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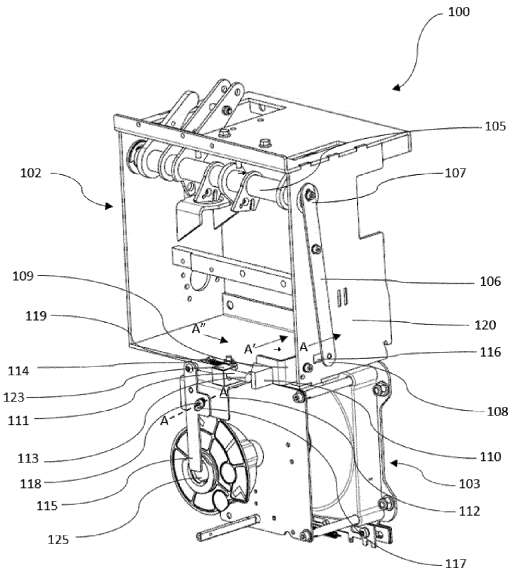
(54) A DISCONNECTOR ASSEMBLY OF A SWITCHGEAR

(57) Present disclosure discloses a disconnector assembly of a switchgear. The disconnectorincludes a first link pivotally coupled to a body of a circuit breaker of the switchgear. The firstlink includes a first end rotatably coupled to a shaft of the circuit breaker, and a second end movably disposed in a slot defined in the body. Further, the disconnector assembly includes a cam movably connected to the second end of the first link and configured to displace relative to displacement of the second end, and an actuator pin disposed on a platform and configured to displace linearly relative to displacement of the cam. Additionally, the disconnector assembly includes a second link pivotally coupled to the actuator pin and configured to pivot between a first operating position and a second operating position relative to the linear displacement of the actuator pin for selective operation of the disconnector assembly.



FIG·1

EP 4 283 651 A1

Description

TECHNICAL FIELD

[0001] The present disclosure relates in general to a switchgear in an electrical power system. More particularly, the present disclosure relates to a disconnector assembly of the switchgear. Further, embodiments of the disclosure discloses about selectively operating the disconnector assembly, based on operating position of a circuit breaker of the switchgear.

BACKGROUND OF THE DISCLOSURE

[0002] Electrical switchgears are used in electrical power distribution systems to distribute electrical power and selectively isolate electrical loads. Conventionally, switchgears are produced in many forms. Typically, a switchgear includes a combination of electrical elements such as a main distribution bus or a busbar, disconnector assemblies, fuses, and circuit breakers. Switchgears are located where electrical distribution, isolation and/or protection is required. These locations may include, for example, generators, factories, motors, transformers, and substations.

[0003] Generally, in electrical switchgears physical disconnection of the circuit breaker is carried outby the disconnector assembly. The disconnector assembly is an off-load isolator and needs to be operated only when the circuit breaker is in OFF position, since the disconnector assemblyis not capable of breaking the rated load or line current. In some instances, if the disconnectorassembly is operated i.e., switched OFF from its ON position, when the circuit breaker is in ON position, it may lead to interruption in load current and may lead to subsequent dielectric flashes between phases or between phases and earthing terminal. Further, it may also lead to internal arching faults which may destroy the complete switchgear, connected lines and load equipments, which is undesired.

[0004] The present disclosure is directed to overcome one or more limitations stated above.

[0005] The information disclosed in this background of the disclosure section is only for enhancementof understanding of the general background of the invention and should not be taken as an acknowledgement or any form of suggestion that this information forms the prior art already known to a person skilled in the art.

SUMMARY OF THE DISCLOSURE

[0006] One or more shortcomings of conventional systems are overcome, and additional advantages are provided through the assembly and the system as claimed in the present disclosure. Additional features and advantages are realized through the techniques of the present disclosure. Other embodiments and aspects of the disclosure are described in detail herein andare considered a part of the claimed disclosure.

[0007] In an exemplary embodiment, a disconnector assembly of a switchgear is disclosed. The disconnector assembly includes a first link pivotally coupled to a body of a circuit breaker of the switchgear. The first link includes a first end rotatably coupled to a shaft of the circuit breaker, and a second end movably disposed in a slot defined in the body and configured to displace relative to a rotation of the first end. Further, the disconnector assembly includes a cam movably connected to the second end of the first link and configured to displace relative to displacement of the second end. Furthermore, the disconnector assembly includes anactuator pin disposed on a platform connected to the body and configured to displace linearly relative to displacement of the cam. Additionally, the disconnector assembly includes a second link pivotally coupled to the actuator pin and configured to pivot between a first operating position and a second operating position relative to the linear displacement of the actuator pin for selective operation of the disconnector assembly.

[0008] In an embodiment, the first operating position relates to restricting operation of the disconnector assembly corresponding to an ON position of the circuit breaker, and the second operating position relates to allowing operation of the disconnector assembly corresponding to an OFF position of the circuit breaker.

[0009] In an embodiment, the disconnector assembly includes a bracket positioned between the cam and the second end of the first link. The bracket is configured to movably couple the cam with the second end of the first link.

[0010] In an embodiment, the cam comprises a first side, the first side is defined with a tapered surface. The tapered surface is configured to contact and slide on the first end of the actuator pin, for linearly displacing the actuator pin corresponding to displacement of the cam.

[0011] In an embodiment, the second link is defined with an opening, configured to receive a protrusion extending from the platform. The opening is configured to traverse by contacting the protrusion to assist pivoting of the second link between the first operating position and the second operating position.

[0012] In an embodiment, the disconnector assembly includes a guide member disposed on the platform, the guide member is defined with a cavity to movably receive the actuator pin and configured to guide the linear displacement of the actuator pin corresponding to displacementof the cam.

[0013] In an embodiment, the disconnector assembly includes a resilient member disposed on the platform and configured to exert biasing force to the actuator pin for facilitating pivotal movement of the second link from the first operating position to the second operating position.

[0014] In another exemplary embodiment of the present disclosure, a switchgear is disclosed. The switchgear includes at least one circuit breaker switchable between an ON position and an OFF position, and at least

one disconnector assembly switchable between the ON position and the OFF position. The disconnector includes a first link pivotally coupled to a body of a circuit breaker of the switchgear. The first link includes a first end rotatably coupled to a shaft of the circuit breaker, and a second end movably disposed in a slot defined in the body and configured to displace relative to a rotation of the first end. Further, the disconnector assembly includes a cam movably connected to the second end of the first link and configured to displace relative to displacement of the second end. Furthermore, the disconnector assembly includes anactuator pin disposed on a platform connected to the body and configured to displace linearly relative to displacement of the cam. Additionally, the disconnector assembly includes a secondlink pivotally coupled to the actuator pin and configured to pivot between a first operating position and a second operating position relative to the linear displacement of the actuator pin for selective operation of the disconnector assembly.

[0015] The foregoing summary is illustrative only and is not intended to be in any way limiting. In addition to the illustrative aspects, embodiments, and features described above, further aspects, embodiments, and features will become apparent by reference to the drawings and the following detailed description.

BRIEF DESCRIPTION OF THE ACCOMPANYING FIGURES

[0016] The novel features and characteristic of the disclosure are set forth in the description. The disclosure itself, however, as well as a preferred mode of use, further objectives and advantages thereof, will best be understood by reference to the following description of an illustrative embodiment when read in conjunction with the accompanying figures. One or more embodiments are now described, by way of example only, with reference to the accompanying figures wherein like reference numerals represent like elements and in which:

FIG 1 illustrates a perspective view of a switchgear, depicting one operating position of a disconnector assembly, in accordance with an embodiment of the disclosure.

FIG 2 illustrates a perspective view of the switchgear, depicting another operating position of the disconnector assembly, in accordance with an embodiment of the disclosure.

FIG 3 illustrates a perspective view of a portion of the disconnector assembly in one operating position, in accordance with an embodiment of the disclosure.

FIG 4 Illustrates a perspective view of the portion of the disconnector assembly in another operating position, in accordance with an embodiment of the disclosure.

[0017] The figures depict embodiments of the disclosure for purposes of illustration only. One skilledin the art will readily recognize from the following description that alternative embodiments of the structures and methods illustrated herein may be employed without departing from the principles of the disclosure described herein.

DETAILED DESCRIPTION

[0018] The foregoing has broadly outlined the features and technical advantages of the present disclosure in order that the description of the disclosure that follows may be better understood. Additional features and advantages of the disclosure will be described hereinafter which form the subject of the disclosure. It should be appreciated by those skilled in the art that the conception and specific embodiments disclosed may be readily utilized as a basis for modifying or designing other system for carrying out the same purposes of the present disclosure. It shouldalso be realized by those skilled in the art that such equivalent constructions do not depart from the scope of the disclosure. The novel features which are believed to be characteristic of the disclosure, as to its organization, together with further objects and advantages will be better understood from the following description when considered in connection with the accompanying figures. It is to be expressly understood, however, that each of the figures is provided for the purpose of illustration and description only and is not intended as a definitionof the limits of the present disclosure. While the disclosure is susceptible to various modifications and alternative forms, specific embodiments thereof have been shown by way of example in the drawings and will be described below. It should be understood, however that it is not intended to limit the disclosure to the particular forms disclosed, but on the contrary, the disclosure is to cover all modifications, equivalents, and alternatives falling within the scope of the disclosure.

[0019] The terms "comprises", "comprising", or any other variations thereof used in the disclosure, are intended to cover a non-exclusive inclusions, such that an assembly comprises a list of components does not include only those components but may include other components not expressly listed or inherent to such assemblies. In other words, one or more elements in assemblies proceeded by "comprises" does not, without more constraints, preclude the existence of other elements or additional elements in the system or device.

[0020] The following paragraphs describe the present disclosure with reference to **FIGs 1-4.** In the figures, the same element or elements which have similar functions are indicated by the same reference signs. For the purposes of promoting and understanding of the principles of the disclosure, reference will now be made to specific embodiments illustrated in the drawings and specific language will be used to describe the same. It will nevertheless be understood that no limitation of the scope of the invention is thereby intended, such alterations and further

modifications in the illustrated methods, and such further applications of the principles of the invention as illustrated therein being contemplated as would normally occur to one skilled in the art to which the invention pertains.

[0021] The following detailed description is merely exemplary in nature and is not intended to limit application and uses. Further, there is no intention to be bound by any theory presented in the preceding background or summary or the following detailed description. It is to be understood that the disclosure may assume various alternative orientations and step sequences, except where expressly specified to the contrary. It is also to be understood that the specific devices or components illustrated in the attached drawings and described in the following specification are simply exemplary embodiments of the inventive concepts defined in the appended claims. Hereinafter, preferred embodiments of the present disclosure will be described referring to the accompanying drawings. While some specific terms directed to a specific direction will be used, the purpose of usage of these terms or words is merely to facilitate understanding of the present invention referring to the drawings.

[0022] Accordingly, it should be noted that meaning of these terms or words should not improperly limit the technical scope of the present invention. Also, it is to be understood that the phraseology and terminology used herein is for the purpose of description and should not be regarded as limiting. Unless specified or limited otherwise, the terms "connected," "disposed,"and "coupled" and variations thereof are used broadly and encompass both direct and indirect mountings, connections, supports, and couplings. Further, "connected" and "coupled" are not restricted to physical or mechanical connections or couplings. It is to be understood that this disclosure is not limited to the specific devices, methods, applications, conditions, or parameters described and/or shown herein, and that the terminology used herein is for the purpose of describing particular embodiments by way of example and is not intended to be limiting of the present disclosure. In the present document, the word "exemplary" is used hereinto mean "serving as an example, instance, or illustration." Any embodiment or implementation of the present subject matter described herein as "exemplary" is not necessarily to be construed as preferred or advantageous over other embodiments.

[0023] Referring in general to all **FIGs 1-4,** there is disclosed an exemplary embodiment of a disconnector assembly for a switchgear. The disconnector assembly in the corresponding figures is depicted by referral numeral "103" and the switchgear is depicted by referral numeral "100" [refer FIG.1]. The switchgear 100 among other components may include at least one circuit breaker 102 which is switchable between an ON position and an OFF position, at least one disconnector assembly 103 which is switchable between the ON position and the OFF position, along with one or more protection devices, one or more metering devices and the like, enclosed in a body 120. The body 120 may be made of metallic materials such as but not limiting to steel, steel alloys and metal composites. In some embodiments, the body 120 may be made of composite materials such as but not limiting to polymer composites.

[0024] The disconnector assembly 103 may include a handle access port 125, which may be configured to receive a tool (not shown in FIGs) for operation of the disconnector assembly 103. Further, the disconnector assembly 103 may be selectively operated, based on operating condition of the circuit breaker 102. That is, operation of the disconnector assembly 103 may be restricted when the circuit breaker 102 is in the ON position and operation of the disconnector assembly 103 may be allowed when the circuit breaker 102 is in the OFF position. In the below sections, configuration of the disconnector assembly 103 and selective operation of the disconnector assembly 103 is described.

[0025] Referring now to **FIGs 2-4** in conjunction with **FIG 1,** the disconnector assembly 103 may include a first link 106, which may be pivotally coupled to the body 120 of the circuit breaker 102. The first link 106 may include a first end 107 which may be rotatably coupled to a shaft 105 of the circuit breaker 102. Further, the first link 106 may include a second end 108 whichmay be disposed in a slot 116 defined in the body 120, and may be configured to linearly displace within the slot 116. The second end 108 may be configured to displace relative to rotation of the first end 107. Further, as apparent from **FIGs 1-4** the disconnector assembly 103 may include a cam 110, which may be movably connected to the second end 108 of the first link 106. The cam 110 may be configured to displace relative to displacement of the secondend 108. In an embodiment, the cam 110 may include a first side 122, which may be defined with a tapered surface 121 [best seen in **FIG 3].** In another embodiment, the disconnector assembly 103 may include a bracket 109 which may be positioned between the cam 110 and the second end 108 of the first link 106. The bracket 109 may be configured to movably couple the cam 110 and the second end 108 of the first link 106 such that, the cam 110 may displace relative to the displacement of the second end 108 of the first link 106. As an example, the bracket 109 may be removably coupled to the second end 108 of the first link 106 through a mechanical joining such as by using fasteners or may be rigidly coupled through thermal joining process such as welding, brazing and the like. In an illustrated embodiment, the bracket 109 is defined with a L-shaped profile and the same cannot be construed as limitation since the bracket 109 may include any other profile, based on the requirement.

[0026] As apparent from **FIGs 1-4,** the disconnector assembly 103 may include an actuator pin 111 which may include a first end 113 and a second end 114. The actuator pin 111 may be disposedon a platform 112 coupled to the body 120 and may be configured to displace linearly relativeto the displacement of the cam 110. In an embodiment, the disconnector assembly 103 may include a guide member 123, which may be disposed on

the platform 112. The guide member 123 may be defined with a cavity to movably receive the actuator pin 111 and facilitate in guiding linear displacement of the actuator pin 111. In other words, the actuator pin 111 may be inserted through the cavity of the guide member 123, such that the guide member 123 may movably support and may guide linear displacement of the actuator pin 111. In an illustrated embodiment, the guide member 123 resembles a square shape and the cannot be construed as a limitation since, the guide member 123 may include any other geometrical shapes based on requirement.

[0027] Further, as best seen in **FIGs 3 and 4,** in an embodiment, the tapered surface 121 of the cam 110 may be configured to contact and slide on the first end 113 of the actuator pin 111, for linearly displacing the actuator pin 111 corresponding to displacement of the cam 110. That is,relative to displacement of the cam 110, the first end 113 of the actuator pin 111 may slide continuously on the tapered surface 121 of the cam 110 and due to vary in thickness of the tapered surface 121, the actuator pin 111 may linearly displace. As an example, as seen in **FIGs1 and 2,** displacement of the cam 110 in a direction A' may cause the actuator pin 111 to linearly displace in a direction A". Further displacement of the cam 110 in a direction B' may cause the actuator pin 111 to linearly displace in a direction B". However, the same cannot beconsidered as a limitation since, the actuator may linearly displace in the direction A" corresponding to displacement of the cam 110 in the direction B' and vice-versa.

[0028] In an embodiment, direction A' and B' may be parallel to the bracket 109 and direction A" andB" may be perpendicular to the cam 110.

[0029] Further, the disconnector assembly 103 may include a second link 115, which may be pivotally coupled to the actuator pin 111. In an illustrated embodiment, the second link 115 is pivotally coupled to the second end 114 of the actuator pin 111. However, the same cannot be construedas a limitation, since the second link 115 may be coupled to any portion along a length of the actuator pin 111. The second link 115 may be configured to pivot between a first operating position [as seen in **FIG 1]** and a second operating position [as seen in **FIG 2]** relative to the linear displacement of the actuator pin 111 for selective operation of the disconnector assembly 103. As an example, linear displacement of the actuator pin 111 in the direction A" may resultin pivoting of the second link 115 from the first operating position to the second operating position, and linear displacement of the actuator pin 111 in the direction B" may result in pivoting of the second link 115 from the second operating position to the first operating position. However, the same cannot be construed as a limitation since, the second link 115 may pivot from the first operating position to the second operating position relative to linear displacement of the actuator pin 111 in the direction B" and vice-versa.

[0030] In an embodiment, the first operating position may relate to restricting operation of the disconnector assembly 103 corresponding to an ON position of the circuit breaker 102. At the first operating position, the second link 115 may block the handle access port 125, thereby mitigating insertion of the tool into the handle access port 125, thereby restricting operation of the disconnector assembly 103. Further, the second operating position may relate to allowing operation of the disconnector assembly 103 corresponding to an OFF position of the circuit breaker 102, where the second link 115 may move away from the handle access port 125, thereby allowing insertion of the tool into the handle access port 125 for operating the disconnector assembly 103.

[0031] In an embodiment, the second link 115 may be defined with an opening 117. The opening 117 may be configured to receive a protrusion 118 extending from the platform 112. The protrusion 118 may extend perpendicularly away from the platform 112 along an axis A-A, and may protrude through the opening 117. The opening 117 may be configured to traverse by contacting the protrusion 118 during pivoting of the second link 115 thereby assists in pivotingof the second link 115 between the first operating position and the second operating position.

[0032] Further referring to **FIGs 1-3,** the disconnector assembly 103 may include a resilient member 119 which may be disposed on the platform 112. One end of the resilient member 119 may be rigidly coupled to the platform 112 and other end, which is opposite to the one end is rigidly coupled to the second end of the actuator pin 111. As an example, the resilient member 119 may be rigidly coupled through a fasteners such as nut-bolt, screws and the like. The resilient member 119 may be configured to exert biasing force to the actuator pin 111 to facilitate pivotal movement of the second link 115 from the first operating position to the second operating position.

[0033] As an example, the resilient member 119 may be but not limiting to a spring, mechanical linkages, resetting members and the like.

[0034] In an operational embodiment, as seen in **FIGs 1 and 3** the second link 115 when in the first operating position, blocks the handle access port 125 to restrict operation of the disconnector assembly 103 corresponding to ON position. During, switching of the circuit breaker 102 to OFF position, the shaft 105 in the circuit breaker 102 rotates as a result of which, the first end 107 of the first link 106 rotates (thus, oscillates) thereby causing the second end 108 of the firstlink 106 to displace in the direction A, within the slot 116 defined in the body 120. In an embodiment, the shaft 105 may rotate in one of a clock-wise or counter-clockwise direction based on orientation of installation. The displacement of the second end 108 of the first link 106 may result in linear displacement of the bracket 109 in the direction A' causing the cam 110 to displace in the same direction as that of the bracket 109. Due to displacement of the cam 110 in the direction A', the actuator pin 111 may linearly displace in a direction A" due to biasing force exerted by the resilient

member 119 on to the actuator pin 111. Due to the linear displacement of the actuator pin 111 in the direction A", the second link 115 may pivot aboutits second end 114 from the first operating position to the second operating position [as seen in**FIGs 2 and 4],** where the second link 115 pivots away from the handle access port 125 of the disconnector assembly 103, thereby allowing access to the handle access port 125 for operationof the disconnector assembly 103.

[0035] In another operational embodiment, as seen in **FIGs 2 and 4** the second link 115 when in the second operating position, allows operation of the disconnector assembly 103 corresponding to OFF position of the circuit breaker 102. Corresponding to switching of the circuit breaker 102 to the ON position, the shaft 105 in the circuit breaker 102 may rotate as a result of whichfirst end 107 of the first link 106 rotates, thereby causing the second end 108 of the first link 106 to displace in direction B within the slot 116 defined in the body 120. In an embodiment, the shaft 105 may rotate in one of a clock-wise or counter-clockwise direction based on orientation of installation. As an example, if the shaft 105 rotates in clockwise direction during switching the circuit breaker 102 to the OFF position, then the shaft 105 may rotate in the counter-clockwise direction while switching of the circuit breaker 102 to the ON position. The displacement of the second end 108 of the first link 106 may result in linear displacement of the bracket 109 in direction B' causing the cam 110 to displace in the same direction as that of the bracket 109. During displacement of the cam 110, the tapered surface 121 of the cam 110 may continuously contact the first end 113 of the actuator pin 111, due to which the actuator pin 111 linearly displaces in a direction B" but not limiting to perpendicular to the displacement of the cam 110. That is, with the cam 110 defined with the tapered surface 121, the simultaneous displacement and contact of the cam 110 with the first end 113 of the actuatorpin 111, causes the actuator pin 111 to linearly displace in the direction B". Due to the linear displacement of the actuator pin 111, the second link 115 may pivot about its second end 114 of the actuator pin 111 from its second operating position to the first operating position [as seen in **FIGs 1 and 3],** where the second link 115 blocks the handle access port 125, thereby restricting operation of the disconnector assembly 103, when the circuit breaker 102 is in its ON position. Thus, the interlocking mechanism allows operation of the disconnector assembly 103 when the circuit breaker 102 is in the OFF position.

[0036] In an embodiment, the disconnector assembly 103 is simple in construction and compact. Further, the disconnector assembly 103 is reliable and has a working life span (i.e., selective operation of the disconnector assembly) of around 10,000 to 15,000 working cycles.

[0037] It is to be understood that a person of ordinary skill in the art may develop a disconnector assembly of similar configuration without deviating from the scope of the present disclosure. Such modifications and variations may be made without departing from the scope of the present invention. Therefore, it is intended that the present disclosure covers such modifications and variations provided they come within the ambit of the appended claims and their equivalents.

EQUIVALENTS

[0038] With respect to the use of substantially any plural and/or singular terms herein, those having skill in the art can translate from the plural to the singular and/or from the singular to the plural as is appropriate to the context and/or application. The various singular/plural permutations may be expressly set forth herein for sake of clarity.

[0039] It will be understood by those within the art that, in general, terms used herein, and especiallyin the appended claims e.g., bodies of the appended claims are generally intended as "open" terms e.g., the term "including" should be interpreted as "including but not limited to," the term"having" should be interpreted as "having at least," the term "includes" should be interpreted as "includes but is not limited to," etc.. It will be further understood by those within the art that if a specific number of an introduced claim recitation is intended, such an intent will be explicitly recited in the claim, and in the absence of such recitation no such intent is present. For example, as an aid to understanding, the following appended claims may contain usage of the introductory phrases "at least one" and "one or more" to introduce claimrecitations. However, the use of such phrases should not be construed to imply that the introduction of a claim recitation by the indefinite articles "a" or "an" limits any particular claim containing such introduced claim recitation to inventions containing only one such recitation, even when the same claim includes the introductory phrases "one or more" or "at least one" and indefinite articles such as "a" or "an" e.g., "a" and/or "an" should typically be interpreted to mean "at least one" or "one or more"; the same holds true for the use of definite articles used to introduce claim recitations. In addition, even if a specific number of an introduced claim recitation *is* explicitly recited, those skilled in the art will recognize that such recitation should typically be interpreted to mean *at least* the recited number e.g., the bare recitation of "two recitations," without other modifiers, typically means *at least* two recitations, or *two or more* recitations. Furthermore, in those instances where a convention analogous to "at least one of A, B, and C, etc." is used, in general such a construction is intended in the senseone having skill in the art would understand the convention e.g., "a system 108 having at leastone of A, B, and C" would include but not be limited to systems that have A alone, B alone, Calone, A and B together, A and C together, B and C together, and/or A, B, and C together, etc.. In those instances, where a convention analogous to "at least one of A, B, or C, etc." is used, in general such a construction is intended in the sense one having skill in the art would

understand the convention e.g., "a system 108 having at least one of A, B, or C" would includebut not be limited to systems that have A alone, B alone, C alone, A and B together, A and C together, B and C together, and/or A, B, and C together, etc.. It will be further understood by those within the art that virtually any disjunctive word and/or phrase presenting two or more alternative terms, whether in the description, claims, or drawings, should be understood to contemplate the possibilities of including one of the terms, either of the terms, or bothterms. For example, the phrase "A or B" will be understood to include the possibilities of "A" or "B" or "A and B." While various aspects and embodiments have been disclosed herein, other aspects and embodiments will be apparent to those skilled in the art. The various aspects and embodiments disclosed herein are for purposes of illustration and are not intended to be limiting, with the true scope and spirit being indicated by the following claims.

REFERAL NUMERICALS

Particulars	Numerical
Switchgear	100
Circuit breaker	102
Disconnector assembly	103
Shaft	105
First link	106
First end of the first link	107
Second end of the first link	108
Bracket	109
Cam	110
Actuator Pin	111
Platform	112
First end of the actuator pin	113
Second end of the actuator pin	114
Second link	115
Slot in the body	116
Opening	117
Protrusion	118
Resilient member	119
Body	120
Tapered surface	121
First side	122
Guide member	123
Handle access port	125

Claims

1. A disconnector assembly (103) of a switchgear (100), comprising:

   a first link (106) pivotally coupled to a body (120) of a circuit breaker (102) of the switchgear (100), the first link (106) comprises a first end (107) rotatably coupled to a shaft (105) of the circuit breaker (102), and a second end (108) movably disposed in a slot (116) defined in the body (120) and configured to displace relative to a rotationof the first end (107);
   a cam (110) movably connected to the second end (108) of the first link (106) and configured to displace relative to displacement of the second end (108);
   an actuator pin (111) disposed on a platform (112) connected to the body (120) and configured to displace linearly relative to displacement of the cam (110); and
   a second link (115) pivotally coupled to the actuator pin (111) and configured to pivot between a first operating position and a second operating position relative to the linear displacement of the actuator pin (111) for selective operation of the disconnector assembly (103).

2. The disconnector assembly (103) of claim 1, wherein the first operating position relates to restricting operation of the disconnector assembly (103) corresponding to an ON position of the circuit breaker (102).

3. The disconnector assembly (103) of claim 1 or 2, wherein the second operating position relates to allowing operation of the disconnector assembly (103) corresponding to an OFF position of the circuit breaker (102).

4. The disconnector assembly (103) of one of the previous claims, further comprises a bracket (109) positioned between the cam (110) and the second end (108) of the first link (106), and configured to movably couple the cam (110) with the second end (108) of the first link(106).

5. The disconnector assembly (103) of one of the previous claims, wherein the cam (110) comprises a first side (122), the first side (122) is defined with a tapered surface (121).

6. The disconnector assembly (103) of claim 5, wherein the tapered surface (121) is configured to contact and slide on the first end (113) of the actuator pin (111), for linearly displacing the actuator pin (111) corresponding to displacement of the cam(110).

7. The disconnector assembly (103) of one of the previous claims, wherein the second link (115) is defined with an opening (117), configured to receive a protrusion (118) extending from the platform (112).

8. The disconnector assembly (103) of claim 7, wherein the opening (117) is configured to traverse by contacting the protrusion (118) to assist pivoting of the second link (115) between the first operating position and the second operating position.

9. The disconnector assembly (103) of one of the previous claims, comprises a guide member (123) disposed on the platform (112), the guide member (123) is defined with a cavity to movably receive the actuator pin (111) and configured to guide the linear displacement of the actuator pin (111) corresponding to displacement of the cam (110).

10. The disconnector assembly (103) of one of the previous claims, comprises a resilient member (119) disposed on the platform (112) and configured to exert biasing force to the actuator pin (111) for facilitating pivotal movement of the second link (115) from the first operatingposition to the second operating position.

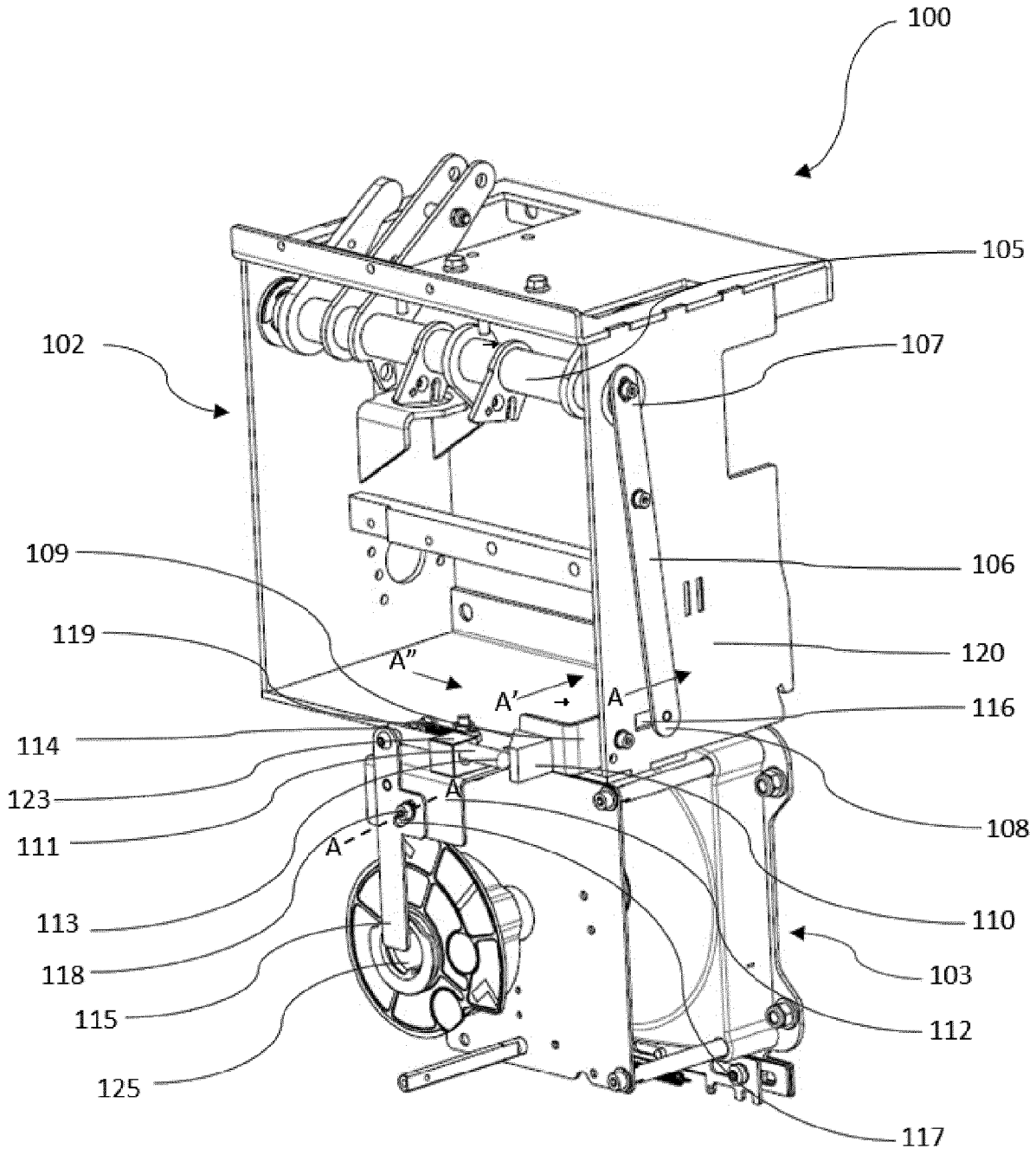
11. A switchgear (100) comprising:

at least one circuit breaker (102) switchable between an ON position and an OFFposition;
at least one disconnector assembly (103) switchable between the ON position and the OFF position, wherein the disconnector assembly (103) comprises:

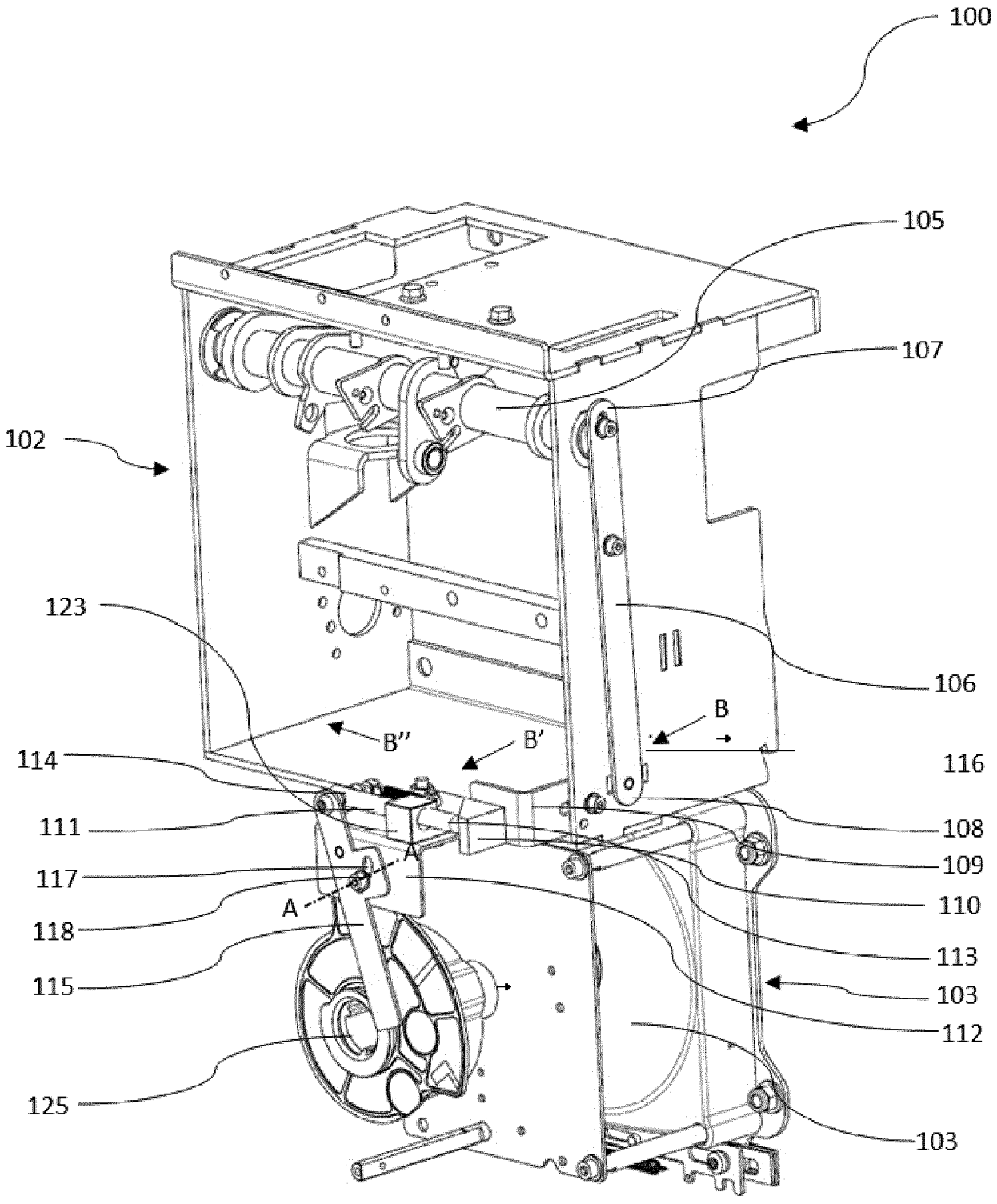
a first link (106) pivotally coupled to a body (120) of a circuit breaker (102) of the switchgear (100), the first link (106) comprises a first end (107)rotatably coupled to a shaft (105) of the circuit breaker (102), and a second end (108) movably disposed in a slot (116) defined in the body (120) and configured to displace relative to displacement of the first end (107);
a cam (110) movably connected to the second end (108) of the first link (106) and configured to displace relative to displacement of the second end 108);
an actuator pin (111) disposed on a platform (112) connected to the body (120) and configured to displace linearly relative to displacement of the cam (110); and
a second link (115) pivotally coupled to the actuator pin (111) and configured to pivot between a first operating position and a second operating position relative to the linear displacement of the actuator pin (111) for selectiveoperation of the disconnector assembly (103).

12. The switchgear (100) of claim 11, wherein the first operating position relates to restricting operation of the disconnector assembly (103) corresponding to an ON position of the circuit breaker (102).

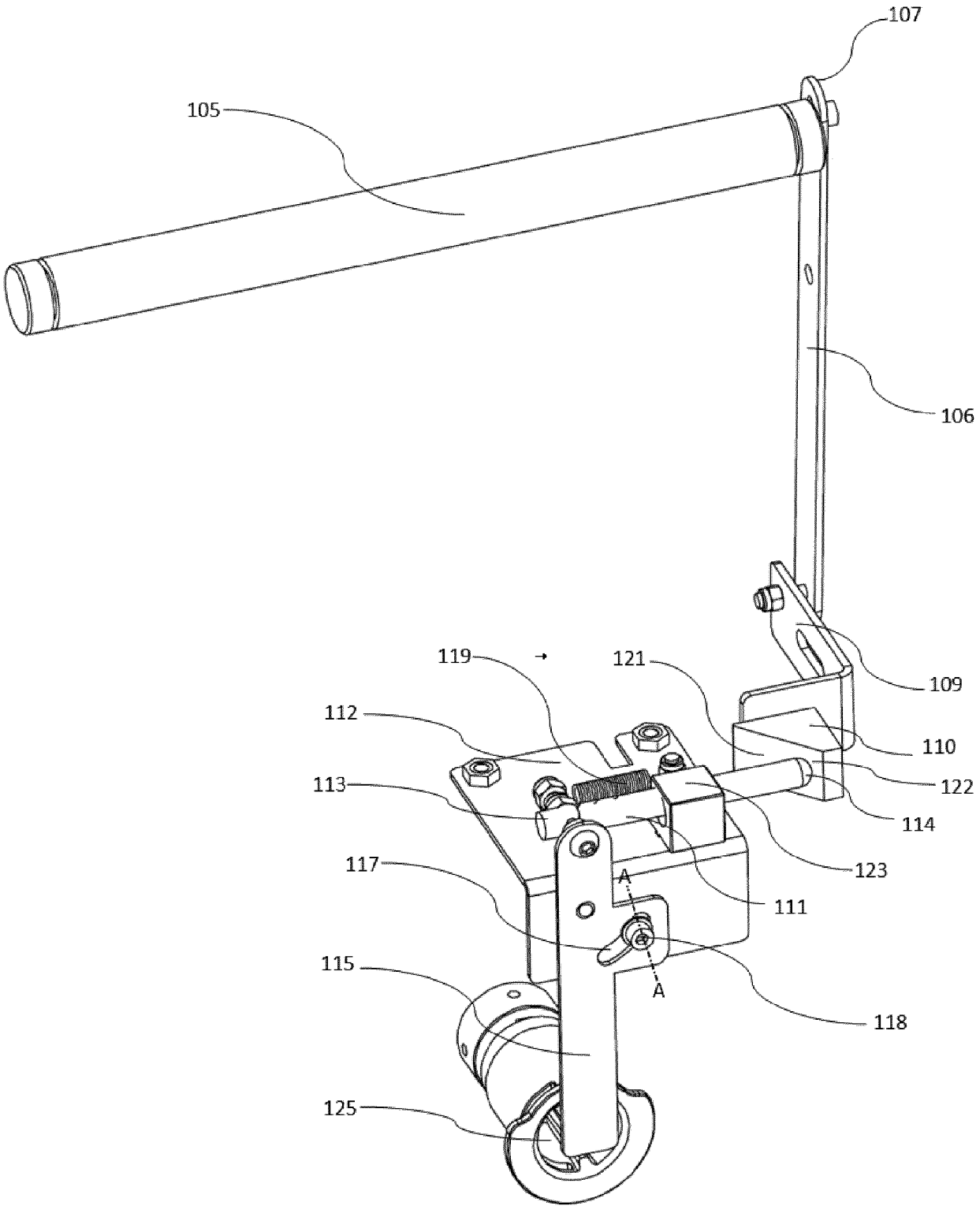
13. The switchgear (100) of claim 11 or 12, wherein the second operating position relates to allowing operation of the disconnector assembly (103) corresponding to an OFF position of the circuit breaker (102).


100
105
102
107
109
106
119
120
A"
A'
A
116
114
123
A
108
111
A
110
113
103
118
115
112
125
117

FIG·1


100
105
107
102
123
106
B
B''
B'
114
116
111
108
A
117
109
A
110
118
113
115
103
112
125
103

FIG·2


107
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121
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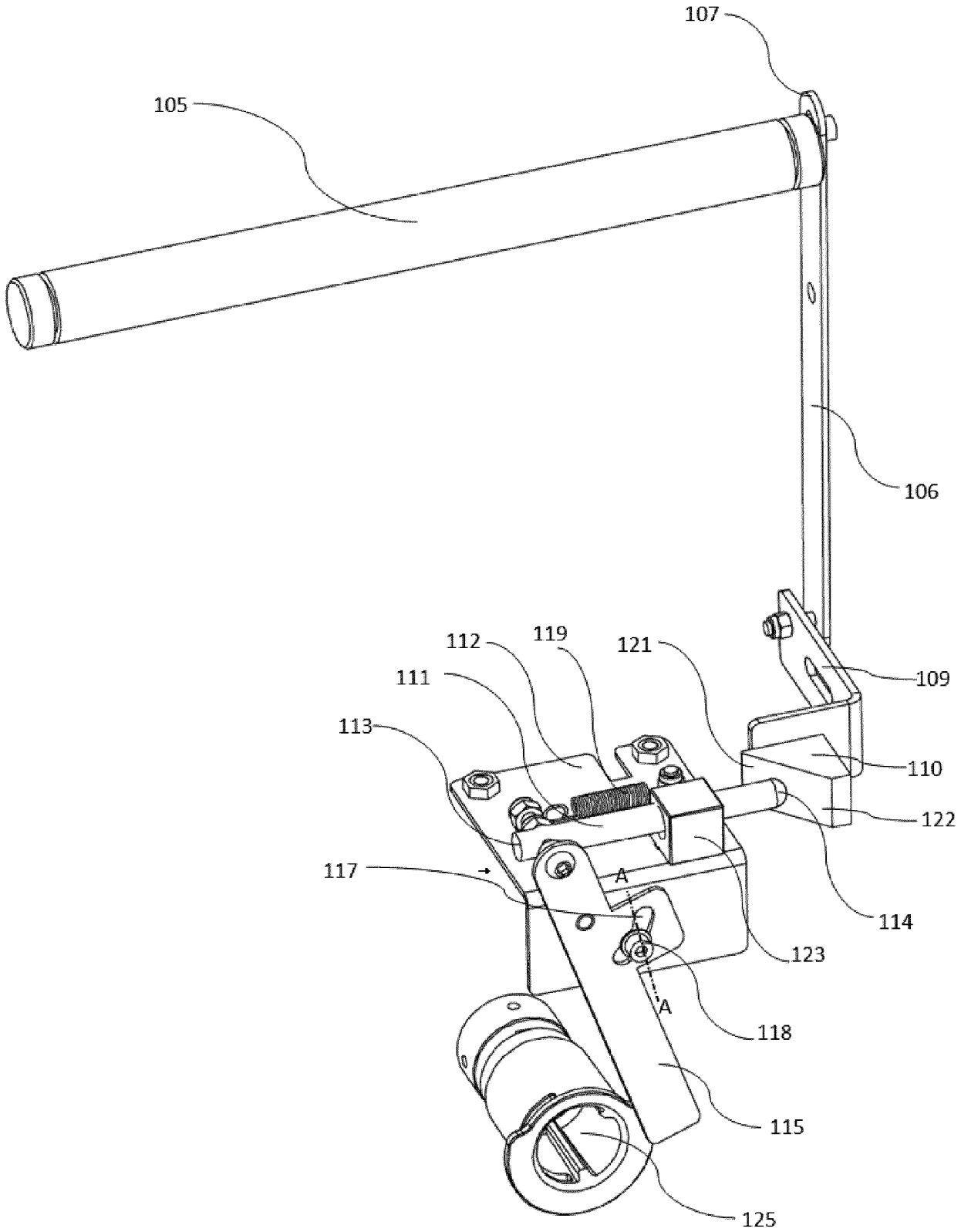
123
117
111
A
A
115
118
125

FIG·3


107
105
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121
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122
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118
115
125

FIG·4

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EUROPEAN SEARCH REPORT

Application Number
EP 23 17 5770

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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H01H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	21 September 2023	Pavlov, Valeri

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21-09-2023

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