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Datasheet for the decision of 11 June 2019

Case Number: T 0636/16 - 3.2.03

Application Number: 09782771.1

Publication Number: 2331892

IPC: F25D23/02

Language of the proceedings: EN

Title of invention:
A HOUSEHOLD APPLIANCE

Patent Proprietor:
Arçelik Anonim Sirketi

Opponent:
Liebherr-Hausgeräte Ochsenhausen GmbH

Headword:

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

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Case Number: T 0636/16 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 11 June 2019

Appellant: (Opponent)	Liebherr-Hausgeräte Ochsenhausen GmbH Memminger Str. 77 88416 Ochsenhausen (DE)
Representative:	Herrmann, Uwe Lorenz Seidler Gossel Rechtsanwälte Patentanwälte Partnerschaft mbB Widenmayerstraße 23 80538 München (DE)
Respondent: (Patent Proprietor)	Arçelik Anonim Sirketi Sutluce Karaagac Caddesi No: 2/6 Beyoglu 34445 Istanbul (TR)
Representative:	Louis Pöhlau Lohrentz Patentanwälte Postfach 30 55 90014 Nürnberg (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 12 February 2016 rejecting the opposition filed against European patent No. 2331892 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	G. Ashley
Members:	R. Baltanás y Jorge
	E. Kossonakou

Summary of Facts and Submissions

I. European patent No. 2 331 892 relates to a household appliance.

II. An opposition was filed against the patent, which was based on Article 100(a) EPC together with Article 56 EPC.

III. The appeal lies from the decision of the opposition division to reject the opposition.

The opponent (hereinafter: the "appellant") filed an appeal against the above-mentioned decision of the opposition division.

In a communication dated 22 March 2019, pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA), the Board indicated its preliminary opinion of the case.

Oral proceedings were held on 11 June 2019.

IV. Requests

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

The respondent (patent proprietor) requested that the appeal be dismissed, and subsidiarily that the patent be maintained on the basis of one of auxiliary requests 1 to 5, filed with the reply to the statement setting out the grounds of appeal, or 2A, 3A or 4A, filed with the letter dated 5 May 2019.

V. Claim 1 as granted, including the numbering of its features as adopted by the parties, reads as follows:

"**1.1** A household appliance (1) comprising a cabinet (15), a door (2) mounted onto the cabinet (15) and providing access into the cabinet (15), comprising an upper edge (3), a lower edge (4), opposite side edges (5), an inner panel (6) and an outer panel (7),

1.2.1 a glass panel (8) having
1.2.2 an inner surface (9) and
1.2.3 a decorative outer surface (10), and

1.3.1 a mounting member (11) which
1.3.2 extends between the inner surface (9) and the outer panel (7) and
1.3.3 whereon the glass panel (8) is mounted,

1.4.1 said mounting member (11) having a recess (12)
1.4.2 that is extending almost along the door (2),
1.4.3 disposed between the door (2) and the glass panel (8)
1.4.4 and having a U-shape,
1.4.5 which is fixed to the door (2) from one edge
1.4.6 and to the other edge of which the inner surface (9) of the glass panel (8) is adhered,

characterized in that

1.5 the recess (12) enables the user to use the recess (12) as a handle by putting his/her hand therein."

Dependent claims 2 to 5 concern preferred embodiments of the household appliance of claim 1.

VI. State of the art

The following documents have been cited, both in the grounds of appeal and during the opposition proceedings, and are relevant for this decision:

D1: US-A-5 048 233
D2: US-A1-2007/0188059
D3: "Design nach Maß", Auszug aus einem Prospekt der Gorenje Vertriebs-GmbH, München - Januar 2005

VII. The appellant's arguments can be summarised as follows.

Granted claim 1 is not inventive starting from D1 in view of D2 and D3.
Document D1 discloses feature 1.3.2, since the device of D1 (see figure 6) discloses the feature in the same way as it is implemented in the opposed patent (see figure 7 of the patent).
Feature 1.3.3 is also disclosed by D1 because the decorative panel 40 is mounted on the mounting member 30 (see figure 6).
Features 1.4.1, 1.4.2 and 1.4.3 are disclosed by D1,if not explicitly, then as a direct consequence of adopting the U-shape of feature 1.4.4.

The subject-matter of claim 1 differs from that of D1 in terms of features 1.2.1, 1.4.4 and 1.4.6. Each of these differences addresses a different technical problem and can therefore be assessed separately concerning inventive step.

Regarding feature 1.2.1 (glass panel), D1 explicitly discloses wood, plastic and stainless steel, and the skilled person is aware that glass is also a suitable material for the decorative panel of the refrigerator

door of D1; a glass fridge door is disclosed for example in paragraph [0005] of D2. Replacing the materials of D1 by glass would therefore be an obvious choice for the skilled person.

Concerning feature 1.4.4 (U-shape), the L-shaped mounting member 40 of D1 has a double function: mounting of a decorative panel and providing a handle. Since document D3 concerns a handle for a household appliance, the skilled person would consider document D3, and would have realised the obvious advantage of providing a U-shape, namely to enable a more stable connection with the door as a result of the additional side provided by the U-shape as compared to the L-shape of D1, which can be used to anchor the handle to a second point of the door. No surprising advantage is associated with the provision of a U-shape which could justify the presence of an inventive step.

Concerning feature 1.4.6 (adhesive), the skilled person wishing to solve the problem of improving the aesthetic appearance of the door of the household appliance would find a solution in D2 (see paragraphs [0005] and [0010]), which discloses the use of an adhesive for that purpose. D2 discloses the use of an adhesive in combination with different mounting members in general, not being restricted to a specific one. D2 discloses replaceability of the decorative panel as a consequence of the mounting members, but not of the adherence. The skilled person would thus identify the adhesive of D2 as an isolated feature which can be used generally and not only in the context of replaceable decorative panels. Furthermore, since document D1 does not comment on the replaceability of the decorative panel at all, the skilled person would not be restricted to providing

a solution for the replaceable mounting of a decorative panel when departing from that document.

Applying the teaching of D2 to the door of D1, it is evident to the skilled person to remove the part of the mounting element of D1 which surrounds and grips the decorative panel 40, and to adhere the decorative panel to the remaining longer part of the mounting member. The same operation would be carried out in the frame elements 11, 13 and 15, resulting in a decorative panel without a visible surround as in D2.

VIII. The respondent's arguments can be summarised as follows.

Feature 1.2.1 (glass panel) cannot be considered as being an obvious alternative, since glass is a material exhibiting different mechanical properties from the other cited materials in D1. Consequently, the gripping action of the retaining means of D1 would cause stresses in the glass leading to cracks.
The inelasticity of glass would thus discourage the skilled person from replacing the decorative panel in D1 by a panel made of glass.

The reference in paragraph [0005] of D2 to the securing of a glass panel to a kitchen appliance does not concern a continuous retaining means as in D1, but multiple isolated trim pieces arranged along the sides of a glass panel. Therefore document D2 does not disclose the use of a continuous retaining means as in D1 for glass panels.

Feature 1.3.2 (mounting member extending between the inner surface and the outer panel) requires a housing provided by the outer panel, as explained in paragraph

[0030] in combination with figures 3 and 7 of the patent specification. The concerned feature is thus not derivable from D1, where no equivalent housing being provided by an outer panel can be observed.

Feature 1.3.3 (glass panel mounted onto mounting member) is not disclosed in D1, since the panel of D1 is mounted within a U-shaped gripping section of the mounting member and not onto it.

Feature 1.4.3 (recess) cannot be inferred from D1, because no recess is provided by the handle 30.

Regarding feature 1.4.4 (U-shape), document D3 is a publication from a design studio of kitchen appliances, and discloses a convex door onto which no decorative glass panel could be arranged. Moreover, the handle of D3 does not support any decorative panel and cannot be considered to be a mounting member. The skilled person would thus get no hint in the direction of feature 1.4.4 from document D3.

Concerning feature 1.4.5 (edge fixed to the door), paragraph [0007] of the patent specification explains how to interpret that feature. Document D1 does not disclose an edge of a U-shaped recess fixed to the door, as required by that interpretation of the feature.

Finally, feature 1.4.6 (adhesive) cannot be isolated from the complete system of mounting members in D2, which is different from that of D1. Paragraph [0010] of D2 sets out the main idea of D2, namely that the connection between the glass panel and the door is not visible from any side. The only handle disclosed in D2 is achieved as a separate element to be mounted onto

the glass panel (see figure 5), and has no relationship with the mounting members.
Moreover, lines 36 to 42 in column 7 of D1 disclose that the decorative panel can be exchanged, something which would be impossible if the panel were glued as proposed by the appellant. Finally, adhering the decorative panel would require modification of the support of the panel at all four sides of the door, and not just at the mounting member 30.

Reasons for the Decision

Inventive step

1. Closest prior art

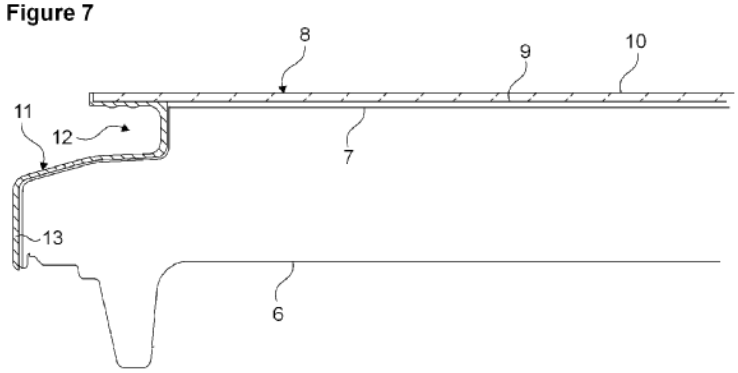
1.1 The Board agrees with the parties that document D1 represents the closest prior art for assessing inventive step.

1.2 Concerning feature 1.3.2 (mounting member which extends between the inner surface of the glass panel and the outer panel), the disputed patent discloses in paragraphs [0007] and [0008] of the general part of the description that the mounting member is located between the glass panel and the door.

The claimed requirement that the mounting member extends between the inner surface of the glass panel and the outer panel of the door can only be found in the description of the embodiment of the invention at lines 5 to 8 of column 3, whereas lines 22 and 23 of the same column disclose that the mounting member 11 is between the glass panel 8 and the door 2.

Because of the uncertain disclosure concerning where the mounting member is actually located, the reader of the contested patent would have to resort to the figures in order to understand the disclosed embodiment. In the figures it can be observed that the mounting member 11 is actually not mounted on the surface of the outer panel 7, but is located in side recesses of the door (see figures 1, 2, 3 and 7, the last one being reproduced below).

Figure 7



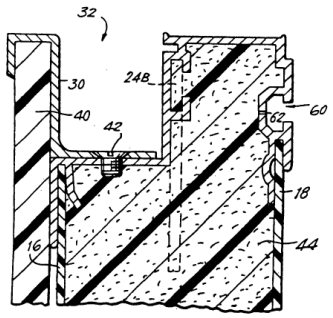
This is confirmed in the description, at lines 10 to 12 of column 4, which disclose that "the edge of the mounting member (11), whereon the glass panel (8) is fixed, and the outer panel (7) are aligned almost at the same level".
The skilled person also learns from this passage that the mounting member 11 cannot be mounted on the outer panel 7 because then the claimed recess between the door 2 and the glass panel 8 would not be suitable for use as a handle, as is required by feature 1.5.
This unsuitability is confirmed by lines 16 and 17 of column 4, where it is said that "almost no space is left between the glass panel (8) and the outer panel (7)", as can be seen in figure 7.

The skilled person, when interpreting the feature 1.3.2 in the light of the complete disclosure of the patent,

thus concludes that claim 1 encompasses arrangements wherein a portion of the mounting member is located, when viewed in a horizontal cross section (see figure 7 of the opposed patent), on one side of the gap formed between the inner surface of the glass panel and the outer panel of the door.

Such an arrangement is disclosed by document D1, where figure 6 discloses that the handle 30 (i.e. the mounting member), when viewed in a horizontal cross section (see figure 6, which is reproduced below), comprises a portion located laterally with regard to the gap (at the top, in figure 6) formed between the inner surface of the decorative panel 40 and the outer panel 16 of the door.

FIG. 6

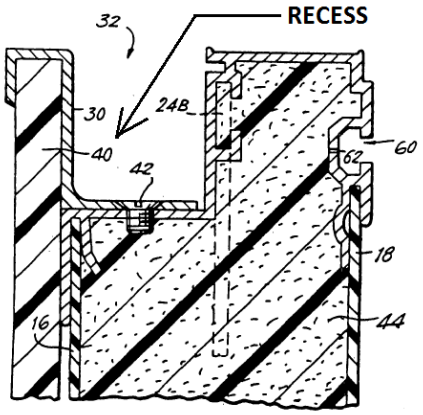


The Board thus disagrees with the opinion of the opposition division (see page 5 of the contested decision, second paragraph) and considers that the arrangement of feature 1.3.2 is disclosed by document D1, albeit that D1 refers to a decorative panel and not specifically to a glass panel as cited in the claim.

1.3 Feature 1.3.3 requires that the glass panel is mounted onto the mounting member.

Apart from the fact that the panel of D1 is not made of glass, figure 6 shows that the decorative panel 40 is mounted onto the handle 30 (i.e. the "mounting member").
The respondent submitted that the panel 40 of D1 is not mounted onto mounting member 30, but is rather fixed within the U-shaped gripping section of the mounting member. However, the expression "mounted onto" is understood as meaning that there is direct contact between the panel and the mounting member, as is the case in D1.

1.4 The mounting member in figure 6 of D1 is L-shaped and comprises a recess extending along the edge of the door, i.e. from the top to the bottom of it, the recess being formed by the presence of the inner angle of the L-shape.
The recess is located between the decorative panel 40, which contacts one of the legs of the L-shape, and the door, because the latter comprises a door portion where pin 24B and plate 60 are located (see figure 6, reproduced below with indication by the Board of the recess), this door portion faces the decorative plate at a distance defined by the recess.



Consequently, D1 discloses a recess as required by features 1.4.1, 1.4.2 and 1.4.3, apart from the aspect of the decorative panel being a glass panel (feature 1.2.1 of opposed claim 1).

1.5 The respondent submits that feature 1.4.5 (the mounting member being fixed to the door from one edge) must be interpreted in the light of paragraph [0007] of the contested patent.

However, feature 1.4.5 is worded in a clear manner and can be understood in the context of the claim, thus it is not necessary to resort to the description of the invention to determine a different meaning.
The feature requires that one edge of the mounting member of feature 1.4.1 is fixed to the door. Feature 1.4.4 does not impose the limitation that one edge of the "U-shape" must be the edge to be fixed to the door, but merely requires that the recess has a U-shape.
Figure 6 of D1 shows that the recess of the mounting member 30 (see point 1.4 above) comprises an edge portion which is fixed by a screw 42 to the door.
Feature 1.4.5 is thus disclosed by D1.

2. Differences of claim 1 with regard to D1

In view of the above, the subject-matter of claim 1 differs from D1 in terms of the following features:

1.2.1 A glass panel.
1.4.4 U-shaped recess.
1.4.6 Inner surface of the glass panel adhered to the other edge of the recess of the mounting member.

3. Inventive character of the differentiating features

3.1 Feature 1.2.1 (glass panel)

The appellant argues that the skilled person would replace the materials of D1 by glass as an alternative material for decorative plates.

However, the mechanical properties of glass are significantly different from those of the specific materials listed in D1, namely plastic, stainless steel or wood (see column 8, lines 44 to 46), all of which exhibit a greater degree of elasticity.

The respondent argues that the extruded metal profiles forming the structure of the door of D1 and its handle are usually produced under some tolerances which entail a relative misalignment of the finished ensemble, the lack of accuracy being compensated for by the flexibility of the pieces while connecting them together. The Board agrees with this consideration, since it is a consequence of the usual production techniques of extruded metal profiles.

The direct contact of metal with glass at the handle 30 and at frame elements 11, 13, 15 would lead to stresses in a glass panel, particularly in view of the length of the channels which receive and support the decorative panel (see figures 2 to 6). Such stresses would render it necessary to modify further the supporting means of the decorative panel of D1 by introducing technical measures to compensate for the stresses (e.g. a flexible material between the decorative panel and the metal elements).

Document D2 is directed to providing a glass panel on the door of a kitchen appliance. In the discussion of the prior art of D2 (see paragraph [0005]) it is said that typically a glass panel is secured to the appliance by trim pieces. This, argues the respondent, does not establish the fact that the supporting structure of D1 is also intended for a glass panel. The Board agrees with this submission, since it is not disclosed how the trim pieces referred to in paragraph [0005] are constructed, i.e. if they form a continuous channel as in D1 or not, and if they comprise further elements not mentioned in D1 for compensating for the glass inelasticity.

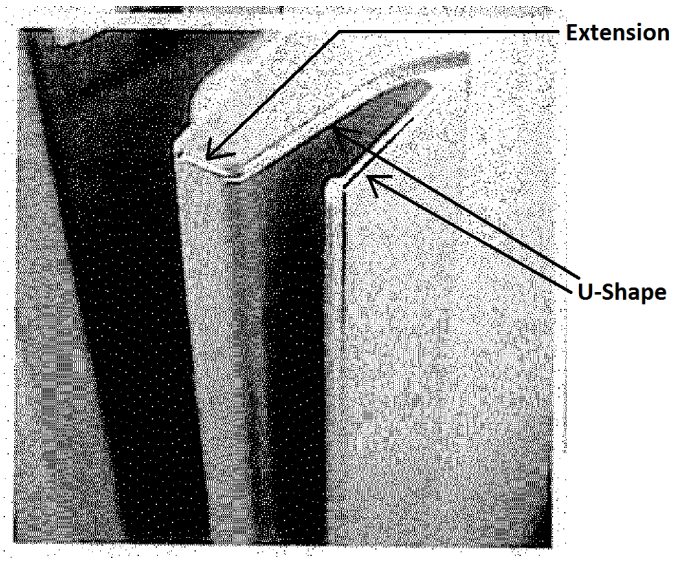
The Board thus comes to the conclusion that glass cannot be considered as being an immediate equivalent of the other materials disclosed in D1 since, compared with the cited materials, glass is inelastic, and its implementation in D1 raises a number of further technical problems.

3.2 Feature 1.4.4 (U-shaped recess)

The Board can agree with the appellant that the handle function of element 30 in D1 would lead the skilled person to consider D3 as a relevant source of information concerning refrigerator door handles.

The appellant argues that the skilled person would consult D3 while trying to solve the problem of providing a more solid connection between handle and door, and would adopt a U-shape for the handle of D1 as a solution in view of the obvious advantages disclosed in D3.

However, D3 is completely silent about any advantage linked to the U-shape of the handle's recess disclosed therein.
Contrary to the view of the appellant, D3 does not show the U-shaped handle being attached to the door along two sides (branches) of the U-shape itself, especially as the U-shape is depicted as being very tight (see figure of D3 reproduced below with indication by the Board of the different handle elements).



Even if the skilled person would consider providing an extension connected to a leg of the U-shape as shown in D3 in order to enable attachment along two edges of the handle, the incorporation of the particular shape of the handle of D3 into the door of D1 would require major modifications in the structure of the door frame supporting the handle, since it would then be necessary to adapt the supporting extruded metal profiles to a completely different handle shape. The side member 17 of D1 (see figure 2, where it is shown with its reference, and figure 6, where it can be observed even if no reference sign is present) is a typical extruded metal profile with its branches basically arranged at right angles. Such an arrangement enables a robust

construction and a simple connection of handle 30 by means of screw 42. In order to assemble the handle of D3 (see figure reproduced above) in D1, the side member 17 would have to be completely redesigned to adapt its shape to the curve described by the tight U-shape of the handle. The result would be a side member with different mechanical properties due to the absence of one of its central right angles, and wherein the connection of screw 42 and pin 24B would have to be adapted because:

1) the screw would not be easily accessible any more from outside (the screw 42 on a first side of the U-shape would face the second side of it; see figure of D3 above),

2) the wall of the profile receiving the pin (see figure 6 of D1) would be then oriented at an angle which does not follow the longitudinal direction of the door, which is required by the pin for aligning and fixing the door frame.

Finally, document D3 is silent about the capability of the disclosed handle to support a decorative panel. The skilled person is thus not in a position to infer from the information in D3 that such a handle is suitable for a supporting function that requires withstanding mechanical forces associated with a glass panel, which are greater than those merely required by a handle.

In view of the above, the Board considers that the provision of a U-shape recess in the handle of D1 is not an obvious option for the skilled person.

3.3 Feature 1.4.6 (adhesive connection)

First of all, the provision of an adhered panel addresses issues relating to the differentiating features 1.2.1 (need for a suitable mounting means for a glass panel) and 1.4.4 (mounting the panel to an edge handle, such as the one of D3).
The appellant argues that the skilled person would simply provide a double adhesive between the mounting member and the decorative panel. However, a panel adhered to the mounting member in the way proposed by the appellant would compensate for the inelasticity of glass with regard to the tolerances in the misalignment of the frame of the door of D1, and would also provide a suitable mounting means for a panel in the handle of D3.
In view of the interdependence of the concerned features, the Board considers that feature 1.4.6 would constitute a second step which the skilled person would have to take having already adopted features 1.2.1 and/or 1.4.4. This fact speaks against a separate analysis of the inventiveness of feature 1.4.6 in isolation from the other concerned features.

3.4 The technical problem, starting from the disclosure of D1 and as set out in paragraphs [0006] and [0007] of the patent, is to provide a household appliance whereby a glass panel is easily assembled onto the door.

3.5 The solution of having a U-shaped mounting member to which the glass panel is adhered, as defined in the claim, is not obvious for the reasons given above (see points 3.1 and 3.2).

3.6 Alternatively, even if a separate analysis is performed for each of the differentiating features including this

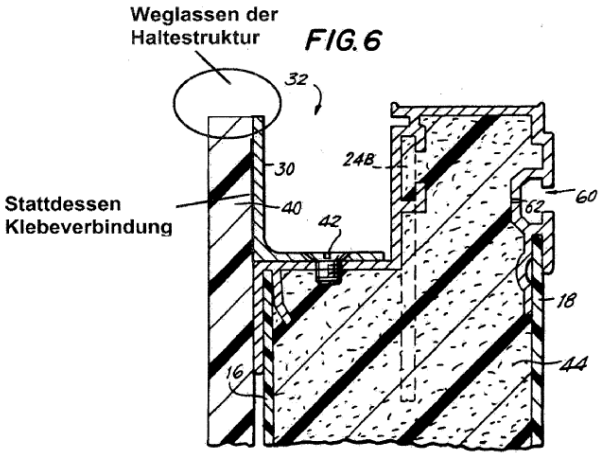
last one, as suggested by the appellant, the conclusion regarding inventive step would still be the same for the following reasons.

Document D2 discloses the provision of an adhesive as a preferred way of securing a glass panel to a plurality of mounting members (see paragraph [0010], third sentence), which in turn are attached to the door. The appellant is right in that the use of such adhesive is disclosed in connection with different mounting members (e.g. those of figures 2 to 4, 5 to 9, or 10 to 12, respectively). However, all of the disclosed mounting members of D2 share the common feature of enabling a detachable connection of the glass panel to the door (see e.g. paragraph [0010], second sentence), which is the main aim of D2 (see e.g. paragraph [0008]).
The skilled person, when reading D2, could not ignore the fact that adhesive is only disclosed in connection with a detachable mounting, a kind of mounting which would not result from the provision of an adhesive on the mounting member 30 of D1 as proposed by the appellant. The only disclosure of D2 is that adhesive is used to connect glass to multiple detachable mounting members, but not directly to a door frame such as in D1. In other words, the skilled person would consider, after reading D2, that adhesive is an alternative for connecting a decorative panel to multiple mounting members (which are in turn attached to the door) if the result is a detachable connection between the panel and the door, but not otherwise.

This means that, if the skilled person, wishing to solve the problem of improving appearance of the door, would turn to document D2 dealing with that problem (see paragraphs [0007] and [0010]), he would learn that the complete mounting means of D2 should be used for

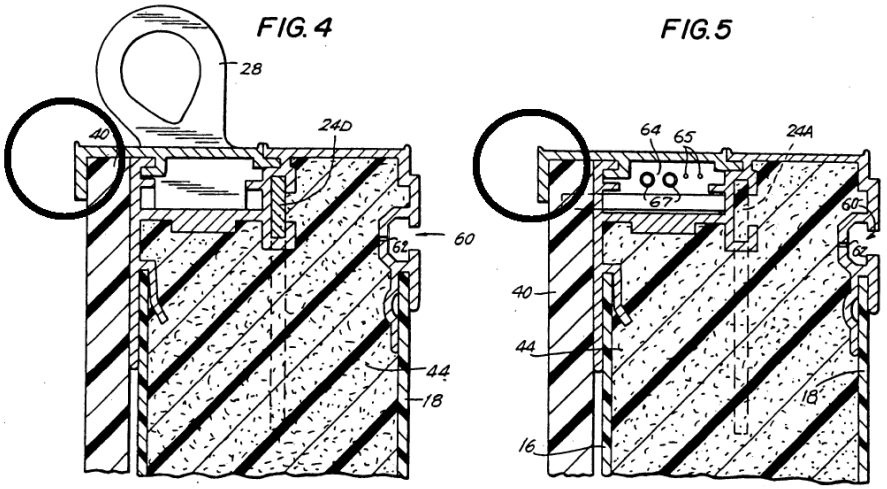
that purpose, i.e. the gluing of the glass panel to detachable mounting members, and not to the mounting members of D1.

Finally, the appellant argues that the skilled person would remove the gripping portion of the handle 30 of D1 when the connection between panel and handle is carried out by means of an adhesive (see below the explanatory drawing filed by the appellant with letter of 10 May 2019).



However, this would necessitate a second step of modifications to handle 30 (namely, the removal of the gripping portion) after the step of providing an adhesive, and corresponding modifications to frame members 11, 13 and 15 of D1, by which the gripping portion of each of the frame members should be similarly removed. At least in the case of frame members 11 and 15 (see figure 2), this would mean that the clamping action of the decorative panel 40 against the contiguous metallic elements conforming the sides of the door frame facing the panel could not be performed any more (see figure 1 indicating the cross sections 4-4 and 5-5, and figures 4 and 5 corresponding to those cross sections, which are reproduced below

with a circle indicating the gripping portion in each case). This would entail a weakening of the door frame which could not be ignored by the skilled person.



In order for the adhesive layer of D2 to be applicable in D1 as suggested by the appellant, substantial modifications would thus be required to a number of frame elements, including the provision of new features to compensate for the weakening of the frame. Consequently, also for this reason the combination of the teaching of D2 with the device of D1 seems not to be a straightforward option for the skilled person.

4. Conclusion

In view of the above, the Board considers that the subject-matter of claim 1 is inventive when starting from D1 and taking into account the teaching of D2 and D3.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

C. Spira G. Ashley

Decision electronically authenticated