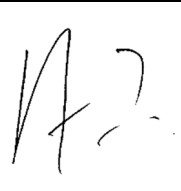


	Espacio reservado para el adhesivo de radicación
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DIRECCIÓN DE NUEVAS CREACIONES
Procedimiento acelerado de exámenes de patente (PPH)

1	NÚMERO DE SOLICITUD ANTE LA SIC NC2021/0008308		
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): ☒ 1. US 16/744,806 NÚMERO DE SOLICITUD PCT: ☐		
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	
CIUDAD Bogotá, D.C.		CORREO ELECTRÓNICO cavelier@cavelier.com	
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 62/799,404
(32) FECHA (AAAA/MM/DD) 2019/01/31			
10.2. DATOS SOLICITUD INTERNACIONAL PCT ☐ SI ☐ NO			
Solicitud Internacional No. PCT/US2020/013853		Fecha 2020/01/16	
Publicación Internacional No. WO/2020/159716		Fecha 2020/08/06	
*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 solicitud por la USPTO como OEA	Explicación sobre la suficiente correspondencia ó Comentarios que explican la correspondencia
	1	21	Las reivindicaciones 1 a 9 del capítulo reivindicatorio de la solicitud NC2021/0008308 actualmente presentadas corresponden a las reivindicaciones 21 a 29, respectivamente, consideradas otorgables por la USPTO como Oficina de Examen Anterior.
	2	22	
	3	23	
	4	24	
	5	25	
	6	26	
	7	27	
	8	28	
	9	29	

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4. Notice of allowance (Notificación de concesión) emitido por la USPTO el 18 de julio 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 9 reivindicaciones, correspondiente a las reivindicaciones 21-29 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	21
2	22
3	23
4	24
5	25
6	26
7	27
8	28
9	29

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

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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 9 reivindicaciones.
2. Pago en línea por concepto de modificación del capítulo reivindicatorio.

Señora Directora,

ANDRÉS RINCÓN USCÁTEGUI

C.C. 79.780.910 de Bogotá

T.P. 114.908

Reivindicaciones

1. Un método para separar contactos soldados en un conjunto de interruptor, el método comprende:

ordenar a un actuador que proporcione un golpe de martillo para abrir los contactos de un interruptor

determinar que los contactos están soldados y no se han abierto en respuesta al golpe de martillo, detectando una continuidad del flujo de corriente a través del interruptor; y

ordenar al actuador que proporcione un segundo golpe de martillo.

2. El método según la reivindicación 1, en el que el golpe de martillo comprende primero ordenar al actuador que cierre los contactos del interruptor antes de ordenar al actuador que abra los contactos del interruptor.

3. El método según la reivindicación 1, en el que el golpe de martillo comprende el accionamiento mecánico del actuador.

4. El método según la reivindicación 1, en el que el actuador es un actuador electromagnético, y en ordenar a los contactos que se abran incluye accionar electromagnéticamente el actuador.

5. El método según la reivindicación 4, en el que la orden de cierre de los contactos incluye el accionamiento eléctrico del actuador.

6. El método según la reivindicación 1 comprende además determinar que los contactos están soldados y no se han abierto en respuesta al segundo golpe de martillo detectando una continuidad del flujo de corriente a través del interruptor; y

ordenar al actuador que proporcione un tercer golpe de martillo.

7. El método según la reivindicación 1, en el que el interruptor es un reconector de fallas monofásico autoalimentado y accionado magnéticamente para ser empleado en una red de distribución de energía de voltaje medio.

8. Un interruptor monofásico de interrupción de fallas autoalimentado y accionado magnéticamente para ser empleado en una red de distribución de energía de voltaje medio, el interruptor comprende:

un interruptor de vacío que tiene un contacto fijo y un contacto móvil, el contacto móvil acoplado a un actuador electromagnético operable para conducir el contacto móvil de una posición abierta a una posición cerrada y de la posición cerrada a la posición abierta;

un sensor acoplado al interruptor de vacío, el sensor operable para proporcionar una señal indicativa de una condición de fallo;

un controlador acoplado al sensor y al actuador electromagnético, estando el controlador configurado para proporcionar una señal de comando al actuador electromagnético para mover el contacto móvil de la posición abierta a la posición cerrada y de la posición cerrada a la posición abierta;

el controlador está configurado además para responder a la señal indicativa de una condición de fallo para proporcionar una orden al actuador electromagnético para abrir el contacto móvil mediante un golpe de martillo;

el controlador está configurado además para determinar que el contacto fijo y el contacto móvil están soldados después del golpe de martillo, basándose en la señal que indica una condición de fallo; y

el controlador está configurado además para responder a que el contacto fijo y el contacto móvil están soldados para ordenar al actuador electromagnético que abra el contacto móvil mediante un segundo golpe de martillo.

9. El interruptor de la reivindicación 8, en el que el controlador está configurado además para determinar que el contacto fijo y el contacto móvil están soldados juntos después del segundo golpe de martillo, basándose en la señal indicativa de una condición de fallo; y

el controlador está configurado además para responder a que el contacto fijo y el contacto móvil están soldados entre sí para ordenar al actuador electromagnético que abra el contacto móvil mediante un tercer golpe de martillo.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/744,806	01/16/2020	Tsvetan Rusev	SC-5598	3878
24275	7590	02/04/2021	EXAMINER	
S & C Electric Company Anthony G. Sitko 6601 N. Ridge Blvd. Chicago, IL 60626-3904			BOLTON, WILLIAM A	
			ART UNIT	PAPER NUMBER
			2833	
			NOTIFICATION DATE	DELIVERY MODE
			02/04/2021	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.

16/744,806

Applicant(s)

Rusev 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 01/16/2020.

☐ 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) 1-20 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) 1-20 is/are rejected.

8) ☐ Claim(s) ____ 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 01/16/2020 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 Objections

Claims 1, 7, 9, 11, 13 and 19 are objected to because:

Claim 1, line 10, "it is" unclear as to what is being referred to.

Claim 1, line 10, "they" is unclear as to what is being referred to.

Claim 7, line 2, "they" is unclear as to what is being referred to.

Claim 7, line 4, "it is" unclear as to what is being referred to.

Claim 7, line 4, "they" is unclear as to what is being referred to.

Claim 9, line 12, "it is" unclear as to what is being referred to.

Claim 11, line 3, "they" is unclear as to what is being referred to.

Claim 11, line 5, "it is" unclear as to what is being referred to.

Claim 13, line 10, "it is" unclear as to what is being referred to.

Claim 13, line 11, "they" is unclear as to what is being referred to.

Claim 19, line 2, "they" is unclear as to what is being referred to.

Claim 19, line 4, "it is" unclear as to what is being referred to.

35 USC § 112

Claims 13-18 use the word “means” without reciting sufficient structure to achieve the function. Furthermore, the generic placeholder is not preceded by a structural modifier. A review of the specification does not appear to show corresponding structures to achieve the functions.

A limitation construed under 35 U.S.C. 112 (f) or pre-AIA 35 U.S.C. 112; sixth paragraph must not recite the structure for performing the function. Since no clear function is specified by the word (s) preceding “mean”, it is unclear whether these phrases are intended to convey function or structure. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

Appropriate correction is required.

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 1-3, 6-7, 14-15 and 18-19 are rejected under 35 U.S.C. 102 (a) (1) as being anticipated by Berkowitz et al, US 6215263 [Berkowitz].

Regarding claim 1, Berkowitz discloses (figs. 1-13) a method for separating welded contacts in a switch assembly (col. 19, lines 11-15), the method comprising:

causing the contacts to close (see claim 72);

detecting a high current condition that occurs as a result of the closed contacts (see claim 38);

commanding the contacts to open in response to detecting the high current condition (col. 53-57);

determining that the contacts are welded together if the contacts do not open in response to the open command (see claim 49);

commanding the contacts to close when it is determined they are welded together (col. 3, lines 53-57); and again commanding the contacts to open (col. 20, lines 1-9).

Regarding claim 13, Berkowitz discloses (figs. 1-13) a system (M1) for separating welded contacts in a switch assembly (col. 19, lines 11-15), the system (M1) comprising:

means for causing the contacts to close (see claim 72);

means for detecting a high current condition that occurs as a result of the closed contacts (see claim 38);

means for commanding the contacts to open in response to detecting the high current condition (col. 53-57);

means for determining that the contacts are welded together if the contacts do not open in response to the open command (see claim 49);

means for commanding the contacts to close when it is determined they are welded together (col. 3, lines 53-57); and means for again commanding the contacts to open (col. 20, lines 1-9).

Regarding claim 2, Berkowitz further discloses where causing the contacts to close includes actuating an actuator (102) coupled to the contacts in the switch assembly (col. 12, lines 12-15).

Regarding claim 3, Berkowitz further discloses where causing the contacts to close includes mechanically actuating the actuator (col. 6, lines 5-11 and 20-27).

Regarding claim 6, Berkowitz further discloses where determining that the contacts are welded together includes still detecting the high current condition (col. 3, lines 53-57 and lines 49-53).

Regarding claim 7, Berkowitz further discloses comprising again determining that the contacts have not opened because they are still welded (col. 3, lines 53-57) together after again commanding the contacts to open and again commanding the contacts to close (col. 16, lines 45-52) when it is determined they are still welded together (see claims 72, 74).

Regarding claim 14, Berkowitz further discloses where the means for causing the contacts to close include actuating an actuator (102) coupled to the contacts in the switch assembly (col. 12, lines 12-15).

Regarding claim 15, Berkowitz further discloses where the means for causing the contacts to close includes mechanically actuating the actuator (col. 6, lines 5-11 and 20-27).

Regarding claim 18, Berkowitz further discloses where the means for determining that the contacts are welded together includes still detecting the high current condition (col. 3, lines 53-57 and lines 49-53).

Regarding claim 19, Berkowitz further discloses comprising again determining that the contacts have not opened because they are still welded (col. 3, lines 53-57) together after again commanding the contacts to open and again commanding the contacts to close (col. 16, lines 45-52) when it is determined they are still welded together (see claims 72, 74).

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 4-5, 8-12 and 16-17 are rejected under 35 U.S.C. 103 as being unpatentable over Berkowitz in view of Harvey et al, US 5912604 [Harvey].

Regarding claims 4 and 16, Berkowitz discloses the claimed invention, except wherein the actuator is a magnetically actuated actuator, and wherein commanding the contacts to open includes electrically actuating the actuator.

Harvey discloses (figs. 1-12) a recloser (10) where an actuator (24) is a magnetically actuated actuator (60), and where commanding contacts to open includes electrically actuating the actuator (60) [col. 7, lines 10-20].

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 actuator of Berkowitz with the teaching of the actuator of Harvey, thereby providing a bi-stable actuator having reduced number of components and due to the efficiency of the permanent magnetic assembly, the permanent magnet volume within the actuator has been minimized, thus a larger volume is available to place a more effective coil, i.e., greater ampere-turn capacity at a given supply voltage.

Regarding claims 5 and 17, Harvey further discloses where commanding the contacts to close includes electrically actuating the actuator (60) [col. 7, lines 10-20]

Regarding claims 8 and 20, Berkowitz further discloses the claimed invention, except wherein the switch assembly is a single-phase self-powered magnetically actuated fault recloser for use in medium voltage power distribution network

Harvey discloses (figs. 1-12) a recloser (10) where a switch assembly (14) is a single-phase [col.3, lines 64-67] self-powered magnetically actuated fault recloser (10) for use in medium voltage power distribution network [col. 1, lines 18-20].

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 assembly of Berkowitz with the teaching of the switching assembly of Harvey, thereby providing a bi-stable actuator having reduced number of components and due to the efficiency of the permanent magnetic assembly, the permanent magnet volume within the actuator has been minimized, thus a larger volume is available to place a more effective coil, i.e., greater ampere-turn capacity at a given supply voltage.

Regarding claim 9, Berkowitz discloses (figs. 1-13) a method for separating welded contacts in a switch assembly (col. 19, lines 11-15), the switch assembly including an actuator (102) coupled to the contacts and the method comprising:

causing the contacts to close (see claim 72);

detecting a high current condition that occurs as a result of the closed contacts (see claim 38);

electrically actuating the actuator (102) to open in response to detecting the high current condition (col. 53-57);

determining that the contacts are welded together if the contacts do not open in response to the open command (see claim 49);

electrically actuating the actuator (102) to close the contacts when it is determined they are welded together (col. 3, lines 53-57); and again electrically actuating the actuator (102) to open the contacts (col. 20, lines 1-9).

Berkowitz fails to explicitly disclose a vacuum interrupter that is part of a magnetically actuated switch assembly, and a manual actuation device coupled to the actuator.

Harvey discloses (figs. 1-12) a recloser (10) having a vacuum interrupter (30) that is part of a magnetically actuated switch assembly (60), and a manual actuation device (150) coupled to the actuator (60).

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 assembly of Berkowitz with the teaching of the switching assembly of Harvey, thereby providing a vacuum switch for eliminating arcing at the contact points and a bi-stable actuator having reduced number of components and due to the efficiency of the permanent magnetic assembly, the permanent magnet volume within the actuator has been minimized, thus a larger volume is available to place a more effective coil, i.e., greater ampere-turn capacity at a given supply voltage.

Regarding claim 10, Berkowitz further discloses where determining that the contacts are welded together includes still detecting the high current condition (col. 3, lines 53-57 and lines 49-53).

Regarding claim 11, Berkowitz further discloses comprising again determining that the contacts have not opened in response to the actuator being actuated because they are still welded (col. 3, lines 53-57) together after again electrically actuating the actuator to open the contacts and again electrically actuating the actuator to close (col. 16, lines 45-52) the contacts when it is again determined they are welded together. (see claims 72, 74).

Regarding claim 12, Harvey further discloses a recloser (10) where a switch assembly (14) is a single-phase [col.3, lines 64-67] self-powered magnetically actuated fault recloser (10) for use in medium voltage power distribution network [col. 1, lines 18-20].

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hall et al, Morita et al, McClain et al, Rhein and Hundstad are examples of switching assemblies utilizing magnetic actuators for operating movable contacts into and out of engagement with fixed contacts and having the capabilities of breaking fused contact surfaces, 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>.

Art Unit: 2833

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

Docket No.: SC-5598
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application No.: 16/744,806

Filed: January 16, 2020

Confirmation No.: 3878

Applicant: S&C Electric Company

Art Unit: 2833

Title: MULTIPLE HAMMER BLOW VACUUM
INTERRUPTER WELD BREAKING

Examiner: William A. Bolton

RESPONSE TO 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 February 4, 2021. The Applicant responds as follows:

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

Remarks beginning on page 4 of this paper.

Amendments to the Claims

1.- 20. canceled

21. (new) A method for separating welded contacts in a switch assembly, the method comprising:

commanding an actuator to provide a hammer blow to open contacts of a switch;
determining that the contacts are welded and did not open responsive to the hammer blow by detecting a continuity of current flow through the switch; and
commanding the actuator to provide a second hammer blow.

22. (new) The method according to claim 21 wherein the hammer blow comprises first commanding the actuator to close the contacts in the switch before commanding the actuator to open the contacts in the switch.

23. (new) The method according to claim 21 wherein the hammer blow comprises mechanically actuating the actuator.

24. (new) The method according to claim 21 wherein the actuator is an electro-magnetically actuated, and wherein commanding the contacts to open includes electro-magnetically actuating the actuator.

25. (new) The method according to claim 24 wherein commanding the contacts to close includes electrically actuating the actuator.

26. (new) The method according to claim 1 further comprising determining that the contacts are welded and did not open responsive to the second hammer blow by detecting a continuity of current flow through the switch; and
commanding the actuator to provide a third hammer blow.

27. (new) The method according to claim 1 wherein the switch is a single-phase self-powered magnetically actuated fault recloser for use in medium voltage power distribution network.

28. (new) A single-phase, self-powered magnetically actuated fault interrupting switch for use in a medium voltage power distribution network, the switch comprising:

a vacuum interrupter having a fixed contact and a moving contact, the moving contact coupled to an electro-magnetic actuator operable to drive the moving contact from an open position to a closed position and from the closed position to the open position;

a sensor coupled to the vacuum interrupter, the sensor operable to provide a signal indicative of a fault condition;

a controller coupled to the sensor and the electro-magnetic actuator, the controller being configured to provide a command signal to the electro-magnetic actuator to move the moving contact from the open position to the closed position and from the closed position to the open position;

the controller being further configured responsive to the signal indicative of a fault condition to provide a command to the electro-magnetic actuator to open the moving contact via a hammer blow;

the controller being further configured to determine that the fixed contact and the moving contact are welded together following the hammer blow based upon the signal indicative of a fault condition; and

the controller being further configured responsive to the fixed contact and the moving contact being welded together to command the electro-magnetic actuator to open the moving contact via a second hammer blow.

29. (new) The switch of claim 28, wherein the controller being further configured to determine that the fixed contact and the moving contact are welded together following the second hammer blow based upon the signal indicative of a fault condition; and

the controller being further configured responsive to the fixed contact and the moving contact being welded together to command the electro-magnetic actuator to open the moving contact via a third hammer blow.

Remarks

Claim 1-20 have been canceled from the application, without prejudice to the applicant bringing claims of the same or similar scope in this or later applications. Claims 21-29 are newly added to the application. Support for new claims 21-29 can be found throughout the specification, drawings and claims as originally filed. No new matter is added.

The applicant respectfully submits that the objects to and the rejection of the claims under §112 is rendered moot by the cancelation of those claims, and the presentation of new claims 21-29.

Claims 21-29 recite, among other things, providing multiple, repeated hammer blows to contacts of a vacuum interrupter via an actuator to separate welded contacts within the switch assembly. None of the cited references suggest commanding causing an actuator to apply multiple, repeated hammer blows to open welded contacts.

The action cites Berkowitz (Berkowitz, et al, US 6,215,263) as anticipating the subject matter set out in the claims. While Berkowitz teaches an actuator to move switch contacts, including routines to open switch contacts when they are iced or welded, Berkowitz does not teach or suggest opening welded contact via application of multiple, repeated hammer blows. As such, Berkowitz does not anticipate or render the claims obvious.

The applicant submits that claims 21-29 are allowable, and such action is respectfully requested at the earliest opportunity.

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: 2022-03-07

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
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Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

24275 7590 07/18/2022
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: 07/18/2022

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/744,806	01/16/2020	Tsvetan Rusev	SC-5598	3878

TITLE OF INVENTION: MULTIPLE HAMMER BLOW VACUUM INTERRUPTER WELD BREAKING

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	10/18/2022

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 07/18/2022
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.
16/744,806	01/16/2020	Tsvetan Rusev	SC-5598	3878

TITLE OF INVENTION: MULTIPLE HAMMER BLOW VACUUM INTERRUPTER WELD BREAKING

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	10/18/2022

EXAMINER	ART UNIT	CLASS-SUBCLASS
BOLTON, WILLIAM A	2833	218-140000

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.
16/744,806	01/16/2020	Tsvetan Rusev	SC-5598	3878
24275	7590	07/18/2022	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: 07/18/2022				

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) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

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

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

Notice of Allowability	Application No. 16/744,806	Applicant(s) Rusev 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 9 March, 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 21-29. 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

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 March 9th, 2022 has been entered. Claims 21-29 are pending. Claims 1-20 have been canceled and claims 21-29 have been added by the Applicant. Applicant's amendments have overcome the claim objections and 112 rejections.

Allowable Subject Matter

Claims 21-29 are allowed.

Applicant's amendment and arguments filed March 9th, 2022 were fully considered and are persuasive.

The following is an examiner's statement of reasons for allowance:

Regarding claim 21, the prior art fails to teach or show, alone or in combination, the claimed method comprising, commanding an actuator to provide a hammer blow to open contacts of a switch; determining that the contacts are welded and did not open responsive to the hammer blow by detecting a continuity of current flow through the switch; and commanding the actuator to provide a second hammer blow.

Regarding claim 28, the prior art fails to teach or show, alone or in combination, the claimed single-phase, self-powered magnetically actuated fault interrupting switch for use in a medium voltage power distribution network, the switch comprising a controller being further configured responsive to the signal indicative of a fault condition to provide a command to the electro-magnetic actuator to open the moving contact via a hammer blow; the controller being further configured to determine that the fixed contact and the moving contact are welded together following the hammer blow based upon the

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signal indicative of a fault condition; and the controller being further configured responsive to the fixed contact and the moving contact being welded together to command the electro-magnetic actuator to open the moving contact via a second hammer blow.

The prior art, either alone or in combination cannot reasonably be construed as adequately teaching the above limitations in combination with the remaining claim elements. Specifically, none of the prior art adequately teaches or suggests repeated hammer blows to break welded contacts.

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.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: <https://patentcenter.uspto.gov>. Visit <https://www.uspto.gov/patents/apply/patent-center> for more information about Patent Center and <https://www.uspto.gov/patents/docx> for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like

Art Unit: 2833

assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WILLIAM A BOLTON/

Primary Examiner, Art Unit 2833

ACCIÓN DETALLADA

Respuesta a Modificación

La Modificación presentada el 9 de marzo de 2022 ha entrado. Las reivindicaciones 21-29 están pendientes. Las reivindicaciones 1-20 han sido canceladas y las reivindicaciones 21-29 han sido añadidas por el solicitante. Las modificaciones del solicitante han superado las objeciones a las reivindicaciones y los rechazos bajo 112.

Materia permitida

Se admiten las reivindicaciones 21-29.

Las modificaciones y argumentos del Solicitante presentadas el 9 de marzo de 2022 fueron totalmente considerados y son persuasivos.

Respecto a la reivindicación 21, el arte previo no enseña ni muestra, solo ni en combinación, el método reivindicado que comprende ordenar a un actuador que proporcione un golpe de martillo para abrir los contactos de un interruptor; determinar que los contactos están soldados y no se han abierto en respuesta al golpe de martillo, detectando una continuidad del flujo de corriente a través del interruptor; y ordenar al actuador que proporcione un segundo golpe de martillo.

Respecto a la reivindicación 28, el arte previo no enseña ni muestra el interruptor monofásico de interrupción de fallas autoalimentado y accionado magnéticamente para ser empleado en una red de distribución de energía de voltaje medio reivindicado, el interruptor que comprende un controlador configurado además para responder a la señal indicativa de una condición de fallo para proporcionar una orden al actuador electromagnético para abrir el contacto móvil mediante un golpe de martillo; el controlador está configurado además para determinar que el contacto fijo y el contacto móvil están soldados después del golpe de martillo, basándose en la señal que indica una condición de fallo; y el controlador está configurado además para responder a que el contacto fijo y el contacto móvil están soldados para ordenar al actuador electromagnético que abra el contacto móvil mediante un segundo golpe de martillo.

El arte previo, solo o en combinación no se puede tener de manera razonable como que enseña adecuadamente las limitaciones arriba mencionadas en combinación con los demás elementos de la reivindicación.

Amendments to the Claims

1.- 20. canceled

21. (new) A method for separating welded contacts in a switch assembly, the method comprising:

commanding an actuator to provide a hammer blow to open contacts of a switch;
determining that the contacts are welded and did not open responsive to the hammer blow by detecting a continuity of current flow through the switch; and
commanding the actuator to provide a second hammer blow.

22. (new) The method according to claim 21 wherein the hammer blow comprises first commanding the actuator to close the contacts in the switch before commanding the actuator to open the contacts in the switch.

23. (new) The method according to claim 21 wherein the hammer blow comprises mechanically actuating the actuator.

24. (new) The method according to claim 21 wherein the actuator is an electro-magnetically actuated, and wherein commanding the contacts to open includes electro-magnetically actuating the actuator.

25. (new) The method according to claim 24 wherein commanding the contacts to close includes electrically actuating the actuator.

26. (new) The method according to claim 1 further comprising determining that the contacts are welded and did not open responsive to the second hammer blow by detecting a continuity of current flow through the switch; and
commanding the actuator to provide a third hammer blow.

27. (new) The method according to claim 1 wherein the switch is a single-phase self-powered magnetically actuated fault recloser for use in medium voltage power distribution network.

28. (new) A single-phase, self-powered magnetically actuated fault interrupting switch for use in a medium voltage power distribution network, the switch comprising:

a vacuum interrupter having a fixed contact and a moving contact, the moving contact coupled to an electro-magnetic actuator operable to drive the moving contact from an open position to a closed position and from the closed position to the open position;

a sensor coupled to the vacuum interrupter, the sensor operable to provide a signal indicative of a fault condition;

a controller coupled to the sensor and the electro-magnetic actuator, the controller being configured to provide a command signal to the electro-magnetic actuator to move the moving contact from the open position to the closed position and from the closed position to the open position;

the controller being further configured responsive to the signal indicative of a fault condition to provide a command to the electro-magnetic actuator to open the moving contact via a hammer blow;

the controller being further configured to determine that the fixed contact and the moving contact are welded together following the hammer blow based upon the signal indicative of a fault condition; and

the controller being further configured responsive to the fixed contact and the moving contact being welded together to command the electro-magnetic actuator to open the moving contact via a second hammer blow.

29. (new) The switch of claim 28, wherein the controller being further configured to determine that the fixed contact and the moving contact are welded together following the second hammer blow based upon the signal indicative of a fault condition; and

the controller being further configured responsive to the fixed contact and the moving contact being welded together to command the electro-magnetic actuator to open the moving contact via a third hammer blow.

Reivindicaciones

21. Un método para separar contactos soldados en un conjunto de interruptor, el método comprende:

ordenar a un actuador que proporcione un golpe de martillo para abrir los contactos de un interruptor

determinar que los contactos están soldados y no se han abierto en respuesta al golpe de martillo, detectando una continuidad del flujo de corriente a través del interruptor; y

ordenar al actuador que proporcione un segundo golpe de martillo.

22. El método según la reivindicación 21, en el que el golpe de martillo comprende primero ordenar al actuador que cierre los contactos del interruptor antes de ordenar al actuador que abra los contactos del interruptor.

23. El método según la reivindicación 21, en el que el golpe de martillo comprende el accionamiento mecánico del actuador.

24. El método según la reivindicación 21, en el que el actuador es un actuador electromagnético, y en ordenar a los contactos que se abran incluye accionar electromagnéticamente el actuador.

25. El método según la reivindicación 24, en el que la orden de cierre de los contactos incluye el accionamiento eléctrico del actuador.

26. El método según la reivindicación 21 comprende además determinar que los contactos están soldados y no se han abierto en respuesta al segundo golpe de martillo detectando una continuidad del flujo de corriente a través del interruptor; y

ordenar al actuador que proporcione un tercer golpe de martillo.

27. El método según la reivindicación 21, en el que el interruptor es un reconectador de fallas monofásico autoalimentado y accionado magnéticamente para ser empleado en una red de distribución de energía de voltaje medio.

28. Un interruptor monofásico de interrupción de fallas autoalimentado y accionado magnéticamente para ser empleado en una red de distribución de energía de voltaje medio, el interruptor comprende:

un interruptor de vacío que tiene un contacto fijo y un contacto móvil, el contacto móvil acoplado a un actuador electromagnético operable para conducir el contacto móvil de una posición abierta a una posición cerrada y de la posición cerrada a la posición abierta;

un sensor acoplado al interruptor de vacío, el sensor operable para proporcionar una señal indicativa de una condición de fallo;

un controlador acoplado al sensor y al actuador electromagnético, estando el controlador configurado para proporcionar una señal de comando al actuador electromagnético para mover el contacto móvil de la posición abierta a la posición cerrada y de la posición cerrada a la posición abierta;

el controlador está configurado además para responder a la señal indicativa de una condición de fallo para proporcionar una orden al actuador electromagnético para abrir el contacto móvil mediante un golpe de martillo;

el controlador está configurado además para determinar que el contacto fijo y el contacto móvil están soldados después del golpe de martillo, basándose en la señal que indica una condición de fallo; y

el controlador está configurado además para responder a que el contacto fijo y el contacto móvil están soldados para ordenar al actuador electromagnético que abra el contacto móvil mediante un segundo golpe de martillo.

29. El interruptor de la reivindicación 28, en el que el controlador está configurado además para determinar que el contacto fijo y el contacto móvil están soldados juntos después del segundo golpe de martillo, basándose en la señal indicativa de una condición de fallo; y

el controlador está configurado además para responder a que el contacto fijo y el contacto móvil están soldados entre sí para ordenar al actuador electromagnético que abra el contacto móvil mediante un tercer golpe de martillo.