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Alexandria, Virginia 22313-1450
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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/015,205	03/24/2020	10598101	CET1090.046	1852

26629 7590 03/04/2020
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ZPS)
136 S WISCONSIN ST
PORT WASHINGTON, WI 53074

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 584 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):

Mark J. Sarder, Waukesha, WI;
Champion Engine Technology, LLC, Sussex, WI;
Leigh Jenison, Hartland, WI;
Ian Schmit, Cedarburg, WI;

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.

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.

26629 7590 12/27/2019
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ZPS)
136 S WISCONSIN ST
PORT WASHINGTON, WI 53074

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.

Robyn L. Templin	(Typed or printed name)
/Robyn L. Templin/	(Signature)
2/7/2020	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/015,205	02/04/2016	Mark J. Sarder	CET1090.046	1852

TITLE OF INVENTION: DUAL FUEL SELECTOR SWITCH

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0.00	\$0.00	\$500	03/27/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
HASAN, SYED O	3747	123-525000

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,

(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.

1. **Ziolkowski Patent Solutions Group, SC**

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)

Champion Power Equipment, Inc.

Santa Fe Springs, CA

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 /Timothy J. Ziolkowski/

Date 2/7/2020

Typed or printed name Timothy J. Ziolkowski

Registration No. 38,368

Electronic Patent Application Fee Transmittal

Application Number:	15015205			
Filing Date:	04-Feb-2016			
Title of Invention:	DUAL FUEL SELECTOR SWITCH			
First Named Inventor/Applicant Name:	Mark J. Sarder			
Filer:	Timothy J. Ziolkowski/Robyn Templin			
Attorney Docket Number:	CET1090.046			
Filed as Small 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:				
UTILITY APPL ISSUE FEE	2501	1	500	500

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				500

Electronic Acknowledgement Receipt

EFS ID:	38520821
Application Number:	15015205
International Application Number:	
Confirmation Number:	1852
Title of Invention:	DUAL FUEL SELECTOR SWITCH
First Named Inventor/Applicant Name:	Mark J. Sarder
Customer Number:	26629
Filer:	Timothy J. Ziolkowski/Robyn Templin
Filer Authorized By:	Timothy J. Ziolkowski
Attorney Docket Number:	CET1090.046
Receipt Date:	07-FEB-2020
Filing Date:	04-FEB-2016
Time Stamp:	09:03:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 500
RAM confirmation Number	E202027003358086
Deposit Account	
Authorized User	

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

Petitioner Ex 1028 005

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)	IssueFee.pdf	1384264	no	1
			6746d47c593234ad1b24380e377ec185b68dbade		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30104	no	2
			e4165b47b9e8e53c7e3eb6e067b02b8ac3984ea2		
Warnings:					
Information:					
Total Files Size (in bytes):			1414368		
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.					

<i>Application Number</i> * 15/015,205 *	Application/Control No. 15/015,205	Applicant(s)/Patent under Reexamination Sarder et al.	
	Examiner HASAN, SYED O	Art Unit 3747	
Document Code - DISQ		Internal Document - DO NOT MAIL	

TERMINAL DISCLAIMER	☐ APPROVED	☒ DISAPPROVED
Date Filed: <u>16 December 2019</u>	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:
/FELICIA D ROBERTS/ Technology Center: OPLC Telephone: (571)272-0550 See Continuation Sheet

Continuation of Approved/Disapproved Comments: The terminal disclaimer identifies a party who is not the applicant (only for applications filed on or after September 16, 2012; See FP 14.26.10):

For cases filed on/after 9/16/12, 37 CFR 1.321 specifies that the applicant can disclaim, and the terminal disclaimer must specify the extent of the applicant's ownership.

To remedy this:

A request under 37 CFR 1.46(c) to change the applicant needs to be filed, which is (1) a request, signed by a 1.33(b) party, (2) a corrected ADS (37 CFR 1.76(c)) that identifies the "new" applicant in the applicant information, and is underlined since it is new, and (3) a 3.73(c) statement showing chain of title to the new applicant. Along with the § 1.46(c) request we need a POA that gives power to the attorney who is signing the TD, along with another copy of the TD, unless they file a TD that is signed by the applicant.

Please make corrections as suggested above and also resubmit the TD. (No new fee required)



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NOTICE OF ALLOWANCE AND FEE(S) DUE

26629 7590 12/27/2019
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ZPS)
136 S WISCONSIN ST
PORT WASHINGTON, WI 53074

EXAMINER

HASAN, SYED O

ART UNIT

PAPER NUMBER

3747

DATE MAILED: 12/27/2019

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/015,205	02/04/2016	Mark J. Sarder	CET1090.046	1852

TITLE OF INVENTION: DUAL FUEL SELECTOR SWITCH

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0.00	\$0.00	\$500	03/27/2020

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.

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Commissioner for Patents
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Certificate of Mailing or Transmission

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

26629 7590 12/27/2019
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ZPS)
136 S WISCONSIN ST
PORT WASHINGTON, WI 53074

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/015,205	02/04/2016	Mark J. Sarder	CET1090.046	1852

TITLE OF INVENTION: DUAL FUEL SELECTOR SWITCH

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nonprovisional	SMALL	\$500	\$0.00	\$0.00	\$500	03/27/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
HASAN, SYED O	3747	123-525000

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☐ 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)

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(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 ☐ Government4a. 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. _____

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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

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/015,205	02/04/2016	Mark J. Sarder	CET1090.046	1852
26629	7590	12/27/2019	EXAMINER	
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ZPS)			HASAN, SYED O	
136 S WISCONSIN ST			ART UNIT	PAPER NUMBER
PORT WASHINGTON, WI 53074			3747	
DATE MAILED: 12/27/2019				

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.

Petitioner Ex 1028.012

Notice of Allowability	Application No. 15/015,205	Applicant(s) Sarder et al.	
	Examiner SYED O HASAN	Art Unit 3747	AIA (FITF) Status Yes

-- 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 10/25/2019.
☐ 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. <u>12/16/2019</u> .	5. ☒ Examiner's Amendment/Comment 6. ☒ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____.

Continuation of 3. The allowed claim(s) is/are: 1,3-11,13-18,21-22 and 24

DETAILED ACTION

1. This action is in response to applicant's amendment received on 10/25/2019. Amended claims 1, 3, 10, 13, and new claims 21-24 are acknowledged and the following notice of allowability is formulated. Claims 2 and 12 are cancelled.

Notice of Pre-AIA or AIA Status

2. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in an interview with Kevin Rosin on 12/16/2019.

The application has been amended as follows:

Claim 18 now recites: A fuel selector of a dual fuel generator comprising: a selector switch having a first fuel mode and a second fuel mode; a solenoid switch having open and closed positions; and a fuel solenoid having open and closed positions; wherein, when the selector switch is in the first fuel mode, the solenoid switch and the fuel solenoid are in the closed positions and when the selector switch is in the second fuel mode, the solenoid switch and the fuel solenoid are in the open positions, wherein the

selector switch triggers the solenoid switch when changed from the second fuel mode to the first fuel mode, so as to cause the solenoid switch and the fuel solenoid to operate in the closed positions, and a valve assembly positioned on or adjacent the selector switch and fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and wherein positioning of the selector switch in the first fuel mode and the second fuel mode enables a selection of one of the first fuel flow and the second fuel flow.

Claims 19 and 20 are now cancelled.

Claim 22 now recites: A fuel selector for use with a dual fuel generator, the fuel selector comprising: a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and a selector switch positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow; wherein the valve assembly comprises: two fuel inputs, with a first fuel input connected to the first fuel source and a second fuel input connected to the second fuel source; and two fuel outputs supplying fuel from only one of the first fuel source or the second fuel source, wherein the valve assembly comprises a first fuel valve having open and closed positions to selectively control the first fuel flow

to the engine; and a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine.

Claim 23 is now cancelled.

Claim 24 now recites: The fuel selector of claim ~~[[23]]~~ 22, wherein the first fuel valve and the second fuel valve are non-solenoid, mechanical valves.

Allowable Subject Matter

4. Claims 1, 3-11, 13-18, 21-22, and 24 are allowed.
5. The following is an examiner's statement of reasons for allowance: There is no prior art that teaches all the limitations of claims 1, 10, 18, and 22. All depending claims are allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SYED O HASAN whose telephone number is (571)272-0990. The examiner can normally be reached on Monday-Friday; 11AM-7PM.

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, Lindsay Low can be reached on (571) 272-1196. 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.

/SYED O HASAN/
Primary Examiner, Art Unit 3747
12/19/2019

<i>Examiner-Initiated Interview Summary</i>	Application No. 15/015,205	Applicant(s) Sarder et al.	
	Examiner SYED O HASAN	Art Unit 3747	AIA (FITF) Status Yes

All participants (applicant, applicant's representative, PTO personnel):

(1) SYED O. HASAN. (3) ____.

(2) Kevin Rosin. (4) ____.

Date of Interview: 16 December 2019.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: ____.

Issues Discussed ☐ 101 ☐ 112 ☒ 102 ☐ 103 ☐ Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1.

Identification of prior art discussed: Sugimoto.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Agreement was reached as to what amendments would overcome the prior art of record. A terminal disclaimer will be filed and the notice of allowability will be sent along with examiner's amendments..

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/SYED O HASAN/ Primary Examiner, Art Unit 3747	

<i>Search Notes</i> 	Application/Control No. 15/015,205	Applicant(s)/Patent Under Reexamination Sarder et al.
	Examiner SYED O HASAN	Art Unit 3747

CPC - Searched*		
Symbol	Date	Examiner
F02D19/0676, 19/0613, 19/0647, 29/06, 19/0681, F02M21/0293, 21/0236, 21/0233, 13/08, 13/08, F02B53/00, 63/00, H02K1/22	1/2/2018	/S.O.H./
Updated Search	06/19/2019	/S.O.H./
Updated Search	12/19/2019	/S.O.H./

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
123	525, 2, 3	1/2/2018	/S.O.H./
290	1A	1/2/2018	/S.O.H./
137	383	1/2/2018	/S.O.H./
	Updated Search	8/3/2018	/S.O.H./

* 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
Searched in subclasses F02D19/0676, 19/0613, 19/0647, 29/06, F02M21/0293, 21/0236, 21/0233, 13/08, 13/08, F02B53/00, 63/00, H02K1/22 with keywords such as switch, dual fuel, LPG, gaseous, etc.	1/2/2018	/S.O.H./
EAST search strategy attached.	1/2/2018	/S.O.H./

/SYED O HASAN/ Primary Examiner, Art Unit 3747	Petitioner Ex 1028-020

<i>Search Notes</i> 	Application/Control No. 15/015,205	Applicant(s)/Patent Under Reexamination Sarder et al.
	Examiner SYED O HASAN	Art Unit 3747

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	(dual near3 fuel near3 (engine or generator)) same (fuel near3 (valve or supply) near3 (lever or switch or handle)).clm.	12/19/2019	/S.O.H./

/ SYED O HASAN/ Primary Examiner, Art Unit 3747	

<i>Index of Claims</i> 	Application/Control No. 15/015,205	Applicant(s)/Patent Under Reexamination Sarder et al.
	Examiner SYED O HASAN	Art Unit 3747

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☒ Claims renumbered in the same order as presented by applicant						☐ CPA		☐ T.D.		☐ R.1.47
CLAIM		DATE								
Final	Original	06/18/2019	06/18/2019	06/19/2019	12/19/2019					
1	1	✓	✓	✓	=					
	2	✓	✓	✓	-					
2	3	✓	✓	✓	=					
3	4	✓	✓	○	=					
4	5	○	○	○	=					
5	6	○	○	○	=					
6	7	○	○	○	=					
7	8	○	○	○	=					
8	9	✓	✓	✓	=					
10	10	✓	✓	✓	=					
11	11	✓	✓	✓	=					
	12	✓	✓	✓	-					
12	13	✓	✓	○	=					
13	14	✓	✓	○	=					
14	15	○	○	○	=					
15	16	○	○	○	=					
16	17	✓	✓	✓	=					
17	18	✓	✓	✓	=					
	19	✓	✓	✓	-					
	20	✓	✓	✓	-					
9	21				=					
18	22				=					
	23				-					
19	24				=					

Issue Classification 	Application/Control No. 15/015,205	Applicant(s)/Patent Under Reexamination Sarder et al.
	Examiner SYED O HASAN	Art Unit 3747

CPC						
Symbol					Type	Version
F02D	/	19	/	0676	F	2013-01-01
F02M	/	13	/	08	I	2013-01-01
F02D	/	19	/	0647	I	2013-01-01
F02D	/	29	/	06	I	2013-01-01
F02D	/	19	/	0613	I	2013-01-01
Y10T	/	137	/	0318	A	2015-04-01
Y10T	/	137	/	0491	A	2015-04-01
Y10T	/	137	/	87684	A	2015-04-01
Y02T	/	10	/	36	A	2013-01-01

CPC Combination Sets					
Symbol				Type	Set

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 19	
/SYED O HASAN/ Primary Examiner, Art Unit 3747 (Primary Examiner) _____ (Date) _____		19 December 2019 O.G. Print Claim(s) 1	O.G. Print Figure 1

Issue Classification 	Application/Control No. 15/015,205	Applicant(s)/Patent Under Reexamination Sarder et al.
	Examiner SYED O HASAN	Art Unit 3747

INTERNATIONAL CLASSIFICATION			
CLAIMED			
F02D	/	19	/ 06
F02M	/	13	/ 08

NON-CLAIMED			
/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

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

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	19	
/SYED O HASAN/ Primary Examiner, Art Unit 3747	19 December 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification 	Application/Control No. 15/015,205	Applicant(s)/Patent Under Reexamination Sarder et al.
	Examiner SYED O HASAN	Art Unit 3747

☐ 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	1	10	10		19										
	2	11	11		20										
2	3		12	9	21										
3	4	12	13	18	22										
4	5	13	14		23										
5	6	14	15	19	24										
6	7	15	16												
7	8	16	17												
8	9	17	18												

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 19	
/SYED O HASAN/ Primary Examiner, Art Unit 3747 (Primary Examiner) _____ (Date) _____		19 December 2019 O.G. Print Claim(s)	O.G. Print Figure 1

Bibliographic Data

Application No: 15/015,205

Foreign Priority claimed: ☐ Yes ☒ No

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

Verified and Acknowledged:

Examiner's Signature

Initials

Title:

DUAL FUEL SELECTOR SWITCH

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
02/04/2016	123	3747	CET1090.046
RULE			

APPLICANTS

Champion Engine Technology, LLC, Sussex, WI,

INVENTORS

Mark J. Sarder Waukesha, WI, UNITED STATES

Leigh Jenison Hartland, WI, UNITED STATES

Ian Schmit Cedarburg, WI, UNITED STATES

CONTINUING DATA

This application is a CON of 14069747 11/01/2013 PAT 9435273

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

02/18/2016

**** SMALL ENTITY ****

STATE OR COUNTRY

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ADDRESS

ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ZPS)

136 S WISCONSIN ST

PORT WASHINGTON, WI 53074

UNITED STATES

FILING FEE RECEIVED

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Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 07/31/2012. OMB 0651-0031

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

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

Application Number	15015205
Filing Date	2016-02-04
First Named Inventor	Mark J. Sarder et al.
Art Unit	3747
Examiner Name	Syed O. Hasan
Attorney Docket Number	CET1090.046

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	2722208		1955-11-01	Conroy, Jr. et al.	
	2	4372276		1983-02-08	Bernhardsson et al.	
	3	4450821		1984-05-29	Venning et al.	
	4	4502453		1985-03-05	Kabasin et al.	
	5	4619240		1986-10-28	Bedford et al.	
	6	4895124		1990-01-23	Bartholomew	
	7	5171487		1992-12-15	Hudz	
	8	5287839		1994-02-22	Kondou et al.	

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Examiner Name	Syed O. Hasan
Attorney Docket Number	CET1090.046

9	5320078		1994-06-14	Lorraine	
10	5379740		1995-01-10	Moore et al.	
11	5419291		1995-05-30	Kimata et al.	
12	5438968		1995-08-08	Johnson et al.	
13	5450832		1995-09-19	Graf	
14	5673670		1997-10-07	Powell et al.	
15	5816224		1998-10-06	Welsh et al.	
16	6082323		2000-07-04	Winberg	
17	6213083	B1	2001-04-10	Winberg	
18	6223730	B1	2001-05-01	Hasegawa et al.	
19	6276345	B1	2001-08-21	Nelson et al.	

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Attorney Docket Number	CET1090.046

20	6401685	B1	2002-06-11	Warner
21	6453877	B1	2002-09-24	Lucier et al.
22	6914342	B1	2005-07-05	French
23	7905469	B2	2011-03-15	Nickels et al.
24	8342158	B2	2013-01-01	Ulrey et al.
25	8590510	B2	2013-11-26	Sumilla et al.
26	5161496		1992-11-10	Matsushima et al.
27	5325835		1994-07-05	Kimata et al.
28	3718000		1973-02-27	Walker
29	3783849		1974-01-08	Bramfitt
30	5611312		1997-03-18	Swanson et al.

**INFORMATION DISCLOSURE
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Examiner Name	Syed O. Hasan
Attorney Docket Number	CET1090.046

31	6591817	B2	2003-07-15	Deutsch
32	3384059		1968-05-21	Kopa
33	3412258		1968-11-19	Satter
34	3659574		1972-05-02	Reschke et al.
35	3888223		1975-06-10	Mondt
36	4335697		1982-06-22	McLean
37	4373493		1983-02-15	Welsh
38	4463735		1984-08-07	Stoltman
39	4480595		1984-11-06	Hobby et al.
40	4628871		1986-12-16	Glass
41	4708094		1987-11-24	Helmich et al.

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

Application Number	15015205
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First Named Inventor	Mark J. Sarder et al.
Art Unit	3747
Examiner Name	Syed O. Hasan
Attorney Docket Number	CET1090.046

42	4979480		1990-12-25	Daikoku et al.
43	5092305		1992-03-03	King
44	5228423		1993-07-20	Oikawa et al.
45	9435273	B2	2016-09-06	Sarder et al.
46	4393848		1983-07-19	Poehlman
47	5809979		1998-09-22	Tsuda et al.

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

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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	20130047964	A1	2013-02-28	Kim	
	2	20130220274	A1	2013-08-29	Deshpande et al.	
	3	20020134362	A1	2002-09-26	Deutsch	

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

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First Named Inventor	Mark J. Sarder et al.
Art Unit	3747
Examiner Name	Syed O. Hasan
Attorney Docket Number	CET1090.046

4	20040139943	A1	2004-07-22	Kern et al.
5	20140238340	A1	2014-08-28	Dunn et al.
6	20140373531	A1	2014-12-25	Wong
7	20150122230	A1	2015-05-07	Sarder et al.
8	20110168133	A1	2011-07-14	Pursifull et al.
9	20140202430	A1	2014-07-24	Monros
10	20100258099	A1	2010-10-14	Andersson et al.
11	20110253102	A1	2011-10-20	Watanabe

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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	2060477	CN	U	1990-08-15	Zhao Yunying		

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

Application Number	15015205
Filing Date	2016-02-04
First Named Inventor	Mark J. Sarder et al.
Art Unit	3747
Examiner Name	Syed O. Hasan
Attorney Docket Number	CET1090.046

2	1981121	CN	A	2007-06-13	Honda Motor Co., Ltd.	

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	Honda EU20i LPG, March 20, 2012, https://www.youtube.com/watch?v=yBpq33aJmR0	
	2	JOHNSON et al., "Electronic Direct Fuel Injection (EDFI) for Small Two-Stroke Engines," SAE Technical Paper 1999-01-3312, Proceedings of the 1999 SAE Small Engine Technology Conference, Madison, WI, September 28-30, 1999, pp. 1-15	
	3	Champion Power (2014, Dec. & Jan.) 100153 Manual, Retrieved from http://www.championpowerequipment.com/media/2400/100153_manual-english_12-4-14.pdf	

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

EXAMINER SIGNATURE

Examiner Signature	/SYED O HASAN/	Date Considered	12/19/2019

*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.

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

Application Number	15015205
Filing Date	2016-02-04
First Named Inventor	Mark J. Sarder et al.
Art Unit	3747
Examiner Name	Syed O. Hasan
Attorney Docket Number	CET1090.046

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	/Kevin R. Rosin/	Date (YYYY-MM-DD)	2019-11-22
Name/Print	Kevin R. Rosin	Registration Number	55584

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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.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
		(generator same (cas\$4 or housing or enclosure)) and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((valve) near3 (switch or lever or selector))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:35
		(generator same (cas\$4 or housing or enclosure) and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((valve) near3 (switch or lever or selector))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:35
		((dual or multiple or second\$4 or bi) near3 (fuel)) same generator) and ((valve) same (user or operator or manual or manually or mechanically or mechanical))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:00
		generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve near2 handle) same (user or operator or man\$6))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:09
L2	63	("20020134362" "20040139943" "20100258099" "20110168133" "20110253102" "20130047964" "20130220274" "20140202430" "20140238340" "20140373531" "20150122230" "2722208" "3384059" "3412258" "3659574" "3718000" "3783849" "3888223" "4335697" "4372276" "4373493" "4393848" "4450821" "4463735" "4480595" "4502453" "4619240" "4628871" "4708094" "4895124" "4979480" "5092305" "5161496" "5171487" "5228423" "5287839" "5320078" "5325835" "5379740" "5419291" "5438968" "5450832" "5611312" "5673670" "5809979" "5816224" "6082323" "6213083" "6223730" "6276345" "6401685" "6453877" "6591817" "6914342" "7905469" "8342158" "8590510" "9435273" "20040240141" "20060169238" "20130098349" "20130122439" "4489699").PN.	US-PGPUB; USPAT	OR	OFF	2019/12/19 20:00

S1	11	((Mark) near2 (Sarder)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:16
S2	2	((Leigh) near2 (Jenison)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:17
S3	2	((Ian) near2 (Schmit)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:18
S4	834	123/525.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:20
S5	3	123/525.ccls. and (dual near3 fuel near3 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:20
S6	2	123/525.ccls. and (((multiple near3 fuel) or bi-fuel) near3 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:21
S7	3	123/525.ccls. and (((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:22
S8	236	(((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:22
S9	10	(((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator) same (switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:23
S10	458	f02D19/0676.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2015/06/23 14:23

			DERWENT			
S11	17	F02D19/0676.cpc. and (generator)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:24
S12	6	F02M21/0293.cpc. and (generator)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:24
S13	14	F02M21/0236.cpc. and (generator)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:25
S14	18	F02M21/0233.cpc. and (generator)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:27
S15	21	F02M13/08.cpc. and (generator)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:29
S16	0	(generator) and (dual near3 fuel) and (selectro near3 switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:32
S17	16	(generator) and (dual near3 fuel) and (selector near3 switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:32
S18	42	(generator) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (selector near3 switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:33
S19	46	(generator) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (fuel near5 select\$4 near5 switch)	US- PGPUB; USPAT; USOCR;	OR	OFF	2015/06/23 14:39

			FPRS; EPO; JPO; DERWENT			
S20	46	(generator or genset) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (fuel near5 select\$4 near5 switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:40
S21	728	137/383.ccls.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:58
S22	96	137/384.8.ccls.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:58
S23	0	317/317.5.ccls.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:04
S24	133	273/317.5.ccls.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:04
S25	161	292/4.ccls.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:06
S26	106	292/290.ccls.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:07
S27	578	49/503.ccls.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:15
S28	92	123/2-3.ccls. and (fuel near5 switch)	US- PGPUB;	OR	OFF	2015/06/23 15:16

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT			
S29	163	(generator) same (LPG near20 gasoline)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:35
S30	163	(generator) same (LPG near20 gasoline)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:35
S31	19	(fuel near3 select\$4 near3 switch) and (LPG near20 gasoline)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:53
S32	321499	(select\$4 near3 switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:55
S33	1395	(select\$4 near3 switch) same (enclosure)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:55
S34	123	(switch) same (enclosure) same (first near3 valve) same (second near3 valve)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:56
S35	0	(switch) same (genset) same (first near3 valve) same (second near3 valve)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:58
S36	11	(genset) and ((switch) same (first near3 valve) same (second near3 valve))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:58

S37	550	(slider near3 switch).ti.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:17
S38	28	(slider near3 switch).ti.	US- PGPUB; USPAT	OR	OFF	2015/06/23 16:19
S39	2	("7135651" "7223931").PN. OR ("7772508").URPN.	US- PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 16:20
S40	209	200/241.ccls.	US- PGPUB; USPAT	OR	OFF	2015/06/23 16:23
S41	45	200/241.ccls. and (groove or slot)	US- PGPUB; USPAT	OR	OFF	2015/06/23 16:23
S42	151	290/1A.ccls. and (groove or slot)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:24
S43	414	290/1A.ccls. and (switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:25
S44	45	290/1A.ccls. and (select\$4 near3 switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:25
S45	16208	(select\$4 near3 switch).ti.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:30
S46	42	(fuel near3 select\$4 near3 switch).ti.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:30
S47	1	("2004/0240141").URPN.	USPAT	OR	OFF	2015/06/23 16:31
S48	436	261/16.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S49	18	261/16.ccls. and switch	USPAT	OR	OFF	2015/06/23

						16:38
S50	0	48/180R.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S51	0	48/180C.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S52	0	48/180C.ccls.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S53	834	123/525.ccls.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S54	215	123/525.ccls. and (switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S55	76	123/525.ccls. and (switch) and (dual near3 fuel)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S56	15	("20130122439" "20130098349" "20060169238" "20040240141" "4489699").PN.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/29 14:24
S57	2	(dual near3 fuel near3 engine) same (fuel near3 handle)	US- PGPUB; USPAT; USOCR	OR	OFF	2015/12/17 18:15
S58	3	(dual near3 fuel near3 engine) same (fuel near3 handle)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:16
S59	16	(dual near3 fuel near3 engine) same (fuel near3 lever)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:17
S60	5	(dual near3 fuel near3 engine) same (fuel near3 valve near3 (lever or switch	US- PGPUB;	OR	OFF	2015/12/17 18:23

		or handle))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT			
S61	6	(dual near3 fuel near3 (engine or generator)) same (fuel near3 valve near3 (lever or switch or handle))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:45
S62	24	(dual near3 fuel near3 (engine or generator)) same (fuel near3 (valve or supply) near3 (lever or switch or handle))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:45
S63	4939	(gas near3 station).ti.	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:55
S64	39	(gas near3 station).ti. and lever	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:55
S65	292	(generator).ti. and ((dual or multiple) near3 (fuel))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56
S66	98	(generator).ti. and ((dual or multiple) near3 (fuel)) and (engine)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56
S67	13	(generator).ti. and (((dual or multiple) near3 (fuel)) same (switch or handle or lever)) and (engine)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56
S69	39	"4489699"	US- PGPUB; USPAT; USOCR	OR	OFF	2017/12/28 20:09
S70	14	F02D19/0613.cpc. and ((dual near3 fuel) same (switch))	US- PGPUB; USPAT;	OR	OFF	2018/01/02 20:38

			USOCR			
S71	25	F02D19/0613.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/01/02 20:38
S72	72	F02D19/0647.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/01/02 20:39
S73	77	F02D19/0647.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/01/02 20:39
S74	11	F02D19/06.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/01/02 20:40
S75	32	F02M13/08.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/01/02 20:41
S76	9	(fuel near3 select\$4 near3 switch) same (valve near3 assembly)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:24
S77	0	(geneartor) same (fuel near3 switch) same (valve near3 assembly)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:25
S78	9	(generator) same (fuel near3 switch) same (valve near3 assembly)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:25
S79	6704	(generator) same (fuel near3 valve)	US-PGPUB; USPAT; USOCR;	OR	OFF	2018/08/01 21:26

			FPRS; EPO; JPO; DERWENT			
S80	10	(generator) same (dual near2 fuel near3 valve)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:26
S81	13	(generator) same (dual near2 fuel near3 switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:27
S82	13	(generator) same (dual near3 fuel near3 switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:28
S83	19	(gaseous near3 fuel) same (dual near3 fuel near3 switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:54
S84	52	(gaseous near3 fuel) same (fuel near3 select\$4 near3 switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:56
S85	85	F02D19/0613.cpc. and (switch same valve)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 22:03
S86	31	F02D19/0613.cpc. and (switch same valve same (user or operator))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 22:04
S87	25	F02D19/081.cpc. and (switch same valve same (user or operator))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 22:08
S88	16	F02D19/0642.cpc. and (switch same valve same (user or operator))	US- PGPUB;	OR	OFF	2018/08/01 22:10

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT			
S89	39	"4489699"	USPAT	OR	OFF	2018/08/02 14:52
S90	1	"20040240141"	USPAT	OR	OFF	2018/08/02 14:53
S91	3	"20040240141"	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:53
S92	3	"20060169238"	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:53
S93	4	"20130098349"	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:55
S94	5	"20130122439"	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:58
S95	1	"20060169238"	USPAT	OR	OFF	2018/08/02 14:58
S96	0	123/198E.ccls. and (dual near3 fuel)	USPAT	OR	OFF	2018/08/02 15:01
S97	1	123/198E.ccls. and (dual near3 fuel)	USPAT	OR	OFF	2018/08/02 15:01
S98	1	123/198E.ccls. and (dual near3 fuel)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 15:02
S99	10	123/2.ccls. and (dual near3 fuel)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 16:27
S100	0	60/39.463. and (dual near3 fuel)	US- PGPUB; USPAT;	OR	OFF	2018/08/02 16:31

			USOCR; FPRS; EPO; JPO; DERWENT			
S101	121	60/39.463.ccls. and (dual near3 fuel)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 16:31
S102	34	60/39.463.ccls. and ((dual near3 fuel) same (valve))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 16:32
S103	50	"4489699"	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 17:42
S104	5	generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve near2 handle) same (user or operator or manual or manually))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:09
S105	16	generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve near2 handle))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:10
S106	20	generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve near3 handle))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:10
S107	540	generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve) same (user or operator or manual or manually))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:12
S108	124	generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve) same (user or operator or manual or manually) same switch)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:13
S109	4	("2681694").URPN.	USPAT	OR	OFF	2019/06/16

						23:23
S110	37	F02D19/0676.cpc. and ((valve) same (user or operator or manual or manually) same switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:17
S111	19	F02D19/0681.cpc. and ((valve) same (user or operator or manual or manually) same switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:21
S112	3	("2008/0022983").URPN.	USPAT	OR	OFF	2019/06/17 17:25
S113	0	F02B2063/046.cpc. and ((valve) same (user or operator or manual or manually) same switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:29
S114	23	F02B2063/046.cpc. and ((valve) same (user or operator or manual or manually))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:29
S115	23	F02B2063/046.cpc. and ((valve) same (user or operator or manual or manually or mechanically or mechanical))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:54
S116	33	F02B63/048.cpc. and ((valve) same (user or operator or manual or manually or mechanically or mechanical))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:54
S117	1201	((((dual or multiple or second\$4 or bi) near3 (fuel)) same generator) and ((valve) same (user or operator or manual or manually or mechanically or mechanical))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:00
S118	72	((((dual or multiple or second\$4 or bi) near3 (fuel)) same generator) and ((valve) same (user or operator or manual or manually or mechanically or mechanical) same handle)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:01
S119	14	((((dual or multiple or second\$4 or bi)	US-	OR	ON	2019/06/17

		near3 (fuel)) same generator).ti. and ((valve) same (user or operator or manual or manually or mechanically or mechanical))	PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT			18:05
S120	5	((((dual or multiple or second\$4 or bi near3 (fuel)) same generator).ti. and ((valve) same handle)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:12
S121	139	((((dual or multiple or second\$4 or bi near3 (fuel)) same generator) and ((valve) same handle)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:12
S122	34	((((dual or multiple or second\$4 or bi near3 (fuel)) same generator) and ((valve) near3 handle)	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:12
S123	555	generator and (((dual or multiple or second\$4 or bi) near3 (fuel)) same (valve) same (user or operator or manual or manually))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:23
S124	310	((((dual or multiple or second\$4 or bi near3 (fuel)) same generator) and ((valve) near3 (switch or lever or selector))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:23
S125	275	(generator same (case or casing or housing or enclosure)) and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((valve) same (fuel near3 (switch or lever or selector or handle)))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:36
S126	9	("2007/0137591").URPN.	USPAT	OR	OFF	2019/06/17 18:40
S127	725165	(generator).ti. engine and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((valve) same (fuel near3 (switch or lever or selector or handle)))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:48
S128	23	(generator).ti. and engine and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((valve) same (fuel near3 (switch or lever or selector or handle)))	US- PGPUB; USPAT; USOCR;	OR	ON	2019/06/17 18:49

			FPRS; EPO; JPO; DERWENT			
S129	47	(generator).ti. and engine and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((fuel near3 (switch or lever or selector or handle)))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:49
S130	0	(((dual or multiple or second\$4 or bi) near3 (fuel) near3 gnerator)) and (second\$4 near3 (fuel near3 (switch or lever or selector or handle)))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:56
S131	18	(((dual or multiple or second\$4 or bi) near3 (fuel) near3 generator)) and (second\$4 near3 (fuel near3 (switch or lever or selector or handle)))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:57
S132	34	(((dual or multiple or second\$4 or bi) near3 (fuel) near3 generator)) and ((user or manual or manually or operator or mechanically) same (fuel near3 (switch or lever or selector or handle)))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 19:00
S133	393	(generator or genset) and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((user or manual or manually or operator or mechanically) same (fuel near3 (switch or lever or selector or handle)))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 19:03
S134	433	123/525.ccls.	USPAT	OR	OFF	2019/06/17 19:31
S135	186	123/525.ccls. and (fuel same valve same (handle or switch or lever or selector))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2019/06/17 19:31
S136	22	123/525.ccls. and (generator or genset) and (fuel same valve same (handle or switch or lever or selector))	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2019/06/17 19:32
S137	5	"20070137591"	US- PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2019/06/17 19:37

S138	1	"20070137591"	USPAT	OR	OFF	2019/09/25 13:50
S139	2	"20070137591"	US- PGPUB; USPAT	OR	OFF	2019/09/25 13:50
S140	46	"4489699"	US- PGPUB; USPAT	OR	OFF	2019/09/25 13:50

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	(dual near3 fuel near3 (engine or generator)) same (fuel near3 (valve or supply) near3 (lever or switch or handle)).clm.	USPAT	OR	ON	2019/12/19 19:59
S68	0	(dual near3 fuel near3 (engine or generator)) same (fuel near3 (valve or supply) near3 (lever or switch or handle)).clm.	USPAT	OR	OFF	2016/04/21 19:37

12/ 19/ 2019 8:01:32 PM
C:\Users\shasan2\Documents\EAST\ Custom Office Templates\EAST\ Workspaces\ Dual
Fuel Selector Switch 14069747.wsp

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

Docket Number (Optional)
CET1090.046

In re Application of: Sarder, et al.

Application No.: 15/015,205

Filed: 2/4/2016

For: DUAL FUEL SELECTOR SWITCH

The applicant, Champion Power Equipment Inc., 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 **prior patent** No. 9,435,273, 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:

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- 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;
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2. ☒ The undersigned is an attorney or agent of record. Reg. No. 55584

/Kevin R. Rosin/ December 16, 2019
Signature Date

Kevin R. Rosin
Typed or printed name

Attorney (262) 268-8100
Title Telephone Number

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

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Electronic Patent Application Fee Transmittal

Application Number:	15015205			
Filing Date:	04-Feb-2016			
Title of Invention:	DUAL FUEL SELECTOR SWITCH			
First Named Inventor/Applicant Name:	Mark J. Sarder			
Filer:	Kevin Roger Rosin./Robyn Templin			
Attorney Docket Number:	CET1090.046			
Filed as Small 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(\$)
Miscellaneous:				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	160	160
Total in USD (\$)				160

Electronic Acknowledgement Receipt

EFS ID:	38041008
Application Number:	15015205
International Application Number:	
Confirmation Number:	1852
Title of Invention:	DUAL FUEL SELECTOR SWITCH
First Named Inventor/Applicant Name:	Mark J. Sarder
Customer Number:	26629
Filer:	Kevin Roger Rosin./Robyn Templin
Filer Authorized By:	Kevin Roger Rosin.
Attorney Docket Number:	CET1090.046
Receipt Date:	16-DEC-2019
Filing Date:	04-FEB-2016
Time Stamp:	14:57:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 160
RAM confirmation Number	E2019BFE58078803
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2	Fee Worksheet (SB06)	fee-info.pdf	30395	no	2
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15015205
	Filing Date		2016-02-04
	First Named Inventor	Mark J. Sarder et al.	
	Art Unit	3747	
	Examiner Name	Syed O. Hasan	
	Attorney Docket Number	CET1090.046	

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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	2722208		1955-11-01	Conroy, Jr. et al.	
	2	4372276		1983-02-08	Bernhardsson et al.	
	3	4450821		1984-05-29	Venning et al.	
	4	4502453		1985-03-05	Kabasin et al.	
	5	4619240		1986-10-28	Bedford et al.	
	6	4895124		1990-01-23	Bartholomew	
	7	5171487		1992-12-15	Hudz	
	8	5287839		1994-02-22	Kondou et al.	

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First Named Inventor	Mark J. Sarder et al.	
Art Unit		3747
Examiner Name	Syed O. Hasan	
Attorney Docket Number		CET1090.046

9	5320078		1994-06-14	Lorraine	
10	5379740		1995-01-10	Moore et al.	
11	5419291		1995-05-30	Kimata et al.	
12	5438968		1995-08-08	Johnson et al.	
13	5450832		1995-09-19	Graf	
14	5673670		1997-10-07	Powell et al.	
15	5816224		1998-10-06	Welsh et al.	
16	6082323		2000-07-04	Winberg	
17	6213083	B1	2001-04-10	Winberg	
18	6223730	B1	2001-05-01	Hasegawa et al.	
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Attorney Docket Number		CET1090.046

20	6401685	B1	2002-06-11	Warner	
21	6453877	B1	2002-09-24	Lucier et al.	
22	6914342	B1	2005-07-05	French	
23	7905469	B2	2011-03-15	Nickels et al.	
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25	8590510	B2	2013-11-26	Sumilla et al.	
26	5161496		1992-11-10	Matsushima et al.	
27	5325835		1994-07-05	Kimata et al.	
28	3718000		1973-02-27	Walker	
29	3783849		1974-01-08	Bramfitt	
30	5611312		1997-03-18	Swanson et al.	

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Attorney Docket Number		CET1090.046

31	6591817	B2	2003-07-15	Deutsch	
32	3384059		1968-05-21	Kopa	
33	3412258		1968-11-19	Satter	
34	3659574		1972-05-02	Reschke et al.	
35	3888223		1975-06-10	Mondt	
36	4335697		1982-06-22	McLean	
37	4373493		1983-02-15	Welsh	
38	4463735		1984-08-07	Stoltman	
39	4480595		1984-11-06	Hobby et al.	
40	4628871		1986-12-16	Glass	
41	4708094		1987-11-24	Helmich et al.	

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Art Unit	3747
Examiner Name	Syed O. Hasan
Attorney Docket Number	CET1090.046

42	4979480		1990-12-25	Daikoku et al.
43	5092305		1992-03-03	King
44	5228423		1993-07-20	Oikawa et al.
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46	4393848		1983-07-19	Poehlman
47	5809979		1998-09-22	Tsuda et al.

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	1	20130047964	A1	2013-02-28	Kim	
	2	20130220274	A1	2013-08-29	Deshpande et al.	
	3	20020134362	A1	2002-09-26	Deutsch	

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Art Unit	3747
Examiner Name	Syed O. Hasan
Attorney Docket Number	CET1090.046

4	20040139943	A1	2004-07-22	Kern et al.
5	20140238340	A1	2014-08-28	Dunn et al.
6	20140373531	A1	2014-12-25	Wong
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10	20100258099	A1	2010-10-14	Andersson et al.
11	20110253102	A1	2011-10-20	Watanabe

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	1	2060477	CN	U	1990-08-15	Zhao Yunying		

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First Named Inventor	Mark J. Sarder et al.
Art Unit	3747
Examiner Name	Syed O. Hasan
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2	1981121	CN	A	2007-06-13	Honda Motor Co., Ltd.	

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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	Honda EU20i LPG, March 20, 2012, https://www.youtube.com/watch?v=yBpq33aJmR0	
	2	JOHNSON et al., "Electronic Direct Fuel Injection (EDFI) for Small Two-Stroke Engines," SAE Technical Paper 1999-01-3312, Proceedings of the 1999 SAE Small Engine Technology Conference, Madison, WI, September 28-30, 1999, pp. 1-15	
	3	Champion Power (2014, Dec. & Jan.) 100153 Manual, Retrieved from http://www.championpowerequipment.com/media/2400/100153_manual-english_12-4-14.pdf	

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

Application Number	15015205
Filing Date	2016-02-04
First Named Inventor	Mark J. Sarder et al.
Art Unit	3747
Examiner Name	Syed O. Hasan
Attorney Docket Number	CET1090.046

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	/Kevin R. Rosin/	Date (YYYY-MM-DD)	2019-11-22
Name/Print	Kevin R. Rosin	Registration Number	55584

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**Espacenet****Bibliographic data: CN2060477 (U) — 1990-08-15**

CARBURETTOR

Inventor(s): YUNYING ZHAO [CN] ± (ZHAO YUNYING)
Applicant(s): ZHAO YUNYING [CN] ± (ZHAO YUNYING)
Classification: - **international:** *F02M3/05*; (IPC1-7): F02M3/05
- **cooperative:**
Application number: CN1989217629U 19890927
Priority number(s): CN1989217629U 19890927

Abstract of CN2060477 (U)

The utility model relates to a carburetor used for a combustion engine. The carburetor used for a combustion engine is characterized in that a fuel oil switch is arranged at a fuel inlet of a carburetor, and a restoring spring is arranged on a valve core of the fuel oil switch. A torsional handle of the valve core is connected with an operation draw rod. When an automobile is put into gear to slide down a slope, the fuel oil switch is closed by a driver through the operation draw rod, and the purpose of oil saving is achieved. When the operation draw rod is released, the fuel oil switch is automatically restored. The structure of the carburetor used for a combustion engine is simple. The current carburetor is convenient to modify. The carburetor used for a combustion engine is particularly suitable for a vehicle which often runs in a mountain area.



(12) 实用新型专利申请说明书

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(51) Int.Cl³

F02M 3/05

(43) 公告日 1990年8月15日

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代理人 朱树棠

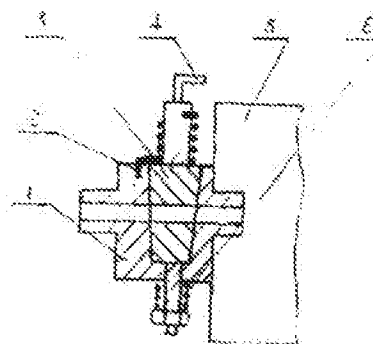
说明书页数: 2

附图页数: 2

(54) 实用新型名称 一种汽化器

(57) 摘要

供微旋发动机使用的汽化器,其特征是汽化器的燃料入口设有一微旋开关该开关的阀芯上设有复位弹簧,阀芯把柄与操作拉杆连接。当汽车下坡挂档滑行时,司机经拉杆关闭微旋开关,达到节能目的;解除拉杆,微旋开关自动复位。本实用新型结构简单,对现行汽化器改造方便,特别适用于经常在山区行驶的车辆。



(83) 第1452号

权 利 要 求 书

1、一种燃烧发动机使用的汽化器，其特征在于所述的汽化器燃油入口处，有一燃油开关。

2、根据权利要求1所述的汽化器，其特征在于燃油开关由阀体1、复位弹簧2、阀芯3、扭把4和拉紧弹簧6组成。

3、根据权利要求1或2所述的汽化器，其特征在于所述阀体1与汽化器外壳5，可以设计为一体或分离式。

一种汽化器

本实用新型属于一种供燃烧发动机使用的汽化器。

现有汽车发动机使用的汽化器，燃油入口都没有燃油开关，按操作规程规定，汽车下坡时，不得空挡滑行，以保证汽车发动机带动压气机工作，使刹车有足够气压，而汽车下坡挂挡滑行时，发动机处于被驱动状态，发动机不需要汽化器供给可燃混合汽，现有技术决定了只要发动机工作，燃油泵就通过汽化器向发动机供给可燃混合汽，这样大量的燃油被浪费掉。

本实用新型的目的是：当汽车下坡挂挡滑行时，关闭汽化器燃油入口，使发动机在不烧燃油的情况下，带动机油泵、压气机工作，达到下坡节油的目的。

以下结合附图对本实用新型进行详细描述。

附图1为汽车发动系统示意图。

附图2为本实用新型燃油开关结构示意图。

参看附图1，发动机工作时，带动机油泵、燃油泵和压气机工作，机油泵向发动机供给润滑油，燃油泵通过汽化器向发动机供给可燃混合汽，压气机供刹车足够的气压，所以现有技术的缺点是，只要发动机工作，燃油泵就会通过汽化器向发动机供给可燃混合汽。

当汽车下坡时，汽车可挂挡滑行，由于发动机处于被驱动状态，不需要汽化器供给可燃混合汽，司机可通过拉杆关闭汽化器燃油入口开关，使燃油不能进入汽化器，同时关闭点火开关，发动机在不

烧燃油的情况下，带动机油泵、压气机工作，这样即保证了发动机的润滑和刹车气压，又达到节省燃油的目的。下坡终止，打开点火开关和汽化器燃油入口开关，汽车恢复正常运行。

参看图2，汽化器燃油进口，由阀体1、复位弹簧2、阀芯3、拉把4及拉紧弹簧6组成了燃油开关。阀体1与汽化器外壳5可是分离式，也可制成一体。需要关闭燃油进口时，司机通过拉把驱动拉把4，使阀芯3上的孔与阀体1上的孔错开，使汽化器进口断开，释放拉杆。阀芯3在复位弹簧2作用下复位，打开汽化器进油口。拉紧弹簧6将阀芯3与阀体1紧密接触，以防接触面漏油。

本实用新型结构简单，对经常行驶在山区的车辆，节油效果更显著，实现了车辆下坡挂挡安全滑行，可广泛用于各种汽油车和柴油车。

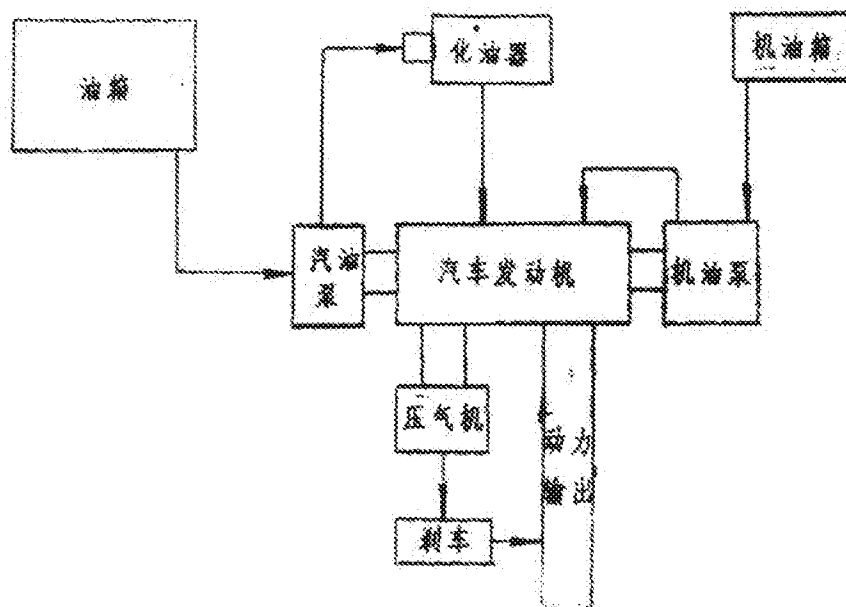


图1

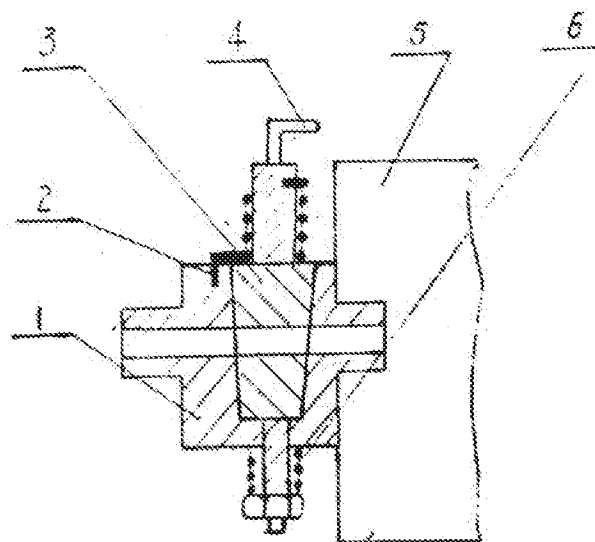


图2



Espacenet

Bibliographic data: CN1981121 (A) — 2007-06-13

Engine generator

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Classification: - international: F01P5/06; F02B63/04; F02M21/02; F02M21/06
 - cooperative: F02B43/00; F02B63/04; F02D19/022; F02D19/027;
F02D19/0615; F02D19/0647; F02D19/0676;
F02D29/06; F02M21/0224; F02M21/0287;
F02M21/029; F02M21/06; F01P5/06; F01P9/02;
F02B63/044; F02M21/047; Y02T10/32; Y02T10/36

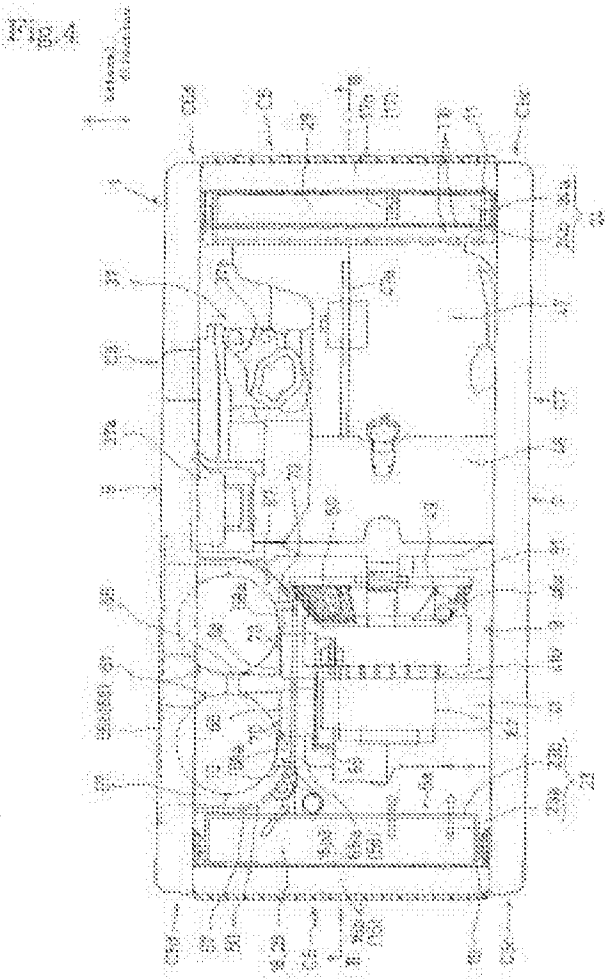
Application number: CN2005822860 20050920

Priority number(s): JP20040285036 20040929

Also published as: CN100510347 (C); DE05785589 (T1); DE602005003347 (T2);
EP1744030 (A1); EP1744030 (A4); more

Abstract of CN1981121 (A)

An engine generator (1), comprising an engine (30), a generator (40) driven by the engine (30), and a power control unit (41) controlling a power generated by the generator (40). A gas fuel stored, in a liquefied state, in cassette cylinders (61) stored in the case (C) of the engine generator (1) is supplied to the engine (30) through a fuel pressure regulator (62). The cassette cylinders (61) and the fuel pressure regulator (62) are disposed in proximity to the power control unit (41) so that the heat exchange thereof with the power control unit (41) with an inverter can be performed. As a result, heat can be mutually utilized between at least one of the cassette cylinders (61) as fuel containers and the fuel pressure regulator (62) and the power control unit (41) in the engine generator (1).



[19] 中华人民共和国国家知识产权局



[12] 发明专利申请公布说明书

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[85] 进入国家阶段日期 2007.1.5

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代理人 陈 坚

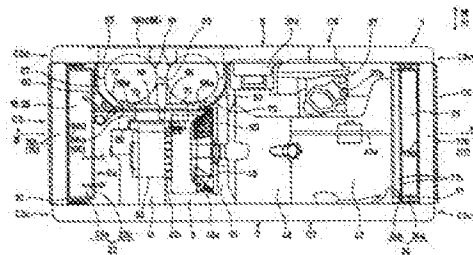
权利要求书 2 页 说明书 25 页 附图 10 页

[54] 发明名称

发动机发电机

[57] 摘要

本发明提供一种发动机发电机(1)，其具有：发动机(30)；发电机(40)，其由发动机(30)驱动；和电力控制单元(41)，其控制发电机(40)产生的电力。在容纳于发动机发电机(1)的箱体(C)内的盒式高压储气瓶(61)中，以液化状态储存有气体燃料，该气体燃料通过燃料压力调节器(62)而被供给发动机(30)。盒式高压储气瓶(61)和燃料压力调节器(62)接近电力控制单元(41)来进行配置，以便能够与具有变流器的电力控制单元(41)进行热交换。从而，在发动机发电机(1)中，在作为燃料容器的盒式高压储气瓶(61)和燃料压力调节器(62)中的至少一方与电力控制单元(41)之间，相互利用热量。



1. 一种发动机发电机，该发动机发电机具有：燃料容器，其将气体燃料以液化状态储存；发动机，其被供给来自该燃料容器的气体燃料；燃料压力调节器，其调节从所述燃料容器供给到所述发动机的燃料的压力；发电机，其由所述发动机驱动；和电力控制单元，其控制所述发电机所产生的电力，所述发动机发电机的特征在于，

所述燃料容器和所述燃料压力调节器中的至少一方接近所述电力控制单元来进行配置，以便能够与所述电力控制单元进行热交换。

2. 如权利要求1所述的发动机发电机，其特征在于，

所述发动机发电机具有容纳所述燃料容器的容纳室；所述燃料容器与所述容纳室的室壁通过由热的良导体构成的传热部件进行热连接；所述室壁接近所述电力控制单元来进行配置，以便能够与所述电力控制单元进行热交换。

3. 如权利要求2所述的发动机发电机，其特征在于，

所述传热部件是以与所述燃料容器和所述容纳室的室壁相接触的方式介于所述传热部件与所述容纳室的室壁之间的多个柱状部件。

4. 如权利要求1所述的发动机发电机，其特征在于，

所述燃料容器和所述燃料压力调节器中的至少一方与所述电力控制单元通过由热的良导体构成的传热部件进行热连接，或者直接进行热连接。

5. 如权利要求1至4中任一项所述的发动机发电机，其特征在于，所述电力控制单元具有变流器。

6. 如权利要求1至4中任一项所述的发动机发电机，其特征在于，

所述发动机发电机具有箱体，所述箱体形成容纳所述燃料容器、所述发动机以及所述发电机的内部空间，

被导入所述内部空间的冷却风以顺次冷却所述燃料容器和所述电力控制单元后，冷却所述发电机和所述发动机的方式形成冷却风通路。

7. 如权利要求6所述的发动机发电机，其特征在于，

相对于所述容纳室的室壁，在所述容纳室的相反侧，配置有所述燃料

压力调节器和所述电力控制单元，并且，所述电力控制单元位于所述燃料压力调节器的下侧。

8. 如权利要求 7 所述的发动机发电机，其特征在于，

所述箱体沿其一侧壁的上部具有空气导入口；所述燃料压力调节器设于所述空气导入口的下游。

发动机发电机

技术领域

本发明涉及一种发动机发电机，该发动机发电机具有发动机和由该发动机驱动的发电机，以液化状态储存在燃料容器中的气体燃料被供给所述发动机。

背景技术

发动机发电机被广泛用作室外的临时电源，或是紧急情况下的电源。而且，发动机发电机例如在用作休闲用品或防灾用品的情况下，大多使用以储存在小型燃料容器例如盒式高压储气瓶中的气体燃料来作为燃料的燃气发动机。

可是，气体燃料以液化状态储存在燃料容器中，当向燃气发动机供给时，是以气化的状态进行供给。因此，当燃气发动机运转从而开始向该发动机供给气体燃料时，在燃料容器中，由于为了维持液相和气相的平衡状态，伴随着气体压力的降低，液态的气体燃料气化，所以夺取了大量的气化热，使得燃料容器的温度降低。此外，即使在调节气体燃料压力的燃料压力调节器中，也会由于刚气化后的被冷却了的气体燃料的流入或气体燃料的减压而使其温度降低。

而且，当燃料容器等的温度过度降低时，由于气体燃料的气化变得不充分等而使压力降低，从而气体燃料的供给不能顺利进行。为了防止这样的状况，就要根据燃料容器的温度或气体压力来加热燃料容器，这已为大家所知（例如，参照专利文献1、2）。

另一方面，在发动机发电机中，对发电机所产生的电力进行控制的电力控制单元由于其动作引起的发热量很大，所以公知有各种用于冷却电力控制单元的结构。例如，在专利文献3中公开有这样的技术：发动机发电机具有隔音罩，该隔音罩中容纳有发动机、发电机和控制电路单元（相当

于电力控制单元), 在该发动机发电机中, 在收纳控制电路单元的箱体上设置散热翼片, 该散热翼片面对着取入冷却风的进风口, 并与形成有进风口的端壁抵接。

专利文献 1: 日本国特开平 10-131810 号公报;

专利文献 2: 日本国特许第 2671015 号公报;

专利文献 3: 日本国实开昭 63-171632 号公报。

在通过加热器来对储存有气体燃料的燃料容器进行加热的情况下, 存在要对加热器的设计方法或加热方法进行设计等的问题、以及结构和控制方法的复杂化所带来的问题。进一步讲, 在通过冷却风来冷却电力控制单元的情况下, 存在着电力控制单元及其周边部件的配置受到制约或结构复杂化所带来的问题。

发明内容

本发明是鉴于如上状况, 着眼于伴随着发动机发电机的运转, 以液化状态储存的气体燃料的燃料容器处于温度降低的倾向, 而相反, 电力控制单元却处于温度上升的倾向而完成的, 本发明的主要目的在于, 在发动机发电机中, 在燃料容器和燃料压力调节器中的至少一方与电力控制单元之间, 相互利用彼此的热。本发明的再一目的在于, 能够高效地进行通过燃料容器对电力控制单元的冷却和通过电力控制单元对燃料容器的加热, 以及增大燃料容器和电力控制单元的配置自由度。本发明的另一目的在于, 进一步提高燃料容器和燃料压力调节器中的至少一方对电力控制单元的冷却效果、以及电力控制单元对燃料容器和燃料压力调节器中的至少一方的加热效果; 提高冷却风对电力控制单元、发电机以及发动机的冷却效果; 在对切换损失大且发热量大的变流器进行冷却的同时, 利用电力控制单元的变流器的热量来高效地加热燃料容器和燃料压力调节器中的至少一方。

为达成上述目的, 本发明的发动机发电机具有: 燃料容器, 其将气体燃料以液化状态储存; 发动机, 其被供给来自该燃料容器的气体燃料; 燃料压力调节器, 其调节从所述燃料容器供给到所述发动机的气体燃料的压力; 发电机, 其由所述发动机驱动; 和电力控制单元, 其控制所述发电机

所产生的电力，所述发动机发电机的特征在于，所述燃料容器和所述燃料压力调节器中的至少一方接近所述电力控制单元来进行配置，以便能够与所述电力控制单元进行热交换。

根据这样的结构，由于在发动机发电机的运转中，通过燃料的气化等而成为低温的燃料容器和燃料压力调节器中的至少一方接近配置在可与电力控制单元进行热交换的位置，所以，从电力控制单元的散热量增加，换言之，通过燃料容器和燃料压力调节器中的至少一方促进了电力控制单元的冷却，从而抑制了电力控制单元的温度上升。同时，燃料容器和燃料压力调节器中的至少一方被电力控制单元加热，从而抑制了其温度降低。

在本发明的发动机发电机中，也可采用这样的结构，即：所述发动机发电机具有容纳所述燃料容器的容纳室；所述燃料容器与所述容纳室的室壁通过由热的良导体构成的传热部件进行热连接；所述室壁接近所述电力控制单元来进行配置，以便能够与所述电力控制单元进行热交换。

根据这样的结构，由于燃料容器中的从电力控制单元的受热，以及电力控制单元的散热都通过燃料容器的能传递热量的室壁进行，所以，为了在燃料容器与电力控制单元之间进行热交换，燃料容器和电力控制单元的配置就很少受到制约。此外，通过加大室壁或使室壁接近电力控制单元等的室壁的形状或配置，能够增加燃料容器与电力控制单元之间的传热量，从而能够提高燃料容器和电力控制单元相互之间的热利用率。

优选所述电热部件是以与所述燃料容器和所述容纳室的室壁相接触的方式介于所述传热部件与所述容纳室的室壁之间的多个柱状部件。

在本发明的发动机发电机中，所述燃料容器和所述燃料压力调节器中的至少一方与所述电力控制单元通过由热的良导体构成的传热部件进行热连接，或者直接进行热连接。

根据这样的结构，燃料容器和燃料压力调节器中的至少一方与电力控制单元之间的传热通过传热部件利用热传导进行，因此，能够进一步提高相互之间的热的利用率。

所述电力控制单元可以具有变流器。

根据这样的结构，由于变流器的切换损失大，发热量大，所以，通过

其动作而成为高温的变流器被燃料容器和燃料压力调节器中的至少一方高效地冷却，从而抑制了其温度上升；燃料容器和燃料压力调节器中的至少一方被高温的变流器高效地加热，从而抑制了其温度降低。

优选所述发动机发电机具有箱体，所述箱体形成容纳所述燃料容器、所述发动机以及所述发电机的内部空间；被导入所述内部空间的冷却风以顺次冷却所述燃料容器和所述电力控制单元后，冷却所述发电机和所述发动机的方式形成冷却风通路。

根据这样的结构，被导入箱体内部空间的冷却风被燃料容器冷却而成为更低的温度，该成为低温的冷却风首先冷却电力控制单元，然后冷却发电机和发动机。此外，电力控制单元通过与燃料容器和燃料压力调节器中的至少一方进行热的相互利用，与不进行热的相互利用的情况相比，由于成为低温，所以比冷却电力控制单元后的冷却风的温度还低。

优选采用这样的结构：相对于所述容纳室的室壁，在所述容纳室的相反侧，配置有所述燃料压力调节器和所述电力控制单元，并且，所述电力控制单元位于所述燃料压力调节器的下侧。

此外，可以使所述箱体沿其一侧壁的上部具有空气导入口；所述燃料压力调节器设于所述空气导入口的下游。

发明效果

根据本发明，可以达到如下的效果。即，通过在燃料容器和燃料压力调节器中的至少一方与电力控制单元之间相互利用彼此的热，来抑制电力控制单元的温度上升，因此，能够使电力控制单元的散热结构小型化；此外，由于抑制燃料容器和燃料压力调节器中的至少一方的温度降低，所以，或者可以不需要加热装置来加热燃料容器或燃料压力调节器，或者可以使加热装置的加热量减少，从而能够利用较低温度的加热源等，增加了加热源的选择项，此外，在加热源是电加热器的情况下，能够使其消耗电力减少。

根据本发明的优选实施方式，除了上述效果，还可达成如下的效果。即，通过室壁使燃料容器和电力控制单元的热被相互利用，在此基础上，使燃料容器和电力控制单元的配置自由度变大，此外，可以提高燃料容器

和电力控制单元相互之间的热的利用率，从而能够进一步高效地进行燃料容器对电力控制单元的冷却，以及电力控制单元对燃料容器的加热。

在本发明的实施方式中，还可进一步达成如下的效果。即，由于可以进一步提高燃料容器和燃料压力调节器中的至少一方与电力控制单元的相互之间的热的利用率，所以能够进一步提高燃料容器和燃料压力调节器中的至少一方对电力控制单元的冷却效果，以及电力控制单元对燃料容器和燃料压力调节器中的至少一方的加热效果。

在本发明的实施方式中，还可进一步达成如下的效果。即，通过温度更低的冷却风能够更高效地冷却电力控制单元，同时，发电机和发动机也能够获得更高的冷却效果。

在本发明的实施方式中，还可进一步达成如下的效果。即，能够高效地冷却发热量大的变流器，并且，能够通过变流器高效地加热燃料容器和燃料压力调节器中的至少一方。

附图说明

图1表示本发明的第一实施方式，是应用了本发明的发动机发电机的结构示意图。

图2是图1的发动机发电机的立体图。

图3是在图2的发动机发电机中，拆下左盖后的左侧视图，对于前盖、后盖和上盖，是沿图4的III-III线的截面图。

图4是在图2的发动机发电机中，拆下上盖后的俯视图。

图5是图2的发动机发电机的主视图。

图6是图2的发动机发电机的燃料切换阀和加热装置中的电路图。

图7是表示图2的发动机发电机的燃料切换阀的操作位置、燃料供给装置和点火装置之间的关系的表格。

图8表示本发明的第二实施方式，是相当于图3的图。

图9是在本发明的第二实施方式中，相当于图4的图。

图10表示本发明的其它实施方式，是相当于图3的部分的图。

标号说明

- 1 ... 发动机发电机
- 3 ... 下盖
- 4 ... 上盖
- 5 ... 前盖
- 6 ... 后盖
- 7 ... 左盖
- 8 ... 右盖
- 9 ... 内部空间
- 12 ... 燃料切换阀
- 16、17、90 ... 把持部
- 18、19、92 ... 导入口
- 20 ... 排出口
- 23、24、91 ... 凹部
- 28、29、93 ... 把持用空间
- 30 ... 发动机
- 40 ... 发电机
- 41 ... 电力控制单元
- 42 ... 火花塞
- 44 ... 点火线圈
- 45 ... 冷却风扇
- 46 ... 反冲起动器
- 47 ... 护罩
- 48 ... 风扇罩
- 49 ... 起动器罩
- 50、51 ... 流入口
- 60 ... 容纳部
- 61 ... 盒式高压储气瓶
- 62 ... 燃料压力调节器
- 63 ... 燃料截止阀

- 65 … 容纳室
- 66 … 室壁
- 68 … 安装传感器
- 70 … 传热部件
- 71 … 外部高压气瓶
- 73 … 燃料压力传感器
- 74 … 切断开关
- 75 … 主开关
- 80 … 加热装置
- 89 … ECU
- C … 箱体
- Fa … 燃料供给装置

具体实施方式

以下，参照图 1～图 10 说明本发明的实施方式。

图 1～图 7 表示第一实施方式。参照图 1，应用了本发明的便携式发动机发电机 1 可适当地与设置在该发动机发电机 1 外部的燃料系统 Fb 连接。

一并参照图 2、图 3，发动机发电机 1 具有：箱体 C，该箱体 C 大体为长方体的箱状；搬运用的一对把持部 16、17，该把持部 16、17 设置在箱体 C 上，供搬运发动机发电机 1 时把持；发动机 30，该发动机 30 由作为内燃机的燃气发动机构成；燃料供给装置 Fa，该燃料供给装置 Fa 将气体燃料供给到发动机 30；发电机 40，该发电机 40 是由发动机 30 驱动的工作机械；电力控制单元 41，该电力控制单元 41 对发电机 40 所产生的电力进行控制；电子控制单元 89（以下，称为 ECU 89），该 ECU 89 是控制发动机 30 和燃料供给装置 Fa 的控制装置。发动机 30、燃料供给装置 Fa、发电机 40、电力控制单元 41 以及 ECU 89 被箱体 C 包围，从而被容纳在该箱体 C 形成的内部空间 9 中。由此，箱体 C 构成抑制发动机 30 的运转噪声泄漏到外部的隔音式的箱体 C。

并且,在说明书和权利要求书中,所谓对把持部 16、17 进行把持,包括用手握住把持部 16、17 的情况和将手按在把持部 16、17 上的情况。

参照图 2~图 5,箱体 C 具有:下盖 3 和上盖 4,该下盖 3 和上盖 4 在作为基准方向的上下方向上相对;前盖 5 和后盖 6,该前盖 5 和后盖 6 是在垂直于上下方向的第一方向上相对的一对侧部盖;左盖 7 和右盖 8,该左盖 7 和右盖 8 是在与上下方向 and 第一方向垂直的第二方向上或是横向上相对的一对侧部盖。这些盖 3~8 都是合成树脂制成的。

在本实施方式中,第一方向与前后方向一致,第一方向上的一个侧方或另一侧方是前方或后方;此外,第二方向与左右方向一致,第二方向上的一个侧方或另一侧方是左方或右方。

当从下方、上方、前方、后方、左方以及右方对箱体 C 进行观察时,此时的箱体 C 的下表面、上表面、前表面、后表面、左表面以及右表面分别是由上述盖 3~8 构成的箱体 C 中的箱体下部 C3、箱体上部 C4、箱体前部 C5、箱体后部 C6、箱体左部 C7 以及箱体右部 C8 的外表面。因此,下盖 3、上盖 4、前盖 5、后盖 6、左盖 7 和右盖 8 分别主要构成箱体下部 C3、箱体上部 C4、箱体前部 C5、箱体后部 C6、箱体左部 C7 以及箱体右部 C8。进而,前表面、后表面、左表面以及右表面是箱体 C 的四个侧面;箱体前部 C5、箱体后部 C6、箱体左部 C7 以及箱体右部 C8 是箱体 C 的四个箱体侧部。

前盖 5 和后盖 6 分别结合到一对作为加强部件的加强板 10、11 上,该加强板 10、11 由金属制成,且配置在内侧并与下盖 3 结合。然后,左盖 7 结合到各加强板 10、11 上;可开闭的右盖 8 在下端部 8b 被枢轴支撑在下盖 3 上,在上端部 8a 被卡止装置(未图示)卡止于上盖 4。此外,在各加强板 10、11 上,在比加强板 10、11 更位于内侧的前盖 5 或后盖 6 上形成一部分(例如凹部 23、24)贯通的孔(参照图 3)。此处,内侧和外侧的意思分别是指靠近内部空间 9 和靠近箱体 C 的外部。

参照图 3、图 5,在构成操作板部 5e 的前盖 5 上设置有:燃料切换阀 12;输出用插座 13,用于对电气的外部负载供给电流;外部燃料用连接器 14,用于与配置在发动机发电机 1 外部的的外部高压储气瓶 71(参照图 1)

进行连接；以及指示灯 15a、15b、15c 等。

参照图 2~图 5，在前盖 5 的上部所包括的上端部 5a 上，在设有第一把持部 16 的同时，还设有一个导入口 18，该导入口 18 在发动机 30 运转过程中将外部空气作为冷却风导入到箱体 C 的内部空间 9。另一方面，隔着发动机发电机 1 和电力控制单元 41 而在前后方向上与前盖 5 相对的后盖 6 上形成有：排出口 20，用于将对电力控制单元 41、发电机 40 和发动机 30 进行冷却后的冷却风排出到外部；排气口 21，用于将发动机 30 的废气排出到外部。

当提起发动机发电机 1 进行搬运时搬运者的手所把持的部分，即第一、第二把持部 16、17，分别设置在箱体前部 C5 和箱体后部 C6 的上部 C5a、C6a 所包括的上端部。第一把持部 16 被设置为第一拐角部件，其设置在与上盖 4 大体相同的高度位置，并设置在上盖 4 的前方且前盖 5 的上方；第二把持部 17 被设置为第二拐角部件，其设置在与上盖 4 大体相同的高度位置，并设置在上盖 4 的后方且后盖 6 的上方。设置在箱体 C 的前上角部和后上角部的上述两拐角部件的整体是形成第一把持部 16 和第二把持部 17 的把持部形成部件。

第一、第二把持部 16、17 都是合成树脂制的相同的部件，分别具有上部 16a、17a 和下垂部 16b、17b，该上部 16a、17a 通过密封部件 22（参照图 3）与上盖 4 相抵，并构成箱体上部 C4 的前后方向上的两端部；该下垂部 16b、17b 从上部 16a、17a 以与前盖 5 和后盖 6 相对的方式向下方延伸。下垂部 16b、17b 向下方延伸，使得在发动机发电机 1 被提起时，能够用手从外侧部分 16b1、17b1 经由最下端 16b2、17b2 直到内侧部分 16b3、17b3 进行把持。而且，两最下端 16b2、17b2 分别位于与前盖 5 和后盖 6 的上端部 5a、6a 在该上端部 5a、6a 的横向全长中在上下方向上重叠的位置，在本实施方式中，位于与前盖 5 和后盖 6 的后述的凹部 23、24 在该凹部 23、24 的横向整体中在上下方向重叠的位置。

第一把持部 16 被设置为到达箱体前部 C5 的横向上的两端部 C5c、C5d，并在横向上的两端部通过焊接等与前盖 5 结合为一体。而且，第二把持部 17 被设置为到达箱体后部 C6 的横向上的两端部 C6c、C6d，并在

横向上的两端部通过焊接等与后盖 6 结合为一体。箱体前部 C5 的横向上的两端部 C5c、C5d 和箱体后部 C6 的横向上的两端部 C6c、C6d 分别是由左盖 7 和右盖 8 构成的部分，或者是在横向上与箱体左部 C7 和箱体右部 C8 相对应的部分。如图 4 所示，第一、第二把持部 16、17 整体在横向上的宽度（以下，将在横向上的宽度称为横宽）分别与前盖 5 的横宽和后盖 6 的横宽大体相等，此外，还与左盖 7 和左盖 7 在横向上的间隔大体相等。

第一把持部 16 与形成在前盖 5 的上端部 5a 上的凹部 23 一起形成导入口 18。凹部 23 位于比第一把持部 16 更靠近内部空间 9 的位置，并且进入内部空间 9 中。凹部 23 具有：倾斜部 23a，该倾斜部 23a 从操作板部 5e 起，越是向上方越是在前后方向上向内部空间 9 倾斜；里部 23b，该里部 23b 从倾斜部 23a 起大体与上下方向平行地向上方延伸。凹部 23 延伸成大体到达第一把持部 16 在横向上的两端部，并且该凹部 23 具有与第一把持部 16 的横宽相比，虽然稍小但大体相等的横宽。

而且，在最下端 16b2 与倾斜部 23a 之间形成导入口 18 的入口 18a（在图 3 中用双点划线表示），该入口 18a 朝前方并向斜下方敞开；在第一把持部 16 的上部 16a 与里部 23b 的上端部之间，形成导入口 18 的出口 18b（在图 3 中用双点划线表示）。此外，入口 18a 形成在第一把持部 16 的下方，导入口 18 被设置为大体到达箱体前部 C5 在横向上的两端部 C5c、C5d。导入口 18 的横宽大体与前盖 5 的横宽、以及左盖 7 和左盖 7 在左右方向上的间隔大体相等。从而，从入口 18a 流入的冷却风沿前后方向流向内部空间 9，然后沿下垂部 16b 的内侧部分 16b3 和里部 23b 偏向上方而流动，再通过上部 16a 在前后方向上向内部空间 9 偏转，然后从出口 18b 流出到内部空间 9 中。这样，第一把持部 16 和凹部 23 将导入口 18 形成为多处弯折的迷宫状的通路。

此外，在前盖 5 中，左右侧缘部 5c、5d 比操作板部 5e 向前方突出，第一把持部 16 比该左右侧缘部 5c、5d 还稍稍突出。而且，箱体前部 C5 的下部 C5b 位于比两侧缘部 5c、5d 更靠近内部空间 9 的位置。

在本实施方式中，加强板 10 的一部分被配置在导入口 18 中，从而构成冷却风的引导部 10a，以便使冷却风顺畅地流动并被导入内部空间 9。

导入口 18 构成第一把持用空间 28, 该第一把持用空间 28 为了在搬运发动机发电机 1 时用手把持第一把持部 16 而被使用。而且, 导入口 18 形成在第一把持部 16 的下方, 进而, 主要由里部 23b 形成的导入口 18 的下游部分 18c 成为进入内部空间 9 的空间。从而, 该把持用空间 28 的一部分与箱体上部 C4 相比位于下方, 并且是进入内部空间 9 的空间。

另一方面, 第二把持部 17 与在后盖 6 的上端部 6a 形成的凹部 24 一起形成第二把持用空间 29, 该第二把持用空间 29 为了在搬运发动机发电机 1 时用手把持第二把持部 17 而与第一把持用空间 28 一起被使用。凹部 24 位于比第二把持部 17 更靠近内部空间 9 的位置, 并且进入内部空间 9, 该凹部 24 具有: 倾斜部 24a, 该倾斜部 24a 从排出口 20 起, 越是向上方越是在前后方向上向内部空间 9 倾斜; 里部 24b, 该里部 24b 从倾斜部 24a 起大体与上下方向平行地向上方延伸。凹部 24 延伸成大体到达第二把持部 17 在横向上的两端部, 并且该凹部 24 具有与第二把持部 17 的横宽相比, 虽然稍小但大体相等的横宽。

加强板 11 的一部分延伸到与上盖 4 接触的位置, 从而构成封闭部 11b, 该封闭部 11b 在前后方向上对第二把持用空间 29 在前后方向上靠近内部空间 9 的部分进行大体地封闭。因此, 实质上, 外部空气不会通过第二把持用空间 29 而作为冷却风导入到内部空间 9。

而且, 第一把持部 16 和第二把持部 17 被配置成在箱体 C 中具有垂直于前后方向的作为对称面的平面; 凹部 23 和凹部 24、以及第一把持用空间 28 和第二把持用空间 29 被配置成关于该对称面大体面对称。

参照图 1 和图 3, 发动机 30 是单气缸、OHC (顶置凸轮轴) 型的四冲程空冷发动机, 该发动机 30 具有发动机主体 30a, 该发动机主体 30a 包括: 气缸 31, 其与可以往复移动的活塞 35 配合; 曲轴箱 32, 其结合在气缸 31 的下端部; 气缸盖 33, 其与气缸 31 一体成形, 从而与活塞 35 之间形成燃烧室; 以及气缸盖罩 34, 其结合在气缸盖 33 的上端部; 发动机主体 30a 被固定在下盖 3 上。气缸 31 和曲轴箱 32 支撑曲轴 36, 且该曲轴 36 可旋转并被配置成具有平行于前后方向的旋转中心线, 该曲轴 36 在活塞 35 的驱动下旋转。

一并参照图 2 和图 4, 发动机 30 具有进气装置 37, 该进气装置 37 具有化油器 37b 和进气管 37c, 该进气管 37c 与气缸盖 33 连接以便将进气导入到燃烧室。化油器 37b 是一个混合气形成装置, 用于形成空气与气体燃料的混合气, 所述空气来自空气滤清器 37a, 该空气滤清器设有取入口 37a1, 用于将从导入口 18 导入到内部空间 9 的冷却风的一部分取入; 所述气体燃料是从燃料供给装置 Fa 或外部燃料系统 Fb 供给的。设置在化油器 37b 中的节气门 37b1 由步进电动机 37d 驱动, 该步进电动机 37d 由具有微型计算机的 ECU 89 控制, 该节气门 37b1 控制发动机 30 的输出, 使得曲轴 36 以预先设定的旋转速度旋转。

发动机 30 具有排气装置 38, 该排气装置 38 具有: 排气管 38a, 该排气管 38a 连接在气缸盖 33 上, 以便来自燃烧室的废气流入管中; 和消声器 38b, 该消声器 38b 与排气管 38a 连接。

此外, 混合气经过设置在气缸盖 33 上并由气门装置开闭的进气门 39a 而流入燃烧室, 该混合气通过保持在支架 44 (参照图 3) 上的火花塞 42 来点火并燃烧, 然后通过产生的燃烧压驱动活塞 35, 从而使曲轴 36 被旋转驱动。燃烧气体作为废气, 经过由气门装置开闭的排气门 39b 后, 通过排气管 38a 流入消声器 38b, 由消声器 38b 降低排气音量之后, 经过与形成在后盖 6 上的排气口 21 相面对的排气尾管 38c 而排放到外部大气中。

参照图 1 和图 3, 被发动机 30 旋转驱动的发电机 40 具有转子 40a 和定子, 所述转子 40a 具有磁体, 并且该转子 40a 被固定在作为发动机 30 的输出轴的曲轴 36 的轴端部; 所述定子具有线圈, 并且该定子被配置在转子 40a 的径向内侧并固定在曲轴箱 32 上。具有火花塞 42 的点火装置具有点火线圈 44 (参照图 6), 由发电机 40 产生的电力对电容器充电后, 供给该点火线圈 44 的初级侧; 响应于在曲轴 36 的特定的旋转位置产生的点火信号, 使点火线圈 44 中产生的高电压施加给火花塞 42。

此外, 被曲轴 36 旋转驱动的冷却风扇 45 结合在转子 40a 上而与转子 40a 一体旋转, 从而在发动机 30 的运转中, 经由导入口 18 将外部空气作为冷却风吸引到箱体 C 内。此外, 发动机 30 通过作为起动装置的反冲起动器 46 的动作而被起动。反冲起动器 46 与冷却风扇 45 相连接, 从而,

通过用与反冲起动器 46 的起动绳 46a 相连接的旋钮拉动起动绳 46a 的操作来驱动曲轴 36 旋转。

参照图 2~图 4, 为了提高对运转噪声的隔音效果和冷却风的冷却效果, 发动机主体 30a 和排气管 38a 被护罩 47 所覆盖, 该护罩 47 在发动机主体 30a 和排气管 38a 之间形成冷却风的导风通路。合成树脂制的护罩 47 被固定在发动机主体 30a 上, 同时, 在与护罩 47 一体成形的托架 47a 中, 被固定在上盖 4 上。此外, 冷却风扇 45 被结合在护罩 47 前端部的合成树脂制的风扇罩 48 所覆盖; 反冲起动器 46 被结合在风扇罩 48 前端部的起动器罩 49 所覆盖。冷却风扇 45 从形成在起动器罩 49 上的流入口 50 及形成在起动器罩 49 与风扇罩 48 之间的流入口 51 吸引内部空间 9 的空气, 并将冷却风输送到护罩 47 内。

配置在冷却风扇 45 和反冲起动器 46 的前方以对发电机 40 产生的电力进行控制的电力控制单元 41 具有: 变流器 41a, 用于控制该电力的电压和频率 (参照图 6); 以及散热翼片 41b, 其作为散热器, 用于散发包括变流器 41a 在内的电气部件所产生的热量。

而且, 在箱体 C 的内部空间 9 中, 电力控制部件 41、反冲起动器 46、冷却风扇 45、发电机 40、发动机主体 30a 以及消声器 38b 以该顺序, 作为整体向后方, 也是在从导入口 18 朝向排出口 20 的冷却风的流动方向上, 串连配置在曲轴 36 的旋转中心线上。

参照图 1, 燃料系统 F 向发动机 30 供给作为燃料的气体燃料, 该燃料系统 F 具有: 燃料供给装置 Fa, 其配置在箱体 C 或箱体 C 的内部空间 9 中, 是发动机发电机 1 所具有的内部燃料系统; 和外部燃料系统 Fb, 其配置在箱体 C 的外部。

参照图 1~图 4, 燃料供给装置 Fa 具有盒式高压储气瓶 61 和燃料压力调节器 62, 所述盒式高压储气瓶 61 被配置在设于箱体 C 内的作为燃料容器设置部的容纳部 60 中, 是单个或多个作为第一燃料源 (或主体侧燃料源) 的第一燃料容器。在本实施方式中, 燃料压力调节器 62 对从两个盒式高压储气瓶 61 和后述的外部高压储气瓶 71 流出的气体燃料的压力进行减压, 同时, 调节气体燃料的压力, 以便向化油器 18b 供给与发动机 30

的负载相对应的燃料量。燃料供给装置 Fa 还具有：加热装置 80，用于对盒式高压储气瓶 61 和燃料压力调节器 62 进行加热；燃料切换阀 12，其作为燃料切换装置，设置在操作板部 5c 上；燃料配管组，其包括连接器 14，并且在箱体 C 的内部空间 9 中将盒式高压储气瓶 61、燃料压力调节器 62 以及化油器 18b 等相互连接；以及燃料截止阀 63，其使从燃料系统 F 向发动机 30 的气体燃料的供给停止。

在盒式高压储气瓶 61 中，以液化状态储存沸点较高的气体燃料，例如丁烷。此外，通过将盒式高压储气瓶 61 的燃料供给部插入在设于容纳部 60 的连接器 64（参照图 2）中，盒式高压储气瓶 61 就被可装拆地支撑在容纳部 60 中。

外部燃料系统 Fb 具有外部高压储气瓶 71、连接外部高压储气瓶 71 和连接器 14 的配管 A5、以及减压器 72，所述外部高压储气瓶 71 设置在发动机发电机 1 的外部，是作为第二燃料源（或者外部燃料源）的第二燃料容器。在比盒式高压储气瓶 61 具有更大燃料容量（即，所储存的燃料量多）的外部高压储气瓶 71 中，以液化状态储存有比第一气体燃料沸点更低的第二气体燃料，例如丙烷。该外部高压储气瓶 71 例如是家庭用丙烷高压气瓶。

容纳部 60 由形成容纳室 65 的室壁 66 构成，该容纳室 65 用于容纳两个盒式高压储气瓶 61。室壁 66 包括：第一侧壁 66a，其由热的良导体，例如铝等金属构成；第二侧壁 66b，其由右盖 8 的一部分构成；以及底壁 66c，容纳室 66 的上部在内部空间 9 敞开。两个盒式高压储气瓶 61 和容纳部 60 在沿前后方向与电力控制单元 41、燃料压力调节器 62 以及流入口 50、51 重叠的位置上，被设置得靠近右盖 8。配置在盒式高压储气瓶 61 与电力控制单元 41 及燃料压力调节器 62 之间的第一侧壁 66a 被设置成，其上部根据冷却风来讲位于导入口 18 的出口 18b 的下游，并且，位于在上下方向与出口 18b 重叠的位置。而且，第一侧壁 66a 的上端部位于内部空间 9 的大体最上部。此外，盒式高压储气瓶 61、第一侧壁 66a、燃料压力调节器 62 以及电力控制单元 41 位于在左右方向上与出口 18b 重叠的位置。

在第一、第二侧壁 66a、66b 上，为了防止或抑制由发动机 30 的运转

引起的振动传递到盒式高压储气瓶 61 上而导致盒式高压储气瓶 61 振动, 设置由弹性材料构成的作为防振部件的支撑体 67, 使其与盒式高压储气瓶 61 的外周面接触。

在容纳部 60 中设置有安装传感器 68, 该安装传感器 68 用于检测盒式高压储气瓶 61 的有无或安装状态。安装传感器 68 被安装在设于容纳室 65 外部的安装部件 69 上, 并贯通第一侧壁 66a 而位于容纳室 65 内。安装传感器 68 例如由具有接触片 68a 的微动开关构成, 其通过使接触片 68a 接触盒式高压储气瓶 61 来检测盒式高压储气瓶 61 已被正确地安装。

各盒式高压储气瓶 61 接近电力控制单元 41 来进行配置, 以便能够与电力控制单元 41 进行热交换。更具体地讲, 盒式高压储气瓶 61 通过由热的良导体, 例如铝等金属构成的传热部件 70 来与第一侧壁 66a 进行热连接。多个是柱状部件的传热部件 70 在其一端部接触盒式高压储气瓶 61, 在另一端部接触第一侧壁 66a。而且, 第一侧壁 66a 以邻接的状态与电力控制单元 41 接近配置, 以便通过在内部空间 9 中的经由冷却风的热传导能够与电力控制单元 41 进行热交换。因此, 各盒式高压储气瓶 61 被配置成经由用传热部件 70 热连接的第一侧壁 66a 能够进行与电力控制单元 41 的热交换。

以液化状态向燃料压力调节器 62 供给来自盒式高压储气瓶 61 的第一气体燃料, 并且以气体状态向燃料压力调节器 62 供给来自外部高压储气瓶 71 的第二气体燃料, 该燃料调压器 62 被配置在电力控制单元 41 和流入口 50、51 的正上方, 并与两个盒式高压储气瓶 61、容纳部 60 的第一侧壁 66a、电力控制单元 41 以及流入口 50、51 在前后方向上重叠。而且, 燃料压力调节器 62 以与电力控制单元 41 邻接的状态而接近配置, 以便通过在内部空间 9 中的经由冷却风的热传导能够与电力控制单元 41 进行热交换。(在图 4 中, 为了方便, 燃料压力调节器 62 用双点划线表示。) 进而, 燃料压力调节器 62 具有使以液化状态流入的第一气体燃料气化的作为蒸发器的功能。

参照图 1, 在燃料供给装置 Fa 中, 由两个盒式高压储气瓶 61、连接两个盒式高压储气瓶 61 和燃料切换阀 12 的配管 A1、连接燃料切换阀 12 和燃料压力调节器 62 的配管 A2、燃料压力调节器 62、连接燃料压力调节

器 62 和化油器 18b 的配管 A3、以及设置在配管 A3 上的燃料截止阀 63 构成从盒式高压储气瓶 61 向发动机 30 供给第一气体燃料的第一燃料系统；此外，由连接连接器 14 和燃料切换阀 12 的配管 A4、连接燃料切换阀 12 和燃料压力调节器 62 的配管 A2、燃料压力调节器 62、连接燃料压力调节器 62 和化油器 18b 的配管 A3、以及燃料截止阀 63 构成从外部高压储气瓶 71 向发动机 30 供给第二气体燃料的第二燃料系统。

因此，箱体 C 内的配管 A1~A4 构成燃料配管组。此外，燃料压力调节器 62、配管 A3 以及燃料截止阀 63 在第一、第二燃料系统中是公共的公共燃料系统。

作为燃料切断装置的燃料截止阀 63，例如由在没有驱动电流被供给时为开阀状态的常开电磁阀构成，其根据第一气体燃料的压力由 ECU 89 进行开闭控制。更具体地讲，为了检测来自盒式高压储气瓶 61 的压力，在燃料压力调节器 62 上设置燃料压力传感器 73，该燃料压力传感器 73 用于检测从盒式高压储气瓶 61 到达燃料压力调节器 62 的第一气体燃料的压力。然后，当由燃料压力传感器 73 检测出压力超过上限压力 P1 的压力时，ECU 89 使燃料截止阀 63 闭阀以切断公共燃料系统。该上限压力 P1 是根据如下观点预先设定的，该观点是，在盒式高压储气瓶 61 处于过热状态时等，盒式高压储气瓶 61 内的第一燃料气体的压力成为过大的状态下，避免发动机 30 的运转，从而安全地使用发动机发电机 1。

燃料切换阀 12 将供给发动机 30 的气体燃料在通过第一燃料系统供给的第一气体燃料和通过第二燃料系统供给的第二气体燃料之间进行切换。燃料切换阀 12 可以在以下位置间进行操作：第一位置，燃料切换阀 12 在该位置将第一燃料系统与发动机 30 连接起来，以便将第一气体燃料供给发动机 30（在图 5 中，是“盒式”的位置，用单点划线表示。）；第二位置，燃料切换阀 12 在该位置将第二燃料系统与发动机 30 连接起来，以便将第二气体燃料供给发动机 30（在图 5 中，是“外部”的位置，用双点划线表示。）；停止位置，燃料切换阀 12 在该位置切断第一燃料系统和第二燃料系统与发动机 30，从而停止向发动机 30 供给气体燃料（在图 5 中，是“关断”的位置，用实线表示。），并且，第一位置与第二位置之间的切换总是

经过停止位置而进行。

一并参照图 6, 此外, 燃料切换阀 12 进行第一气体燃料与第二气体燃料间的燃料的切换, 同时, 还兼用作控制发动机 30 的运转和停止的发动机运转开关、和控制点火装置及加热装置 80 的动作和非动作的控制开关。因此, 燃料切换阀 12 根据其操作位置对控制点火装置的动作和非动作的断流开关 74 进行开闭, 并对控制加热装置 80 的动作和非动作的主开关 75 进行开闭。

加热装置 80 具有: 电加热器 81a、81b, 其作为加热源, 对应每个盒式高压储气瓶 61 而设置在容纳部 60 中; 电加热器 82, 其作为加热源, 设置在燃料压力调节器 62 中; 温度传感器 83a、83b、84, 其分别检测各盒式高压储气瓶 61 的温度和燃料压力调节器 62 的温度; 温度传感器 85a、85b、86, 其分别检测电加热器 81a、81b、82 的温度; 继电器 87a、87b、88, 其根据由温度传感器 83a、83b、84 和温度传感器 85a、85b、86 所检测出的温度, 根据 ECU 89 的指令, 开闭电加热器 81a、81b、82 的加热电路; 指示灯 15a、15b (也参照图 5), 其显示电加热器 81a、81b 的动作状态。

电加热器 81a、81b、82 分别加热两个盒式高压储气瓶 61 和燃料压力调节器 62, 以促进液化状态的第一气体燃料的气化。由此, 能够防止由第一气体燃料气化等引起的盒式高压储气瓶 61 和燃料压力调节器 62 的温度的过度降低, 从而防止第一气体燃料的压力的过度降低, 使得第一气体燃料稳定地供给发动机 30。

一并参照图 7, 当燃料切换阀 12 位于第一位置或第二位置时, 处于能够向发动机 30 供给第一气体燃料或第二气体燃料的状态, 而且, 从断流开关 74 断开时起, 点火装置就处于可动作状态, 发动机 30 处于可运转状态。(即, 燃料切换阀 12 作为发动机运转开关, 成为接通状态。) 此外, 当燃料切换阀 12 处于停止位置时, 则停止向发动机 30 供给第一气体燃料或第二气体燃料, 而且, 从断流开关 74 闭合时起, 点火装置就处于非动作状态, 发动机 30 停止。(即, 燃料切换阀 12 作为发动机运转开关, 成为关断状态。)

另一方面, 加热装置 80 只在燃料切换阀 12 位于第一位置时, 由于主

开关 75 闭合而成为可动作状态, 于是, 通过对盒式高压储气瓶 61 和燃料压力调节器 62 进行加热的各电加热器 81a、81b、82, 根据盒式高压储气瓶 61 和燃料压力调节器 62 的温度来进行加热控制。此外, 当燃料切换阀 12 位于第二位置和停止位置时, 由于第一气体燃料不供给发动机 30, 所以, 主开关 75 断开, 从而加热装置 80 成为非动作状态, 于是盒式高压储气瓶 61 和燃料压力调节器 62 的加热被停止。

下面, 对如上构成的实施方式的作用和效果进行说明。

将燃料切换阀 12 从停止位置操作到第一位置, 从而第一气体燃料处于可供发动机 30 的状态, 在该状态下, 操作反冲起动机 46, 从而发动机 30 起动, 然后开始自力运转。然后, 由发动机 30 驱动的发电机 40 所产生的电力被电力控制单元 41 控制, 并被供给到插座 13 上所连接的电气设备。同时, 由发动机 30 驱动的冷却风扇 45 通过流入口 50、51 吸引内部空间 9 的空气。通过该冷却风扇 45 的吸引作用, 外气通过导入口 18 而被作为冷却风导入到内部空间 9。

来自导入口 18 的冷却风从内部空间 9 的最上部流入内部空间 9, 其一部分通过热传导与第一侧壁 66a 和燃料压力调节器 62 进行了热交换后, 流到下方以冷却电力控制 41b, 进而, 在与第一侧壁 66a 和燃料压力调节器 62 进行了热交换后, 通过流入口 50、51 而被冷却风扇 45 吸引。然后, 冷却风被冷却风扇 45 输送到护罩 47 内, 在护罩 47 内对发动机主体 30a 和排气管 38a 进行了冷却后, 冷却消声器 38b, 并从排出口 20 被排放到外部。

当通过发动机 30 的运转, 盒式高压储气瓶 61 的第一气体燃料的剩余量变得很少等, 从而需要切换到外部高压储气瓶 71 的第二气体燃料时, 将燃料切换阀 12 临时操作到停止位置, 从而发动机 30 被停止。此时, 通过断流开关 74 的动作能够使发动机 30 快速地停止。接着, 将燃料切换阀 12 操作到第二位置。由此, 第二气体燃料成为可供发动机 30 的状态, 然后通过反冲起动机 46 的操作使发动机 30 起动。

此处, 在发动机发电机 1 的前盖 5 上形成有凹部 23, 该凹部 23 位于比第一把持部 16 更靠近内部空间 9 的位置, 第一把持部 16 和凹部 23 共同形成导入口 18, 导入口 18 构成第一把持用空间 28, 进而, 在后盖 6 上

形成有凹部 24, 该凹部 24 位于比第二把持部 17 更靠近内部空间 9 的位置, 第二把持部 17 和凹部 24 共同构成第二把持用空间 29。

从而, 由于冷却风的导入口 18 还兼用作把持用空间 28, 所以第一把持用空间 28 被形成为形成内部空间 9 的前盖 5 本身, 而且, 由于形成第一、第二把持用空间 28、29 的一方的部分就是进入箱体 C 的内部空间 9 的凹部 23、24, 所以, 与将整个把持用空间形成在发动机发电机的箱体外部的情况相比, 能够防止或抑制第一、第二把持部 16、17 从箱体 C 的前盖 5 和后盖 6 突出, 从而第一、第二把持部 16、17 并不占用特别大的空间, 因此能够使发动机发电机 1 小型化, 使保管空间小。而且, 由于第一、第二把持部 16、17 的存在不明显, 所以第一、第二把持部 16、17 很少使发动机发电机 1 的外观受损, 从而能够提高发动机发电机 1 的外观性。再者, 由于冷却风的导入口 18 还兼用作第一把持用空间 28, 所以不必分别设置导入口 18 和第一把持用空间 28, 因此, 与将把持用空间与导入口分开设置的情况相比, 能够减少对箱体 C 的外观设计的制约。另外, 由于第一、第二把持用空间 28、29 位于作为箱体侧部的前盖 5 和后盖 6 上, 所以使发动机发电机的搬运变得容易。

此外, 在发动机 30 的运转中, 由于第一把持部 16 被通过导入口 18 的冷却风吹拂而冷却, 所以在把持第一、第二把持部 16、17 以搬运运转中的发动机发电机 1 时, 把持部不会被过分加热, 从而在发动机发电机 1 的运转过程中也能够会把持部 16、17 进行把持。

第一、第二把持部 16、17 具有向下方延伸的下垂部 16b、17b, 以便能够从外侧部分 16b1、17b1 经由最下端 16b2、17b2 直到内侧部分 16b3、17b3 进行握持, 从而能够握住下垂部 16b、17b, 因此, 第一、第二把持部 16、17 的把持变得容易, 从而发动机发电机 1 的搬运变得容易。

此外, 通过利用具有下垂部 16b 的第一把持部 16 和凹部 23, 使导入口 18 形成迷宫状的通路, 因此不会因使导入口 18 成为迷宫状而使结构复杂化。而且, 由于内部空间 9 通过迷宫状的导入口 18 连通到外部, 所以能够能够大幅降低运转噪声的泄漏量。其结果是, 不使成本增加就能够减轻通过导入口 18 泄漏到外部的运转噪声。

第一把持部 16 设置在箱体前部 C5 上；导入口 18 的入口 18a 形成在第一把持部 16 的下方；第一把持部 16 和导入口 18 被设置为到达箱体前部 C5 在横向上的两端部。从而，由于在横向上把持第一把持部 16 的位置的自由度增大，所以能够选择易于把持的位置，以使发动机发电机 1 的搬运变得容易。此外，不损害外观上的美观性就能够加大导入口 18 中的冷却风的吸气面积，而且，通过跨过横向宽范围而流入内部空间 9 的冷却风能够抑制空气在内部空间 9 中的滞留，因此能够提高发动机 30、发电机 40 和电力控制单元 41 的冷却效果。

通过使导入口 18 设置在前盖 5 的上部，当发动机刚停止后处于热浸（hot soak）时，发动机 30、发电机 40 和电力控制单元 41 周围的热气通过对流而上升到内部空间 9 的上部。因此，热气易于从导入口 18 流出，从而促进箱体 C 的内部空间 9 的自然换气，由此能够促进发动机刚停止后的发动机 30、发电机 40 和电力控制单元 41 的冷却。

在前盖 5 中，左右侧缘部 5c、5d 比操作板部 5e 向前方突出，第一把持部 16 比该左右侧缘部 5c、5d 还稍稍突出，而且，箱体前部 C5 的下部 C5b 位于比两侧缘部 5c、5d 更靠近内部空间 9 的位置。因此，发动机发电机 1 即使以前盖 5 接触墙壁等的外部部件的状态被放置时，也由于在左右侧缘部 5c、5d 之间，向下方敞开的空间和下垂部 16b、17b 比两侧缘 5c、5d 突出而在侧缘部 5c、5d 与上述外部部件之间形成间隙，所以能够将充分量的外部空气作为冷却风导入至导入口 18 中。

盒式高压储气瓶 61 和燃料压力调节器 62 被配置成接近电力控制单元 41，以便与电力控制单元 41 进行热交换。因此，在发动机发电机 1 的运转中，由于燃料的气化等而变成低温的盒式高压储气瓶 61 和燃料压力调节器 62 通过经由冷却风的热传递能够与电力控制单元 41 进行热交换。因此，从电力控制单元 41 的散热量增加，换言之，通过盒式高压储气瓶 61 和燃料压力调节器 62 来促进电力控制单元 41 的冷却，以抑制电力控制单元 41 的温度上升。同时，盒式高压储气瓶 61 和燃料压力调节器 62 被电力控制单元 41 加热，以抑制其温度降低。其结果是，在盒式高压储气瓶 61 及燃料压力调节器 62 与电力控制单元 41 之间，通过相互利用彼此的热量，能够

抑制电力控制单元 41 的温度上升, 因此能够使作为电力控制单元 41 的散热结构的散热翼片 41b 小型化。此外, 由于抑制了盒式高压储气瓶 61 和燃料压力调节器 62 的温度降低, 所以能够使加热装置 80 的加热量减少, 从而能够使作为加热源的电加热器 81a、81b、82 的消耗电力减少。

盒式高压储气瓶 61 与形成容纳室 65 的第一侧壁 66a 通过传热部件 70 热连接; 第一侧壁 66a 接近电力控制单元 41 而配置, 以便能够与电力控制单元 41 进行热交换, 从而盒式高压储气瓶 61 中的从电力控制单元 41 的受热, 以及电力控制单元 41 的散热都通过传递盒式高压储气瓶 61 的热量的第一侧壁 66a 进行。因此, 由于在盒式高压储气瓶 61 与电力控制单元 41 之间进行热交换, 所以能够减小对盒式高压储气瓶 61 和电力控制单元 41 的配置的制约。此外, 通过加大第一侧壁 66a, 或者使第一侧壁 66a 与电力控制单元 41 更加接近等的第一侧壁 66a 的形状或配置, 能够使盒式高压储气瓶 61 与电力控制单元 41 之间的传热量增加, 从而能够提高盒式高压储气瓶 61 与电力控制单元 41 之间的相互的热量的利用率。其结果是, 能够在通过第一侧壁 66a 而相互利用盒式高压储气瓶 61 和电力控制单元 41 之间的热量的基础上, 加大盒式高压储气瓶 61 和电力控制单元 41 的配置的自由度, 此外能够提高盒式高压储气瓶 61 和电力控制单元 41 的相互的热量的利用率, 从而能够更加高效地进行盒式高压储气瓶 61 对电力控制单元 41 的冷却, 以及电力控制单元 41 对盒式高压储气瓶 61 的加热。

经过导入口 18 被导入内部空间 9 的冷却风的至少一部分通过第一侧壁 66a 依次冷却了盒式高压储气瓶 61、燃料压力调节器 62 以及电力控制单元 41 后, 对发电机 40 和发动机 30 进行冷却, 从而, 被导入内部空间 9 的冷却风被盒式高压储气瓶 61 和燃料压力调节器 62 冷却为更低的温度, 该成为低温的冷却风首先冷却电力控制单元 41, 然后冷却发电机 40 和发动机 30。因此, 能够更加有效地冷却电力控制单元 41, 并且发电机 40 和发动机 30 也能够得到更高的冷却效果。

由于变流器 41a 的切换损失大, 发热量大, 所以, 由于其动作而成为高温的变流器 41a 被盒式高压储气瓶 61 和燃料压力调节器 62 有效地冷却, 从而抑制了变流器 41a 的升温; 盒式高压储气瓶 61 和燃料压力调节器 62

被高温的变流器 41a 有效地加热,从而抑制了其温度降低。其结果是,发热量大的变流器 41a 被有效地冷却,且盒式高压储气瓶 61 和燃料压力调节器 62 被变流器 41a 有效地加热。

燃料压力调节器 62 在上下方向和左右方向上处于与导入口 18 重叠的位置,并且配置在电力控制单元 41 的正上方,从而,从导入口 18 流入内部空间 9 的冷却风由于燃料压力调节器 62 而朝向电力控制单元 41 偏转方向,因此,通过从导入口 18 刚流入内部空间 9 的冷却风,能够进一步促进电力控制单元 41 的冷却。

流入口 50、51 在前后方向上位于与第一侧壁 66a 和燃料压力调节器 62 重叠的位置,从而,通过与第一侧壁 66a 和燃料压力调节器 62 的热交换而被冷却了的冷却风从流入口 50、51 流入,因此,促进了发动机主体 30a 和消声器 38b 的冷却。

下面,参照图 8、图 9 对本发明的第二实施方式进行说明。该第二实施方式在第二把持部 17 形成冷却风的导入口这一点上与第一实施方式不同,其它基本具有相同的结构。因此,对相同部分的说明加以省略或简化,以不同点为中心进行说明。并且,对与第一实施方式的部件相同的部件或对应的部件,根据需要使用了相同的标号。

第二把持部 17 与凹部 24 共同形成作为第二导入口的导入口 19。在下垂部 17b 的最下端 17b2 与倾斜部 24a 之间,形成朝向后并并与后方平行敞开的导入口 19 的入口 19a;在第二把持部 17 的上部 17a 与里部 24b 的上端部之间形成导入口 19 的出口 19b。此外,入口 19a 形成在第二把持部 17 的下方,导入口 19 被设置为大体到达箱体后部 C6 在横向上的两端部 C6c、C6d。导入口 19 的横宽与作为第一导入口的导入口 18 的横宽相等,进而与后盖 6 的横宽大体相等。

因此,从入口 19a 流入的冷却风沿前后方向朝内部空间 9 流动后,沿下垂部 17b 的内侧部分 17b3 和里部 24b 偏向上方流动,进而,通过上部 17a 而沿前后方向朝内部空间 9 偏转方向后,从出口 19b 流出到内部空间 9 中。这样,第二把持部 17 与凹部 24 形成使第二导入口 19 在多个部位弯曲的迷宫状的通路。

此外,加强板 11 的一部分配置在导入口 19 中,从而构成冷却风的引导部 11a,以使冷却风顺畅地流动并被导入内部空间 9。

而且,导入口 19 构成第二把持用空间 29,该第二把持用空间 29 在搬运发动机发电机 1 时,为了用手把持第二把持部 17 而被使用。导入口 19 形成在第二把持部 17 的下方,并且,主要由里部 24b 形成的导入口 19 的下游部分 19c 进一步成为进入内部空间 9 的空间,因此,第二把持用空间 29 的一部分是比箱体上部 C4 位于下方,并且进入内部空间 9 的空间。

根据该第二实施方式,除了能够达到与第一实施方式相同的效果外,还能够达到如下的作用和效果。

即,第一、第二把持部 16、17 分别设置于在箱体 C 中隔着发电机 40 和发动机 30 而相对的前盖 5 和后盖 6 上,第一、第二把持部 16、17 与前盖 5 的凹部 23 及后盖 6 的凹部 24 共同分别形成一对导入口 18、19,从而,冷却风从两侧夹持发动机 30 和发电机 40 而流入内部空间 9 内,因此,与只有一个导入口的情况相比,由于刚流入内部空间 9 后的较低温度的冷却风流过发动机 30 和发电机 40 的周围,所以能够促进发动机 30 和发电机 40 的冷却。此外,在发动机刚停止后处于热浸时等,由于发动机 30、发电机 40 以及电力控制单元 41 周围的热气通过对流而上升到内部空间 9 的上部,所以,易于从分别位于箱体前部 C5 和箱体后部 C6 的上部 C5a、C6a 的两导入口 18、19 流出到外部,而且,与导入口只有一个的情况相比,更易于流出,从而能够进一步促进箱体 C 的内部空间 9 的自然换气。其结果是,通过来自一对导入口 18、19 的冷却风,能够提高发动机 30、发电机 40 以及电力控制单元 41 的冷却效果,而且能够促进发动机刚停止后的发动机 30、发电机 40 和电力控制单元 41 的冷却。

两导入口 18、19 在电力控制单元 41、发电机 40、发动机主体 30a 和消声器 38b 串行排列的方向上相对设置,从而,来自靠近电力控制单元 41 的导入口 18 的冷却风,与第一实施方式相同,顺次冷却电力控制单元 41、发电机 40、发动机主体 30a 和消声器 38b;另一方面,来自靠近发动机 30 的导入口 19 的冷却风的大部分流过护罩 47 的周围而从流入口 50、51 被冷却风扇 45 吸引后,被输送到护罩 47 内,以顺次冷却发电机 40、发动机

主体 30a 和消声器 38b。其结果是，由于发电机 40 和发动机 30 通过几乎没有被电力控制单元 41 加热的冷却风来进行冷却，所以能够提高发电机 40、发动机主体 30a 和消声器 38b 的冷却效果。

以下，针对变更上述实施方式的一部分结构后的实施方式，对其变更后的结构进行说明。

第一把持用空间 28 并不是如上述实施方式那样，基本上只由导入口 18 构成，如图 10 所示，也可以由内部空间 9 的一部分和第一导入口 92 来构成第一把持用空间 93。更具体地讲，第一把持部 90 与前盖 5 的凹部 91 共同形成第一导入口 92，同时，与构成前盖 5 或箱体 C 的其它盖 4 等同样地，也形成内部空间 9。即，作为用手把持的部分的下垂部 90b 的内侧部分 90b1 形成内部空间 9。此时，由第二把持部和后盖形成的第二把持用空间既可以与第一实施方式同样地被封闭，也可以与第一把持用空间 93 同样地，由内部空间 9 的一部分、和由第二把持部及后盖的凹部共同形成的第二导入口来构成。此外，在图 10 中，如双点划线例示的那样，也可以不在前盖 5 和后盖上分别形成用于形成第一导入口和第二导入口的凹部。

如果这样，由于冷却风的导入口 92 兼用作第一把持用空间 93，所以，第一把持用空间 93 被形成为形成内部空间 9 的前盖 5 本身，进而，将箱体 C 的内部空间 9 作为第一把持用空间 93 的一部分来利用，因此，与将把持用空间的整体形成在箱体 C 的外部的情况相比，能够防止或抑制第一把持部 90 从箱体 C 的前盖 5 突出。其结果是，以发动机发电机 1 的小型化和保管空间的缩小这点为首，在减少对箱体 C 的外观设计的制约等方面上，也与第一实施方式起到同样的效果。

在上述实施方式中，箱体 C 主要由 6 个盖构成，但也可以由 6 个以外的数量的盖构成。

第一、第二把持部 16、17 和导入口 18、19、92 也可以在箱体前部 C5 或箱体后部 C6 中设置在上端部以外的上部、下部、或设置在上下方向的上部与下部的中间部，此外也可以设置在箱体上部 C4 中。导入口 18、19、92 也可以以形成第一、第二把持用空间 28、29、93 为前提，沿横向被分割为多个。

在上述实施方式中,第一、第二把持部由把持部形成部件的整体构成,但各把持部也可以将构成箱体C的箱体结构部件,例如前盖5、后盖6或上盖4作为把持部形成部件,来一体地成型为把持部形成部件,并由其一部分构成,或者由与上述箱体结构部件不同的其它部件来构成,并一体地结合在该箱体结构部件上。第一、第二把持部也可以是能用手按住的形状。

盒式高压储气瓶61、室壁66或燃料压力调节器62中的至少一个也可以通过由热的良导体构成的传热部件,或者直接地热连接到电力控制单元41的散热翼片41b上。从而,由于盒式高压储气瓶61和燃料压力调节器62中的至少一方与电力控制单元41之间的传热是通过传热部件利用热传导而进行,所以能够进一步提高相互的热量利用率。其结果是,由于盒式高压储气瓶61和燃料压力调节器62中的至少一方与电力控制单元41之间的相互的热量利用率进一步提高,所以,由盒式高压储气瓶61和燃料压力调节器62中的至少一方对电力控制单元41的冷却效果、以及由电力控制单元41对盒式高压储气瓶61和燃料压力调节器62中的至少一方的加热效果进一步提高。

盒式高压储气瓶61和燃料压力调节器62中的任何一个也可以对应电力控制单元41以能够与电力控制单元41进行热交换的方式进行配置。

用于配置盒式高压储气瓶61的燃料配置部也可以不必由容纳部60构成,因此,在与电力控制单元41之间也可以不设置室壁66。

第一气体燃料也可以以气化状态供给燃料压力调节器62。第2气体燃料也可以是丙烷以外的气体燃料,例如也可以是城市煤气,此外,第二燃料源也可以是供给第二气体燃料的管道。

加热装置80的加热源也可以是电加热器以外的热源,例如,也可以利用发动机废气的热等,发动机的余热。此外,由于在盒式高压储气瓶61及燃料压力调节器62与电力控制单元41之间相互利用彼此的热,所以通过电力控制单元41的热量抑制盒式高压储气瓶61和燃料压力调节器62的降温,因此能够利用较低温度的加热源等,从而增加了加热源的选择项,甚至不需要对盒式高压储气瓶61或燃料压力调节器62加热的加热装置。

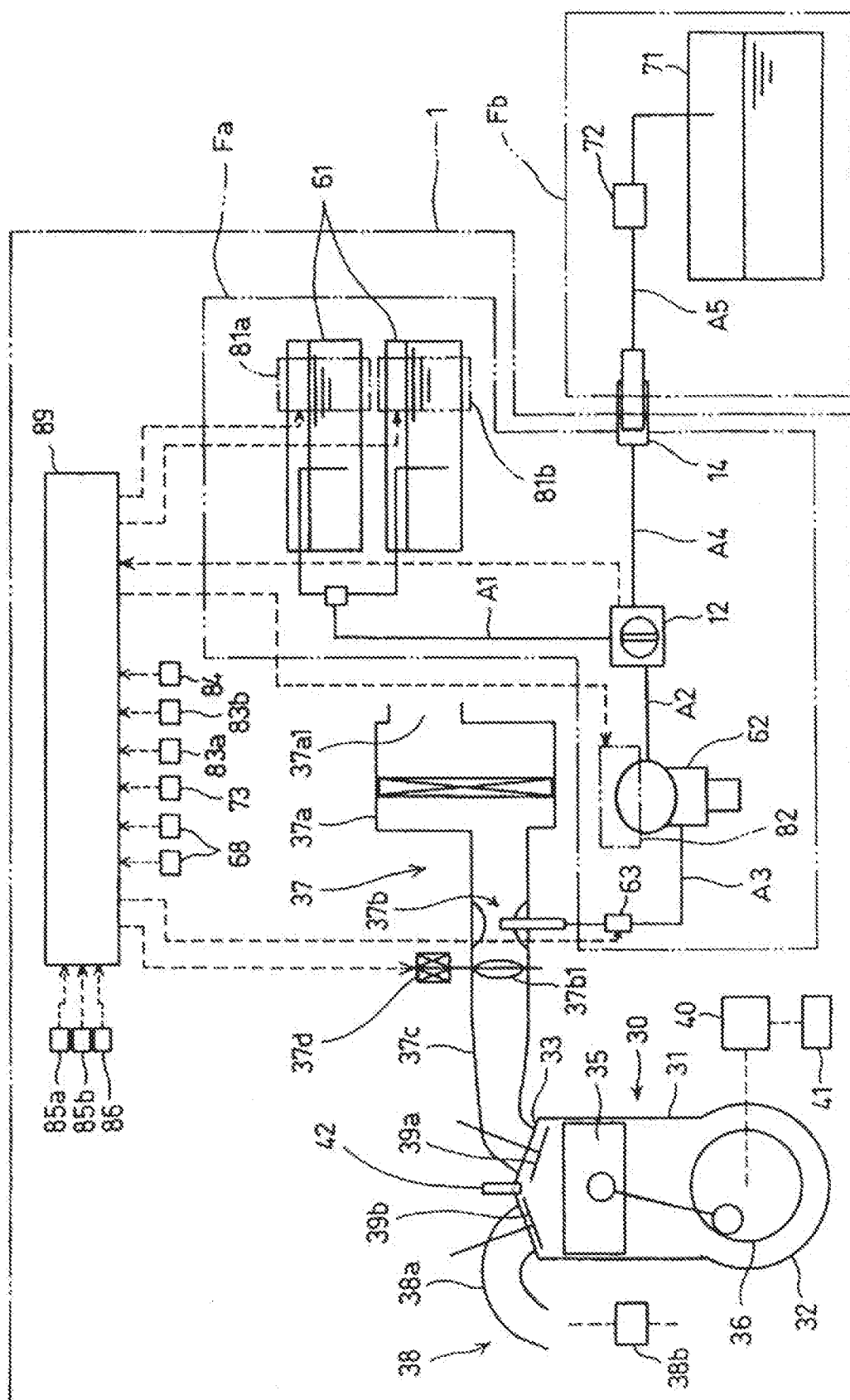


图 1

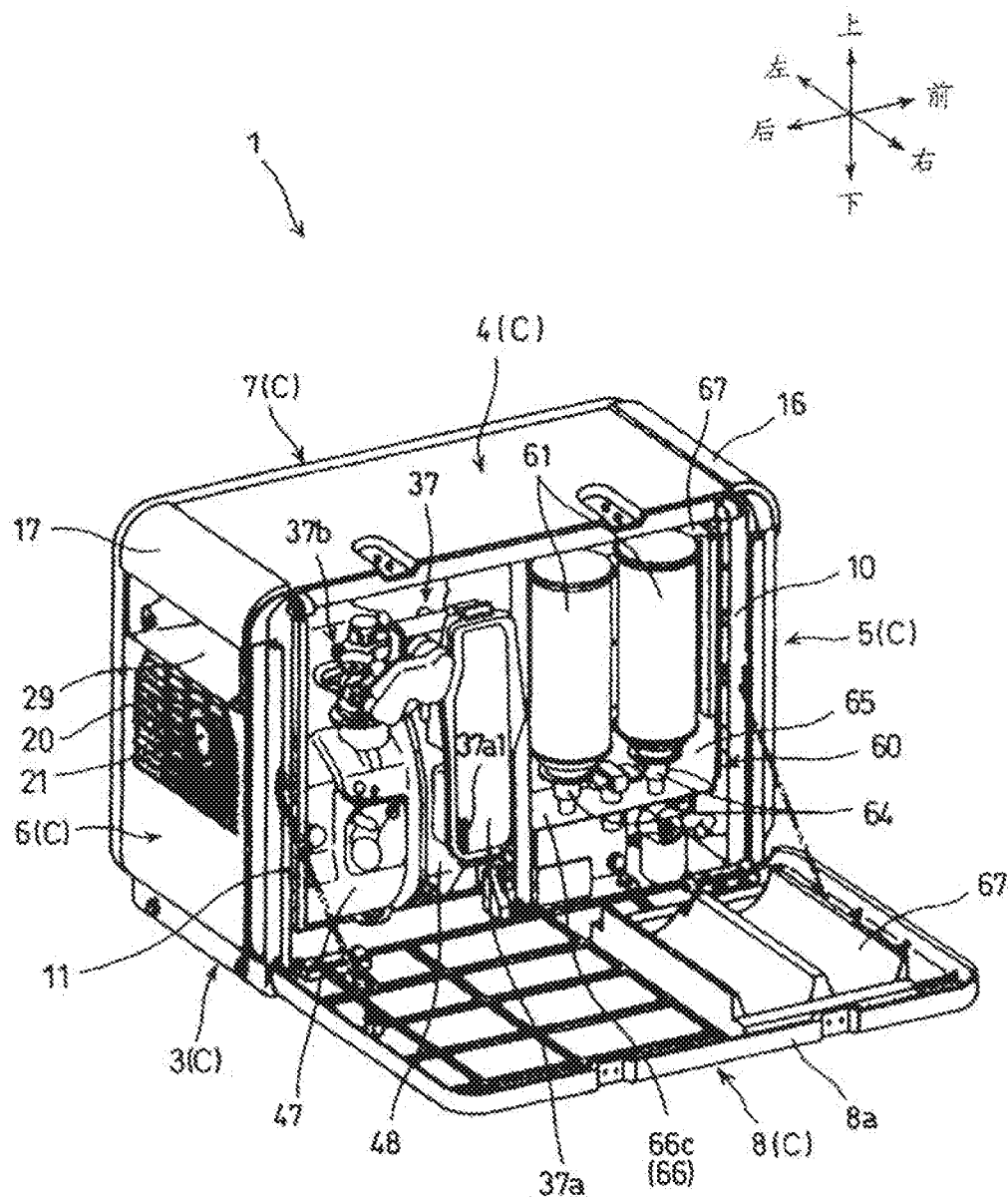
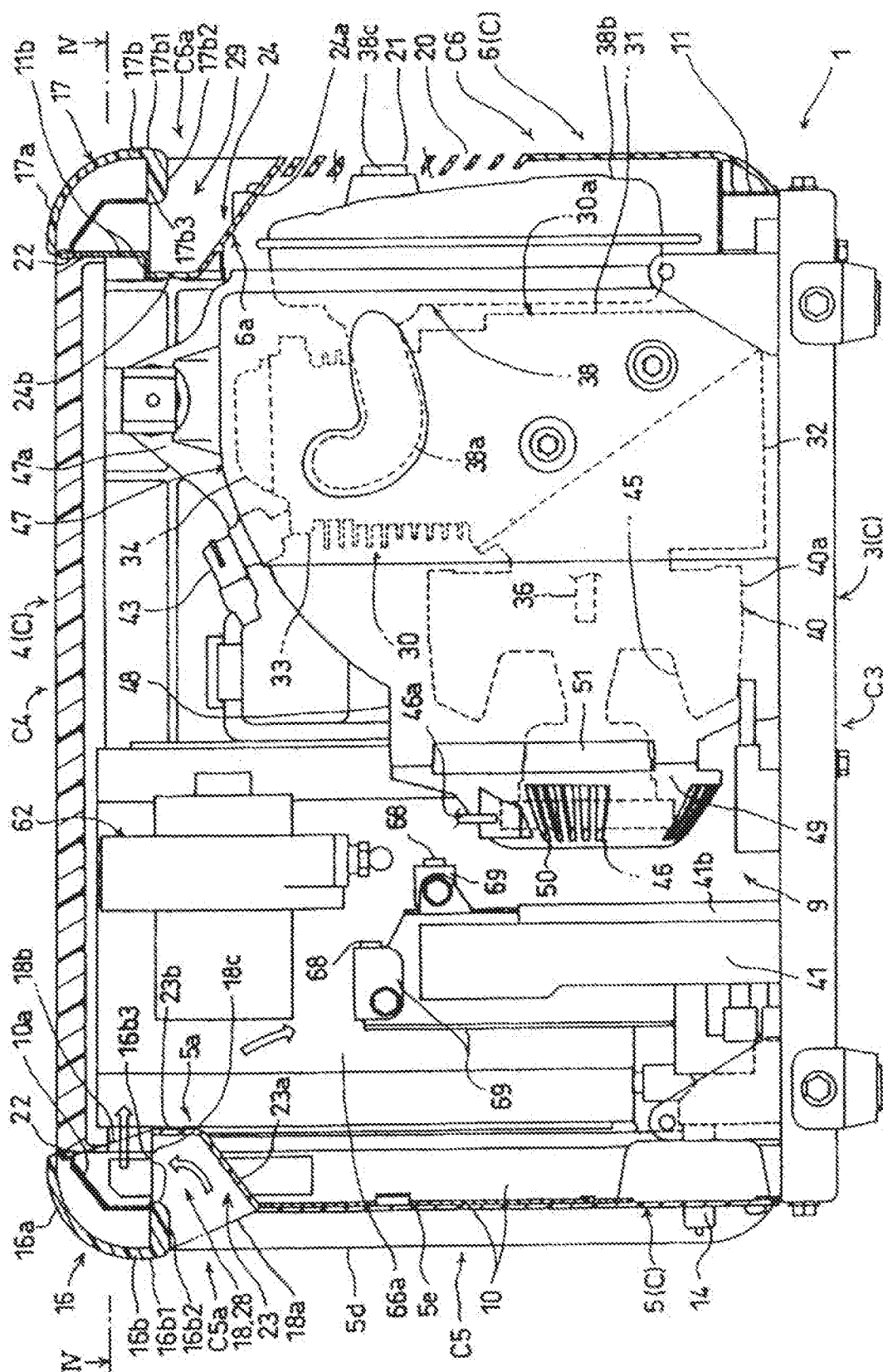
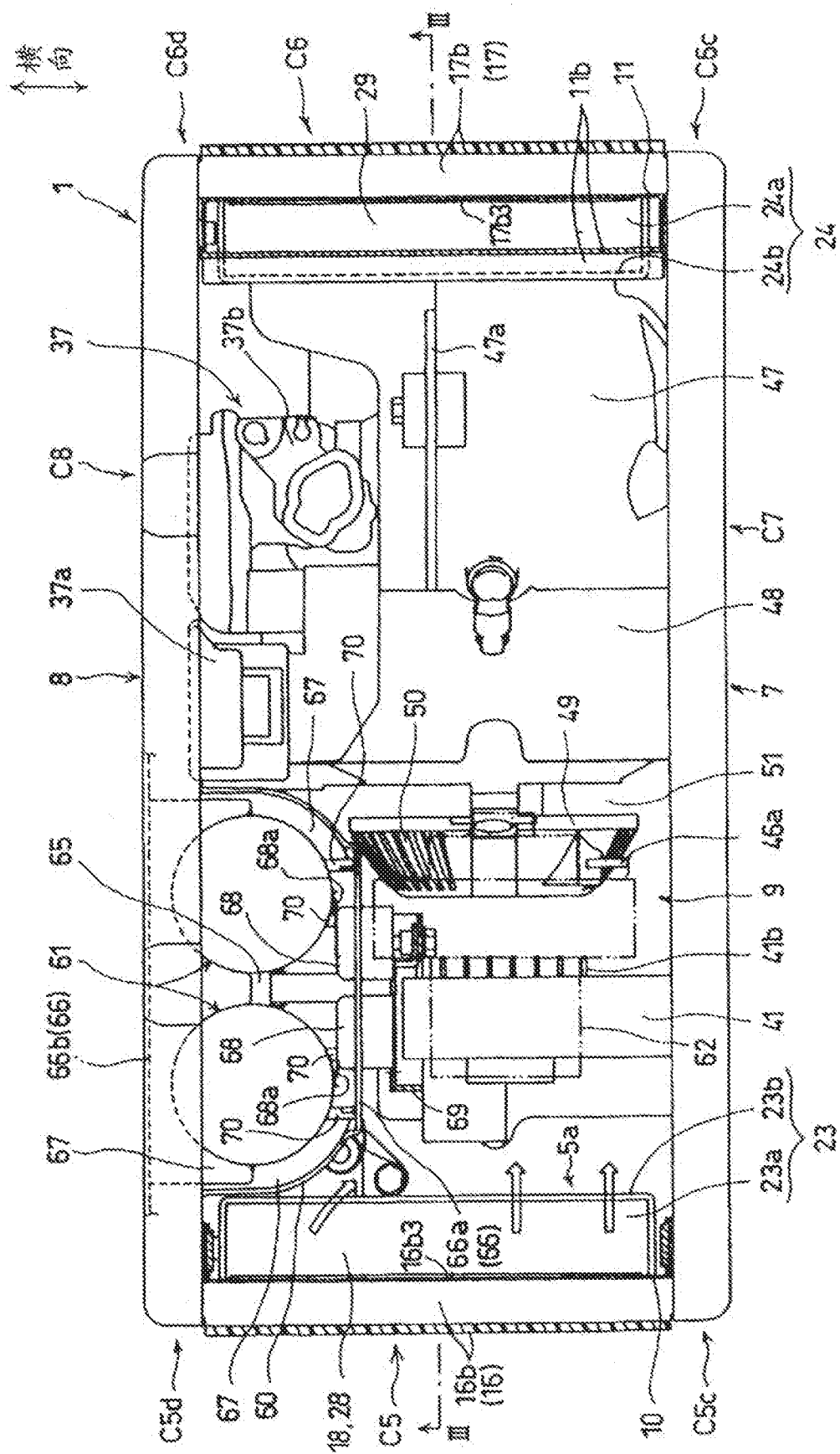


图 2





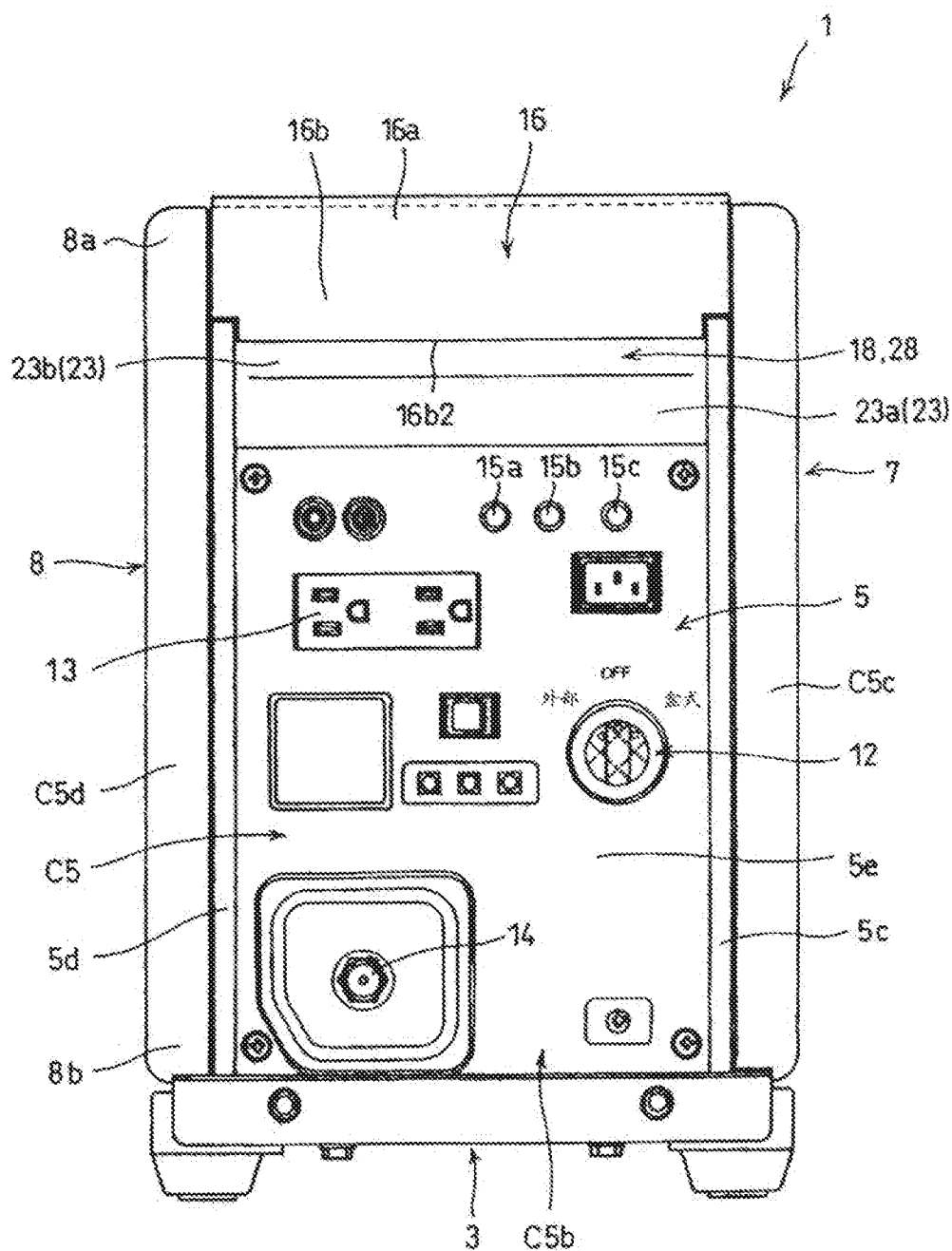
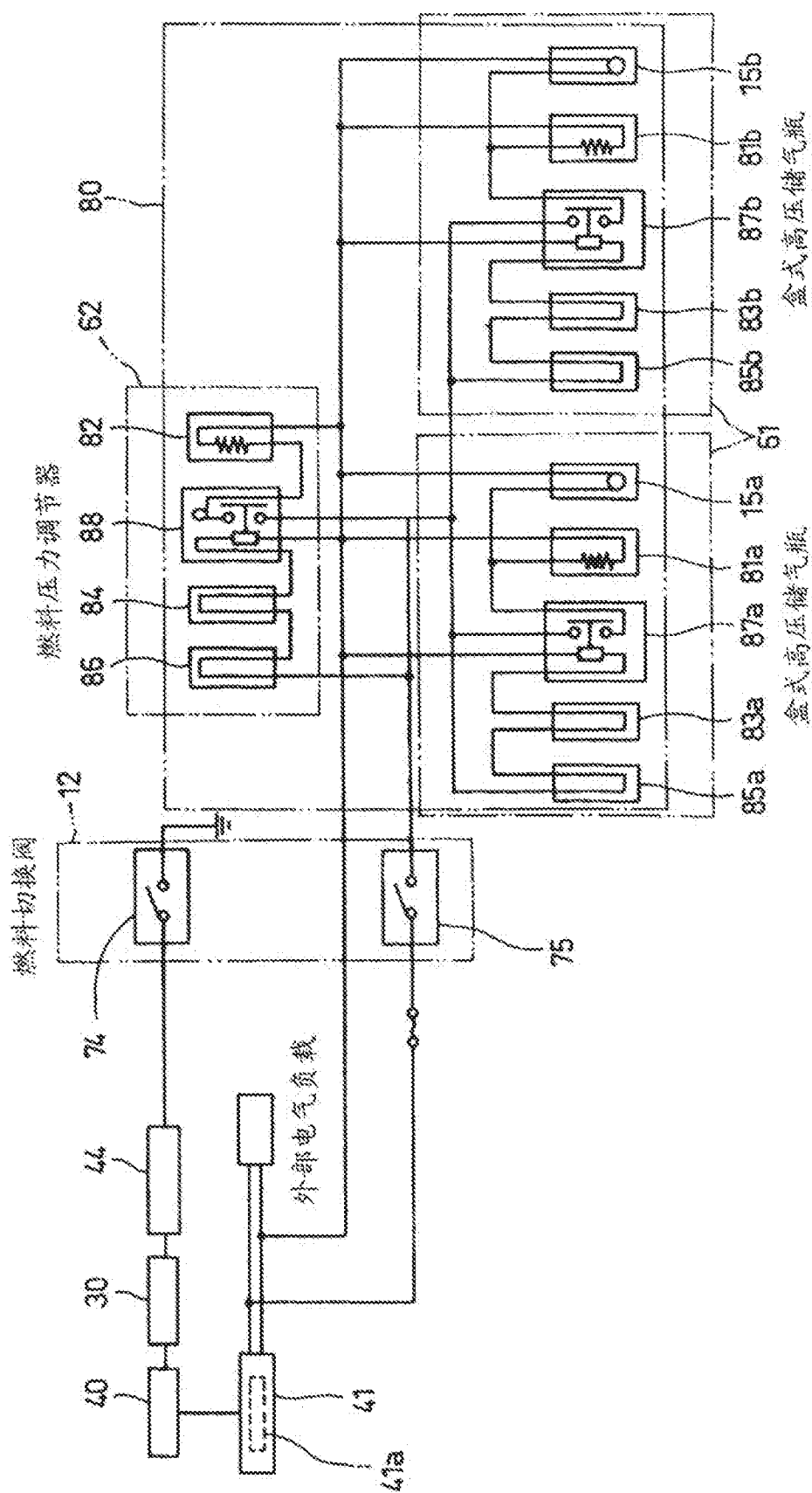


图 5



	燃料切换阀		
	第1位置	停止位置	第2位置
向发动机的 气体 燃料供给状态	盒式高压储气瓶 的气体燃料 (丁烷)的供给	供给停止	外部气体容器 的气体燃料 (丙烷)的供给
点火装置的 动作状态	动作 (断流开关断开)	非动作 (断流开关接通)	动作 (断流开关断开)
加热装置的 动作状态	动作 (加热器的主 开关接通)	非动作 (加热器的主 开关断开)	非动作 (加热器的主 开关断开)

图 7

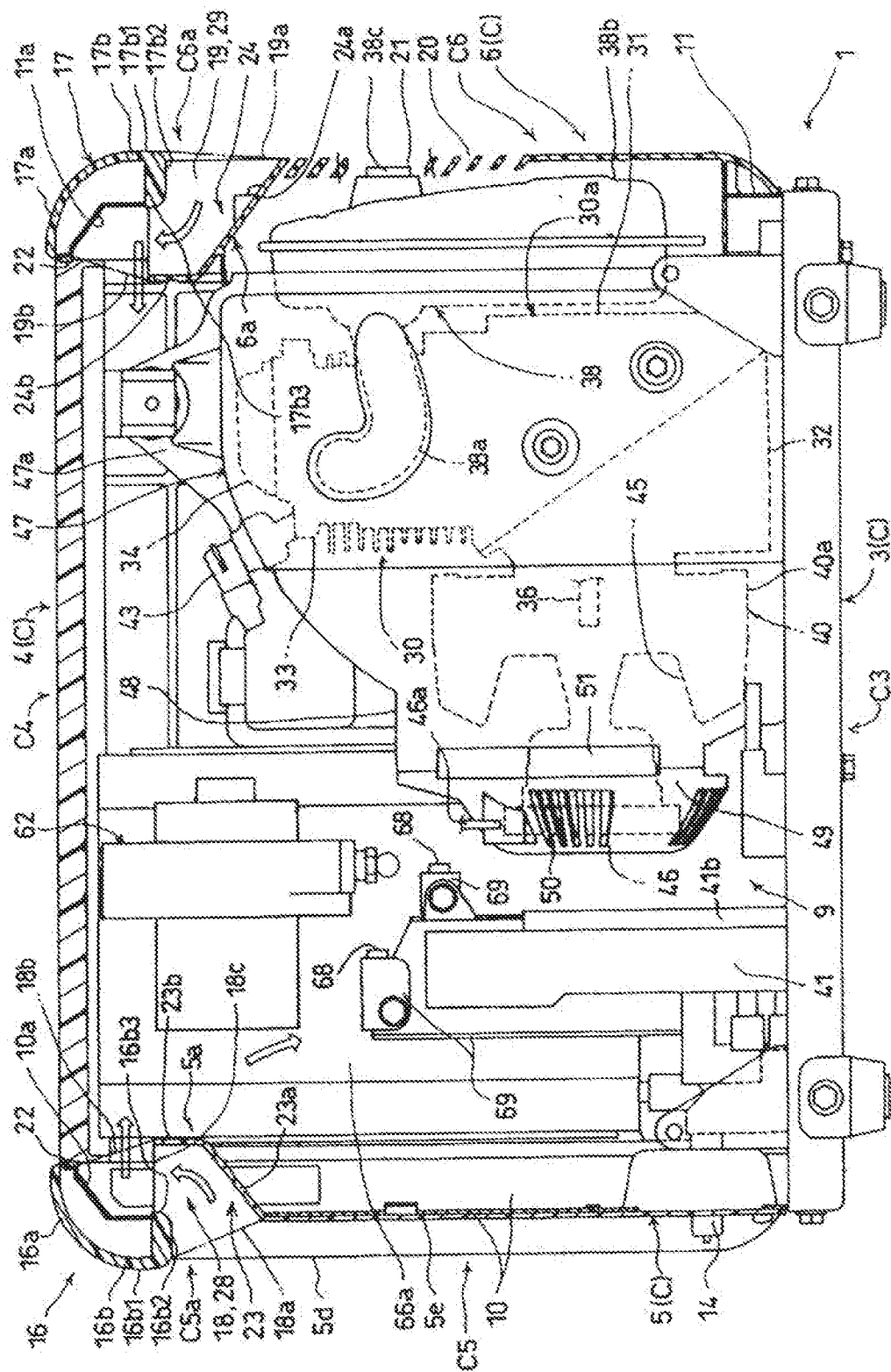


图 8

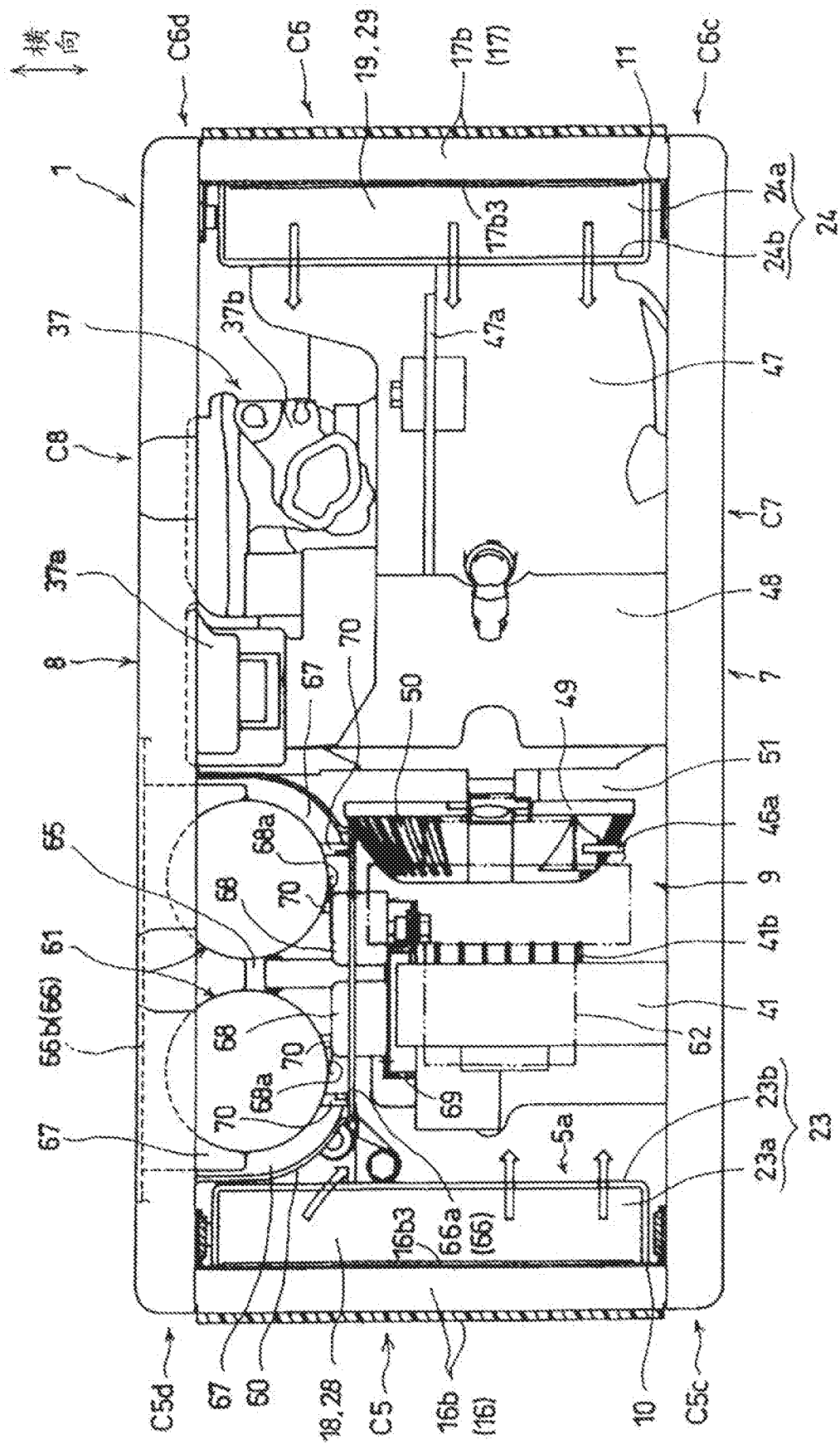


图 9

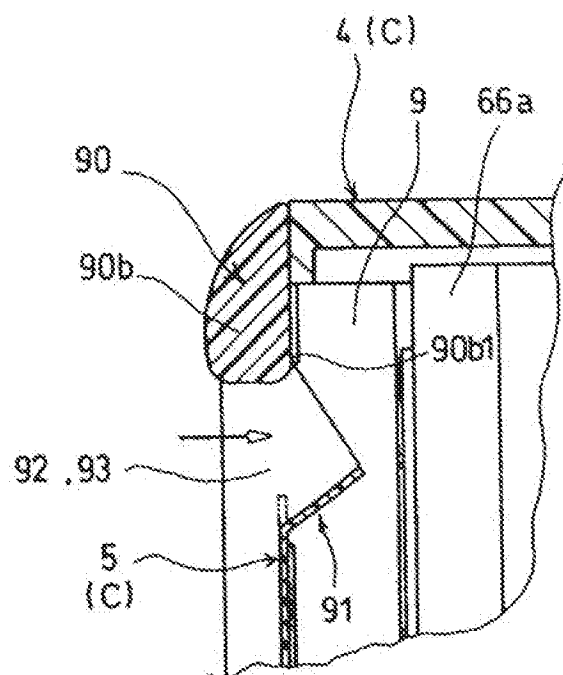


图 10

Electronic Patent Application Fee Transmittal

Application Number:	15015205			
Filing Date:	04-Feb-2016			
Title of Invention:	DUAL FUEL SELECTOR SWITCH			
First Named Inventor/Applicant Name:	Mark J. Sarder			
Filer:	Kevin Roger Rosin./Robyn Templin			
Attorney Docket Number:	CET1090.046			
Filed as Small 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(\$)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
Total in USD (\$)				120

Electronic Acknowledgement Receipt

EFS ID:	37831551
Application Number:	15015205
International Application Number:	
Confirmation Number:	1852
Title of Invention:	DUAL FUEL SELECTOR SWITCH
First Named Inventor/Applicant Name:	Mark J. Sarder
Customer Number:	26629
Filer:	Kevin Roger Rosin./Robyn Templin
Filer Authorized By:	Kevin Roger Rosin.
Attorney Docket Number:	CET1090.046
Receipt Date:	22-NOV-2019
Filing Date:	04-FEB-2016
Time Stamp:	12:47:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 120
RAM confirmation Number	E2019ALC48076733
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Authorized User	

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Petitioner Ex 1028 115

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	SupplDS.pdf	613955	no	9
			7bc580d99813454ad168f65665015a72dfe75fb		
Warnings:					
Information:					
2	Foreign Reference	FPD1-CN2060477U.pdf	451233	no	7
			2141ee71ce889dab107045535acd687116525e46		
Warnings:					
Information:					
3	Foreign Reference	FPD2-CN1981121A.pdf	7320128	no	40
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4	Non Patent Literature	NPL1-HONDA_EU20i_LPG.pdf	15304933	no	3
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Information:					
5	Non Patent Literature	NPL2-Johnson-Electronic_Direct_Fuel_Injection.pdf	414792	no	17
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Information:					
6	Non Patent Literature	NPL3-Champion_Power_100153_Manual.pdf	2038378	no	34
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7	Fee Worksheet (SB06)	fee-info.pdf	30413	no	2
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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.

Customer No. 26629
Confirmation No. 1852

Patent
Attorney Docket No. CET1090.046

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Sarder et al.
Serial No. : 15/015,205
Filed : February 4, 2016
For : DUAL FUEL SELECTOR SWITCH
Group Art No. : 3747
Examiner : Syed O. Hasan

CERTIFICATION UNDER 37 CFR 1.8(a) and 1.10

I hereby certify that, on the date shown below, this correspondence is being:

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37 CFR 1.8(a)

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- ☐ transmitted by facsimile to Fax No.: 571-273-8300 addressed to Examiner Syed O. Hasan at the Patent and Trademark Office.
☒ transmitted by EFS-WEB addressed to Examiner Syed O. Hasan at the Patent and Trademark Office.

Date: October 25, 2019

/Robyn L. Templin/
Signature

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

AMENDMENT/RESPONSE TO OFFICE ACTION
MAILED JUNE 25, 2019

Dear Sir:

Responsive to the Office Action mailed June 25, 2019, please amend the Application as follows:

In the Claims

1. (Currently Amended) A fuel selector for use with a dual fuel generator, the fuel selector comprising:

a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

a selector switch positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow;

wherein the valve assembly comprises:

a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and

a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine; and

wherein the first fuel valve and the second fuel valve are mechanical valves.

2. (Canceled)

3. (Currently Amended) The fuel selector of claim ~~2~~1 wherein the selector switch provides for manual actuation of the first fuel valve and the second fuel valve between the open and closed positions.

4. (Original) The fuel selector of claim 3 further comprising:

a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively;

a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively;

wherein the selector switch is positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time.

5. (Original) The fuel selector of claim 4 further comprising a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time.

6. (Original) The fuel selector of claim 5 wherein, when the selector switch is in the first position, the first valve handle is actuatable between the ON position and the OFF position and the second valve handle is prohibited from being in the ON position; and

wherein, when the selector switch is in the second position, the first valve handle is prohibited from being in the ON position and the second valve handle is actuatable between the ON position and the OFF position.

7. (Original) The fuel selector of claim 5 further comprising a carburetor solenoid switch coupled to the selector plate adjacent and extending out of a front surface thereof, the carburetor solenoid switch comprising a depressible switch configured to activate an associated solenoid when depressed.

8. (Original) The fuel selector of claim 7 wherein when the selector switch is in the first position so as to prohibit the second valve handle from being in the ON position, the selector switch depresses the carburetor solenoid switch, so as to activate the carburetor solenoid and stop the flow of the gasoline fuel source.

9. (Currently Amended) The fuel selector of claim ~~2~~1 wherein the first fuel valve is attached to a liquefied petroleum gas (LPG) fuel source and wherein the second fuel valve is attached to a gasoline source.

10. (Currently Amended) A fuel selector for use with a dual fuel generator, the fuel selector comprising:

a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine;

wherein the valve assembly comprises:

a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and

a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine; and

wherein the at least one valve handle is mechanically coupled to the first fuel valve and the second fuel valve to selectively open and close the first fuel valve and the second fuel valve responsive to actuation thereof.

11. (Original) The fuel selector of claim 10 wherein the at least one valve handle enables only one of the first fuel flow and the second fuel flow to the engine at a given time.

12. (Canceled)

13. (Currently Amended) The fuel selector of claim ~~12~~10 wherein the at least one valve handle comprises:

a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively;

a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively.

14. (Original) The fuel selector of claim 13 further comprising a selector switch positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time.

15. (Original) The fuel selector of claim 14 further comprising a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of

the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time.

16. (Original) The fuel selector of claim 15 wherein, when the selector switch is in the first position, the first valve handle is actuatable between the ON position and the OFF position and the second valve handle is prohibited from being in the ON position; and

wherein, when the selector switch is in the second position, the first valve handle is prohibited from being in the ON position and the second valve handle is actuatable between the ON position and the OFF position.

17. (Original) The fuel selector of claim 10 wherein the first fuel source comprises liquefied petroleum gas (LPG) and the second fuel source comprises gasoline.

18. (Previously Presented) A fuel selector of a dual fuel generator comprising:

a selector switch having a first fuel mode and a second fuel mode;

a solenoid switch having open and closed positions; and

a fuel solenoid having open and closed positions;

wherein, when the selector switch is in the first fuel mode, the solenoid switch and the fuel solenoid are in the closed positions and when the selector switch is in the second fuel mode, the solenoid switch and the fuel solenoid are in the open positions.

19. (Previously Presented) The fuel selector of claim 18 wherein the selector switch triggers the solenoid switch when changed from the second fuel mode to the first fuel mode, so as to cause the solenoid switch and the fuel solenoid to operate in the closed positions.

20. (Previously Presented) The fuel selector of claim 18 further comprising:

a valve assembly positioned on or adjacent the selector switch and fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

wherein positioning of the selector switch in the first fuel mode and the second fuel mode enables a selection of one of the first fuel flow and the second fuel flow.

21. (New) The fuel selector of claim 1 wherein the mechanical valve of each of the first fuel valve and the second fuel valve is a non-solenoid valve.

22. (New) A fuel selector for use with a dual fuel generator, the fuel selector comprising:

a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

a selector switch positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow;

wherein the valve assembly comprises:

two fuel inputs, with a first fuel input connected to the first fuel source and a second fuel input connected to the second fuel source; and

two fuel outputs supplying fuel from only one of the first fuel source or the second fuel source.

23. (New) The fuel selector of claim 22 wherein the valve assembly comprises:

a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and

a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine.

24. (New) The fuel selector of claim 23 wherein the first fuel valve and the second fuel valve are non-solenoid, mechanical valves.

REMARKS

Claims 1-20 are pending in the present application. In the Office Action mailed June 25, 2019, the Examiner rejected claims 1-20 on the ground of nonstatutory double patenting over claims 1-11 of U.S. Patent No. 9,435,273. The Examiner next rejected claims 1, 18, and 19 under 35 U.S.C. §102(a)(1) as being anticipated by Sugimoto et al. (US Pub. 2007/0137591). Claims 2, 3, 9-12, 17, and 20 were rejected under 35 U.S.C. §103 as being unpatentable over Sugimoto et al. in view of Poehlman (USP 4,489,699).

Claims 4-8 and 13-16 were indicated as containing allowable subject matter. Such indication is appreciated.

Double Patenting Rejection

The Examiner rejected claims 1-20 on the ground of nonstatutory double patenting as being unpatentable over claims 1-20 of U.S. Patent 9,435,273. With respect to the pending nonstatutory double patenting rejection, Applicant notes that the double patenting rejection is not the only remaining rejection in the present application. The Examiner has also applied a rejection under 35 U.S.C. §103 in the current Office Action. Applicant, therefore, requests that the double patenting rejection be held in abeyance pending resolution of the other rejection.

Rejection under 35 U.S.C. §102(a)(1) as being anticipated by Sugimoto et al.**Claim 1**

The Examiner rejected claim 1 under 35 U.S.C. §102(a)(1) as being anticipated by Sugimoto et al. (US Pub. 2007/0137591) – hereinafter “Sugimoto.” Without acquiescing to the rejection, Applicant has amended claim 1 to further clarify the scope of the invention, with support for the amendment being found at least in Paragraphs [0022]-[0024] of the Specification and in FIG. 3.

As amended, claim 1 now further calls for wherein the valve assembly comprises a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine and a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine, and wherein the first fuel valve and the second fuel valve are mechanical valves.

Applicant believes amended claim 1 to be patentably distinct over that which is disclosed in Sugimoto.

Sugimoto discloses an engine generator 1 that includes a combustion engine 30, a fuel supply system Fa for supplying a fuel gas to the engine 30, an electric generator 40 to be driven for operation by the engine 30, a power control unit 41 for controlling power generated by the generator 40, and an electronic control unit (ECU) 89 for controlling the engine 30 and the fuel supply system Fa. *Sugimoto*, ¶[0042]. The fuel supply system Fa is provided with one or a plurality of fuel bottles 61, a fuel pressure regulator 62, a heating device 80, a fuel system selector valve 12, and a fuel cutoff valve 63. *Sugimoto*, ¶[0071]. The fuel pressure regulator 62 reduces the pressure of the fuel gas supplied from the two fuel bottles 61 and from an external fuel bottle 71 and regulates the pressure of the fuel gas so that the fuel gas may be supplied to the engine 30. *Sugimoto*, ¶[0071]. The fuel bottle 61 supplies the first fuel gas in liquid phase to the fuel pressure regulator 62. The external fuel bottle 71 supplies the second fuel gas in gas phase to the fuel gas pressure regulator 62. *Sugimoto*, ¶[0078].

The fuel cutoff valve 63 is a normally-open solenoid valve which closes when energized, with ECU 89 controlling the fuel cutoff valve 63 on the basis of the pressure of the first fuel gas. *Sugimoto*, ¶[0081]. More specifically, the fuel pressure regulator 62 is provided with a pressure sensor 73 for measuring the pressure of the first fuel gas flowing from the fuel bottle 61 to the fuel pressure regulator 62. *Sugimoto*, ¶[0081]. When the pressure of the first fuel gas measured by the pressure sensor 73 is higher than an upper limit pressure P1, the ECU 89 closes the fuel cutoff valve 63 to disconnect the common fuel system from the fuel bottle 61. *Sugimoto*, ¶[0081]. The upper limit pressure P1 is determined beforehand to ensure the safe operation of the engine generator 1 by avoiding the operation of the engine 30 while the pressure of the first fuel gas in the fuel bottles 61 is excessively high due to the excessive heating of the fuel bottles 61. *Sugimoto*, ¶[0081].

The fuel system selector valve 12 connects either the first fuel system that supplies the first fuel gas to the engine 30 or the second fuel system that supplies the second gas to the engine 30 selectively to the fuel pressure regulator 62. *Sugimoto*, ¶[0082]. The fuel system selector valve 12 can be set in a first position, where the knob of the fuel system selector valve 12 is at a first position marked with "Internal fuel" to connect the first fuel system to the engine 30 to supply the first fuel gas to the engine 30, in a second position, where the knob of the fuel system selector valve 12 is at a second position marked with "External fuel" to connect the second fuel system to the engine 30 to supply the second fuel gas to the engine 30, and in a cutoff position, where the knob of the fuel system selector valve 12 is at a cutoff position, where the knob of the fuel system selector valve 12 is at a neutral position marked with "Off" to stop supplying fuel gas

to the engine 30 by disconnecting both the first and the second fuel system from the engine 30. *Sugimoto*, ¶[0082]. The fuel system selector valve 12 is changed from the first to the second position and from the second to the first position via the neutral position. *Sugimoto*, ¶[0082].

Sugimoto, however, does not disclose a valve assembly comprises that a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine and a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine (and with the first and second valves being mechanical valves), as called for in amended claim 1. Instead, *Sugimoto* discloses only a single fuel system selector valve 12 that connects either the first fuel system that supplies the first fuel gas to the engine 30 or the second fuel system that supplies the second gas to the engine 30 selectively to the fuel pressure regulator 62. *See Sugimoto*, ¶[0082]; FIGS. 1 and 5. The single fuel system selector valve 12 does not teach separate first and second fuel valves each having open and closed positions, as called for in claim 1.

Poehlman also fails to teach or suggest that which is called for in amended claim 1 regarding a valve assembly comprising first and second valves that are mechanical valves, and Applicant believes that one skilled in the art would not modify *Sugimoto* in view of *Poehlman* in order to achieve the present invention. Specifically, *Poehlman* discloses a control apparatus 11 for selectively operating an internal combustion engine 13 on a first or gaseous fuel and on a second or liquid fuel where a liquid fuel control valve 43 and gaseous fuel control valve 45 are “energized” and “deenergized” via actuation/operation of a fuel selector switch 51 between a first or gaseous fuel position and a second or liquid fuel position, *Poehlman*, Col. 4, Ins. 16-30, i.e., valves 43, 45 are solenoid valves. *Poehlman* thus teaches away from that which is called for in claim 1 regarding first and second mechanical valves. As set forth in *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007), “rejections on obviousness grounds cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness” and “[w]hen the prior art teaches away from combining certain known elements, discovery of successful means of combining them is more likely to be nonobvious.” 550 U.S. 398, 416 (2007). Based on the above, one skilled in the art would not combine the teachings of *Poehlman* with *Sugimoto* to arrive at the invention set forth in amended claim 1. Accordingly, the Examiner cannot establish a *prima facie* case of obviousness under 35 U.S.C. §103 with respect to claim 1.

In light of at least the above, Applicant respectfully requests withdrawal of the rejection of claim 1 under 35 U.S.C. §102(a)(1) as being anticipated by *Sugimoto*, along with the rejection

of all claims dependent therefrom. Additionally, Applicant believes that claim 1 is patentably distinct over any proposed combination of Sugimoto and Poehlman.

Claim 18

The Examiner rejected claim 18 under 35 U.S.C. §102(a)(1) as being anticipated by Sugimoto. In rejecting the claim, the Examiner asserted (in part) that Sugimoto discloses “a selector switch (12),” “a solenoid switch (74),” and “a fuel solenoid (63),” “wherein, when the selector switch (12) is in the first fuel mode, the solenoid switch (74) and the fuel solenoid (63) are in the closed positions (paragraphs 80, 81, and 86) and when the selector switch is in the second fuel mode..., the solenoid switch (74) and the fuel solenoid (63) are in the open positions (paragraph 86).” *Office Action*, June 25, 2019, p. 6. Applicant respectfully disagrees with the rejection.

As set forth above, Sugimoto discloses an engine generator 1 that includes a combustion engine 30, a fuel supply system Fa for supplying a fuel gas to the engine 30, an electric generator 40 to be driven for operation by the engine 30, a power control unit 41 for controlling power generated by the generator 40, and an electronic control unit (ECU) 89 for controlling the engine 30 and the fuel supply system Fa. *Sugimoto*, ¶[0042]. The fuel supply system Fa is provided with one or a plurality of fuel bottles 61 (and an external fuel bottle 71 in fuel supply system Fb), a fuel pressure regulator 62, a heating device 80, a fuel system selector valve 12, and a fuel cutoff valve 63. *Sugimoto*, ¶[0071]. The fuel cutoff valve 63 is a normally-open solenoid valve which closes when energized, with ECU 89 controlling the fuel cutoff valve 63 on the basis of the pressure of the first fuel gas. More specifically, the fuel pressure regulator 62 is provided with a pressure sensor 73 for measuring the pressure of the first fuel gas flowing from the fuel bottle 61 to the fuel pressure regulator 62. *Sugimoto*, ¶[0081]. When the pressure of the first fuel gas measured by the pressure sensor 73 is higher than an upper limit pressure P1, the ECU 89 closes the fuel cutoff valve 63 to disconnect the common fuel system from the fuel bottle 61. *Sugimoto*, ¶[0081]. The upper limit pressure P1 is determined beforehand to ensure the safe operation of the engine generator 1 by avoiding the operation of the engine 30 while the pressure of the first fuel gas in the fuel bottles 61 is excessively high due to the excessive heating of the fuel bottles 61. *Sugimoto*, ¶[0081]. Sugimoto additionally discloses that the fuel system selector valve 12 functions as switches for starting and stopping the engine 30 and controlling the ignition system and the heating device 80 – with a kill switch 74 for controlling the operation of the ignition system being opened and closed and a main switch 75 for controlling the operation of the heating

device 80 being opened and closed according to the operating position of the fuel system selector valve 12. *Sugimoto*, ¶[0083].

Sugimoto, however, does not teach or suggest that fuel cutoff valve 63 (i.e., “fuel solenoid (63)”) is in a closed position when the selector switch is in the first fuel mode and that fuel cutoff valve 63 is in an open position when the selector switch is in the second fuel mode, as called for in claim 18. That is, *Sugimoto* explicitly discloses that the opening/closing of fuel cutoff valve 63 is not controlled by the positioning of the fuel system selector valve 12, but that instead the “fuel cutoff valve 63 is a normally-open solenoid valve which closes when energized, with ECU 89 controlling the fuel cutoff valve 63 on the basis of the pressure of the first fuel gas,” that “[m]ore specifically, the fuel pressure regulator 62 is provided with a pressure sensor 73 for measuring the pressure of the first fuel gas flowing from the fuel bottle 61 to the fuel pressure regulator 62,” and that “[w]hen the pressure of the first fuel gas measured by the pressure sensor 73 is higher than an upper limit pressure P1, the ECU 89 closes the fuel cutoff valve 63 to disconnect the common fuel system from the fuel bottle 61.” *Sugimoto*, ¶[0081]. Thus, the fuel cutoff valve 63 in *Sugimoto* is moved to open/closed positions based on a reading from the pressure sensor 73, **not** based on the fuel system selector valve 12 being in a first/second mode, as called for in claim 18.

In light of at least the above, *Sugimoto* does not anticipate that which is called for in claim 18, as anticipation under 35 U.S.C. §102(a)(1) requires that “[t]he identical invention must be shown [in the reference] in as complete detail as is contained in the ... claim.” *MPEP* §2131. Applicant therefore believes that claim 18 is patentably distinct from *Sugimoto* and respectfully requests withdrawal of the rejection of claim 18, along with the rejection of all claims dependent therefrom.

Rejection under 35 U.S.C. §103 over *Sugimoto* in view of *Poehlman*

Claim 10

The Examiner rejected claim 10 under 35 U.S.C. §103 as being unpatentable over *Sugimoto* in view of *Poehlman*. Without acquiescing to the rejection Applicant has amended claim 10 to further clarify the scope of the invention, with support for the amendment being found at least in Paragraphs [0022]-[0024] of the Specification and in FIG. 3.

As amended, claim 10 calls for a fuel selector for use with a dual fuel generator, the fuel selector comprising: a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second

fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine; wherein the valve assembly comprises: a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine; and wherein the at least one valve handle is mechanically coupled to the first fuel valve and the second fuel valve to selectively open and close the first fuel valve and the second fuel valve responsive to actuation thereof.

Applicant believes that one skilled in the art would not combine Sugimoto and Poehlman in the manner done so by the Examiner in order to achieve that which is now called for in claim 10. Furthermore, even were the references combined, the resulting combination would not teach what is called for in claim 10.

First, as set forth above with respect to claim 1, Sugimoto does not disclose a valve assembly comprises that a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine and a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine,. Instead, Sugimoto discloses only a single fuel system selector valve 12 that connects either the first fuel system that supplies the first fuel gas to the engine 30 or the second fuel system that supplies the second gas to the engine 30 selectively to the fuel pressure regulator 62. *See Sugimoto*, ¶[0082]; FIGS. 1 and 5. The single fuel system selector valve 12 does not teach separate first and second fuel valves each having open and closed positions, as called for in claim 10.

Additionally, Poehlman also fails to teach or suggest that which is called for in amended claim 10 regarding a valve assembly comprising first and second valves wherein at least one valve handle is mechanically coupled to the first and second fuel valves to selectively open and close the fuel valves responsive to actuation thereof. Instead, Poehlman discloses a control apparatus 11 for selectively operating an internal combustion engine 13 on a first or gaseous fuel and on a second or liquid fuel where a liquid fuel control valve 43 and gaseous fuel control valve 45 are “energized” and “deenergized” via actuation/operation of a fuel selector switch 51 between a first or gaseous fuel position and a second or liquid fuel position, *Poehlman*, Col. 4, lns. 16-30, i.e., valves 43, 45 are solenoid valves. Poehlman thus teaches away from that which is called for in claim 10 regarding first and second fuel valves that are mechanically coupled to at least one valve handle.

In light of at least the above, Applicant respectfully requests withdrawal of the rejection of claim 10 under 35 U.S.C. §103 over Sugimoto and Poehlman, along with the rejection of all claims dependent therefrom.

Canceled & Newly Presented Claims

In addition to the above amendments and remarks, Applicant has canceled claims 2 and 12 and newly added claims 21-24 in the present Response.

Claim 21 calls for the fuel selector of claim 1 wherein the mechanical valve of each of the first fuel valve and the second fuel valve is a non-solenoid valve. Support for claim 21 can be found at least in Paragraphs [0022]-[0024] of the Specification and in FIG. 3.

Claim 22 calls for a fuel selector for use with a dual fuel generator, the fuel selector comprising: a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and a selector switch positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow; wherein the valve assembly comprises: two fuel inputs, with a first fuel input connected to the first fuel source and a second fuel input connected to the second fuel source; and two fuel outputs supplying fuel from only one of the first fuel source or the second fuel source. Support for claim 22 can be found at least in Paragraphs [0018]-[0024] of the Specification and in FIG. 2 (as well as FIGS. 1, 3, and 4).

Claim 23 calls for wherein the valve assembly comprises: a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine.

Claim 24 calls for wherein the first fuel valve and the second fuel valve are non-solenoid, mechanical valves. Support for claim 24 can be found at least in Paragraphs [0022]-[0024] of the Specification and in FIG. 3.

Each of claims 21-24 is believed to be patentably distinct from that which is disclosed in Sugimoto and/or Poehlman, and Applicant therefore believes the claims to be directed to allowable subject matter.

A fee in the amount of \$330.00 is concurrently being paid via EFS-Web for fees associated with entering the claims newly presented herein (one new independent claim over three (3), with four claims added and two claims canceled). Applicant hereby authorizes charging

of Deposit Account No. 50-2623 for any additional fees associated with entering the aforementioned claims.

Conclusion

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1, 3-11, and 13-24.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

/Kevin R. Rosin/

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Dated: October 25, 2019
Attorney Docket No.: CET1090.046

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General Authorization and Extension of Time

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-2623. Should no proper payment be enclosed herewith, as by credit card authorization being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-2623. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extensions under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-2623. Please consider this a general authorization to charge any fee that is due in this case, if not otherwise timely paid, to Deposit Account No. 50-2623.

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Dated: October 25, 2019
Attorney Docket No.: CET1090.046

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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) CET1090.046
Application Number 15/015,205	Filed 2/4/2016	
For DUAL FUEL SELECTOR SWITCH		
Art Unit 3747	Examiner Syed O. Hasan	

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	<u>Fee</u>	<u>Small Entity Fee</u>	<u>Micro Entity Fee</u>	
☒ One month (37 CFR 1.17(a)(1))	\$ 200	\$ 100	\$ 50	\$ <u>100</u>
☐ Two months (37 CFR 1.17(a)(2))	\$ 600	\$ 300	\$ 150	\$ _____
☐ Three months (37 CFR 1.17(a)(3))	\$ 1400	\$ 700	\$ 350	\$ _____
☐ Four months (37 CFR 1.17(a)(4))	\$ 2200	\$ 1100	\$ 550	\$ _____
☐ Five months (37 CFR 1.17(a)(5))	\$ 3000	\$ 1500	\$ 750	\$ _____

☒ Applicant asserts small entity status. See 37 CFR 1.27.
☐ Applicant certifies micro entity status. See 37 CFR 1.29.
 Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.
☐ A check in the amount of the fee is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director has already been authorized to charge fees in this application to a Deposit Account.
☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number _____.
☒ Payment made via EFS-Web.

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.

I am the

☐ applicant.
☒ attorney or agent of record. Registration Number 55584.
☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Kevin R. Rosin/
 Signature

October 25, 2019
 Date

Kevin R. Rosin
 Typed or printed name

(262) 268-8100
 Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. 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 1.136(a). 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 6 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:	15015205			
Filing Date:	04-Feb-2016			
Title of Invention:	DUAL FUEL SELECTOR SWITCH			
First Named Inventor/Applicant Name:	Mark J. Sarder			
Filer:	Kevin Roger Rosin./Robyn Templin			
Attorney Docket Number:	CET1090.046			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	2	50	100
INDEPENDENT CLAIMS IN EXCESS OF 3	2201	1	230	230
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with \$0 paid	2251	1	100	100
Miscellaneous:				
Total in USD (\$)				430

Electronic Acknowledgement Receipt

EFS ID:	37564947
Application Number:	15015205
International Application Number:	
Confirmation Number:	1852
Title of Invention:	DUAL FUEL SELECTOR SWITCH
First Named Inventor/Applicant Name:	Mark J. Sarder
Customer Number:	26629
Filer:	Kevin Roger Rosin./Robyn Templin
Filer Authorized By:	Kevin Roger Rosin.
Attorney Docket Number:	CET1090.046
Receipt Date:	25-OCT-2019
Filing Date:	04-FEB-2016
Time Stamp:	14:39:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$430
RAM confirmation Number	E201900E40177979
Deposit Account	
Authorized User	

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

Petitioner Ex 1028 136

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		Response.pdf	186284	yes	15
			d2da49a2b69932efb13c4366cb34830c00b5b391		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	6	
	Applicant Arguments/Remarks Made in an Amendment		7	15	
Warnings:					
Information:					
2	Extension of Time	PetForExt.pdf	97906	no	1
			ecdb8c2e210073472cc030eb279ddc7780b17567		
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	33829	no	2
			066aace769678953a12a530227f96de00f0fd8e1		
Warnings:					
Information:					
Total Files Size (in bytes):			318019		

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.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/015,205	02/04/2016	Mark J. Sarder	CET1090.046	1852
26629	7590	10/01/2019	EXAMINER	
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ZPS)			HASAN, SYED O	
136 S WISCONSIN ST				
PORT WASHINGTON, WI 53074				
			ART UNIT	PAPER NUMBER
			3747	
			NOTIFICATION DATE	DELIVERY MODE
			10/01/2019	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):

info@zpspatents.com
sml@zpspatents.com

<i>Applicant-Initiated Interview Summary</i>	Application No. 15/015,205	Applicant(s) Sarder et al.	
	Examiner SYED O HASAN	Art Unit 3747	AIA (FITF) Status Yes

All participants (applicant, applicants representative, PTO personnel):

(1) SYED O. HASAN. (3) ____.

(2) Kevin R Rosin. (4) ____.

Date of Interview: 25 September 2019.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: ____.

Issues Discussed ☐101 ☐112 ☒102 ☒103 ☐Others

(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1 and 18.

Identification of prior art discussed: Sugimoto and Poehlman.

Substance of Interview

(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Agreement was reached as to what amendments would overcome the prior art of record. An official response will be filed..

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/SYED O HASAN/
Primary Examiner, Art Unit 3747

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiners responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicants correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,-
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicants record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiners version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, Interview Record OK on the paper recording the substance of the interview along with the date and the examiners initials.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/015,205	02/04/2016	Mark J. Sarder	CET1090.046	1852
26629 7590 06/25/2019 ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ZPS) 136 S WISCONSIN ST PORT WASHINGTON, WI 53074			EXAMINER HASAN, SYED O	
			ART UNIT	PAPER NUMBER
			3747	
			NOTIFICATION DATE	DELIVERY MODE
			06/25/2019	ELECTRONIC

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info@zpspatents.com
sml@zpspatents.com

DETAILED ACTION

1. This action is in response to appeal brief filed 3/8/2019. Arguments are acknowledged and the following new grounds of rejection below are formulated.
2. In view of the appeal brief filed on 3/8/2019, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/LINDSAY M LOW/
Supervisory Patent Examiner, Art Unit 3747

Notice of Pre-AIA or AIA Status

3. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Double Patenting

4. Claims 1-20 of this application is patentably indistinct from claims 1-11 of Application No. 14069747. Pursuant to 37 CFR 1.78(f), when two or more applications

filed by the same applicant contain patentably indistinct claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application.

Applicant is required to either cancel the patentably indistinct claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

5. 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 §§ 706.02(I)(1) - 706.02(I)(3) 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. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

6. Claims 1-20 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 9,435,273. Although the claims at issue are not identical, they are not patentably distinct from each other because the limitations are similar.

7. Claims 1-20 are rejected on the ground of nonstatutory double patenting over claims 1-11 of U.S. Patent No. 9,435,273 since the claims, if allowed, would improperly extend the “right to exclude” already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 102

8. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

9. The following is a quotation of the appropriate paragraphs of 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 –

(a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

10. Claim(s) 1 and 18-19 is/are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Sugimoto et al. (U.S. Publication 2007/0137591), hereinafter “Sugimoto”.

Regarding claim 1, Sugimoto discloses a fuel selector for use with a dual fuel generator (1), the fuel selector comprising: a valve assembly (assembly for valve 12, paragraph 83) fluidly connected to each of a first fuel source (Fa, 61, paragraph 71) and a second fuel source (Fb, 71, paragraph 73), the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source (paragraph 83), respectively, to an engine (30) of the dual fuel

generator; and a selector switch (12) positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow (paragraph 83).

Examiner notes that the fuel selection is made through valve switch 12 and can alternate between the first fuel source or the second fuel source or the off position. The valve switch 12 has a valve assembly to allow the different fuels to flow and is operated by a user.

Regarding claim 18, Sugimoto discloses a fuel selector of a dual fuel generator comprising: a selector switch (12) having a first fuel mode (internal fuel) and a second fuel mode (external fuel mode, paragraph 82); a solenoid switch (74) having open and closed positions (paragraph 83); and a fuel solenoid (solenoid associated with 63) having open and closed positions (paragraph 81); wherein, when the selector switch (12) is in the first fuel mode, the solenoid switch (74) and the fuel solenoid (63) are in the closed positions (paragraphs 80, 81, and 86) and when the selector switch is in the second fuel mode (second external fuel), the solenoid switch (74) and the fuel solenoid (63) are in the open positions (paragraph 86). Examiner notes that when the switch 12 is switched from internal fuel (first mode) to external fuel (second mode) the fuel cutoff valve or solenoid cuts off the fuel from the first fuel source and vice versa when the switch goes from second mode to first mode. The solenoid switch and the fuel solenoid are not related to each other within the claim and so Sugimoto's switch 74 and solenoid 63 has the capability to read on the claim limitations.

Regarding claim 19, Sugimoto discloses the fuel selector of claim 18 wherein the selector switch (12) triggers the solenoid switch (74) when changed from the second

fuel mode to the first fuel mode, so as to cause the solenoid switch and the fuel solenoid to operate in the closed positions (paragraph 86).

Claim Rejections - 35 USC § 103

11. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

12. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 2-3, 9-12, 17, and 20 is/are rejected under 35 U.S.C. 103 as being unpatentable over Sugimoto in view of Poehlman (U.S. Patent Number 4,489,699), hereinafter "Poehlman".

Regarding claim 2, Sugimoto discloses the same invention substantially as claimed, but is silent to disclose a first fuel valve having open and close positions to selectively control fuel flow and a second fuel valve having open and closed positions to selectively control fuel flow. However, Poehlman teaches the use of a first solenoid fuel valve (45) with open and close positions and a second solenoid fuel valve (43) with open and closed positions (column 4, lines 21-30) for the purpose of preventing leakage and providing fast response times. Therefore, it would have been obvious to one of

ordinary skill in the art before the effective filing date of the invention to modify Sugimoto by incorporating solenoid valves to provide the different fuel flows of the different fuel sources as taught by Poehlman when an operator makes a fuel source selection through valve 12 of Sugimoto for the purpose of preventing leakage and providing fast response times. Examiner notes that Sugimoto allows for a user to selectively operate which fuel to use and with Poehlman in combination, allow for the fuel to be provided with a faster response time and without leakage. Poehlman is brought herein as a reference only to teach the different valves for each fuel source since Sugimoto is silent, and would not destroy the invention of Sugimoto.

Regarding claim 3, Sugimoto and Poehlman disclose the fuel selector of claim 2 wherein the selector switch (Sugimoto, 12) provides for manual actuation (Sugimoto allows for user to manually switch between different fuels) of the first fuel valve and the second fuel valve between the open and closed positions. Sugimoto in combination with Poehlman would allow for a manual actuation of the fuel valves since it is controlled by the operator switching to the fuel selection.

Regarding claim 9, Sugimoto and Poehlman disclose the fuel selector of claim 2 wherein the first fuel valve (Poehlman, 45) is attached to a liquefied petroleum gas (LPG) fuel source (natural gas, 27); and wherein the second fuel valve (Poehlman, 43) is attached to a gasoline source (Poehlman, 21, column 3, lines 25-36). Examiner notes that Sugimoto is silent to teach the specific gases within the internal tank and the external tanks and Poehlman teaches LPG and gasoline.

Regarding claim 10, Sugimoto and Poehlman discloses a fuel selector for use with a dual fuel generator, the fuel selector comprising: a valve assembly fluidly

connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine. **Refer to rejections of claims 1-2 for further details since the limitations are similar.** The only difference is the fuel valve handle instead of the fuel valve switch. Examiner notes that the switch in Sugimoto (12) is regarded as the fuel valve handle since an operator can still hold the switch.

Regarding claim 11, Sugimoto and Poehlman discloses the fuel selector of claim 10 wherein the at least one valve handle enables only one of the first fuel flow and the second fuel flow to the engine at a given time. **Refer to rejection of claim 1 for further details since the limitations are similar.**

Regarding claim 12, Sugimoto and Poehlman discloses the fuel selector of claim 10 wherein the valve assembly comprises: a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine. **Refer to rejections of claims 1 and 2 for further details since the limitations are similar.**

Regarding claim 17, Sugimoto and Poehlman disclose the fuel selector of claim 10 wherein the first fuel source comprises liquefied petroleum gas (LPG) and the second fuel source comprises gasoline. **Refer to rejection of claim 9 for further details since the limitations are similar.**

Regarding claim 20, Sugimoto and Poehlman disclose the fuel selector of claim 18 further comprising: a valve assembly positioned on or adjacent the selector switch and fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and wherein positioning of the selector switch in the first fuel mode and the second fuel mode enables a selection of one of the first fuel flow and the second fuel flow. **Refer to rejections of claims 1-2 for further details since the limitations are similar.**

Response to Arguments

14. Applicant's arguments with respect to claims 1-20, have been considered but are moot because the arguments do not apply to the Sugimoto reference being used in the current rejection.

Allowable Subject Matter

15. Claims 4-8, and 13-16 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.

16. The following is a statement of reasons for the indication of allowable subject matter: There is no prior art that teaches all the limitations of claims 4 and 13, but more specifically, a dual fuel generator having first and second fuel valves with handles coupled on both respective valves to allow a user to manually control the valves to an on and off position, and the selector switch being in a position to only allow for one of the fuel valve handles to be able to actuate. All depending claims are allowable.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to PTO-892.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SYED O HASAN whose telephone number is (571)272-0990. The examiner can normally be reached on Monday-Friday; 11AM-7PM.

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, Lindsay Low can be reached on (571) 272-1196. 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 <http://pair-direct.uspto.gov>. 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.

/SYED O HASAN/
Primary Examiner, Art Unit 3747
6/19/2019

/LINDSAY M LOW/
Supervisory Patent Examiner, Art Unit 3747

<i>Notice of References Cited</i>	Application/Control No. 15/015,205		Applicant(s)/Patent Under Reexamination Sarder et al.	
	Examiner SYED O HASAN		Art Unit 3747	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-4489699-A	12-1984	Poehlman; Arthur G.	F02B69/04	123/525
*	B	US-20060169238-A1	08-2006	Mazuka; Naoto	F02B63/04	123/179.18
*	C	US-20040240141-A1	12-2004	Stolt, Peter E.	H01H47/18	361/160
*	D	US-20020125115-A1	09-2002	Burkholder, Robert F.	F02B63/04	200/51.11
*	E	US-20070137591-A1	06-2007	Sugimoto; Yasuhiro	F02B43/00	123/41.7
	F					
	G					
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	I					
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	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

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

Search Notes 	Application/Control No. 15/015,205	Applicant(s)/Patent Under Reexamination Sarder et al.
	Examiner SYED O HASAN	Art Unit 3747

CPC - Searched*		
Symbol	Date	Examiner
F02D19/0676, 19/0613, 19/0647, 29/06, 19/0681, F02M21/0293, 21/0236, 21/0233, 13/08, 13/08, F02B53/00, 63/00, H02K1/22	1/2/2018	/S.O.H./
Updated Search	06/19/2019	/S.O.H./

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
123	525, 2, 3	1/2/2018	/S.O.H./
290	1A	1/2/2018	/S.O.H./
137	383	1/2/2018	/S.O.H./
	Updated Search	8/3/2018	/S.O.H./

* 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
Searched in subclasses F02D19/0676, 19/0613, 19/0647, 29/06, F02M21/0293, 21/0236, 21/0233, 13/08, 13/08, F02B53/00, 63/00, H02K1/22 with keywords such as switch, dual fuel, LPG, gaseous, etc.	1/2/2018	/S.O.H./
EAST search strategy attached.	1/2/2018	/S.O.H./

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

/SYED O HASAN/ Primary Examiner, Art Unit 3747	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
		(generator same (cas\$4 or housing or enclosure)) and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((valve) near3 (switch or lever or selector))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:35
		(generator same (cas\$4 or housing or enclosure) and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((valve) near3 (switch or lever or selector))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:35
		((dual or multiple or second\$4 or bi) near3 (fuel)) same generator) and ((valve) same (user or operator or manual or manually or mechanically or mechanical))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:00
		generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve near2 handle) same (user or operator or man\$6))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:09
S1	11	((Mark) near2 (Sarder)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:16
S2	2	((Leigh) near2 (Jenison)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:17
S3	2	((Ian) near2 (Schmit)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:18
S4	834	123/525.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:20
S5	3	123/525.ccls. and (dual near3 fuel near3 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:20
S6	2	123/525.ccls. and (((multiple near3 fuel) or bi-fuel) near3 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2015/06/23 14:21

			DERWENT			
S7	3	123/525.ccls. and (((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:22
S8	236	(((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:22
S9	10	(((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator) same (switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:23
S10	458	f02D19/0676.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:23
S11	17	F02D19/0676.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:24
S12	6	F02M21/0293.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:24
S13	14	F02M21/0236.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:25
S14	18	F02M21/0233.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:27
S15	21	F02M13/08.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:29
S16	0	(generator) and (dual near3 fuel) and (selectro near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2015/06/23 14:32

			DERWENT			
S17	16	(generator) and (dual near3 fuel) and (selector near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:32
S18	42	(generator) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (selector near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:33
S19	46	(generator) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (fuel near5 select\$4 near5 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:39
S20	46	(generator or genset) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (fuel near5 select\$4 near5 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:40
S21	728	137/383.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:58
S22	96	137/384.8.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:58
S23	0	317/317.5.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:04
S24	133	273/317.5.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:04
S25	161	292/4.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:06
S26	106	292/290.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2015/06/23 15:07

			DERWENT			
S27	578	49/503.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:15
S28	92	123/2-3.ccls. and (fuel near5 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:16
S29	163	(generator) same (LPG near20 gasoline)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:35
S30	163	(generator) same (LPG near20 gasoline)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:35
S31	19	(fuel near3 select\$4 near3 switch) and (LPG near20 gasoline)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:53
S32	321499	(select\$4 near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:55
S33	1395	(select\$4 near3 switch) same (enclosure)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:55
S34	123	(switch) same (enclosure) same (first near3 valve) same (second near3 valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:56
S35	0	(switch) same (genset) same (first near3 valve) same (second near3 valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:58
S36	11	(genset) and ((switch) same (first near3 valve) same (second near3 valve))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2015/06/23 15:58

			DERWENT			
S37	550	(slider near3 switch).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:17
S38	28	(slider near3 switch).ti.	US-PGPUB; USPAT	OR	OFF	2015/06/23 16:19
S39	2	("7135651" "7223931").PN. OR ("7772508").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 16:20
S40	209	200/241.ccls.	US-PGPUB; USPAT	OR	OFF	2015/06/23 16:23
S41	45	200/241.ccls. and (groove or slot)	US-PGPUB; USPAT	OR	OFF	2015/06/23 16:23
S42	151	290/1A.ccls. and (groove or slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:24
S43	414	290/1A.ccls. and (switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:25
S44	45	290/1A.ccls. and (select\$4 near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:25
S45	16208	(select\$4 near3 switch).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:30
S46	42	(fuel near3 select\$4 near3 switch).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:30
S47	1	("2004/0240141").URPN.	USPAT	OR	OFF	2015/06/23 16:31
S48	436	261/16.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S49	18	261/16.ccls. and switch	USPAT	OR	OFF	2015/06/23 16:38
S50	0	48/180R.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S51	0	48/180C.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S52	0	48/180C.ccls.	US-PGPUB; USPAT;	OR	OFF	2015/06/23 16:39

			USOCR; FPRS; EPO; JPO; DERWENT			
S53	834	123/525.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S54	215	123/525.ccls. and (switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S55	76	123/525.ccls. and (switch) and (dual near3 fuel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S56	15	("20130122439" "20130098349" "20060169238" "20040240141" "4489699").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/29 14:24
S57	2	(dual near3 fuel near3 engine) same (fuel near3 handle)	US-PGPUB; USPAT; USOCR	OR	OFF	2015/12/17 18:15
S58	3	(dual near3 fuel near3 engine) same (fuel near3 handle)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:16
S59	16	(dual near3 fuel near3 engine) same (fuel near3 lever)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:17
S60	5	(dual near3 fuel near3 engine) same (fuel near3 valve near3 (lever or switch or handle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:23
S61	6	(dual near3 fuel near3 (engine or generator)) same (fuel near3 valve near3 (lever or switch or handle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:45
S62	24	(dual near3 fuel near3 (engine or generator)) same (fuel near3 (valve or supply) near3 (lever or switch or handle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2015/12/17 18:45

			DERWENT			
S63	4939	(gas near3 station).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:55
S64	39	(gas near3 station).ti. and lever	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:55
S65	292	(generator).ti. and ((dual or multiple) near3 (fuel))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56
S66	98	(generator).ti. and ((dual or multiple) near3 (fuel)) and (engine)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56
S67	13	(generator).ti. and (((dual or multiple) near3 (fuel)) same (switch or handle or lever)) and (engine)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56
S69	39	"4489699"	US-PGPUB; USPAT; USOCR	OR	OFF	2017/12/28 20:09
S70	14	F02D19/0613.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR	OR	OFF	2018/01/02 20:38
S71	25	F02D19/0613.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/01/02 20:38
S72	72	F02D19/0647.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/01/02 20:39
S73	77	F02D19/0647.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/01/02 20:39
S74	11	F02D19/06.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2018/01/02 20:40

			DERWENT			
S75	32	F02M13/08.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/01/02 20:41
S76	9	(fuel near3 select\$4 near3 switch) same (valve near3 assembly)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:24
S77	0	(geneartor) same (fuel near3 switch) same (valve near3 assembly)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:25
S78	9	(generator) same (fuel near3 switch) same (valve near3 assembly)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:25
S79	6704	(generator) same (fuel near3 valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:26
S80	10	(generator) same (dual near2 fuel near3 valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:26
S81	13	(generator) same (dual near2 fuel near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:27
S82	13	(generator) same (dual near3 fuel near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:28
S83	19	(gaseous near3 fuel) same (dual near3 fuel near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:54
S84	52	(gaseous near3 fuel) same (fuel near3 select\$4 near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2018/08/01 21:56

			DERWENT			
S85	85	F02D19/0613.cpc. and (switch same valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 22:03
S86	31	F02D19/0613.cpc. and (switch same valve same (user or operator))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 22:04
S87	25	F02D19/081.cpc. and (switch same valve same (user or operator))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 22:08
S88	16	F02D19/0642.cpc. and (switch same valve same (user or operator))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 22:10
S89	39	"4489699"	USPAT	OR	OFF	2018/08/02 14:52
S90	1	"20040240141"	USPAT	OR	OFF	2018/08/02 14:53
S91	3	"20040240141"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:53
S92	3	"20060169238"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:53
S93	4	"20130098349"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:55
S94	5	"20130122439"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:58
S95	1	"20060169238"	USPAT	OR	OFF	2018/08/02 14:58
S96	0	123/198E.ccls. and (duel near3 fuel)	USPAT	OR	OFF	2018/08/02 15:01
S97	1	123/198E.ccls. and (dual near3 fuel)	USPAT	OR	OFF	2018/08/02 15:01

S98	1	123/198E.ccls. and (dual near3 fuel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 15:02
S99	10	123/2.ccls. and (dual near3 fuel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 16:27
S100	0	60/39.463. and (dual near3 fuel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 16:31
S101	121	60/39.463.ccls. and (dual near3 fuel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 16:31
S102	34	60/39.463.ccls. and ((dual near3 fuel) same (valve))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 16:32
S103	50	"4489699"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 17:42
S104	5	generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve near2 handle) same (user or operator or manual or manually))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:09
S105	16	generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve near2 handle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:10
S106	20	generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve near3 handle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:10
S107	540	generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve) same (user or operator or manual or manually))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:12

S108	124	generator and (((dual or multiple or second\$4) near3 (fuel)) same (valve) same (user or operator or manual or manually) same switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/16 23:13
S109	4	("2681694").URPN.	USPAT	OR	OFF	2019/06/16 23:23
S110	37	F02D19/0676.cpc. and ((valve) same (user or operator or manual or manually) same switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:17
S111	19	F02D19/0681.cpc. and ((valve) same (user or operator or manual or manually) same switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:21
S112	3	("2008/0022983").URPN.	USPAT	OR	OFF	2019/06/17 17:25
S113	0	F02B2063/046.cpc. and ((valve) same (user or operator or manual or manually) same switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:29
S114	23	F02B2063/046.cpc. and ((valve) same (user or operator or manual or manually))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:29
S115	23	F02B2063/046.cpc. and ((valve) same (user or operator or manual or manually or mechanically or mechanical))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:54
S116	33	F02B63/048.cpc. and ((valve) same (user or operator or manual or manually or mechanically or mechanical))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 17:54
S117	1201	(((dual or multiple or second\$4 or bi) near3 (fuel)) same generator) and ((valve) same (user or operator or manual or manually or mechanically or mechanical))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:00
S118	72	(((dual or multiple or second\$4 or bi) near3 (fuel)) same generator) and ((valve) same (user or operator or manual or manually or mechanically or mechanical) same handle)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:01
S119	14	(((dual or multiple or second\$4 or bi) near3 (fuel)) same generator).ti. and	US-PGPUB; USPAT;	OR	ON	2019/06/17 18:05

		((valve) same (user or operator or manual or manually or mechanically or mechanical))	USOCR; FPRS; EPO; JPO; DERWENT			
S120	5	((((dual or multiple or second\$4 or bi near3 (fuel)) same generator).ti. and ((valve) same handle)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:12
S121	139	((((dual or multiple or second\$4 or bi near3 (fuel)) same generator) and ((valve) same handle)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:12
S122	34	((((dual or multiple or second\$4 or bi near3 (fuel)) same generator) and ((valve) near3 handle)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:12
S123	555	generator and (((dual or multiple or second\$4 or bi) near3 (fuel)) same (valve) same (user or operator or manual or manually))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:23
S124	310	((((dual or multiple or second\$4 or bi) near3 (fuel)) same generator) and ((valve) near3 (switch or lever or selector))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:23
S125	275	(generator same (case or casing or housing or enclosure)) and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((valve) same (fuel near3 (switch or lever or selector or handle)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:36
S126	9	("2007/0137591").URPN.	USPAT	OR	OFF	2019/06/17 18:40
S127	725165	(generator).ti. engine and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((valve) same (fuel near3 (switch or lever or selector or handle)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:48
S128	23	(generator).ti. and engine and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((valve) same (fuel near3 (switch or lever or selector or handle)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:49
S129	47	(generator).ti. and engine and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((fuel near3 (switch or lever or selector or handle)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:49

S130	0	((((dual or multiple or second\$4 or bi) near3 (fuel) near3 generator)) and (second\$4 near3 (fuel near3 (switch or lever or selector or handle)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:56
S131	18	((((dual or multiple or second\$4 or bi) near3 (fuel) near3 generator)) and (second\$4 near3 (fuel near3 (switch or lever or selector or handle)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 18:57
S132	34	((((dual or multiple or second\$4 or bi) near3 (fuel) near3 generator)) and ((user or manual or manually or operator or mechanically) same (fuel near3 (switch or lever or selector or handle)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 19:00
S133	393	(generator or genset) and (((dual or multiple or second\$4 or bi) near3 (fuel))) and ((user or manual or manually or operator or mechanically) same (fuel near3 (switch or lever or selector or handle)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2019/06/17 19:03
S134	433	123/525.ccls.	USPAT	OR	OFF	2019/06/17 19:31
S135	186	123/525.ccls. and (fuel same valve same (handle or switch or lever or selector))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2019/06/17 19:31
S136	22	123/525.ccls. and (generator or genset) and (fuel same valve same (handle or switch or lever or selector))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2019/06/17 19:32
S137	5	"20070137591"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2019/06/17 19:37

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Fuel Selector Switch 14069747.wsp

Customer No. 26629
Confirmation No. 1852

Patent
Attorney Docket No. CET1090.046

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Sarder et al.
Serial No. : 15/015,205
Filed : February 4, 2016
For : DUAL FUEL SELECTOR SWITCH
Group Art No. : 3747
Examiner : Syed O. Hasan

CERTIFICATION UNDER 37 CFR 1.8(a) and 1.10

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Date: March 8, 2019

/Robyn L. Templin/
Signature

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

APPEAL BRIEF PURSUANT TO 37 C.F.R §41.37

Dear Sir:

This Appeal Brief is being filed in furtherance of the Notice of Appeal filed on November 8, 2018.

1. **REAL PARTY IN INTEREST**

The real party in interest is Champion Engine Technology, LLC by virtue of the Assignment recorded February 4, 2016, at reel 037661, frame 0419.

2. **RELATED APPEALS AND INTERFERENCES**

Appellant is unaware of any other appeals or interferences related to this Appeal. The undersigned is Appellant's legal representative in this Appeal. Champion Engine Technology, LLC, the Assignee of the above-referenced application, as evidenced by the documents mentioned above, will be directly affected by the Board's decision in the pending appeal.

3. **SUMMARY OF CLAIMED SUBJECT MATTER**

The following is a summary of the claimed subject matter of independent claims 1, 10, and 18, as disclosed in the specification with supporting citations to reference numerals and page and line numbers in accordance with 37 C.F.R. §41.37(c)(1)(iii).

Claim 1 calls for a fuel selector (22) for use with a dual fuel generator (10). *Specification*, ¶[0020]; FIG. 1. The fuel selector (22) includes a valve assembly (24, 26) fluidly connected to each of a first fuel source (18) and a second fuel source (20), the valve assembly (24, 26) being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source (18) and the second fuel source (20), respectively, to an engine (12) of the dual fuel generator (10). *Specification*, ¶¶[0021]-[0024]; FIGS. 1-3. The fuel selector (22) also includes a selector switch (30) positioned on the valve assembly (24, 26) to allow a user to manually select one of the first fuel flow and the second fuel flow. *Specification*, ¶¶[0021], [0022], [0026]-[0031]; FIGS. 5-6.

Claim 10 calls for a fuel selector (22) for use with a dual fuel generator (10). *Specification*, ¶[0020]; FIG. 1. The fuel selector (22) includes a valve assembly (24, 26) fluidly connected to each of a first fuel source (18) and a second fuel source (20), the valve assembly (24, 26) being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source (18) and the second fuel source (20), respectively, to an engine (12) of the dual fuel generator (10). *Specification*, ¶¶[0021]-

[0024]; FIGS. 1-3. The fuel selector (22) also includes at least one valve handle (34, 38) positioned on and operably connected to the valve assembly (24, 26) to actuate the valve assembly (24, 26) to enable one of the first fuel flow and the second fuel flow to the engine (12). *Specification*, ¶¶[0021], [0022], [0026]-[0031]; FIGS. 5-6.

Claim 18 calls for a fuel selector (22) of a dual fuel generator (10). *Specification*, ¶[0020]; FIG. 1. The fuel selector (22) includes a selector switch (30) having a first fuel mode and a second fuel mode, a solenoid switch (32) having open and closed positions, and a fuel solenoid (16) having open and closed positions. *Specification*, ¶[0030]; FIGS. 2 and 6. When the selector switch (30) is in the first fuel mode, the solenoid switch (32) and the fuel solenoid (16) are in the closed positions and when the selector switch (30) is in the second fuel mode, the solenoid switch (32) and the fuel solenoid (16) are in the open positions. *Specification*, ¶[0030]; FIGS. 2 and 6.

4. **ARGUMENTS**

Rejection under 35 U.S.C. §103 as being unpatentable over Poehlman

Claim 1

The Examiner rejected claim 1 under 35 U.S.C. §103 as being unpatentable over a single reference: Poehlman (USP 4,489,699). In rejecting claim 1, the Examiner asserted that Poehlman discloses a “fuel selector (51)” as called for in claim 1 that includes “a valve assembly (... the whole valve assembly being 51, 53, 55, 57, 43, 45, 65, 79, etc. altogether) fluidly connected to each of a first fuel source (27, fuel associated with 25) and a second fuel source (21, fuel associated with 19, column 4, lines 31-40” and “a selector switch (57) to allow a user to manually select one of the first fuel flow and the second fuel flow (column 4, lines 31-40).” *Final Office Action*, August 9, 2018, p. 5. However, the Examiner admitted that Poehlman “is silent to disclose that the fuel selector is for use with a dual fuel generator and that the selector switch is positioned on the valve assembly.” *Id.* Nevertheless, the Examiner concluded that:

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the selector switch adjacent to the first and second fuel valves, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70. Examiner notes that Poehlman shows in figure 1 just a schematic of the invention and the selector switch can still be considered as being on the valve assembly. Lastly, Examiner notes that an operator can control selector switch (51) and that it directly affects the opening or closing of the fuel valves. *Id.*

Appellant respectfully disagrees with the rejection. As set forth in MPEP § 2142, “[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.” MPEP § 2142. “With regard to rejections under 35 U.S.C. 103, the examiner must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings establish a *prima facie* case of obviousness) is more probable than not.” *Id.* (emphasis in original). As will be set forth in detail below, Poehlman does not teach or suggest the claimed invention, nor would it be obvious to modify the system of Poehlman in the manner done so by the Examiner in order to achieve the claimed invention. The Examiner has merely used the present claim as a roadmap to devise an obviousness rejection that is not founded on the reference, but is based on the claimed invention instead. Accordingly, the Examiner has not established a *prima facie* case of obviousness under 35 U.S.C. § 103(a) with respect to claim 1.

Poehlman

Poehlman discloses a control apparatus 11 for selectively operating an internal combustion engine 13 on a first or gaseous fuel and on a second or liquid fuel. *Poehlman*, Col. 3, lns. 25-27. The engine includes a carburetor 15 which is connected through a supply line 19 with a source 21 of liquid fuel, such as, for instance, gasoline. *Poehlman*, Col. 3, lns. 27-31. The engine 13 also includes a gaseous fuel air mixer 23 which communicates with the carburetor 15, and which is connected through a supply line 25 with a source 27 of gaseous fuel, such as, for instance, natural gas. *Poehlman*, Col. 3, lns. 31-35. The engine 13 also includes “control means 41” for selective change-over between use of liquid fuel and gaseous fuel. *Poehlman*, Col. 3, lns. 62-64. In this

regard, the “control means 41” includes a (1) liquid fuel control valve 43 that is positioned near the liquid fuel source 21, is incorporated in the liquid fuel supply line 19, and is movable between open and closed positions, and (2) a gaseous fuel control valve 45 that is positioned near the gaseous fuel source 27, is incorporated in the gaseous fuel supply line 25, and is movable between open and closed positions. *Poehlman*, Col. 3, ln. 64 to Col. 4, ln. 6.

The “control means 41” also includes an electrical fuel selector switch 51 located near battery 59, the electrical switch 51 is operable to energize the liquid fuel control valve 43, when the selector switch 51 is in the liquid fuel position, thereby opening the liquid fuel control valve 43. *Poehlman*, FIG. 1 and Col. 4, lns. 21-24. In addition, the control means 41 is operable to energize the gaseous fuel control valve 45, when the selector switch 51 is in the liquid fuel position, and thereby open the gaseous fuel control valve 45. *Poehlman*, Col. 4, lns. 24-30. More particularly, the electrical selector switch 51 comprises a gaseous fuel terminal 53, a liquid fuel terminal 55, and a primary switch member 57 connected to a source 59 of direct current and movable between a first position energizing the liquid fuel terminal 55 and a second position energizing the gaseous fuel terminal 53. *Poehlman*, FIG. 1 and Col. 5, lns. 1-6.

The “control means 41” further includes a first switch means 61 including an energizing and holding terminal 63 connected to the gaseous fuel control valve 45 and a first switch member 65 connected to the gaseous fuel terminal 53 of the selector switch 51 and movable to and from a position energizing an energizing and holding terminal 63, means biasing the first switch member 65 away from the terminal 63, and means connected to the terminal 63 for holding the first switch member 65 in the position energizing the terminal 63 when the terminal is energized. *Poehlman*, Col. 5, lns. 7-21. The control means 41 also includes a second switch means 71 including a terminal 73 connected to the gaseous fuel control valve 45, a holding terminal 77, and a second switch member 79 electrically connected to the liquid fuel terminal 55 of the selector switch 51 and movable between a first position energizing the terminal 73 connected to the gaseous fuel control valve 45 for energization thereof, and a second position energizing the holding terminal 77, means biasing the second switch member 79 to the

first position, and means connected to the holding terminal 77 for holding the second switch member 79 in the second position against the action of the biasing means when the holding terminal 77 is energized. *Poehlman*, Col. 5, Ins. 22-35. The first and second switches 61 and 71 respectively include solenoid coils 81 and 83 which, when energized, cause movement of the respective first and second switch members 65 and 79 from their biased positions to their respective positions in engagement with the energizing and holding terminal 63 and the holding terminal 77. *Poehlman*, Col. 5, Ins. 36-42.

In operation, when switching from liquid fuel to gaseous fuel, the operator actuates the electrical fuel selector switch 51 to the gaseous fuel position. *Poehlman*, Col. 6, Ins. 21-23. As a result, the liquid fuel control valve 43 is consequently deenergized and turns off the liquid fuel supply to the carburetor 15. *Poehlman*, Col. 6, Ins. 23-25. To change to liquid fuel from gaseous fuel, the operator actuates the electrical fuel selector switch 51 to the liquid fuel position. *Poehlman*, Col. 6, Ins. 43-45. Such movement energizes the liquid fuel control valve 53 to the open position. *Poehlman*, Col. 6, Ins. 45-46.

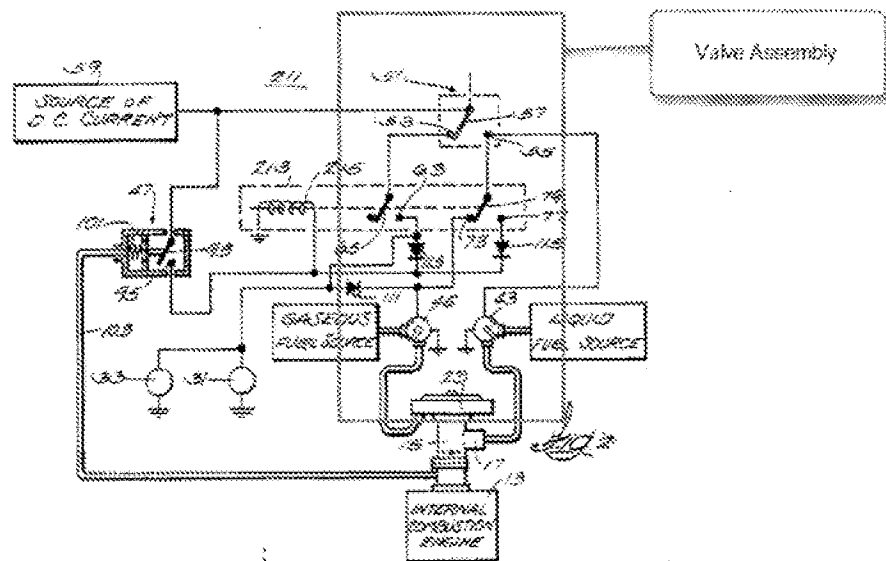
Claimed Elements

Claim 1 sets forth a fuel selector for use with a dual fuel generator. The fuel selector comprises two main components: (A) a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and (B) a selector switch positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow. As set forth in detail herebelow, *Poehlman* fails to disclose a fuel selector switch as called for in claim 1.

(A) “Valve Assembly”

First, Appellant disagrees with the Examiner’s interpretation of the claimed “valve assembly” in claim 1. That is, in rejecting claim 1, the Examiner has asserted that the claimed “valve assembly” is disclosed in *Poehlman* by the combination of “all the

components that are necessary (e.g. 51, 53, 55, 57, 43, 45, 65, 79, etc.) to switch from the different fuels... since the valve assembly is not defined further within the claims,” *Final Office Action*, supra at 11, such that selector switch 51 can be considered to be positioned on the valve assembly. *See id.* The Examiner included an annotated copy of FIG. 2 in Poehlman in support of this interpretation of the claimed “valve assembly” and the equivalent components disclosed in Poehlman, which is copied herein below:



ANNOTATED FIG. 2

Appellant disagrees with the Examiner’s interpretation of the claimed “valve assembly” and believes the Examiner’s identification of allegedly equivalent elements in Poehlman ignores the standard of a broadest reasonable interpretation of the claim language, ignores the clear teaching of the present claims/Specification, and distorts that which is disclosed in Poehlman. As set forth in MPEP §2111, “the meaning given to a claim term must be consistent with the ordinary and customary meaning of the term (unless the term has been given a special definition in the specification), and must be consistent with the use of the claim term in the specification and drawings” and “[t]he broadest reasonable interpretation does not mean the broadest possible interpretation.” In the present case, the Specification of the present application clearly illustrates and describes that the claimed “valve assembly” is comprised of one or more of first valve

assembly 24 and second valve assembly 26 – with the first valve assembly 24 including a first fuel valve handle 34 that is operatively connected to a first fuel valve 36 to control an opening and closing of the first fuel valve and the second valve assembly 26 including a second fuel valve handle 38 that is operatively connected to a second fuel valve 40 to control an opening and closing of the second fuel valve. *Specification*, ¶[0022]; FIG. 3.

In light of the above, the Examiner’s identification of fuel selector switch 51, gaseous fuel terminal 53, liquid fuel terminal 55, primary switch member 57, liquid fuel control valve 43, gaseous fuel control valve 45, first switch member 65 (as part of first switch means 61), and second switch member 79 (as part of second switch means 71) in Poehlman as collectively being a “valve assembly” is not consistent with the use of the term “valve assembly” in the specification and drawings, and thus is not a “broadest reasonable interpretation” of the term. That is, the Examiner’s inclusion of electrical switching members – i.e., first and second switch members 65, 79, as part of first and second switch means 61, 71 – in an alleged “valve assembly” is wholly inconsistent with a broadest reasonable interpretation of the claimed valve assembly. This identification by the Examiner of first and second switch members 65, 79 as part of a “valve assembly” appears to be nothing more than an attempt by the Examiner to identify components in Poehlman that are in proximity to fuel selector switch 51, so as to allow for an interpretation of the reference of the fuel selector switch 51 being positioned on the valve assembly. However, in interpreting the claimed “valve assembly” and the teachings of Poehlman in this manner, the Examiner has not set forth a broadest reasonable interpretation of the claim language as provided for under MPEP §2111.

Additionally, the Examiner’s interpretation of Poehlman has, in effect, rendered the electrical fuel selector switch 51 to comprise two separate and distinct structures called for in claim 1. That is, the Examiner asserted that the electrical fuel selector switch 51 forms both (1) part of a “valve assembly being **51**, 53, 55, 57, 43, 45, 65, 79, etc. altogether” and (2) a “fuel selector 51.” *Final Office Action*, supra at 5 (emphasis added). This is not what is called for in claim 1. Instead, claim 1 distinctly calls for a valve assembly and a selector switch as two separate and distinct elements/structures – with claim 1 clearly and separately defining each of these elements and setting forth a

relationship therebetween. These elements should not be confused with one another, as the Examiner has attempted to do. The Examiner has stretched and distorted the teachings of Poehlman in an attempt to satisfy the elements called for in claim 1 by asserting that an individual structure disclosed in Poehlman (i.e., fuel selector switch 51) discloses different, distinct elements of claim 1. Such a categorization of the electrical fuel selector switch 51 as being both a “selector switch” and part of a “valve assembly” distorts the teachings of Poehlman and ignores the requirement of MPEP §2143 that the Examiner “must provide a *reasoned explanation* as to why the invention as claimed would have been obvious to a person of ordinary skill in the art at the time of the invention.” (emphasis added) Instead, one skilled in the art would recognize that electrical fuel selector switch 51 is just that – an electrical switch – and is not part of a valve assembly as asserted by the Examiner. For this additional reason, the rejection of claim 1 as set forth by the Examiner is *per se* improper and cannot be sustained.

(B) “Fuel selector switch positioned on a valve assembly”

Poehlman also fails to disclose a fuel selector switch positioned on a valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow, as called for in claim 1. That is, Poehlman does not disclose that electrical fuel selector switch 51 is positioned on liquid fuel control valve 43 and/or gaseous fuel control valve 45 (i.e., the “valve assembly”) to allow a user to manually select one of the first fuel flow and the second fuel flow, as called for in claim 1. In fact, the schematic view of the control apparatus 11 provided in FIG. 1 of Poehlman illustrates that the fuel selector switch 51 is positioned distally from the liquid fuel control valve 43 and gaseous fuel control valve 45 on the control apparatus 11. Further, since Poehlman has two different control valves (43, 45), it is uncertain how the single electrical switch 51 could be on the valve assembly, or on which valve 43 or 45 it would be positioned. There is simply no disclosure in Poehlman to suggest such a finding. While the Examiner has asserted that the FIG. 1 of Poehlman is “just a schematic of the invention and the selector switch can still be considered as being on the valve assembly,” *Final Office Action*, supra

at 5, such an assertion is not supported by that which is shown and described in Poehlman. That is, there is simply no disclosure provided in Poehlman regarding the positioning of the electrical fuel selector switch 51 relative to the liquid fuel control valve 43 and gaseous fuel control valve 45 that would support the Examiner's position that the selector switch 51 can be considered as being "on" the fuel valves 43, 45. In fact, as the liquid fuel control valve 43 and gaseous fuel control valve 45 are "energized" and "deenergized" by use of the electrical selector switch 51 (i.e., electronically controlled) and not manually actuated by use of the selector switch, there is no teaching or suggestion that the selector switch 51 would necessarily be positioned on the fuel valves 43, 45.

Despite the Examiner's admission that "Poehlman is silent to disclose that the fuel selector is for use with a dual fuel generator and that the selector switch is positioned on the valve assembly," *Final Office Action*, supra at 5, the Examiner has alleged that the claim 1 is obvious over Poehlman because "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have the selector switch adjacent to the first and second fuel valves, since it has been held that rearranging parts of an invention involves only routine skill in the art." *Id.* However, with regard to the Examiner's reliance on a "rearrangement of parts" as a basis for the rejection, MPEP 2144.04 specifies that "[t]he mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims [] is not by itself sufficient to support a finding of obviousness" and that "[t]he prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." (citing *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984)). In the present case, the Examiner's suggestion to modify the system of Poehlman to have the electrical fuel selector switch positioned on the valve assembly (of the first and second fuel valves) is not a mere rearrangement of parts that would have been obvious to one skilled in the art based on a motivation or reason provided in the prior art, but instead the Examiner has improperly relied on the teaching of the present Specification as the basis for such rearrangement.

As set forth above, the system in Poehlman is directed to a control apparatus 11 for selectively operating an internal combustion engine 13 on a first or gaseous fuel and on a second or liquid fuel. *Poehlman*, Col. 3, lns. 25-27. A control means 41 is provided for a selective change-over between use of liquid fuel and gaseous fuel, with the control means 41 including a liquid fuel control valve 43 which is incorporated in a liquid fuel supply line 19 and a gaseous fuel control valve 45 which is incorporated in the gaseous fuel supply line 25. *Poehlman*, Col. 3, ln. 62 to Col. 4, ln. 6. The control means 41 also includes an electrical fuel selector switch 51 that energizes the liquid fuel control valve 43 when in a liquid fuel position (thereby opening the liquid fuel control valve 43) and separately energizes the gaseous fuel control valve 45 when in a gaseous fuel position (thereby opening the gaseous fuel control valve 45), via selective connection of a source 59 of DC power thereto. *Poehlman*, Col. 4, lns. 21-30 and Col. 5, lns. 1-6.

In light of the teachings of Poehlman, it would not be an obvious “rearrangement of parts” to have the selector switch adjacent/on to the first and second fuel valves 43, 45, as asserted by the Examiner. That is, as the electrical fuel selector switch 51 provides for the electronic control of valves 43, 45 via selective connection of a source 59 of DC power thereto by way of a gaseous fuel terminal 53 and a liquid fuel terminal 55 to a primary switch member 57 of electrical fuel selector switch 51, there would be no need or motivation to move the fuel selector switch 51 to a position on either valve 43 or valve 45. This is in contradiction to the present invention, wherein positioning of the selector switch on the valve assembly allows a user to manually select one of the first fuel flow and the second fuel flow. There is no manual selection of a first or second fuel flow in Poehlman because it relies on electronic control of valves 43, 45 via fuel selector switch 51. The Poehlman reference provides no “motivation or reason for the worker in the art, without the benefit of appellant’s specification, to make the necessary changes in the reference device,” as is necessary as a basis for a rejection under a “rearrangement of parts” rationale per MPEP 2144.04. In fact, logic would lead a skilled artisan to keep the electrical switch 51 away from the fuel sources for at least safety reasons. It is more likely than not that the Poehlman inventors intentionally placed the electrical switch 51 near the battery 59 and at a distance from valves 43, 45 to shield the switch contacts from

the fuel that flows through valves 43, 45. There is no motivation to move the electrical switch 51 on to either valve 43 or 45.

In light of all the above, one skilled in the art would recognize that it would not be a mere “rearrangement of parts” to modify the system of Poehlman to have the selector switch positioned on the first and second fuel valves, as alleged by the Examiner. Rather, such a proposed “rearrangement of parts” would be an entirely unnecessary modification to Poehlman for which – based solely on Poehlman – there would be no “motivation or reason for the worker in the art, without the hindsight benefit of appellant’s specification, to make the necessary changes in the reference device,” as required under MPEP 2144.04.

Conclusion

In light of all the above, Appellant believes that the Examiner has not met the *prima facie* burden required to support a rejection under 35 U.S.C. §103. Poehlman does not teach or suggest that which is called for in claim 1 regarding a fuel selector switch positioned on a valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow, nor would it be obvious to modify the system of Poehlman in the manner done so by the Examiner in order to achieve the claimed arrangement of the fuel selector switch and valve assembly. Appellant therefore respectfully requests reversal of the rejection of claim 1 along with the rejection of all claims dependent therefrom.

Claim 10

The Examiner rejected claim 10 under 35 U.S.C. §103 as being unpatentable over Poehlman. In setting forth the rejection of claim 10, the Examiner merely repeated the elements of claim 10 and asserted that Poehlman discloses those elements, with the Examiner further stating that Appellant should “[r]efer to rejections of claims 1-2 for further details since the limitations are similar” and that “[t]he only difference is the fuel valve handle which the Examiner interprets as reference number 51 of Poehlman.” *Final Office Action*, supra at 8. Appellant respectfully disagrees with the rejection of claim 10.

Poehlman fails to teach or suggest that which is called for in claim 10 regarding a fuel selector including at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine. Instead, as set forth above, Poehlman is directed to a control apparatus 11 for selectively operating an internal combustion engine 13 on a first or gaseous fuel and on a second or liquid fuel. *Poehlman*, Col. 3, lns. 25-27. A control means 41 is provided for a selective change-over between use of liquid fuel and gaseous fuel, with the control means 41 including a liquid fuel control valve 43 which is incorporated in a liquid fuel supply line 19 and a gaseous fuel control valve 45 which is incorporated in the gaseous fuel supply line 25. *Poehlman*, Col. 3, ln. 62 to Col. 4, ln. 6. The control means 41 also includes a fuel selector switch 51 that energizes the liquid fuel control valve 43 when in a liquid fuel position (thereby opening the liquid fuel control valve 43) and energizes the gaseous fuel control valve 45 when in a gaseous fuel position (thereby opening the gaseous fuel control valve 45), via selective connection of a source 59 of DC power thereto. *Poehlman*, Col. 4, lns. 21-30 and Col. 5, lns. 1-6.

Poehlman thus discloses a fuel selector switch 51 that provides for the electronic control of valves 43, 45 via selective energizing/deenergizing thereof – but provides **no** teaching or suggestion of a valve handle that is positioned on and operably connected to the valve assembly (valves 43, 45) to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine. That is, the feature of a “valve handle” is wholly absent from the teachings of Poehlman, as there is no valve handle included in the control apparatus 11 of Poehlman that is operably connected to the valves 43, 45 to actuate the valves.

In an attempt to stretch the teachings of Poehlman to read on claim 10, the Examiner has asserted that electrical fuel selector switch 51 in Poehlman discloses the claimed at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine. *See Final Office Action*, supra at 8. This identification of the electrical fuel selector switch 51 as a “valve handle” ignores the standard of a broadest reasonable interpretation of the claim language, ignores the clear teaching of the present

claims/Specification, and distorts that which is disclosed in Poehlman. That is, MPEP §2111 states that “the meaning given to a claim term must be consistent with the ordinary and customary meaning of the term (unless the term has been given a special definition in the specification), and must be consistent with the use of the claim term in the specification and drawings . . . [and] the broadest reasonable interpretation of the claims must be consistent with the interpretation that those skilled in the art would reach.” *MPEP § 2111* (citing *In re Cortright*, 165 F.3d 1353, 1359 (Fed. Circ. 1999)). “The plain meaning of a term means the ordinary and customary meaning given to the term by those of ordinary skill in the art at the time of the invention... [and] may be evidenced by a variety of sources, including the words of the claims themselves, the specification, drawings, and prior art.” “However, the best source for determining the meaning of a claim term is the specification - the greatest clarity is obtained when the specification serves as a glossary for the claim terms.” *MPEP § 2111.01* (citing *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)).

In the present case, a skilled artisan would readily recognize the term “handle” to mean “a part that is designed especially to be grasped by the hand.”¹ (attached as APPENDIX A). This plain meaning is consistent with the use of the term “handle” or “valve handle” as disclosed in the specification and drawings, with the specification disclosing that the valve handle(s) 34, 38 are movable between vertical and horizontal orientations/positions, *Specification*, ¶[0024], and the drawings clearly illustrating (e.g., FIG. 3) construction of these elements as handles that are “designed especially to be grasped by the hand,” consistent with the definition of the term handle.

When the at least one valve handle of claim 10 is given its proper broadest reasonable interpretation consistent with the requirements of MPEP § 2111 and MPEP § 2111.01, it is clear that Poehlman fails to teach or suggest that which is called for in claim 10. That is, as set forth above, fuel selector switch 51 is only disclosed as an electrical switch that may be positioned in a first or gaseous fuel position and a second or liquid fuel position in order to provide for the electronic control of valves 43, 45 via selective energizing/deenergizing thereof, *Poehlman*, Col. 4, lns. 16-31, but provides **no**

¹ See Merriam-Webster Online Dictionary, <https://www.merriam-webster.com/dictionary/handle>

teaching or suggestion that electrical fuel selector switch 51 is a valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine, as called for in claim 10. The Examiner's identification of electrical fuel selector switch 51, in Poehlman as being a "valve handle" is based solely on an improper interpretation of the claim language and thus the rejection of claim 10 is improper on its face and cannot be maintained.

Additionally, and as similarly set forth above with respect to claim 1, there is no teaching in Poehlman of positioning the alleged "valve handle" 51 on the valve assembly 43, 45. Instead, the schematic view of the control apparatus 11 provided in FIG. 1 of Poehlman illustrates that the fuel selector switch 51 is positioned distally from the liquid fuel control valve 43 and gaseous fuel control valve 45 on the control apparatus 11, with fuel selector switch 51 providing for electronic control of valves 43, 45. This is in contradiction to the present invention, wherein positioning of the at least one valve handle on the valve assembly allows a user to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine. Poehlman provides no motivation or reason for one skilled in the art to position the electrical switch 51 on the valve(s) 43, 45, as instead logic would lead a skilled artisan to keep the electrical switch 51 away from the fuel sources (adjacent fuel valves 43, 45) for at least safety reasons. It is more likely than not that the Poehlman inventors intentionally placed the electrical switch 51 near the battery 59 and at a distance from valves 43, 45 to shield the switch contacts from the fuel that flows through valves 43, 45. There is no motivation to move the electrical switch 51 on to either valve 43 or 45.

In light of all the above, Appellant believes that the Examiner has not met the *prima facie* burden required to support a rejection under 35 U.S.C. §103, as the Examiner has failed to "provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings establish a *prima facie* case of obviousness) is more probable than not." *MPEP* § 2142. There is simply no teaching provided in Poehlman of a fuel selector including at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine, as called for in claim 10.

Appellant therefore respectfully requests reversal of the rejection of claim 10 along with the rejection of all claims dependent therefrom.

Claim 18

The Examiner rejected claim 18 under 35 U.S.C. §103 as being unpatentable over Poehlman. In setting forth the rejection of claim 18, the Examiner asserted that Poehlman discloses “a selector switch (51),” “a solenoid switch (213) having open and closed positions,” and “a fuel solenoid (45) having open and closed positions,” “wherein, when the selector switch (51) is in the first fuel mode, the solenoid switch and the fuel solenoid are in the closed positions and when the selector switch is in the second fuel mode (when 57 contacts 53), the solenoid switch and the fuel solenoid are in the open positions.” *Final Office Action*, supra at 10. Appellant respectfully disagrees with the rejection of claim 18.

As set forth above, Poehlman is directed to a control apparatus 11 for selectively operating an internal combustion engine 13 on a first or gaseous fuel and on a second or liquid fuel. *Poehlman*, Col. 3, lns. 25-27. A control means 41 is provided for a selective change-over between use of liquid fuel and gaseous fuel, with the control means 41 including a liquid fuel control valve 43 which is incorporated in a liquid fuel supply line 19 and a gaseous fuel control valve 45 which is incorporated in the gaseous fuel supply line 25. *Poehlman*, Col. 3, ln. 62 to Col. 4, ln. 6. The control means 41 also includes a fuel selector switch 51 that energizes the liquid fuel control valve 43 when in a liquid fuel position (thereby opening the liquid fuel control valve 43) and energizes the gaseous fuel control valve 45 when in a gaseous fuel position (thereby opening the gaseous fuel control valve 45), via selective connection of a source 59 of DC power thereto. *Poehlman*, Col. 4, lns. 21-30 and Col. 5, lns. 1-6.

In one embodiment, a control apparatus 211 is provided that differs from control apparatus 11 by reason of the employment of a single double pole solenoid switch 213 in lieu of the solenoid switches 61 and 71 shown in FIG. 1. *Poehlman*, Col. 7, lns. 31-36. The switch 213 includes a single solenoid coil 215 which is electrically connected to the terminal 95 of the vacuum switch 47. *Poehlman*, Col. 7, lns. 36-38. The solenoid switch

213 controls a first switch member 65 which is movable relative to an energizing terminal 63 and a second switch member 79 which is movable between a terminal 73 connected to the gaseous fuel control valve 45 and a holding terminal 77. *Poehlman*, Col. 7, Ins. 39-43. The switch members 65 and 79 have common movement and are suitably biased by means (not shown) for movement of the switch member 65 away from the terminal 63 and for movement of the switch member 79 away from the terminal 77. *Poehlman*, Col. 7, Ins. 43-48.

Contrary to the Examiner's assertion, *Poehlman* does not disclose that when the fuel selector switch 51 is in the first fuel mode, the solenoid switch 213 and the "fuel solenoid 45" (i.e., gaseous fuel control valve 45) are in the closed positions and when the fuel selector switch 51 is in the second fuel mode, the solenoid switch 213 and the fuel solenoid 45 are in the open positions, as called for in claim 18. Instead, the gaseous fuel control valve 45 in *Poehlman* operates (at least in part) via vacuum switch 47 and based on the strength/level of a vacuum in the inlet manifold instead of solely based on the positioning/actuation of selector switch 51. *See Poehlman*, Col. 6, Ins. 21-43 and Col. 7, Ins. 39-61. For example, when switching from liquid fuel to gaseous fuel, the operator moves the fuel selector switch 51 to the gaseous fuel position to cause the liquid fuel control valve 43 to turn off the liquid fuel supply to the carburetor 15. *See Poehlman*, Col. 6, Ins. 21-43. However, the engine continues to run on the liquid fuel in the carburetor bowl 17 and the inlet manifold vacuum remains above the predetermined level of the vacuum switch 47 until the engine begins to run out of the liquid fuel in the fuel bowl 17. *See id.* The vacuum then drops to an amount less than or below the predetermined level thereby closing the vacuum switch 47 which energizes the solenoid coil 215 to displace the first switch member 65 to the terminal 63, thereby energizing the gaseous fuel control valve 45 to the open position. *See id.*

Poehlman thus teaches that – when switching from liquid fuel to gaseous fuel, with fuel selector switch 51 in a "second fuel mode" - the energizing of gaseous fuel control valve 45 (causing the valve 45 to open) is based on the vacuum in the inlet manifold dropping to an amount less than or below a predetermined level that causes the vacuum switch 47 to close, thereby energizing the solenoid coil 215 to displace the first

switch member 65 to the terminal 63, thereby energizing the gaseous fuel control valve 45 to the open position. Simply positioning the fuel selector switch 51 in a “second fuel mode” does not cause the gaseous fuel control valve 45 to be in the open position, as called for in claim 18, but instead the gaseous fuel control valve 45 is not energized to the open position until vacuum switch 47 closes – which occurs at some time later than positioning of the fuel selector switch 51 in the “second fuel mode.” The Examiner thus has not shown that when the fuel selector switch 51 is in the second fuel mode, the solenoid switch 213 and the gaseous fuel control valve 45 are in the open positions, as called for in claim 18.

In light of at least the above, Appellant believes that the Examiner has not met the *prima facie* burden required to support a rejection under 35 U.S.C. §103. Appellant therefore respectfully requests reversal of the rejection of claim 18 along with the rejection of all claims dependent therefrom.

Claim 3

The Examiner rejected dependent claim 3 under 35 U.S.C. §103 as being unpatentable over Poehlman.

In setting forth the rejection, the Examiner asserted that Poehlman discloses “wherein the selector switch (51) provides for manual actuation of the first fuel valve (45) and the second fuel valve (43) between the open and closed positions,” because “an operator can control selector switch (57) and that it directly affects the opening or closing of the fuel valves.” *Final Office Action*, supra at 7. Appellant disagrees with the rejection.

Poehlman fails to teach or suggest the limitation in claim 3 of the selector switch providing for manual actuation of the first fuel valve and the second fuel valve between the open and closed positions. That is, Poehlman does not employ a manual actuation of the liquid fuel control valve 43 and gaseous fuel control valve 45, but instead discloses that the liquid fuel control valve 43 and gaseous fuel control valve 45 are “energized” and “deenergized” to actuate the valves and provide for selective flows of the liquid and gaseous fluids. *Poehlman*, Col. 4, lns. 21-30. This electronic control of valves 43, 45 via

selective connection of a source 59 of DC power thereto by way of a gaseous fuel terminal 53 and a liquid fuel terminal 55 to a primary switch member 57 of fuel selector switch 51 is not a “manual actuation of the first fuel valve and the second fuel valve between the open and closed positions” as called for in claim 3, but instead is an electronic actuation of the valves 43, 45 via the energizing and deenergizing thereof.

To the extent that Poehlman discloses any sort of “manual actuation” as asserted by the Examiner, the manual actuation would be limited to a manual actuation of the fuel selector switch 51 between a first or gaseous fuel position and a second or liquid fuel position. *Poehlman*, Col. 4, Ins. 16-20. The actual actuation of valves 43, 45 is explicitly described in Poehlman as being responsive to “energizing” and “deenergizing” thereof via selective connection of a source 59 of DC power thereto. One skilled in the art would recognize that this “energizing” and “deenergizing” of valves 43, 45 to control opening and closing thereof is not a “manual actuation” as called for in claim 3.

For at least these reasons, claim 3 is patentably distinct over the teachings of Poehlman. Therefore, Appellant requests reversal of the rejection of claim 3 under 35 U.S.C. §103.

Claim 4

The Examiner rejected dependent claim 4 under 35 U.S.C. §103 as being unpatentable over Poehlman.

Claim 4 calls for a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve and a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, wherein the selector switch is positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time.

In setting forth the rejection, the Examiner asserted that Poehlman discloses “a first valve handle (57)” and “a second valve handle (79),” stating that “switches 57 and 79 can be regarded as the ‘handles’ since they actuate between an ON position and an

OFF position” and that “[t]he definition of a handle is the part by which a thing is held, carried, or controlled.” *Final Office Action*, supra at 7-8. Appellant disagrees with the rejection. Specifically, the feature of a “valve handle” is wholly absent from the teachings of Poehlman, as there is no valve handle included in the control apparatus 11 of Poehlman that is operably connected to the valves 43, 45 to actuate the valves. While the Examiner has asserted that the primary switch member 57 and second switch member 79 in Poehlman disclose the claimed first and second valve handles actuatable between an ON position and an OFF position to selectively open and close the first and second fuel valves, this identification of primary switch member 57 and second switch member 79 as “valve handles” ignores the standard of a broadest reasonable interpretation of the claim language and distorts that which is disclosed in Poehlman.

As set forth above with respect to claim 10, a skilled artisan would readily recognize the term “handle” to mean “a part that is designed especially to be grasped by the hand.”² (attached as APPENDIX A). This definition is consistent with the use of the term “handle” or “valve handle” as disclosed in the specification and drawings, with the specification disclosing that the valve handle(s) 34, 38 are movable between vertical and horizontal orientations/positions, *Specification*, ¶[0024], and the drawings (e.g., FIG. 3) clearly illustrating construction of these elements as handles that are “designed especially to be grasped by the hand,” consistent with the definition of the term handle. Accordingly, the Examiner’s identification of primary switch member 57 and second switch member 79 in Poehlman as being “valve handles” is *not* consistent with the ordinary and customary meaning of the term “handle” and also is not consistent with the use of “valve handle” in the specification and drawings. A review of FIG. 2 in Poehlman makes clear that primary switch member 57 and second switch member 79 are electrical contacts included within switching/control units in Poehlman, and one skilled in the art would readily recognize that such electrical contacts 57, 79 would not be considered “valve handles” when this term is given its broadest reasonable interpretation consistent with the plain meaning thereof and/or when interpreted in light of the Specification, as provided for under MPEP §2111.

² See Merriam-Webster Online Dictionary, <https://www.merriam-webster.com/dictionary/handle>

The Examiner's attempt to characterize primary switch member 57 and second switch member 79 as "valve handles" appears to be a belated attempt to improperly stretch the teachings of Poehlman to read on the present claims – and is in direct contradiction to the Examiner's previous position/admission that Poehlman is "silent to disclose that the first and second fuel valves have handles," but that "[i]t would have been an obvious matter of design choice to provide the fuel valves with handles for operator actuation, since applicant has not disclosed that such handles for fuel valves solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well if not better with energized actuation of the fuel valves instead of an operator turning the handles." *Office Action*, January 5, 2018, p. 6-7. Accordingly, it is clear that the Examiner is distorting the teachings of Poehlman to read on the present claims and that, in fact, there is no teaching or suggestion in Poehlman of first and second valve handles coupled to the first and second fuel valves and actuatable between an ON position and an OFF position to selectively open and close the first and second fuel valves.

For at least these reasons set forth above, claim 4 is patentably distinct over the teachings of Poehlman. Therefore, Appellant requests reversal of the rejection of claim 4 under 35 U.S.C. §103.

Claim 19

The Examiner rejected claim dependent claim 19 under 35 U.S.C. §103 as being unpatentable over Poehlman. In setting forth the rejection, the Examiner asserted that Poehlman discloses "wherein the selector switch triggers the solenoid switch when changed from the second fuel mode to the first fuel mode, so as to cause the solenoid switch and the fuel solenoid to operate in the closed positions. Shown in figure 2." *Final Office Action*, supra at 10. Appellant respectfully disagrees with the rejection.

Contrary to the position set forth by the Examiner, fuel selector switch 51 does not trigger the solenoid switch 213 when changed from the second fuel mode to the first fuel mode, so as to cause the solenoid switch and the fuel solenoid to operate in the closed positions. Instead, Poehlman discloses that solenoid switch 213 includes a single

solenoid coil 215 which is electrically connected to the terminal 95 of the vacuum switch 47. *Poehlman*, Col. 7, lns. 36-38. Engine 13 operation on gaseous fuel is engaged by vacuum switch 47 energizing the solenoid switch 213 to displace first switch member 65 energizing gaseous fuel control valve 45 to the open position, while engine 13 operation on gaseous fuel is disengaged by vacuum switch 47 energizing the solenoid switch 213 to shift second switch member 79 deenergizing gaseous fuel control valve 45 to the closed position. *Poehlman*, Col. 7, lns. 39-61. Simply changing the fuel selector switch 51 from a second fuel mode to a first fuel mode does not trigger the solenoid switch 213, so as to cause the solenoid switch 213 and the fuel solenoid 45 to operate in the closed positions, as called for in claim 19, but instead the solenoid switch 213 (i.e., solenoid coil 215) and gaseous fuel control valve 45 are triggered/energized based upon the operation/positioning of vacuum switch 47. The Examiner thus has not shown that the selector switch 51 triggers the solenoid switch 213 when changed from the second fuel mode to the first fuel mode, so as to cause the solenoid switch 213 and the fuel solenoid 45 to operate in the closed positions, as called for in claim 19.

In light of at least the above, claim 19 is patentably distinct over the teachings of *Poehlman*. Therefore, Appellant requests reversal of the rejection of claim 19 under 35 U.S.C. §103.

Double Patenting Rejection

Claims 1-20

The Examiner rejected claims 1-20 on the ground of nonstatutory double patenting as being unpatentable over claims 1-20 of U.S. Patent 9,435,273. With respect to the pending nonstatutory double patenting rejection, Appellant notes that the double patenting rejection is not the only remaining rejection in the present application. The Examiner has also applied a rejection under 35 U.S.C. §103 in the current Office Action. Appellant has thus previously requested that the double patenting rejection be held in abeyance pending resolution of the other rejections.

5. **CONCLUSION**

For at least the reasons set forth above, that which is called for in claims 1-20 is not taught or suggested in the art of record or a combination thereof. As such, Appellant believes that claims 1-20, and claims which depend therefrom, are patentably distinct over the art of record.

Appellant appreciates the Board's consideration of these Remarks and respectfully requests timely issuance of a Notice of Allowance.

Respectfully submitted,

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Dated: March 8, 2019
Attorney Docket No.: CET1090.046

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CLAIMS APPENDIX

1. (Original) A fuel selector for use with a dual fuel generator, the fuel selector comprising:

a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

a selector switch positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow.

2. (Original) The fuel selector of claim 1 wherein the valve assembly comprises:

a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and

a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine.

3. (Original) The fuel selector of claim 2 wherein the selector switch provides for manual actuation of the first fuel valve and the second fuel valve between the open and closed positions.

4. (Original) The fuel selector of claim 3 further comprising:

a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively;

a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively;

wherein the selector switch is positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time.

5. (Original) The fuel selector of claim 4 further comprising a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time.

6. (Original) The fuel selector of claim 5 wherein, when the selector switch is in the first position, the first valve handle is actuatable between the ON position and the OFF position and the second valve handle is prohibited from being in the ON position; and

wherein, when the selector switch is in the second position, the first valve handle is prohibited from being in the ON position and the second valve handle is actuatable between the ON position and the OFF position.

7. (Original) The fuel selector of claim 5 further comprising a carburetor solenoid switch coupled to the selector plate adjacent and extending out of a front surface thereof, the carburetor solenoid switch comprising a depressible switch configured to activate an associated solenoid when depressed.

8. (Original) The fuel selector of claim 7 wherein when the selector switch is in the first position so as to prohibit the second valve handle from being in the ON position, the selector switch depresses the carburetor solenoid switch, so as to activate the carburetor solenoid and stop the flow of the gasoline fuel source.

9. (Original) The fuel selector of claim 2 wherein the first fuel valve is attached to a liquefied petroleum gas (LPG) fuel source and wherein the second fuel valve is attached to a gasoline source.

10. (Original) A fuel selector for use with a dual fuel generator, the fuel selector comprising:

a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine.

11. (Original) The fuel selector of claim 10 wherein the at least one valve handle enables only one of the first fuel flow and the second fuel flow to the engine at a given time.

12. (Original) The fuel selector of claim 10 wherein the valve assembly comprises:

a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and

a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine.

13. (Original) The fuel selector of claim 12 wherein the at least one valve handle comprises:

a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively;

a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively.

14. (Original) The fuel selector of claim 13 further comprising a selector switch positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time.

15. (Original) The fuel selector of claim 14 further comprising a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time.

16. (Original) The fuel selector of claim 15 wherein, when the selector switch is in the first position, the first valve handle is actuatable between the ON position and the OFF position and the second valve handle is prohibited from being in the ON position; and

wherein, when the selector switch is in the second position, the first valve handle is prohibited from being in the ON position and the second valve handle is actuatable between the ON position and the OFF position.

17. (Original) The fuel selector of claim 10 wherein the first fuel source comprises liquefied petroleum gas (LPG) and the second fuel source comprises gasoline.

18. (Previously Presented) A fuel selector of a dual fuel generator comprising:

a selector switch having a first fuel mode and a second fuel mode;

a solenoid switch having open and closed positions; and

a fuel solenoid having open and closed positions;

wherein, when the selector switch is in the first fuel mode, the solenoid switch and the fuel solenoid are in the closed positions and when the selector switch is in the second fuel mode, the solenoid switch and the fuel solenoid are in the open positions.

19. (Previously Presented) The fuel selector of claim 18 wherein the selector switch triggers the solenoid switch when changed from the second fuel mode to the first fuel mode, so as to cause the solenoid switch and the fuel solenoid to operate in the closed positions.

20. (Previously Presented) The fuel selector of claim 18 further comprising:
a valve assembly positioned on or adjacent the selector switch and fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

wherein positioning of the selector switch in the first fuel mode and the second fuel mode enables a selection of one of the first fuel flow and the second fuel flow.

EVIDENCE APPENDIX:

APPENDIX A

RELATED PROCEEDINGS APPENDIX:

-- None --

- GAMES
- THESAURUS
- WORD OF THE DAY
- VIDEO
- WORDS AT PLAY
- FAVORITES

Follow:

handle

noun

han·dle | \ 'han-dəl  \

Definition of *handle*

(Entry 1 of 2)

1 : a part that is designed especially to be grasped by the hand

2 : something that resembles a handle

3a : title sense 4 a royal handle

b : name also : nickname went by his childhood handle

4 : hand sense 11c the smooth handle of silk

5 : the total amount of money bet on a race, game, or event

6 : a means of understanding or controlling can't quite get a handle on things

off the handle

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) CET1090.046
Application Number 15/015,205	Filed 2/4/2016	
For DUAL FUEL SELECTOR SWITCH		
Art Unit 3747	Examiner Syed O. Hasan	

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee	
☐ One month (37 CFR 1.17(a)(1))	\$ 200	\$ 100	\$ 50	\$ _____
☒ Two months (37 CFR 1.17(a)(2))	\$ 600	\$ 300	\$ 150	\$ <u>300</u>
☐ Three months (37 CFR 1.17(a)(3))	\$ 1400	\$ 700	\$ 350	\$ _____
☐ Four months (37 CFR 1.17(a)(4))	\$ 2200	\$ 1100	\$ 550	\$ _____
☐ Five months (37 CFR 1.17(a)(5))	\$ 3000	\$ 1500	\$ 750	\$ _____

☒ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number ____.

☒ Payment made via EFS-Web.

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.

I am the

☐ applicant.

☒ attorney or agent of record. Registration Number 55584.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Kevin R. Rosin/

Signature

Kevin R. Rosin

Typed or printed name

March 8, 2019

Date

(262) 268-8100

Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. 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 1.136(a). 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 6 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:	15015205			
Filing Date:	04-Feb-2016			
Title of Invention:	DUAL FUEL SELECTOR SWITCH			
First Named Inventor/Applicant Name:	Mark J. Sarder			
Filer:	Kevin Roger Rosin./Robyn Templin			
Attorney Docket Number:	CET1090.046			
Filed as Small 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 - 2 months with \$0 paid	2252	1	300	300
Miscellaneous:				
Total in USD (\$)				300

Electronic Acknowledgement Receipt

EFS ID:	35369656
Application Number:	15015205
International Application Number:	
Confirmation Number:	1852
Title of Invention:	DUAL FUEL SELECTOR SWITCH
First Named Inventor/Applicant Name:	Mark J. Sarder
Customer Number:	26629
Filer:	Kevin Roger Rosin./Robyn Templin
Filer Authorized By:	Kevin Roger Rosin.
Attorney Docket Number:	CET1090.046
Receipt Date:	08-MAR-2019
Filing Date:	04-FEB-2016
Time Stamp:	16:12:32
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 300
RAM confirmation Number	031119INTEFSW16132000
Deposit Account	
Authorized User	

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

Petitioner Ex 1028 205

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Appeal Brief Filed	AppealBrief.pdf	454822	no	31
			26c3bf0e918605292ead54474a805c9b3f2f4211		
Warnings:					
Information:					
2	Extension of Time	PetForExt.pdf	96756	no	1
			a474ca1270d3553e02ccd3d25994d7da29b8e40		
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30523	no	2
			a4275280d8d7e2dd6d728adc4f2eb6a200a62ee8		
Warnings:					
Information:					
Total Files Size (in bytes):			582101		
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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NOTICE OF APPEAL FROM THE EXAMINER TO THE PATENT TRIAL AND APPEAL BOARD		Docket Number (Optional) CET1090.046				
I hereby certify that this correspondence is being facsimile transmitted to the USPTO, EFS-Web transmitted to the USPTO, or deposited with the United States Postal Service with sufficient postage in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] On <u>November 8, 2018</u> Signature <u>/Robyn L. Templin/</u> Typed or printed name <u>Robyn L. Templin</u>		In re Application of <u>Sarder et al.</u> <table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="padding: 2px;">Application Number 15/015,205</td><td style="padding: 2px;">Filed 2/4/2016</td></tr></table> For <u>DUAL FUEL SELECTOR SWITCH</u> <table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="padding: 2px;">Art Unit 3747</td><td style="padding: 2px;">Examiner Syed O. Hasan</td></tr></table>	Application Number 15/015,205	Filed 2/4/2016	Art Unit 3747	Examiner Syed O. Hasan
Application Number 15/015,205	Filed 2/4/2016					
Art Unit 3747	Examiner Syed O. Hasan					
Applicant hereby appeals to the Patent Trial and Appeal Board from the last decision of the examiner. The fee for this Notice of Appeal is (37 CFR 41.20(b)(1)) \$ <u>800.00</u> ☒ Applicant asserts small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by 50%, and the resulting fee is: \$ <u>400.00</u> ☐ Applicant certifies micro entity status. See 37 CFR 1.29. Therefore, the fee shown above is reduced by 75%, and the resulting fee is: \$ _____ Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously. ☐ A check in the amount of the fee is enclosed. ☐ Payment by credit card. Form PTO-2038 is attached. ☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment To Deposit Account No. _____. ☒ Payment made via EFS-Web. ☐ A petition for an extension of time under 37 CFR 1.136(a) (PTO/AIA/22 or equivalent) is enclosed. For extensions of time in reexamination proceedings, see 37 CFR 1.550. 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. I am the ☐ applicant ☒ attorney or agent of record ☐ attorney or agent acting under 37 CFR 1.34 Registration number <u>55584</u> Registration number _____ Signature <u>/Kevin R. Rosin/</u> Typed or printed name <u>Kevin R. Rosin</u> Telephone number <u>(262) 268-8100</u> Date <u>November 8, 2018</u> NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.						
☒ * Total of <u>1</u> forms are submitted.						

This collection of information is required by 37 CFR 41.20(b)(1) and 41.31. 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, 1.14 and 41.6. 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 450, 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:	15015205			
Filing Date:	04-Feb-2016			
Title of Invention:	DUAL FUEL SELECTOR SWITCH			
First Named Inventor/Applicant Name:	Mark J. Sarder			
Filer:	Kevin Roger Rosin./Robyn Templin			
Attorney Docket Number:	CET1090.046			
Filed as Small 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:				
NOTICE OF APPEAL	2401	1	400	400
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				400

Electronic Acknowledgement Receipt

EFS ID:	34254893
Application Number:	15015205
International Application Number:	
Confirmation Number:	1852
Title of Invention:	DUAL FUEL SELECTOR SWITCH
First Named Inventor/Applicant Name:	Mark J. Sarder
Customer Number:	26629
Filer:	Kevin Roger Rosin./Robyn Templin
Filer Authorized By:	Kevin Roger Rosin.
Attorney Docket Number:	CET1090.046
Receipt Date:	08-NOV-2018
Filing Date:	04-FEB-2016
Time Stamp:	16:51:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 400
RAM confirmation Number	110918INTEFSW16521400
Deposit Account	
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The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Petitioner Ex 1028 210

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Notice of Appeal Filed	NoticeOfAppeal.pdf	111929	no	1
			36fef77f949b1c443619071ec19c1c459fb8394d		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30234	no	2
			ffd74b7de3ba60e1c2484f404ed8daa4ee61f3a8		
Warnings:					
Information:					
Total Files Size (in bytes):			142163		
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/015,205	02/04/2016	Mark J. Sarder	CET1090.046	1852

26629 7590 08/09/2018
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ZPS)
136 S WISCONSIN ST
PORT WASHINGTON, WI 53074

EXAMINER

HASAN, SYED O

ART UNIT	PAPER NUMBER

3747

NOTIFICATION DATE	DELIVERY MODE

08/09/2018

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):

info@zpspatents.com
sml@zpspatents.com

Office Action Summary	Application No. 15/015,205	Applicant(s) SARDER ET AL.	
	Examiner SYED O. HASAN	Art Unit 3747	AIA (First Inventor to File) Status Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/5/2018.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ 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.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-20 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☐ Claim(s) 1-4,9-14 and 17-20 is/are rejected.
- 8) ☐ Claim(s) 5-8,15 and 16 is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, 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.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 2/4/2016 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ 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)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. ____.
2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date ____.	4) ☐ Other: ____.

DETAILED ACTION

1. This action is in response to applicant's amendment received on 4/5/2018. No claims are amended and the following new grounds of rejection below are formulated.

Double Patenting

2. Claims 1-20 of this application is patentably indistinct from claims 1-11 of Application No. 14069747. Pursuant to 37 CFR 1.78(f), when two or more applications filed by the same applicant contain patentably indistinct claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the patentably indistinct claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

3. 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 §§ 706.02(l)(1) - 706.02(l)(3) 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. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

4. Claims 1-20 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 9,435,273. Although the claims at

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issue are not identical, they are not patentably distinct from each other because the limitations are similar.

5. Claims 1-20 are rejected on the ground of nonstatutory double patenting over claims 1-11 of U.S. Patent No. 9,435,273 since the claims, if allowed, would improperly extend the “right to exclude” already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

6. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

7. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having

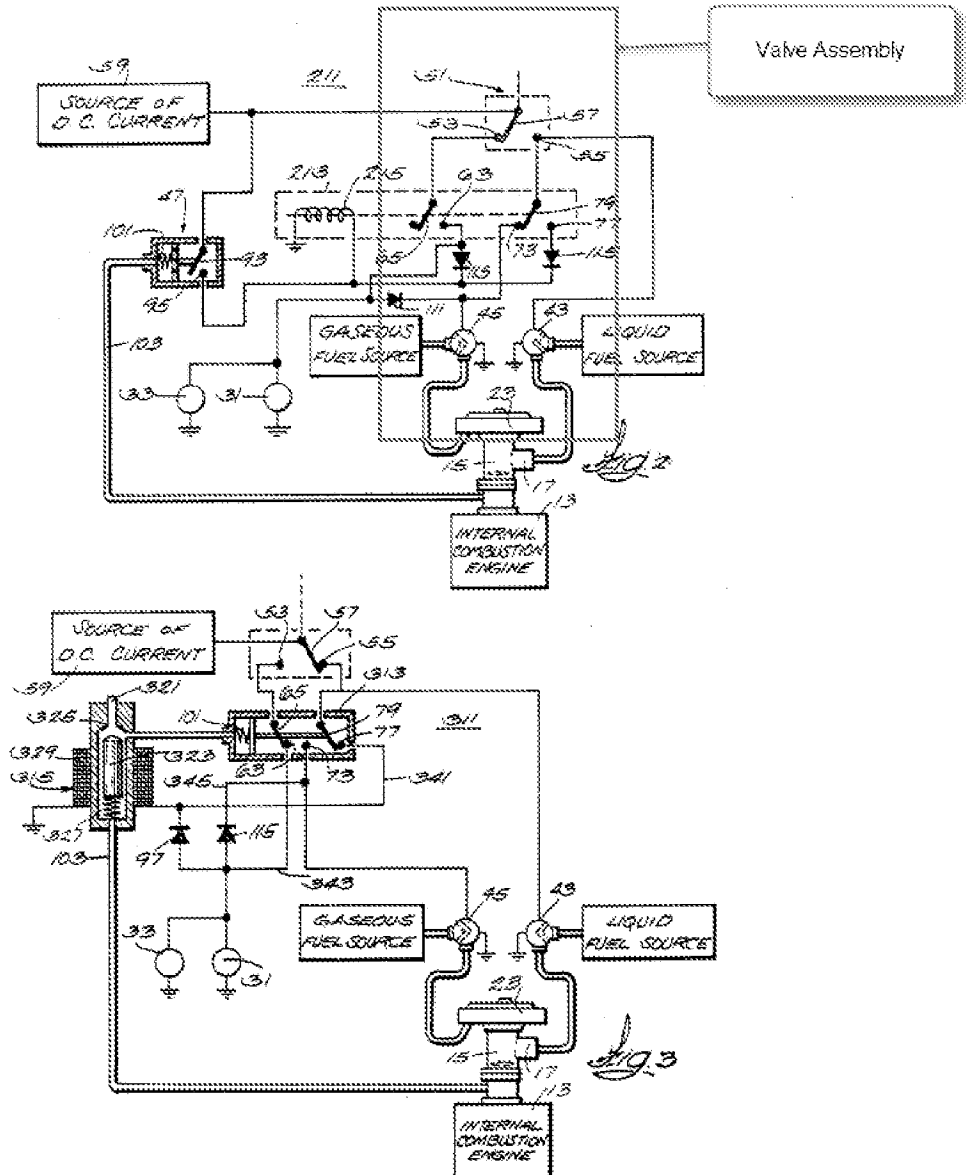
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ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4, 9-14, and 17-20 is/are rejected under 35 U.S.C. 103 as being unpatentable over Poehlman (U.S. Patent Number 4,489,699), hereinafter "Poehlman".

Regarding claim 1, Poehlman discloses the same invention substantially as claimed such as a fuel selector (51), the fuel selector comprising: a valve assembly (shown in figure below with the whole valve assembly being 51, 53, 55, 57, 43, 45, 65, 79, etc. altogether) fluidly connected to each of a first fuel source (27, fuel associated with 25) and a second fuel source (21, fuel associated with 19, column 4, lines 31-40), the valve assembly being operable to selectively control a first fuel flow (flow associated with 25) and a second fuel flow (flow associated within 19) from the first fuel source and the second fuel source (column 5, lines 22-35), respectively, to an engine of the dual fuel system; and a selector switch (57) to allow a user to manually select one of the first fuel flow and the second fuel flow (column 4, lines 31-40), but is silent to disclose that the fuel selector is for use with a dual fuel generator and that the selector switch is positioned on the valve assembly. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the selector switch adjacent to the first and second fuel valves, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70. Examiner notes that Poehlman shows in figure 1 just a schematic of the invention and the selector switch can still be considered as being on the valve assembly. Lastly, Examiner notes that an operator can control selector switch (51) and that it directly affects the opening or closing of the fuel valves.

U.S. Patent Dec. 25, 1984 Sheet 2 of 3 4,489,699



Poehlman discloses the same invention substantially as claimed except for the system being used in particular for a generator. However, the examiner takes Official Notice that it is well known in the art that dual fuel systems are used in a generator for

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the purpose of allowing for the generator to operate on multiple fuels to supply electrical power. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Poehlman to incorporate the system to be used within a generator for the purpose of allowing the dual fuel system to supply power to a generator to provide electrical power.

Regarding claim 2, Poehlman discloses the fuel selector of claim 1 wherein the valve assembly comprises: a first fuel valve (45) having open and closed positions to selectively control the first fuel flow to the engine; and a second fuel valve (43) having open and closed positions to selectively control the second fuel flow to the engine (column 4, lines 21-30).

Regarding claim 3, Poehlman discloses the fuel selector of claim 2 wherein the selector switch (51) provides for manual actuation of the first fuel valve (45) and the second fuel valve (43) between the open and closed positions. Examiner notes that an operator can control selector switch (57) and that it directly affects the opening or closing of the fuel valves.

Regarding claim 4, Poehlman discloses the fuel selector of claim 3 further comprising: a first valve handle (57) coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively; a second valve handle (79) coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively; wherein the selector switch is positioned relative to the first and second valve handles so as to provide for only one of the first and second

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valve handles to be in the ON position at a given time. Examiner notes that claim 4 does not require the user to actuate the fuel valve handles of the fuel valves. Therefore, switches 57 and 79 can be regarded as the “handles” since they actuate between an ON position and an OFF position. The definition of a handle is the part by which a thing is held, carried, or controlled. The switches are controlled by the switch 51 and the fuel valve handles (57 and 79) are all “connected” to the fuel valves since all components are connected to each other when an engine is fully assembled.

Regarding claim 9, Poehlman discloses the fuel selector of claim 2, wherein the first fuel valve assembly (45) is attached to a liquefied petroleum gas (LPG) fuel source (natural gas, 27); and wherein the second fuel valve assembly (43) is attached to a gasoline source (21, column 3, lines 25-36).

Regarding claim 10, Poehlman discloses a fuel selector for use with a dual fuel generator, the fuel selector comprising: a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine. **Refer to rejections of claims 1-2 for further details since the limitations are similar.** The only difference is the fuel valve handle which Examiner interprets as reference number 51 of Poehlman.

Regarding claim 11, Poehlman discloses the fuel selector of claim 10 wherein the at least one valve handle enables only one of the first fuel flow and the second fuel flow to the engine at a given time. **Refer to rejection of claim 4 for further details since the limitations are similar.**

Regarding claim 12, Poehlman discloses the fuel selector of claim 10 wherein the valve assembly comprises: a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine. **Refer to rejections of claims 1 and 4 for further details since the limitations are similar.**

Regarding claim 13, Poehlman discloses the fuel selector of claim 12 wherein the at least one valve handle comprises: a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively; a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively. **Refer to rejections of claim 1 and 4 for further details since the limitations are similar.**

Regarding claim 14, Poehlman discloses the fuel selector of claim 13 further comprising a selector switch positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time. **Refer to rejection of claim 4 for further details since the limitations are similar.**

Regarding claim 17, Poehlman discloses the fuel selector of claim 10 wherein the first fuel source comprises liquefied petroleum gas (LPG) and the second fuel source comprises gasoline. **Refer to rejection of claim 9 for further details since the limitations are similar.**

Regarding claim 18, Poehlman discloses a fuel selector of a dual fuel generator comprising: a selector switch (51) having a first fuel mode (mode when 57 contacts 55) and a second fuel mode (mode when 57 contacts 53); a solenoid switch (213) having open and closed positions; and a fuel solenoid (45) having open (when fuel flows through) and closed positions (when fuel flow is stopped); wherein, when the selector switch (51) is in the first fuel mode, the solenoid switch and the fuel solenoid are in the closed positions and when the selector switch is in the second fuel mode (when 57 contacts 53), the solenoid switch and the fuel solenoid are in the open positions (Poehlman allows for this to happen). Examiner notes that the claim does not mention as to what the solenoid switch is for. The specification of the present invention states that the solenoid switch (32) is for fuel cut-off to the carburetor. This limitation should be mentioned within the claim so that Examiner does not interpret as broad as above. The fuel valve (45) can be a solenoid operated valve.

Regarding claim 19, Poehlman discloses the fuel selector of claim 18 wherein the selector switch triggers the solenoid switch when changed from the second fuel mode to the first fuel mode, so as to cause the solenoid switch and the fuel solenoid to operate in the closed positions. Shown in figure 2.

Regarding claim 20, Poehlman discloses the fuel selector of claim 18 further comprising: a valve assembly positioned on or adjacent the selector switch and fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and wherein positioning of the selector switch in the first fuel mode and the second fuel mode enables a selection of one of the first fuel flow and the second fuel flow. **Refer to rejections of claims 1-4 for further details since the limitations are similar.**

Response to Arguments

9. Applicant's arguments filed 4/5/2018 have been fully considered but they are not persuasive. Applicant argues that Poehlman doesn't teach the fuel selector switch as being positioned on the valve assembly. However, as shown in figure above, examiner regards all the components that are necessary (e.g. 51, 53, 57, 55, 65, 43, 45, 79, etc.) to switch from the different fuels as the "valve assembly" since the valve assembly is not defined further within the claims.

Applicant argues that Poehlman does not teach a user to manually select one of the first fuel flow or the second fuel flow and that Poehlman teaches the fuel control valve to be energized or de-energized. However, examiner notes that the claim does not specify that the manual operation must be done explicitly on the valve. Poehlman recites that a user doe select which fuel to choose and does so by flipping a switch handle (51, column 6, lines 43-52). Due to this flip of the switch, the user manually

operates which fuel to provide. This flip of the switch allows for direct opening and closing of valves 43 and 45. Claims should explicitly recite that the manual operation is done specifically on the fuel valve itself.

Applicant argues that it would not be obvious to provide fuel valve handles for the fuel control valves of Poehlman. Examiner regards (57) as the first fuel valve handle and (79) as the second valve handle. Examiner notes that claim 4 does not require the user to actuate the fuel valve handles of the fuel valves. Therefore, switches 57 and 79 can be regarded as the “handles” since they actuate between an ON position and an OFF position. The definition of a handle is the part by which a thing is held, carried, or controlled. The switches are controlled by the switch 51 and the fuel valve handles (57 and 79) are all “connected” to the fuel valves since all components are connected to each other when an engine is fully assembled.

Applicant argues that with regards to claims 10 and 18, the examiner refers to the rejections of previous claims when claims 10 and 18 contain additional features. These features are addressed within claims 10 and 18 in further detail above.

Applicant argues with regards to claim 18 that Poehlman does not teach a fuel selector of a dual fuel generator, a selector switch having a first fuel mode and a second fuel mode, and a solenoid switch having open and closed positions. These limitations are further explained in detail in the rejection of claim 18 above.

Furthermore, examiner notes that these claims are fairly broad and do not exemplify the invention in detail. The mere addition of fuel valve handles for a user to manually operate fuel choices does not render this application allowable. Figures 5 and

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6 provide structure to overcome the prior art and as mentioned below, claims 5-8 and 15-16 best exemplify these figures with the appropriate structure to overcome the prior art.

Allowable Subject Matter

10. Claims 5-8, and 15-16 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.

11. The following is a statement of reasons for the indication of allowable subject matter: There is no prior art that teaches all the limitations of claim 5, but more specifically, a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time. Claims 6-8 depend on claim 5 and are therefore indicated as being allowable after all issues are resolved.

There is no prior art that teaches all the limitations of claim 15, but more specifically a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time. Claim 16 depends on claim 15 and is indicated as being allowable after all issues are resolved.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to PTO-892.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SYED O. HASAN whose telephone number is (571)272-0990. The examiner can normally be reached on Monday to Friday, 9:00AM - 5:30 PM 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>.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lindsay Low can be reached on (571) 272-1196. 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 <http://pair-direct.uspto.gov>. 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.

/SYED O HASAN/
Examiner, Art Unit 3747
8/2/2018

Notice of References Cited	Application/Control No. 15/015,205	Applicant(s)/Patent Under Reexamination SARDER ET AL.	
	Examiner SYED O. HASAN	Art Unit 3747	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-4,489,699 A	12-1984	Poehlman; Arthur G.	F02B69/04	123/525
*	B	US-2006/0169238 A1	08-2006	Mazuka; Naoto	F02B63/04	123/179.18
*	C	US-2004/0240141 A1	12-2004	Stolt, Peter E.	H01H47/18	361/160
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

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

Search Notes 	Application/Control No. 15015205	Applicant(s)/Patent Under Reexamination SARDER ET AL.
	Examiner SYED O HASAN	Art Unit 3747

CPC- SEARCHED		
Symbol	Date	Examiner
F02D19/0676, 19/0613, 19/0647, 29/06, F02M21/0293, 21/0236, 21/0233, 13/08, 13/08, F02B53/00, 63/00, H02K1/22	1/2/2018	/S.O.H./

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
123	525, 2, 3	1/2/2018	/S.O.H./
290	1A	1/2/2018	/S.O.H./
137	383	1/2/2018	/S.O.H./
	Updated Search	8/3/2018	/S.O.H./

* 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
Searched in subclasses F02D19/0676, 19/0613, 19/0647, 29/06, F02M21/0293, 21/0236, 21/0233, 13/08, 13/08, F02B53/00, 63/00, H02K1/22 with keywords such as switch, dual fuel, LPG, gaseous, etc.	1/2/2018	/S.O.H./
EAST search strategy attached.	1/2/2018	/S.O.H./

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/SYED O HASAN/ Examiner.Art Unit 3747	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	11	((Mark) near2 (Sarder)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:16
S2	2	((Leigh) near2 (Jenison)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:17
S3	2	((Ian) near2 (Schmit)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:18
S4	834	123/525.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:20
S5	3	123/525.ccls. and (dual near3 fuel near3 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:20
S6	2	123/525.ccls. and (((multiple near3 fuel) or bi-fuel) near3 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:21
S7	3	123/525.ccls. and (((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:22
S8	236	((((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:22
S9	10	((((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator) same (switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:23
S10	458	f02D19/0676.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:23
S11	17	F02D19/0676.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:24
S12	6	F02M21/0293.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	OFF	2015/06/23 14:24

			JPO; DERWENT			
S13	14	F02M21/0236.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:25
S14	18	F02M21/0233.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:27
S15	21	F02M13/08.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:29
S16	0	(generator) and (dual near3 fuel) and (selectro near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:32
S17	16	(generator) and (dual near3 fuel) and (selector near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:32
S18	42	(generator) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (selector near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:33
S19	46	(generator) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (fuel near5 select\$4 near5 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:39
S20	46	(generator or genset) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (fuel near5 select\$4 near5 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:40
S21	728	137/383.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:58
S22	96	137/384.8.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:58
S23	0	317/317.5.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:04
S24	133	273/317.5.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	OFF	2015/06/23 15:04

			JPO; DERWENT			
S25	161	292/4.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:06
S26	106	292/290.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:07
S27	578	49/503.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:15
S28	92	123/2-3.ccls. and (fuel near5 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:16
S29	163	(generator) same (LPG near20 gasoline)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:35
S30	163	(generator) same (LPG near20 gasoline)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:35
S31	19	(fuel near3 select\$4 near3 switch) and (LPG near20 gasoline)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:53
S32	321499	(select\$4 near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:55
S33	1395	(select\$4 near3 switch) same (enclosure)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:55
S34	123	(switch) same (enclosure) same (first near3 valve) same (second near3 valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:56
S35	0	(switch) same (genset) same (first near3 valve) same (second near3 valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:58
S36	11	(genset) and ((switch) same (first near3 valve) same (second near3 valve))	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	OFF	2015/06/23 15:58

			JPO; DERWENT			
S37	550	(slider near3 switch).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:17
S38	28	(slider near3 switch).ti.	US-PGPUB; USPAT	OR	OFF	2015/06/23 16:19
S39	2	("7135651" "7223931").PN. OR ("7772508").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 16:20
S40	209	200/241.ccls.	US-PGPUB; USPAT	OR	OFF	2015/06/23 16:23
S41	45	200/241.ccls. and (groove or slot)	US-PGPUB; USPAT	OR	OFF	2015/06/23 16:23
S42	151	290/1A.ccls. and (groove or slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:24
S43	414	290/1A.ccls. and (switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:25
S44	45	290/1A.ccls. and (select\$4 near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:25
S45	16208	(select\$4 near3 switch).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:30
S46	42	(fuel near3 select\$4 near3 switch).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:30
S47	1	("2004/0240141").URPN.	USPAT	OR	OFF	2015/06/23 16:31
S48	436	261/16.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S49	18	261/16.ccls. and switch	USPAT	OR	OFF	2015/06/23 16:38
S50	0	48/180R.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S51	0	48/180C.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S52	0	48/180C.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S53	834	123/525.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	OFF	2015/06/23 16:39

			JPO; DERWENT			
S54	215	123/525.ccls. and (switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S55	76	123/525.ccls. and (switch) and (dual near3 fuel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S56	15	("20130122439" "20130098349" "20060169238" "20040240141" "4489699").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/29 14:24
S57	2	(dual near3 fuel near3 engine) same (fuel near3 handle)	US-PGPUB; USPAT; USOCR	OR	OFF	2015/12/17 18:15
S58	3	(dual near3 fuel near3 engine) same (fuel near3 handle)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:16
S59	16	(dual near3 fuel near3 engine) same (fuel near3 lever)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:17
S60	5	(dual near3 fuel near3 engine) same (fuel near3 valve near3 (lever or switch or handle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:23
S61	6	(dual near3 fuel near3 (engine or generator)) same (fuel near3 valve near3 (lever or switch or handle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:45
S62	24	(dual near3 fuel near3 (engine or generator)) same (fuel near3 (valve or supply) near3 (lever or switch or handle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:45
S63	4939	(gas near3 station).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:55
S64	39	(gas near3 station).ti. and lever	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:55
S65	292	(generator).ti. and ((dual or multiple) near3 (fuel))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56

S66	98	(generator).ti. and ((dual or multiple) near3 (fuel)) and (engine)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56
S67	13	(generator).ti. and (((dual or multiple) near3 (fuel)) same (switch or handle or lever)) and (engine)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56
S69	39	"4489699"	US-PGPUB; USPAT; USOCR	OR	OFF	2017/12/28 20:09
S70	14	F02D19/0613.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR	OR	OFF	2018/01/02 20:38
S71	25	F02D19/0613.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/01/02 20:38
S72	72	F02D19/0647.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/01/02 20:39
S73	77	F02D19/0647.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/01/02 20:39
S74	11	F02D19/06.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/01/02 20:40
S75	32	F02M13/08.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/01/02 20:41
S76	9	(fuel near3 select\$4 near3 switch) same (valve near3 assembly)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:24
S77	0	(geneartor) same (fuel near3 switch) same (valve near3 assembly)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:25
S78	9	(generator) same (fuel near3 switch) same (valve near3 assembly)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:25
S79	6704	(generator) same (fuel near3 valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:26

S80	10	(generator) same (dual near2 fuel near3 valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:26
S81	13	(generator) same (dual near2 fuel near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:27
S82	13	(generator) same (dual near3 fuel near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:28
S83	19	(gaseous near3 fuel) same (dual near3 fuel near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:54
S84	52	(gaseous near3 fuel) same (fuel near3 select\$4 near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 21:56
S85	85	F02D19/0613.cpc. and (switch same valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 22:03
S86	31	F02D19/0613.cpc. and (switch same valve same (user or operator))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 22:04
S87	25	F02D19/081.cpc. and (switch same valve same (user or operator))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 22:08
S88	16	F02D19/0642.cpc. and (switch same valve same (user or operator))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/01 22:10
S89	39	"4489699"	USPAT	OR	OFF	2018/08/02 14:52
S90	1	"20040240141"	USPAT	OR	OFF	2018/08/02 14:53
S91	3	"20040240141"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:53
S92	3	"20060169238"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:53

S93	4	"20130098349"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:55
S94	5	"20130122439"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 14:58
S95	1	"20060169238"	USPAT	OR	OFF	2018/08/02 14:58
S96	0	123/198E.ccls. and (dual near3 fuel)	USPAT	OR	OFF	2018/08/02 15:01
S97	1	123/198E.ccls. and (dual near3 fuel)	USPAT	OR	OFF	2018/08/02 15:01
S98	1	123/198E.ccls. and (dual near3 fuel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 15:02
S99	10	123/2.ccls. and (dual near3 fuel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 16:27
S100	0	60/39.463. and (dual near3 fuel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 16:31
S101	121	60/39.463.ccls. and (dual near3 fuel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 16:31
S102	34	60/39.463.ccls. and ((dual near3 fuel) same (valve))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 16:32
S103	50	"4489699"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/08/02 17:42

8/ 3/ 2018 4:54:52 PM
C:\ Users\ shasan2\ Documents\ EAST\ Custom Office Templates\ EAST\ Workspaces\ Dual
Fuel Selector Switch 14069747.wsp

<i>Index of Claims</i> 	Application/Control No. 15015205	Applicant(s)/Patent Under Reexamination SARDER ET AL.
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✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant				☐ CPA		☐ T.D.		☐ R.1.47	
CLAIM		DATE							
Final	Original	01/02/2018	08/03/2018						
	1	✓	✓						
	2	✓	✓						
	3	✓	✓						
	4	✓	✓						
	5	O	O						
	6	O	O						
	7	O	O						
	8	O	O						
	9	✓	✓						
	10	✓	✓						
	11	✓	✓						
	12	✓	✓						
	13	✓	✓						
	14	✓	✓						
	15	O	O						
	16	O	O						
	17	✓	✓						
	18	✓	✓						
	19	✓	✓						
	20	✓	✓						

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 15/015,205		Filing Date 02/04/2016		☐ To be Mailed				
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO												
APPLICATION AS FILED - PART I												
		(Column 1)	(Column 2)									
FOR		NUMBER FILED	NUMBER EXTRA		RATE (\$)		FEE (\$)					
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A		N/A							
☐ SEARCH FEE (37 CFR 1.16(k), (l), 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 \$40 =								
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 = *		x \$210 =								
☐ 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)							
AMENDMENT	04/05/2018	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)				
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	x \$50 =		0				
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	x \$230 =		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	RATE (\$)		ADDITIONAL FEE (\$)				
	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.						LIE						
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						Moliki I May						
*** 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.												

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Customer No. 26629
Confirmation No. 1852

Patent
Attorney Docket No. CET1090.046

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Sarder et al.
Serial No. : 15/015,205
Filed : February 4, 2016
For : DUAL FUEL SELECTOR SWITCH
Group Art No. : 3747
Examiner : Syed O. Hasan

CERTIFICATION UNDER 37 CFR 1.8(a) and 1.10

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Date: April 5, 2018

/Robyn L. Templin/
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RESPONSE TO OFFICE ACTION MAILED JANUARY 5, 2018

Dear Sir:

Responsive to the Office Action mailed January 5, 2018, please consider the following
Remarks:

Electronic Acknowledgement Receipt

EFS ID:	32252139
Application Number:	15015205
International Application Number:	
Confirmation Number:	1852
Title of Invention:	DUAL FUEL SELECTOR SWITCH
First Named Inventor/Applicant Name:	Mark J. Sarder
Customer Number:	26629
Filer:	Kevin Roger Rosin./Robyn Templin
Filer Authorized By:	Kevin Roger Rosin.
Attorney Docket Number:	CET1090.046
Receipt Date:	05-APR-2018
Filing Date:	04-FEB-2016
Time Stamp:	10:45:53
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		Response.pdf	217066	yes	17
			1728979b8ee89f1f348b910a01b295c783429d54		

Multipart Description/PDF files in .zip description			
Document Description	Start	End	
Applicant Arguments/Remarks Made in an Amendment	6	17	
Claims	2	5	
Amendment/Req. Reconsideration-After Non-Final Reject	1	1	

Warnings:

Information:

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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.

REMARKS

Claims 1-20 are pending in the present application. In the Office Action mailed January 5, 2018, the Examiner rejected claims 1-20 on the ground of nonstatutory double patenting as being unpatentable over claims 1-11 of U.S. Patent 9,435,273. The Examiner next rejected claims 1-4, 9-14, and 17-20 under 35 U.S.C. §103 as being unpatentable over Poehlman (USP 4,489,699).

Claims 5-8, 15, and 16 were indicated as containing allowable subject matter. Such indication is appreciated.

Double Patenting Rejection

The Examiner rejected claims 1-20 on the ground of nonstatutory double patenting as being unpatentable over claims 1-20 of U.S. Patent 9,435,273. With respect to the pending nonstatutory double patenting rejection, Applicant notes that the double patenting rejection is not the only remaining rejection in the present application. The Examiner has also applied a rejection under 35 U.S.C. §103 in the current Office Action. Applicant, therefore, requests that the double patenting rejection be held in abeyance pending resolution of the other rejection.

Rejection under 35 U.S.C. §103 as being unpatentable over Poehlman**Claim 1**

The Examiner rejected claim 1 under 35 U.S.C. §103 as being unpatentable over Poehlman (USP 4,489,699). In rejecting claim 1, the Examiner asserted that Poehlman discloses a “fuel selector (51)” as called for in claim 1 that includes “a valve assembly fluidly connected to each of a first fuel source (fuel associated with 25) and a second fuel source (fuel associated with 19, column 4, lines 31-40)” and “a selector switch (57) to allow a user to manually select one of the first fuel flow and the second fuel flow (column 4, lines 31-40).” *Office Action*, January 5, 2018, p. 5. However, the Examiner admitted that Poehlman “is silent to disclose that the fuel selector is for use with a dual fuel generator and that the selector switch is positioned on the valve assembly.” *Id.* Nevertheless, the Examiner concluded that:

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the selector switch adjacent to the first and second fuel valves, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70. Examiner notes that Poehlman shows in figure 1 just a schematic of the invention and the selector switch can still be considered as being on the valve assembly. Lastly, Examiner

notes that an operator can control selector switch (51) and that it directly affects the opening or closing of the fuel valves. *Id.*

Applicant respectfully disagrees with the rejection. As set forth in MPEP § 2142, “[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.” MPEP § 2142. “With regard to rejections under 35 U.S.C. 103, the examiner must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings establish a *prima facie* case of obviousness) is more probable than not.” *Id.* (emphasis in original). As will be set forth in detail below, Poehlman does not teach or suggest the claimed invention, nor would it be obvious to modify the system of Poehlman in the manner done so by the Examiner in order to achieve the claimed invention. Accordingly, the Examiner has not established a *prima facie* case of obviousness under 35 U.S.C. § 103(a) with respect to claim 1.

Poehlman discloses a control apparatus 11 for selectively operating an internal combustion engine 13 on a first or gaseous fuel and on a second or liquid fuel. *Poehlman*, Col. 3, lns. 25-27. The engine includes a carburetor 15 which is connected through a supply line 19 with a source 21 of liquid fuel, such as, for instance, gasoline. *Poehlman*, Col. 3, lns. 27-31. The engine 13 also includes a gaseous fuel air mixer 23 which communicates with the carburetor 15, and which is connected through a supply line 25 with a source 27 of gaseous fuel, such as, for instance, natural gas. *Poehlman*, Col. 3, lns. 31-35. The engine 13 also includes control means 41 for selective change-over between use of liquid fuel and gaseous fuel. *Poehlman*, Col. 3, lns. 62-64. In this regard, the control means 41 includes a liquid fuel control valve 43 which is incorporated in the liquid fuel supply line 19 and is movable between open and closed positions, and includes a gaseous fuel control valve 45 which is incorporated in the gaseous fuel supply line 25 and is movable between open and closed positions. *Poehlman*, Col. 3, ln. 64 to Col. 4, ln. 6.

The control means 41 also includes a primary or fuel selector switch 51 which is operator-controlled and which is movable between a first or gaseous fuel position and a second or liquid fuel position. *Poehlman*, Col. 4, lns. 16-20. The control means 41 is operable, when the selector switch 51 is in the liquid fuel position, to energize the liquid fuel control valve 43, thereby opening the liquid fuel control valve 43. *Poehlman*, Col. 4, lns. 21-24. In addition, the control means 41 is operable, when the selector switch 51 is in the liquid fuel position, to energize the gaseous fuel control valve 45, and thereby open the gaseous fuel control valve 45. *Poehlman*, Col. 4, lns. 24-30. More particularly, the selector switch 51 comprises a gaseous fuel terminal 53, a liquid fuel terminal 55, and a primary switch member 57 connected to a source 59

of direct current and movable between a first position energizing the liquid fuel terminal 55 and a second position energizing the gaseous fuel terminal 53. *Poehlman*, Col. 5, Ins. 1-6. In operation, when switching from liquid fuel to gaseous fuel, the operator moves the fuel selector switch 51 to the gaseous fuel position. *Poehlman*, Col. 6, Ins. 21-23. As a result, the liquid fuel control valve 43 is consequently deenergized and turns off the liquid fuel supply to the carburetor 15. *Poehlman*, Col. 6, Ins. 23-25. To change to liquid fuel from gaseous fuel, the operator moves the fuel selector switch 51 to the liquid fuel position. *Poehlman*, Col. 6, Ins. 43-45. Such movement energizes the liquid fuel control valve 53 to the open position. *Poehlman*, Col. 6, Ins. 45-46.

However, there is no disclosure provided in *Poehlman* that fuel selector switch 51 is positioned on the valve assembly (i.e., on liquid fuel control valve 43 and/or gaseous fuel control valve 45) to allow a user to manually select one of the first fuel flow and the second fuel flow. In fact, the schematic view of the control apparatus 11 provided in FIG. 1 of *Poehlman* illustrates that the fuel selector switch 51 is positioned distally from the liquid fuel control valve 43 and gaseous fuel control valve 45 on the control apparatus 11. While the Examiner has asserted that the FIG. 1 of *Poehlman* is “just a schematic of the invention and the selector switch can still be considered as being on the valve assembly,” *Office Action*, supra at 5, such an assertion is not supported by that which is shown and described in *Poehlman*. That is, there is simply no disclosure provided in *Poehlman* regarding the positioning of the fuel selector switch 51 relative to the liquid fuel control valve 43 and gaseous fuel control valve 45 that would support the Examiner’s position that the selector switch 51 can be considered as being “on” the fuel valves 43, 45. In fact, as the liquid fuel control valve 43 and gaseous fuel control valve 45 are “energized” and “deenergized” by use of selector switch 51 (i.e., electronically controlled) and not manually actuated by use of the selector switch, there is no teaching or suggestion that the selector switch 51 would necessarily be positioned on the fuel valves 43, 45.

In addition to the failure of *Poehlman* to teach or suggest positioning of the selector switch on the first and second fuel valves, *Poehlman* also does not teach or suggest the limitation in claim 1 of the selector switch allowing a user to manually select one of the first fuel flow and the second fuel flow. That is, *Poehlman* does not employ a manual selection of one of the first fuel flow and the second fuel flow, but instead discloses that the liquid fuel control valve 43 and gaseous fuel control valve 45 are “energized” and “deenergized” to actuate the valves and provide for selective flows of the liquid and gaseous fluids. *Poehlman*, Col. 4, Ins. 21-30. This electronic control of valves 43, 45 via selective connection of a source 59 of DC power thereto by way of a

gaseous fuel terminal 53 and a liquid fuel terminal 55 to a primary switch member 57 of fuel selector switch 51 is not a “manual selection one of the first fuel flow and the second fuel flow” as called for in claim 1, but instead is an electronic selection of a first fuel flow and second fuel flow.

In rejecting claim 1, the Examiner has asserted that “[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have the selector switch adjacent to the first and second fuel valves, since it has been held that rearranging parts of an invention involves only routine skill in the art.” *Office Action*, supra at 5. However, with regard to the Examiner’s reliance on a “rearrangement of parts” as a basis for the rejection, MPEP 2144.04 specifies that “[t]he mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims [] is not by itself sufficient to support a finding of obviousness” and that “[t]he prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant’s specification, to make the necessary changes in the reference device.” (citing *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984)). In the present case, the Examiner’s suggestion to modify the system of Poehlman to have the selector switch positioned on the valve assembly (of the first and second fuel valves) is not a mere rearrangement of parts that would have been obvious to one skilled in the art based on a motivation or reason provided in the prior art, but instead the Examiner has improperly relied on the teaching of the present Specification as the basis for such rearrangement.

As set forth above, the system in Poehlman is directed to a control apparatus 11 for selectively operating an internal combustion engine 13 on a first or gaseous fuel and on a second or liquid fuel. *Poehlman*, Col. 3, lns. 25-27. A control means 41 is provided for a selective change-over between use of liquid fuel and gaseous fuel, with the control means 41 including a liquid fuel control valve 43 which is incorporated in a liquid fuel supply line 19 and a gaseous fuel control valve 45 which is incorporated in the gaseous fuel supply line 25. *Poehlman*, Col. 3, ln. 62 to Col. 4, ln. 6. The control means 41 also includes a fuel selector switch 51 that energizes the liquid fuel control valve 43 when in a liquid fuel position (thereby opening the liquid fuel control valve 43) and energizes the gaseous fuel control valve 45 when in a gaseous fuel position (thereby opening the gaseous fuel control valve 45), via selective connection of a source 59 of DC power thereto. *Poehlman*, Col. 4, lns. 21-30 and Col. 5, lns. 1-6.

In light of the teachings of Poehlman, it would not be an obvious “rearrangement of parts” to have the selector switch adjacent/on to the first and second fuel valves, as asserted by the Examiner. That is, as the fuel selector switch 51 provides for the electronic control of valves

43, 45 via selective connection of a source 59 of DC power thereto by way of a gaseous fuel terminal 53 and a liquid fuel terminal 55 to a primary switch member 57 of fuel selector switch 51, there would be no need or motivation to move the fuel selector switch 51 to a position on a valve assembly formed by valves 43, 45. That is in contradiction to the present invention, wherein positioning of the selector switch on the valve assembly allows a user to manually select one of the first fuel flow and the second fuel flow. As no manual selection of a first or second fuel flow is needed in Poehlman due to the electronic control of valves 43, 45 via fuel selector switch 51 being used to second a liquid or gas fuel flow, the reference provides no “motivation or reason for the worker in the art, without the benefit of appellant’s specification, to make the necessary changes in the reference device,” as is necessary as a basis for a rejection under a “rearrangement of parts” rationale per MPEP 2144.04.

In light of all the above, one skilled in the art would recognize that it would not be a mere “rearrangement of parts” to modify the system of Poehlman to have the selector switch positioned on the first and second fuel valves, as alleged by the Examiner. Rather, such a proposed “rearrangement of parts” would be an entirely unnecessary modification to Poehlman for which – based solely on Poehlman – there would be no “motivation or reason for the worker in the art, without the benefit of appellant’s specification, to make the necessary changes in the reference device,” as required under MPEP 2144.04.

In light of all the above, Applicant believes that the Examiner has not met the *prima facie* burden required to support a rejection under 35 U.S.C. §103. Applicant therefore respectfully requests withdrawal of the rejection of claim 1 along with the rejection of all claims dependent therefrom.

Claim 10

The Examiner rejected claim 10 under 35 U.S.C. §103 as being unpatentable over Poehlman. In setting forth the rejection of claim 10, the Examiner merely repeated the elements of claim 10 and asserted that Poehlman discloses those elements, with the Examiner further stating that Applicant should “[r]efer to rejections of claims 1-2 for further details since the limitations are similar.” *Office Action*, supra at 7. Applicant respectfully disagrees with the rejection of claim 10.

Initially, Applicant believes the rejection to be deficient due to a failure by the Examiner to set forth a “clear articulation of the reason(s) why the claimed invention would have been obvious,” as required under *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415-421, 82 USPQ2d

1385, 1395-97 (2007), to support a rejection under 35 U.S.C. §103. Here, in setting forth the rejection, the Examiner has provided no indication of how it would have been obvious in view of Poehlman to provide a fuel selector that includes at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine. While the Examiner indicates that Applicant should “[r]efer to rejections of claims 1-2 for further details” of the rejection, the claimed at least one valve handle positioned on and operably connected to the valve assembly of claim 10 is not an element of either of claims 1 or 2 and was not addressed by the Examiner in the rejections of those claims. Accordingly, the Examiner’s rejection of claim 10 (and reference back to the rejection of claims 1 and 2) provides no indication of how the claimed “at least one valve handle positioned on and operably connected to the valve assembly” is rendered obvious in view of the teachings of Poehlman. The rejection under 35 U.S.C. §103 is therefore deficient and cannot be sustained.

Regardless of the above, Applicant believes that Poehlman fails to teach or suggest that which is called for in claim 10 regarding a fuel selector including at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine. Instead, as set forth above, Poehlman is directed to a control apparatus 11 for selectively operating an internal combustion engine 13 on a first or gaseous fuel and on a second or liquid fuel. *Poehlman*, Col. 3, lns. 25-27. A control means 41 is provided for a selective change-over between use of liquid fuel and gaseous fuel, with the control means 41 including a liquid fuel control valve 43 which is incorporated in a liquid fuel supply line 19 and a gaseous fuel control valve 45 which is incorporated in the gaseous fuel supply line 25. *Poehlman*, Col. 3, ln. 62 to Col. 4, ln. 6. The control means 41 also includes a fuel selector switch 51 that energizes the liquid fuel control valve 43 when in a liquid fuel position (thereby opening the liquid fuel control valve 43) and energizes the gaseous fuel control valve 45 when in a gaseous fuel position (thereby opening the gaseous fuel control valve 45), via selective connection of a source 59 of DC power thereto. *Poehlman*, Col. 4, lns. 21-30 and Col. 5, lns. 1-6.

Poehlman thus discloses a fuel selector switch 51 that provides for the electronic control of valves 43, 45 via selective energizing/deenergizing thereof – but provides **no** teaching or suggestion of a valve handle that is positioned on and operably connected to the valve assembly (valves 43, 45) to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine. That is, the feature of a “valve handle” is wholly absent from the

teachings of Poehlman, as there is no valve handle included in the control apparatus 11 of Poehlman that is operably connected to the valves 43, 45 to actuate the valves.

In light of all the above, Applicant believes that the Examiner has not met the *prima facie* burden required to support a rejection under 35 U.S.C. §103, as the Examiner has failed to “provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings establish a *prima facie* case of obviousness) is more probable than not.” *MPEP* § 2142. Applicant therefore respectfully requests withdrawal of the rejection of claim 10 along with the rejection of all claims dependent therefrom.

Claim 18

The Examiner rejected claim 18 under 35 U.S.C. §103 as being unpatentable over Poehlman. Again, in setting forth the rejection of claim 18, the Examiner merely repeated the elements of claim 18 and asserted that Poehlman discloses those elements, with the Examiner further stating that Applicant should “[r]efer to the rejection of claim 1 for further details since the limitations are similar” and that “[t]he only change is that solenoid switch is (51) and the fuel solenoids are the valves (45 and 43).” *Office Action*, supra at 9. Applicant respectfully disagrees with the rejection of claim 18. Claim 18 is not identical to claim 1 and therefore the rejection of claim 1 cannot be a basis for the rejection of claim 18.

As set forth in *MPEP* § 2143.03, “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” (citing *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). However, in setting forth the rejection, the Examiner has ignored the distinctly claimed features of the fuel selector called for in claim 18 – as the fuel selector is set forth as including a distinct “selector switch having a first fuel mode and a second fuel mode,” “solenoid switch having open and closed positions,” and “fuel solenoid having open and closed positions,” with claim 18 further setting forth that “the selector switch is in the first fuel mode [when] the solenoid switch and the fuel solenoid are in the closed positions and the selector switch is in the second fuel mode [when] the solenoid switch and the fuel solenoid are in the open positions.”

As can best be determined by the lack of substance of the rejection, the Examiner has characterized the fuel selector switch 51 in Poehlman as teaching both the claimed “fuel selector of a dual fuel generator” and the claimed “solenoid switch having open and closed positions.” This interpretation of Poehlman by the Examiner has, in effect, rendered the fuel selector switch 51 to comprise two separate and distinct structures called for in claim 18 – with the fuel selector

switch 51 forming both (1) a “fuel selector” and (2) a “solenoid switch.” This is not what is called for in claim 18. Instead, claim 18 distinctly calls for “a fuel selector of a dual fuel generator” that includes “a selector switch having a first fuel mode and a second fuel mode” and “a solenoid switch having open and closed positions” – with claim 18 further setting forth the interaction between these distinct elements by setting forth that “the selector switch is in the first fuel mode [when] the solenoid switch and the fuel solenoid are in the closed positions and the selector switch is in the second fuel mode [when] the solenoid switch and the fuel solenoid are in the open positions.” Thus, the claimed fuel selector, selector switch, and solenoid switch should not be confused with one another, as the Examiner has attempted to do.

An accurate interpretation of Poehlman shows that the fuel selector switch 51 includes only a single switch therein – i.e., primary switch member 57 – that is movable between open and closed positions. This is distinct from the fuel selector of claim 18, which includes two distinct switches therein – i.e., “a selector switch having a first fuel mode and a second fuel mode” and “a solenoid switch having open and closed positions” – with the selector switch and the solenoid switch in claim 18 interacting such that “the selector switch is in the first fuel mode [when] the solenoid switch and the fuel solenoid are in the closed positions and the selector switch is in the second fuel mode [when] the solenoid switch and the fuel solenoid are in the open positions.” Thus, not only has the Examiner failed to identify two separate switches included in the fuel selector switch 51 of Poehlman, as set forth in claim 18, but the Examiner has further failed to explain any interaction of individual switches in the fuel selector switch 51 as further set forth in claim 18.

In summary, the Examiner has stretched the teachings of the prior art in an attempt to satisfy the elements called for in claim 18 by asserting that an individual structure disclosed in Poehlman (i.e., fuel selector switch 51) constitutes a number of distinct components in claim 18. Such a categorization of the fuel selector switch 51 distorts the teachings of Poehlman and ignores the requirement of MPEP §2143(I)(A)(1) that the Examiner must articulate a finding that the prior art include each and every element claimed.

In light of all the above, Applicant believes that the Examiner has not met the *prima facie* burden required to support a rejection under 35 U.S.C. §103. Applicant therefore respectfully requests withdrawal of the rejection of claim 18 along with the rejection of all claims dependent therefrom.

Claim 4

The Examiner rejected dependent claim 4 under 35 U.S.C. §103 as being unpatentable over Poehlman. In setting forth the rejection, the Examiner admitted that Poehlman is “silent to disclose that the first and second fuel valves have handles,” but asserted that “[i]t would have been an obvious matter of design choice to provide the fuel valves with handles for operator actuation, since applicant has not disclosed that such handles for fuel valves solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well if not better with energized actuation of the fuel valves instead of an operator turning the handles.” *Office Action*, supra at 6-7.

Applicant disagrees with the rejection. Specifically, the Examiner’s conclusory statement that “[i]t would have been an obvious matter of design choice to provide the fuel valves with handles for operator actuation” does not provide proper support for a rejection under 35 U.S.C. §103. As set forth in MPEP §2142, “The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.” MPEP §2142 (emphasis in original). “With regard to rejections under 35 U.S.C. 103, the examiner must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings establish a *prima facie* case of obviousness) is more probable than not.” *Id.* §2142. “[O]bviousness concerns whether a skilled artisan not only *could have made but would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.” *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (citing *InTouch Technologies, Inc. v. VGO Communications, Inc.*, 751 F.3d 1327, 1352 (Fed. Cir. 2014)). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes each and every element of the claimed invention, but also provide “a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). “Merely stating that a particular placement of an element is a design choice does not make it obvious.” *Cutsforth, Inc. v. MotivePower, Inc.*, 636 Fed. Appx. 575, 578 (Fed. Cir. 2016). The Examiner “must offer a reason for why a person of ordinary skill in the art would have made the specific design choice.” *Id.*; see also *In re Nuvasive*, 842 F.3d 1376, 1384 (Fed. Cir. 2016).

In the present case, the Examiner did not offer a meaningful reason why one skilled in the art would have provided handles on the fuel valves in Poehlman. See *Office Action*, supra at 6-7. According to the Examiner “it would have been an obvious matter of design choice to provide the

fuel valves with handles for operator actuation, since applicant has not disclosed that such handles for fuel valves solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well if not better with energized actuation of the fuel valves instead of an operator turning the handles.” *Office Action*, supra at 6-7. However, such an assertion ignores the benefits provided by the present invention. As set forth in the Specification:

[0003] [D]ual fuel generators utilize separate valves for each fuel type, such as an LPG valve and a gasoline valve, to control flow of the respective fuels to the engine. While the existence of two separate valves allows one fuel type to have its valve “on” while the other has its valve “off,” there is nothing to prevent both valves from being ‘on’ at the same time. As such, it is possible for both valves to be in the “on” position, which can lead to a potentially unsafe condition resulting from the mixture of the fuels. Therefore, it would be desirable to provide a dual fuel generator with a selector switch that would prohibit the mixing of two differing types of fuels.

[0004] Therefore, it would be desirable to provide a dual fuel generator with a selector switch that would prohibit the mixing of two differing types of fuels. It would further be desirable for such a selector switch to inhibit positioning/actuation of the valves in such a manner that the valve for a first fuel source is prevented from being “on” when the valve for a second fuel source is “on”, and vice versa.

...

[0032] Beneficially, the design of the fuel selector 22 and of the selector switch 30 described herein prevents differing fuels from two separate fuel sources from flowing to the engine of a dual fuel generator at the same time. The interaction of the selector switch 30 with the first and second fuel valve assemblies 24, 26... prohibits both valve assemblies from being in the “ON” position at the same time. The selector switch 30 is thus a foolproof device that prevents the mixing of fuels so as to provide additional safety to the usage of dual fuel generators.

Specification, ¶¶[0003]-[0004] and [0032]. This disclosure in the Specification of the benefits of the fuel selector and selector switch of the present invention – along with that which is called for in claim 4 regarding the selector switch being positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time – contradicts the Examiner’s assertion that “applicant has not disclosed that such handles for fuel valves solves any stated problem or is for any particular purpose.” The claimed first and second handles inhibit positioning/actuation of the valves in such a manner that the valve for a first fuel source is prevented from being “on” when the valve for a second fuel source is “on”, and vice versa, and therefore provide a specific benefit that is not merely a matter

of design choice – especially in view of the Examiner’s statement that the energized actuation of fuel valves as disclosed in Poehlman “would perform equally well if not better” than an operator turning the handles. As a result, the Examiner has not provided a reasoning as to why a skilled artisan would have found the claimed invention obvious in light of Poehlman, as required to support a prima facie case of obviousness under §103. To the contrary, the Examiner has not set forth any reasoning that handles would somehow even benefit the electronic switch device of Poehlman.

For at least these reasons set forth above, claim 4 is patentably distinct over the teachings of Poehlman. Therefore, Applicant requests withdrawal of the rejection of claim 4 under 35 U.S.C. §103.

Conclusion

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-20.

Applicant appreciates the Examiner’s consideration of these Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

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Dated: April 5, 2018
Attorney Docket No.: CET1090.046

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General Authorization and Extension of Time

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-2623. Should no proper payment be enclosed herewith, as by credit card authorization being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-2623. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extensions under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-2623. Please consider this a general authorization to charge any fee that is due in this case, if not otherwise timely paid, to Deposit Account No. 50-2623.

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In the Claims

1. (Original) A fuel selector for use with a dual fuel generator, the fuel selector comprising:

a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

a selector switch positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow.

2. (Original) The fuel selector of claim 1 wherein the valve assembly comprises:

a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and

a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine.

3. (Original) The fuel selector of claim 2 wherein the selector switch provides for manual actuation of the first fuel valve and the second fuel valve between the open and closed positions.

4. (Original) The fuel selector of claim 3 further comprising:

a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively;

a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively;

wherein the selector switch is positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time.

5. (Original) The fuel selector of claim 4 further comprising a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to

the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time.

6. (Original) The fuel selector of claim 5 wherein, when the selector switch is in the first position, the first valve handle is actuatable between the ON position and the OFF position and the second valve handle is prohibited from being in the ON position; and

wherein, when the selector switch is in the second position, the first valve handle is prohibited from being in the ON position and the second valve handle is actuatable between the ON position and the OFF position.

7. (Original) The fuel selector of claim 5 further comprising a carburetor solenoid switch coupled to the selector plate adjacent and extending out of a front surface thereof, the carburetor solenoid switch comprising a depressible switch configured to activate an associated solenoid when depressed.

8. (Original) The fuel selector of claim 7 wherein when the selector switch is in the first position so as to prohibit the second valve handle from being in the ON position, the selector switch depresses the carburetor solenoid switch, so as to activate the carburetor solenoid and stop the flow of the gasoline fuel source.

9. (Original) The fuel selector of claim 2 wherein the first fuel valve is attached to a liquefied petroleum gas (LPG) fuel source and wherein the second fuel valve is attached to a gasoline source.

10. (Original) A fuel selector for use with a dual fuel generator, the fuel selector comprising:

a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine.

11. (Original) The fuel selector of claim 10 wherein the at least one valve handle enables only one of the first fuel flow and the second fuel flow to the engine at a given time.

12. (Original) The fuel selector of claim 10 wherein the valve assembly comprises:
a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and
a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine.

13. (Original) The fuel selector of claim 12 wherein the at least one valve handle comprises:
a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively;
a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively.

14. (Original) The fuel selector of claim 13 further comprising a selector switch positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time.

15. (Original) The fuel selector of claim 14 further comprising a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time.

16. (Original) The fuel selector of claim 15 wherein, when the selector switch is in the first position, the first valve handle is actuatable between the ON position and the OFF position and the second valve handle is prohibited from being in the ON position; and

wherein, when the selector switch is in the second position, the first valve handle is prohibited from being in the ON position and the second valve handle is actuatable between the ON position and the OFF position.

17. (Original) The fuel selector of claim 10 wherein the first fuel source comprises liquefied petroleum gas (LPG) and the second fuel source comprises gasoline.

18. (Previously Presented) A fuel selector of a dual fuel generator comprising:

a selector switch having a first fuel mode and a second fuel mode;

a solenoid switch having open and closed positions; and

a fuel solenoid having open and closed positions;

wherein, when the selector switch is in the first fuel mode, the solenoid switch and the fuel solenoid are in the closed positions and when the selector switch is in the second fuel mode, the solenoid switch and the fuel solenoid are in the open positions.

19. (Previously Presented) The fuel selector of claim 18 wherein the selector switch triggers the solenoid switch when changed from the second fuel mode to the first fuel mode, so as to cause the solenoid switch and the fuel solenoid to operate in the closed positions.

20. (Previously Presented) The fuel selector of claim 18 further comprising:

a valve assembly positioned on or adjacent the selector switch and fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

wherein positioning of the selector switch in the first fuel mode and the second fuel mode enables a selection of one of the first fuel flow and the second fuel flow.



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EXAMINER

HASAN, SYED O

ART UNIT	PAPER NUMBER

3747

NOTIFICATION DATE	DELIVERY MODE

01/05/2018

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):

info@zpspatents.com
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Office Action Summary	Application No. 15/015,205	Applicant(s) SARDER ET AL.	
	Examiner SYED O. HASAN	Art Unit 3747	AIA (First Inventor to File) Status Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/22/2016.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ 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.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-20 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-4, 9-14, 17-20 is/are rejected.
- 8) ☒ Claim(s) 5-8, 15 and 16 is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, 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.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 2/4/2016 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ 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)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. ____.
2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date ____.	4) ☐ Other: ____.

DETAILED ACTION

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Double Patenting

2. Claims 1-20 of this application is patentably indistinct from claims 1-11 of Application No. 14069747. Pursuant to 37 CFR 1.78(f), when two or more applications filed by the same applicant contain patentably indistinct claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the patentably indistinct claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

3. 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*,

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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 §§ 706.02(l)(1) - 706.02(l)(3) 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. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

4. Claims 1-20 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 9,435,273. Although the claims at

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issue are not identical, they are not patentably distinct from each other because the limitations are similar.

5. Claims 1-20 are rejected on the ground of nonstatutory double patenting over claims 1-11 of U.S. Patent No. 9,435,273 since the claims, if allowed, would improperly extend the “right to exclude” already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

6. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

7. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having

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ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4, 9-14, and 17-20 is/are rejected under 35 U.S.C. 103 as being unpatentable over Poehlman (U.S. Patent Number 4,489,699), hereinafter "Poehlman".

Regarding claim 1, Poehlman discloses the same invention substantially as claimed such as a fuel selector (51), the fuel selector comprising: a valve assembly fluidly connected to each of a first fuel source (fuel associated with 25) and a second fuel source (fuel associated with 19, column 4, lines 31-40), the valve assembly being operable to selectively control a first fuel flow (flow associated with 25) and a second fuel flow (flow associated within 19) from the first fuel source and the second fuel source (column 5, lines 22-35), respectively, to an engine of the dual fuel system; and a selector switch (57) to allow a user to manually select one of the first fuel flow and the second fuel flow (column 4, lines 31-40), but is silent to disclose that the fuel selector is for use with a dual fuel generator and that the selector switch is positioned on the valve assembly. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the selector switch adjacent to the first and second fuel valves, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70. Examiner notes that Poehlman shows in figure 1 just a schematic of the invention and the selector switch can still be considered as being on the valve assembly. Lastly, Examiner notes that an operator can control selector switch (51) and that it directly affects the opening or closing of the fuel valves.

Poehlman discloses the same invention substantially as claimed except for the system being used in particular for a generator. However, the examiner takes Official Notice that it is well known in the art that dual fuel systems are used in a generator for the purpose of allowing for the generator to operate on multiple fuels to supply electrical power. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Poehlman to incorporate the system to be used within a generator for the purpose of allowing the dual fuel system to supply power to a generator to provide electrical power.

Regarding claim 2, Poehlman discloses the fuel selector of claim 1 wherein the valve assembly comprises: a first fuel valve (45) having open and closed positions to selectively control the first fuel flow to the engine; and a second fuel valve (43) having open and closed positions to selectively control the second fuel flow to the engine (column 4, lines 21-30).

Regarding claim 3, Poehlman discloses the fuel selector of claim 2 wherein the selector switch (51) provides for manual actuation of the first fuel valve (45) and the second fuel valve (43) between the open and closed positions. Examiner notes that an operator can control selector switch (57) and that it directly affects the opening or closing of the fuel valves.

Regarding claim 4, Poehlman discloses the claimed invention but is silent to disclose that the first and second fuel valves have handles. It would have been an obvious matter of design choice to provide the fuel valves with handles for operator actuation, since applicant has not disclosed that such handles for the fuel valves solves

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any stated problem or is for any particular purpose and it appears that the invention would perform equally well if not better with energized actuation of the fuel valves instead of an operator turning the handles. Examiner notes that in claim 1, the “selector switch” is claimed broadly and it does not have any detailed limitations as claimed in claim 17. Furthermore, the selector switch (51) of Poehlman is capable of controlling actuation of the first and second fuel valves.

Regarding claim 9, Poehlman discloses the fuel selector of claim 2, wherein the first fuel valve assembly (45) is attached to a liquefied petroleum gas (LPG) fuel source (natural gas, 27); and wherein the second fuel valve assembly (43) is attached to a gasoline source (21, column 3, lines 25-36).

Regarding claim 10, Poehlman discloses a fuel selector for use with a dual fuel generator, the fuel selector comprising: a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine. **Refer to rejections of claims 1-2 for further details since the limitations are similar.**

Regarding claim 11, Poehlman discloses the fuel selector of claim 10 wherein the at least one valve handle enables only one of the first fuel flow and the second fuel flow

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to the engine at a given time. **Refer to rejection of claim 4 for further details since the limitations are similar.**

Regarding claim 12, Poehlman discloses the fuel selector of claim 10 wherein the valve assembly comprises: a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine. **Refer to rejections of claims 1 and 4 for further details since the limitations are similar.**

Regarding claim 13, Poehlman discloses the fuel selector of claim 12 wherein the at least one valve handle comprises: a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively; a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively. **Refer to rejections of claim 1 and 4 for further details since the limitations are similar.**

Regarding claim 14, Poehlman discloses the fuel selector of claim 13 further comprising a selector switch positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time. **Refer to rejection of claim 4 for further details since the limitations are similar.**

Regarding claim 17, Poehlman discloses the fuel selector of claim 10 wherein the first fuel source comprises liquefied petroleum gas (LPG) and the second fuel source

comprises gasoline. **Refer to rejection of claim 9 for further details since the limitations are similar.**

Regarding claim 18, Poehlman discloses a fuel selector of a dual fuel generator comprising: a selector switch having a first fuel mode and a second fuel mode; a solenoid switch having open and closed positions; and a fuel solenoid having open and closed positions; wherein, when the selector switch is in the first fuel mode, the solenoid switch and the fuel solenoid are in the closed positions and when the selector switch is in the second fuel mode, the solenoid switch and the fuel solenoid are in the open positions. **Refer to rejection of claim 1 for further details since the limitations are similar.** The only change is that the solenoid switch is (51) and the fuel solenoids are the valves (45 and 43).

Regarding claim 19, Poehlman discloses the fuel selector of claim 18 wherein the selector switch triggers the solenoid switch when changed from the second fuel mode to the first fuel mode, so as to cause the solenoid switch and the fuel solenoid to operate in the closed positions. Shown in figure 1.

Regarding claim 20, Poehlman discloses the fuel selector of claim 18 further comprising: a valve assembly positioned on or adjacent the selector switch and fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and wherein positioning of the selector switch in the first fuel mode and the second fuel mode enables a selection of one of the first fuel flow and the second fuel

flow. **Refer to rejections of claims 1-4 for further details since the limitations are similar.**

Allowable Subject Matter

9. Claims 5-8, and 15-16 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.

10. The following is a statement of reasons for the indication of allowable subject matter: There is no prior art that teaches all the limitations of claim 5, but more specifically, a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time. Claims 6-8 depend on claim 5 and are therefore indicated as being allowable after all issues are resolved.

There is no prior art that teaches all the limitations of claim 15, but more specifically a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time. Claim 16 depends on claim 15 and is indicated as being allowable after all issues are resolved.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SYED O. HASAN whose telephone number is (571)272-0990. The examiner can normally be reached on Monday to Friday, 9:00AM - 5:30 PM 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, Lindsay Low can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3747

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 <http://pair-direct.uspto.gov>. 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.

/SYED O HASAN/
Examiner, Art Unit 3747
1/2/2017

Notice of References Cited	Application/Control No. 15/015,205		Applicant(s)/Patent Under Reexamination SARDER ET AL.	
	Examiner SYED O. HASAN		Art Unit 3747	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-4,489,699 A	12-1984	Poehlman; Arthur G.	F02B69/04	123/525
*	B	US-2006/0169238 A1	08-2006	Mazuka; Naoto	F02B63/04	123/179.18
*	C	US-2004/0240141 A1	12-2004	Stolt, Peter E.	H01H47/18	361/160
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	V	
	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.

Bibliographic Data

Application No: 15015205

Foreign Priority claimed:

☐ Yes ☒ No

35 USC 119 (a-d) conditions met:

☐ Yes ☒ No

☐ Met After Allowance

Verified and Acknowledged:

Examiner's Signature

Initials

Title:

DUAL FUEL SELECTOR SWITCH

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
02/04/2016	123	3747	CET1090.046
RULE			

APPLICANTS

Champion Engine Technology, LLC, Sussex, WI,

INVENTORS

Mark J. Sarder, Waukesha, WI, UNITED STATES

Leigh Jenison, Hartland, WI, UNITED STATES

Ian Schmit, Cedarburg, WI, UNITED STATES

CONTINUING DATA

15015205 is a CON of 14069747 11/01/2013PAT 9435273

FOREIGN APPLICATIONS

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02/18/2016

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Search Notes 	Application/Control No. 15015205	Applicant(s)/Patent Under Reexamination SARDER ET AL.
	Examiner SYED O HASAN	Art Unit 3747

CPC- SEARCHED		
Symbol	Date	Examiner
F02D19/0676, 19/0613, 19/0647, 29/06, F02M21/0293, 21/0236, 21/0233, 13/08, 13/08, F02B53/00, 63/00, H02K1/22	1/2/2018	/S.O.H./

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
123	525, 2, 3	1/2/2018	/S.O.H./
290	1A	1/2/2018	/S.O.H./
137	383	1/2/2018	/S.O.H./

* 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
Searched in subclasses F02D19/0676, 19/0613, 19/0647, 29/06, F02M21/0293, 21/0236, 21/0233, 13/08, 13/08, F02B53/00, 63/00, H02K1/22 with keywords such as switch, dual fuel, LPG, gaseous, etc.	1/2/2018	/S.O.H./
EAST search strategy attached.	1/2/2018	/S.O.H./

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/SYED O HASAN/ Examiner.Art Unit 3747	

<i>Index of Claims</i> 	Application/Control No. 15015205	Applicant(s)/Patent Under Reexamination SARDER ET AL.
	Examiner SYED O HASAN	Art Unit 3747

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47										
CLAIM		DATE								
Final	Original	01/02/2018								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	O								
	6	O								
	7	O								
	8	O								
	9	✓								
	10	✓								
	11	✓								
	12	✓								
	13	✓								
	14	✓								
	15	O								
	16	O								
	17	✓								
	18	✓								
	19	✓								
	20	✓								

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	14	F02D19/0613.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR	OR	OFF	2018/01/02 20:38
L2	25	F02D19/0613.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/01/02 20:38
L3	72	F02D19/0647.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2018/01/02 20:39
L4	77	F02D19/0647.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/01/02 20:39
L5	11	F02D19/06.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/01/02 20:40
L6	32	F02M13/08.cpc. and ((dual near3 fuel) same (switch))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/01/02 20:41
S1	11	((Mark) near2 (Sarder)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:16
S2	2	((Leigh) near2 (Jenison)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:17
S3	2	((Ian) near2 (Schmit)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 14:18
S4	834	123/525.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:20
S5	3	123/525.ccls. and (dual near3 fuel near3 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:20
S6	2	123/525.ccls. and (((multiple near3 fuel) or bi-fuel) near3 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:21
S7	3	123/525.ccls. and (((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:22
S8	236	(((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:22

S9	10	((multiple near3 fuel) or bi-fuel or (LPG near5 gasoline)) near10 generator) same (switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:23
S10	458	f02D19/0676.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:23
S11	17	F02D19/0676.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:24
S12	6	F02M21/0293.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:24
S13	14	F02M21/0236.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:25
S14	18	F02M21/0233.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:27
S15	21	F02M13/08.cpc. and (generator)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:29
S16	0	(generator) and (dual near3 fuel) and (selectro near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:32
S17	16	(generator) and (dual near3 fuel) and (selector near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:32
S18	42	(generator) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (selector near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:33
S19	46	(generator) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (fuel near5 select\$4 near5 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:39
S20	46	(generator or genset) and ((dual near3 fuel) or (bi-fuel) or (multiple near3 fuel)) and (fuel near5 select\$4 near5 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:40
S21	728	137/383.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:58
S22	96	137/384.8.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 14:58
S23	0	317/317.5.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	OFF	2015/06/23 15:04

			JPO; DERWENT			
S24	133	273/317.5.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:04
S25	161	292/4.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:06
S26	106	292/290.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:07
S27	578	49/503.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:15
S28	92	123/2-3.ccls. and (fuel near5 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:16
S29	163	(generator) same (LPG near20 gasoline)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:35
S30	163	(generator) same (LPG near20 gasoline)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:35
S31	19	(fuel near3 select\$4 near3 switch) and (LPG near20 gasoline)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:53
S32	321499	(select\$4 near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:55
S33	1395	(select\$4 near3 switch) same (enclosure)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:55
S34	123	(switch) same (enclosure) same (first near3 valve) same (second near3 valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:56
S35	0	(switch) same (genset) same (first near3 valve) same (second near3 valve)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:58
S36	11	(genset) and ((switch) same (first near3 valve) same (second near3 valve))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 15:58
S37	550	(slider near3 switch).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:17
S38	28	(slider near3 switch).ti.	US-PGPUB;	OR	OFF	2015/06/23

			USPAT			16:19
S39	2	("7135651" "7223931").PN. OR ("7772508").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/23 16:20
S40	209	200/241.ccls.	US-PGPUB; USPAT	OR	OFF	2015/06/23 16:23
S41	45	200/241.ccls. and (groove or slot)	US-PGPUB; USPAT	OR	OFF	2015/06/23 16:23
S42	151	290/1A.ccls. and (groove or slot)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:24
S43	414	290/1A.ccls. and (switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:25
S44	45	290/1A.ccls. and (select\$4 near3 switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:25
S45	16208	(select\$4 near3 switch).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:30
S46	42	(fuel near3 select\$4 near3 switch).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:30
S47	1	("2004/0240141").URPN.	USPAT	OR	OFF	2015/06/23 16:31
S48	436	261/16.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S49	18	261/16.ccls. and switch	USPAT	OR	OFF	2015/06/23 16:38
S50	0	48/180R.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S51	0	48/180C.ccls.	USPAT	OR	OFF	2015/06/23 16:38
S52	0	48/180C.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S53	834	123/525.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S54	215	123/525.ccls. and (switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S55	76	123/525.ccls. and (switch) and (dual near3 fuel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/23 16:39
S56	15	("20130122439" "20130098349" "20060169238" "20040240141" "4489699").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/06/29 14:24

S57	2	(dual near3 fuel near3 engine) same (fuel near3 handle)	US-PGPUB; USPAT; USOCR	OR	OFF	2015/12/17 18:15
S58	3	(dual near3 fuel near3 engine) same (fuel near3 handle)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:16
S59	16	(dual near3 fuel near3 engine) same (fuel near3 lever)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:17
S60	5	(dual near3 fuel near3 engine) same (fuel near3 valve near3 (lever or switch or handle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:23
S61	6	(dual near3 fuel near3 (engine or generator)) same (fuel near3 valve near3 (lever or switch or handle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:45
S62	24	(dual near3 fuel near3 (engine or generator)) same (fuel near3 (valve or supply) near3 (lever or switch or handle))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:45
S63	4939	(gas near3 station).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:55
S64	39	(gas near3 station).ti. and lever	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:55
S65	292	(generator).ti. and ((dual or multiple) near3 (fuel))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56
S66	98	(generator).ti. and ((dual or multiple) near3 (fuel)) and (engine)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56
S67	13	(generator).ti. and (((dual or multiple) near3 (fuel)) same (switch or handle or lever)) and (engine)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	OFF	2015/12/17 18:56
S69	39	"4489699"	US-PGPUB; USPAT; USOCR	OR	OFF	2017/12/28 20:09

1 / 2 / 2018 8:41:41 PM
C:\Users\shasan2\Documents\EAST\Custom Office Templates\EAST\Workspaces\Dual
Fuel Selector Switch 14069747.wsp

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 07/31/2012. OMB 0651-0031

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

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		
	First Named Inventor	Mark J. Sarder et al.	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	CET1090.046	

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	4489699		1984-12-25	Poehlman	
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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	20040240141	A1	2004-12-02	Stolt et al.	
	2	20060169238	A1	2006-08-03	Mazuka et al.	
	3	20130098349	A1	2013-04-25	Deng	
	4	20130122439	A1	2013-05-16	Deng	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)

Application Number		
Filing Date		
First Named Inventor	Mark J. Sarder et al.	
Art Unit		
Examiner Name		
Attorney Docket Number	CET1090.046	

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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
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EXAMINER SIGNATURE

Examiner Signature	/SYED O HASAN/	Date Considered	01/02/2018

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number		
Filing Date		
First Named Inventor	Mark J. Sarder et al.	
Art Unit		
Examiner Name		
Attorney Docket Number	CET1090.046	

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	/Kevin R. Rosin/	Date (YYYY-MM-DD)	2016-02-04
Name/Print	Kevin R. Rosin	Registration Number	55584

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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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)).
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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 inspections 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.

Customer No. 26629
Confirmation No. 1852

Patent
Attorney Docket No. CET1090.046

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Sarder et al.
Serial No. : 15/015,205
Filed : February 4, 2016
For : DUAL FUEL SELECTOR SWITCH
Group Art No. : 3747
Examiner : NOT YET ASSIGNED

CERTIFICATION UNDER 37 CFR 1.8(a) and 1.10

I hereby certify that, on the date shown below, this correspondence is being:

Mailing

☐ deposited with the US Postal Service in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

37 CFR 1.8(a)

37 CFR 1.10

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☒ transmitted by EFS-WEB addressed to **Office of Initial Patent Examination** at the Patent and Trademark Office.

Date: July 22, 2016

/Robyn L. Templin/
Signature

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

PRELIMINARY AMENDMENT

Dear Examiner:

Prior to examination on the merits, please amend the application as follows:

In the Claims

1. (Original) A fuel selector for use with a dual fuel generator, the fuel selector comprising:

a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

a selector switch positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow.

2. (Original) The fuel selector of claim 1 wherein the valve assembly comprises:

a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and

a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine.

3. (Original) The fuel selector of claim 2 wherein the selector switch provides for manual actuation of the first fuel valve and the second fuel valve between the open and closed positions.

4. (Original) The fuel selector of claim 3 further comprising:

a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively;

a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively;

wherein the selector switch is positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time.

5. (Original) The fuel selector of claim 4 further comprising a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time.

6. (Original) The fuel selector of claim 5 wherein, when the selector switch is in the first position, the first valve handle is actuatable between the ON position and the OFF position and the second valve handle is prohibited from being in the ON position; and

wherein, when the selector switch is in the second position, the first valve handle is prohibited from being in the ON position and the second valve handle is actuatable between the ON position and the OFF position.

7. (Original) The fuel selector of claim 5 further comprising a carburetor solenoid switch coupled to the selector plate adjacent and extending out of a front surface thereof, the carburetor solenoid switch comprising a depressible switch configured to activate an associated solenoid when depressed.

8. (Original) The fuel selector of claim 7 wherein when the selector switch is in the first position so as to prohibit the second valve handle from being in the ON position, the selector switch depresses the carburetor solenoid switch, so as to activate the carburetor solenoid and stop the flow of the gasoline fuel source.

9. (Original) The fuel selector of claim 2 wherein the first fuel valve is attached to a liquefied petroleum gas (LPG) fuel source and wherein the second fuel valve is attached to a gasoline source.

10. (Original) A fuel selector for use with a dual fuel generator, the fuel selector comprising:

a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine.

11. (Original) The fuel selector of claim 10 wherein the at least one valve handle enables only one of the first fuel flow and the second fuel flow to the engine at a given time.

12. (Original) The fuel selector of claim 10 wherein the valve assembly comprises:

a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and

a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine.

13. (Original) The fuel selector of claim 12 wherein the at least one valve handle comprises:

a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively;

a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively.

14. (Original) The fuel selector of claim 13 further comprising a selector switch positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time.

15. (Original) The fuel selector of claim 14 further comprising a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time.

16. (Original) The fuel selector of claim 15 wherein, when the selector switch is in the first position, the first valve handle is actuatable between the ON position and the OFF position and the second valve handle is prohibited from being in the ON position; and

wherein, when the selector switch is in the second position, the first valve handle is prohibited from being in the ON position and the second valve handle is actuatable between the ON position and the OFF position.

17. (Original) The fuel selector of claim 10 wherein the first fuel source comprises liquefied petroleum gas (LPG) and the second fuel source comprises gasoline.

18. (New) A fuel selector of a dual fuel generator comprising:
a selector switch having a first fuel mode and a second fuel mode;
a solenoid switch having open and closed positions; and
a fuel solenoid having open and closed positions;
wherein, when the selector switch is in the first fuel mode, the solenoid switch and the fuel solenoid are in the closed positions and when the selector switch is in the second fuel mode, the solenoid switch and the fuel solenoid are in the open positions.

19. (New) The fuel selector of claim 18 wherein the selector switch triggers the solenoid switch when changed from the second fuel mode to the first fuel mode, so as to cause the solenoid switch and the fuel solenoid to operate in the closed positions.

20. (New) The fuel selector of claim 18 further comprising:
a valve assembly positioned on or adjacent the selector switch and fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and
wherein positioning of the selector switch in the first fuel mode and the second fuel mode enables a selection of one of the first fuel flow and the second fuel flow.

REMARKS

In this Preliminary Amendment, claims 18-20 have been newly added. No new matter has been added by way of the amendments.

Should the Examiner have any questions regarding this Amendment, he or she is cordially invited to contact the undersigned.

Respectfully submitted,

/Kevin R. Rosin/

Kevin R. Rosin
Registration No. 55,584
Phone 262-268-8100 ext. 16
krr@zpspatents.com

Dated: July 22, 2016
Attorney Docket No.: CET1090.046

P.O. ADDRESS:

Ziolkowski Patent Solutions Group, SC
136 South Wisconsin Street
Port Washington, WI 53074
262-268-8100

Electronic Acknowledgement Receipt

EFS ID:	26431945
Application Number:	15015205
International Application Number:	
Confirmation Number:	1852
Title of Invention:	DUAL FUEL SELECTOR SWITCH
First Named Inventor/Applicant Name:	Mark J. Sarder
Customer Number:	26629
Filer:	Kevin Roger Rosin./Robyn Templin
Filer Authorized By:	Kevin Roger Rosin.
Attorney Docket Number:	CET1090.046
Receipt Date:	22-JUL-2016
Filing Date:	04-FEB-2016
Time Stamp:	15:36:10
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		PreliminaryAmendment.pdf	111662	yes	7
			5147f8cff9ab87b7b3a24702a194e6d8efb18ff3		

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Preliminary Amendment	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	7
Warnings:			
Information:			
Total Files Size (in bytes):		111662	
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 15/015,205	Filing Date 02/04/2016	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO**APPLICATION AS FILED – PART I**

(Column 1)

(Column 2)

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ 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 \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ 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)

AMENDMENT	07/22/2016	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	x \$40 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	x \$210 =	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	

(Column 1)

(Column 2)

(Column 3)

AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	Minus	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	☐ 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.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

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LIE
/YOLANDA CHADWICK/

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/015,205	02/04/2016	Mark J. Sarder	CET1090.046

CONFIRMATION NO. 1852

PUBLICATION NOTICE



OC000000083211372

26629
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ZPS)
136 S WISCONSIN ST
PORT WASHINGTON, WI 53074

Title:DUAL FUEL SELECTOR SWITCH

Publication No.US-2016-0146122-A1

Publication Date:05/26/2016

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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Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 15/015,205				
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	70		N/A				
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	300		N/A				
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	17	minus 20 = *	x 40 =	0.00	OR					
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2	minus 3 = *	x 210 =	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						
			TOTAL	730		TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.										
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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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
15/015,205	02/04/2016	3747	730	CET1090.046	17	2

CONFIRMATION NO. 1852

FILING RECEIPT



0000000080732021

26629
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ZPS)
136 S WISCONSIN ST
PORT WASHINGTON, WI 53074

Date Mailed: 02/19/2016

Receipt is acknowledged of this non-provisional 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 APPLICANT, 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 Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections 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**

Inventor(s)

Mark J. Sarder, Waukesha, WI;
Leigh Jenison, Hartland, WI;
Ian Schmit, Cedarburg, WI;

Applicant(s)

Champion Engine Technology, LLC, Sussex, WI;

Power of Attorney: The patent practitioners associated with Customer Number 26629

Domestic Priority data as claimed by applicant

This application is a CON of 14/069,747 11/01/2013

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: 02/18/2016

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/015,205**

Projected Publication Date: 05/26/2016

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

DUAL FUEL SELECTOR SWITCH

Preliminary Class

123

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.

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	
First Named Inventor	Mark J. Sarder
Title	DUAL FUEL SELECTOR SWITCH
Art Unit	
Examiner Name	
Attorney Docket Number	CET1090.046

SIGNATURE of Applicant or Patent Practitioner

Signature	/Kevin R. Rosin/	Date (Optional)	2016-02-04
Name	Kevin R. Rosin	Registration Number	55584
Title (if Applicant is a juristic entity)	Patent Practitioner		
Applicant Name (if Applicant is a juristic entity)	Champion Engine Technology, 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.**

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		
	First Named Inventor	Mark J. Sarder et al.	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	CET1090.046	

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	4489699		1984-12-25	Poehlman	

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

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	20040240141	A1	2004-12-02	Stolt et al.	
	2	20060169238	A1	2006-08-03	Mazuka et al.	
	3	20130098349	A1	2013-04-25	Deng	
	4	20130122439	A1	2013-05-16	Deng	

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

FOREIGN PATENT DOCUMENTS								Remove
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²ⁱ	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

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

Application Number	
Filing Date	
First Named Inventor	Mark J. Sarder et al.
Art Unit	
Examiner Name	
Attorney Docket Number	CET1090.046

	1							

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		

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

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*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.

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

Application Number	
Filing Date	
First Named Inventor	Mark J. Sarder et al.
Art Unit	
Examiner Name	
Attorney Docket Number	CET1090.046

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	/Kevin R. Rosin/	Date (YYYY-MM-DD)	2016-02-04
Name/Print	Kevin R. Rosin	Registration Number	55584

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.**

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

Electronic Patent Application Fee Transmittal

Application Number:

Filing Date:

Title of Invention:

DUAL FUEL SELECTOR SWITCH

First Named Inventor/Applicant Name:

Mark J. Sarder

Filer:

Kevin Roger Rosin./Robyn Templin

Attorney Docket Number:

CET1090.046

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	70	70
Utility Search Fee	2111	1	300	300
Utility Examination Fee	2311	1	360	360

Pages:

Claims:

Miscellaneous-Filing:

Petition:

Patent-Appeals-and-Interference:

Petitioner Ex 1028 305

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				730

Electronic Acknowledgement Receipt

EFS ID:	24817886
Application Number:	15015205
International Application Number:	
Confirmation Number:	1852
Title of Invention:	DUAL FUEL SELECTOR SWITCH
First Named Inventor/Applicant Name:	Mark J. Sarder
Customer Number:	26629
Filer:	Kevin Roger Rosin./Robyn Templin
Filer Authorized By:	Kevin Roger Rosin.
Attorney Docket Number:	CET1090.046
Receipt Date:	04-FEB-2016
Filing Date:	
Time Stamp:	10:34:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 730
RAM confirmation Number	10609
Deposit Account	
Authorized User	

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

Petitioner Ex 1028 307

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	App-ADS.pdf	1795854	no	9
			86e96ad6d1791fa32906952ec4aed6e4e29964c2		
Warnings:					
Information:					
2		App-Body.pdf	141425	yes	18
			380ef23ab7d9aa71a37b8f9984fe6f1a764be068		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	13	
	Claims		14	17	
	Abstract		18	18	
Warnings:					
Information:					
3	Oath or Declaration filed	App-Dec.pdf	931296	no	3
			9ffe4d49325af401840bb44c77dd7ffd48fd7ef		
Warnings:					
Information:					
4	Drawings-only black and white line drawings	App-Drawings.pdf	2604831	no	6
			cbec14a8b15b630fceb057915af9a60c9ffeb3a8		
Warnings:					
Information:					
5	Power of Attorney	POATransmittal.pdf	413709	no	1
			3eb5e8cce12cf9bad314c1e265f042ae682c5579		
Warnings:					
Information:					
6	Power of Attorney	GeneralPOA.pdf	447239	no	1
			fba2334f1e7e18c8c4035637c5369a9c4fb88a10		

Warnings:					
Information:					
7	Information Disclosure Statement (IDS) Form (SB08)	IDS.pdf	611828 5e2bd960307ef70f3809a38ec4a1c939c0bb0649	no	4
Warnings:					
Information:					
8	Fee Worksheet (SB06)	fee-info.pdf	35004 269da93e1b758d01c66a6a08398bc629ab074a6a	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			6981186		
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.					

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	CET1090.046
		Application Number	
Title of Invention	DUAL FUEL SELECTOR SWITCH		
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				Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Mark	J.	Sarder		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Waukesha	State/Province	WI	Country of Residence	US

Mailing Address of Inventor:

Address 1	W245 N5551 Corporate Circle				
Address 2					
City	Sussex	State/Province	WI		
Postal Code	53089	Country	US		

Inventor	2				Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Leigh		Jenison		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Hartland	State/Province	WI	Country of Residence	US

Mailing Address of Inventor:

Address 1	W245 N5551 Corporate Circle				
Address 2					
City	Sussex	State/Province	WI		
Postal Code	53089	Country	US		

Inventor	3				Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Ian		Schmit		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					

Petitioner Ex 1028 310

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	CET1090.046
		Application Number	
Title of Invention	DUAL FUEL SELECTOR SWITCH		

City	Cedarburg	State/Province	WI	Country of Residence	US

Mailing Address of Inventor:

Address 1	W245 N5551 Corporate Circle				
Address 2					
City	Sussex	State/Province	WI		
Postal Code	53089	Country	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	26629		
Email Address		Add Email	Remove Email

Application Information:

Title of the Invention	DUAL FUEL SELECTOR SWITCH		
Attorney Docket Number	CET1090.046	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)		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

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.

Petitioner Ex 1028 311

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	CET1090.046
		Application Number	
Title of Invention	DUAL FUEL SELECTOR SWITCH		

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	26629		

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	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	14069747	2013-11-01
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

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)ⁱ 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.			Add

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	CET1090.046
		Application Number	
Title of Invention	DUAL FUEL SELECTOR SWITCH		

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.	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	CET1090.046
		Application Number	
Title of Invention	DUAL FUEL SELECTOR SWITCH		

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)

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	CET1090.046
		Application Number	
Title of Invention	DUAL FUEL SELECTOR SWITCH		

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Applicant	1	Remove
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		
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If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:		
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Organization Name	Champion Engine Technology, LLC	
Mailing Address Information For Applicant:		
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	CET1090.046
		Application Number	
Title of Invention	DUAL FUEL SELECTOR SWITCH		

Assignee	1			
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Signature	/Kevin R. Rosin/		Date (YYYY-MM-DD)	2016-02-04
First Name	Kevin R.	Last Name	Rosin	Registration Number
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	CET1090.046
		Application Number	
Title of Invention	DUAL FUEL SELECTOR SWITCH		

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DUAL FUEL SELECTOR SWITCH

CROSS-REFERENCE TO RELATED APPLICATION

[0001] The present invention is a continuation of and claims the benefit of U.S. Ser. No. 14/069,747, filed on November 1, 2013, the disclosure of which is incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

[0002] Embodiments of the invention relate generally to dual fuel generators and, more particularly, to a selector switch for use on a dual fuel generator that is configured to ensure that only one type of fuel may be in use at a given time in the generator.

[0003] Engine-driven, electrical generators are used in a wide variety of applications. Typically, an electrical generator utilizes a single driving engine directly coupled to a generator or alternator through a common shaft. Upon activation of the generator, a fuel and air mixture is provided to the combustion chambers of corresponding cylinders of the engine. The fuel mixture in each combustion chamber is ignited causing an explosion within the cylinders. The explosive forces within the combustion chambers in the cylinders cause linear motion of the pistons within their corresponding cylinders. The linear motion of the pistons is converted into rotational motion by a crankshaft that, in turn, drives the alternator. As is conventional, the driven alternator generates electrical power.

[0004] Certain generators are defined as “dual fuel” generators that include an engine having the ability to be fueled with either of two fuels, such as either gasoline or liquefied petroleum gas (LPG), for example. These “dual fuel” engines may selectively operate on gasoline or LPG as desired and controlled by an operator, such as being operated on LPG/gasoline for a first period of operation and selectively switching over to the other of LPG/gasoline for another period of operation, with such a switching of fuels being controlled as desired by an operator. Typical dual fuel generators utilize separate valves for each fuel type, such as an LPG valve and a gasoline valve, to control flow of the respective fuels to the engine. While the existence of two separate valves

allows one fuel type to have its valve “on” while the other has its valve “off,” there is nothing to prevent both valves from being “on” at the same time. As such, it is possible for both valves to be in the “on” position, which can lead to a potentially unsafe condition resulting from the mixture of the fuels.

[0005] Therefore, it would be desirable to provide a dual fuel generator with a selector switch that would prohibit the mixing of two differing types of fuels. It would further be desirable for such a selector switch to inhibit positioning/actuation of the valves in such a manner that the valve for a first fuel source is prevented from being “on” when the valve for a second fuel source is “on”, and vice versa.

BRIEF DESCRIPTION OF THE INVENTION

[0006] In accordance with one aspect of the invention, a fuel selector for use with a dual fuel generator includes a selector plate, a first fuel valve assembly positioned adjacent the selector plate and actuatable between an ON position and an OFF position to selectively control a first fuel flow to an engine of the dual fuel generator, and a second fuel valve assembly positioned adjacent the selector plate and actuatable between an ON position and an OFF position to selectively control a second fuel flow to the engine of the dual fuel generator. The fuel selector also includes a selector switch coupled to the selector plate so as to be linearly translatable from a first position to a second position, wherein translation of the selector switch between the first and second positions enables positioning of only one of the first fuel valve assembly and the second fuel valve assembly in the ON position at a given time, such that the first and second fuel valve assemblies cannot be in the ON position concurrently.

[0007] In accordance with another aspect of the invention, a method of controlling fuel flow in a dual fuel generator includes providing a first fuel valve assembly to control fuel flow from a first fuel source to an internal combustion engine of the dual fuel generator, the first fuel valve assembly including a first fuel valve handle movable between an ON position and an OFF position to control fuel flow from the first fuel source to the internal combustion engine. The method also includes providing a second fuel valve assembly to control fuel flow from a second fuel source to the internal combustion engine of the dual fuel generator, the second fuel valve assembly including a second fuel valve handle movable between an ON position and an OFF position to control fuel flow from the second fuel source to the internal combustion engine. The method further includes providing a fuel selector switch adjacent the first fuel valve assembly and the second fuel valve assembly such that the fuel selector switch is translatable to a first position and a second position, wherein the fuel selector switch is translatable between the first position and the second position to selectively inhibit actuation of the first fuel valve handle and the second fuel valve handle, so as to prevent a simultaneous flow of fuels from the first and second fuel sources to the internal combustion engine.

[0008] In accordance with yet another aspect of the invention, a dual fuel generator includes a first fuel source, a second fuel source, and an internal combustion engine coupled to the first fuel source and the second fuel source to selectively receive fuel therefrom. The dual fuel generator also includes a fuel selector configured to control a flow of fuel from the first and second fuel sources to the internal combustion engine, with the fuel selector comprising a first fuel valve assembly including a first fuel valve and a first fuel valve handle that is actuatable between an open position and a closed position to selectively open and close the first fuel valve, a second fuel valve assembly including a second fuel valve and a second fuel valve handle that is actuatable between an open position and a closed position to selectively open and close the second fuel valve, a selector plate having the first fuel valve assembly and the second fuel valve assembly coupled to a front side thereof, and a selector switch slideably coupled to the selector plate so as to be movable from a first position to a second position. Positioning of the selector switch in the first position causes the selector switch to cover the second fuel valve handle so as to prevent the second fuel valve handle from moving to the open position and positioning of the selector switch in the second position causes the selector switch to cover the first fuel valve handle so as to prevent the first fuel valve handle from moving to the open position.

[0009] These and other advantages and features will be more readily understood from the following detailed description of preferred embodiments of the invention that is provided in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The drawings illustrate embodiments presently contemplated for carrying out the invention.

[0011] In the drawings:

[0012] FIG. 1 is a perspective view of a dual fuel generator, according to an embodiment of the invention.

[0013] FIG. 2 is a partial view of the dual fuel generator of FIG. 1, according to an embodiment of the invention

[0014] FIG. 3 is a front perspective view of a fuel selector for use with the dual fuel generator of FIG. 1, according to an embodiment of the invention.

[0015] FIG. 4 is a front perspective view of a selector switch for use with the fuel selector of FIG. 3, according to an embodiment of the invention.

[0016] FIG. 5 is a front perspective view of the fuel selector of FIG. 3 with the selector switch in a first position, according to an embodiment of the invention.

[0017] FIG. 6 is a front perspective view of the fuel selector of FIG. 3 with the selector switch in a second position, according to an embodiment of the invention.

DETAILED DESCRIPTION

[0018] Referring first to FIGS. 1 and 2, a dual fuel generator 10 is illustrated, according to an embodiment of the invention – with a perspective view of the generator 10 being shown in FIG. 1 and a more detailed partial view of the generator 10 being shown in FIG. 2 to further illustrate features thereof. Dual fuel generator 10 includes an internal combustible engine 12 operatively connected to an alternator 14 in a conventional manner. The engine 12 includes pistons (not shown) that are slideably received within corresponding cylinders (not shown) thereof, with each cylinder further including an intake valve for admitting a fuel-air mixture and an exhaust valve for venting exhaust gases following combustion. The fuel-air mixture is provided by a carburetor 16 that includes a movable throttle, with a position of the throttle regulating the amount of fuel and air admitted into the cylinders and thus the speed and power developed by the engine 12 when the air-fuel mixture is ignited to generate reciprocal movement of the pistons. The reciprocal movement of the pistons of engine 12 is translated to rotational movement by a crankshaft (not shown) that, in turn, drives the alternator 14, so as to generate an electrical output power from the generator 10.

[0019] As the generator 10 is a dual fuel generator, the engine 12 is designed to use different fuels from either a first fuel source 18 or a second fuel source 20. In an exemplary embodiment of the invention, first fuel source 18 supplies a liquefied petroleum gas (LPG) to the engine 12 and second fuel source 20 supplies gasoline to the engine 12, with the generator 10 selectively operating on LPG or gasoline as desired and controlled by an operator, such as for example operating on LPG for a first period of operation and then switching over to gasoline for another period of operation. However, it is contemplated that the first fuel source 18 and/or second fuel source 20 may be other types of fuel sources (e.g., natural gas, biodiesel, etc.), according to additional embodiments of the invention – and thus the scope of the invention is not meant to be limited strictly to a gasoline-LPG dual fuel embodiment.

[0020] For selectively controlling the flow of gasoline and LPG to the engine 12, dual fuel generator 10 includes a fuel selector 22 constructed to provide for selection of

a desired fuel source 18, 20 for supplying fuel to engine 12. The fuel selector 22 not only provides for selection of a desired fuel source 18, 20 for supplying fuel to engine 12, but also selectively restricts the selection of a fuel source so as to enable the use of only one fuel at a time. As a result, fuel from first fuel source 18 cannot flow to engine 12 while fuel from second fuel source 20 is flowing to engine 12, and vice versa.

[0021] The fuel selector 22 of generator 10 is shown in greater detail in FIGS. 3-6 according to an embodiment of the invention. In general, the fuel selector 22 includes a first valve assembly 24, a second valve assembly 26, a selector plate 28, a selector switch 30, and a carburetor solenoid switch 32. These elements of the fuel selector 22 collectively function to provide for selective control of a fuel flow (of gasoline or LPG) to the engine 12, with the fuel selector 22 enabling selection of a desired fuel source 18, 20 to provide a fuel flow therefrom while also inhibiting the selection of the other fuel source 18, 20 so as to prevent a fuel flow therefrom, thereby enabling only a single fuel to flow to the engine 12 at one time.

[0022] Referring first to FIG. 3, a front view of fuel selector 22 is shown with selector switch 30 removed therefrom, so as to best illustrate the construction of the first valve assembly 24 and the second valve assembly 26. The first valve assembly 24 and the second valve assembly 26 are attached, respectively, to first fuel source 18 and second fuel source 20 to selectively control a flow of fuel from the fuel sources to the engine 12. First valve assembly 24 includes a first fuel valve handle 34 that is operatively connected to a first fuel valve 36 to control an opening and closing of the first fuel valve. Similarly, second valve assembly 26 includes a second fuel valve handle 38 that is operatively connected to a second fuel valve 40 to control an opening and closing of the second fuel valve.

[0023] Each of the first valve assembly 24 and the second valve assembly 26 are movable between an ON position and an OFF position to control opening and closing of their respective fuel valve. More specifically, first and second fuel valve handles 34, 38 are movable between an ON position and an OFF position, with the fuel valves 36, 40 being open (to enable fuel flow to the engine 12) when their respective fuel valve

handle 34, 38 is in the ON position and being closed (to prevent fuel flow to the engine 12) when their respective fuel valve handle 34, 38 is in the OFF position. Thus, when first fuel valve handle 34 is in an ON position, first fuel valve 36 is open and allows the fuel from first fuel source 18 to flow to the engine 12, and when second fuel valve handle 38 is in an ON position, second fuel valve 40 is open and allows the fuel from second fuel source 20 to flow to the engine 12.

[0024] In the preferred embodiments of the invention, first valve assembly 24 and second valve assembly 26 are located adjacent to each other on the same horizontal plane or parallel horizontal planes. In such an embodiment, first valve assembly 24 is in the ON position when first fuel valve handle 34 is moved to a vertical orientation/position and first valve assembly 24 is in an OFF position when first fuel valve handle 34 is moved to a horizontal orientation/position. Similarly, second valve assembly 26 is in the ON position when second fuel valve handle 38 is moved to a vertical orientation/position second valve assembly 26 is in an OFF position when second fuel valve handle 38 is moved to a horizontal orientation/position. It is recognized, however, that an alternative embodiment of the invention may have first valve assembly 24 and second valve assembly 26 located adjacent to each other on the same vertical plane or parallel vertical planes. One having ordinary skill in the art would recognize that in such an alternative embodiment of the invention, first and second valve assemblies 24 would be in the ON position when their respective fuel valve handles 34, 38 are horizontal, and would be in the OFF position when their respective fuel valve handles 34, 38 are vertical.

[0025] As shown in FIG. 3, first valve assembly 24 and second valve assembly 26 are positioned adjacent to the selector plate 28 of fuel selector 22. The selector plate 28 may be integrally formed as part of a larger outer frame assembly of generator 10 or may be an insert attachable to such a frame assembly. Openings 42 are formed in selector plate 28 so as to accommodate positioning of the first valve assembly 24 and second valve assembly 26 – with the openings 42 enabling positioning of first and second fuel valve handles 34, 38 in front of selector plate 28, such that they may be actuated by an operator of the generator 10 in order to open/close their respective valves

36, 40. Selector plate 28 also includes slots or grooves 44 formed therein that are positioned both above and below the first and second fuel valve handles 34, 38, with the slots 44 extending generally in a lengthwise fashion along a length of the selector plate 28. Each of the slots 44 is configured to receive a protrusion or flange formed on selector switch 30, such that the selector switch 30 can be slideably coupled to the selector plate 28 – with the selector switch 30 being translatable in a linear fashion by way of its mating with the slots 44.

[0026] Detailed views of the selector switch 30 and of its mating with the selector plate 28 are shown in FIGS. 4-6. Referring first to FIG. 4, the general structure of selector switch 30 is shown according to an exemplary embodiment. Protrusions or flanges 46 are formed on each of top and bottom surfaces of the selector switch 30 that are configured to mate with the corresponding slots 44 formed in selector plate 28 (FIG. 3). The protrusions 46 may be flexible so as to accommodate coupling of the selector switch 30 to the selector plate 28. A front surface 48 of selector switch 30 includes finger-hold depressions 50 formed therein that accommodate the fingers of an operator, with the finger-holds providing a convenient feature by which the operator can operate (i.e., slide) the selector switch 30. A back surface 52 of the selector switch 30 includes a groove or channel 54 formed therein having a width and depth sufficient to receive the first and second fuel valve handles 34, 38 therein when in their horizontal position (i.e., the OFF position). The groove 54 is further sized and configured such that the first and second fuel valve handles 34, 38 will not fit therein when in their vertical position (i.e., the ON position).

[0027] Positioning of the selector switch 30 relative to the selector plate 28 and first and second valve assemblies 24, 26 is shown in FIGS. 5 and 6. As shown therein, positioning of the first valve assembly 24 and second valve assembly 26 adjacent selector plate 28 – and on the same horizontal plane - provides for selective positioning of the selector switch 30 relative to the fuel valve handles 34, 38 in what are generally referred to hereafter as a first position and a second position 56, 58. The selector switch 30 is translatable in a horizontal motion – via a sliding motion within slots 44 of the selector plate 28 – from the first position 56 (FIG. 5) to the second position 58 (FIG.

6) to selectively restrict actuation of the first and second fuel valve handles 34, 38. As the groove 54 formed in selector switch 30 is configured such that the first and second fuel valve handles 34, 38 will not fit therein when in their vertical position (i.e., the ON position), it is recognized that in order to translate the selector switch 30 back and forth between the first and second positions 56, 58, both of the fuel valve handles 34, 38 must be in their horizontal OFF position.

[0028] In FIG. 5, selector switch 30 is illustrated in the first position 56. When selector switch 30 is in first position 56, selector switch 30 covers second fuel valve handle 38, and groove 54 formed on the back surface 52 of the fuel selector switch 30 locks second fuel valve handle 38 in an OFF position, so as to prohibit the second valve assembly 26 from moving to the ON position. Further, when selector switch 30 is in first position 56, first valve assembly 24 is able to move freely between the ON position and the OFF position, with the first fuel valve handle 34 being actuatable by the operator. In one embodiment of the invention, when first valve assembly 24 is in the ON position, first fuel valve handle 34 is in a vertical position and prevents selector switch 30 from moving horizontally from first position 56 to second position 58.

[0029] In operation, when selector switch 30 is moved from second position 58 into first position 56, second fuel valve handle 38 slides into the groove 54 formed in selector switch 30. As a result, when selector switch 30 is in first position 56, second fuel valve handle 38 is unable to move, as it is locked in place by groove 54, and second valve assembly 26 is locked in the OFF position, with movement from the OFF position to the ON position being prohibited.

[0030] IN FIG. 6, selector switch 30 is illustrated in the second position 58. When selector switch 30 is in second position 58, selector switch 30 covers first fuel valve handle 34, and groove 54 formed on the back surface 52 of the fuel selector switch 30 locks first fuel valve handle 34 in an OFF position, so as to prohibit the first valve assembly 24 from moving to the ON position. In addition, when selector switch 30 is in second position 58, second valve assembly 26 is able to freely move between the ON position and the OFF position, with the second fuel valve handle 38 being actuatable by

the operator. In one embodiment of the invention, when second valve assembly 26 is in the ON position, second fuel valve handle 38 is in a vertical position and prevents selector switch 30 from moving horizontally from second position 58 to first position 56.

[0031] In operation, when selector switch 30 is moved from first position 56 into second position 58, first fuel valve handle 34 slides into groove 54 formed in selector switch 30. Therefore, when selector switch 30 is in second position 58, first fuel valve handle 34 is unable to move, as it is locked in place by groove 54, and first valve assembly 24 is locked in the OFF position, with movement from the OFF position to the ON position being prohibited.

[0032] Referring still now to FIG. 6, according to an exemplary embodiment of the invention, the fuel selector 22 of generator 10 further comprises a carburetor solenoid switch 32 that is positioned within an opening 60 formed in selector plate 28 so as to extend therethrough and is further positioned adjacent second valve assembly 26 (i.e., second fuel valve handle 38). As solenoid switch 32 is located adjacent to the second valve assembly 26 – which is in turn connected to the gasoline fuel source 20 – selector switch 30 covers and triggers solenoid switch 32 when slid from the second position 58 to the first position 56 – by depressing the solenoid switch 32 as it comes in contact therewith. When solenoid switch 32 is triggered, a carburetor shutoff solenoid operatively connected to the solenoid switch 32 is activated and shuts off the flow of gasoline to the carburetor 16 (FIG. 2). In the preferred embodiment of the invention, solenoid switch 32 is a depressible switch, but it is contemplated that solenoid switch 32 may be another type of switch that can be activated via interaction with selector switch 30 or via interaction with either valve handle 34, 38, so as to activate the carburetor shutoff solenoid.

[0033] Beneficially, the design of the fuel selector 22 and of the selector switch 30 described herein prevents differing fuels from two separate fuel sources from flowing to the engine of a dual fuel generator at the same time. The interaction of the selector switch 30 with the first and second fuel valve assemblies 24, 26 – with the selector

switch 30 sliding back and forth to selectively cover/engage first and second fuel valve assemblies 24, 26 - prohibits both valve assemblies from being in the "ON" position at the same time. The selector switch 30 is thus a foolproof device that prevents the mixing of fuels so as to provide additional safety to the usage of dual fuel generators.

[0034] Therefore, according to one embodiment of the invention, a fuel selector for use with a dual fuel generator includes a selector plate, a first fuel valve assembly positioned adjacent the selector plate and actuatable between an ON position and an OFF position to selectively control a first fuel flow to an engine of the dual fuel generator, and a second fuel valve assembly positioned adjacent the selector plate and actuatable between an ON position and an OFF position to selectively control a second fuel flow to the engine of the dual fuel generator. The fuel selector also includes a selector switch coupled to the selector plate so as to be linearly translatable from a first position to a second position, wherein translation of the selector switch between the first and second positions enables positioning of only one of the first fuel valve assembly and the second fuel valve assembly in the ON position at a given time, such that the first and second fuel valve assemblies cannot be in the ON position concurrently.

[0035] According to another embodiment of the invention, a method of controlling fuel flow in a dual fuel generator includes providing a first fuel valve assembly to control fuel flow from a first fuel source to an internal combustion engine of the dual fuel generator, the first fuel valve assembly including a first fuel valve handle movable between an ON position and an OFF position to control fuel flow from the first fuel source to the internal combustion engine. The method also includes providing a second fuel valve assembly to control fuel flow from a second fuel source to the internal combustion engine of the dual fuel generator, the second fuel valve assembly including a second fuel valve handle movable between an ON position and an OFF position to control fuel flow from the second fuel source to the internal combustion engine. The method further includes providing a fuel selector switch adjacent the first fuel valve assembly and the second fuel valve assembly such that the fuel selector switch is translatable to a first position and a section position, wherein the fuel selector switch is translatable between the first position and the section position to selectively inhibit

actuation of the first fuel valve handle and the second fuel valve handle, so as to prevent a simultaneous flow of fuels from the first and second fuel sources to the internal combustion engine.

[0036] According to yet another embodiment of the invention, a dual fuel generator includes a first fuel source, a second fuel source, and an internal combustion engine coupled to the first fuel source and the second fuel source to selectively receive fuel therefrom. The dual fuel generator also includes a fuel selector configured to control a flow of fuel from the first and second fuel sources to the internal combustion engine, with the fuel selector comprising a first fuel valve assembly including a first fuel valve and a first fuel valve handle that is actuatable between an open position and a closed position to selectively open and close the first fuel valve, a second fuel valve assembly including a second fuel valve and a second fuel valve handle that is actuatable between an open position and a closed position to selectively open and close the second fuel valve, a selector plate having the first fuel valve assembly and the second fuel valve assembly coupled to a front side thereof, and a selector switch slideably coupled to the selector plate so as to be movable from a first position to a second position. Positioning of the selector switch in the first position causes the selector switch to cover the second fuel valve handle so as to prevent the second fuel valve handle from moving to the open position and positioning of the selector switch in the second position causes the selector switch to cover the first fuel valve handle so as to prevent the first fuel valve handle from moving to the open position.

[0037] While the invention has been described in connection with only a limited number of embodiments, it should be readily understood that the invention is not limited to such disclosed embodiments. Rather, the invention can be modified to incorporate any number of variations, alterations, substitutions or equivalent arrangements not heretofore described, but which are commensurate with the spirit and scope of the invention. Additionally, while various embodiments of the invention have been described, it is to be understood that aspects of the invention may include only some of the described embodiments. Accordingly, the invention is not to be seen as limited by the foregoing description, but is only limited by the scope of the appended claims.

CLAIMS

WHAT IS CLAIMED IS:

1. A fuel selector for use with a dual fuel generator, the fuel selector comprising:

a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

a selector switch positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow.

2. The fuel selector of claim 1 wherein the valve assembly comprises:

a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and

a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine.

3. The fuel selector of claim 2 wherein the selector switch provides for manual actuation of the first fuel valve and the second fuel valve between the open and closed positions.

4. The fuel selector of claim 3 further comprising:

a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively;

a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively;

wherein the selector switch is positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time.

5. The fuel selector of claim 4 further comprising a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time.

6. The fuel selector of claim 5 wherein, when the selector switch is in the first position, the first valve handle is actuatable between the ON position and the OFF position and the second valve handle is prohibited from being in the ON position; and

wherein, when the selector switch is in the second position, the first valve handle is prohibited from being in the ON position and the second valve handle is actuatable between the ON position and the OFF position.

7. The fuel selector of claim 5 further comprising a carburetor solenoid switch coupled to the selector plate adjacent and extending out of a front surface thereof, the carburetor solenoid switch comprising a depressible switch configured to activate an associated solenoid when depressed.

8. The fuel selector of claim 7 wherein when the selector switch is in the first position so as to prohibit the second valve handle from being in the ON position, the selector switch depresses the carburetor solenoid switch, so as to activate the carburetor solenoid and stop the flow of the gasoline fuel source.

9. The fuel selector of claim 2 wherein the first fuel valve is attached to a liquefied petroleum gas (LPG) fuel source and wherein the second fuel valve is attached to a gasoline source.

10. A fuel selector for use with a dual fuel generator, the fuel selector comprising:

a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

at least one valve handle positioned on and operably connected to the valve assembly to actuate the valve assembly to enable one of the first fuel flow and the second fuel flow to the engine.

11. The fuel selector of claim 10 wherein the at least one valve handle enables only one of the first fuel flow and the second fuel flow to the engine at a given time.

12. The fuel selector of claim 10 wherein the valve assembly comprises:

a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and

a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine.

13. The fuel selector of claim 12 wherein the at least one valve handle comprises:

a first valve handle coupled to the first fuel valve and actuatable between an ON position and an OFF position to selectively open and close the first fuel valve, respectively;

a second valve handle coupled to the second fuel valve and actuatable between an ON position and an OFF position to selectively open and close the second fuel valve, respectively.

14. The fuel selector of claim 13 further comprising a selector switch positioned relative to the first and second valve handles so as to provide for only one of the first and second valve handles to be in the ON position at a given time.

15. The fuel selector of claim 14 further comprising a selector plate positioned adjacent the first and second valve handles, wherein the selector switch is coupled to the selector plate so as to be movable from a first position to a second position, with movement of the selector switch between the first and second positions enabling positioning of only one of the first valve handle and the second valve handle in the ON position at a given time.

16. The fuel selector of claim 15 wherein, when the selector switch is in the first position, the first valve handle is actuatable between the ON position and the OFF position and the second valve handle is prohibited from being in the ON position; and

wherein, when the selector switch is in the second position, the first valve handle is prohibited from being in the ON position and the second valve handle is actuatable between the ON position and the OFF position.

17. The fuel selector of claim 10 wherein the first fuel source comprises liquefied petroleum gas (LPG) and the second fuel source comprises gasoline.

ABSTRACT

A fuel selector for use with a dual fuel generator includes a selector plate, a first fuel valve assembly positioned adjacent the selector plate and actuatable between an ON position and an OFF position to selectively control a first fuel flow to an engine of the dual fuel generator, and a second fuel valve assembly positioned adjacent the selector plate and actuatable between an ON position and an OFF position to selectively control a second fuel flow to the engine of the dual fuel generator. A selector switch coupled to the selector plate is linearly translatable from a first position to a second position, so as to enable positioning of only one of the first fuel valve assembly and the second fuel valve assembly in the ON position at a given time, such that the first and second fuel valve assemblies cannot be in the ON position concurrently.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)

Title of
Invention

DUAL FUEL SELECTOR SWITCH

As the below named inventor, I hereby declare that:

This declaration
is directed to:



The attached application, or



United States application or PCT international application number _____

filed on _____

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

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

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

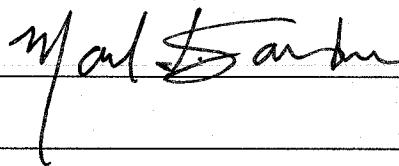
LEGAL NAME OF INVENTOR

Inventor: Mark J. Sarder

Date (Optional):

13/10/31

Signature:



Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional PTO/AIA/01 form for each additional inventor.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)

Title of
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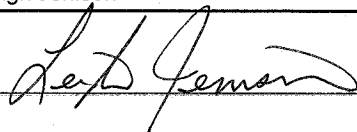
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LEGAL NAME OF INVENTOR

Inventor: Leigh Jenison

Date (Optional): 10-31-2013

Signature:



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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of
Invention

DUAL FUEL SELECTOR SWITCH

As the below named inventor, I hereby declare that:

This declaration
is directed to:



The attached application, or



United States application or PCT international application number _____

filed on _____

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

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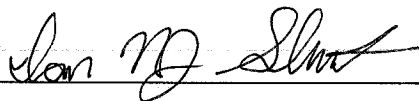
LEGAL NAME OF INVENTOR

Inventor: Ian Schmit

Date (Optional):

10/31/13

Signature:



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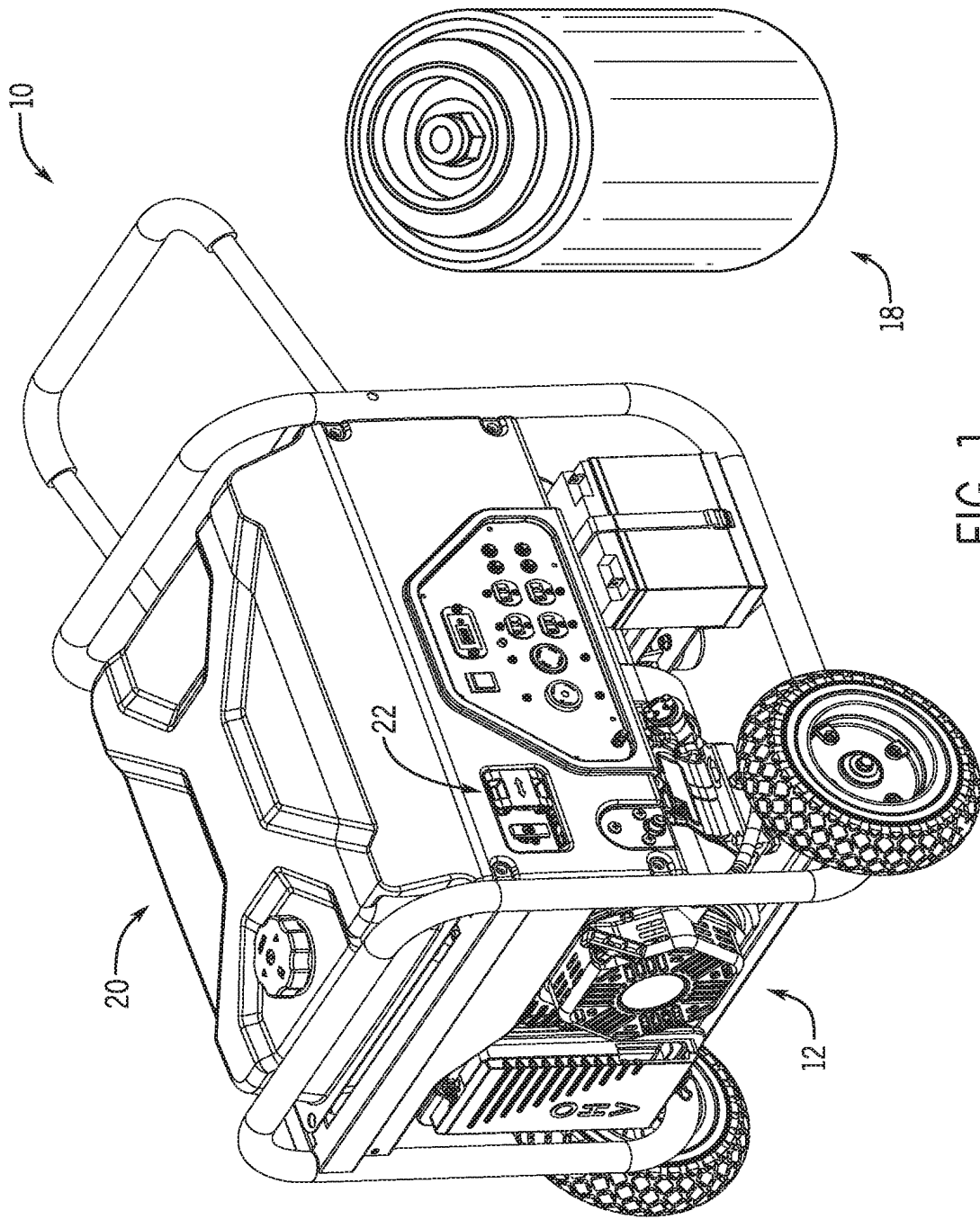


FIG. 1



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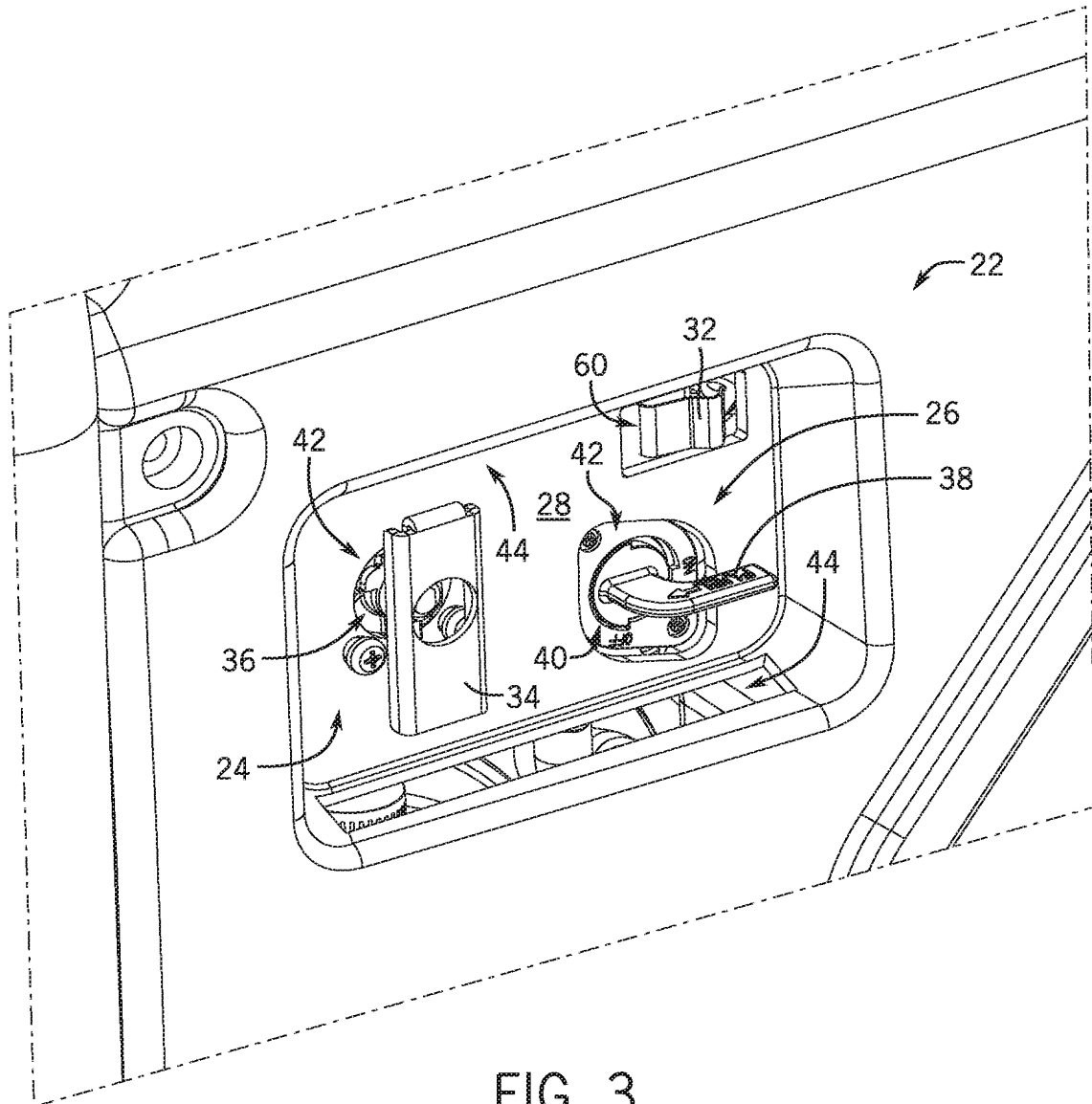


FIG. 3

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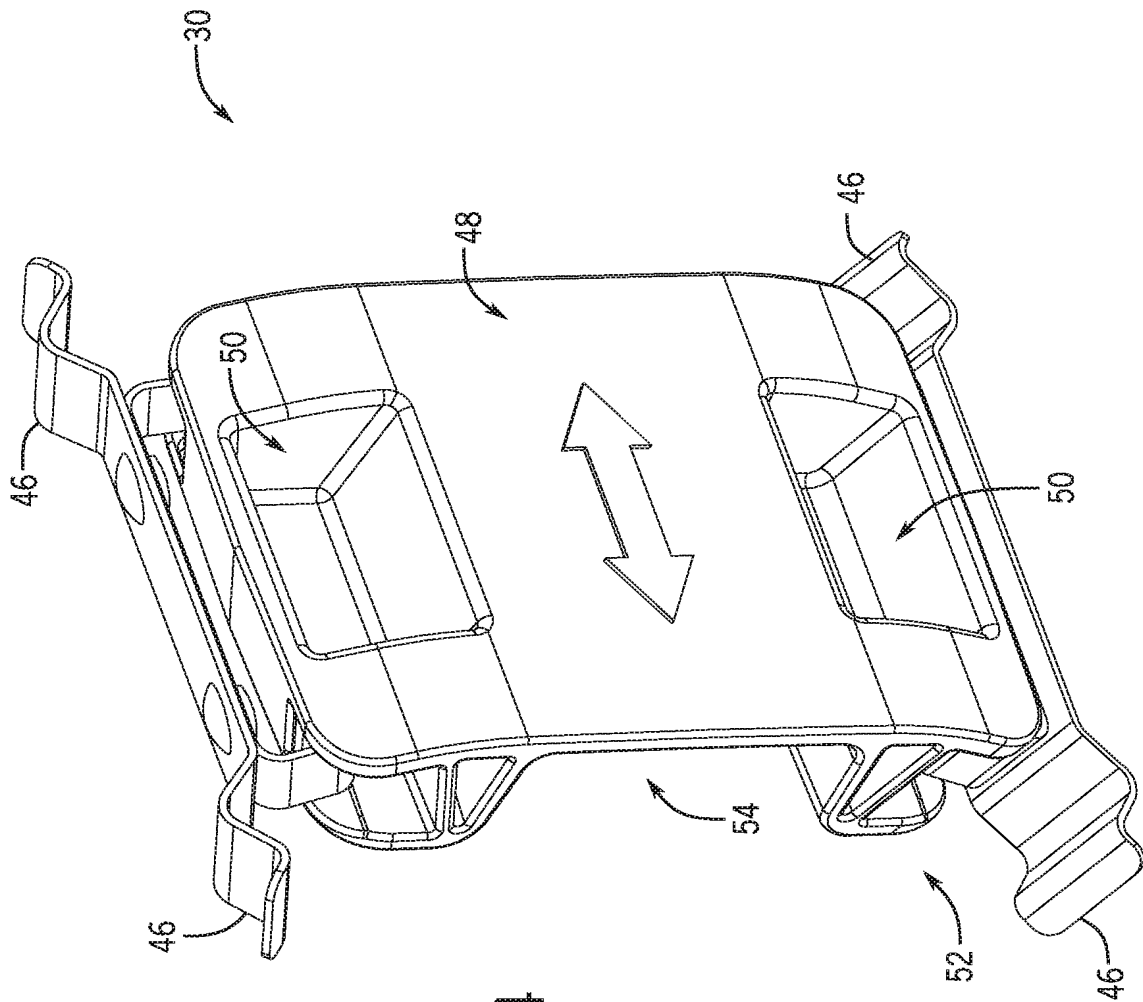


FIG. 4

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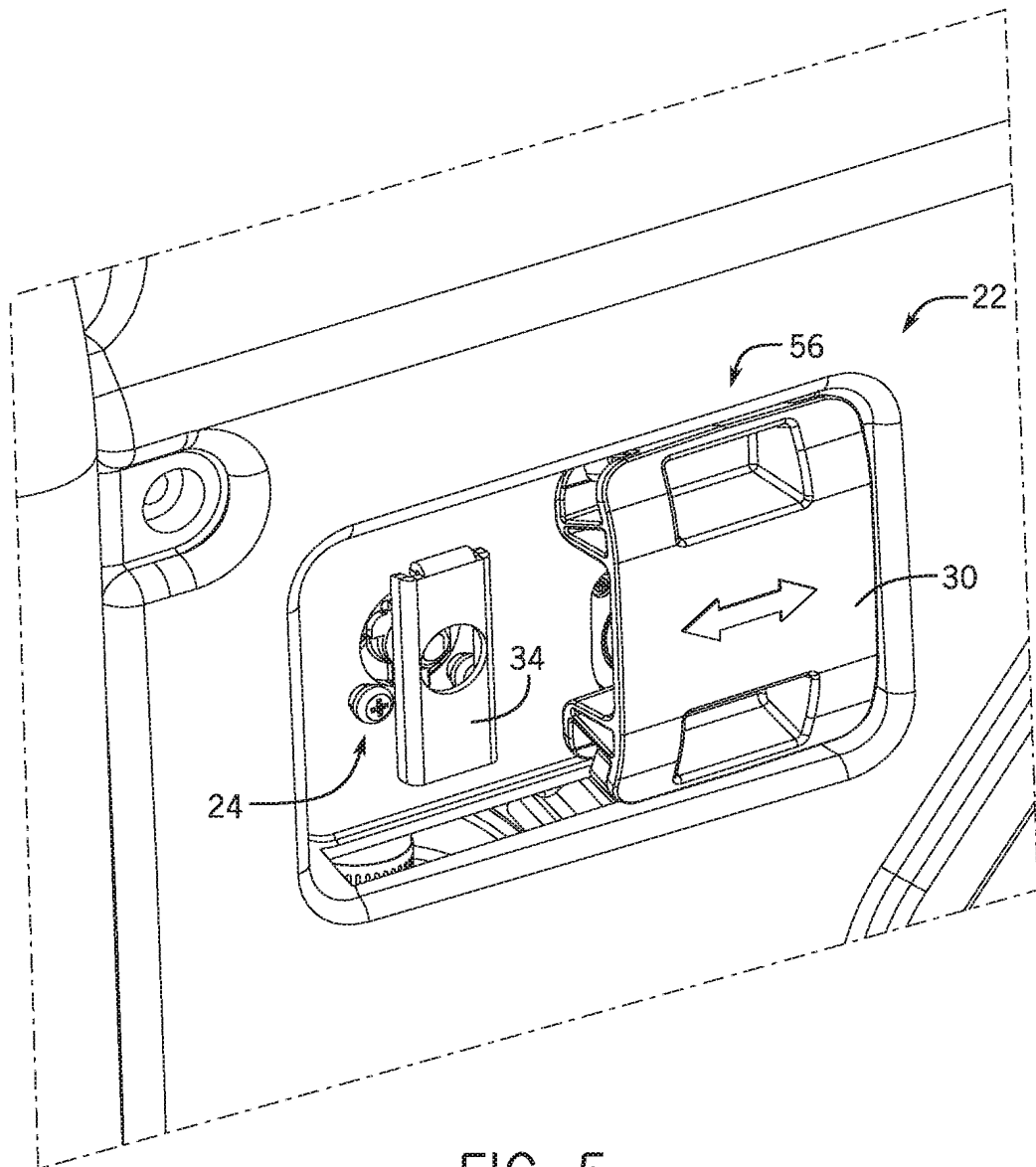


FIG. 5

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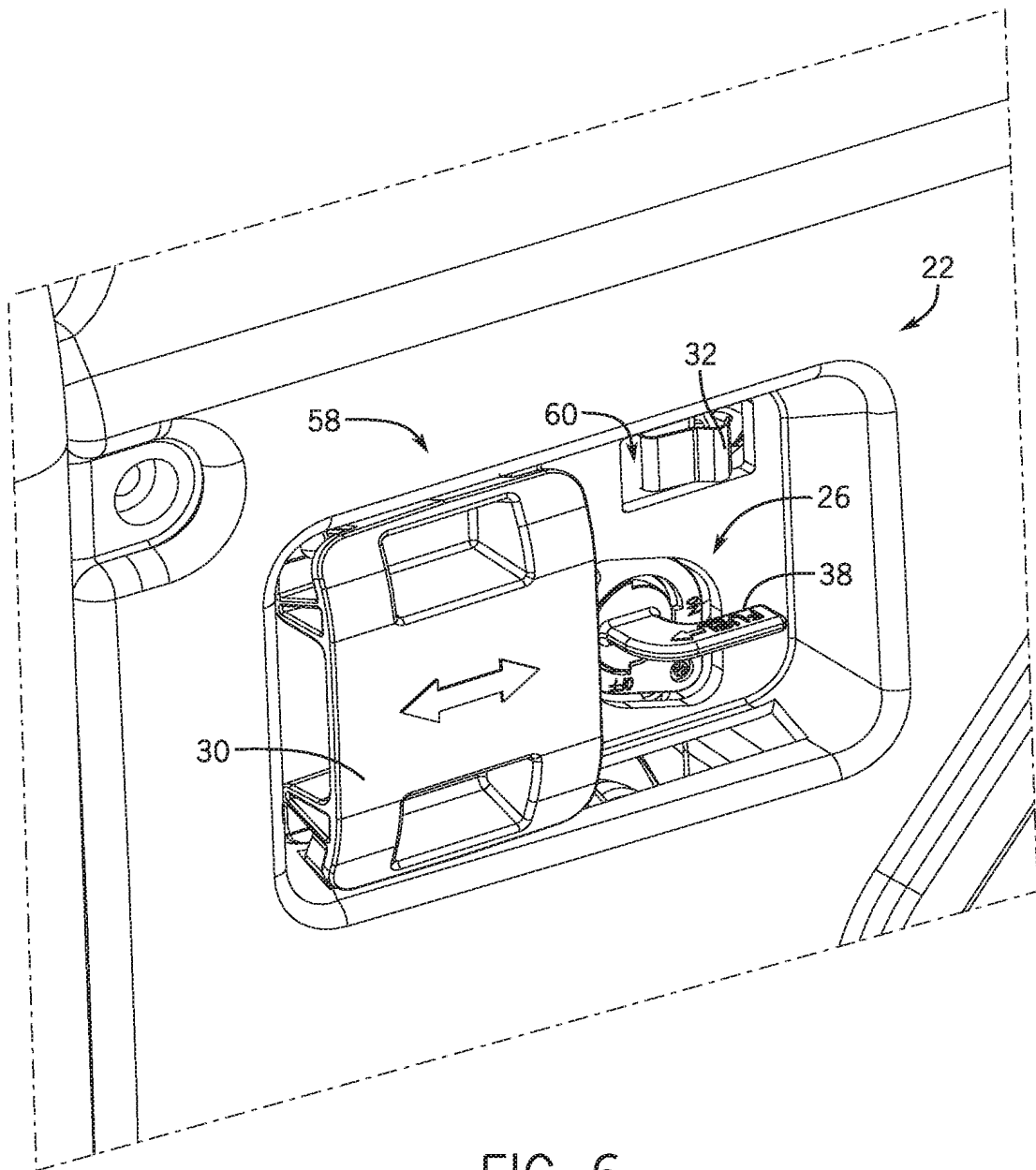


FIG. 6

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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

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- ☐ 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.)

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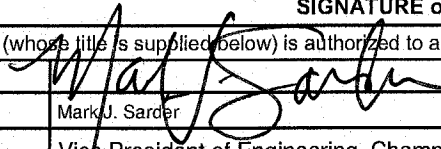
Firm or Individual Name					
Address					
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I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

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- ☐ 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)
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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	Mark J. Sarder		
Title	Vice President of Engineering, Champion Engine Technology, LLC		

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.

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