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**Datasheet for the decision
of 6 October 2015**

Case Number: T 2476/10 - 3.4.01

Application Number: 03015636.8

Publication Number: 1498742

IPC: G01R31/02

Language of the proceedings: EN

Title of invention:

Fuse saving tester for fused circuit

Applicant:

Snap-on Incorporated

Headword:

Relevant legal provisions:

RPBA Art. 13(1)

EPC Art. 56

Keyword:

late-filed request (auxiliary request IV clearly defective -
not admitted)
inventive step (no; main request and auxiliary requests I to I
II)

Decisions cited:

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 2476/10 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 6 October 2015

Appellant: Snap-on Incorporated
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 21 July 2010 refusing European patent application No. 03015636.8 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman G. Assi
Members: H. Wolfrum
J. Geschwind

Summary of Facts and Submissions

I. European patent application 03 015 636.8 (publication No. EP 1 498 742) was refused by a decision of the examining division for the reason of lack of inventive step (Articles 52(1) and 56 EPC 1973) of the subject-matter of the independent claims of both the main request and the auxiliary requests then on file.

II. The applicant lodged an appeal against the decision.

With its statement setting out the grounds of appeal filed with a letter of 30 November 2010 the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of a new set of claims according to a main request or, alternatively, on the basis of a new set of claims according to an auxiliary request.

III. The appellant was summoned to oral proceedings.

In a communication pursuant to Article 15(1) RPBA the Board doubted inter alia whether the claimed subject-matter involved an inventive step.

IV. In response, the appellant filed by letter of 7 September 2015 new sets of claims according to a main request and three auxiliary requests.

V. In the oral proceedings which were held on 6 October 2015 the appellant withdrew the previously filed requests and requested that the decision under appeal be set aside and a patent be granted upon the basis of a new main request or of one four auxiliary requests filed at the oral proceedings.

VI. Independent claim 1 of the appellant's main request reads as follows :

"1. A tester (20; 20A; 40) for testing an electrical system, which includes a fuse holder for a fuse having a predetermined current load rating, the tester (20; 20A; 40) comprising:

a housing (21; 41);

a first pair of contacts (24; 19) electrically coupleable to the fuse holder, wherein the first pair of contacts (24; 19) is carried by the housing (21; 41) or is electrically coupled to the housing (21; 41) by a direct electrical connection or an electrical connection upon a plug adapter (51A-C);

a socket (22; 44) formed in the housing (21; 41);

a second pair of contacts (29; 48) in the socket (22; 44) and electrically coupled to the first pair of contacts (24; 19);

a plurality of circuit breaking modules (27; 60) individually insertable in the socket (22; 44) and respectively including a circuit breaker (12; 66) having a third pair of contacts (28; 68) electrically coupleable [sic!] to the second pair of contacts (29; 48), wherein the plurality of circuit breaking modules (27; 60) respectively include circuit breakers (12; 66) having different current load ratings; and

an indicator (33, 35; 46, 47) that produces a perceptible signal when an overcurrent situation exists in the circuit breaker (12) of one of the plurality of

circuit breaking modules (27; 60) having the predetermined current load rating."

Claims 2 to 8 are dependent claims and claim 9 is directed to a method of testing an electrical system for current flow exceeding a prescribed value.

Claim 1 of auxiliary request I is identical to claim 1 of the main request, auxiliary request I differing from the main request by the absence of a method claim.

Claim 1 of auxiliary request II reads as follows :

"1. A tester (40) for testing an electrical system, which includes a fuse holder for a fuse having a predetermined current load rating, the tester (40) comprising:

a housing (41);

a first socket (50) disposed at a distal end of an elongated cable (49) extending from the housing (41), the first socket (50) including a first pair of contacts;

a plurality of plug adapters (51A-C) respectively having a pair of spade terminals (53A-C) electrically coupleable by plugging to different-sized fuse holders and a pair of terminals (54) adapted to be plugged into the first socket (50);

a second socket (44) formed in the housing (41) and including a second pair of contacts (48) electrically connected to the cable (49);

a plurality of breaker modules (27; 60) adapted to be plugged into the second socket (44) and respectively including a circuit breaker (66) having a third pair of contacts (68) adapted to mate with the second pair of contacts (48), wherein

the plurality of breaker modules (60) having different current load ratings respectively include circuit breakers (66); and

an indicator (46, 47) which produces a perceptible signal when an overcurrent situation exists in the circuit breaker (66) of one of the plurality of breaker modules (27; 60) having the predetermined current load rating."

Claims 2 to 4 are dependent claims and claim 5 is directed to a method of testing an electrical system for current flow exceeding a prescribed value.

Claim 1 of auxiliary request III is identical to claim 1 of auxiliary request II, auxiliary request III differing from auxiliary request II by the absence of a method claim.

Reasons for the Decision

1. The appeal complies with the requirements of Articles 106 to 108 and Rule 99 EPC and is, therefore, admissible.
2. Admissibility of the appellant's requests filed in the oral proceedings of 6 October 2015

- 2.1 Claim 1 of each of the new main request and auxiliary request I differs from claim 1 of each of the main request and auxiliary request I filed in writing in that the phrase "*electrically coupleable to the fuse holder*" has been added to the definition of the "*first pair of contacts*".

According to the appellant, this amendment merely aimed at bringing the claim definition in accordance with the wording of original claim 18 which figures as basis of disclosure for the claimed subject-matter.

In view of the fact that the amendment only expressly states what was already implicit in the definitions of claim 1 of the preceding versions of the main request and auxiliary request I, the Board, in exercising its discretion under Article 13(1) RPBA, admitted both requests into the proceedings.

- 2.2 Claim 1 of each of new auxiliary requests II and III, differs from claim 1 of each of the corresponding requests filed in writing only by a couple of editorial amendments concerning the reference numerals.

In fact, the appellant affirmed that there was no material change made to the respective claim definitions.

Consequently, the Board admitted also new auxiliary requests II and III into the proceedings.

- 2.3 Auxiliary request IV is a new request which does not have a precursor in the requests filed in writing.

Claim 1 of this request lacks a definition of a "*housing*" and thus lacks a feature which is

indispensable for preserving the proper context of disclosure and for establishing clarity of the claim definitions.

Since auxiliary request IV was found to be evidently deficient and thus clearly not allowable, the Board did not admit the request into the proceedings.

3. Main request - inventive step (Articles 52(1) and 56 EPC 1973)

3.1 Reference is made to the following prior art document :

D3 : US-A-3 699 433.

3.2 Document D3 (see in particular Figures 1 and 2 with the corresponding description) shows a tester for testing an electrical system, which includes a fuse holder for a fuse having a predetermined current load rating. The known tester comprises a housing 38, a first pair of contacts which is electrically coupleable to the fuse holder and electrically coupled to the housing by a direct electrical connection in the form of a two-stranded cable, a second pair of contacts which is electrically coupled to the first pair of contacts and which is electrically coupleable by way of a selector switch 2 to a third pair of contacts provided by a selected one of a plurality of circuit breakers 4, 6, ..., 14 arranged in the housing and having different current load ratings. There are as many different circuit breakers as are different fuses potentially to be replaced in testing (D3 : column 1, lines 44-46). Moreover, the tester shown by document D3 has a test circuit which is connected in parallel to the circuit breakers and includes an indicator 32, 34 that produces a perceptible signal when an overcurrent situation

exists in the circuit breaker having the predetermined current load rating.

- 3.3 The subject-matter of claim 1 of each of the main request and auxiliary request I essentially differs from the known tester in the following aspects :
- (i) the circuit breakers are each included in a respective one of a plurality of circuit breaking modules;
 - (ii) the second pair of contacts constitutes the contacts of a socket which is formed in the housing and in which the circuit breaker modules are individually insertable.
- 3.4 In the appellant's view, these differences rendered the claimed subject-matter novel and inventive.

The invention as claimed addressed the problem of providing a highly versatile tester adapted to test systems with virtually any type of fuses. Testing of a new type of fuse was effected simply by plugging a corresponding circuit breaker module into the socket of the housing. In distinction thereto, D3 concerned an alternative tester which had only one module with a given number of circuit breakers arranged within the housing. Once the tester was manufactured, it could not later be adapted to new testing situations involving additional fuse sizes. Even if the skilled person contemplated such adaptations, substantive reconstruction of the hard wired electrical interconnections within the housing for the installation of additional circuit breakers and the replacement of the selector switch became necessary.

Moreover, devising circuit breaking modules of different current load ratings with a common

arrangement of contacts so as to fit into a common socket in the housing was to be considered as a creation by the present inventors. Respective instructions for the construction of the circuit breaking modules were given in lines 16 to 20 of page 9 of the original application in the context of a description of the embodiments of Figures 3 to 5.

In the absence of any indication from document D3 or any of the other documents of the available prior art which would have incited the skilled person to abandon the arrangement of circuit breakers within the housing and to provide a socket in the housing for an individual attachment of circuit breaking modules, the claimed invention could only be devised with the inadmissible application of hindsight.

3.5 The appellant's arguments in support of inventive step are not convincing.

First of all, it has to be taken into consideration that Figures 1 and 2 of document D3 do not constitute an elaborate engineering drawing but provide merely a rough sketch of the tester structure and its components. Moreover, document D3 was published in 1972 some 30 years before the filing date (in 2003) of the present application. A skilled person who is given the task to implement this sketch in the form of a concrete tester would of course resort to electric and electronic circuit components according to the available actual state of the art.

In this context, it has to be assumed that at the filing date of the present application the skilled person was familiar with the general concept of composing electronic circuits in a modular fashion.

Moreover, contrary to the appellant's assertion, it is not credible that the inventors of the present application were the first ones to develop circuit breaking modules of different current load ratings with standardized contacts, because otherwise the application documents as filed would have had to provide a detailed description of the construction and constitution of such modules. However, the information provided in lines 16 to 20 of page 9 of the original application according to which "*the circuit breaking device 12, which in the case of the testers 10 or 10A would be hardwired across the terminals 31 and, in the case of the tester assemblies 20 and 20A, would be disposed in the breaker module 27 so as to be capable of being plugged into the socket 22*" certainly does not qualify as an enabling disclosure for the provision of modules which the skilled person would not have previously been aware of.

The Board considers it thus safe to assume that, at the filing date of the application, circuit breaking modules of different current load ratings were commercially available and that a respective standard existed for the size, shape and arrangement of electrical contacts for socket mounting of such modules. Therefore, the skilled person would - in a first step - quite naturally contemplate the use of such circuit breaking modules for building the tester of document D3. Evidently, the number and variety of circuit breaking modules to be provided would be determined by the envisaged number and variety of the fuses to be replaced for testing, so as to render the tester sufficiently versatile and hence operable for any conceivable demand. Accordingly, in implementing the teaching of document D3 with available electronic circuit components, the skilled person would routinely

consider to equip the tester with a plurality of circuit breaking modules comprising respective circuit breakers of different current load ratings.

Figures 1 and 2 of document D3 show the circuit breakers arranged within the housing of the tester where they are attached to a common bus bar (16 in Figure 1 of D3). However, the function of the circuit breakers clearly does not depend on where they are located. Moreover, in view of the observations just given, it is not plausible that versatility depends on a specific arrangement of the circuit breaking modules. Consequently, it is not apparent which concrete technical problem would be solved by distinguishing feature (ii) mentioned above. The claimed arrangement of the circuit breaking modules is thus rather a matter of design preferences than an element of the solution of a technical problem. In fact, as regards the arrangement of the circuit breaking modules in the housing, the skilled person has the choice between two equivalent alternatives, both of which constitute straightforward options. In this context, the skilled person would readily realize that, if for instance it is not desired or required to store the plurality of circuit breakers or circuit breaking modules in the tester housing, the modules could as well be arranged or kept outside the housing. Likewise, it would not require inventive imagination to realize that a selector switch as present in the tester of document D3 would be necessary only in case of a simultaneous provision of the plurality of circuit breaking modules but would become obsolete if only one module at a time would be provided.

Confirmation for the above assessment that the alternative arrangements from which the skilled person

would choose are indeed functionally equivalent is even provided by the present application, which shows in Figure 13 an embodiment of a tester, the housing of which does not have any sockets and externally pluggable circuit breaking modules but instead shows a dial for setting a proper current rating.

In summary, in the light of the above considerations, no exercise of inventive skill is required for the skilled person to contemplate employing circuit breaking modules of different current load ratings when implementing a tester replicating the functionality of the tester known from document D3 together with providing a socket in the housing for individual insertion of these modules.

3.6 For the above reasons, the subject-matter of claim 1 of the appellant's main request lacks an inventive step within the meaning of Article 56 EPC.

4. Auxiliary request I

Claim 1 of auxiliary request I is identical to claim 1 of the main request.

Therefore the above finding of lack of inventive step for the main request applies with equal force to auxiliary request I.

5. Auxiliary request II

5.1 The subject-matter of claim 1 of auxiliary request II comprises in addition to that of the main request the provision of :

a further socket, dubbed "*first socket (50)*", "*disposed at the distal end of a cable (49) which extends from*

the housing, the first socket (50) including" the "first pair of contacts"; and "a plurality of plug adapters (51A-C) respectively having a pair of spade terminals (55A-C) electrically coupleable by plugging to different-sized fuse holders and a pair of terminals (54) adapted to be plugged into the first socket (50)".

- 5.2 These features entail the following additional differences to the tester known from document D3 :
- (iii) the first pair of contacts at the distal end of the cable extending from the housing towards the fuse holder is provided in the form of contacts of a socket, whereas D3 shows instead a pair of alligator clips; and
 - (iv) a plurality of plug adapters is provided for plugging connection of the first pair of contacts to different-sized fuse holders.
- 5.3 None of these additional features renders the claimed subject-matter inventive.

To replace an outdated connection via alligator clips by a plug-socket type of connection is a quite banal measure to be taken. This is all the more true, as such a measure merely satisfies a demand or specification which is imposed on the design of the tester by the structure of the fuse-holder to be contacted. It simply makes no technical sense to contact a fuse holder with alligator clips when the fuse-holder requires a plug-in type of contacting.

Moreover, to provide different plug adapters for connection to different-sized plugging contacts is a measure any skilled person is familiar with already from every-day experience, gathered for instance from travelling to foreign countries.

- 5.4 As for the remaining features of claim 1 under consideration, the same considerations as given for the main request apply.

For these reasons, the subject-matter of claim 1 of auxiliary request II lacks an inventive step within the meaning of Article 56 EPC.

6. Auxiliary request III

Claim 1 of auxiliary request III is identical to claim 1 of auxiliary request II.

Therefore the above finding of lack of inventive step for auxiliary request II applies with equal force to auxiliary request III.

7. In conclusion, none of the appellant's requests which were admitted into the proceedings is allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



R. Schumacher

G. Assi

Decision electronically authenticated