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(72) Inventor: **Bosatelli, Domenico**
24069 Cenate Sotto, (Bergamo) (IT)

(74) Representative: **Forattini, Amelia**
c/o Internazionale Brevetti
Ingg. ZINI, MARANESI & C. S.r.l.
Piazza Castello 1
20121 Milano (IT)

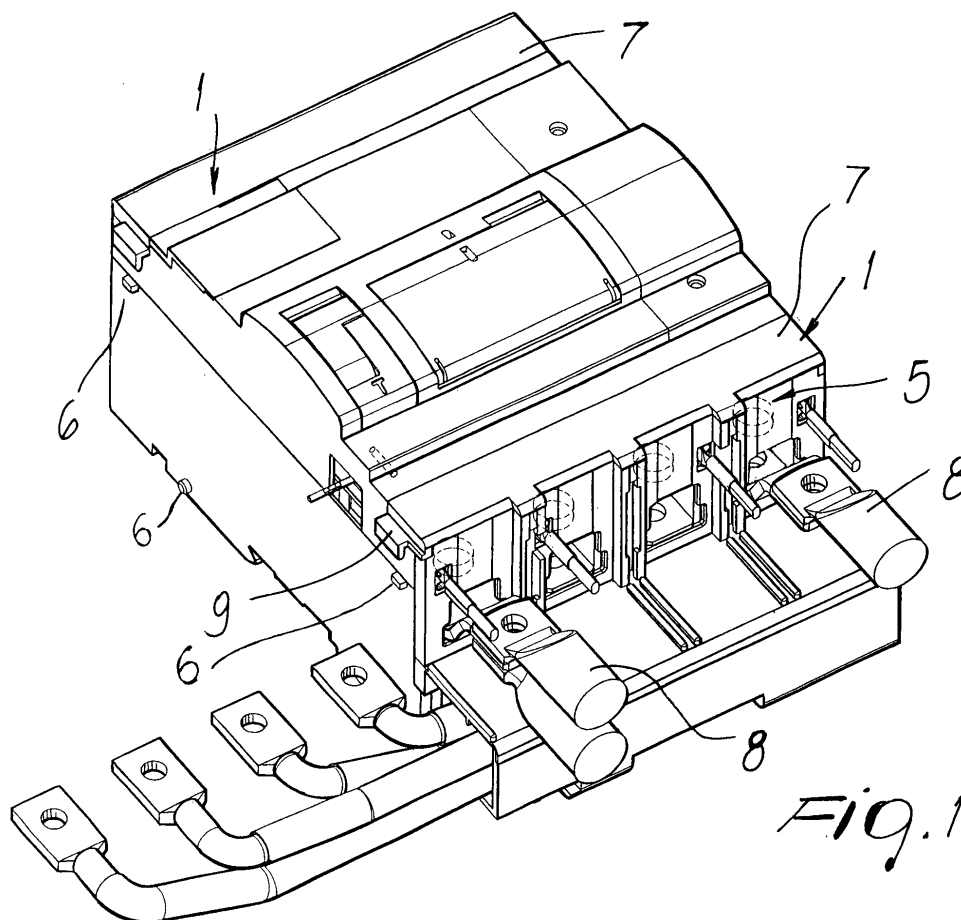
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(71) Applicant: **GEWISS S.p.A.**
I-24069 Cenate Sotto (Bergamo) (IT)

(54) **Connection device for a residual-current module**

(57) A connection device for a residual-current module, has a hook formed in a covering member used to

cover the terminals of the module, the hook being adapted to engage a seat formed in the body of a circuit breaker to which the residual-current module is connected.



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Description

[0001] The present invention relates to a connection device for a residual-current module.

[0002] Residual-current devices are adapted to cause the opening of circuit breakers when an earth fault current exceeds, for an optionally selected time, the threshold value for which the device has been preset.

[0003] The residual-current module is associated with a circuit breaker, usually in a laterally adjacent or underlying position, and when the module is arranged laterally to the circuit breaker the mechanical connection between the two devices occurs by means of hooks or other similar connecting members.

[0004] The aim of the present invention is to provide a connection device that is simplified with respect to conventional devices for the mechanical connection of a residual-current module to a circuit breaker.

[0005] An object of the invention is to provide a connection device that reduces the number of components that constitute the residual-current module.

[0006] Another object of the invention is to provide a connection device that is quick and easy to install.

[0007] This aim and these and other objects that will become better apparent hereinafter are achieved by a connection device for a residual-current module, as claimed in the appended claims.

[0008] Further characteristics and advantages of the invention will become better apparent from the description of preferred but not exclusive embodiments thereof, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

Figure 1 is a perspective view of a residual-current module provided with the connection device according to the invention;

Figure 2 is a perspective view of a residual-current module arranged laterally to a circuit breaker during their mutual connection;

Figure 3 is an enlarged-scale detail view of the connection device according to the invention, shown during application.

[0009] With reference to the figures, a connection device according to the invention, generally designated by the reference numeral 1, is particularly useful for the mechanical connection of a residual-current module 2 to a corresponding circuit breaker 3, of which only an upper cover 4 is shown in the figures.

[0010] The residual-current module 2 comprises a lower terminal strip 5, in a per se known manner.

[0011] The terminal strips can be covered, once the electrical connections to conductors 8 have been provided, by means of respective covers 7 that affect the entire width of the module. The covers are designed to provide both protection and safety and are generally present also in conventional modules, albeit not in the form described here.

[0012] According to the invention, the cover 7 includes a lateral hook 9 which, when the cover is applied to the terminal strip of the residual-current module, enters a seat 10 formed in a lateral portion of the upper cover 4 of the laterally adjacent circuit breaker 3, thus providing a mechanical connection between the circuit breaker 3 and the module 2 without the aid of additional mechanical connection members.

[0013] Locators 6 are also provided on the side of the module 2 and cooperate with appropriate seats formed in the side of the device 3 to be associated so as to precisely position the two devices with respect to each other.

[0014] In practice it has been observed that the invention achieves the intended aim and objects, a connection device having been provided that is adapted to mechanically connect a residual-current module to a circuit breaker in a laterally adjacent position by using a member that is already present in modules and circuit breakers and thus reducing the total number of components of the system.

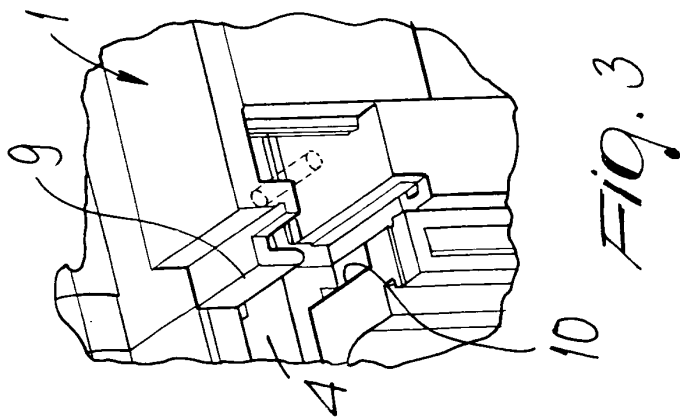
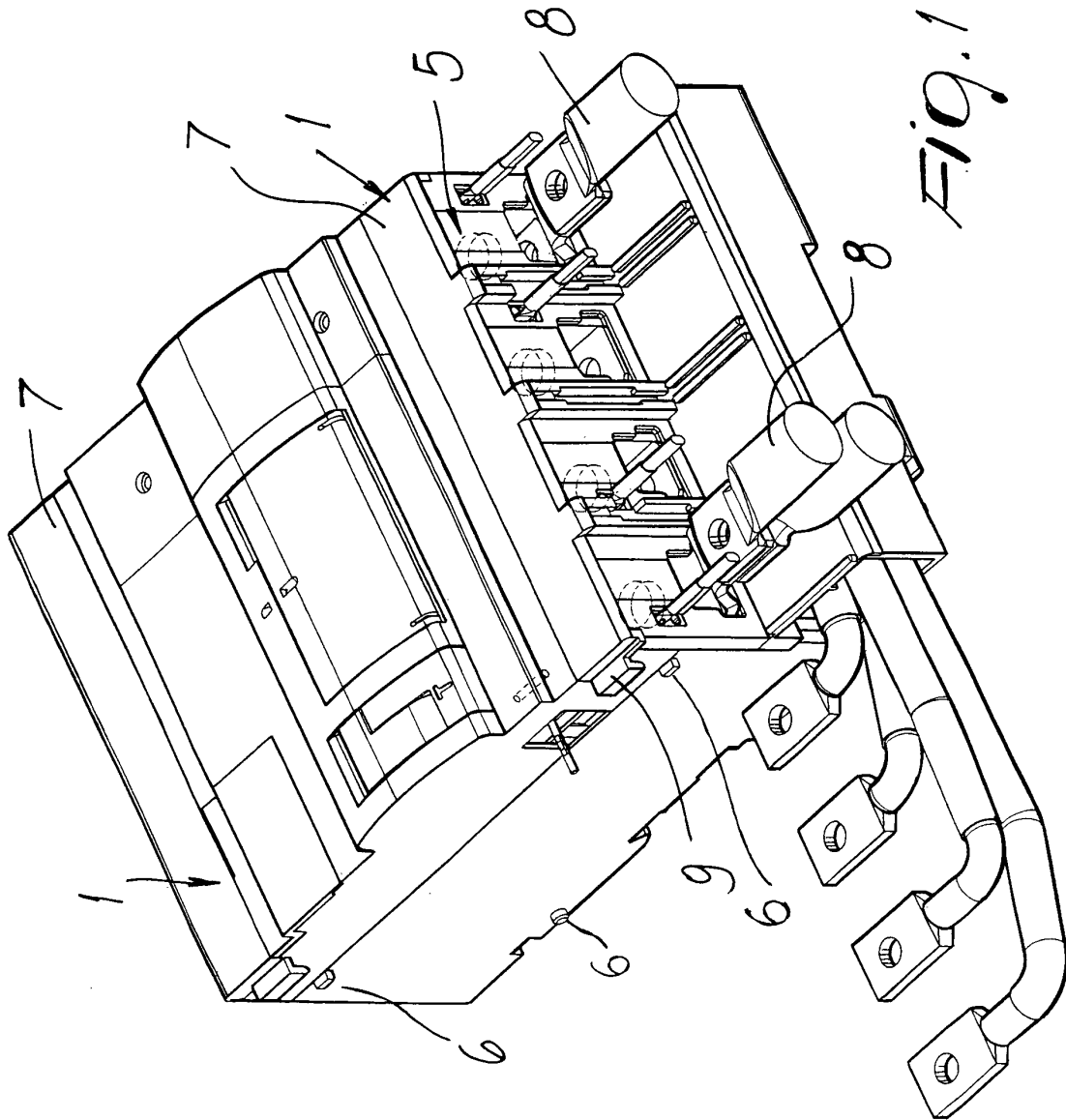
[0015] Another advantage of the invention is the great simplicity and speed of execution of the connection, arising from the fact that with a single operation, i.e., the application of the cover of the terminal strips, the operator also provides the mechanical connection of the modules, an operation that in the prior art had to be performed subsequently by means of additional specific devices.

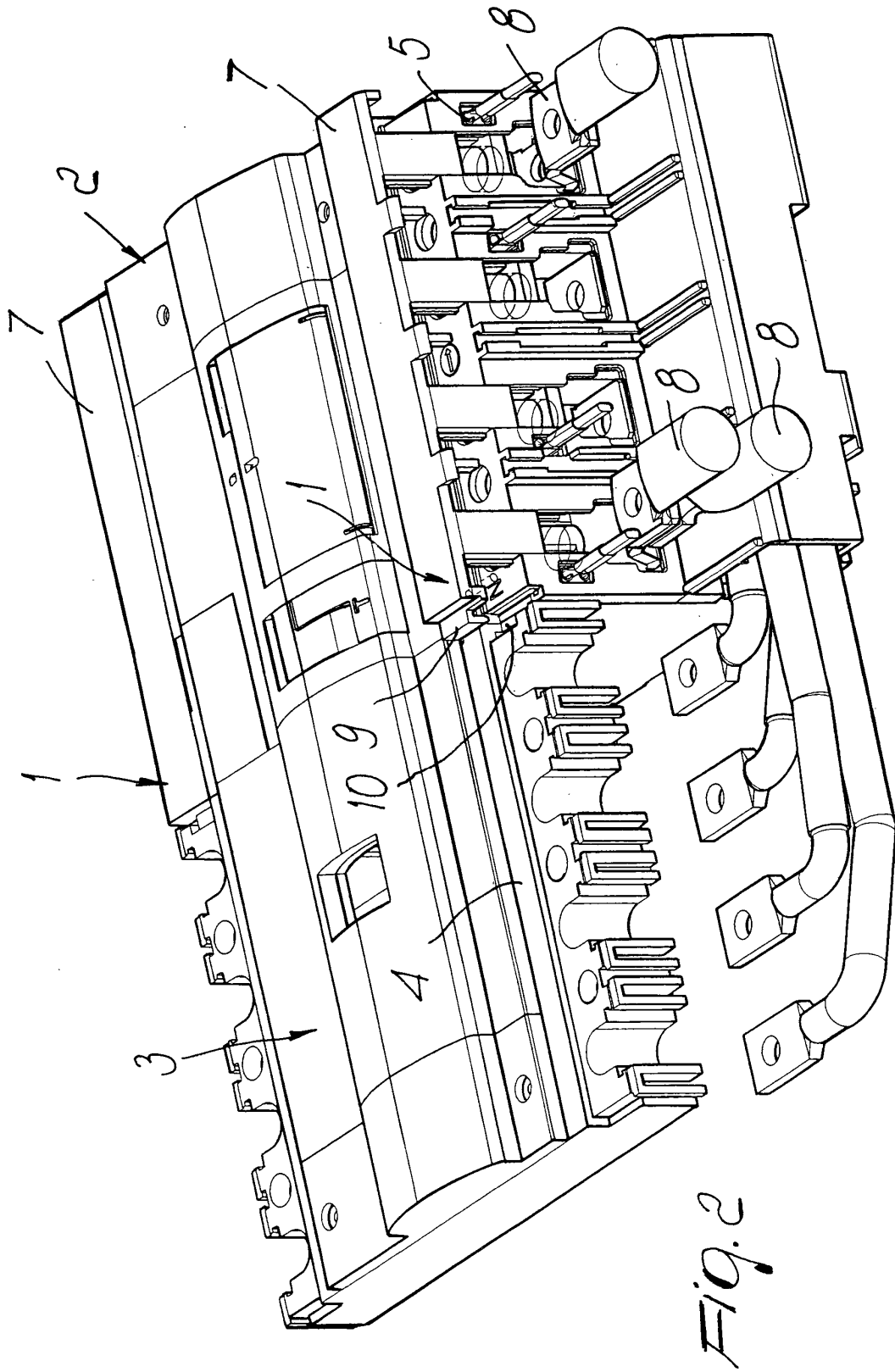
[0016] The device according to the invention is susceptible of numerous modifications and variations, within the scope of the appended claims. All the details may be replaced with technically equivalent elements.

[0017] The materials used, as well as the dimensions, may of course be any according to requirements and to the state of the art.

Claims

1. A connection device for a residual-current module, **characterized in that** it comprises a hook member formed in a covering member used to cover the terminals of the module, said hook member being adapted to engage a seat formed in the body of a circuit breaker to which the residual-current module is connected.







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EUROPEAN SEARCH REPORT

Application Number
EP 02 01 1001

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 717 425 A (BTICINO SPA) 19 June 1996 (1996-06-19) * column 7, line 57 - column 10, line 12 *	1,2	H01H71/02
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H01H
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		26 August 2002	Libberecht, L
CATEGORY OF CITED DOCUMENTS T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 02 01 1001

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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26-08-2002

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