

DIRECCIÓN DE NUEVAS CREACIONES

Procedimiento acelerado de exámenes de patente (PPH)

1	NÚMERO DE SOLICITUD ANTE LA SIC NC2022/0004806			
2	GLOBAL - PPH ☒ PAÍS ESTADOS UNIDOS DE AMÉRICA	3	PCT – PPH ☐ PAÍS	
4	PROSUR ☐ PAÍS	5	Alianza del Pacífico (AdP) ☐ PAÍS	
6	OFICINA DE PRIMERA PRESENTACIÓN (OPP) ☐	7	OFICINA DE EXAMEN ANTERIOR (OEA) ☐	
8	NÚMERO DE SOLICITUD O PUBLICACIÓN DE LA SOLICITUD (OPP) ☐ NÚMERO DE SOLICITUD EN OFICINA DE EXAMEN ANTERIOR (OEA): ☐ NÚMERO DE SOLICITUD PCT: ☐		1. US 17/108,784	
9	☐ REPRESENTANTE LEGAL ☒ APODERADO			
APELLIDOS RINCÓN USCÁTEGUI		NOMBRES JOSÉ ANDRÉS		IDENTIFICACIÓN C.C .79.780.910 T.P .114.908
DIRECCIÓN Carrera 4 # 72A - 35		No. TELÉFONO 3473611		
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PAÍS COLOMBIA		No. RADICACIÓN O PROTOCOLO DE PODER GENERAL		
10	CONDICIONES PARA ACCEDER A ESTE PROCESO:			
10.1. DATOS DE PRIORIDAD ☒ SI ☐ NO				
(33) PAÍS DE ORIGEN 1. ESTADOS UNIDOS DE AMÉRICA		CÓDIGO PAÍS US	(31) NÚMERO 62/944,301	(32) FECHA (AAAA/MM/DD) 2019/12/05
10.2. DATOS SOLICITUD INTERNACIONAL PCT ☐ SI ☐ NO				
Solicitud Internacional No.		PCT/US2020/062727		Fecha 2020/12/01
Publicación Internacional No.		WO/2021/113253		Fecha 2021/06/10
*El solicitante presenta una copia de la(s) reivindicación(es) patentable(s) u otorgable(s) de la solicitud de la Oficina de Primera Presentación que profirió el examen de patentabilidad, junto con una traducción al castellano. ☒ SI ☐ NO				
*El solicitante presenta los resultados de búsqueda de la Oficina de Examen Anterior, junto con una traducción al castellano ☐ SI ☐ NO				
REQUISITOS PARA EL RECONOCIMIENTO DE LOS RESULTADOS DE EXÁMENES DE PATENTABILIDAD EFECTUADOS A SOLICITUDES EXTRANJERAS				
Para que la Superintendencia de Industria y Comercio pueda reconocer los resultados de exámenes de patentabilidad producidos por otras Oficinas de Propiedad Industrial se debe cumplir con las siguientes condiciones:				
(a) Al momento de solicitar el examen de patentabilidad, si el solicitante pide que se reconozcan exámenes de patentabilidad de otras oficinas extranjeras, deberá aportar junto con el pago de la tasa correspondiente, los siguientes anexos:				
(i) Copia de las resoluciones, fallos o decisiones que han sido relevantes para la determinación de la patentabilidad de la(s) solicitud(es) en la Oficina que haya proferido el examen de patentabilidad que contienen reivindicaciones patentables u otorgables que son la base de la petición, y si es del caso, su traducción al castellano. ☒ SI ☐ NO				
(ii) Copia de todas las reivindicaciones determinadas como patentables u otorgables en la Oficina que profirió el examen de patentabilidad y, si es del caso, su traducción al castellano. ☒ SI ☐ NO				
(iii) Copia de los antecedentes, información o documentos citados por el examinador de la Oficina de Primera Presentación del examen de patentabilidad, en las resoluciones, fallos o decisiones correspondientes, incluyendo la literatura no patente. Los documentos de patente deberán presentarse siempre y cuando no estén disponibles para la Superintendencia de Industria y Comercio mediante el simple acceso a bases de datos gratuitas. ☐ SI ☒ NO				
(iv) Una tabla de correspondencias de las reivindicaciones que han sido determinadas como patentables u otorgables en la solicitud de la Oficina que haya proferido el examen de patentabilidad. ☒ SI ☐ NO				
11	FIRMA DEL SOLICITANTE, DEL APODERADO O DEL REPRESENTANTE LEGAL <i>Junto a cada firma, indicar el nombre del firmante y su calidad (si tal calidad no es obvia al leer el petitorio)</i>			
 ANDRÉS RINCÓN USCÁTEGUI C.C. No. 79.780.910 de Bogotá T.P.A. No. 114.908 del C.S.J.				

10 (iv)	TABLA DE CORRESPONDENCIA DE REIVINDICACIONES		
Reivindicaciones en la solicitud en Colombia		Reivindicaciones otorgables en la Oficina de Examen Anterior (USPTO)	Explicación sobre la suficiente correspondencia ó Comentarios que explican la correspondencia
1 a 4		1 a 4, respectivamente	<i>Las reivindicaciones 1 a 19 del capítulo reivindicatorio de la solicitud de patente NC2022/0004806 presentadas corresponden a las reivindicaciones 1-4, 6-13, 15 y 20-25, respectivamente, concedidas por la USPTO</i>
5 a 12		6 a 13, respectivamente	
13		15	
14 a 19		20 a 25, respectivamente	

4. Notice of Allowance (Notificación de Concesión) emitido por la USPTO el 28 de abril de 2022 y la correspondiente traducción al español de las partes relevantes de este documento.
5. Copia de las reivindicaciones que han sido determinadas por la USPTO como otorgables con su respectiva traducción al español;
6. Nuevo capítulo reivindicatorio conformado por 19 reivindicaciones, correspondiente a las reivindicaciones 1-4, 6-13, 15 y 20-25 consideradas otorgables por la USPTO actuando como Oficina de Examen Anterior.
7. Comprobante de pago por concepto de modificación del capítulo reivindicatorio.
8. Finalmente, a continuación, se encuentra la tabla donde se consigna la correspondencia de las reivindicaciones que han sido concedidas por la USPTO y las presentadas junto con este memorial ante la SIC como modificación voluntaria.

TABLA DE CORRESPONDENCIA

Reivindicaciones presentadas ante la SIC como OSP junto con este memorial	Reivindicaciones consideradas patentables por la USPTO
1 a 4	1 a 4, respectivamente
5 a 12	6 a 13, respectivamente
13	15
14 a 19	20 a 25, respectivamente

Se considera entonces, que las reivindicaciones presentadas son “suficientemente correspondientes” a las concedidas por la USPTO, ya que las reivindicaciones presentadas ante la SIC se refieren a la misma materia que aquella consideradas como otorgables por la Oficina de Examen Anterior (OEA).

Cumpliendo así lo dispuesto para que una solicitud sea aceptada en el procedimiento acelerado de exámenes de patente entre la USPTO actuando como Oficina de Examen Anterior (OEA) y la SIC como Oficina de Segunda Presentación, atentamente solicito que se continúe con el trámite correspondiente a esta solicitud de patente de invención.

Señora Directora,

ANDRÉS RINCÓN USCÁTEGUI

CC 79.780.910 de Bogotá

TP 114.908

1.7. La nueva reivindicación 14 representa, esencialmente, la materia de la reivindicación 6 reescrita en forma independiente. Las nuevas reivindicaciones 15 a 19 han sido añadidas al capítulo reivindicatorio y encuentran soporte en las reivindicaciones 7 a 10 y 12, respectivamente, originalmente presentadas.

En vista de lo anterior, me permito resaltar que el nuevo capítulo reivindicatorio presentado se ajusta completamente a lo exigido por el Artículo 34 de la Decisión 486 de 2000, ya que no constituye una ampliación de la protección que correspondería a la divulgación contenida en la solicitud inicial.

II. PETICIÓN

Amablemente solicito a ese Despacho aceptar las modificaciones aquí presentadas y considerar el capítulo reivindicatorio adjunto al presente memorial durante las etapas siguientes del trámite administrativo de la solicitud de patente de referencia.

III. ANEXOS

1. Nuevo capítulo reivindicatorio conformado por 19 reivindicaciones.
2. Pago en línea por concepto de modificación del capítulo reivindicatorio.
3. Pago en línea por concepto de 9 reivindicaciones adicionales.

Señora Directora,

ANDRÉS RINCÓN USCÁTEGUI

C.C. 79.780.910 de Bogotá

T.P. 114.908

REIVINDICACIONES

1. Un ensamble de interruptor que comprende:
un interruptor eléctricamente acoplado en un extremo a una línea eléctrica y en un extremo opuesto a unos componentes electrónicos; y
un elemento de alta impedancia acoplado en un extremo a la línea eléctrica y en el extremo opuesto a los componentes electrónicos, el elemento de alta impedancia tiene una impedancia más alta que el interruptor para que la corriente fluya a través del interruptor desde la línea eléctrica cuando el interruptor está cerrado y a través del elemento de alta impedancia de la línea eléctrica cuando el interruptor está abierto; y en el que
el ensamble de interruptor incluye un interruptor de vacío que tiene una cámara de vacío definida por un recinto de vacío, y el elemento de alta impedancia está dispuesto en una superficie del recinto de vacío.
2. El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que el elemento de alta impedancia es un elemento resistivo.
3. El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que el elemento de alta impedancia es un elemento capacitivo.
4. El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que el elemento de alta impedancia es una combinación de un elemento resistivo y uno capacitivo.
5. El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que el elemento de alta impedancia es un elemento resistivo en espiral envuelto alrededor de la superficie.
6. El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que el elemento resistivo es una tinta conductora impresa en la superficie.

7. El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que el elemento de alta impedancia incluye un elemento resistivo dispuesto en la superficie y un elemento capacitivo formado en una porción de medio aislante del recinto vacío.
8. El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que uno de los componentes electrónicos es un dispositivo de cierre de interruptor, el dispositivo de cierre de interruptor es alimentado a través el elemento de alta impedancia para cerrar el interruptor cuando está abierto.
9. El ensamblaje de interruptor de acuerdo con la reivindicación 8, en el que el dispositivo de cierre de interruptor es un accionador solenoide.
10. El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que los componentes electrónicos incluyen sensores, procesadores, dispositivos de comunicación y dispositivos de almacenamiento de energía.
11. El conjunto de interruptor de acuerdo con la reivindicación 1, en el que el conjunto de interruptor es parte de un reconectador autoalimentado accionado magnéticamente.
12. Un interruptor de vacío para controlar el flujo de energía en una línea eléctrica, el interruptor de vacío comprende:
 - componentes electrónicos que incluyen un dispositivo de cierre de interruptor;
 - un interruptor eléctricamente acoplado en un extremo a la línea eléctrica y en un extremo opuesto a los componentes electrónicos;
 - un elemento resistivo acoplado en un extremo a la línea eléctrica y en un extremo opuesto a los componentes electrónicos, el elemento resistivo tiene una impedancia más alta que el interruptor, de modo que la corriente fluye a través del interruptor desde la línea eléctrica cuando el interruptor está cerrado y a través del elemento resistivo de la línea eléctrica cuando el interruptor está abierto, el dispositivo de cierre de interruptor es alimentado a través del elemento resistivo para cerrar el interruptor cuando está abierto; y en el que

el elemento resistivo es un elemento resistivo en espiral envuelto alrededor de un recinto de vacío.

13. El interruptor de vacío de acuerdo con la reivindicación 12, en el que el elemento resistivo es una tinta conductora.

14. Un ensamble de interruptor que comprende:

un interruptor eléctricamente acoplado en un extremo a una línea eléctrica y en un extremo opuesto a unos componentes electrónicos; y

un elemento de alta impedancia acoplado en un extremo a la línea eléctrica y en el extremo opuesto a los componentes electrónicos, el elemento de alta impedancia tiene una impedancia más alta que el interruptor para que la corriente fluya a través del interruptor desde la línea eléctrica cuando el interruptor está cerrado y a través del elemento de alta impedancia de la línea eléctrica cuando el interruptor está abierto; y

en el que el ensamble de interruptor incluye un interruptor de vacío que tiene una cámara de vacío definida por un recinto de vacío, y el elemento de alta impedancia es un elemento resistivo en espiral envuelto alrededor del recinto de vacío.

15. El ensamblaje de interruptor de acuerdo con la reivindicación 14, en el que el elemento resistivo es una tinta conductora impresa en una superficie del recinto de vacío.

16. El ensamblaje de interruptor de acuerdo con la reivindicación 14, en el que el elemento de alta impedancia incluye un elemento capacitivo formado en una porción de medio aislante del recinto vacío.

17. El ensamblaje de interruptor de acuerdo con la reivindicación 14, en el que uno de los componentes electrónicos es un dispositivo de cierre de interruptor, el dispositivo de cierre de interruptor es alimentado a través el elemento de alta impedancia para cerrar el interruptor cuando está abierto.

18. El ensamblaje de interruptor de acuerdo con la reivindicación 14, en el que el dispositivo de cierre de interruptor es un accionador solenoide.

19. El ensamblaje de interruptor de acuerdo con la reivindicación 14, en el que el conjunto de interruptor es parte de un reconectador autoalimentado accionado magnéticamente.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/108,784	12/01/2020	Jim Barker	SC-5627	8926
24275	7590	09/28/2021		
S & C Electric Company Anthony G. Sitko 6601 N. Ridge Blvd. Chicago, IL 60626-3904			EXAMINER BOLTON, WILLIAM A	
			ART UNIT	PAPER NUMBER
			2833	
			NOTIFICATION DATE	DELIVERY MODE
			09/28/2021	ELECTRONIC

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

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

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

ASitko@sandc.com
satoko.nakao@sandc.com
tony@anthonysitko.net

Office Action Summary

Application No.

17/108,784

Applicant(s)

Barker et al.

Examiner

WILLIAM A BOLTON

Art Unit

2833

AIA (FITF) 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 12/01/2020.

☐ 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) 1-19 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) 1-3,5,8-13 and 16-19 is/are rejected.

8) ☒ Claim(s) 4,6-7 and 14-15 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 12/01/2020 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)

4) ☐ Other: ____.

Paper No(s)/Mail Date ____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

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.

Claim Rejections - 35 USC § 102

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.

Claims 1-2, 9, 11, 16 are rejected under 35 U.S.C. 102 (a) (1) as being anticipated by Larsson, WO 2014/124771.

Regarding claim 1, Larsson discloses (figs.1-4, 6 and 10) switch assembly comprising:

a switch (140) electrically coupled at one end to a power line (165) and at an opposite end to electronics (1000); and

a high impedance element (150) coupled at one end to the power line (165) and at an opposite end to the electronics (1000), the high impedance element (150) having higher impedance than the switch (140) so that current flows through the switch (140) from the power line when the switch is closed and through the high impedance element (150) from the power line (165) when the switch (140) is open.

Regarding claim 13, Larsson discloses (figs. 1-4, 6 and 10) a vacuum interrupter [pg.10] for controlling power flow on a power line (165), the vacuum interrupter comprising:

electronics (1000) including a switch-closing device (145);

a switch (140) electrically coupled at one end to the power line (165) and at an opposite end to the electronics (1000); and

a resistive element (150) coupled at one end to the power line (165) and at an opposite end to the electronics (1000), the resistive element (150) having higher impedance than the switch (140) so that current flows through the switch (140) from the power line (165) when the switch (140) is closed and through the resistive element (150) from the power line (165) when the switch (140) is open, the switch closing device (145) being powered through the resistive element to close the switch (140) when it is open.

Regarding claim 2, Larsson further discloses where the high impedance element (150) [pg.6] is a resistive element.

Regarding claim 9, Larsson further discloses where one of the electronics (1000) is a switch-closing device (145), the switch-closing device (145) being powered through the high impedance element (150) to close the switch (145) when it is open.

Regarding claims 11 and 16, Larsson further disclose where the electronics (1000) include sensors (trigger signal, 1007), processors (1015), communications devices (1005, 1010) and power storage devices (1020).

Claim Rejections - 35 USC § 103

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.

Claims 3, 17 and 19 are rejected under 35 U.S.C. 103 as being unpatentable over Larsson in view of Drugge et al, US 7786710 [Drugge].

Regarding claim 3, Larsson fails to disclose wherein the high impedance element is a capacitive element.

Drugge discloses (fig.1) a switching apparatus where a high impedance element is a capacitive element (5).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the switch of Larsson with the inclusion of a capacitive element of Drugge, thereby allowing the switch to operate safely, thus limiting the voltage from reaching high levels.

Regarding claim 17, Larsson discloses (figs. 1-4, 6 and 10) a vacuum interrupter [pg.10] for controlling power flow on a power line (165), the vacuum interrupter comprising:

electronics (1000) including a switch-closing device (145);

a switch (140) electrically coupled at one end to the power line (165) and at an opposite end to the electronics (1000).

Larsson fails to disclose a capacitive element coupled at one end to the power line and at an opposite end to the electronics, the capacitive element having higher impedance than the switch so that current flows through the switch from the power line when the switch is closed and through the capacitive element from the power line when the switch is open, the switch closing device being powered through the capacitive element to close the switch when it is open.

Drugge discloses (fig.1) a switching apparatus where a capacitive element (5) coupled at one end to a power line and at an opposite end to an electronics (13), the capacitive element (5) having higher impedance than a switch (4) so that current flows through the switch (4) from the power line

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when the switch (4) is closed and through the capacitive element (5) from the power line when the switch (4) is open, the switch closing device being powered through the capacitive element (5) to close the switch (4) when it is open a high impedance element is a capacitive element (5).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the switch of Larsson with the inclusion of a capacitive element of Drugge, thereby allowing the switch to operate safely, thus limiting the voltage from reaching high levels.

Regarding claim 19, Larsson further disclose where the electronics (1000) include sensors (trigger signal, 1007), processors (1015), communications devices (1005, 1010) and power storage devices (1020).

Claims 5 and 10 are rejected under 35 U.S.C. 103 as being unpatentable over Larsson in view of Richard et al, US 2015/0116878 [Richard].

Regarding claim 5, Larsson fails to explicitly disclose whether the switch assembly is part of a vacuum interrupter and the switch is provided within a vacuum chamber defined by a vacuum housing.

Richard discloses (figs. 1-5) a switch assembly (100) as part of a vacuum interrupter (152) and a switch is provided within a vacuum chamber defined by a vacuum housing (120).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the switch of Larsson with the teaching of the switch of Richard, thereby providing a switch capable of withstanding high voltages and currents.

Regarding claim 10, Larsson fails to disclose wherein the switch-closing device is a solenoid actuator.

Richard discloses (figs. 1-5) a switch assembly (100) where a switch-closing device is a solenoid actuator (172).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the switch of Larsson with the teaching of the actuator of Richard, thereby providing an electromagnetic means of making and breaking the circuit.

Claim 8 is rejected under 35 U.S.C. 103 as being unpatentable over Larsson and Richard and further in view of Schellekens et al, US 8658932 [Schellekens].

Regarding claim 8, Larsson and Richard fail to disclose wherein the high impedance element is a capacitive element formed in an insulating medium that is part of the vacuum housing.

Schellekens discloses (figs. 1-6) a switching assembly where a high impedance element (18) is a capacitive element formed in an insulating medium (8) that is part of a vacuum housing (1).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to further modify the switch of Larsson with the teaching of the switch housing of Schellekens, thereby providing a means for detecting vacuum loss within the vacuum chamber.

Claim 12 is rejected under 35 U.S.C. 103 as being unpatentable over Larsson in view of Lane et al, US 5452172 [lane].

Regarding claim 12, Larsson fails to disclose wherein the switch assembly is part of a self-powered magnetically actuated recloser.

Lane discloses (fig.1) an auto-recloser circuit breaker as part of a self-powered magnetically actuated recloser [abs].

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the switch of Larsson with the teaching of the actuator of Lane, thereby providing powering of the actuator, independent of the high voltage power line.20150170857

Claim 18 is rejected under 35 U.S.C. 103 as being unpatentable over Larsson and Drugge and further in view Richard.

Regarding claim 18, Larsson and Drugge fail to disclose wherein the switch-closing device is a solenoid actuator.

Richard discloses (figs. 1-5) a switch assembly (100) where a switch-closing device is a solenoid actuator (172).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to modify the switch of Larsson with the teaching of the actuator of Richard, thereby providing an electromagnetic means of making and breaking the circuit.

Allowable Subject Matter

Claims 4, 6-7 and 14-15 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.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 4, the prior art fails to teach or show, alone or in combination, the claimed switch assembly, where the high impedance element is a combination of a resistive and capacitive element.

Regarding claims 6 and 14, the prior art fails to teach or show, alone or in combination, the claimed switch assembly, where the high impedance element is a spiral resistive element wrapped around the vacuum housing.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kovacich et al, Smith et al, Montante et al and Rocamora et al are examples of switching assemblies configured similar to the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM A BOLTON whose telephone number is (571)270-5887. The examiner can normally be reached on Mon-Fri: 7:30AM - 5:00PM.

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, Renee S Luebke can be reached on (571)-272-2009. 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.

/WILLIAM A BOLTON/
Primary Examiner, Art Unit 2833

Materia permitida

Las reivindicaciones 4, 6-7 y 14-15 se objetan en tanto son dependientes de una reivindicación base rechazada, pero serían permitidas si se reescriben de forma independiente incluyendo todas las limitaciones de la reivindicación base y de cualquier reivindicación independiente.

La siguiente es una declaración de las razones de la indicación para permitir la materia:

Respecto a la reivindicación 4, el arte previo no enseña o muestra, solo ni en combinación, el ensamblaje de interruptor, en donde el elemento de alta impedancia es una combinación de un elemento resistivo y uno capacitivo.

Respecto a las reivindicaciones 6 y 14, el arte previo no enseña o muestra, solo ni en combinación, el ensamblaje de interruptor, en donde el elemento de alta impedancia es un elemento resistivo en espiral envuelto alrededor de la superficie.

Docket No.: SC-5627
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application No.: 17/108,784

Filed: December 1, 2020

Confirmation No.: 8926

Applicant: S&C Electric Company

Art Unit: 2833

Title: SWITCH ASSEMBLY WITH ENERGY
HARVESTING

Examiner: William A. Bolton

RESPONSE TO NON-FINAL OFFICE ACTION UNDER 37 CFR §1.111

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

Dear Commissioner:

This paper is submitted in response to the Non-Final Office Action dated September 28, 2021. The Applicant responds as follows:

Amendments to the Claims beginning on page 2 of this paper;

Remarks beginning on page 6 of this paper.

Amendments to the Claims

1. (currently amended) A switch assembly comprising:
a switch electrically coupled at one end to a power line and at an opposite end to electronics; and
a high impedance element coupled at one end to the power line and at an opposite end to the electronics, the high impedance element having higher impedance than the switch so that current flows through the switch from the power line when the switch is closed and through the high impedance element from the power line when the switch is open; and wherein,
the switch assembly includes a vacuum interrupter having a vacuum chamber defined by a vacuum housing, and the high impedance element is disposed on a surface of the vacuum housing.
2. (original) The switch assembly according to claim 1 wherein the high impedance element is a resistive element.
3. (original) The switch assembly according to claim 1 wherein the high impedance element is a capacitive element.
4. (original) The switch assembly according to claim 1 wherein the high impedance element is a combination of a resistive and capacitive element.
5. (canceled).
6. (currently amended) The switch assembly according to claim ~~5~~ 1 wherein the high impedance element is a spiral resistive element wrapped around the ~~vacuum housing~~ surface.
7. (currently amended) The switch assembly according to claim ~~6~~ 1 wherein the resistive element is a conductive ink printed on the surface.

8. (currently amended) The switch assembly according to claim ~~5~~ 1 wherein the high impedance element ~~is~~ includes a resistive element disposed on the surface and a capacitive element formed in an insulating medium ~~that is part~~ portion of the vacuum housing.

9. (original) The switch assembly according to claim 1 wherein one of the electronics is a switch closing device, the switch closing device being powered through the high impedance element to close the switch when it is open.

10. (original) The switch assembly according to claim 9 wherein the switch closing device is a solenoid actuator.

11. (original) The switch assembly according to claim 1 wherein the electronics include sensors, processors, communications devices and power storage devices.

12. (original) The switch assembly according to claim 1 wherein the switch assembly is part of a self-powered magnetically actuated recloser.

13. (currently amended) A vacuum interrupter for controlling power flow on a power line, the vacuum interrupter comprising:

electronics including a switch closing device;

a switch electrically coupled at one end to the power line and at an opposite end to the electronics; ~~and~~

a resistive element coupled at one end to the power line and at an opposite end to the electronics, the resistive element having higher impedance than the switch so that current flows through the switch from the power line when the switch is closed and through the resistive element from the power line when the switch is open, the switch closing device being powered through the resistive element to close the switch when it is open; and wherein

the resistive element is a spiral resistive element wrapped around the vacuum housing.

14. (canceled).

15. (currently amended) The vacuum interrupter according to claim ~~44~~ 13 wherein the resistive element is a conductive ink.

16. (canceled).

17. (canceled).

18. (canceled).

19. (canceled).

20. (new) A switch assembly comprising:
a switch electrically coupled at one end to a power line and at an opposite end to electronics; and

a high impedance element coupled at one end to the power line and at an opposite end to the electronics, the high impedance element having higher impedance than the switch so that current flows through the switch from the power line when the switch is closed and through the high impedance element from the power line when the switch is open, and

wherein the switch assembly includes a vacuum interrupter having a vacuum chamber defined by a vacuum housing, and the high impedance element is a spiral resistive element wrapped around the vacuum housing.

21. (new) The switch assembly according to claim 20 wherein the resistive element is a conductive ink printed on a surface of the vacuum housing.

22. (new) The switch assembly according to claim 20 wherein the high impedance element includes a capacitive element formed in an insulating medium portion of the vacuum housing.

23. (new) The switch assembly according to claim 20 wherein one of the electronics is a switch closing device, the switch closing device being powered through the high impedance element to close the switch when it is open.

24. (new) The switch assembly according to claim 24 wherein the switch closing device is a solenoid actuator.

25. (new) The switch assembly according to claim 20 wherein the switch assembly is part of a self-powered magnetically actuated recloser.

Remarks

Claims 1-4, 6-13, 15 remain pending in the application, and were examined in the recent action. Claims 20-25 are newly added. Claims 5, 14, and 16-19 are canceled, without prejudice to bringing claims of the same or similar scope in this or in related applications.

The applicant acknowledges with thanks the indication of allowable subject matter recited in claims 4, 6-7 and 14-15. Claim 20 presents essentially the subject matter of claim 6 in independent form. Claim 13 is amended to incorporated and present essentially the subject matter of claim 14. The applicant therefore respectfully asserts that claims 13, 15 and 20-25 are allowable.

The applicant has also amended claim 1 to recite, among other things, the resistive element being disposed on a surface of a vacuum housing of a vacuum interrupter portion of the switch assembly. The applicant respectfully submits that the art of record does not teach, disclose or suggest a switch including a vacuum interrupter that has a high impedance element in parallel with the switch and disposed on a surface of the vacuum interrupter. For at least this reason, the applicant submits that claim 1 is allowable, and likewise, claims 2-4 and 6-12 are allowable as being dependent from an allowable base claim.

The Applicant respectfully submits the application is now in condition for allowance.

The Commissioner is hereby authorized to charge any additional fees which may be required with respect to this communication, or credit any overpayment, to Deposit Account No. 19-0225.

Dated: 2022-02-24

Respectfully submitted,

/Anthony G. Sitko, 36278/

Anthony G. Sitko
Registration No.: 36,278
Attorney for Applicant
S&C Electric Company
6601 North Ridge Boulevard
Chicago, Illinois 60626-3407
(773) 338-1000, Ext. 2497



UNITED STATES PATENT AND TRADEMARK OFFICE

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

24275 7590 04/28/2022
S & C Electric Company
Anthony G. Sitko
6601 N. Ridge Blvd.
Chicago, IL 60626-3904

EXAMINER	
BOLTON, WILLIAM A	
ART UNIT	PAPER NUMBER
2833	

DATE MAILED: 04/28/2022

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/108,784	12/01/2020	Jim Barker	SC-5627	8926

TITLE OF INVENTION: SWITCH ASSEMBLY WITH ENERGY HARVESTING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	07/28/2022

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. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

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

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

PART B - FEE(S) TRANSMITTAL

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

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

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

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

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

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

24275 7590 04/28/2022
S & C Electric Company
Anthony G. Sitko
6601 N. Ridge Blvd.
Chicago, IL 60626-3904

Certificate of Mailing or Transmission

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

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/108,784	12/01/2020	Jim Barker	SC-5627	8926

TITLE OF INVENTION: SWITCH ASSEMBLY WITH ENERGY HARVESTING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	07/28/2022

EXAMINER	ART UNIT	CLASS-SUBCLASS
BOLTON, WILLIAM A	2833	218-118000

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/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

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

1 _____

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

2 _____

3 _____

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

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

(A) NAME OF ASSIGNEE

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

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

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

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

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

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

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

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

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

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

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

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

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/108,784	12/01/2020	Jim Barker	SC-5627	8926
24275	7590	04/28/2022	EXAMINER	
S & C Electric Company Anthony G. Sitko 6601 N. Ridge Blvd. Chicago, IL 60626-3904			BOLTON, WILLIAM A	
			ART UNIT	PAPER NUMBER
			2833	
DATE MAILED: 04/28/2022				

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

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

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

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

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

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

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

Privacy Act Statement

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

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

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

Notice of Allowability	Application No. 17/108,784	Applicant(s) Barker et al.	
	Examiner WILLIAM A BOLTON	Art Unit 2833	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 amendments and remarks filed 24 February 2022.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

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

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

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

Certified copies:

a) ☐ All b) ☐ Some* c) ☐ None of the:

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

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

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

* Certified copies not received: ____.

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

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

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

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

Attachment(s)

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

/WILLIAM A BOLTON/ Primary Examiner, Art Unit 2833	
---	--

Continuation of 3. The allowed claim(s) is/are: 1-4,6-13,15 and 20-25

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

Response to Amendment

The Amendment filed February 24th, 2022 has been entered. Claims 1-4, 6-13, 15 and 20-25 are pending. Claims 1, 6-8, 13 and 15 have been amended, claims 5, 14 and 16-19 have been canceled and claims 20-25 have been added by the Applicant.

EXAMINER'S AMENDMENT

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 a telephone interview with Anthony G. Sitko on April 18th, 2022.

The application has been amended as follows:

Claim 13, lines 11-12, "the vacuum housing" has been changed to -a vacuum housing-.

Claim 20, line 1, "claim 24" has been changed to -claim 20-.

Allowable Subject Matter

Claims 1-4, 6-13, 15 and 20-25 are allowed.

Independent claims 1, 13 and 20 now contain the subject matter indicated as allowable in the previous Office Action.

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

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM A BOLTON whose telephone number is (571)270-5887. The examiner can normally be reached Mon-Fri: 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee S Luebke can be reached on (571)-272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/WILLIAM A BOLTON/
Primary Examiner, Art Unit 2833

Doc code: IDS

PTO/SB/08a (02-18)

Doc description: Information Disclosure Statement (IDS) Filed

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Application Number	17108784
Filing Date	2020-12-01
First Named Inventor	Jim Barker
Art Unit	2833
Examiner Name	William A. Bolton
Attorney Docket Number	SC-5627

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

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Attorney Docket Number	SC-5627

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EXAMINER SIGNATURE

Examiner Signature	/WILLIAM A BOLTON/	Date Considered	04/18/2022
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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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	/Anthony G. Sitko, 36278/	Date (YYYY-MM-DD)	2022-03-09
Name/Print	Anthony G Sitko	Registration Number	36278

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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.

Número de solicitud/control: 17/108, 784

Unidad de Arte: 2833

ACCIÓN DETALLADA

[...]

Respuesta a la Modificación

La modificación presentada el 24 de febrero de 2022 ha sido introducida. Las reivindicaciones 1-4, 6-13, 15 y 20-25 están pendientes. Las reivindicaciones 1, 6-8, 13 y 15 han sido modificadas, las reivindicaciones 5, 14 y 16-19 han sido canceladas y las reivindicaciones 20-25 han sido añadidas por el solicitante.

MODIFICACIÓN DEL EXAMINADOR

Una modificación del examinador en el expediente aparece abajo. En caso de que los cambios y/o adiciones sean inaceptables para el solicitante, una modificación puede ser presentada de acuerdo con lo previsto por 37 CFR 1.312. Para asegurar la consideración de dicha modificación, se DEBE presentar no luego del pago de la tasa de emisión.

La autorización para esta modificación el examinador fue dada en entrevista telefónica con Anthony G Sitko en 18 de abril de 2022.

La solicitud se ha modificado como sigue:

Reivindicación 13, líneas 11-12 “el recinto de vacío” ha sido cambiado a -un recinto de vacío-

.

Reivindicación 20, línea, “reivindicación 24” ha sido cambiada a -reivindicación 20-.

Materia permitida

Reivindicación 1-4, 6-13, 15 y 20-25 se permiten.

Las reivindicaciones 1, 13 y 20 ahora contienen la materia indicada como concesible en la Acción Oficial anterior.

Amendments to the Claims

1. (currently amended) A switch assembly comprising:
a switch electrically coupled at one end to a power line and at an opposite end to electronics; and
a high impedance element coupled at one end to the power line and at an opposite end to the electronics, the high impedance element having higher impedance than the switch so that current flows through the switch from the power line when the switch is closed and through the high impedance element from the power line when the switch is open;
and _____ wherein,
the switch assembly includes a vacuum interrupter having a vacuum chamber defined by a vacuum housing, and the high impedance element is disposed on a surface of the vacuum housing.
2. (original) The switch assembly according to claim 1 wherein the high impedance element is a resistive element.
3. (original) The switch assembly according to claim 1 wherein the high impedance element is a capacitive element.
4. (original) The switch assembly according to claim 1 wherein the high impedance element is a combination of a resistive and capacitive element.
5. (canceled).
6. (currently amended) The switch assembly according to claim ~~5~~ 1 wherein the high impedance element is a spiral resistive element wrapped around the ~~vacuum housing~~ surface.
7. (currently amended) The switch assembly according to claim ~~6~~ 1 wherein the resistive element is a conductive ink printed on the surface.

8. (currently amended) The switch assembly according to claim 5 ~~1~~ wherein the high impedance element ~~is~~ includes a resistive element disposed on the surface and a capacitive element formed in an insulating medium ~~that is part~~ portion of the vacuum housing.

9. (original) The switch assembly according to claim 1 wherein one of the electronics is a switch closing device, the switch closing device being powered through the high impedance element to close the switch when it is open.

10. (original) The switch assembly according to claim 9 wherein the switch closing device is a solenoid actuator.

11. (original) The switch assembly according to claim 1 wherein the electronics include sensors, processors, communications devices and power storage devices.

12. (original) The switch assembly according to claim 1 wherein the switch assembly is part of a self-powered magnetically actuated recloser.

13. (currently amended) A vacuum interrupter for controlling power flow on a power line, the vacuum interrupter comprising:

electronics including a switch closing device;

a switch electrically coupled at one end to the power line and at an opposite end to the electronics; ~~and~~

a resistive element coupled at one end to the power line and at an opposite end to the electronics, the resistive element having higher impedance than the switch so that current flows through the switch from the power line when the switch is closed and through the resistive element from the power line when the switch is open, the switch closing device being powered through the resistive element to close the switch when it is open; and wherein the resistive element is a spiral resistive element wrapped around a vacuum housing.

14. (canceled).

15. (currently amended) The vacuum interrupter according to claim ~~14~~ 13 wherein the resistive element is a conductive ink.

16. (canceled).

17. (canceled).

18. (canceled).

19. (canceled).

20. (new) A switch assembly comprising:
a switch electrically coupled at one end to a power line and at an opposite end to electronics; and

a high impedance element coupled at one end to the power line and at an opposite end to the electronics, the high impedance element having higher impedance than the switch so that current flows through the switch from the power line when the switch is closed and through the high impedance element from the power line when the switch is open, and

wherein the switch assembly includes a vacuum interrupter having a vacuum chamber defined by a vacuum housing, and the high impedance element is a spiral resistive element wrapped around the vacuum housing.

21. (new) The switch assembly according to claim 20 wherein the resistive element is a conductive ink printed on a surface of the vacuum housing.

22. (new) The switch assembly according to claim 20 wherein the high impedance element includes a capacitive element formed in an insulating medium portion of the vacuum housing.

23. (new) The switch assembly according to claim 20 wherein one of the electronics is a switch closing device, the switch closing device being powered through the high impedance element to close the switch when it is open.

24. (new) The switch assembly according to claim 20 wherein the switch closing device is a solenoid actuator.

25. (new) The switch assembly according to claim 20 wherein the switch assembly is part of a self-powered magnetically actuated recloser.

REIVINDICACIONES

1. (actualmente modificada) Un ensamble de interruptor que comprende:
un interruptor eléctricamente acoplado en un extremo a una línea eléctrica y en un extremo opuesto a unos componentes electrónicos; y
un elemento de alta impedancia acoplado en un extremo a la línea eléctrica y en el extremo opuesto a los componentes electrónicos, el elemento de alta impedancia tiene una impedancia más alta que el interruptor para que la corriente fluya a través del interruptor desde la línea eléctrica cuando el interruptor está cerrado y a través del elemento de alta impedancia de la línea eléctrica cuando el interruptor está abierto; y en el que el ensamble de interruptor incluye un interruptor de vacío que tiene una cámara de vacío definida por un recinto de vacío, y el elemento de alta impedancia está dispuesto en una superficie del recinto de vacío.
2. (original) El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que el elemento de alta impedancia es un elemento resistivo.
3. (original) El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que el elemento de alta impedancia es un elemento capacitivo.
4. (original) El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que el elemento de alta impedancia es una combinación de un elemento resistivo y uno capacitivo.
5. (cancelada)
6. (actualmente modificada) El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que el elemento de alta impedancia es un elemento resistivo en espiral envuelto alrededor del ~~recinto de vacío~~ la superficie.

7. (actualmente modificada) El ensamblaje de interruptor de acuerdo con la reivindicación 61, en el que el elemento resistivo es una tinta conductora impresa en la superficie.

8. (actualmente modificada) El ensamblaje de interruptor de acuerdo con la reivindicación 51, en el que el elemento de alta impedancia ~~es~~ incluye un elemento resistivo dispuesto en la superficie y un elemento capacitivo formado en una porción de medio aislante ~~que es parte~~ del recinto vacío.

9. (original) El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que uno de los componentes electrónicos es un dispositivo de cierre de interruptor, el dispositivo de cierre de interruptor es alimentado a través el elemento de alta impedancia para cerrar el interruptor cuando está abierto.

10. (original) El ensamblaje de interruptor de acuerdo con la reivindicación 9, en el que el dispositivo de cierre de interruptor es un accionador solenoide.

11. (original) El ensamblaje de interruptor de acuerdo con la reivindicación 1, en el que los componentes electrónicos incluyen sensores, procesadores, dispositivos de comunicación y dispositivos de almacenamiento de energía.

12. (original) El conjunto de interruptor de acuerdo con la reivindicación 1, en el que el conjunto de interruptor es parte de un reconectador autoalimentado accionado magnéticamente.

13. (actualmente modificada) Un interruptor de vacío para controlar el flujo de energía en una línea eléctrica, el interruptor de vacío comprende:

componentes electrónicos que incluyen un dispositivo de cierre de interruptor;

un interruptor eléctricamente acoplado en un extremo a la línea eléctrica y en un extremo opuesto a los componentes electrónicos; y

un elemento resistivo acoplado en un extremo a la línea eléctrica y en un extremo opuesto a los componentes electrónicos, el elemento resistivo tiene una impedancia más alta que

el interruptor, de modo que la corriente fluye a través del interruptor desde la línea eléctrica cuando el interruptor está cerrado y a través del elemento resistivo de la línea eléctrica cuando el interruptor está abierto, el dispositivo de cierre de interruptor es alimentado a través del elemento resistivo para cerrar el interruptor cuando está abierto; y en el que

el elemento resistivo es un elemento resistivo en espiral envuelto alrededor de un recinto de vacío.

14. (cancelada).

15. (actualmente modificada) El interruptor de vacío de acuerdo con la reivindicación ~~14~~ 13, en el que el elemento resistivo es una tinta conductora.

16. (cancelada).

17. (cancelada).

18. (cancelada).

19. (cancelada).

20. (nueva) Un ensamble de interruptor que comprende:
un interruptor eléctricamente acoplado en un extremo a una línea eléctrica y en un extremo opuesto a unos componentes electrónicos; y
un elemento de alta impedancia acoplado en un extremo a la línea eléctrica y en el extremo opuesto a los componentes electrónicos, el elemento de alta impedancia tiene una impedancia más alta que el interruptor para que la corriente fluya a través del interruptor desde la línea eléctrica cuando el interruptor está cerrado y a través del elemento de alta impedancia de la línea eléctrica cuando el interruptor está abierto; y

en el que el ensamble de interruptor incluye un interruptor de vacío que tiene una cámara de vacío definida por un recinto de vacío, y el elemento de alta impedancia es un elemento resistivo en espiral envuelto alrededor del recinto de vacío.

21. (nueva) El ensamblaje de interruptor de acuerdo con la reivindicación 14, en el que el elemento resistivo es una tinta conductora impresa en una superficie del recinto de vacío.

22. (nueva) El ensamblaje de interruptor de acuerdo con la reivindicación 14, en el que el elemento de alta impedancia incluye un elemento capacitivo formado en una porción de medio aislante del recinto vacío.

23. (nueva) El ensamblaje de interruptor de acuerdo con la reivindicación 14, en el que uno de los componentes electrónicos es un dispositivo de cierre de interruptor, el dispositivo de cierre de interruptor es alimentado a través el elemento de alta impedancia para cerrar el interruptor cuando está abierto.

24. (nueva) El ensamblaje de interruptor de acuerdo con la reivindicación 14, en el que el dispositivo de cierre de interruptor es un accionador solenoide.

25. (nueva) El ensamblaje de interruptor de acuerdo con la reivindicación 14, en el que el conjunto de interruptor es parte de un reconectador autoalimentado accionado magnéticamente.