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**Datasheet for the decision
of 24 March 2022**

Case Number: T 1353/18 - 3.2.03

Application Number: 11182511.3

Publication Number: 2573290

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Language of the proceedings: EN

Title of invention:

A support system for mounting a panel grid in ceiling or wall support structure

Patent Proprietor:

Rockwool International A/S

Opponent:

Saint-Gobain Ecophon AB

Headword:

Relevant legal provisions:

EPC Art. 100(c), 100(b), 54, 56

Keyword:

Amendments - added subject-matter (no)

Sufficiency of disclosure - (yes)

Novelty - main request (yes) - disclosure in drawings (no)

Inventive step - main request (yes)

Decisions cited:

T 0748/91

Catchword:



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Case Number: T 1353/18 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 24 March 2022

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
16 March 2018 concerning maintenance of the
European Patent No. 2573290 in amended form.**

Composition of the Board:

Chairman C. Herberhold
Members: B. Goers
E. Kossonakou

Summary of Facts and Submissions

- I. European patent No. 2 573 290 ("the patent") relates to a support system for mounting a panel grid in a ceiling or wall support structure comprising a plurality of panel retaining profiles each having an inverted T-shaped cross-section with a web portion having a bulb portion and a plurality of clips for receiving and retaining the bulb portion of a profile.
- II. With its decision, the opposition division decided that the patent as amended on the basis of the then first auxiliary request complied with the requirements of the EPC. Both the patent proprietor and the opponent appealed this decision. Since both parties appealed, they will be referred to as "patent proprietor" and "opponent" in this decision.
- III. With the parties' consent, oral proceedings before the Board were held on 24 March 2022 by videoconference using the Zoom platform.
- IV. At the end of the oral proceedings, the patent proprietor requested that the decision under appeal be set aside and that the patent be maintained as granted (main request) or, alternatively, that it be maintained on the basis of one of auxiliary requests 1 to 3 originally filed on 5 December 2017 and re-filed with the grounds of appeal.

The opponent requested that the decision under appeal be set aside and that the patent be revoked.

V. The following documents cited in the opposition proceedings are relevant for this decision:

- D1: US 3,263,388 A
- D2: US 2006/0096219 A1
- D3: Ecophon Acoustic Ceilings, "Ecophon Edge with Focus E II", Installation guide IG165
- D3b: Saint-Gobain Ecophon AB, DesignView, Design number 75964-0001, Application number 2002-0967
- D4: Ecophon Acoustic Ceilings, "Focus Ds Direct Installation", Installation guide IG208
- D4b: Ecophon, "WingLight corridor", Installation guide IG244
- D5: US 5,611,185 A
- D6: US 7,712,274 B2
- D7: US 2,780,850 A

VI. Independent claim 1 of the main request (patent as granted) reads as follows (feature numbering added in "[]").

"[a] A support system for mounting a panel grid in ceiling or wall support structure, said system comprising:

[b] - a plurality of panel retaining profiles (1) each having an inverted T-shaped cross-section with

[c] - a web portion having a bulb portion (10) at its distal end, and

[d] -a pair of panel support flanges (11) for supporting and retaining wall or ceiling panels (3); and

[e] - a plurality of clips (2) with mounting means for fixing the clips to the support structure and

[f] receiving means for receiving and retaining the bulb portion (10) of the leg of a panel retaining profile (1),

[g] wherein each clip (2) is provided with a base portion (21) which is provided with the mounting means and

[h] one flange (22) provided on each side of said base portion (21),

[i] the two flanges (22) being substantially parallel to each other and

[j] having inwardly protrusions (23) pointing towards each other for receiving the bulb portion (10) of a T-shaped profile (1),
characterised in that

[k] each of the clip protrusions (23) comprises a first portion and a second portion, where the second portion is the closest to the base portion (21) of the clip (2) and wherein said first portion has a receiving slope having an angle of less than 45°, preferably less than 30°, relative to the receiving flanges and the second portion having an oppositely sloping surface which is at least 30°, preferably at least 45° relative to the receiving flanges."

VII. The patent proprietor's arguments relevant to the present decision may be summarised as follows.

(a) Article 100 c) EPC

The subject-matter of claim 1 did not extend beyond that of the application as filed. It was evident from the whole disclosure, in particular Figures 1 and 4, that a base portion with two flanges, one on each side, was disclosed.

(b) Article 100 b) EPC

The invention was sufficiently disclosed. The skilled person was capable of selecting the appropriate steel type and thickness using common technical skills.

(c) Main request - Novelty

The subject-matter of claim 1 was novel over any of D1, D2, D3, D3b, D4, D4b, D5 and D6.

Considering values of angles measured in schematic figures as disclosed was not in line with the established case law and not allowable for any of the disclosures in consideration. Furthermore, there was no connection between the teachings of D3, D3b and D4b. The disclosure of these documents could thus only be considered individually.

D1 further did not disclose a bulb portion or parallel extending flanges, nor did it disclose a first and second portion of the protrusions in the range claimed since the second portion was either disclosed to be at an angle of 90° or to slope in the same direction as the first portion.

D2 failed to disclose the claimed angles and two protrusions with the claimed sloped surfaces.

D3 also did not disclose the angles. Furthermore, the base portion did not provide a mounting means. The same applied for the disclosure of D4b.

D3b did at least not disclose any profile nor a plurality of clips.

D4 did not disclose a base portion from which the flanges extend at each side, nor was any information about the angles of the protrusions derivable therefrom.

D5 disclosed neither profiles with a bulb portion as in claim 1 nor details about the first portion's angle. Furthermore, the second portion's angle was disclosed to be 90°, which fell outside the range claimed.

The clips of D6 were not disclosed as mounting clips with a mounting function or means. The disclosed protrusion also did not comprise a second portion, and for the first portion, no angle was disclosed.

(d) Main request - Inventive step

The subject-matter of claim 1 involved an inventive step.

D5 taught away from providing means for facilitated demounting. D2, even if taken into account by the skilled person, did not teach a range for the angle of the second portion. Moreover, it was not suitable for leading to the invention since it disclosed only a single protrusion with oppositely sloped surfaces, while the other flange was intentionally planar.

For the same reasons, D2 was not suitable for leading the skilled person to a selection of angles within the ranges claimed when starting from D3. Furthermore, D3 did not provide any teaching on the design of the protrusions.

VIII. The opponent's arguments relevant to the present decision may be summarised as follows.

(a) Article 100 c) EPC

The subject-matter of claim 1 extended beyond the application as filed. The original wording "two substantially parallel flanges on each side of said base portion" was directed to four flanges, two on each side. The amended wording of claim 1, which defined only one flange provided on each side of the base portion, therefore extended the subject-matter by omitting two flanges. Furthermore, the originally filed wording was in accordance with the embodiments of Figures 1 and 4 as filed, which likewise showed four flanges, two on each side of the sub-flange. At least, there was no unambiguous disclosure of an embodiment with only two flanges in the application as filed. Even if the figures were construed to support the disclosure of only two flanges, the extraction of this feature from the detailed embodiments constituted an unallowable intermediate generalisation.

(b) Article 100 b) EPC

The invention was not sufficiently disclosed. The underlying objective of providing sufficient flexibility to facilitate mounting and demounting while providing sufficient strength to carry the profiles depended on more than the angles of the protrusion. *Inter alia*, it also depended on the type and the thickness of the steel. The patent did not provide any guidance for making appropriate selections in combination with the selection of the angles from the claimed ranges, all of which was, however, required for carrying out the invention.

(c) Main request - Novelty

The subject-matter of claim 1 was not novel over any of D1, D2, D3, D3b, D4, D4b, D5 and D6.

The feature "oppositely sloped" was not further restricting and was fulfilled by teeth in Figure 6 of D1, the uppermost tooth representing a bulb portion. The respective angles of the portions as measured in Figure 6 fell within the ranges claimed.

Furthermore, in D2, the planar section 52 of the left protrusion according to Figure 6 was a "first sloped portion" as in claim 1. As for D1, the respective angles of the portions as measured in Figure 6 fell within the ranges claimed.

D3 likewise disclosed angles of the sloped portions in the ranges claimed which were measurable from the drawings. Furthermore claim 1 did not require that the mounting part was integral with the base portion, nor was suspension mounting excluded. The wire hanger of D3 was connected to the base portion of the clip and thus qualified as a mounting part. The same considerations applied for D4b.

D3b was a "design view" of a hanger clip from which the angles could be measured directly. In context with D3 and D4b, which clearly comprised the use of the very same hanger clip, the further features of the profiles in accordance with claim 1 were implicitly disclosed.

D4 showed in Figure 5 clips with two flanges extending from two sides of a base portion having protrusions.

Also here the displayed angles fell into the ranges claimed.

D5 disclosed T-shaped profiles with bulb portions having a triangular pointy shape such as described in the patent. The two portions displayed in the figures had slopes with angles in the ranges claimed. In view of the case law regarding selection inventions defined by numerical ranges, an angle of 90° clearly made the claimed range for the second portion not novel.

D6 disclosed clips suitable to be provided with mounting means at their base portion. The clip further had protrusion 57 extending as a sloped first portion and forming, at its distal edge, a sloped second portion. As was apparent from Figure 7, the angles fell within the ranges claimed.

(d) Main request - Inventive step

The subject-matter of claim 1 did not involve an inventive step in view of D3 or D5 as the starting point in combination with the teaching of D2. Firstly, the alleged technical problem was not solved over the whole scope of the claims, such that the problem was only to find an alternative design of the protrusions. Secondly, the missing angles were at least made obvious from D2, in particular paragraph [29], which taught how to design the slope of the first portion to facilitate the insertion of the bulb portion into the clip. The teaching was also applicable in the same way to the teaching of the second portion in an obvious manner.

Reasons for the Decision

1. Article 100 c) EPC
- 1.1 The decision under appeal is correct in that the subject-matter of claim 1 does not extend beyond the application as filed.
- 1.2 The opponent argued that the wording of original claim 1 "each clip is provided with a base portion which is provided with ... **two** substantially parallel flanges **on each side** of said base portion" (emphasis added) had to be construed as defining four flanges; two on each side. Accordingly, features [g] and [h] of granted claim 1, which solely define two flanges (i.e. one on each side), constituted an unallowable intermediate generalisation. This view is not persuasive.
- 1.3 An amendment can only be made within the limits of what a skilled person would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of these documents as filed. The skilled person understands from the application as a whole that a base with only two flanges, one on each side of the base portion, is disclosed for the following reasons. All references in the following are to the A-publication of the application as filed.
- 1.4 In paragraph [0016], the clip as "shown in the figures" is described using the same wording as in claim 1 as originally filed: "The clip 2 is also provided with two substantially parallel flanges 22 on each side of said

base portion 21." The referred to figures only show embodiments with a single flange 22 on each side of the base portion. The opponent's argument that the clip displayed in Figures 1 and 4 would encompass two flanges on each side, i.e. the two sections on each side of the sub-flange 22a being individual flanges, is not convincing. According to the figures, only a single structure extends from each side of the base portion, and this structure also ends in a single structure at its distal end. This structure is described in the A-publication as a "flange 22". This clearly disclosed structural element cannot be artificially subdivided into two separate "flanges" by virtue of inserting the opponent's own definition. Therefore, the description and the embodiments shown in the figures provide sufficient basis for a base portion having one flange on each side.

- 1.5 Paragraph [0016] and claim 4 of the A-publication further define that a sub-flange is formed integrally in each of the parallel flanges, i.e. each sub-flange is actually part of a single flange. The skilled person directly and unambiguously understands that this definition is at odds with the interpretation of the flanges brought forward by the opponent.

- 1.6 Moreover, in the general part of the A-publication (paragraph [0005]) and in claim 1 as filed, the same wording is used to describe the base portion with flanges as in the embodiments in paragraph [0016]. The passages refer to "support systems of the initially mentioned kind" (in paragraphs [0002] and [0003]) having "clips ... provided with two distal flanges that are biased towards each other".

In view of the consistent disclosure of "one flange provided on each side of the base portion" in the whole specification, it is not relevant for the question of the extension of subject-matter whether the wording "two substantially parallel flanges on each side of said base portion" is ambiguous and could convey a technical meaningful and reasonable teaching different to the rest of the specification. It suffices that what is claimed is clearly and unambiguously disclosed.

Finally, as the consistent teaching of the application as filed discloses how the wording in originally filed claim 1 is to be interpreted, this originally filed wording can be clarified (such as in claim 1 as granted) without the need to include further features shown in the drawings, claim 1 as filed itself being sufficient basis for the generalisation.

- 1.7 To conclude, the subject-matter of claim 1 does not extend beyond the content of the application as filed.

Article 100 b) EPC

2. The Board agrees with the conclusion of the opposition division that the patent discloses the claimed invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

- 2.1 The opponent submits that the opposition division's decision is erroneous and the subject-matter of claim 1 - in particular feature [k] - is insufficiently disclosed for it to be carried out by the skilled person. This view is not persuasive.

2.2 It is explained in paragraph [0017] of the patent with reference to Figures 6 and 7 how profiles having a 24 mm wide front capping ("T24 profiles") for covering the edges of the wall panels underneath and an approximately 6.5 mm wide bulb 10 on the back side are clicked, pressed or pushed into the clips 2. Paragraph [0018] discloses values for the protrusions, e.g. a 45° angle on one side and a 30° angle on the second side, which make the wings flexible and strong enough for this purpose.

2.3 The opponent further argues that, in the absence of any specific information in the patent with regard to the interaction of the parameters:

- specific steel type of the clip
- thicknesses
- angles

the skilled person does not know how to obtain a snap clip which is both flexible and strong enough. It is true that fixing the T24 profile's inside the fixing bracket in a firm and safe enough way further depends on the thickness and elastic properties of the steel. However, as is evident from paragraphs [0002] and [0003] of the patent and from the allegedly novelty-destroying documents submitted by the opponent, such runner/clip support systems are well known in the art. This includes knowledge about the steel type and the thickness of the elements to be used in such applications, such that the skilled person has no difficulty to carry out the invention.

Understanding of feature group [k]

3. The understanding of feature group [k] is essential for the discussion of patentability in the case at hand.

3.1 Feature group [k] includes the definition of two parameter ranges with respect to a first and a second portion of the protrusion:

(a) the first portion has a receiving slope having an angle of less than 45° relative to the receiving flanges

(b) the second portion has a sloping surface at least 30° relative to the receiving flanges.

These ranges are further specified by the following condition:

(c) The first and second portions have **oppositely sloping** surfaces.

3.2 Contrary to the opponent's view, condition (c) confers a clear and technically meaningful limitation. The angles of the oppositely sloping surfaces are defined to be "relative to the receiving flanges". Therefore, the broader understanding of the opponent that due to a missing reference for "oppositely", any two portions of a protrusion arranged at an angle relative to each other was covered by the claim is not convincing. Condition (c) has to be construed such that the direction of the slope of the two portions is opposite seen with respect to the extension direction of the flanges. Even if this relation were considered unclear due to a lack of an antecedent basis in the claim as argued by the opponent, the skilled person would consider the description, in particular paragraph

[0005] in combination with the figures. This provides a clear teaching that the angles are the inner angles that the protrusion portions form with the flange on which they are formed. The question of to what extent the flanges are parallel is in this respect irrelevant.

- 3.3 This understanding excludes protrusions as e.g. shown in D1, Figure 6. Here, the two portions slope at different angles. However, the angles have the same direction with respect to the receiving flanges and thus do not slope oppositely.
- 3.4 In addition, condition (c) implies that the values of 0 and 90° for the angles are excluded because these values are undefined with respect to the direction of slope. Therefore, both parameter ranges inherently include lower or upper limits. Range (a) excludes angles of 0° or lower while range (b) excludes angles of 90° or higher. Protrusions having a second portion extending at an angle of 90° relative to the flange, as shown in D5, Figure 3, are thus not encompassed by claim 1.
- 3.5 The opponent further argues that angles of 0 and 90°, even if formally not part of the respective range, come infinitely close, such that - following the case law for numerical ranges - the claimed range could not establish novelty. However, condition (c) does not define a numerical upper or lower limit. It requires the portions to be "oppositely sloping", which excludes angles of 0 and 90° as well as values so close to these values such that the person skilled in the art would not consider them "sloping". This renders the disclosure in D1, D2 and D5 to be not novelty-destroying (see below).

- 3.6 This understanding is also consistent with the intended function of the slope ranges, i.e. to allow for pushing aside the protrusions, which hold the bulb in place, during both mounting and demounting of the profile. For this function, a force component normal to the direction of insertion/removal is required which is applied via the slopes only if their angles are between and non-negligibly different from 0 and 90°.

Article 100 a) EPC - Novelty

4. None of the disclosures D1, D2, D3, D3b, D4, D4b, D5 and D6 takes away novelty from the subject-matter of claim 1.

4.1 Novelty of claim 1 in view of D1

It is agreed to conclusion of the decision under appeal that the uppermost "teeth or serration 18" of the web portion of profiles ("tile supporting members 15") in D1 can be construed as a bulb portion as meant by claim 1. This results from, *inter alia*, the broad understanding of the term in the patent itself (see paragraph [0002], according to which "triangular pointy" shapes are also encompassed).

With respect to feature [k] concerning the detailed design of the protrusions of the flanges, D1 discloses two embodiments (see D1, column 2, lines 21 to 26 and column 3, lines 62 to 66):

- "inclined inwardly" as shown in Figures 5 to 7, i.e. with both portions of the protrusion having the same direction of slope

- the second portion ("holding side") being "square", i.e. extending in a 90° angle relative to the extension of the flanges (see Figures 2 to 4)

These embodiments are in line with the disclosed function of the second portion of the protrusions in D1, i.e. to enable "that they are relatively difficult to separate" (column 2, lines 21 to 25). Therefore, D1 fails at least to disclose protrusions that fulfil condition (c) of feature group [k].

In addition, no values of the angles of the first portion can be read from the schematic figures.

4.2 Novelty of claim 1 in view of D2

4.2.1 It was common ground that D2 discloses a mounting system with profiles in accordance with features [a] to [d] and clips having two parallel flanges arranged on the sides of a base portion which is provided with mounting means in accordance with features [e] to [i].

4.2.2 However, the structures 52 and 56 (see Figure 7) protruding from the two flanges have a different shape. While both protrusions have a second portion with a slope, the protrusion on the left (Figure 7, 52) lacks a first portion which is oppositely sloping (see also point 3. above). Claim 1 requires such sloped portions for both protrusions. For this reason alone, D2 does not anticipate the subject-matter of claim 1.

Furthermore, from the schematic figures in D2, no value of an angle can be derived as defined in feature group [k].

4.3 Novelty of claim 1 in view of D3 or D4b

4.3.1 D3 discloses a mounting system to fix a plurality of profiles by means of a plurality of suspended clips fitted to a ceiling. On page 1, such a clip ("connect hanger clip") is shown. Figure 1 on page 3 discloses that the clip is interconnected with a profile ("connect main runner") having a T-shape with a web portion having a bulb portion at its distal end. The base portion of the clip extending between two parallel flanges is provided with a mounting means ("wire hanger"). Contrary to the patent proprietor's view, the claim does not require that the mounting means is an integral part of the clip. Furthermore, the flanges have protrusions pointing towards each other. Therefore, features [a] to [j] are disclosed in D3.

As is apparent from the figures, the protrusions comprise first and second portions having oppositely sloping surfaces according to condition (c) of feature group [k].

4.3.2 The opponent further argues that by analysis of the clip shown in half profile in D3, the angles of the two protrusion portions according to feature group [k] could be geometrically determined in the figures of D3 and that they fall into the claimed range. Feature group [k] is not discussed in the decision under appeal, although apparently the opposition division also came to the conclusion that the angles according to the claimed ranges are disclosed in D3. The Board does not agree with this view.

4.3.3 The only basis for the determination of the angles of the protrusion portions in D3 are the figures on pages 1 and 3 of D3 showing the hanger clip.

4.3.4 In accordance with established case law (Case Law of the Boards of Appeal, 9th edition 2019, I.C.4.6), sizes or proportions such as the angles of the protrusion portions in D3 can be derived from figures of the disclosure if, *inter alia*, one of the following criteria applies:

- the figures are technical drawings or photographs
- the figures are indicated as a representation to scale (either explicitly or by means of respective dimensioning in the figure)
- the angles represented in the figures inherently have, in combination with a functional description, a certain value or range (see e.g. T 748/91, Reasons 2.1.1)

The representation of the clip in the figures of D3 fails to fulfil any of these criteria.

While the representation of the parts of the mounting system in the figures of D3 have a level of detail which gives the appearance of representing the real shape of the parts, no evidence supports such an allegation. There is no indication of dimensions of the individual parts. Indeed, the "hanger clip" represented is only one of several parts of the system shown on this page (page 1 of D3), such that the representation is relatively small. Moreover, it is represented in a perspective view, which does not allow determining the angles. Enlarging the PDF-document to more than its print size and assuming that the representation was a standardised ISO view (as proposed by the opponent) leads to a level of detail and exactitude for which there is no basis in the document. On the contrary, such "installation guides" are usually intended to

provide the user with easy instructions and not an exact representation of the part (which the user has in front of them in its real-world form), thus often neglecting details and even representing the parts with some artistic freedom.

D3 further lacks any functional description, in particular with respect to the design of the protrusions, such that no conclusions can be drawn about the intended range of angles.

Thus, feature [k] is not disclosed in D3.

As acknowledged by the opponent, there is no tangible evidence for a link between the disclosures of D3 and D3b which could establish that the clip disclosed in the design view D3b, i.e. as a technical drawing, is the same as the clip used in the mounting system of D3.

Therefore, the disclosure of D3b is not relevant for the novelty assessment for the disclosure of D3.

4.3.5 The same arguments apply to the disclosure of D4b showing a mounting system similar to D3 (see "hanger clip" and "main runner" on page 1).

4.4 Novelty of claim 1 in view of D3b

The design view D3b discloses solely a single clip and not a plurality of clips and profiles. As pointed out above, there is no evidence that the clip disclosed in D3b and the hanger clip of D3 are the same part. Indeed, D3b lacks any description of function or intended use. Not even the technological field of application is indicated, the product name "FÄSTKLAMMA" being the only information provided.

Therefore, contrary to the opponent's arguments the missing features cannot be considered to be "inherent from D3" and implicitly disclosed. Thus, D3b does at least not disclose feature groups [a] to [d].

4.5 Novelty of claim 1 in view of D4

D4 discloses in Figure 5 a clip (for receiving a profile, see Figure 7) comprising three structures which can be considered flanges extending side by side from a common part. However, these flanges are not arranged on two sides of a base portion (feature [h]) and also do not include protrusions pointing towards each other (feature [j]). For these reasons alone D4 does not take away the novelty of claim 1.

4.6 Novelty of claim 1 in view of D5

As shown in Figures 1 and 2, D5 discloses a support system comprising a plurality of panel retaining profiles ("bottom member" 26) and a number of elongated clips ("top member" 24). The proprietor's argument that D5 fails to disclose that a plurality of clips are associated with one profile is not relevant since claim 1 does not require this. The profiles have an inverted T-shape with a web portion (42). As already argued with respect to D1 (see point 4.1), the triangular distal end of the web portion can be considered a bulb portion ("barb/boss" 44/68). Contrary to the view of the patent proprietor, the provision of further strengthening ribs 46 or a second boss 48 on the web portion is not excluded by claim 1 of the patent.

In the embodiments shown in Figures 2, 3 and 5 to 13, the clip comprises a base portion with two parallel flanges each arranged at a side. Further mounting means (30) are provided at the base portion. The flanges comprise protrusions ("detents" 36) pointing towards each other.

While the first portion of the protrusion is sloped at an angle between 0 and 90°, the second portion is disclosed in D5 to be "planar ... substantially normal to the channel wall", i.e. at an angle of 90°. Therefore, D5 does not disclose protrusions which fulfil condition (c) of feature group [k] which requires an angle of slope non-negligibly different from 90° (see point 3.6).

4.7 Novelty of claim 1 in view of D6

D6 discloses clips not provided with mounting means at the base portion. In fact, the clips of D6 are not for fixing the profiles to a ceiling or wall but instead for holding the tiles in place at a defined distance.

While the clips comprise protrusions on each of the substantially parallel flanges pointing towards each other ("taps", Fig. 6, 57), these protrusions have no second portion but only a first portion inclined relative to the flange. The opponent's approach to construe the distal edge of the protrusion as a second portion is not convincing since the edge is part of the first portion. A skilled person would not consider this edge a distinct portion. Furthermore, the figures do not allow any conclusion about the angle formed with the distal end.

Therefore, D6 does at least not disclose feature group [k].

Article 100 a) EPC - Inventive step

5. D5 as the starting point

5.1 D5 does not disclose an angle of the slope of the second portion in the range according to feature [k]. Since this angle is disclosed to be 90° relative to the flange, neither is condition (c) complied with (see point 4.6 above).

5.2 In one line of argument, the opponent defined "allowing for demounting of the profile without compromising the holding force" as the technical problem to be solved by these distinguishing features. This problem corresponds to that mentioned in the patent in paragraphs [0003] and [0004] and is considered the objective technical problem.

5.3 The Board does not agree with the opponent that the distinguishing features are made obvious by the teaching of D2. It is correct that in D2, paragraph [0029] the first portion 56 of one of the flanges is described to extend in an "oblique angle" to facilitate "locating or guiding the bulb 22 of the runner 14 into the downwardly-opening segment 44". However, the application of this teaching to the clips of D5 does not lead to the invention for the following reasons.

5.4 Firstly, the mentioned teaching solely considers the design of the first portion and describes that an "oblique angle" facilitates the insertion of the bulb portion. This teaching is not, as argued by the opponent, directly applicable to the second portion.

Although the mechanism of passing the bulb of the profile through the "bottle-neck" of the facing protrusions is similar for insertion and removal, the second portion has, according to the objective technical problem, the further design constraint of maintaining a sufficient holding force. This is reflected in feature [k] by a minimum angle of 30°, a limitation not present for the slope of the first portion. D2 has no teaching with respect to the slope of the second portion of the protrusions. In addition, beside the fact that the angle is described as "oblique" in D2, no values are given. An oblique angle encompasses also angles below 30°. Therefore, the range of the angle of slope of the second portion according to feature [k] is not made obvious by D2.

5.5 Secondly, D2 teaches, in addition to the oblique angle of the first portion of one of the flanges, that the other flange has a first portion 52 extending at an angle of 0°. According to paragraph [0027], this is also an essential part of the disclosure of D2, since this planar extending portion ("resilient tongue") facilitates alignment of the profile's bulb portion and a plurality of clips. It is therefore only with hindsight knowledge that a skilled person, considering the design of the flanges in D2, would only apply parts of the teaching when adapting the clip of D5 in view of the objective technical problem. Since claim 1 requires that both protrusions comply with the conditions set out in feature group [k], a combination of D5 with the teaching of D2 would also not lead to the invention for this reason.

5.6 Finally, the "planar" second portion of the protrusions in cooperation with the "planar" lower part of the bulb portion is described in D5 as essential to prevent

"undesired disengagement" (see e.g. column 3, lines 21 to 28). In the absence of a clear teaching in D2 to modify the slope of the second portion in accordance with the objective technical problem, the skilled person has no incentive to refrain from the 90° slope taught by D5.

- 5.7 The opponent's second line of argument that the angle range for the slope of the second surface encompasses values close to 90° and therefore does not address the objective technical problem over its whole range, thus representing an arbitrary specimen from the prior art, is not persuasive. The range in conjunction with condition (c) excludes angles of 90° or higher as well as angles only negligibly different from 90°. Thus, for any embodiment with an angle falling under the definition of claim 1 (see point 3.), a force component normal to the extension of the flange ("lateral force") impacts on the flanges via the protrusions to push them apart when the bulb is moved against this second portion in a disengagement movement. This lateral force facilitates the disengagement of the parts. The skilled person is aware that for slope angles coming closer to 90°, this lateral force is continuously decreasing. However, since the lateral force required for disengagement also depends on further design constraints (e.g. materials used and thicknesses), a distinct end-point value for the angle cannot be determined. The opponent has not provided any evidence that for certain angles, such as 85°, the technical problem cannot be solved. Therefore, the argument that the above-defined technical problem is not solved over the breadth of the claim is not convincing.

6. D3 as the starting point
- 6.1 D3 fails to disclose values for the angle of the first and second portion of the protrusions. However, condition (c) is fulfilled, i.e. the protrusion portions have oppositely sloping surfaces.
- 6.2 Also here the objective technical problem to "allow for demounting of the profile without compromising the holding force" applies.
- 6.3 As for D5 the teaching of D2 with respect to the design of the slope of the first portion does not lead the skilled person to the claimed angle range for the second portion. Beside the fact that D2 teaches to design one first portion at an angle of 0° , the slope of the second portion is not only designed to facilitate the transfer of the bulb portion through the protrusion during demounting (which would correspond to the function described for the first portion in D2) but also to provide sufficient holding force. The claimed range of the second portion is thus, contrary to that of the first portion, must strike a balance between holding force and facilitation of demounting, represented by the lower boundary value of 30° . D2 does not have such teaching, nor does it specify a second slope angle. Therefore, the teaching of D2 does not lead the skilled person to a clip with protrusions falling in the ranges of the first and second portion.
- 6.4 To conclude, the subject-matter of claim 1 involves an inventive step.

7. It follows that the proprietor's main request is allowable. Therefore, the patent proprietor's appeal is allowable and the opponent's appeal is not.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is maintained as granted.

The Registrar:

The Chairman:



C. Spira

C. Herberhold

Decision electronically authenticated