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(54) **An arrangement for connecting home appliance components**

(57) The present invention relates to a home appliance with at least two home appliance components which are in sheet panel form and which are connected to each other. Said home appliance is characterized by comprising

ing at least one bendable extension (32) formed on the first component (30); and at least one assembly opening (211) which is formed on the second component (20) and whereinto said bendable extension (32) enters during assembly.

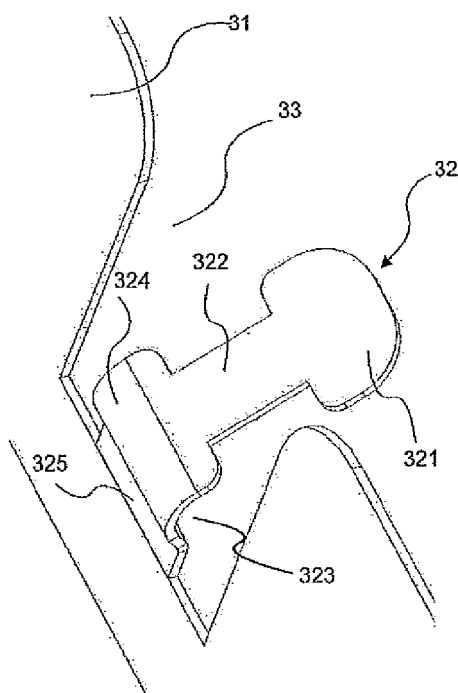


Fig. 3a

Description

[0001] The present invention relates to home appliances and particularly relates to a home appliance with at least two home appliance components which are in sheet panel form and which are connected to each other.

KNOWN STATE OF THE ART

[0002] Inside home appliances like cookers, there are components which are made of sheet or plastic and which are assembled to each other in some manner. The assembly of these components to each other is realized using connection members like screw. The usage of screw increases the time and effort consumed during assembly.

[0003] In the present art, there are solutions which provide the connection of home appliance components to each other without using screw. For instance, in the patent JP6257863, a method is disclosed wherein parts are not fixed by clamping through a screw and the like but the parts are engaged with each other by utilizing the configurations of notch, pawl, bent and/or projection. In more details, projections are formed on a ceiling plate and during assembly, said projections engage with the notches provided on the side plate. Pawl sections are formed by bending one part of the notches and the ceiling plate is slid horizontally while inserting the projections into the notches on the side plate. In this case, the back surfaces of the projections, of the ceiling plate are abutted against the pawl sections of the side plate whereby the ceiling plate is pinched by the side plates.

[0004] However, the connection without screw disclosed in JP '863 can mostly be used in the connection of the main panels defining the outer body. In narrower regions which have a particular form, this connection type can not be applied.

BRIEF DESCRIPTION OF THE INVENTION

[0005] An object of the present invention is to provide the connection of two components, which are in sheet panel form, to each other without using screw.

[0006] Another object of the present invention is to provide the connection of the motor fixation sheet of a cooker to the lower sheet piece of said cooker with substantial stability and without using screw.

[0007] In order to realize the abovementioned objects and the objects to be obtained from the detailed description below, the present invention relates to a home appliance with at least two home appliance components which are in sheet panel form and which are connected to each other. Said home appliance is characterized by comprising at least one bendable extension formed on the first component; and at least one assembly opening which is formed on the second component and whereinto said bendable extension enters during assembly. Thus, the first component and the second component can be

connected to each other without using screw.

[0008] In another preferred embodiment of the present invention, said bendable extension comprises a head part; an intermediate section extending at the continuation of said head part; a bending section which exists at the continuation of the intermediate section towards the recess and which has a bending point; and a connection tip which provides the connection of the bendable extension to said recess.

[0009] In another preferred embodiment of the present invention, said intermediate section is narrower than the head part and narrower than the bending section.

[0010] In another preferred embodiment of the present invention, said bendable extension has a flat bar form.

[0011] In another preferred embodiment of the present invention, a connection section is provided which defines an edge of the first component, and the second component comprises a connection housing wherein said connection section is placed during assembly.

[0012] In another preferred embodiment of the present invention, the bendable extension is provided on said connection section and correspondingly, the assembly opening is provided on said connection housing.

[0013] In another preferred embodiment of the present invention, said connection section comprises a recess through which the bendable extension extends.

[0014] In another preferred embodiment of the present invention, the width of said recess is substantially greater than the width of the bendable extension.

[0015] In another preferred embodiment of the present invention, at the continuation of said connection housing where the assembly opening is provided, the lower sheet piece comprises a support detail which extends towards the connection section.

[0016] In a preferred embodiment of the present invention, the connection section has a U-like cross section and correspondingly, the connection housing has a form so as to substantially encircle said U-like cross section.

[0017] In another preferred embodiment of the present invention, said bendable extension has a substantial length so as to encircle said connection housing from outside.

[0018] In another preferred embodiment of the present invention, the first component is a lower sheet piece used in order to prevent the user from contacting with the lower heater of the cooker.

[0019] In another preferred embodiment of the present invention, the second component is a rear sheet which is connected to the rear section of the inner body of a cooker.

[0020] In another preferred embodiment of the present invention, the second component is a motor fixation sheet.

[0021] In another preferred embodiment of the present invention, said home appliance is a freestanding oven with a base section.

BRIEF DESCRIPTION OF THE FIGURES

[0022] In Figure 1a, the perspective view of the inner structure of a cooker to which the subject matter invention is applied is given.

[0023] In Figure 1b, the view of the assembled form of the cooker components to which the subject matter invention is applied is given.

[0024] In Figure 1c, the perspective cross sectional view of the assembled form of the cooker components to which the subject matter invention is applied is given.

[0025] In Figure 2, the solo perspective view of the lower sheet piece to which the subject matter invention is applied is given.

[0026] In Figure 3a, the detailed perspective view of the bendable extension is given.

[0027] In Figure 3b, a view of an embodiment alternative to Figure 3a is given.

[0028] In Figure 4a and 4b, the views regarding the usage of the embodiment in Figure 3a are given.

[0029] In Figure 5a and 5b, the views regarding the usage of the embodiment in Figure 3b are given.

THE DETAILED DESCRIPTION OF THE INVENTION

[0030] In this detailed explanation, the subject matter cooker (10) is explained with references to examples without forming any restrictive effect in order to make the subject more understandable. Accordingly, in the detailed description below, the subject matter invention is assumed to be applied to a cooker (10). However, the subject matter invention can be applied to any home appliance whose production is realized by joining sheet pieces.

[0031] With reference to Figure 1a, the subject matter cooker (10) essentially comprises an inner body (11) defining a cooking chamber (not illustrated in the figure), and a burner plate (12) at the upper part thereof. The rear part of said inner body (11) is covered by a motor fixation sheet (20). On the base part of the inner body (11), a lower heater (14) extends which provides the heating of the cooking chamber base and which preferably has a tube resistance form. On the other hand, there is a base section (13) at the lower side of the cooker (10). In relation to this, a lower sheet piece (30) is provided at the point where the inner body (11) base part joins with the motor fixation sheet (20). Said lower sheet piece (30) is used for preventing the user, using the base section (13), from contacting with the live end (141) of the lower heater (14).

[0032] With reference to Figure 1b, there is a connection housing (21) which extends at the continuation of the lower edge of the motor fixation sheet (20) and correspondingly, there is a connection section (31) at the lower sheet piece's (30) end facing the rear of the cooker (10). Said connection section (31) preferably extends towards the motor fixation sheet (20) at a certain narrow angle with respect to the remaining part of the lower sheet

piece (30). Accordingly, during assembly, the connection part (31) of the lower sheet piece (30) is placed to the connection housing (21) of the motor fixation sheet (20). With reference to Figure 1c, as an improvement of the subject matter invention, the connection housing (21) has a U-like cross section and the connection section (31) has a U-like cross section so as to complete said U form. Thus, between the motor fixation sheet (20) and the lower sheet piece (30), a more stabile connection is provided. This type of connection provides the unscrewed connection to be more stabile whose details will be given later.

[0033] Accordingly, with reference to Figure 1b and Figure 2, in order to provide the unscrewed connection of the motor fixation sheet (20) to the lower sheet piece (30), an assembly opening (211) is formed on the connection housing (21) of the motor fixation sheet (20) and correspondingly, on the connection section (31) of the lower sheet piece (30), a bendable extension (32) is provided which enters into said assembly opening (211) during assembly. Said assembly opening (211) preferably exists in the middle region of the connection housing (21) and there is a support detail (212) at the continuation of the part where the assembly opening (211) is provided. Said support detail (212) is in a form so as to extend towards the connection section (31) during assembly.

[0034] With reference to Figure 3a, said bendable extension (32) extends through a recess (33) opened on the connection section (31). The bendable extension (32) comprises a head part (321); an intermediate section (322) extending at the continuation of said head part (321); a bending section (323) existing at the continuation of the intermediate section (322) towards the recess (33); and a connection tip (325) which provides the bendable extension (32) to be connected to the recess (33). The intermediate section (322) has a narrower structure when compared with the head part (321) and when compared with the bending section (323) and by means of this, a bone-like form is defined. On the other hand, the bending section (323) extends in a curvilinear manner so as to define a bending point (324). With reference to Figure 4a and 4b, the assembly thereof is as follows. The connection section (31) of the lower sheet piece (30) is placed to the connection housing (21) of the motor fixation sheet (20) as in Figure 1c, so that the bendable extension (32) passes through the assembly opening (211). Afterwards, the bendable extension (32) is bended so as to rest onto the support detail (212) and so that the head part (321) will face the lower sheet piece (30), and thereby the connection is provided.

[0035] In Figure 3b, an alternative embodiment of said bendable extension (32) is illustrated. Accordingly, according to the design in Figure 3a, the bendable extension (32) is designed to be longer and designed to be in the form of a bar. Accordingly, with reference to Figure 5a and 5b, the lower sheet piece (30) and the motor fixation sheet (20) are connected to each other so that the bendable extension (32) will pass through the assembly opening (211). Afterwards, the bendable extension (32),

which is substantially long, is bended so as to substantially encircle the motor fixation sheet's (20) U-like connection section (31) from outside, thus, the connection can be provided.

[0036] In alternative embodiments of the subject matter invention, the bendable extensions (32) can be formed on the motor fixation sheet (20) instead of being formed on the lower sheet piece (30) and the numbers and the places thereof can be changed. As a result, by means of the subject matter improvements, the motor fixation sheet (20) can be assembled to the lower sheet piece (30) in an unscrewed manner.

REFERENCE NUMBERS

[0037]

10 Cooker
11 Inner body
12 Burner plate
13 Base section
14 Lower heater
141 Live end
20 Motor fixation sheet
21 Connection housing
211 Assembly opening
212 Support detail
30 Lower sheet piece
31 Connection section
32 Bendable extension
321 Head part
322 Intermediate section
323 Bending section
324 Bending point
325 Connection tip
33 Recess

Claims

1. A home appliance with at least two home appliance components (20, 30) which are in sheet panel form and which are connected to each other, **characterized by** comprising at least one bendable extension (32) formed on the first component (30); and at least one assembly opening (211) which is formed on the second component (20) and whereto said bendable extension (32) enters during assembly.
2. A home appliance according to claim 1, wherein said bendable extension (32) comprises a head part (321); an intermediate section (322) extending at the continuation of said head part (321); a bending section (323) which exists at the continuation of the intermediate section (322) towards the recess (33) and which has a bending point (324); and a connection tip (325) which provides the connection of the bendable extension (32) to said recess (33).

3. A home appliance according to claim 2, wherein said intermediate section (322) is narrower than the head part (321) and narrower than the bending section (323).
4. A home appliance according to claim 1, wherein said bendable extension (32) has a flat bar form.
5. A home appliance according to claim 1, wherein a connection section (31) is provided which defines an edge of the first component, and the second component comprises a connection housing (21) wherein said connection section (31) is placed during assembly.
6. A home appliance according to any one of the preceding claims, wherein the bendable extension (32) is provided on said connection section (31) and correspondingly, the assembly opening (211) is provided on said connection housing (21).
7. A home appliance according to any one of the preceding claims, wherein said connection section (31) comprises a recess (33) through which the bendable extension (32) extends.
8. A home appliance according to claim 7, wherein the width of said recess (33) is substantially greater than the width of the bendable extension (32).
9. A home appliance according to any one of the preceding claims, wherein at the continuation of said connection housing (21) where the assembly opening (211) is provided, the lower sheet piece (30) comprises a support detail (212) which extends towards the connection section (31).
10. A home appliance according to any one of the preceding claims, wherein the connection section (31) has a U-like cross section and correspondingly, the connection housing (21) has a form so as to substantially encircle said U-like cross section.
11. A home appliance according to any one of the preceding claims, wherein said bendable extension (32) has a substantial length so as to encircle said connection housing (21) from outside.
12. A home appliance according to any one of the preceding claims, wherein the first component is a lower sheet piece (30) used in order to prevent the user from contacting with the lower heater (14) of the cooker (10).
13. A home appliance according to any one of the preceding claims, wherein the second component is a rear sheet which is connected to the rear section of the inner body of a cooker (10).

14. A home appliance according to claim 13, wherein the second component is a motor fixation sheet (20).
15. A home appliance according to any one of the preceding claims, wherein said home appliance is a freestanding oven with a base section (13).

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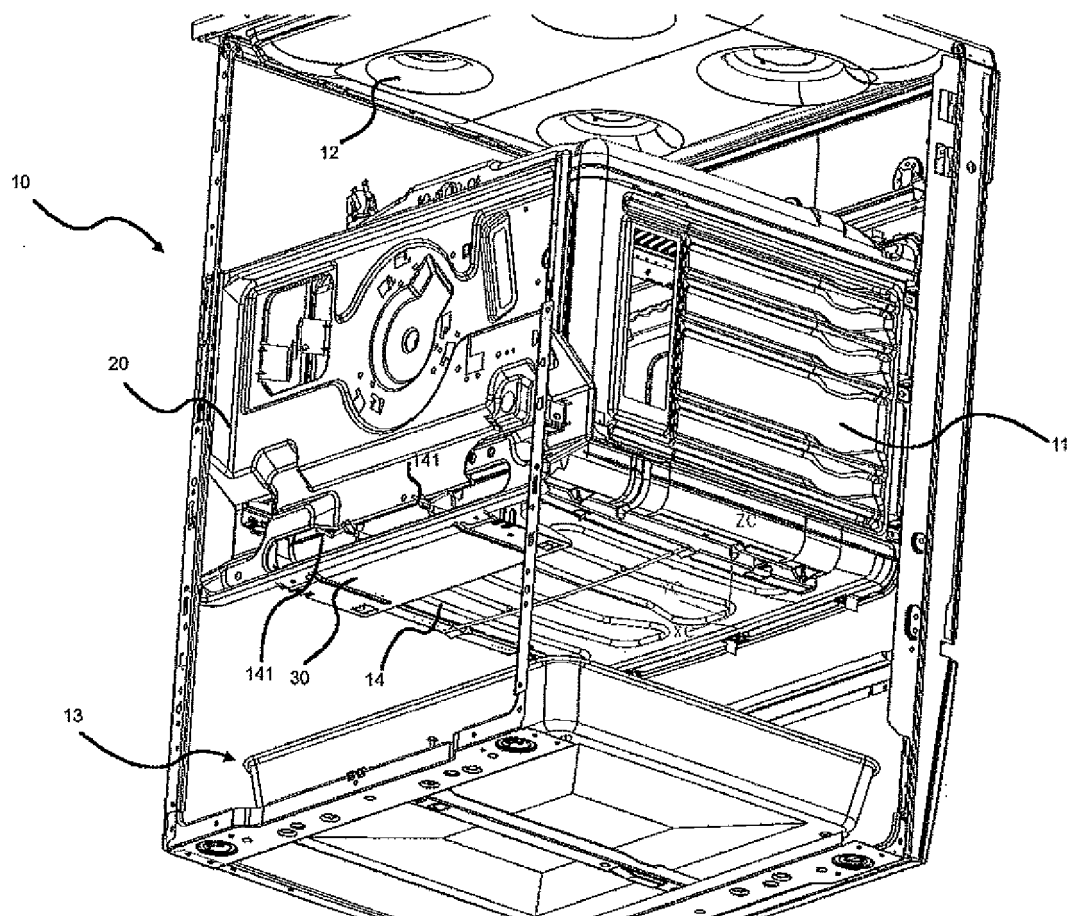
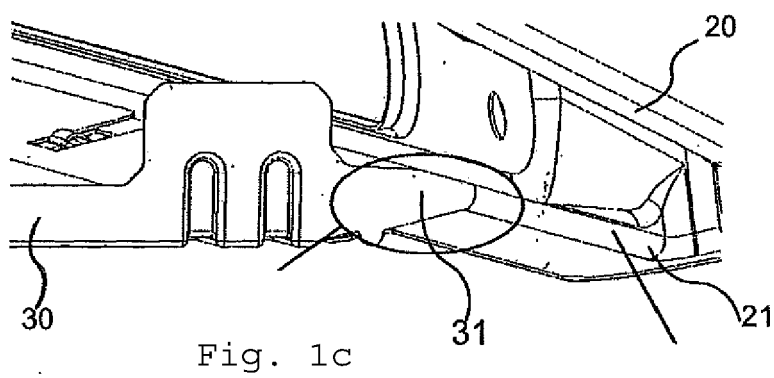
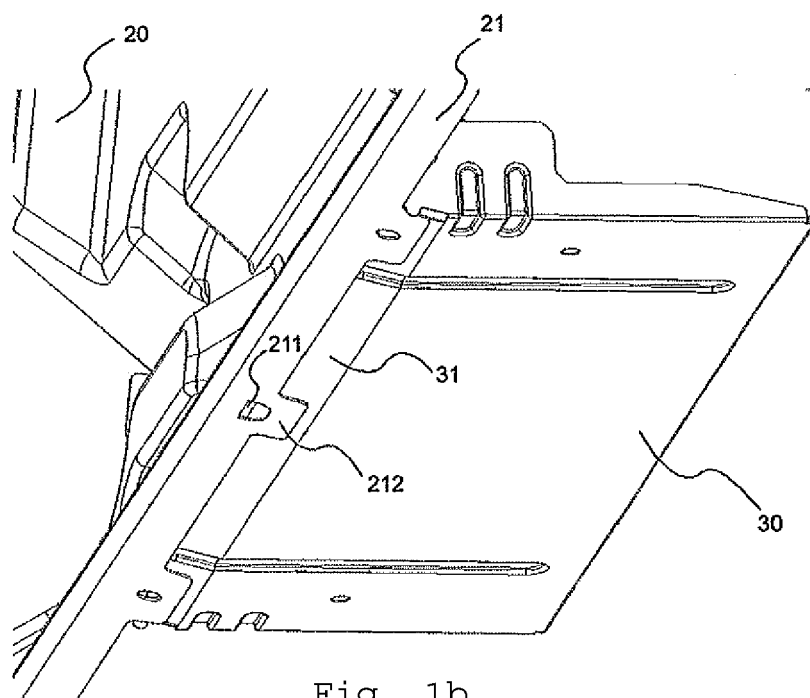


Fig. 1a



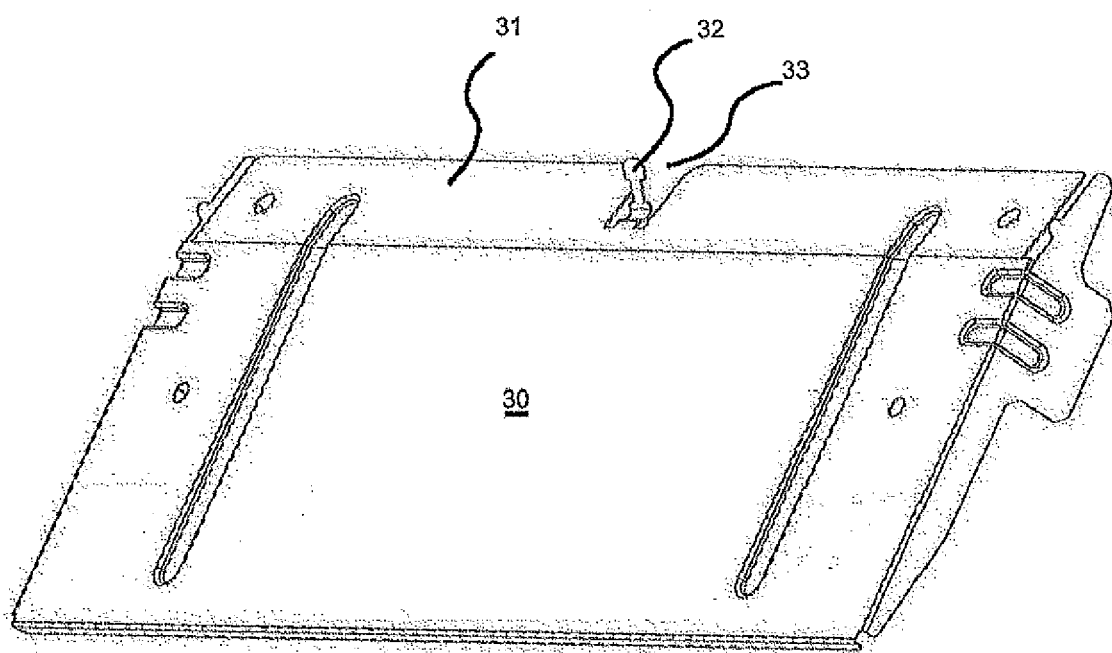


Fig. 2

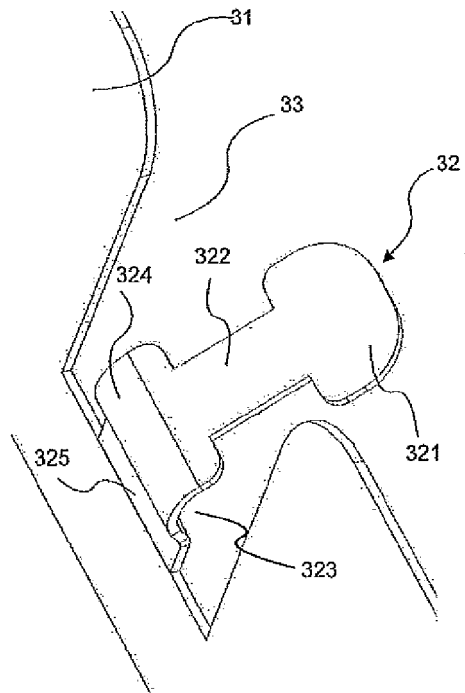


Fig. 3a

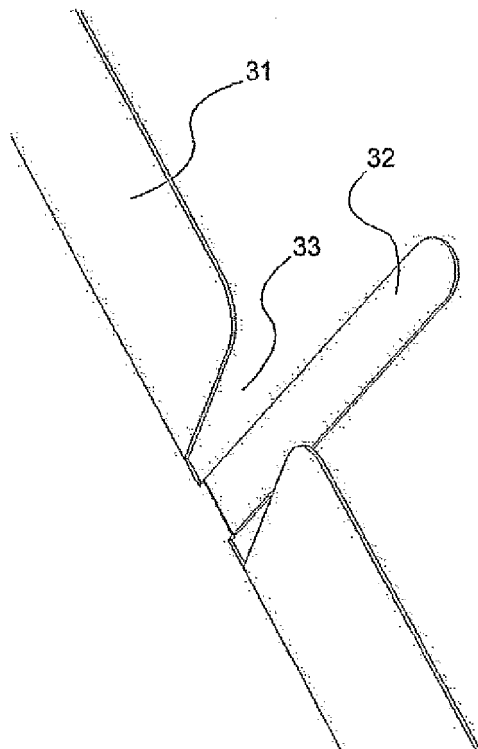


Fig. 3b

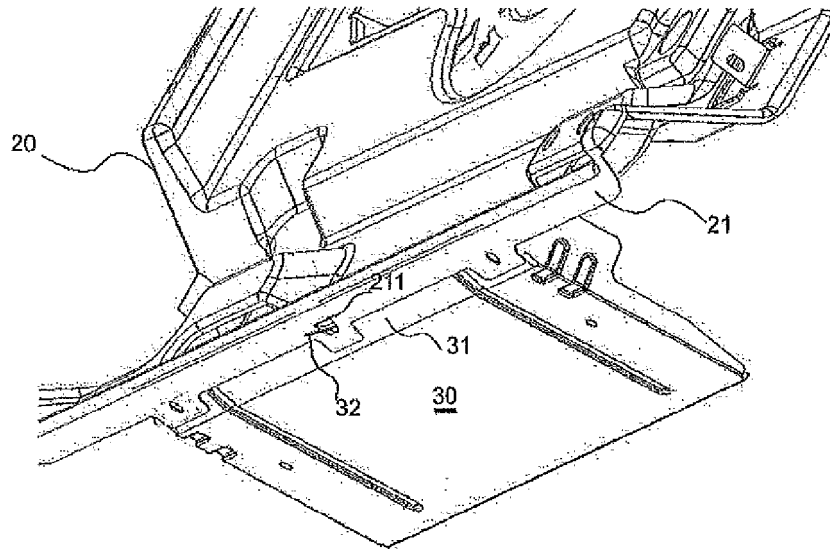


Fig. 4a

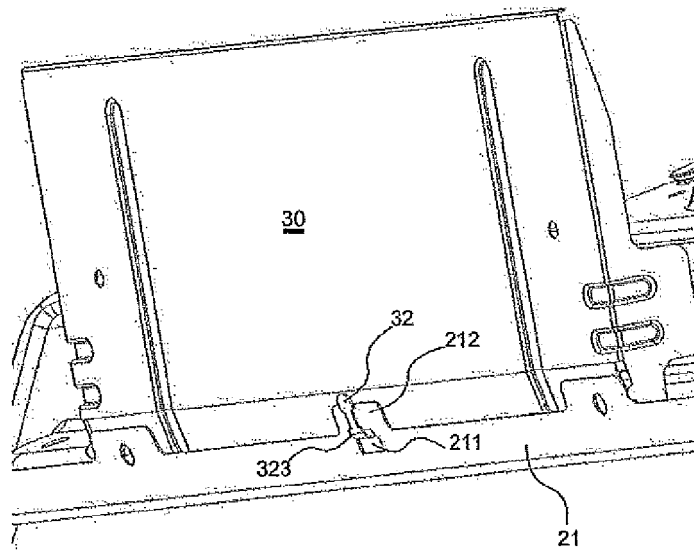


Fig. 4b

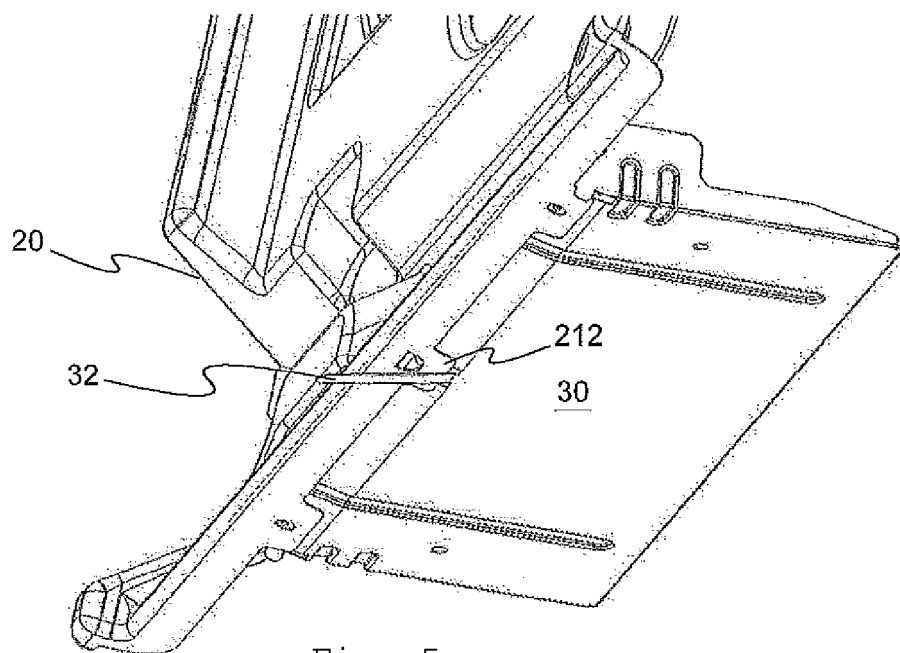


Fig. 5a

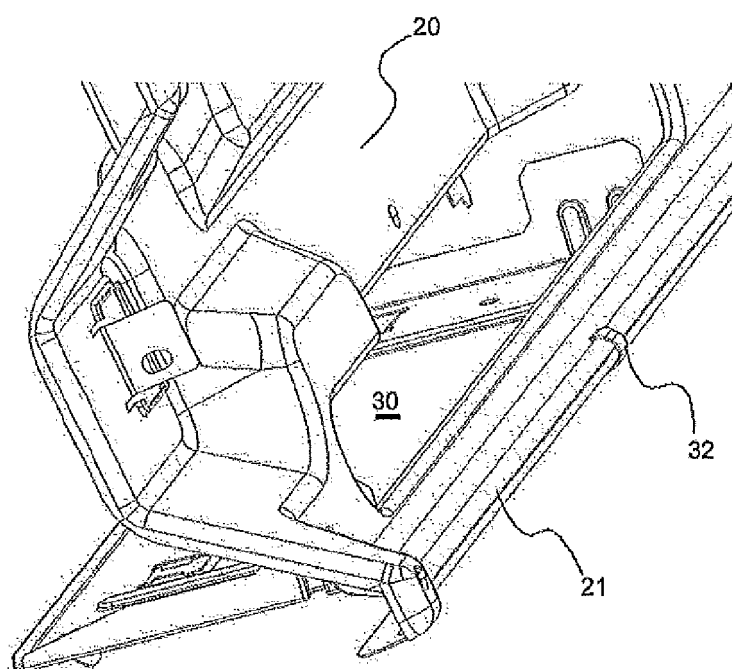


Fig. 5b



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Application Number
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Place of search The Hague		Date of completion of the search 29 February 2012	Examiner Rodriguez, Alexander
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EUROPEAN SEARCH REPORT

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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