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**Datasheet for the decision
of 26 January 2022**

Case Number: T 2327/14 - 3.4.01

Application Number: 08250275.8

Publication Number: 1951007

IPC: H05H1/34

Language of the proceedings: EN

Title of invention:

Consumable component parts for a plasma torch

Patent Proprietor:

Hypertherm, Inc.

Opponent:

L'AIR LIQUIDE, SOCIETE ANONYME POUR
L'ETUDE ET L'EXPLOITATION DES PROCEDES
GEORGES CLAUDE

Relevant legal provisions:

EPC Art. 100(a), 52(1), 54, 56, 84

RPBA Art. 12(4)

RPBA 2020 Art. 11

Keyword:

Novelty - main request (no) - auxiliary request 18 (no)
Admission - auxiliary requests 1 and 2 (no) - subject-matter
withdrawn before the opposition division
Admission - auxiliary requests 3 - 16 (no)
Clarity - auxiliary request 17 (no)
Inventive step - auxiliary request 19 (no)
Remittal - (no)



Beschwerdekammern

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Case Number: T 2327/14 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 26 January 2022

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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 17 October 2014
revoking European patent No. 1951007 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chair P. Scriven
Members: T. Petelski
R. Winkelhofer

Summary of Facts and Submissions

- I. The opposition against European Patent 1 951 007 was based on the grounds of lack of novelty and inventive step (Article 100(a) EPC).

- II. The Opposition Division found the patent as granted and in three amended forms (first, second, and third auxiliary requests) lacked novelty over

D2: GB 2 091 594.

- III. In a section named "Obiter dictum", the Opposition Division stated that it considered the main and third auxiliary requests also lacked novelty over

D1a: JP 2004 314181, D1 being the English translation of D1a.

- IV. The three auxiliary requests underlying the decision were filed during oral proceedings before the Opposition Division, in replacement for the previously filed first to fifth auxiliary requests. A question from the proprietor during oral proceedings, as to whether the Opposition Division would be inclined to allow a fourth auxiliary request based on Figure 4 of the patent, was answered in the negative.

- V. The proprietor appealed and requests that the decision be set aside, and the opposition rejected.

Alternatively, the patent was to be maintained on the basis of one of first to sixteenth auxiliary requests, filed with the statement of grounds of appeal; or seventeenth to nineteenth auxiliary requests, re-filed with the statement of grounds, but previously filed before the Opposition Division.

- VI. In their statement of grounds, the proprietor referred to the declaration of a Mr Reed, which is labelled as E1, and which was submitted during the opposition proceedings.

- VII. The respondent (opponent) requests that the appeal be dismissed and argued that the auxiliary requests should not be admitted.

- VIII. The Board informed the parties of its provisional opinion, which tended to follow the Opposition Division's view on novelty for the main request; and which was negative on inventive step for all requests. The first and second auxiliary requests were unlikely to be admitted, whereas admission of the seventeenth to nineteenth was likely. Admission of the third to sixteenth auxiliary request required discussion.

- IX. Oral proceedings were originally arranged for 12 November 2020. Due to a mistake, the information was sent to the patent proprietor less than two months before that date. Their request for postponement was granted and a new summons was sent, for 9 June 2021.

- X. Again, the proprietor requested postponement, which was justified with pandemic-related travel restrictions. They did not consent to the holding of oral proceedings by video link.
- XI. In response, the Board set a new date for 26 January 2022.
- XII. The opponent informed the Board that they would not be represented at the oral proceedings.
- XIII. Oral proceedings took place on 26 January 2022 by videoconference, in the absence of the opponent.
- XIV. Claim 1 of the main request reads:

A consumable component (370) for a plasma arc torch (300), comprising:

a body portion having an axial length and a radial width; and

an axially disposed surface (378) on the body portion for coupling to a mating surface (318) on an adjacent structure (308) of the torch (300)

characterised in that the component further comprises:

a tapered surface (372) on the body portion, the tapered surface (372)

including a compressible member (376) that provides a disengagement force relative to the body portion;

wherein the tapered surface is:

dimensioned to receive the compressible member (376) that provides a disengagement force relative to the body portion; or

dimensioned to engage the compressible member (376), such that when the consumable component (370) is assembled with the torch (300) the compressible member (376) creates a force having an axial direction and a radial direction, wherein the radial direction of the force aligns the consumable component (370) radially and the axial direction of the force biases the consumable component (370) in an unassembled direction.

XV. Claim 11 of the main request reads:

A plasma torch (300); comprising:

a torch body (300);

an electrode (330) coupled to the torch body (300);

a nozzle (370) coupled to the torch body (300), the nozzle (370) including:

an axially disposed surface (378) for coupling to a mating surface (318) on an adjacent structure (308) within the torch body (300); and

a retaining cap (302) coupled to the torch body (300), the retaining cap (302) providing an engagement force for coupling the nozzle (370) to torch body (300)

characterised in that the nozzle (370) also includes:

a tapered surface (372) including a compressible member (376) providing a disengagement force relative to an adjacent tapered surface (314) of the torch body (300), wherein the tapered surface (372) is dimensioned to receive the compressible member (376) that provides a disengagement force relative to the body portion; or

dimensioned to engage the compressible member (376), such that when the consumable component (370) is assembled with the torch (300) the compressible member (376) creates a force having an axial direction and a radial direction, wherein the radial direction of the force aligns the consumable component (370) radially and the axial direction of the force biases the consumable component (370) in an unassembled direction.

XVI. Claim 24 of the main request reads:

An assembly of plasma torch components, the assembly comprising:

a consumable component (370) having an axially disposed surface (378) and a tapered surface (372), the tapered surface (372) being dimensioned to receive a compressible member (376) that provides a disengagement force relative to the body portion of the consumable component;

a second component (308) having an axially disposed surface (318), wherein the consumable component (370) and the second component (308) are aligned axially by their respective axially disposed surfaces (378, 318); and

a compression member (376) aligning the consumable component (370) and the second component (308) radially, the compression member (376) engaging the tapered surface (372) such that the consumable component (370) and the second component (308) are biased in a direction of disassembly.

XVII. Claim 25 of the main request reads:

A method for aligning a consumable component (370) of a plasma torch (300) and a second component (308) of a plasma torch (300) assembly, having a compressible member (376) disposed between the two

components (370, 308), the method comprising:

axially aligning the consumable component (370) to the second component (308) by a rigid primary datum; and

radially aligning the consumable component (370) to the second component (308) by:

a flexible secondary datum, such that the compressible member (376) aligns the first consumable component (370) and the second component (308) radially and the compressible member (376) axially biases the compressible member (376) in an unassembled direction; or

biasing the compressible member (376) against a tapered surface (372) of the consumable component (370) to radially align the consumable component (370) to the second component (308), wherein the tapered surface (372) is dimensioned to engage or is dimensioned to receive the compressible member.

XVIII. The first and second auxiliary requests each comprise three independent claims defining a method, a plasma torch, and an assembly, based on claims 11, 24 and 25 of the main request. In substance, they differ from the latter in that they additionally define the first and second components to "freely disengage when the torch body is being disassembled"; the claims of auxiliary request 2 further adding "without the need for tools".

In addition, the consumable component of the assembly, or the nozzle of the plasma torch, is explicitly defined as including a "body portion".

XIX. The third to fourteenth auxiliary requests comprise method claims only. The respective claims 1 define different assortments of components and features of the plasma torch, with which the consumable component is aligned. In the reasons, below, the content of the claims will be summarized as far as it is relevant for the decision.

XX. The fifteenth and sixteenth auxiliary requests only comprise claims directed at "a working end of a liquid or gas cooled plasma arc torch". Their subject-matter corresponds to the subject-matter of the method claims 1 of the fifth and sixth auxiliary requests.

XXI. Of the seventeenth auxiliary request, independent claims 1 and 14 are relevant for the decision. They are based on respective claims 11 and 24 of the main request and further define the nozzle or the consumable component as having "a body portion".

Claim 1 also adds, at the beginning of the characterizing part that

... the adjacent structure (308) is provided with a tapered surface (314) allowing for contact at a single point between the adjacent structure (308) within the torch body (300) and the nozzle (370)

whilst performing alignment and biasing functions

Accordingly, claim 14 adds, at the end:

... wherein the second component is provided with a tapered surface that allows for contact at a single point between the second component and the consumable component whilst performing alignment and biasing functions.

XXII. Of the eighteenth auxiliary request, independent claim 13 is relevant for the decision. It is based on claim 24 of the main request and further defines the consumable component as "having a body portion" and the second component as having "a tapered surface (314)". It also adds, at the end:

... wherein the tapered surface of the second component includes a lead in feature (326) for protecting the compressible members (376) from damage during installation.

XXIII. The sole independent claim 1 of the nineteenth auxiliary request is based on method claim 25 of the main request. It differs from the latter in that the first option in the step of "radially aligning the consumable component to the second component" is deleted and in that the second step reads:

... biasing the compressible member (376) against a tapered surface (372) of the

consumable component (370) to radially align the consumable component (370) to the second component (308), wherein the tapered surface (372) includes a feature for receiving the compressible member wherein the feature is a recess defined by a body portion of the consumable component ...

Also, the following step is added:

... disassembling the consumable component and the second component without using tools.

Reasons for the Decision

The teaching of the patent

1. The patent is about a plasma arc torch that has a consumable component, like a nozzle or an electrode, that can be easily exchanged by the user without the need for tools.
2. For this purpose, the patent proposes that the consumable component be provided with a (conical) tapered surface. In the assembled state of the torch, this surface is opposed to a matching tapered surface of a second component of the torch. A hand-screwed retaining cap presses the consumable component onto the second component. This causes the compression of a compressible member, like an O-ring, which is arranged between the two tapered surfaces. The compression allows for an end surface of the consumable component

to abut at an axial stop of the second component. Due to the tapered surfaces, the decompression force of the compressible member has an axial component, which enables an easy, tool-free ejection of the consumable component, once the retaining cap is removed.

Main request - Novelty over D2

3. The opponent asserts that D2 comprised all features of claims 1 and 24 except for the "disengagement force", which was provided by the compressible member (the "elastomeric O-ring" 51 in D2) relative to the body portion of the consumable component (the "intermediate annular member 47" in D2). The proprietor does not contest that, and the Board also agrees.
4. Hence, the question of novelty hinges on the interpretation of the term "disengagement force".
5. According to the proprietor, this was not a term of art. Therefore, the skilled person would have consulted the description of the patent to construe the expression "disengagement force".
6. The description of D2 was about providing a consumable component for a plasma torch that was replaceable by hand. This was achieved by two features: by the tapered surface of the component, and by the (resulting) axial component of the decompression force exerted by the compressible member. Against this background, the skilled person would understand the expression "disengagement force" such that, given a certain taper, the force would have to be large enough to cause a complete disengagement of the components. This understanding was backed up by the declaration E1. The

skilled person would have known how to select the compressible member and the taper such that they would have caused complete disengagement.

7. In contrast to the invention, the O-rings 51 and 51' in D2 were only intended for sealing, not for providing a disengagement force. Although, due to the taper, the compressed material of the O-rings caused a certain force component in the direction of disengagement, this force component was insufficient to overcome the friction of the O-rings. Hence, this force component could not cause a complete separation and was not a "disengagement force" within the meaning of the claim.
8. D2 featured a tool-based disassembly of the torch, as was clear from page 2, lines 73 - 74 and page 4, lines 17 - 23. The goal of achieving an easier disassembly must, therefore, be understood as a tool-based disassembly that required less force. Disassembly by hand would have been against a technical prejudice that existed at the filing date of the patent in suit.
9. Therefore, the compressible member in D2 did not provide a disengagement force, and the subject-matter of claim 1 was novel over D2.
10. These arguments from the proprietor are not persuasive.
11. It is correct that the term "disengagement force" is not a technical term with a well-defined meaning. Hence, it must be interpreted broadly, as encompassing every force that has a component in a direction of disengagement of parts, thereby easing their disengagement. The term does not imply a minimum size for the force, even less so a size that would suffice completely to disengage the parts.

12. The patent in suit supports this understanding. Paragraphs [0007], [0018], [0035], and [0036] describe how the tapered surface causes a radial and an axial compression force component, when the consumable component is assembled and the compressible member is in its compressed state. The axial component acts in "an unassembled direction" and is called a "disengagement force".
13. This force does "assist in ejecting these components from the torch" (paragraph [0046]). The assistance is such that the respective component "can be removed without the need for any tools" (paragraphs [0031] and [0032]). Hence, it is not the disengagement force alone that causes a complete disengagement of the components once the retaining cap is removed, but it merely assists the user in a disassembly by hand.
14. The patent is silent on the angle of the taper, the elasticity properties, friction, and amount of compression of the compressible member. Hence, the patent does not allow any estimate of the amount of friction that is to be overcome during disassembly, other than that disassembly can be done by hand.
15. Paragraph [0036] was cited by the proprietor, as support for their allegation that the disengagement force alone caused complete separation. It says:

... The axial component (A) [of the compression vector] serves to bias the first component ... and the second component ... in an unassembled direction such that the two components ... freely disengage when the torch body is being disassembled ...

16. When read in context with the previously-cited paragraphs, paragraph [0036] must be understood such that when the components are completely separated during the process of disassembly (by hand) of the torch body, the disengagement force assists in achieving the disengagement.
17. Hence, the patent as a whole does not lead to a different understanding of "disengagement force" from that given in paragraphs 11. - 14., above.
18. On that understanding, the axial force components of the compressed O-rings, 51 and 51', in D2, however small they might be, must be seen as a disengagement force. The proprietor does not dispute that the O-rings 51 and 51' generate an axial force component that acts in the direction of disassembly.
19. The proprietor's arguments according to which the axial component of the force exerted by the compression members, 51 and 51', in D2 was not sufficient to overcome the frictional drag force of compression member 62, and, therefore, did not cause an actual disengagement of member 47, might be plausible but are not relevant.
20. Hence, D2 takes away novelty from claims 1 and 24, regardless of whether disassembly requires a tool or not.

First and second auxiliary requests - Admission

21. The subject-matter of claims 1 - 17 of the first and second auxiliary requests is similar to that of respective claims 11 - 25, 30, and 31 of the first and

second auxiliary requests as filed during opposition proceedings on 29 August 2014 and as withdrawn during oral proceedings before the Opposition Division.

22. The current claims differ from the withdrawn claims only in that claims 3 and 16 explicitly define a "body portion" of the nozzle (claim 3) or of the consumable component (claim 16), which were previously implicit. This amendment is not substantial and does not alter the scope of the claims.
23. Hence, the first and second auxiliary requests define subject-matter that was withdrawn during opposition proceedings. For that reason, they are not admitted to the appeal proceedings (see Case Law of the Boards of Appeal, 9th edition 2019, V.A.4.11.3.f and Article 12(4) RPBA 2007).
24. The proprietor argues having felt under pressure from the Opposition Division to reduce the number of requests that were on file, and the reduction did not have to be understood as an abandonment of the respective subject-matter. This was evident from the fact that the subject-matter of the withdrawn requests was not very different from the subject-matter of the requests underlying the contested decision.
25. According to Article 113(2) EPC, it is the proprietor who decides upon their requests. By withdrawing the (then) first and second auxiliary requests, the proprietor chose not to define the consumable component or nozzle such that it "freely disengage[d]" from an adjacent structure, optionally "without the need for tools". Instead, the requests underlying the appealed decision go into different directions, by defining the tapered surface of the consumable component or nozzle

as "allowing for contact at a single point", as having a "lead-in feature", or as having a "recess". There is no hint in the minutes of the oral proceedings that the Opposition Division exerted pressure on the proprietor to withdraw the first or second auxiliary request. Hence, the proprietor's arguments are not persuasive.

Third to sixteenth auxiliary requests - Admission

26. According to the proprietor, new objections had been presented during the oral proceedings before the Opposition Division. In order to overcome these new objections, an attempt had been made, during those oral proceedings, to file a request based on the embodiment according to Figure 4. This was reflected in the minutes. However, the Opposition Division would not consider such a request, so that the proprietor had been deprived of their right to respond to a new objection. As a consequence, the first opportunity to react to the new arguments had been with the appeal.
27. Auxiliary requests three to sixteen, filed with the grounds of appeal, constituted this reaction. In not admitting these requests, the Board would not respect the proprietor's right to be heard. The requests tried to find the right words to define the same invention. Different assortments of features, from the embodiment according to Figure 4, were added to the claims in order better to distinguish the invention from the prior art and prevent intermediate generalisations. Hence, the requests did not define new entities and did not go in different directions.
28. In contrast to the proprietor's position, neither the minutes of the oral proceedings nor the appealed

decision mention any arguments that had not already been laid out during the previous written proceedings. In particular, the interpretation of the "disengagement force" and the resulting reasoning of lack of novelty regarding the first, second, and third auxiliary requests as filed during oral proceedings were along the same line as the arguments presented in the notice of opposition and the ensuing written exchange. The proprietor did point to a specific argument which was regarded as new.

29. The proprietor was given ample opportunity, during the opposition proceedings, to react to the opponent's arguments. Prior to oral proceedings, the proprietor had filed five auxiliary requests. During oral proceedings, these requests were substituted by a new first auxiliary request and an amended version of it, a new second auxiliary request and an amended version of it, and a new third auxiliary request. After these requests were found to lack novelty, the proprietor asked the Opposition Division, whether it would be prepared to admit a further request based on the embodiment illustrated in Figure 4. The Opposition Division deliberated on that question and justified their negative response.

30. The Opposition Division answered the question as to whether they would be inclined to admit a hypothetical new request in the negative, for the reason that the various technical features, which would have had to be added to the independent claims, would have defined a new entity that had not been discussed before. They did not consider this expedient at the late stage of the proceedings (see the minutes of the oral proceedings before the Opposition Division, page 6, second last paragraph).

31. Contrary to the proprietor's argument, the Opposition Division did not justify its decision by the absence of the opponent from the oral proceedings alone. This was just one point that was considered.
32. Hence, the Opposition Division did not exercise its discretion based on wrong criteria. The proprietor could and should have filed their requests earlier.
33. The third to fourteenth auxiliary requests differ from the higher-ranking requests in that they are limited to method claims. The respective methods define a varying number of components of the plasma torch as shown in Figure 4. These include a retaining cap, a swirl ring, or an electrode with a tapered surface, which do not further define the disengagement-related interaction of the tapered surface of the nozzle and the compressible member. Hence, the third to fourteenth auxiliary requests follow new lines that are not directly related to the disengagement force producing interaction of the tapered surface and the compressible member, as defined by the higher-ranking requests. This is a further reason that speaks against their consideration.
34. The claims of the fifteenth and sixteenth auxiliary requests define a working end of a plasma arc torch. Other than a change in category, the respective claims correspond to the claims of the fifth and sixth auxiliary requests, and the same considerations apply.
35. In view of the above, the third to sixteenth auxiliary requests are not admitted into the proceedings.
36. There is no reason to remit the case to the Opposition Division. In particular, there was no procedural

violation, or any other special reasons that might justify remittal (Article 11 RPBA 2020).

Seventeenth auxiliary request - Clarity

37. Claim 1 defines an adjacent structure that "is provided with a tapered surface allowing for contact at a single point between the adjacent structure ... and the nozzle". In the corresponding feature of claim 14, the "adjacent structure" is a "second component", and the "nozzle" a "consumable component".
38. The feature defining a single point of contact is not part of the set of claims as granted. Hence, it needs to be examined for clarity.
39. In both claims, 1 and 14, it is unclear how there can be only one point of contact, and where this point is. It is also not clear, what implication the single contact point has for the shape of the tapered surface.
40. In claim 1, the compressible member is part of the nozzle. Hence, there is at least a circular contact area between the nozzle and the adjacent structure. It is not clear, if this area is meant to be the contact point, or whether it is meant to be a direct point of contact between the tapered surfaces. In addition, there must be at least one point of contact, if not a whole contact area, between the axially-disposed surface of the nozzle (or of the consumable component in claim 14) and the mating surface of the axially aligned adjacent structure (or the axially disposed surface of the second component).

41. The proprietor argued that the contact point related to the ring-shaped contact area between the axial stops 318 and 378 in the embodiment according to Figures 3, 4, and 5 of the patent. However, other embodiments, with only a single contact point, were also possible. The "single contact point" had to be read as "at least one contact point". There was no contact between the two tapered surfaces, which were separated by the compressible member.
42. The proprietor's interpretation stands in contrast to the unambiguous formulation "contact at a single point" in the claims. Also, the compression member in claim 1 is defined as being part of the nozzle, which leads to at least two contact points. Hence, it is not clear, how there can be just a single point of contact between the components, and where it should be.
43. Additionally, it remains unclear, how the tapered surface must be shaped to allow for a single point of contact.
44. Hence, claims 1 and 14 are unclear.

Eighteenth auxiliary request - Novelty over D2

45. The proprietor argued that the tapered surface of the annular body 45 in D2 (the second component in claim 13) did not include a lead-in feature for protecting the O-rings 51 and 51' (the compressible members) from damage during installation of the intermediate member 47 (the consumable component). Claim 13 made it clear that the lead-in feature was a separate feature that was more than the tapered surface alone. In D2, the surface of the body 45 only showed a taper, but no

further lead-in feature. Hence, the subject-matter of claim 13 was novel over D2.

46. The proprietor attributes more meaning to the lead-in feature than is justified. Although the skilled person might understand that the lead-in feature must be something different from the taper, it is not apparent what that should be.
47. In D2, the conical tapered surface of the body 45 leads to a large opening, in which the member 47 can easily be inserted. Once inserted into the large opening, the tapered surface of body 45 causes a smooth lead-in of the member 47 to its final position, thereby protecting the O-rings 51 and 51' from contact with any sharp edges. Hence, the tapered surface of body 45 in D2 achieves, on its own, the goal of leading the member 47 into its position while protecting the O-rings from damage. The tapered surface of body 45 in D2 is, therefore, not distinguishable from a tapered surface that includes a lead-in feature. In other words, the lead-in feature as defined in claim 13 cannot confer any structural limitation to the tapered surface that would go beyond the tapered surface as disclosed by D2.
48. Consequently, the subject-matter of claim 13 is not novel over D2.

Nineteenth auxiliary request - Inventive Step over D2

49. According to the proprietor, the subject-matter of claim 1 differed from D2 in that the consumable component (the intermediate member 47 in D2) and the second component (the annular body 45 in D2) were disassembled without using tools. Even if it had been

theoretically possible to disassemble the components in D2 without tools, that was not what was done, and was not what the skilled person would have considered without using hindsight.

50. As brought forward in the context of the main request, D2 only considered a tool-based disassembly of the torch. That was also the reason why D2 did not mention a disassembly by hand with a single word. The tool-based approach was clear from the mention of tools on page 2, lines 73 - 74 and page 4, lines 17 - 23. The goal of providing an easier disassembly referred to a tool-based disassembly, in which the use of the tools required less force. At the time of filing of the patent, a prejudice existed against disassembly by hand. Overcoming this prejudice led to a surprising and beneficial technical effect.
51. These arguments are not persuasive. It is implicit that the intermediate annular member 47 (the consumable component in claim 1) and the annular body 45 (the second component) of the torch in D2 can be disassembled by hand, and it would have been obvious to do so.
52. It follows from the following passages of D2 that the anode element 12 and the intermediate member 47 are retained in their position relative to the body 45 by the compression exerted by the screwed clamp nut 48:

(a) Page 1, lines 69 - 75:

The retaining force is serially operative upon multiple components of the electrode subassemblies, to assure retention of components within an electrode subassembly,

and to assure retention of the electrode subassemblies to each other and to the mounting subassembly.

(b) Page 2, lines 91 - 102:

The parts 47 - 12 are held in their subassembled relation by an annular clamp nut 48 having threaded engagement ... to compressionally retain the subassembled relation. When nut 48 is released, the parts 47 - 12 are rendered readily removable by reason of a divergent frusto-conical counterbore defining the fitted interface 50 between body 45 and intermediate member 47.

(c) Page 4, lines 17 - 19:

When nut 48 is removed, the anode element 12 and the intermediate member 47 are easily extracted, for inspection and/or replacement ...

53. The passages relating to a tool (page 2, lines 70 - 77 and page 4, lines 17 - 23) only explain that a wrench is required for actuation of the threaded collet 31 in order to extract the cathode element 11.
54. The absence of any hint of using a tool - and of which tool to use - for removing components 12 and 47, together with the explicit mentioning of a tool where it *is* required, has the consequence that the above passages of D2 can only be understood in one way: the components 12 and 47 are held in place by nothing more than the compressive force exerted by threaded nut 48,

and potentially the (weak) friction of O-rings. Once the nut 48 is removed, these components can be disassembled by hand.

55. It is possible that, due to the lack of retaining force, components 12 and 47 would come loose by themselves upon removal of nut 48. If not, the first thing the skilled person would have envisaged, would have been to wiggle them by hand. That would have separated them from body 45. In that way, the components would be disassembled by hand.
56. There is nothing that would speak for a technical prejudice against disassembly by hand. To the contrary, this would rather have seemed the easiest solution at any time.
57. Hence, the subject-matter of claim 1 lacks an inventive step over D2.

Conclusion

58. The main request is not allowable, because the subject-matter of claim 1 is not novel over D2 (Article 100(a) together with Articles 52(1) and 54 EPC).
59. The first and second auxiliary requests are not admitted into the proceedings, because their claims had been withdrawn during the opposition proceedings.
60. The third to sixteenth auxiliary requests are not admitted into the proceedings, because they should have been filed earlier, and because they are not convergent with the higher-ranking requests (Article 12(4) RPBA 2007).

61. The seventeenth auxiliary request is not allowable, because claims 1 and 14 are not clear (Article 84 EPC).
62. The eighteenth auxiliary request is not allowable, because the subject-matter of claim 13 was known from D2 (Articles 52(1) and 54 EPC).
63. The nineteenth auxiliary request is not allowable, because the subject-matter of claim 1 would have been obvious to the skilled person, starting from D2 (Articles 52(1) and 56 EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



D. Meyfarth

P. Scriven

Decision electronically authenticated