, line 6 – 13) for connection to the electric motor that provides electric power to the electric motor.

Cryer et al. discloses a variable frequency drive (col. 4, lines 6-13) connected to the electric motor to control the speed of the motor.

Cryer et al. discloses the generator is a turbine generator (col. 3, line 67 – col. 4, line 6).

Cryer et al. discloses the pump, electric motor, and generator are mounted on a vehicle (102, 502, 602), and can be ported from one well to another (col. 17, lines 41-57).

Cryer discloses in figure 5 the vehicle is a truck (502) having at least five axles (five wheels shown in the vehicle inherently having axles).

Cryer et al. discloses the electric motor has a maximum continuous power output of about 1750 (col. 4, lines 55-67) brake horsepower or more.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP § 2146 *et seq.* for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission.

Art Unit: 3676

For more information about eTerminal Disclaimers, refer to

www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20 and 21 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1, 2, 3, 5, 8, 9, 11, 12, 16 and 18 of U.S. Patent No. 8,789,601. Although the claims at issue are not identical, they are not patentably distinct from each other because:

Reference claim 1 includes all the limitations of pending claims 2 and 3 including the two and/or plurality of pumps.

Reference claims 1 and 2 include all the limitations of pending claim 5 including the generator.

Reference claim 1 includes all the limitations of pending claim 6 and 7.

Reference claim 2 includes all the limitations of pending claim 8 and 14.

Reference claim 1 includes all the limitations of pending claim 9.

Reference claim 1 includes all the limitations of pending claim 10, 11 and 13.

Reference claim 5 includes all the limitations of pending claim 12.

Reference claim 3 includes all the limitations of pending claim 15.

Reference claim 18 includes all the limitations of pending claim 17 wherein it would have been obvious to claim five or more axles as disclosed in the reference patent.

Reference claims 8 and 16 include all the limitations of pending claims 10, 11 and 18.

Reference claim 9 includes all the limitations of pending claim 19.

Reference claim 11 includes all the limitations of pending claim 20 including the approximate level of brake-horsepower.

Reference claim 12 includes all the limitations of pending claim 21.

Claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 and 20 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1, 3, 4, 5, 6, 8, 9, 11, 13, 14, 19, 20 and 21 of U.S. Patent No. 9,410,410. Although the claims at issue are not identical, they are not patentably distinct from each other because:

Reference claims 1 and/or 19 includes all the limitations of pending claim 2 and 3.

Reference claim 20 includes all the limitations of pending claim 4.

Reference claim 21 includes all the limitations of pending claim 5.

Reference claim 1 and/or 19 includes all the limitations of pending claim 6 and 9.

Reference claim 4 and 5 or 21 includes all the limitations of pending claim 7 and 8.

Reference claims 1, 10 and/or 19 includes all the limitations of pending claim 10 and 11.

Reference claim 3 includes all the limitations of pending claim 12.

Reference claim 4 and 5 or 21 includes all the limitations of pending claims 13, 14 and 15.

Reference claim 7 includes all the limitations of pending claim 16 wherein it would have been obvious to claim all the equipment mounted on the vehicles as disclosed in the reference patent.

Reference claim 8 includes all the limitations of pending claim 17.

Reference claim 9 includes all the limitations of pending claim 18.

Reference claim 11 includes all the limitations of pending claim 19.

Reference claim 13 includes all the limitations of pending claim 20

Reference claim 14 includes all the limitations of pending claim 21.

Allowable Subject Matter

Claims 3, 9 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH L THOMPSON whose telephone number is (571)272-7037. The examiner can normally be reached on Weekdays; 9:00-5:00, est.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Waseem Moorad can be reached on 571-270-3436. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

18 December 2020

/KENNETH L THOMPSON/
Primary Examiner, Art Unit 3676

<i>Notice of References Cited</i>	Application/Control No. 16/456,777		Applicant(s)/Patent Under Reexamination BROUSSARD et al.	
	Examiner KENNETH L THOMPSON		Art Unit 3676	Page 1 of 1

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	B					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
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	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Search Notes</i> 	Application/Control No. 16/456,777	Applicant(s)/Patent Under Reexamination BROUSSARD et al.
	Examiner KENNETH L THOMPSON	Art Unit 3676

CPC - Searched*		
Symbol	Date	Examiner
E21B 43/26	11/18/2020	KT

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
References cited in U.S. 9,410,410 and U.S. 8,789,601 and updated search	11/18/2020	KT

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)

Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. Broussard
Art Unit	
Examiner Name	
Attorney Docket Number	047158.100055

U.S.PATENTS

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
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Examiner Name	
Attorney Docket Number	047158.100055

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1	2787814	CA		2014-02-21	Pawlick		×
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Attorney Docket Number	047158.100055	

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	International Search Report and Written Opinion mailed January 2, 2020 in related PCT Application No. PCT/US19/55325	☒
	2	Notice of Allowance mailed January 9, 2020 in related U.S. Patent Application No. 16/570,331	☒
	3	Non-Final Office Action mailed December 23, 2019 in related U.S. Patent Application No. 16/597,008	☒

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		16456777
Filing Date		2019-06-28
First Named Inventor	Joel N. Broussard	
Art Unit		
Examiner Name		
Attorney Docket Number	047158.100055	

4	Non-Final Office Action mailed January 10, 2020 in related U.S. Patent Application No. 16/597,014	☒
5	Non-Final Office Action mailed December 6, 2019 in related U.S. Patent Application No. 16/564,186	☒
6	International Search Report and Written Opinion mailed November 26, 2019 in related PCT Application No. PCT/US19/51018	☒
7	International Search Report and Written Opinion mailed February 11, 2020 in related PCT Application No. PCT/US2019/055323	☒

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Examiner Name	
Attorney Docket Number	047158.100055

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Taylor P. Evans/	Date (YYYY-MM-DD)	2020-02-26
Name/Print	Taylor P. Evans	Registration Number	60506

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Bibliographic Data

Application No: 16/456,777

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☒ No ☐ Met After Allowance

Verified and Acknowledged: /KENNETH L THOMPSON/

Examiner's Signature

Initials

Title: SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID
USING ELECTRIC PUMPS

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
06/28/2019	166	3676	047158.100055
RULE			

APPLICANTS

U.S. Well Services, Inc., Houston, TX,

INVENTORS

Joel N. BROUSSARD, Lafayette, LA, UNITED STATES

Jeff McPHERSON, Spring, TX, UNITED STATES

Robert KURTZ, Fairmont, WV, UNITED STATES

CONTINUING DATA

This application is a CON of 15202085 07/05/2016 PAT 10337308

15202085 is a CON of 13679689 11/16/2012 PAT 9410410

FOREIGN APPLICATIONS

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	Filing Date		2019-06-28
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	Art Unit		
	Examiner Name		
	Attorney Docket Number		047158.100055

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	10280724		2019-05-07	Hinderliter	
	2	10254732		2019-04-09	Oehring	
	3	10232332		2019-03-19	Oehring	

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	1	20170218727		2017-08-03	Oehring	
	2	20150136043		2015-05-21	Shaaban	

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Examiner Name		
Attorney Docket Number	047158.100055	

1	2707269	CA	2010-12-09	Kidd	×
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1		Non-Final Office Action issued in corresponding Application No. 16/170,695 dated June 7, 2019	×
2		Non-Final Office Action issued in corresponding Application No. 16/268,030 dated May 10, 2019	☒
3		Final Office Action issued in corresponding Application No. 16/210,749 dated June 11, 2019	☒
4		Canadian Office Action mailed May 30, 2019 in corresponding CA Application No. 2,833,711	☒
5		Canadian Office Action mailed June 20, 2019 in corresponding CA Application No. 2,964,597	☒

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	2	10254732		2019-04-09	Oehring	
	3	10232332		2019-03-19	Oehring	
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	8	10008880		2018-06-26	Vicknair	

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Examiner Name	
Attorney Docket Number	047158.100055

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	2	20160265457		2016-09-15	Stephenson	
	3	20140219824		2014-08-07	Bumette	
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	5	20190010793		2019-01-10	Hinderliter	
	6	20150211512		2015-07-30	Wiegman	
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11	20180028992		2018-02-01	Stegemoeller	
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Attorney Docket Number	047158.100055	

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21	20160290563		2016-10-06	Diggins	
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Examiner Name	
Attorney Docket Number	047158.100055

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	1	2707269	CA		2010-12-09	Kidd		×

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	1	International Search Report and Written Opinion mailed July 9, 2019 in corresponding PCT Application No. PCT/US2019/027584	×
	2	Office Action mailed June 11, 2019 in corresponding US Application No. 16/210,749	☒
	3	Office Action mailed May 10, 2019 in corresponding US Application No. 16/268,030	☒
	4	Canadian Office Action mailed May 30, 2019 in corresponding CA Application No. 2,833,711	☒
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6	Office Action mailed June 7, 2019 in corresponding US Application No. 16/268,030	☒
7	International Search Report and Written Opinion mailed September 11, 2019 in related PCT Application No. PCT/US2019/037493	☒
8	Office Action mailed August 19, 2019 in related U.S. Patent Application No. 15/356,436	☒
9	Office Action mailed October 2, 2019 in related U.S. Patent Application No. 16/152,732	☒
10	Office Action mailed September 11, 2019 in related U.S. Patent Application No. 16/268,030	☒
11	Office Action mailed October 11, 2019 in related U.S. Patent Application No. 16/385,070	☒
12	Office Action mailed September 3, 2019 in related U.S. Patent Application No. 15/994,772	☒
13	Office Action mailed September 20, 2019 in related U.S. Patent Application No. 16/443,273	☒
14	Canadian Office Action mailed October 1, 2019 in related Canadian Patent Application No. 2,936,997	☒

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	Filing Date		2019-06-28
	First Named Inventor	Joel N. Broussard, et al.	
	Art Unit	3676	
	Examiner Name	Kenneth L. Thompson	
	Attorney Docket Number	047158.100055	

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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20150300336	A1	2015-10-22	J. Hernandez et al.	ENTIRE DOCUMENT
	2	20170314979	A1	2017-11-02	J. Ye, et al.	ENTIRE DOCUMENT
	3	20140379300	A1	2014-12-25	T.W. Devine, et al.	ENTIRE DOCUMENT
	4	20170226842	A1	2017-08-10	G. Omont, et al.	ENTIRE DOCUMENT

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Examiner Name	Kenneth L. Thompson	
Attorney Docket Number	047158.100055	

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	1	Final Office Action dated March 31, 2020 corresponding to Application No. 15/356,436.	☐
	2	Non-Final Office Action dated March 3, 2020 corresponding to Application No. 16/152,695.	☐

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	1	3764233		1973-10-09	Strickland	
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43	8905056		2004-12-09	Kendrick	
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45	5130628		1992-07-14	Owen	
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47	7336514		2008-02-26	Amarillas	
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80	7807048		2010-10-05	Collette	
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99	4442665		1984-04-17	Fick et al.	
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126	7494263		2009-02-24	Dykstra et al.	
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132	10119381		2018-11-06	Oehring	
133	10107086		2018-10-23	Oehring	
134	6138764		2000-10-13	Scarsdale et al.	
135	4432064		1984-02-14	Barker	
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22	20130233542		2013-09-12	Shampine	
23	20150211524		2015-07-30	Broussard	
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25	20080264649		2008-10-30	Crawford	
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45	20150159911		2015-06-11	Holt	
46	20080217024		2008-09-11	Moore	
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66	20100293973		2010-11-25	Erickson	
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144	20070131410		2007-06-14	Hill	
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151	20160265457		2016-09-15	Stephenson	
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154	20140219824		2014-08-07	Bumette	
155	20160281484		2016-09-29	Lestz	
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NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	UK Power Networks - Transformers to Supply Heat to Tate Modern - from Press Releases May 16, 2013.	☒
	2	Non-Final Office Action issued in corresponding Application No. 15/293,681 dated February 16, 2017.	☒

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		16456777
Filing Date		2019-06-28
First Named Inventor	Joel N. Broussard	
Art Unit		
Examiner Name		
Attorney Docket Number	047158.100055	

3	Non-Final Office Action issued in corresponding Application No. 15/294,349 dated March 14, 2017.	☒
4	Final Office Action issued in corresponding Application No. 15/145,491 dated January 20, 2017.	☒
5	Non-Final Office Action issued in corresponding Application No. 15/145,443 dated February 7, 2017.	☒
6	Notice of Allowance issued in corresponding Application No. 15/217,040 dated March 28, 2017.	☒
7	Notice of Allowance issued in corresponding Application No. 14/622,532 dated March 27, 2017.	☒
8	Non-Final Office Action issued in corresponding Application No. 15/291,842 dated January 6, 2017.	☒
9	Final Office Action issued in corresponding Application No. 14/622,532 dated December 7, 2016.	☒
10	Non-Final Office Action issued in corresponding Application No. 14/622,532 dated May 17, 2016.	☒
11	Final Office Action issued in corresponding Application No. 14/622,532 dated December 21, 2015.	☒
12	Non-Final Office Action issued in corresponding Application No. 14/622,532 dated August 5, 2015.	☒
13	Non-Final Office Action issued in corresponding Application No. 15/145,491 on September 12, 2016.	☒

**INFORMATION DISCLOSURE
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Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. Broussard
Art Unit	
Examiner Name	
Attorney Docket Number	047158.100055

14	Non-Final Office Action issued in corresponding Application No. 15/217,040 dated November 29, 2016.	☒
15	Non-Final Office Action issued in corresponding Application No. 15/235,788 dated December 14, 2016.	☒
16	Non-Final Office Action issued in corresponding Application No. 15/145,491 dated May 15, 2017.	☒
17	Non-Final Office Action issued in corresponding Application No. 15/486,970 dated June 22, 2017	☒
18	Non-Final Office Action issued in corresponding Application No. 15/487,656 dated June 23, 2017	☒
19	Non-Final Office Action issued in corresponding Application No. 15/487,694 dated June 26, 2017	☒
20	Final Office Action issued in corresponding Application No. 15/294,349 dated July 6, 2017	☒
21	Non-Final Office Action issued in corresponding Application No. 14/884,363 dated September 5, 2017	☒
22	Final Office Action issued in corresponding Application No. 15/145,491 dated September 6, 2017	☒
23	Non-Final Office Action issued in corresponding Application No. 14/881,535 dated October 6, 2017	☒
24	Non-Final Office Action issued in corresponding Application No. 15/145,414 dated November 29, 2017	☒

**INFORMATION DISCLOSURE
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Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. Broussard
Art Unit	
Examiner Name	
Attorney Docket Number	047158.100055

25	Non-Final Office Action issued in corresponding Application No. 15/644,487 dated November 13, 2017	☒
26	Canadian Office Action dated March 2, 2018 in related Canadian Patent Application No. 2,833,711	☒
27	Office Action dated April 10, 2018 in related U.S. Patent Application No. 15/294,349	☒
28	Office Action dated April 2, 2018 in related U.S. Patent Application No. 15/183,387	☒
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31	Canadian Office Action dated June 22, 2018 in related Canadian Patent Application No. 2,886,697	☒
32	Office Action dated July 25, 2018 in related U.S. Patent Application No. 15/644,487	☒
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35	Canadian Office Action dated September 28, 2018 in related Canadian Patent Application No. 2,945,281	☒

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
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Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. Broussard
Art Unit	
Examiner Name	
Attorney Docket Number	047158.100055

36	Office Action dated December 12, 2018 in related U.S. Patent Application No. 16/160,708	☒
37	International Search Report and Written Opinion dated January 2, 2019 in related PCT Patent Application No. PCT/US18/54542	☒
38	International Search Report and Written Opinion dated January 2, 2019 in related PCT Patent Application No. PCT/US18/54548	☒
39	International Search Report and Written Opinion dated December 31, 2018 in related PCT Patent Application No. PCT/US18/55913	☒
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43	International Search Report and Written Opinion dated March 5, 2019 in related PCT Patent Application No. PCT/US18/63970	☒
44	Non-Final Office Action issued February 25, 2019 in related U.S. Patent Application No. 16/210,749	☒
45	Non-Final Office Action issued March 6, 2019 in related U.S. Patent Application No. 15/183,387	☒
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**INFORMATION DISCLOSURE
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Application Number		16456777
Filing Date		2019-06-28
First Named Inventor	Joel N. Broussard	
Art Unit		
Examiner Name		
Attorney Docket Number	047158.100055	

47	Office Action mailed March 1, 2019 in related Canadian Patent Application No. 2,943,275	☒
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49	Notice of Allowance mailed April 23, 2019 in corresponding U.S. Patent Application No. 15/635,028	☒
50	International Search Report and Written Opinion mailed July 9, 2019 in corresponding PCT Application No. PCT/US2019/027584	☒

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Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. BROUSSARD
Art Unit	3676
Examiner Name	Kenneth L. THOMPSON
Attorney Docket Number	047158.100055

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	10302079	B2	2019-05-28	Kendrick	

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Examiner Name	Kenneth L. THOMPSON
Attorney Docket Number	047158.100055

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	1	Non-Final Office Action issued in US Patent Application No. 14/881,535 mailed May 20, 2020	
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Examiner Name	Kenneth L. THOMPSON	
Attorney Docket Number	047158.100055	

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
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Art Unit	3676	
Examiner Name	Kenneth L. THOMPSON	
Attorney Docket Number	047158.100055	

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Attorney Docket Number	047158.100055	

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Attorney Docket Number	047158.100055	

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Examiner Name	Kenneth L. THOMPSON
Attorney Docket Number	047158.100055

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
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	1	Canadian Office Action mailed August 17, 2020 in related CA Patent Application No. 2,944,968	×
	2	International Search Report and Written Opinion mailed June 23, 2020 in corresponding PCT Application No. PCT/US20/23912	☒
	3	International Search Report and Written Opinion mailed July 22, 2020 in corresponding PCT Application No. PCT/US20/00017	☒
	4	Office Action mailed August 4, 2020 in related U.S. Patent Application No. 16/385,070	☒

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Attorney Docket Number	047158.100055

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8	Canadian Office Action mailed August 18, 2020 in related CA Patent Application No. 2,933,444	☒

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/456,777	06/28/2019	Joel N. BROUSSARD	047158.100055

CONFIRMATION NO. 4763

PUBLICATION NOTICE



OC000000117668501

132858
Hogan Lovells US LLP
609 Main Street
Suite 4200
Houston, TX 77002

Title:SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

Publication No.US-2020-0182032-A1

Publication Date:06/11/2020

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
16/456,777	06/28/2019		1880	047158.100055	20	3

132858
Hogan Lovells US LLP
609 Main Street
Suite 4200
Houston, TX 77002

CONFIRMATION NO. 4763
UPDATED FILING RECEIPT



Date Mailed: 03/05/2020

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

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Inventor(s)

Joel N. BROUSSARD, Lafayette, LA;
Jeff McPHERSON, Spring, TX;
Robert KURTZ, Fairmont, WV;

Applicant(s)

U.S. Well Services, Inc., Houston, TX

Assignment For Published Patent Application

U.S. Well Services, Inc., Houston, TX

Power of Attorney: The patent practitioners associated with Customer Number 132858

Domestic Priority data as claimed by applicant

This application is a CON of 15/202,085 07/05/2016 PAT 10337308
which is a CON of 13/679,689 11/16/2012 PAT 9410410

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

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The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/456,777**

Projected Publication Date: 06/11/2020

Non-Publication Request: No

Early Publication Request: No

Title

SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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on February 28, 2020.

PATENT
Attorney Docket No.: 047158.100055

HOGAN LOVELLS US LLP

By: /Stephanie McDonough/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Joel N. Broussard

Application No.: 16/456,777

Filed: June 28, 2019

For: SYSTEM FOR PUMPING
HYDRAULIC FRACTURING FLUID
USING ELECTRIC PUMPS

Customer No.: 132858

Confirmation No.: 4763

Examiner: Unknown

Art Unit: Unknown

PRELIMINARY AMENDMENT

Commissioner:

Prior to examination of the above-referenced application, please enter the following
amendments and remarks:

Amendments to the Claims are reflected in the listing of claims which begins on page 2
of this paper.

Remarks/Arguments begin on page 6 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Cancelled)
2. (New) A system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the system comprising:
 - a trailer for attachment to a truck;
 - two or more pumps attached to the trailer and fluidly connected to the well, the pumps configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation;
 - one or more electric motors attached to the pumps to drive the pumps, the electric motors attached to the trailer.
3. (New) The system of claim 2, further comprising:
 - a variable frequency drive connected to the electric motor to control the speed of the motor, wherein the variable frequency drive frequently performs electric motor diagnostics to prevent damage to the one or more electric motors.
4. (New) The system of claim 2, further comprising:
 - a skid to which at least one of the pumps and the one or more electric motors are attached.

5. (New) The system of claim 2, further comprising:

a natural gas powered generator for connection to the electric motor that provides electric power to the electric motor.

6. (New) A method of hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the method comprising:

pumping fluid into the wellbore at high pressure using hydraulic fracturing pumps so that the fluid passes from the wellbore into the formation, and fractures the formation;

powering the hydraulic fracturing pumps using electricity from an electric motor.

7. (New) The method of claim 6, further comprising:

powering the electric motor using a generator.

8. (New) The method of claim 7, further comprising:

powering the generator using natural gas.

9. (New) The method of claim 6, further comprising:

controlling the speed of the motor using a variable frequency drive, wherein the variable frequency drive frequently performs electric motor diagnostics to prevent damage to the electric motor.

10. (New) A system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the system comprising:

a pump fluidly connected to the well; and

an electric motor to power the pump;
the pump configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation.

11. (New) The system of claim 10, further comprising:
a variable frequency drive connected to the electric motor to control the speed of the motor.

12. (New) The system of claim 10, wherein the electric pump is mounted on a vehicle, and can be ported from one well to another.

13. (New) The system of claim 10, further comprising:
a generator electrically connected to the electric motor to provide electric power to the motor.

14. (New) The system of claim 13, wherein the generator is fueled by natural gas.

15. (New) The system of claim 13, wherein the generator is a turbine generator.

16. (New) The system of claim 13, wherein the pump, electric motor, and generator are mounted on a vehicle, and can be ported from one well to another.

17. (New) The system of claim 16, wherein the vehicle is a truck having at least five axles.

18. (New) The system of claim 11, wherein the variable frequency drive has one or more power semiconductor heat sinks having thermal sensors monitored by a microprocessor to prevent damage caused by excessive heat.

19. (New) The system of claim 10, wherein the pump is a triplex or a quinteplex pump rated at about 2250 hydraulic horsepower or more.

20. (New) The system of claim 10, wherein the electric motor has a maximum continuous power output of about 1750 brake horsepower or more.

21. (New) The system of claim 10, wherein the electric motor has a maximum continuous torque of about 8750 lb-ft or more.

REMARKS/ARGUMENTS

In this preliminary amendment, claim 1 has been canceled, and claims 2-21 are newly added. Support for all amended claims can be found in the specification, and no new matter has been added by these amendments. Although there has been no examination in this application, examination has occurred in the parent application (U.S. Patent Application No. 15/202,085, now Patent No. 10,337,308).

CONCLUSION

Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

Further, the Commissioner is hereby authorized to charge any additional fees or credit any overpayment in connection with this paper to Deposit Account No. 50-1349.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 713-632-1440.

Respectfully submitted,

/Taylor P. Evans/
Taylor P. Evans
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Houston, Texas 77002
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Electronic Patent Application Fee Transmittal

Application Number:	16456777			
Filing Date:	28-Jun-2019			
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS			
First Named Inventor/Applicant Name:	Joel N. BROUSSARD			
Filer:	Taylor P. Evans/Stephanie McDonough			
Attorney Docket Number:	047158.100055			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
Pages:				
Claims:				
Miscellaneous-Filing:				
LATE FILING FEE FOR OATH OR DECLARATION	1051	1	160	160
Petition:				

HALLIBURTON EXHIBIT 1003

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 5 months with \$0 paid	1255	1	3000	3000
Miscellaneous:				
Total in USD (\$)				4880

Electronic Acknowledgement Receipt

EFS ID:	38720247
Application Number:	16456777
International Application Number:	
Confirmation Number:	4763
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
First Named Inventor/Applicant Name:	Joel N. BROUSSARD
Customer Number:	132858
Filer:	Taylor P. Evans/Stephanie McDonough
Filer Authorized By:	Taylor P. Evans
Attorney Docket Number:	047158.100055
Receipt Date:	28-FEB-2020
Filing Date:	28-JUN-2019
Time Stamp:	10:50:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$4880
RAM confirmation Number	E20202RA51469807
Deposit Account	501349
Authorized User	Stephanie McDonough

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

HALLIBURTON EXHIBIT 1003

37 CFR 1.19 (Document supply fees)
37 CFR 1.20 (Post Issuance fees)
37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Response to Pre-Exam Formalities Notice	047158-100055_Response.pdf	22176	no	2
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Information:					
2		047158-100055_Preliminary_Amendment.pdf	31012	yes	6
			49eab9df1a8c1685cfa67219319f69946042f7d		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Preliminary Amendment		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	6	
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	39240	no	2
			d42e1d5e305cc186220046f2642bf0e19748826c		
Warnings:					
Information:					
Total Files Size (in bytes):			92428		

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National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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on February 28, 2020.

PATENT
Attorney Docket No.: 047158.100055

HOGAN LOVELLS US LLP

By: /Stephanie McDonough/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Joel N. Broussard

Application No.: 16/456,777

Filed: June 28, 2019

For: SYSTEM FOR PUMPING
HYDRAULIC FRACTURING FLUID
USING ELECTRIC PUMPS

Customer No.: 132858

Confirmation No.: 4763

Examiner: Unknown

Art Unit: Unknown

TRANSMITTAL LETTER –
RESPONSE TO NOTICE TO FILE
MISSING PARTS

Commissioner:

Pursuant to the Notice to File Missing Parts of Nonprovisional Application dated
July 30, 2019, the following fees associated with this filing have been charged to the firm's
deposit account:

Large Entity:	(a)	Filing Fee	\$300
	(b)	Search Fee	\$660
	(c)	Examination Fee	\$760
	(d)	Missing Parts Surcharge	\$160
	(e)	Five Month Extension of Time	\$3,000
		TOTAL FEES TO BE CHARGED	\$4,880

The Commissioner is hereby authorized to charge any additional fees associated with this paper or during the pendency of this application, or credit any overpayment, to Deposit Account No. 50-1349, referencing Attorney Docket No. 047158.100055.

Respectfully submitted,

/Taylor P. Evans/
Taylor P. Evans
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609 Main Street, Suite 4200
Houston, Texas 77002
Tel: 713-632-1440
Fax: 713-632-1401

Electronic Acknowledgement Receipt

EFS ID:	36754433
Application Number:	16456777
International Application Number:	
Confirmation Number:	4763
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
First Named Inventor/Applicant Name:	Joel N. BROUSSARD
Customer Number:	132858
Filer:	Taylor P. Evans/Stephanie McDonough
Filer Authorized By:	Taylor P. Evans
Attorney Docket Number:	047158.100055
Receipt Date:	01-AUG-2019
Filing Date:	28-JUN-2019
Time Stamp:	13:08:44
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

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Warnings:

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4	Other Reference-Patent/App/Search documents	NPL43.pdf	589124	no	11
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7	Other Reference-Patent/App/Search documents	NPL46.pdf	251902	no	3
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11	Foreign Reference	WO2016144939A1.pdf	2806113	no	51
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12	Foreign Reference	WO2016160458A1.pdf	2943101	no	57
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17	Foreign Reference	CA2707269A1.pdf	2897967	no	106
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18	Other Reference-Patent/App/Search documents	P52016CA00_OA_as-filed.pdf	285103	no	5
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		16456777
	Filing Date		2019-06-28
	First Named Inventor	Joel N. Broussard	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	047158.100055	

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	3764233		1973-10-09	Strickland	
	2	5879137		1999-03-09	Yie	
	3	7563076		2009-07-21	Brunet	
	4	7683499		2010-03-23	Saucier	
	5	8083504		2011-12-27	Williams	
	6	3334495		1967-08-08	Jensen	
	7	1671436		1928-05-29	Melott	
	8	2004077		1935-06-04	McCartney	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		16456777
Filing Date		2019-06-28
First Named Inventor	Joel N. Broussard	
Art Unit		
Examiner Name		
Attorney Docket Number	047158.100055	

9	2220622		1940-11-05	Aitken	
10	3066503		1962-12-04	Fleming	
11	3837179		1974-09-24	Barth	
12	4037431		1977-07-26	Sugimoto	
13	5907970		1999-06-01	Havlovick et al.	
14	6142878		2000-11-07	Barin	
15	8789601		2014-07-29	Broussard	
16	6271637		2001-08-07	Kushion	
17	6529135		2003-03-04	Bowers et al.	
18	6931310		2005-08-16	Shimizu et al.	
19	7755310		2010-07-13	West et al.	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		16456777
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First Named Inventor	Joel N. Broussard	
Art Unit		
Examiner Name		
Attorney Docket Number	047158.100055	

20	8054084		2011-11-08	Schulz et al.	
21	8310272		2012-11-13	Quarto	
22	8354817		2013-01-15	Yeh et al.	
23	8838341		2014-09-16	Kumano	
24	9018881		2015-04-28	Mao et al.	
25	2248051		1941-07-08	Armstrong	
26	3722595		1973-03-27	Kiel	
27	7312593		2007-12-25	Streicher et al.	
28	4226299		1980-10-07	Hansen	
29	4456092		1984-06-26	Kubozuka	
30	5655361		1997-08-12	Kishi	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		16456777
Filing Date		2019-06-28
First Named Inventor	Joel N. Broussard	
Art Unit		
Examiner Name		
Attorney Docket Number	047158.100055	

31	6254462		2001-07-03	Kelton	
32	3061039		1962-10-30	Peters	
33	3773140		1973-11-20	Mahajan	
34	5548093		1996-08-20	Sato	
35	6202702		2001-03-20	Ohira	
36	6802690		2004-10-12	Han	
37	8534235		2013-09-17	Chandler	
38	8727068		2014-05-20	Bruin	
39	9103193		2015-08-11	Coli	
40	6164910		2000-12-26	Mayleben	
41	7500642		2009-03-10	Cunningham	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		16456777
Filing Date		2019-06-28
First Named Inventor	Joel N. Broussard	
Art Unit		
Examiner Name		
Attorney Docket Number	047158.100055	

42	8899940		2014-12-02	Laugemors	
43	8905056		2004-12-09	Kendrick	
44	4151575		1979-04-24	Hogue	
45	5130628		1992-07-14	Owen	
46	6315523		2001-11-13	Mills	
47	7336514		2008-02-26	Amarillas	
48	7525264		1999-04-28	Dodge	
49	8096891		2012-01-17	Lochtefeld	
50	9160168		2015-10-13	Chapel	
51	8146665		2012-04-03	Neal	
52	8474521		2013-07-02	Kajaria	

**INFORMATION DISCLOSURE
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Application Number		16456777
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Attorney Docket Number	047158.100055	

53	9067182		2015-06-30	Nichols	
54	8807960		2014-08-19	Stephenson	
55	5025861		1991-06-25	Huber et al.	
56	7170262		2007-01-30	Pettigrew	
57	8997904		2015-04-07	Cryer	
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59	9366114		2016-06-14	Coli et al.	
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63	7845413		2010-12-07	Shampine et al.	

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76	5894888		1999-04-20	Wiemers	
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22	20130233542		2013-09-12	Shampine	
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24	20120127635		2012-05-24	Grindeland	
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66	20100293973		2010-11-25	Erickson	
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	120	20170292513		2017-10-12	Haddad	
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146	20090045782		2009-02-19	Datta	
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154	20140219824	2014-08-07	Burnette
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10	Non-Final Office Action issued in corresponding Application No. 14/622,532 dated May 17, 2016.	☒
11	Final Office Action issued in corresponding Application No. 14/622,532 dated December 21, 2015.	☒
12	Non-Final Office Action issued in corresponding Application No. 14/622,532 dated August 5, 2015.	☒
13	Non-Final Office Action issued in corresponding Application No. 15/145,491 on September 12, 2016.	☒

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. Broussard
Art Unit	
Examiner Name	
Attorney Docket Number	047158.100055

14	Non-Final Office Action issued in corresponding Application No. 15/217,040 dated November 29, 2016.	☒
15	Non-Final Office Action issued in corresponding Application No. 15/235,788 dated December 14, 2016.	☒
16	Non-Final Office Action issued in corresponding Application No. 15/145,491 dated May 15, 2017.	☒
17	Non-Final Office Action issued in corresponding Application No. 15/486,970 dated June 22, 2017	☒
18	Non-Final Office Action issued in corresponding Application No. 15/487,656 dated June 23, 2017	☒
19	Non-Final Office Action issued in corresponding Application No. 15/487,694 dated June 26, 2017	☒
20	Final Office Action issued in corresponding Application No. 15/294,349 dated July 6, 2017	☒
21	Non-Final Office Action issued in corresponding Application No. 14/884,363 dated September 5, 2017	☒
22	Final Office Action issued in corresponding Application No. 15/145,491 dated September 6, 2017	☒
23	Non-Final Office Action issued in corresponding Application No. 14/881,535 dated October 6, 2017	☒
24	Non-Final Office Action issued in corresponding Application No. 15/145,414 dated November 29, 2017	☒

**INFORMATION DISCLOSURE
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(Not for submission under 37 CFR 1.99)

Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. Broussard
Art Unit	
Examiner Name	
Attorney Docket Number	047158.100055

25	Non-Final Office Action issued in corresponding Application No. 15/644,487 dated November 13, 2017	☒
26	Canadian Office Action dated March 2, 2018 in related Canadian Patent Application No. 2,833,711	☒
27	Office Action dated April 10, 2018 in related U.S. Patent Application No. 15/294,349	☒
28	Office Action dated April 2, 2018 in related U.S. Patent Application No. 15/183,387	☒
29	Office Action dated May 29, 2018 in related U.S. Patent Application No. 15/235,716	☒
30	Canadian Office Action dated April 18, 2018 in related Canadian Patent Application No. 2,928,711	☒
31	Canadian Office Action dated June 22, 2018 in related Canadian Patent Application No. 2,886,697	☒
32	Office Action dated July 25, 2018 in related U.S. Patent Application No. 15/644,487	☒
33	Office Action dated October 4, 2018 in related U.S. Patent Application No. 15/217,081	☒
34	International Search Report and Written Opinion dated September 19, 2018 in related PCT Patent Application No. PCT/US2018/040683	☒
35	Canadian Office Action dated September 28, 2018 in related Canadian Patent Application No. 2,945,281	☒

**INFORMATION DISCLOSURE
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Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. Broussard
Art Unit	
Examiner Name	
Attorney Docket Number	047158.100055

36	Office Action dated December 12, 2018 in related U.S. Patent Application No. 16/160,708	☒
37	International Search Report and Written Opinion dated January 2, 2019 in related PCT Patent Application No. PCT/US18/54542	☒
38	International Search Report and Written Opinion dated January 2, 2019 in related PCT Patent Application No. PCT/US18/54548	☒
39	International Search Report and Written Opinion dated December 31, 2018 in related PCT Patent Application No. PCT/US18/55913	☒
40	International Search Report and Written Opinion dated January 4, 2019 in related PCT Patent Application No. PCT/US18/57539	☒
41	Non-Final Office Action issued February 12, 2019 in related U.S. Patent Application No. 16/170,695	☒
42	International Search Report and Written Opinion dated February 15, 2019 in related PCT Patent Application No. PCT/US18/63977	☒
43	International Search Report and Written Opinion dated March 5, 2019 in related PCT Patent Application No. PCT/US18/63970	☒
44	Non-Final Office Action issued February 25, 2019 in related U.S. Patent Application No. 16/210,749	☒
45	Non-Final Office Action issued March 6, 2019 in related U.S. Patent Application No. 15/183,387	☒
46	Office Action mailed January 30, 2019 in related Canadian Patent Application No. 2,936,997	☒

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
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Application Number		16456777
Filing Date		2019-06-28
First Named Inventor	Joel N. Broussard	
Art Unit		
Examiner Name		
Attorney Docket Number	047158.100055	

47	Office Action mailed March 1, 2019 in related Canadian Patent Application No. 2,943,275	☒
48	International Search Report and Written Opinion mailed April 10, 2019 in corresponding PCT Application No. PCT/US2019/016635	☒
49	Notice of Allowance mailed April 23, 2019 in corresponding U.S. Patent Application No. 15/635,028	☒
50	International Search Report and Written Opinion mailed July 9, 2019 in corresponding PCT Application No. PCT/US2019/027584	☒

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Application Number	16456777
Filing Date	2019-06-28
First Named Inventor	Joel N. Broussard
Art Unit	
Examiner Name	
Attorney Docket Number	047158.100055

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

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See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Taylor P. Evans/	Date (YYYY-MM-DD)	2019-08-01
Name/Print	Taylor P. Evans	Registration Number	60506

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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EFS ID:	36754331
Application Number:	16456777
International Application Number:	
Confirmation Number:	4763
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
First Named Inventor/Applicant Name:	Joel N. BROUSSARD
Customer Number:	132858
Filer:	Taylor P. Evans/Stephanie McDonough
Filer Authorized By:	Taylor P. Evans
Attorney Docket Number:	047158.100055
Receipt Date:	01-AUG-2019
Filing Date:	28-JUN-2019
Time Stamp:	13:02:56
Application Type:	Utility under 35 USC 111(a)

Payment information:

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
16/456,777	06/28/2019		0.00	047158.100055	1	1

CONFIRMATION NO. 4763

FILING RECEIPT



0000000109973815

132858
Hogan Lovells US LLP
609 Main Street
Suite 4200
Houston, TX 77002

Date Mailed: 07/30/2019

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Joel N. BROUSSARD, Lafayette, LA;
Jeff McPHERSON, Spring, TX;
Robert KURTZ, Fairmont, WV;

Applicant(s)

U.S. Well Services, Inc., Houston, TX

Assignment For Published Patent Application

U.S. Well Services, Inc., Houston, TX

Power of Attorney: The patent practitioners associated with Customer Number 132858

Domestic Priority data as claimed by applicant

This application is a CON of 15/202,085 07/05/2016 PAT 10337308
which is a CON of 13/679,689 11/16/2012 PAT 9410410

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 07/29/2019

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/456,777**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

Title

SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 16/456,777			
APPLICATION AS FILED - PART I									
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)		
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300		
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	660		
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760		
TOTAL CLAIMS (37 CFR 1.16(j))	1	minus 20 = *			OR	x 100 =	0.00		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	minus 3 = *				x 460 =	0.00		
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00		
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00		
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1720		
APPLICATION AS AMENDED - PART II									
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =		
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =		
	Application Size Fee (37 CFR 1.16(s))					OR			
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR			
			TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE			
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =		
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =		
	Application Size Fee (37 CFR 1.16(s))					OR			
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR			
			TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.									



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UNITED STATES DEPARTMENT OF COMMERCE
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www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/456,777	06/28/2019	Joel N. BROUSSARD	047158.100055

CONFIRMATION NO. 4763

FORMALITIES LETTER



132858
Hogan Lovells US LLP
609 Main Street
Suite 4200
Houston, TX 77002

Date Mailed: 07/30/2019

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
- The application search fee must be submitted.
- The application examination fee must be submitted.
- Surcharge as set forth in 37 CFR 1.16(f) must be submitted.

The surcharge is due for any one of:

- late submission of the basic filing fee, search fee, or examination fee,
- late submission of inventor's oath or declaration,
- filing an application that does not contain at least one claim on filing, or
- submission of an application filed by reference to a previously filed application.

SUMMARY OF FEES DUE:

The fee(s) required within **TWO MONTHS** from the date of this Notice to avoid abandonment is/are itemized below. No entity status discount is in effect. If applicant is qualified for small entity status, a written assertion of small entity status must be submitted to establish small entity status. (See 37 CFR 1.27). If applicant is qualified for micro entity status, an acceptable Certification of Micro Entity Status must be submitted to establish micro entity status. (See 37 CFR 1.29 and forms PTO/SB/15A and 15B.)

- \$ 300 basic filing fee.
- \$ 160 surcharge.
- \$ 660 search fee.
- \$ 760 examination fee.
- \$(0) previous unapplied payment amount.
- \$ 1880 TOTAL FEE BALANCE DUE.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice".
<https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/wtsige/

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	
Filing Date	2019-06-28
First Named Inventor	Joel N. Broussard
Title	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
Art Unit	
Examiner Name	
Attorney Docket Number	047158.100055

SIGNATURE of Applicant or Patent Practitioner

Signature	/Taylor P. Evans/	Date (Optional)	2019-06-28
Name	Taylor P. Evans	Registration Number	60506
Title (if Applicant is a juristic entity)	Partner		
Applicant Name (if Applicant is a juristic entity)	U.S. Well Services, Inc.		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.



*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number

Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)



I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

132858

OR



I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:



The address associated with the above-mentioned Customer Number

OR



The address associated with Customer Number:

OR



Firm or
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

U.S. Well Services, Inc.



Inventor or Joint Inventor (title not required below)



Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)



Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)



Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Date (Optional)

Name

Jared Gehring

Title

Vice President of Technology

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.



Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	36445486
Application Number:	16456777
International Application Number:	
Confirmation Number:	4763
Title of Invention:	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS
First Named Inventor/Applicant Name:	Joel N. BROUSSARD
Customer Number:	132858
Filer:	Taylor P. Evans/Stephanie McDonough
Filer Authorized By:	Taylor P. Evans
Attorney Docket Number:	047158.100055
Receipt Date:	28-JUN-2019
Filing Date:	
Time Stamp:	15:25:55
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	WebADS.pdf	140118	no	8
			2ce141a56010868f2bb194e51a414d1ba534c978		

Warnings:

HALLIBURTON EXHIBIT 1003

Information:					
2	Drawings-only black and white line drawings	100055_Figures.pdf	956420 c4d5a2958b3c9cf3b13005f139f2e9cc14301743	no	2
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
3		100055_Specification.pdf	72534 f9f3740fe34f2a3ae1d2a4761c519ffd52a2ffe	yes	15
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	13	
	Claims		14	14	
	Abstract		15	15	
Warnings:					
Information:					
4	Oath or Declaration filed	100055_Declaration.pdf	353466 ad24a83e8b316d603fca14d36ac04fc76c43cad5	no	5
Warnings:					
Information:					
5	Transmittal of New Application	100055_Utility_transmittal.pdf	287759 aecc63b82b7fecf01a077bb72f18e7b26f554614	no	2
Warnings:					
Information:					
6	Power of Attorney	100055_POA.pdf	220912 986eec4b49ef86966cf861dba4d7646150dbced3	no	2
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	047158.100055
		Application Number	
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

Inventor Information:

Inventor 1					
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Joel	N.	BROUSSARD		
Residence Information (Select One)		☒ US Residency ☐ Non US Residency ☐ Active US Military Service			
City	Lafayette	State/Province	LA	Country of Residence ⁱ	US
Mailing Address of Inventor:					
Address 1		117 Oak Terrace Drive			
Address 2					
City	Lafayette	State/Province	LA		
Postal Code	70508	Country ⁱ	US		
Inventor 2					
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Jeff		McPHERSON		
Residence Information (Select One)		☒ US Residency ☐ Non US Residency ☐ Active US Military Service			
City	Spring	State/Province	TX	Country of Residence ⁱ	US
Mailing Address of Inventor:					
Address 1		25818 Overlake Dr.			
Address 2					
City	Spring	State/Province	TX		
Postal Code	77380	Country ⁱ	US		
Inventor 3					
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Robert		KURTZ	HALLIBURTON EXHIBIT 1003	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	047158.100055
		Application Number	
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS		

Residence Information (Select One)		☒ US Residency	☐ Non US Residency	☐ Active US Military Service	
City	Fairmont	State/Province	WV	Country of Residence ⁱ	US
Mailing Address of Inventor:					
Address 1		Rt. 7, 573-1			
Address 2					
City	Fairmont	State/Province	WV		
Postal Code	26554	Country ⁱ	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence information of this application.			
Customer Number	132858		
Email Address	hlusdocketing@hoganlovells.com	Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS		
Attorney Docket Number	047158.100055	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	047158.100055
	Application Number	
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS	

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)			
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Domestic Benefit/National Stage Information:

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When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	Continuation of	15202085	2016-07-05	10337308	2019-07-02
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15202085	Continuation of	13679689	2012-11-16	9410410	2016-08-09

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	047158.100055
	Application Number	
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS	

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This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ^j (if applicable)

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Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	047158.100055
	Application Number	
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	047158.100055
	Application Number	
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

- | | | |
|--|--|--------------------------------------|
| ☐ Assignee | ☐ Legal Representative under 35 U.S.C. 117 | ☐ Joint Inventor |
| ☒ Person to whom the inventor is obligated to assign. | ☐ Person who shows sufficient proprietary interest | |

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name U.S. Well Services, Inc.

Mailing Address Information For Applicant:

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City	Houston	State/Province	TX
Country ⁱ	US	Postal Code	77056
Phone Number		Fax Number	
Email Address			

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Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS	

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If the Assignee or Non-Applicant Assignee is an Organization check here.			☒			
Organization Name	U.S. Well Services, Inc.					
Mailing Address Information For Assignee including Non-Applicant Assignee:						
Address 1	1360 Post Oak Boulevard					
Address 2	Suite 1800					
City	Houston	State/Province	TX			
Country i	US	Postal Code	77056			
Phone Number		Fax Number				
Email Address						
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.						

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	047158.100055
	Application Number	
Title of Invention	SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS	

Signature:

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This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Taylor P. Evans/			Date (YYYY-MM-DD)	
First Name	Taylor P.	Last Name	Evans	Registration Number	60506
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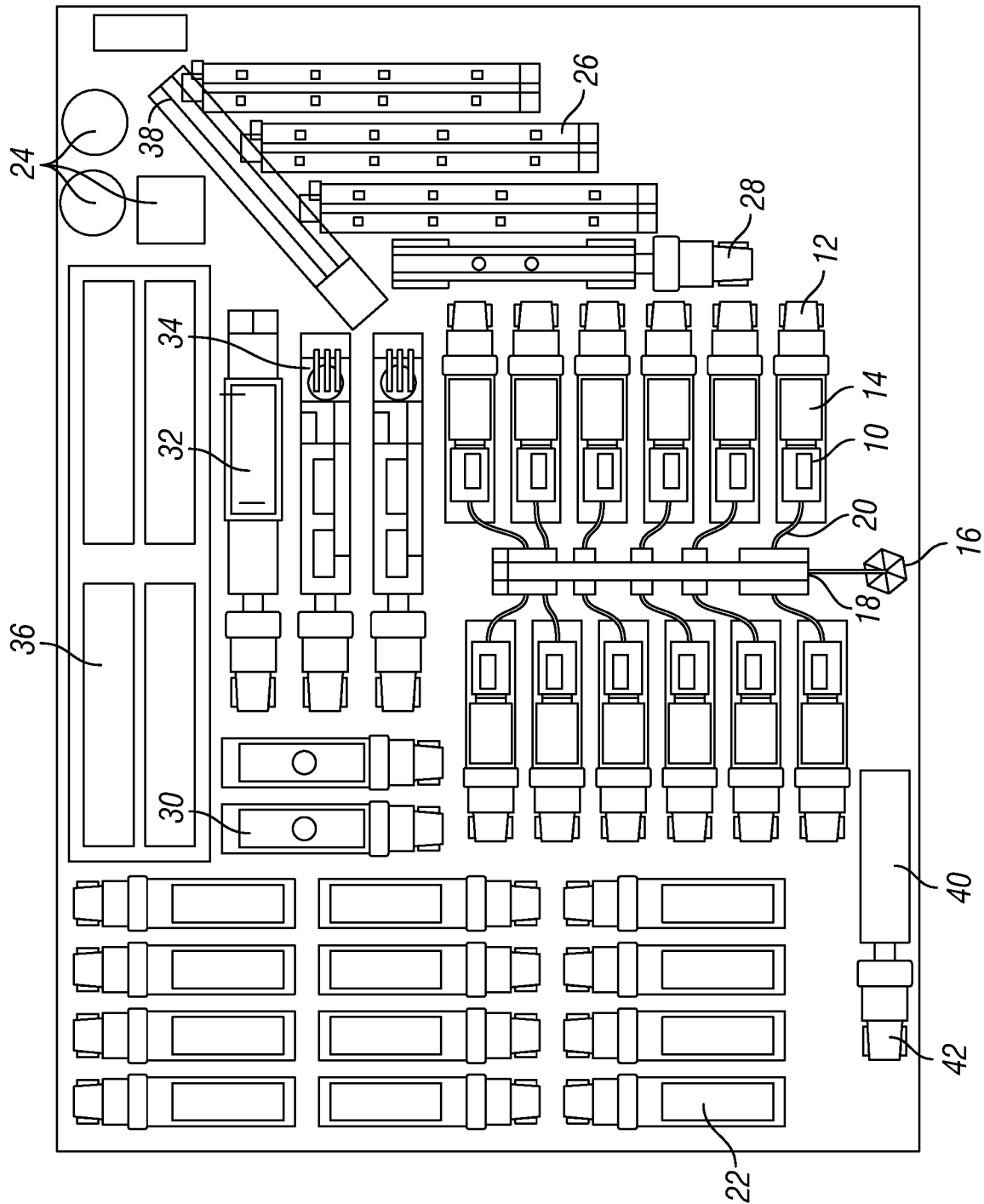
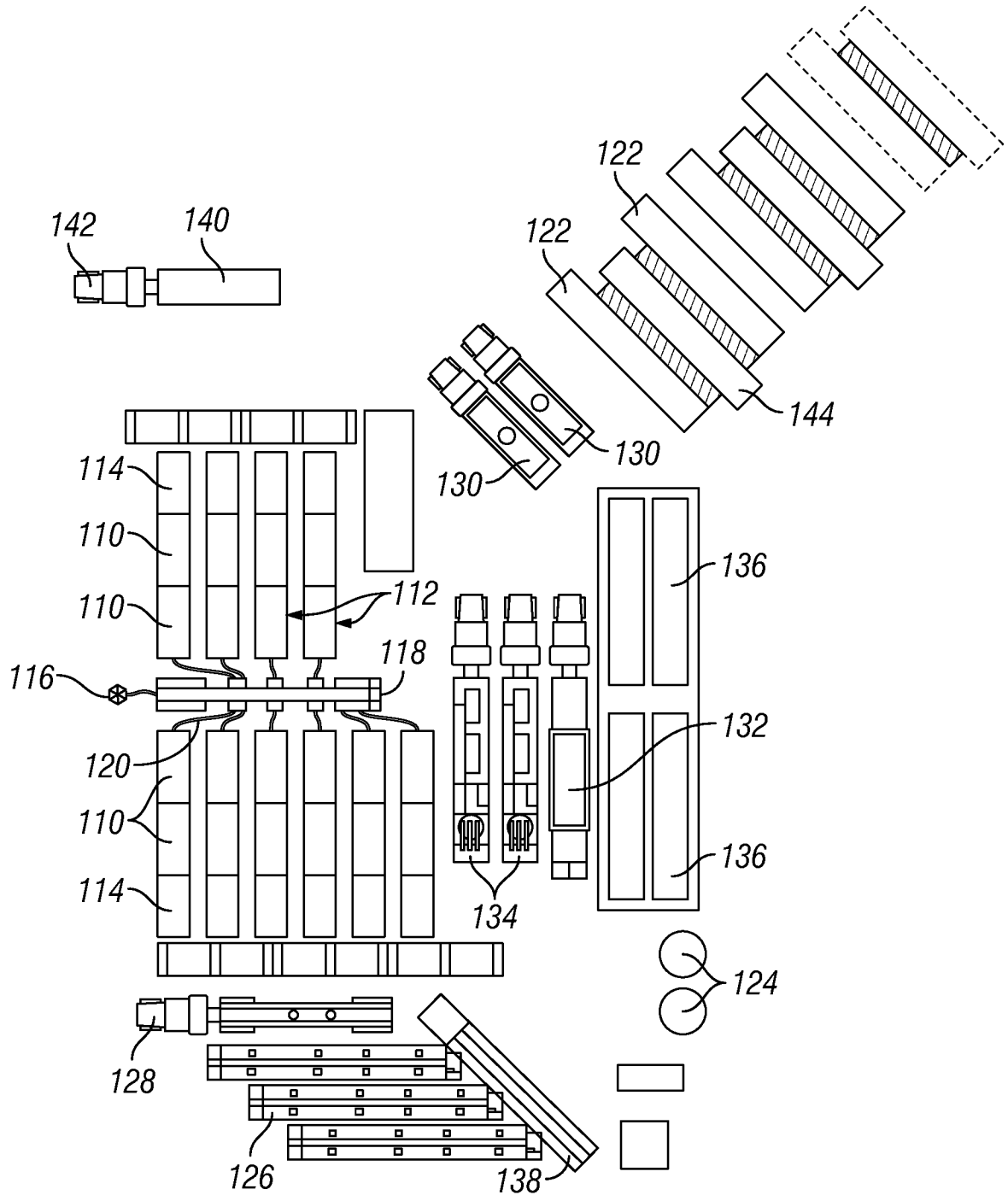


FIG. 1

**FIG. 2**

SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. Patent Application No. 15/202,085, filed July 5, 2016, titled “SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS,” now U.S. Patent No. 10,337,308, issued July 2, 2019, which is a continuation of U.S. Patent Application Serial No. 13/679,689, filed November 16, 2012, titled “SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS,” now U.S. Patent No. 9,410,410, issued August 9, 2016, the full disclosure of which is incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0002] This technology relates to hydraulic fracturing in oil and gas wells. In particular, this technology relates to pumping fracturing fluid into an oil or gas well using pumps powered by electric motors.

2. Brief Description of Related Art

[0003] Hydraulic fracturing has been used for decades to stimulate production from conventional oil and gas wells. The practice consists of pumping fluid into a wellbore at high pressure. Inside the wellbore, the fluid is forced into the formation being produced. When the fluid enters the formation, it fractures, or creates fissures, in the formation. Water, as well as other fluids, and

some solid proppants, are then pumped into the fissures to stimulate the release of oil and gas from the formation.

[0004] Fracturing rock in a formation requires that the fracture fluid be pumped into the wellbore at very high pressure. This pumping is typically performed by large diesel-powered pumps. Such pumps are able to pump fracturing fluid into a wellbore at a high enough pressure to crack the formation, but they also have drawbacks. For example, the diesel pumps are very heavy, and thus must be moved on heavy duty trailers, making transport of the pumps between oilfield sites expensive and inefficient. In addition, the diesel engines required to drive the pumps require a relatively high level of expensive maintenance. Furthermore, the cost of diesel fuel is much higher than in the past, meaning that the cost of running the pumps has increased.

[0005] What is needed therefore, is a pump system for hydraulic fracturing fluid that overcomes the problems associated with diesel pumps.

SUMMARY OF THE INVENTION

[0006] Disclosed herein is a system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation. The system includes a plurality of electric pumps fluidly connected to the well, and configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation. The system also includes a plurality of generators electrically connected to the plurality of electric pumps to provide electrical power to the pumps. At least some of the plurality of generators can be powered by natural gas. In addition, at least some of the plurality of generators can be turbine generators.

[0007] In one embodiment, the system further includes an A/C console and a variable frequency drive that controls the speed of the pumps. Furthermore, the electric pumps, as well as the electric generators, can be mounted on vehicles, and can be ported from one well to another. The vehicles can be trucks and can have at least five axles.

[0008] Further disclosed herein is a system for fracturing a rock formation in an oil or gas well by pumping hydraulic fracturing fluid into the well that includes a pump, an electric motor, a variable frequency drive, and a natural gas powered electric generator. The pump is configured for pumping the hydraulic fracturing fluid into the well, and then from the well into the formation, and is capable of pumping the hydraulic fracturing fluid at high pressure to crack the formation. The electric motor can have a high-strength steel or steel alloy shaft attached to the pump and configured to drive the pump. The variable frequency drive can be connected to the electric motor to control the speed of the motor. In addition, the natural gas powered generator, which can be a turbine generator, can be connected to the electric motor and provide electric power to the electric motor.

[0009] In one embodiment, the pump can be a triplex or a quinteplex pump, optionally rated at about 2250 hydraulic horsepower or more. In addition, the pump can also have 4.5 inch diameter plungers with an eight inch stroke. In another embodiment, the electric motor can have a maximum continuous power output of about 1500 brake horsepower, 1750 brake horsepower, or more, and a maximum continuous torque of about 8750 lb-ft or more. Furthermore, the electric motor can have a high temperature rating of about 375 degrees F or more, and a shaft composed of 4340 alloy steel.

[0010] In another embodiment, variable frequency drive can frequently perform electric motor diagnostics to prevent damage to the electric motor if it becomes grounded or shorted. In

addition, the variable frequency drive can include power semiconductor heat sinks having one or more thermal sensors monitored by a microprocessor to prevent semiconductor damage caused by excessive heat.

[0011] Also disclosed herein is a system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation. The system includes a trailer for attachment to a truck. The system may include any mobile platform. Two or more electric pumps can be attached to the trailer and are fluidly connected to the well, the electric pumps configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation. One or more electric motors are attached to the electric pumps to drive the pumps. The electric motors can also be attached to the trailer. A natural gas powered generator is provided for connection to the electric motor to provide electric power to the electric motor. The system of claim can further include a variable frequency drive attached to the trailer and connected to the electric motor to control the speed of the motor. In addition, the system can include a skid to which at least one of the electric pumps, the one or more electric motors, and the variable frequency drives are attached.

[0012] Also disclosed herein is a process for stimulating an oil or gas well by hydraulically fracturing a formation in the well. The process includes the steps of pumping fracturing fluid into the well with an electrically powered pump at a high pressure so that the fracturing fluid enters and cracks the formation, the fracturing fluid having at least a liquid component and a solid proppant, and inserting the solid proppant into the cracks to maintain the cracks open, thereby allowing passage of oil and gas through the cracks. The process can further include

powering the electrically powered pump with a natural gas generator, such as, for example, a turbine generator.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The present technology will be better understood on reading the following detailed description of nonlimiting embodiments thereof, and on examining the accompanying drawing, in which:

[0014] Fig. 1 is a schematic plan view of equipment used in a hydraulic fracturing operation, according to an embodiment of the present technology; and

[0015] Fig. 2 is a schematic plan view of equipment used in a hydraulic fracturing operation, according to an alternate embodiment of the present technology.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0016] The foregoing aspects, features, and advantages of the present technology will be further appreciated when considered with reference to the following description of preferred embodiments and accompanying drawing, wherein like reference numerals represent like elements. In describing the preferred embodiments of the technology illustrated in the appended drawing, specific terminology will be used for the sake of clarity. However, the technology is not intended to be limited to the specific terms used, and it is to be understood that each specific term includes equivalents that operate in a similar manner to accomplish a similar purpose.

[0017] Fig. 1 shows a plan view of equipment used in a hydraulic fracturing operation. Specifically, there is shown a plurality of pumps 10 mounted to pump vehicles 12. The pump vehicles 12 can be trucks having at least five axles. In the embodiment shown, the pumps 10 are powered by electric motors 14, which can also be mounted to the pump vehicles 12. The pumps 10 are fluidly connected to the wellhead 16 via the missile 18. As shown, the pump vehicles 12

can be positioned near enough to the missile 18 to connect fracturing fluid lines 20 between the pumps 10 and the missile 18. The missile 18 is then connected to the wellhead 16 and configured to deliver fracturing fluid provided by the pumps 10 to the wellhead 16.

[0018] In some embodiments, each electric motor 14 can be capable of delivering about 1500 brake horsepower (BHP), 1750 BHP, or more, and each pump 10 can optionally be rated for about 2250 hydraulic horsepower (HHP) or more. In addition, the components of the system, including the pumps 10 and the electric motors 14, can be capable of operating during prolonged pumping operations, and in temperature in a range of about 0 degrees C or less to about 55 degrees C or more. In addition, each electric motor 14 can be equipped with a variable frequency drive (VFD), and an A/C console, that controls the speed of the electric motor 14, and hence the speed of the pump 10.

[0019] The electric motors 14 of the present technology can be designed to withstand an oilfield environment. Specifically, some pumps 10 can have a maximum continuous power output of about 1500 BHP, 1750 BHP, or more, and a maximum continuous torque of about 8750 lb-ft or more. Furthermore, electric motors 14 of the present technology can include class H insulation and high temperature ratings, such as about 375 degrees F or more. In some embodiments, the electric motor 14 can include a single shaft extension and hub for high tension radial loads, and a high strength 4340 alloy steel shaft, although other suitable materials can also be used.

[0020] The VFD can be designed to maximize the flexibility, robustness, serviceability, and reliability required by oilfield applications, such as hydraulic fracturing. For example, as far as hardware is concerned, the VFD can include packaging receiving a high rating by the National Electrical Manufacturers Association (such as nema 1 packaging), and power semiconductor heat sinks having one or more thermal sensors monitored by a microprocessor to prevent

semiconductor damage caused by excessive heat. Furthermore, with respect to control capabilities, the VFD can provide complete monitoring and protection of drive internal operations while communicating with an operator via one or more user interfaces. For example, motor diagnostics can be performed frequently (e.g., on the application of power, or with each start), to prevent damage to a grounded or shorted electric motor 14. The electric motor diagnostics can be disabled, if desired, when using, for example, a low impedance or high-speed electric motor.

[0021] In some embodiments, the pump 10 can optionally be a 2250 HHP triplex or quinteplex pump. The pump 10 can optionally be equipped with 4.5 inch diameter plungers that have an eight (8) inch stroke, although other size plungers can be used, depending on the preference of the operator. The pump 10 can further include additional features to increase its capacity, durability, and robustness, including, for example, a 6.353 to 1 gear reduction, autofrettaged steel or steel alloy fluid end, wing guided slush type valves, and rubber spring loaded packing.

[0022] In addition to the above, certain embodiments of the present technology can include a skid (not shown) for supporting some or all of the above-described equipment. For example, the skid can support the electric motor 14 and the pump 10. In addition, the skid can support the VFD. Structurally, the skid can be constructed of heavy-duty longitudinal beams and cross-members made of an appropriate material, such as, for example, steel. The skid can further include heavy-duty lifting lugs, or eyes, that can optionally be of sufficient strength to allow the skid to be lifted at a single lift point.

[0023] Referring back to Fig. 1, also included in the equipment is a plurality of electric generators 22 that are connected to, and provide power to, the electric motors 14 on the pump vehicles 12. To accomplish this, the electric generators 22 can be connected to the electric

motors 14 by power lines (not shown). The electric generators 22 can be connected to the electric motors 14 via power distribution panels (not shown). In certain embodiments, the electric generators 22 can be powered by natural gas. For example, the generators can be powered by liquefied natural gas. The liquefied natural gas can be converted into a gaseous form in a vaporizer prior to use in the generators. The use of natural gas to power the electric generators 22 can be advantageous because, where the well is a natural gas well, above ground natural gas vessels 24 can already be placed on site to collect natural gas produced from the well. Thus, a portion of this natural gas can be used to power the electric generators 22, thereby reducing or eliminating the need to import fuel from offsite. If desired by an operator, the electric generators 22 can optionally be natural gas turbine generators, such as those shown in Fig. 2.

[0024] Fig. 1 also shows equipment for transporting and combining the components of the hydraulic fracturing fluid used in the system of the present technology. In many wells, the fracturing fluid contains a mixture of water, sand or other proppant, acid, and other chemicals. Examples of fracturing fluid components include acid, anti-bacterial agents, clay stabilizers, corrosion inhibitors, friction reducers, gelling agents, iron control agents, pH adjusting agents, scale inhibitors, and surfactants. Historically, diesel has at times been used as a substitute for water in cold environments, or where a formation to be fractured is water sensitive, such as, for example, clay. The use of diesel, however, has been phased out over time because of price, and the development of newer, better technologies.

[0025] In Fig. 1, there are specifically shown sand transporting vehicles 26, an acid transporting vehicle 28, vehicles for transporting other chemicals 30, and a vehicle carrying a hydration unit 32, such as, for example, a water pump. Also shown are fracturing fluid blenders 34, which can

be configured to mix and blend the components of the hydraulic fracturing fluid, and to supply the hydraulic fracturing fluid to the pumps 10. In the case of liquid components, such as water, acids, and at least some chemicals, the components can be supplied to the blenders 34 via fluid lines (not shown) from the respective component vehicles, or from the hydration unit 32. In the case of solid components, such as sand, the component can be delivered to the blender 34 by a conveyor belt 38. The water can be supplied to the hydraulic unit 32 from, for example, water tanks 36 onsite. Alternately, the water can be provided by water trucks. Furthermore, water can be provided directly from the water tanks 36 or water trucks to the blender 34, without first passing through the hydration unit 32.

[0026] Pump control and data monitoring equipment 40 can be mounted on a control vehicle 42, and connected to the pumps 10, electric motors 14, blenders 34, and other downhole sensors and tools (not shown) to provide information to an operator, and to allow the operator to control different parameters of the fracturing operation. For example, the pump control and data monitoring equipment 40 can include an A/C console that controls the VFD, and thus the speed of the electric motor 14 and the pump 10. Other pump control and data monitoring equipment can include pump throttles, a pump VFD fault indicator with a reset, a general fault indicator with a reset, a main estop, a programmable logic controller for local control, and a graphics panel. The graphics panel can include, for example, a touchscreen interface.

[0027] Referring now to Fig. 2, there is shown an alternate embodiment of the present technology. Specifically, there is shown a plurality of pumps 110 which, in this embodiment, are mounted to pump trailers 112. As shown, the pumps 110 can optionally be loaded two to a trailer 112, thereby minimizing the number of trailers needed to place the requisite number of pumps at a site. The ability to load two pumps 110 on one trailer 112 is possible because of the

relatively light weight of the electric pumps 110 compared to other known pumps, such as diesel pumps. In the embodiment shown, the pumps 110 are powered by electric motors 114, which can also be mounted to the pump trailers 112. Furthermore, each electric motor 114 can be equipped with a VFD, and an A/C console, that controls the speed of the motor 114, and hence the speed of the pumps 110.

[0028] In addition to the above, the embodiment of Fig. 2 can include a skid (not shown) for supporting some or all of the above-described equipment. For example, the skid can support the electric motors 114 and the pumps 110. In addition, the skid can support the VFD. Structurally, the skid can be constructed of heavy-duty longitudinal beams and cross-members made of an appropriate material, such as, for example, steel. The skid can further include heavy-duty lifting lugs, or eyes, that can optionally be of sufficient strength to allow the skid to be lifted at a single lift point.

[0029] The pumps 110 are fluidly connected to a wellhead 116 via a missile 118. As shown, the pump trailers 112 can be positioned near enough to the missile 118 to connect fracturing fluid lines 120 between the pumps 110 and the missile 118. The missile 118 is then connected to the wellhead 116 and configured to deliver fracturing fluid provided by the pumps 110 to the wellhead 116.

[0030] Still referring to Fig. 2, this embodiment also includes a plurality of turbine generators 122 that are connected to, and provide power to, the electric motors 114 on the pump trailers 112. To accomplish this, the turbine generators 122 can be connected to the electric motors 114 by power lines (not shown). The turbine generators 122 can be connected to the electric motors 114 via power distribution panels (not shown). In certain embodiments, the turbine generators

122 can be powered by natural gas, similar to the electric generators 22 discussed above in reference to the embodiment of Fig. 1. Also included are control units 144 for the turbine generators 122.

[0031] The embodiment of Fig. 2 can include other equipment similar to that discussed above. For example, Fig. 2 shows sand transporting vehicles 126, acid transporting vehicles 128, other chemical transporting vehicles 130, hydration units 132, blenders 134, water tanks 136, conveyor belts 138, and pump control and data monitoring equipment 140 mounted on a control vehicle 142. The function and specifications of each of these is similar to corresponding elements shown in Fig. 1.

[0032] Use of pumps 10, 110 powered by electric motors 14, 114 and natural gas powered electric generators 22 (or turbine generators 122) to pump fracturing fluid into a well is advantageous over known systems for many different reasons. For example, the equipment (e.g. pumps, electric motors, and generators) is lighter than the diesel pumps commonly used in the industry. The lighter weight of the equipment allows loading of the equipment directly onto a truck body. In fact, where the equipment is attached to a skid, as described above, the skid itself can be lifted on the truck body, along with all the equipment attached to the skid, in one simple action. Alternatively, and as shown in Fig. 2, trailers 112 can be used to transport the pumps 110 and electric motors 114, with two or more pumps 110 carried on a single trailer 112. Thus, the same number of pumps 110 can be transported on fewer trailers 112. Known diesel pumps, in contrast, cannot be transported directly on a truck body or two on a trailer, but must be transported individually on trailers because of the great weight of the pumps.

[0033] The ability to transfer the equipment of the present technology directly on a truck body or two to a trailer increases efficiency and lowers cost. In addition, by eliminating or reducing the number of trailers to carry the equipment, the equipment can be delivered to sites having a restricted amount of space, and can be carried to and away from worksites with less damage to the surrounding environment. Another reason that the electric pump system of the present technology is advantageous is that it runs on natural gas. Thus, the fuel is lower cost, the components of the system require less maintenance, and emissions are lower, so that potentially negative impacts on the environment are reduced.

[0034] In practice, a hydraulic fracturing operation can be carried out according to the following process. First, the water, sand, and other components are blended to form a fracturing fluid, which is pumped down the well by the electric-powered pumps. Typically, the well is designed so that the fracturing fluid can exit the wellbore at a desired location and pass into the surrounding formation. For example, in some embodiments the wellbore can have perforations that allow the fluid to pass from the wellbore into the formation. In other embodiments, the wellbore can include an openable sleeve, or the well can be open hole. The fracturing fluid can be pumped into the wellbore at a high enough pressure that the fracturing fluid cracks the formation, and enters into the cracks. Once inside the cracks, the sand, or other proppants in the mixture, wedges in the cracks, and holds the cracks open.

[0035] Using the pump control and data monitoring equipment 40, the operator can monitor, gauge, and manipulate parameters of the operation, such as pressures, and volumes of fluids and proppants entering and exiting the well. For example, the operator can increase or decrease the ratio of sand to water as the fracturing process progresses and circumstances change.

[0036] This process of injecting fracturing fluid into the wellbore can be carried out continuously, or repeated multiple times in stages, until the fracturing of the formation is optimized. Optionally, the wellbore can be temporarily plugged between each stage to maintain pressure, and increase fracturing in the formation. Generally, the proppant is inserted into the cracks formed in the formation by the fracturing, and left in place in the formation to prop open the cracks and allow oil or gas to flow into the wellbore.

[0037] While the technology has been shown or described in only some of its forms, it should be apparent to those skilled in the art that it is not so limited, but is susceptible to various changes without departing from the scope of the technology. Furthermore, it is to be understood that the above disclosed embodiments are merely illustrative of the principles and applications of the present technology. Accordingly, numerous modifications can be made to the illustrative embodiments and other arrangements can be devised without departing from the spirit and scope of the present technology as defined by the appended claims.

What is claimed is:

1. A system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation, the system comprising:

a pump fluidly connected to the well; and

an electric motor to power the pump;

the pump configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the formation, and fractures the formation.

ABSTRACT

A system for hydraulically fracturing an underground formation in an oil or gas well to extract oil or gas from the formation, the oil or gas well having a wellbore that permits passage of fluid from the wellbore into the formation. The system includes a plurality of electric pumps fluidly connected to the well, and configured to pump fluid into the wellbore at high pressure so that the fluid passes from the wellbore into the, and fractures the formation. The system can also include a plurality of natural gas powered generators electrically connected to the plurality of electric pumps to provide electrical power to the pumps.

SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

COMBINED DECLARATION AND GLOBAL ASSIGNMENT
FOR UTILITY OR DESIGN PATENT APPLICATION

As the below named inventor(s), I/we hereby declare that:

This declaration and assignment are directed to:

SYSTEM FOR PUMPING HYDRAULIC FRACTURING
FLUID USING ELECTRIC PUMPS

- ☒ the specification of which is attached hereto OR
- ☐ United States application or PCT international application number _____, filed on _____, as amended on [date] (if applicable).
(We hereby authorize and request the Company or its delegated attorneys or agents to insert above the application number and filing date of the application when known.)

The above-identified application was made or authorized to be made by us.

We believe that we are original joint inventors of a claimed invention in the application.

We hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC § 1001 by fine or imprisonment of not more than five (5) years, or both.

We acknowledge the duty to disclose information which is material to the patentability of this application as defined in 37 CFR § 1.56, including, for continuation-in-part applications, material information which became available between the filing date of the prior application and the filing date of the continuation-in-part application.

In accordance with our obligation(s) under an Employee Innovation and Proprietary Information Agreement or (as applicable) arising out of other agreements (such as, but not limited to, the Services Agreement between US Well Services LLC., a Texas corporation, and our employers), and/or for other good and valuable consideration of which we acknowledge receipt, we,

Inventor First Name	Inventor Middle Name	Inventor Last Name		Residence Town	Residence State	Residence Country
Joel	N.	BROUSSARD	of	Lafayette	LA	US
Jeff		McPHERSON	of	Spring	TX	US
Robert		KURTZ		Fairmont	WV	US

SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

hereby sell and assign to:

Name of Company: <i>US Well Services LLC</i>
Entity Type (optional): <i>Texas Corporation</i>
Address: <i>770 South Post Oak Lane, Suite 405, Houston, Texas 77056 US</i>

herein referred to as "Company", its successors and assigns our entire respective rights, titles and interests in and to the invention and improvements made and conceived by us described in the application(s) listed above and in the following table:

Country of Filing	Type of Filing	Application Number	Filing Date	Title

(We hereby authorize and request the Company or its delegated attorneys or agents to insert above the application number and filing date of the application(s) when known.)

and any and all applications for patent and patents therefrom in any and all countries, including all divisions, continuations, reexaminations and reissues thereof, and all rights of priority resulting from the filing of the application(s), and authorize and request any official whose duty it is to issue patents, to issue any patent on the inventions and improvements resulting therefrom to the Company, or its successors or assigns and agree that on request and without further consideration, we will communicate to the Company or its representatives or nominees any facts known to us respecting the inventions and improvements and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, reexamination and reissue applications, make all rightful oaths and generally do everything possible to aid the Company, its successors, assigns, and nominees to obtain and enforce proper patent protection for the invention and its improvements in all countries.

SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

INVENTOR 1

Signature: [Signature] Date: 06-15-, 2016
Inventor Name: **Joel N. BROUSSARD**

Witnessed by: [Signature] Date: June 15, 2016
Signature

Monica M. Hanes
Printed Name of Witness

Witnessed by: [Signature] Date: June 15, 2016
Signature

Russell J. Louviere
Printed Name of Witness

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

_____, Date: _____, 2016

Inventor Name: **Joel N. BROUSSARD**

STATE OF LOUISIANA

ss.

PARISH OF _____

This _____ day of _____, 2016 before me personally came the above-named **Joel N. BROUSSARD** to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

Seal

(Notary Public)

Docket No: 085055.000042

SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

INVENTOR 2

Signature: [Signature]

Inventor Name: Jeff McPHERSON

Date: 7-1-, 2016

Witnessed by: [Signature]

Signature

Date: 7/1/2016

Jared Oehring
Printed Name of Witness

Witnessed by: [Signature]

Signature

Date: 7/1/2016

LaDonna Wiggins
Printed Name of Witness

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

Date: _____, 2016

Inventor Name: Jeff McPHERSON

STATE OF TEXAS

ss.

COUNTY OF _____

This _____ day of _____, 2016 before me personally came the above-named **Jeff McPHERSON**, to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

Seal

(Notary Public)

SYSTEM FOR PUMPING HYDRAULIC FRACTURING FLUID USING ELECTRIC PUMPS

INVENTOR 3

Signature: [Signature]
Inventor Name: **Robert KURTZ**

Date: _____, 2016

Witnessed by: _____
Signature

Date: _____

Printed Name of Witness _____

Witnessed by: _____
Signature

Date: _____

Printed Name of Witness _____

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

Date: _____, 2016

Inventor Name: **Robert KURTZ**

STATE OF WEST VIRGINIA

ss.

COUNTY OF _____

This _____ day of _____, 2016 before me personally came the above-named **Robert KURTZ**, to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

Seal

(Notary Public)

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UTILITY PATENT APPLICATION TRANSMITTAL <i>(Only for new nonprovisional applications under 37 CFR 1.53(b))</i>		Attorney Docket No. 047158.100055	
		First Named Inventor Jeff N. Broussard	
		Title SYSTEM FOR PUMPMING HYDRAULIC...	
		Priority Mail Express® Label No.	

APPLICATION ELEMENTS <i>See MPEP chapter 600 concerning utility patent application contents.</i>	Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450
1. ☐ Fee Transmittal Form (PTO/SB/17 or equivalent) 2. ☐ Applicant asserts small entity status. See 37 CFR 1.27 3. ☐ Applicant certifies micro entity status. See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent. 4. ☒ Specification [Total Pages <u>15</u>] Both the claims and abstract must start on a new page. (See MPEP § 608.01(a) for information on the preferred arrangement) 5. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets <u>2</u>] 6. Inventor's Oath or Declaration [Total Pages <u>5</u>] (including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e)) a. ☐ Newly executed (original or copy) b. ☒ A copy from a prior application (37 CFR 1.63(d)) 7. ☒ Application Data Sheet * See note below. See 37 CFR 1.76 (PTO/AIA/14 or equivalent) 8. CD-ROM or CD-R in duplicate, large table, or Computer Program (Appendix) ☐ Landscape Table on CD 9. Nucleotide and/or Amino Acid Sequence Submission (if applicable, items a. – c. are required) a. ☐ Computer Readable Form (CRF) b. ☐ Specification Sequence Listing on: i. ☐ CD-ROM or CD-R (2 copies); or ii. ☐ Paper c. ☐ Statements verifying identity of above copies	ACCOMPANYING APPLICATION PAPERS 10. ☐ Assignment Papers (cover sheet & document(s)) Name of Assignee _____ 11. ☐ 37 CFR 3.73(c) Statement ☒ Power of Attorney (when there is an assignee) 12. ☐ English Translation Document (if applicable) 13. ☐ Information Disclosure Statement (PTO/SB/08 or PTO-1449) ☐ Copies of citations attached 14. ☐ Preliminary Amendment 15. ☐ Return Receipt Postcard (MPEP § 503) (Should be specifically itemized) 16. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed) 17. ☐ Nonpublication Request Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent. 18. ☐ Other: _____ _____ _____ _____

***Note:** (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 **must** be included in an Application Data Sheet (ADS).
 (2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

19. CORRESPONDENCE ADDRESS				
☒ The address associated with Customer Number: <u>132858</u> OR ☐ Correspondence address below				
Name				
Address				
City	State	Zip Code		
Country	Telephone	Email		

Signature	/Taylor P. Evans/	Date	2019-06-28
Name (Print/Type)	Taylor P. Evans	Registration No. (Attorney/Agent)	60506

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.