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(54) **A home appliance with a hinge plate**

Haushaltsgerät mit einer Scharnierlasche

Appareil domestique avec plaque de charnière

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Description

TECHNICAL FIELD

[0001] The present invention relates to a home appliance having a body in cabinet form; a lateral panel of the body; a one-piece base tab at the bottom part of the lateral panel; and a hinge plate connected to the base tab.

THE KNOWN STATE OF THE ART

[0002] In home appliances like cooling device and oven embodied in cabinet form, hinges are utilized connected to the cabinet body from the bottom and top of the door. The hinge plates provide the connection between the lateral panels of the home appliances and the hinges. The connection between the hinge plates and the lateral panel is provided by means of methods like welding, using connection member and riveting.

[0003] In the utility model CN202048744, a home appliance connection structure is illustrated. Said home appliance connection structure comprises a lower border strip, a hinge plate fixedly connected with the lower border strip, a side plate which is fixed with the hinge plate, and a lower hinge which is fixed to the lower border strip, the hinge plate and the side plate. In the home appliance connecting structure and the home appliance provided by the utility model, the hinge plate and the side plate are riveted and assembled through rivets, and the lower border strip, the hinge plate and the side plate are fixed with the lower hinge through the rivets so that the assembling process is simple, and the cost is relatively low.

[0004] In the patent application US5408725, a hinge assembly for the door of a home appliance; comprises a hinge plate that is secured to a cabinet by passing a plurality of fasteners through the hinge plate. The hinge plate includes a load bearing surface supporting a pivot pin defining a pivot axis for the door.

[0005] US 2009/179539 A1 discloses a refrigerator according to the preamble of claim 1, having a hinge plate which is coupled to a refrigerator cabinet by way of a coupling plate, whereas the coupling plate includes holes for use with fasteners. D1 also discloses that the coupling may be made in various other manners such as for example by adhesives, welding, snap fit or interference fit.

[0006] US 2011/030410 A1 discloses a household appliance having a door to which a decorative plate is attached.

BRIEF DESCRIPTION OF THE INVENTION

[0007] The present invention relates to a novel hinge plate, in order to eliminate the abovementioned problems and to bring new advantages to the related technical field.

[0008] The main object of the present invention is to provide a hinge plate where the production cost and the assembly duration are decreased and where the fixation and centering performance is improved during the as-

sembly of the door to the body of the home appliance.

[0009] In order to realize said object and the objects which are to be deducted from the detailed description below, the present invention is a home appliance having a body in cabinet form; a lateral panel of the body; a one-piece base tab at the bottom part of the lateral panel; and a hinge plate connected to the base tab. Accordingly, said home appliance is characterized by comprising at least one assembly gap configured so as to connect the hinge plate and the base tab horizontally by means of the snap-fit method, said assembly gap provided in the region where the base tab and the hinge plate are connected; said home appliance also comprising at least one connection tab disposed within the assembly gap.

[0010] According to the present invention, the assembly gap is provided on the hinge plate, and the connection tab is provided on the base tab so as to correspond to the assembly gap. Thus, the connection of the hinge plate to the lateral panel is provided. According to the present invention, the base tab comprises a housing whereon the connection tab is embodied and the hinge plate comprises a housing passage opening through which the housing passes. Thus, the strength of the region where the connection tab is provided is improved, and assembly is facilitated.

[0011] In another preferred embodiment of the present invention, the hinge plate comprises an assembly latch whereon the assembly gap is provided. Thus, a resilience is obtained while the assembly latch, is passing to the assembly gap of the connection tab.

[0012] In another preferred embodiment of the present invention, two channels are provided on both sides of the assembly latch, and two lateral edges are provided such that the housing is disposed to the channels. Thus, a rigid structure of the housing is provided.

[0013] In another preferred embodiment of the present invention, the hinge plate comprises a base and an assembly wall coinciding with the lateral panel at the continuation of the base. Thus, the strength of the hinge plate is improved.

[0014] In another preferred embodiment of the present invention, the housing Passage opening is embodied at the region where the base of the hinge plate and the assembly wall are intersecting. Thus, the housing and the assembly latch is aligned with ease.

[0015] In another preferred embodiment of the present invention, the hinge plate comprises a base and an assembly wall coinciding with the lateral panel at the continuation of the base. Thus, the strength of the hinge plate is improved.

[0016] In another preferred embodiment of the present invention, the housing passage opening is embodied at the region where the base of the hinge plate and the assembly wall are intersecting. Thus, the housing and the assembly latch is aligned with ease.

[0017] In another preferred embodiment of the present invention, the body is a heat-insulated body and the home appliance is a cooling device.

BRIEF DESCRIPTION OF THE FIGURES

[0018]

In Figure 1, the perspective view of a cooling device with the subject matter hinge plate is given.

In Figure 2a, a cross sectional view of the lateral panel the hinge plate is connected thereto is given.

In Figure 2b, a general view of the dismantled form of the subject matter hinge plate is given.

In Figure 3a, a general view of the subject matter hinge plate is given, where the subject matter hinge plate is assembled to the lateral panel.

In Figure 3b, a cross sectional view of the subject matter hinge plate is given, where the subject matter hinge plate is assembled to the lateral panel.

REFERENCE NUMBERS

[0019]

- 10 Cooling device
- 11 Body
- 12 Lateral panel
- 121 Base tab
- 122 Housing
- 123 Lateral edge
- 124 Connection tab
- 125 Lateral bent part
- 126 Opening
- 20 Hinge plate
- 21 Base
- 211 Assembly latch
- 212 Housing passage opening
- 213 Channel
- 214 Assembly gap
- 22 Assembly wall
- 23 Lateral wall
- 231 Tab

THE DETAILED DESCRIPTION OF THE INVENTION

[0020] In this detailed description, the subject matter of the invention is explained with references to examples without forming any restrictive effect in order to make the subject more understandable.

[0021] In the detailed description below, the subject matter of the invention is described to be applied on a body (11) of a cooling device (10).

[0022] In Figure 1, the representative view where a hinge plate (20) is assembled onto a lateral panel (12) on the body (11) of the cooling device (10) is given. A hinge plate (20) is assembled horizontally with respect to the lateral panel (12).

[0023] In Figure 2a, the lateral panel (12) comprises a base tab (121); and two housings (122) provided on the base tab (121). The housings (122) comprise two each lateral edges (123) and one each inclined connection tab (124) provided in the middle sides thereof.

[0024] In Figure 2b, the dismantled view of the hinge plate (20) on the lateral panel (12) is given. The hinge plate (20) comprises a base (21); a lateral wall (23) having a tab (231) extending in a horizontal manner on the base (21); and an assembly wall (22) embodied so as to overlap with the lateral panel (12). The hinge plate (20) is cut in hypotenuse form on the side thereof corresponding to the assembly wall (22); and the hinge plate (20) has a form similar to a trapezoid. Two assembly latches (211) are embodied from the base (21) towards the assembly wall (22) such that there is a certain distance in between, and there are channels (213) on the lateral sides of the assembly latches (211). There is an assembly gap (214) in the middle of the assembly latches (211). In the place where the assembly wall (22) and the base (21) are joining, one each housing passage opening (212) is embodied at the continuation of the assembly latches (211). The housing passage openings (212) are extending on the assembly wall (22) at a height where the housings (122) will enter.

[0025] In Figure 3a, a vertical lateral bent part (125) of the lateral panel (12) and a vertical opening (126) is illustrated formed on the lateral bent part (125). A gap (not illustrated in the figure) is formed wherein the hinge plate (20) can be placed at the point where the base tab (121) of the lateral panel (12) and the vertical lateral bent part (125) will join.

[0026] In Figure 3a and Figure 3b, the assembled form of the hinge plate (20) on the lateral panel (12) is illustrated. The housing (122) is passing through the housing passage opening (212) such that the assembly wall (22) of the hinge plate (20) is coinciding with the lateral panel (12), and the lateral edges (123) of the housing (122) are placed into the channels (213). The connection tab (124) of the housing (122) is placed into the assembly gap (214). Thus, the hinge plate (20) is locked with the lateral panel (12). While the hinge plate (20) is in assembled state, the lateral tab (231), provided on the lateral wall (23), is placed to the gap at the bottom part of the lateral bent part (125) of the lateral panel (12). The connection between the hinge plate (20) and the lateral panel (12) is in snap-fit form.

[0027] The protection scope of the present invention is set forth in the annexed claims and can not be restricted to the illustrative disclosures given above, under the detailed description. It is because a person skilled in the relevant art can obviously produce similar embodiments under the light of the foregoing disclosures, without departing from the scope of the present invention, defined in the claims.

Claims

1. A home appliance particularly a cooling device (10), having a body (11) in cabinet form; a lateral panel (12) of the body (11) comprising a one-piece base tab (121) at the bottom part of the said lateral panel (12), and a hinge plate (20) connected to the base tab (121); an assembly gap (214) provided on the hinge plate (20) the home appliance being **characterised by** at least one connection tab (124) disposed within the assembly gap (214), wherein the connection tab (124) is provided on the base tab (121) in a manner to correspond to the assembly gap (214); and wherein the base tab (121) comprises a housing (122) whereon the connection tab (124) is embodied and the hinge plate (20) comprises a housing passage opening (212) through which the housing (122) passes, the assembly gap (214) being configured in a manner to connect the hinge plate (20) and the base tab (121) horizontally by means of the snap-fit method.
2. A home appliance according to Claim 1, wherein the hinge plate (20) comprises an assembly latch (211) whereon the assembly gap (214) is provided.
3. A home appliance according to any of the preceding claims, wherein two channels (213) are provided on both sides of the assembly latch (211) and two lateral edges (123) are provided such that the housing (122) is disposed to the channels (213).
4. A home appliance according to any one of the preceding claims, wherein the hinge plate (20) comprises a base (21) and an assembly wall (22) coinciding with the lateral panel (12) at the continuation of the base (21).
5. A home appliance according to claim 4, wherein the housing passage opening (212) is embodied at the region where the base (21) of the hinge plate (20) and the assembly wall (22) are intersecting.
6. A home appliance according to any one of the preceding claims, wherein the housing (122) is passing through the housing passage opening (212) such that an assembly wall (22) of the hinge plate (20) is coinciding with the lateral panel (12), and lateral edges (123) of the housing (122) are placed into channels (213) of the assembly latch (211).
7. A home appliance according to any one of the preceding claims, wherein the connection tab (124) of the housing (122) is placed into the assembly gap (214).
8. A home appliance according to any one of the preceding claims, wherein the hinge plate (20) is locked

with the lateral panel (12).

9. A home appliance according to any one of the preceding claims, wherein a lateral tap (231), provided on a lateral wall (23) of the hinge plate (20), is placed to a gap at the bottom part of a lateral bent part (125) of the lateral panel (12), while the hinge plate (20) is in assembled state.
10. A home appliance according to any one of the preceding claims, wherein the body (11) is a heat-insulated body and the home appliance is a cooler (10).

Patentansprüche

1. Haushaltsgerät, insbesondere Kühlvorrichtung (10), mit einem Körper (11) in Schrankform, wobei eine Seitenblende (12) des Körpers (11) eine einstückige Bodenlasche (121) am unteren Teil der Seitenblende (12) und eine mit der Bodenlasche (121) verbundene Scharnierplatte (20) umfasst, wobei ein Montagespalt (214) an der Scharnierplatte (20) vorgesehen ist, wobei das Haushaltsgerät durch mindestens eine Verbindungslasche (124) gekennzeichnet ist, die in dem Montagespalt (214) angeordnet ist, wobei die Verbindungslasche (124) auf eine Weise an der Bodenlasche (121) vorgesehen ist, dass sie mit dem Montagespalt (214) übereinstimmt, und wobei die Bodenlasche (121) ein Gehäuse (122) umfasst, an dem die Verbindungslasche (124) ausgebildet ist, und die Scharnierplatte (20) eine Gehäusedurchgangsöffnung (212) umfasst, durch die das Gehäuse (122) hindurchgeht, wobei der Montagespalt (214) so konfiguriert ist, dass die Scharnierplatte (20) und die Bodenlasche (121) mit Hilfe des Schnappverschlussverfahrens horizontal verbunden sind.
2. Haushaltsgerät nach Anspruch 1, wobei die Scharnierplatte (20) eine Montageverriegelung (211) umfasst, an der der Montagespalt (214) vorgesehen ist.
3. Haushaltsgerät nach einem der vorhergehenden Ansprüche, wobei zwei Kanäle (213) auf beiden Seiten der Montageverriegelung (211) und zwei Seitenkanten (123) so vorgesehen sind, dass das Gehäuse (122) in den Kanälen (213) angeordnet ist.
4. Haushaltsgerät nach einem der vorhergehenden Ansprüche, wobei die Scharnierplatte (20) einen Boden (21) und eine Montagewand (22) umfasst, die mit der Seitenblende (12) an der Fortsetzung des Bodens (21) übereinstimmt.
5. Haushaltsgerät nach Anspruch 4, wobei die Gehäusedurchgangsöffnung (212) in dem Bereich ausgebildet ist, in dem sich der Boden (21) der Scharnierplatte (20) und die Montagewand (22) schneiden.

6. Haushaltsgerät nach einem der vorhergehenden Ansprüche, wobei das Gehäuse (122) so durch die Gehäusedurchgangsöffnung (212) hindurchgeht, dass eine Montagewand (22) der Scharnierplatte (20) mit der Seitenblende (12) übereinstimmt, und Seitenkanten (123) des Gehäuses (122) in Kanälen (213) der Montageverriegelung (211) angeordnet sind.
7. Haushaltsgerät nach einem der vorhergehenden Ansprüche, wobei die Verbindungsflasche (124) des Gehäuses (122) in dem Montagespalt (214) angeordnet ist.
8. Haushaltsgerät nach einem der vorhergehenden Ansprüche, wobei die Scharnierplatte (20) mit der Seitenblende (12) verriegelt ist.
9. Haushaltsgerät nach einem der vorhergehenden Ansprüche, wobei eine an einer Seitenwand (23) der Scharnierplatte (20) vorgesehene seitliche Lasche (231) in einem Spalt am Bodenteil eines seitlichen gekrümmten Teils (125) der Seitenblende (12) angeordnet ist, während sich die Scharnierplatte (20) im montierten Zustand befindet.
10. Haushaltsgerät nach einem der vorhergehenden Ansprüche, wobei es sich bei dem Körper (11) um einen wärmeisolierten Körper und bei dem Haushaltsgerät um eine Kühlvorrichtung (10) handelt.

Revendications

1. Appareil domestique, en particulier dispositif de refroidissement (10), ayant un corps (11) sous forme d'armoire ; un panneau latéral (12) du corps (11) comprenant une patte de base d'un seul tenant (121) au niveau de la partie inférieure dudit panneau latéral (12), et une plaque de charnière (20) reliée à la patte de base (121) ; un espace d'assemblage (214) prévu sur la plaque de charnière (20), l'appareil domestique étant **caractérisé par** au moins une patte de liaison (124) disposée à l'intérieur de l'espace d'assemblage (214), dans lequel la patte de liaison (124) est prévue sur la patte de base (121) de manière à correspondre avec l'espace d'assemblage (214) ; et dans lequel la patte de base (121) comprend un logement (122) sur lequel la patte de liaison (124) est incorporée et la plaque de charnière (20) comprend une ouverture de passage de logement (212) à travers laquelle passe le logement (122), l'espace d'assemblage (214) étant configuré de manière à relier la plaque de charnière (20) et la patte de base (121) horizontalement au moyen du procédé d'encliquetage.
2. Appareil domestique selon la revendication 1, dans

lequel la plaque de charnière (20) comprend un verrou d'assemblage (211) sur lequel l'espace d'assemblage (214) est prévu.

3. Appareil domestique selon l'une quelconque des revendications précédentes, dans lequel deux cannelures (213) sont prévues sur les deux côtés du verrou d'assemblage (211) et deux bords latéraux (123) sont prévus de telle sorte que le logement (122) est disposé par rapport aux cannelures (213).
4. Appareil domestique selon l'une quelconque des revendications précédentes, dans lequel la plaque de charnière (20) comprend une base (21) et une paroi d'assemblage (22) coïncidant avec le panneau latéral (12) au niveau du prolongement de la base (21).
5. Appareil domestique selon la revendication 4, dans lequel l'ouverture de passage de logement (212) est incorporée au niveau de la région où la base (21) de la plaque de charnière (20) et la paroi d'assemblage (22) se croisent.
6. Appareil domestique selon l'une quelconque des revendications précédentes, dans lequel le logement (122) passe à travers l'ouverture de passage de logement (212) de telle sorte qu'une paroi d'assemblage (22) de la plaque de charnière (20) coïncide avec le panneau latéral (12), et les bords latéraux (123) du logement (122) sont placés dans les cannelures (213) du verrou d'assemblage (211).
7. Appareil domestique selon l'une quelconque des revendications précédentes, dans lequel la patte de liaison (124) du logement (122) est placée dans l'espace d'assemblage (214).
8. Appareil domestique selon l'une quelconque des revendications précédentes, dans lequel la plaque de charnière (20) est verrouillée avec le panneau latéral (12).
9. Appareil domestique selon l'une quelconque des revendications précédentes, dans lequel un support latéral (231), prévu sur une paroi latérale (23) de la plaque de charnière (20), est placé par rapport à un espace au niveau de la partie inférieure d'une partie recourbée latérale (125) du panneau latéral (12), tandis que la plaque de charnière (20) est à l'état assemblé.
10. Appareil domestique selon l'une quelconque des revendications précédentes, dans lequel le corps (11) est un corps isolé thermiquement et l'appareil domestique est un appareil réfrigérant (10).

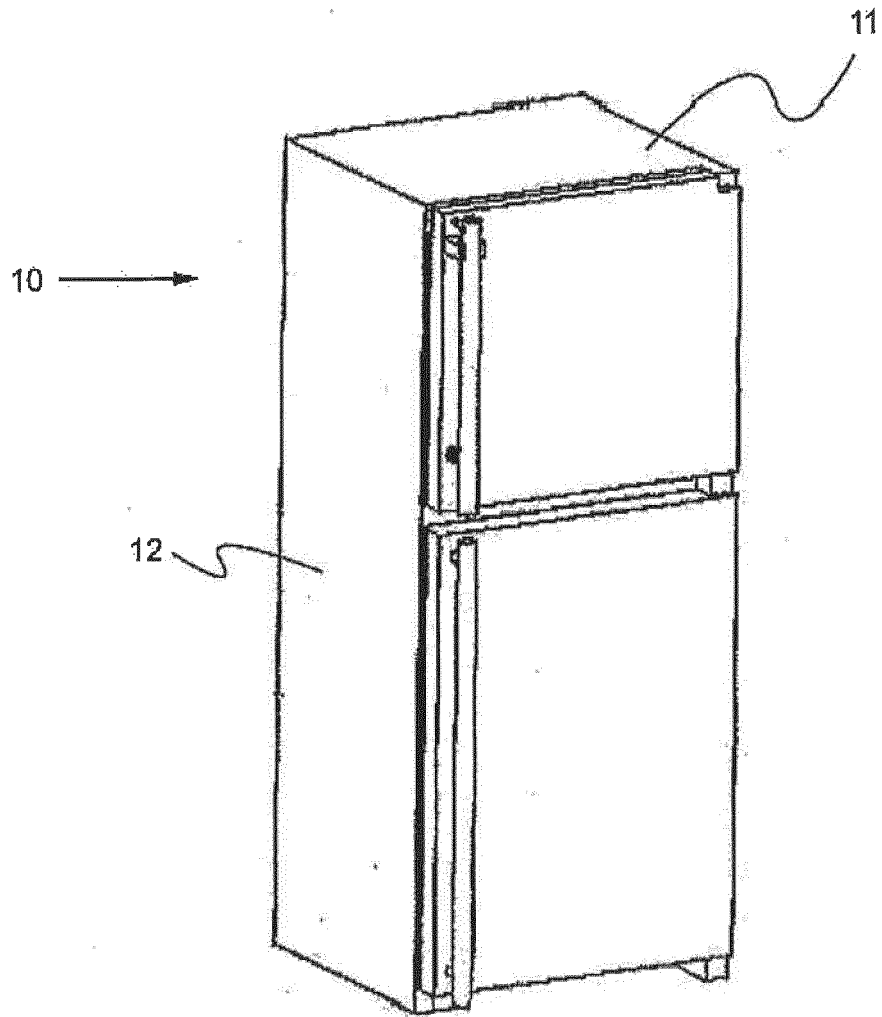
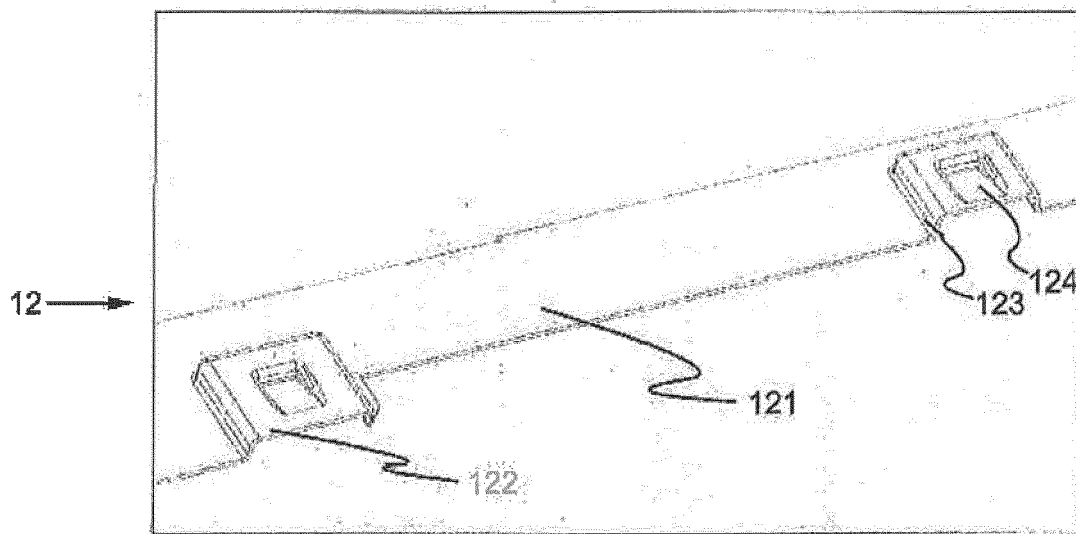
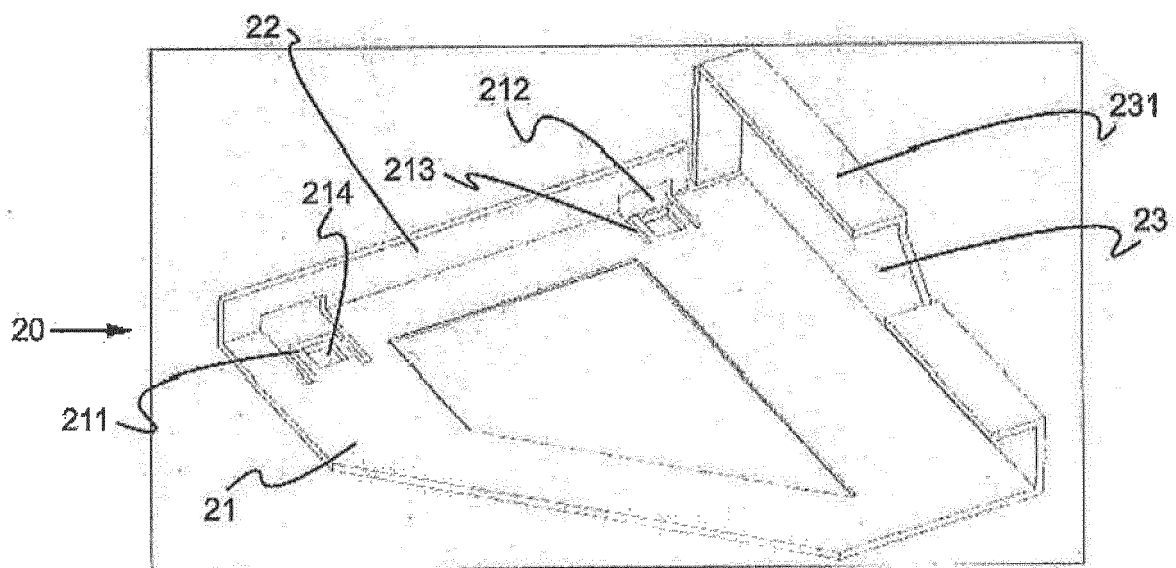


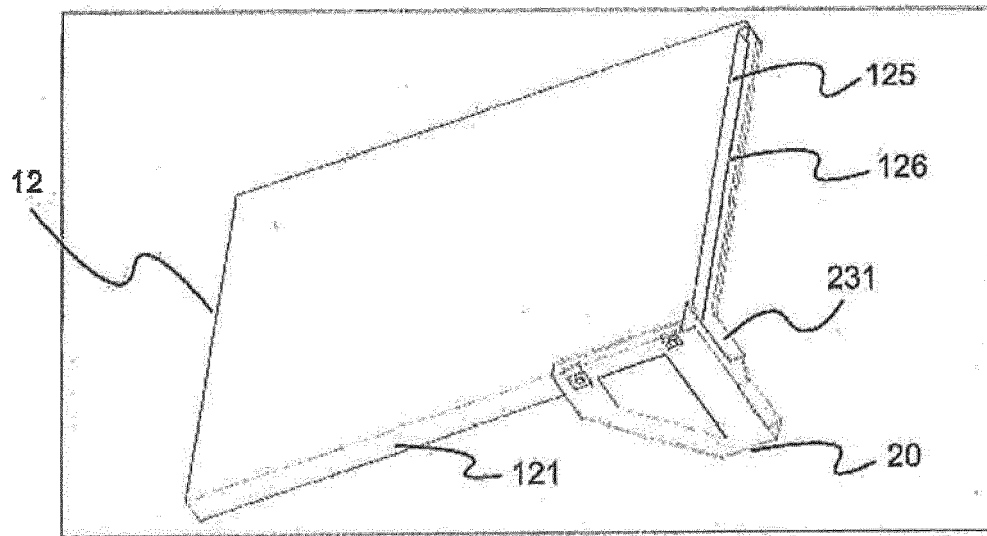
FIGURE 1



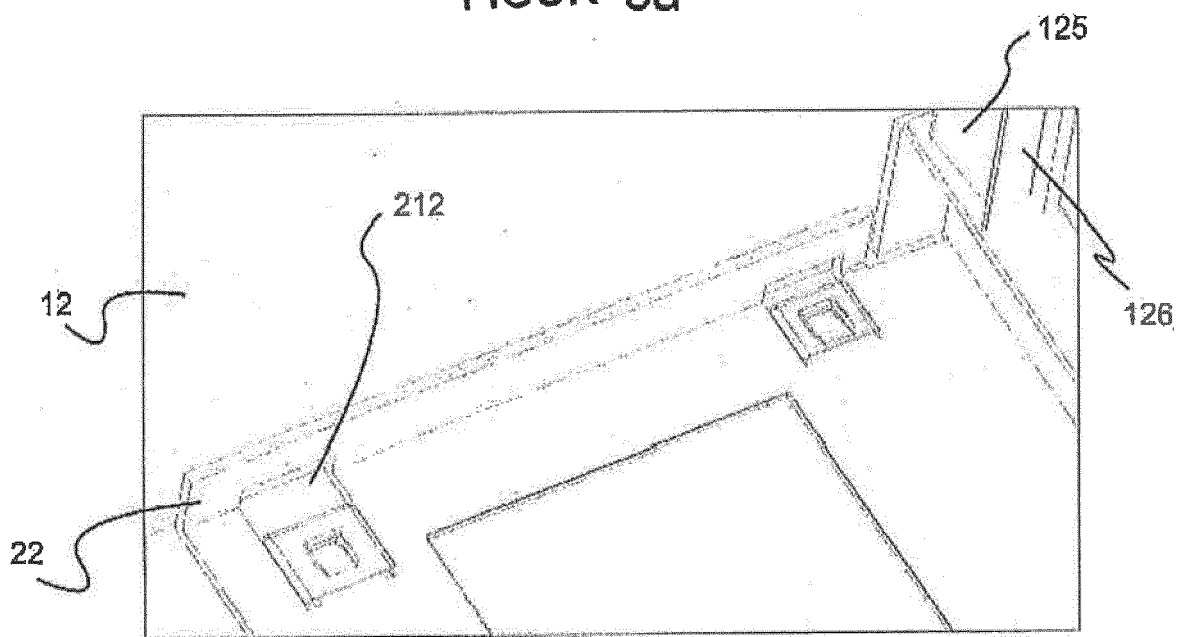
FIGUR 2a



FIGUR 2b



FIGUR 3a



FIGUR 3b

REFERENCES CITED IN THE DESCRIPTION

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