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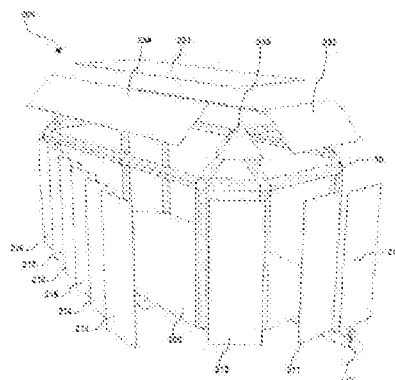
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mr. ir. Marinus Hubertus Tiehatten te Leiden72 Uitvinder(s):
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Geen54 **MODULAR CARAVAN COMPRISING A PLURALITY OF DETACHABLE PANELS TO FORM A MODULAR OUTER SHELL IN A SELF-SUPPORTING FRAME ON A CHASSIS.**

57 A modular caravan (200) comprising a plurality of detachable panels (210 - 251) to form a modular outer shell in a self-supporting frame (10) on a chassis. This invention relates generally to caravan with a modular outer shell with a modular interior layout. In particular the present invention relates to a modular set-up of the outer shell of the caravan as well as to the caravan being the platform for modular interior components or combinations of interior modules integrated with the outer shell.

The frame is designed such that the outer shell panels can be mounted and dismounted. Interior modules can be attached to the frame. By replacing panels, the outer shell can be adapted to meet changing interior lay-outs and/or changing use cases. This combines into a modular caravan that can be adapted to meet the demands of the user, adapting to changing needs, changing budgets and innovations.



MODULAR CARAVAN COMPRISING A PLURALITY OF DETACHABLE PANELS TO FORM A MODULAR OUTER SHELL IN A SELF-SUPPORTING FRAME ON A CHASSIS.

FIELD OF THE INVENTION

5 The present invention relates to a caravan assembly and a method of customizing and changing the outer shell and the interior layout. In particular, the present invention relates to a modular caravan, comprising a self-supporting structural frame and interchangeable detachable panels to form the outer shell, preferably placed on a chassis.

10 DESCRIPTION OF THE INVENTION

This invention relates generally to a caravan with a modular outer shell with a modular interior layout. In particular the present invention relates to a modular set-up of the outer shell of a caravan as well as to a caravan being the platform for modular interior components or combinations of interior modules integrated with outer shell modules or modular panels. The modular components are
15 detachable and can be replaced and/or changed.

The outer shell comprises panels to fit the corresponding positions in the self-supporting frame. The dimensions of the panels and the means of connection to the frame are determined by the design of the frame. The shape and function of the panels within these limitations is free and can comprise for example doors, windows, hatches, PV-panels, slide outs or any other function or combination of
20 functions. The wall panels can be changed and/or relocated within the available wall positions in the frame. The roof panels can be changed and/or relocated within the available roof positions in the frame.

Interior modules, such as beds, seats, kitchenettes, fridges, A/C-units, storages etc., can in some cases be replaced and/or relocated. The interior modules can be stand-alone or integrated with the outer
25 shell panels. The dimensions of the interior modules are determined by the design of the frame and/or to the floor layout.

By changing or replacing modules to modules with a different function the layout and the functionality of the caravan can be changed over time.

The frame may be designed to fit an exact number of panels. The frame may be self-supporting to
30 minimise restraints on the design of the modular wall and roof panels. The design of the frame could be such that interior modules can optionally be attached to the frame members. Interior modules can also be attached to the floor.

BACKGROUND AND PRIOR ART

A caravan or campervan lasts for many year, however, the needs of the user can change drastically over time. For example, one starts with a caravan to enjoy an adventurous but cheap vacation at young age without children, then the vacation-style changes to a vacation with little children on a small or bigger budget and this can evolve into a vacation at an older age without children. All these use cases require a different set-up of a caravan.

Caravans or campervans usually have a fixed layout that cannot be changed over time to meet the changing needs or changing budget. The present invention provides a complete caravan in which the interior and the outer shell can be changed to meet personal needs, preferences and budget and can be adapted when one or more of these things change.

Because of the long lifetime and fixed layout, existing caravans have limited possibilities to include aftermarket hardware or innovations. Adding an air-conditioning or an extra hatch is sometimes possible, but not standard. The present invention offers the possibility to create modules which can easily be integrated in the caravan. These can, for example, range from solar panels, extendable kitchen units, luxury kitchens, special beds, provisions for disabled persons, etc. that are made to fit the fixed dimensions for the modular panels in the outer shell and/or to fit the attachment positions for interior modules in the frame.

Various enclosures for utility trailers, caravans and travel trailers intended for camping, and also modular set-ups of interior units or outer shells are known in the prior art. None of these prior art, however, offer the flexibility to adapt a living space or enclosure to changing needs and/or changing budget over time and the flexibility to design the layout including the outer shell. Neither does any of the prior art offer the level of detachability and interchangeability of panels for the outer shell.

Many prior art modular enclosures are meant to create a temporary enclosure based on an multipurpose mobile chassis, such as an existing trailer. The present invention, however, is based on a purpose build frame, preferably mounted on a chassis and assembled with the modular panels the enclosure is permanent although changeable.

Many prior art interior modules or modular systems are based on a fixed outer shell in which the interior modules can be placed and replaced. The present invention, however, is designed to be modular in both interior modules and outer shell, so that a combination of both can be made as well. Some of the prior art relating to the present invention are listed below, in order to describe some notable differences with the present invention.

Prior art: US20110209418A1

'Modular enclosure for utility trailers and pickup trucks'

Notable differences:

- 5 - Prior art has panels designed to be easily stored and assembled to create a temporary enclosure. Present invention is designed to be semi-permanent in use as a caravan, disassembly and replacement of a panel is primarily based on the required function of the panel in the outer shell.
- Prior art has a self-supporting structure comprising only panels, no frame. Present invention has a self-supporting frame with panels that only contribute to the structural integrity to a limited extent. This makes that the panels in the present invention can have many functions, including functions that do not provide structural integrity to the outer shell.
- 10 - Prior art has panels which are made in a specific shape including an interlocking system. Present invention has panels with the connection system integrated in the frame, not in the panels, allowing the design of panels to be of a simple, flat shape.
- Prior art does not provide a system to add interior modules or to attach interior modules to the enclosure. Present invention is designed to have the possibility to attach interior modules to the frame and also to use interior modules which are integrated with the outer shell modules panels.

Prior art: US5042395A

'Composite vehicle body having sandwich panels integrally formed with frame parts to form individual body modules which are connected to other body modules to form the vehicle body'

20 Notable differences:

- Prior art has panels which include an interlocking system with the frame. Present invention has panels with the connection system integrated in the frame, not in the panels.
- Prior art has modules that are not detachable and/or replaceable over time. Present invention has detachable and/or replaceable individual modules and panels.
- 25 - Prior art has a well-defined built up of outer shell material (sandwich). Present invention does not set the material properties for the outer shell modules, as the structural integrity is not mainly provided by the outer shell modular panels but by the frame.

Prior art: DE19702577A1

'Universell anwendbarer und kombinierbarer Fahrzeuganhänger'

30 Notable differences:

- Prior art shows enclosures which are placed on a chassis, the enclosures are modules with pre-defined functions, a fixed outer shell and a fixed interior. Present invention comprises an enclosure with a modular outer shell and a modular interior layout.

- Prior art shows modules with a bodywork frame, an outer shell and an interior layout placed on a wheeled bed. Present invention comprises a frame preferably mounted on a chassis in and on which the modular outer shell panels and interior modules are placed.

Prior art: DE202004002970U1

- 5 'Wohnwagen für bis 6 Personen mit modularer Einrichtung, dadurch gekennzeichnet, dass ein Schienensystem, das in die Außenwände eingelassen ist, die Elemente der Einrichtung trägt

Notable differences:

- Prior art is making use of a predefined body and outer shell that is not adaptable. Present invention has a modular outer shell.
- 10 - Prior art is making use of a predefined body and outer shell, with rails integrated in the outer shell. Present invention comprises a profile in the frame on which interior modules can be attached.

Prior art: US5653494A

'Modular sport, work, and travel trailer system'

- 15 Notable difference:

- Prior art shows an outer shell comprising a single shape which is not modular. Present invention comprises multiple modular panels in the outer shell which are replaceable and together form an outer shell which is modular.

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BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a schematic exploded view of the modular caravan, with schematic representations of modular panels forming the outer shell and a frame mounted on a flat surface on a chassis.

5 Figure 2 shows a schematic exploded view of the modular caravan, comparable to Figure 1, support beams between panels are shown and a configuration with three panels instead of one in the sloped side of the roof is shown.

Figure 3 shows a schematic view of the self-supporting frame mounted on a flat surface on a chassis. No modular panels or support beams are shown.

10 Figure 4 shows a schematic side view of the self-supporting frame mounted on a flat surface on a chassis. Modular panels or support beams are not shown.

Figure 5 shows a schematic view of the modular caravan, the non-exploded view of the exploded view in Figure 2. Support beams between panels are shown and a configuration with three panels in the sloped side of the roof is shown.

15 Figure 6 shows a schematic view of the modular caravan, comparable to Figure 5, but in one position in the side a double-width panel is shown.

Figure 7 shows a schematic view of the modular caravan, comparable to Figure 6, with schematic representations of functions added to the modular panels, such as a hatch, a door and windows.

20 Figure 8 shows a schematic view of a cross section of a preferred embodiment of a frame member with a part of a modular panel attached to it on both sides.

Figure 9 shows a limited selection of possible modular wall panels, three of single standard width and two of double standard width.

Figure 10 shows a limited selection of possible modular panels for the sloped part of the roof.

Figure 11 shows a limited selection of possible modular panels for the top of the roof.

25 Figure 12 shows a single example of a combined interior and outer shell panel module.

Figure 13 shows a possible set up for two interior modules, connected to the frame.

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DESCRIPTION OF THE PREFERRED EMBODIMENT

Various embodiments of the present invention are described by way of example only, with reference to the accompanying drawings.

- 5 Referring to Figure 1, there is shown a preferred embodiment of the modular caravan (200). It shows a frame (10) with a floor (109) mounted on a chassis with wheels and a towbar (112). A configuration of wall panels and roof panels (210 – 218, 233, 234, 243, 251) forming the modular outer shell are shown in a schematic exploded view. For clarity, support beams between the panels are not shown and all panels are shown without functions or features.
- 10 Figure 2 illustrates an exploded view of a preferred embodiment of the modular caravan (200) such as in Figure 1, but in Figure 2 support beams (121) in between panels, for example between panels 213 and 214, are shown and in the sloped roof position on the sides a different configuration of modular panels is shown, with three panels in the sloped roof position shown in Figure 2 instead of one single panel as shown in Figure 1. A preferred embodiment of the modular outer shell comprises
- 15 support beam (121) to attach panels to adjacent panels. These support beams may also provide structural integrity to the system.
- Figure 3 illustrates a preferred embodiment of the self-supporting frame (10), shown in this illustration mounted on a flat surface, the floor (109), and on a chassis (111) with wheels (113) and a towbar (112). In this preferred embodiment of the frame (10) panels to form the modular outer shell can be
- 20 fitted, as shown in Figure 1 and Figure 2. The frame is assembled and preferably fitted on a chassis (111) and a floor (109). Interior modules may be attached to the frame as illustrated in Figure 13. Support beams and panels to form the modular outer shell are not shown. The preferred embodiment of the frame comprises vertical structural members (31 – 38), horizontal structural members connecting the vertical members at the top (41 – 48), horizontal structural members defining the
- 25 horizontal roof (51 – 54) and sloped structural members (21 – 28). The structural members are connected with structural corner pieces (61 – 68, 71 – 74). The preferred embodiment of the frame is such that the frame is self-supporting and has positions to accommodate modular panels of standard sizes to be installed as illustrated in Figure 4 (82, 87, 88, 98, 98, 99). The frame (10) and floor (109) are preferably placed on a chassis (111) at all corners, the preferred embodiment shown in Figure 3 shows
- 30 eight corners of which four are numbered for clarity (105 – 108). The chassis preferably has wheels (113) and a connection used to tow the chassis behind a vehicle (112). Figure 4 illustrates a side view of the preferred embodiment of the self-supporting frame as shown in perspective view in Figure 3. The preferred embodiment for the frame members is shown in Figure 8 in cross section.
- Figure 5 shows the perspective view of the preferred embodiment of the modular caravan (200) in an
- 35 unexploded view, the preferred embodiment is the same as shown in the exploded view in Figure 2.

This preferred embodiment shows a frame (10) on a chassis (111) with panels forming the modular outer shell (210 – 218, 233, 234, 243, 254) and support beams between the panels (121). For clarity, all panels are shown equal and without features. The panel positions in the frame are designed such that the panels are interchangeable between corresponding positions in the frame. The wall panels can be placed on all panel positions in the wall, and the roof panels can be located in their corresponding positions in the roof. In the preferred embodiment the corner panels (242, 243, 244 (241 not shown)) are interchangeable, the sloped front and back panels (233) are interchangeable and the sloped side panels, comprising one or more panels (234) are interchangeable.

One of the base concepts of the present invention is that the modular outer shell is changeable by replacing modular outer shell panels. Figure 6 illustrates a preferred embodiment in which two panels are replaced by one panel. The double width panel in Figure 6 (21314) is installed in the position of panels 213 and 214 in Figure 5. Many more configurations are possible. For clarity the panels are all shown without features.

Figure 7 illustrates a preferred embodiment in which modular wall panels with a specific function are shown to illustrate the possibility to apply panels with a function. A panel with a hatch (216/2), a panel with a door (215/2), a double width panel with a window (21314/2) and a panel with a window (212/2) are shown in the vertical wall of the modular outer shell. Many more functions, features or positions are possible.

The self-supporting frame (10), of which a preferred embodiment is shown in Figure 4, comprises frame members with a preferred embodiment as illustrated in Figure 8.

Figure 8 illustrates a cross section of a preferred embodiment of a frame member, in assembled view (top illustration) and exploded view (bottom illustration). This preferred embodiment is designed such that the panels can be mounted and dismounted without damage. Panels that form part of the modular outer shell (216, 210) may be clamped to the frame members (300). The panels may be clamped on the inside of the frame member by the inside panel holding strip (307) which may be connected to the inside facing structural profile (303). By mounting the outer cover profile (301) and the strip to provide watertight connection (308) to the outside facing structural profile (302) the panel can be fixed in place. The outer cover profile (301) may be mounted and dismounted using preferably nuts and bolts (309 + 310), but other modes of connection may also be possible. The inner cover profile (313) may be attached to the inside facing structural profile (303) preferably by nuts and bolts (311 + 312), but other modes of connection may also be possible. The 45 degrees angle profile (306) connects the outside facing structural profiles (302) and the 45 degrees angle profile (305) connects the inside facing structural profiles (303). The inside facing structural profiles are joined with the outside facing structural profiles with an insulation strip (304) in between to prevent a temperature bridge. Interior modules may be mounted on the inside facing structural profiles (303) with the same

connection method as with which the inner cover profile (313) is connected to the inside facing structural profile (303). Further features to the frame members, such as lighting, handlebars or ventilation, may be added to the design.

As illustrated in the preferred embodiment in Figure 7, modular wall panels can be replaced by panels with a different function. These functions can include functions as depicted in Figure 9, showing a single door for entrance or for storage (215/2), a single panel with a window (212/2), a single panel with a hatch (216/2), a double panel with window (21314/2) and a double panel with a double door (21314/3). Many more features and functionalities are possible. The material properties of the modular panels, such as insulation value or recyclability, are not fixed and may be determined by the required function of the modular panel.

Figure 10 illustrates a limited selection of possible modular panels for the sloped side of the roof. A preferred embodiment may be a single panel for the position in the sloped side of the roof, as illustrated in Figure 1 (234), possible functions of this single panel are shown in Figure 10, showing a panel without features (234/0), a full length window panel (234/1) and a full length solar panel panel (234/2). A possible embodiment for a modular outer shell in the position in the sloped side of the roof can also comprise more than one panel, as illustrated in Figure 2 and Figure 5 (251). In Figure 10 three modular roof panels 234/11, 234/12 and 234/13 with a limited selection of functions for these panels are shown. Shown are a panel without features (234/11), a panel with a window (234/12) and a panel with a solar panel (234/13). Many more features and functionalities are possible.

Figure 12 illustrates a single example of a combined interior and outer shell panel module (212/3). In this example a storage unit with integrated drawers is shown, with a window above. The drawers in this example could possibly be moving both to the interior side as to the outside. Many combinations of functions of interior modules and outer shell panels are possible.

Figure 13 illustrates a possible set up with two interior modules (601 and 701) for example only. For clarity, the modular panels that form the outer shell are not shown. Interior modules may have various functions and shapes and can be connected to the frame with the system as described. The function of an interior modules such as illustrated (701) could be a kitchen or storage unit, with, for example, overhead storage as a function of modules 601 in Figure 13.

Interior modules may be connected or integrated with the outer shell modules panels, for example to allow access from outside, to place windows at the desired position or to allow for slide out systems. Many more configurations, features, functions and locations within the frame are possible.

CONCLUSIES

1. Kampeervoertuig, zoals een aanhanger voor recreatief gebruik, omvattende:
 - een frame,
 - tenminste vier wanden,
 - tenminste één dak;
 waarbij het frame en de wanden tezamen deel uitmaken van een begrenzingswandconstructie die tenminste één inwendige verblijfsruimte van het kampeervoertuig definieert, met de kenmerken, dat:
 - tenminste één wand is samengesteld met tenminste één paneel dat losneembaar is,
 - de losneembare panelen individueel en zonder schade losneembaar zijn,
 - de losneembare panelen eenheidsmaten hebben,
 - tenminste één paneel geheel of gedeeltelijk de functie van deur vervult,
 - tenminste één paneel geheel of gedeeltelijk de functie van raam vervult.
2. Systeem volgens conclusie 1, met het kenmerk, dat het frame is ontworpen om interieurmodules losneembaar aan te kunnen bevestigen.
3. Systeem volgens conclusie 1 of 2 waarbij het frame zelfdragend is, met het kenmerk,
 - dat het frame zo is ontworpen dat de losneembare panelen in de wanden verplaatsbaar zijn tussen de posities in de wanden,
 - dat het frame zo is ontworpen dat de losneembare panelen in het dak verplaatsbaar zijn tussen de vergelijkbare posities in het dak.
4. Systeem volgens één van de voorgaande conclusies 1 t/m 3, met het kenmerk dat de losneembare interieurmodules conform dezelfde eenheidsmaten zijn vormgegeven als de losneembare panelen.
5. Systeem volgens één van de voorgaande conclusies 1 t/m 4, met het kenmerk dat het frame zo ontworpen is dat losneembare panelen en interieurmodules verplaatsbaar zijn tussen de posities in het frame.
6. Systeem volgens één van de voorgaande conclusies 1 t/m 5, met het kenmerk dat het systeem tenminste één interieurmodule omvat met tenminste één van de volgende functies: bed, keuken, koelkast, opslagruimte, zitplek of toilet.
7. Systeem volgens één van de voorgaande conclusies 1 t/m 6, met het kenmerk dat het systeem tenminste één losneembaar paneel omvat met tenminste één van de volgende functies: raam, deur, luik of PV-paneel.

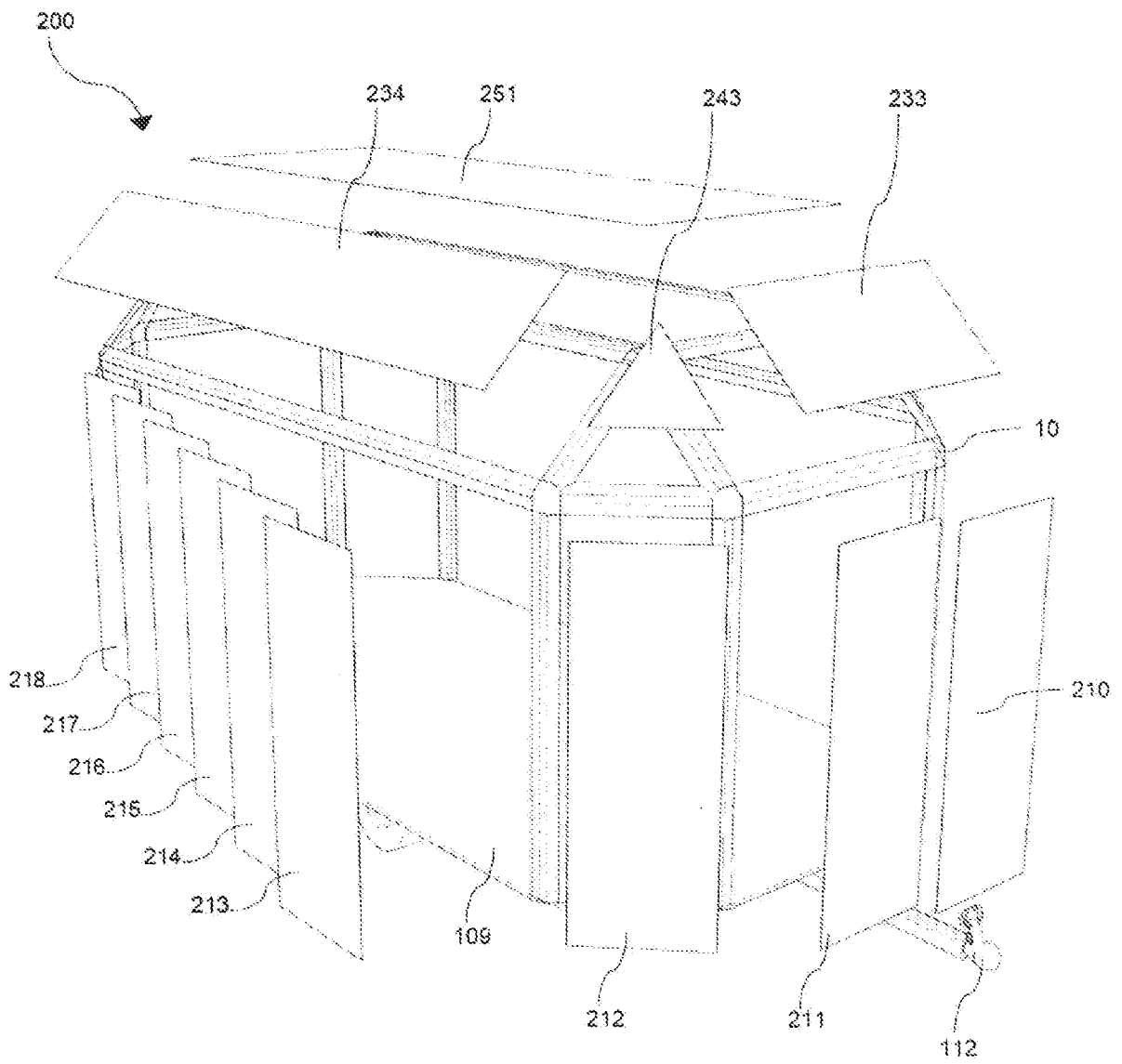


Figure 1

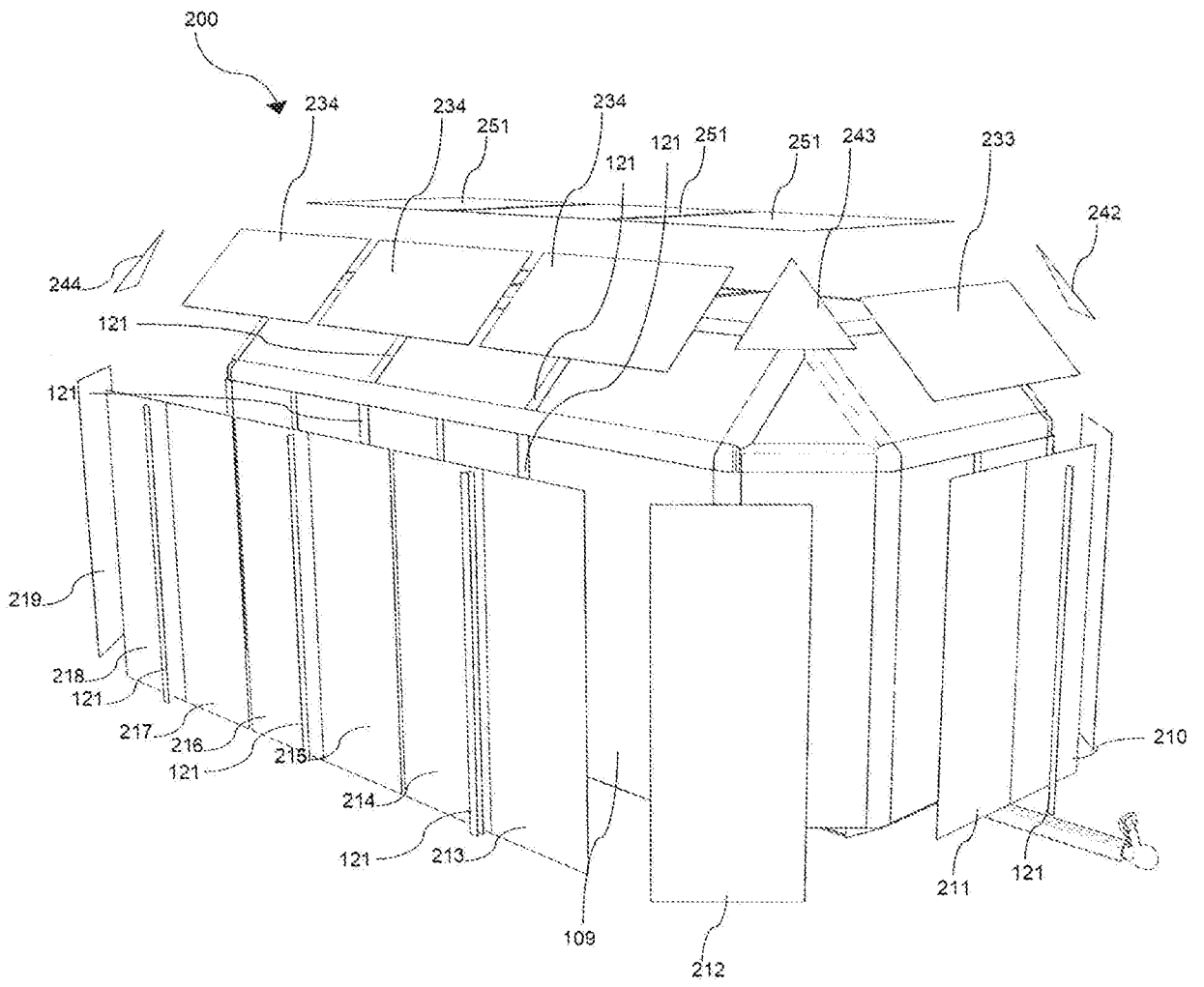


Figure 2

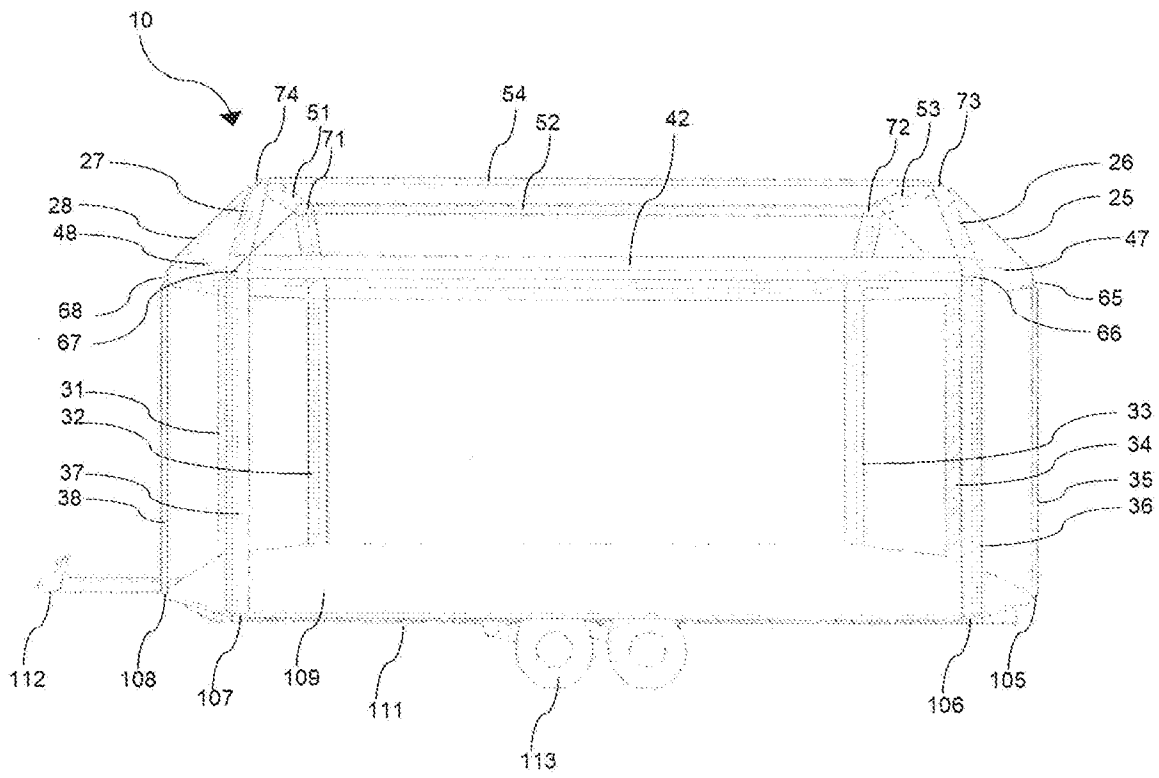


Figure 3

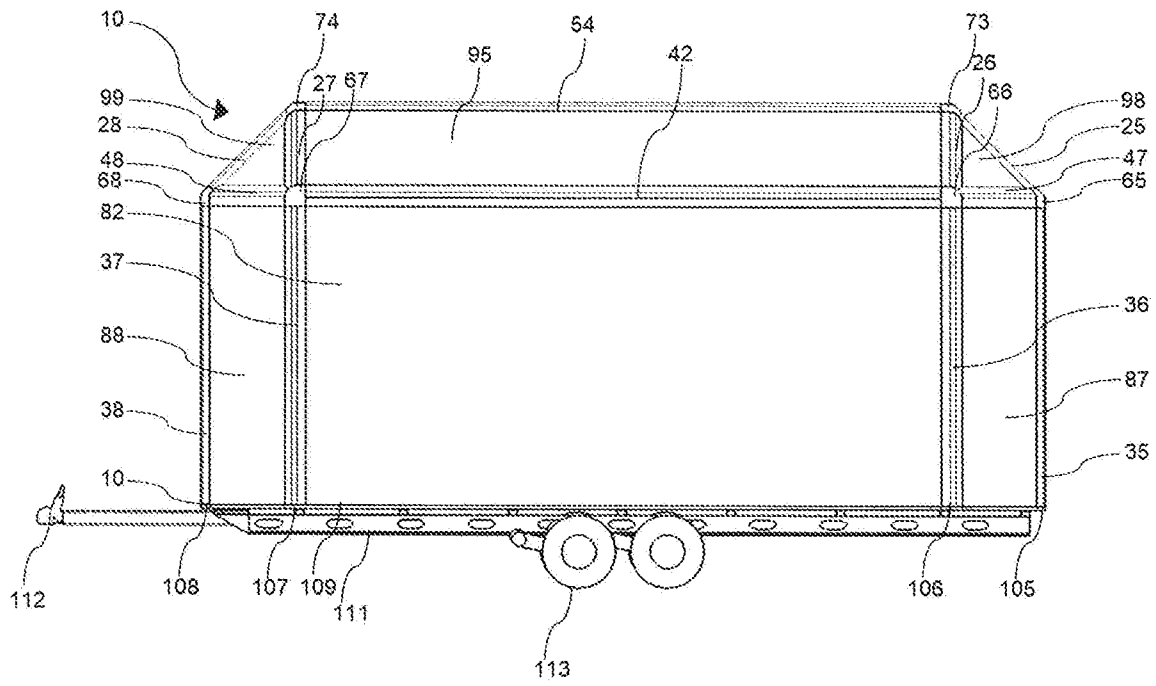


Figure 4

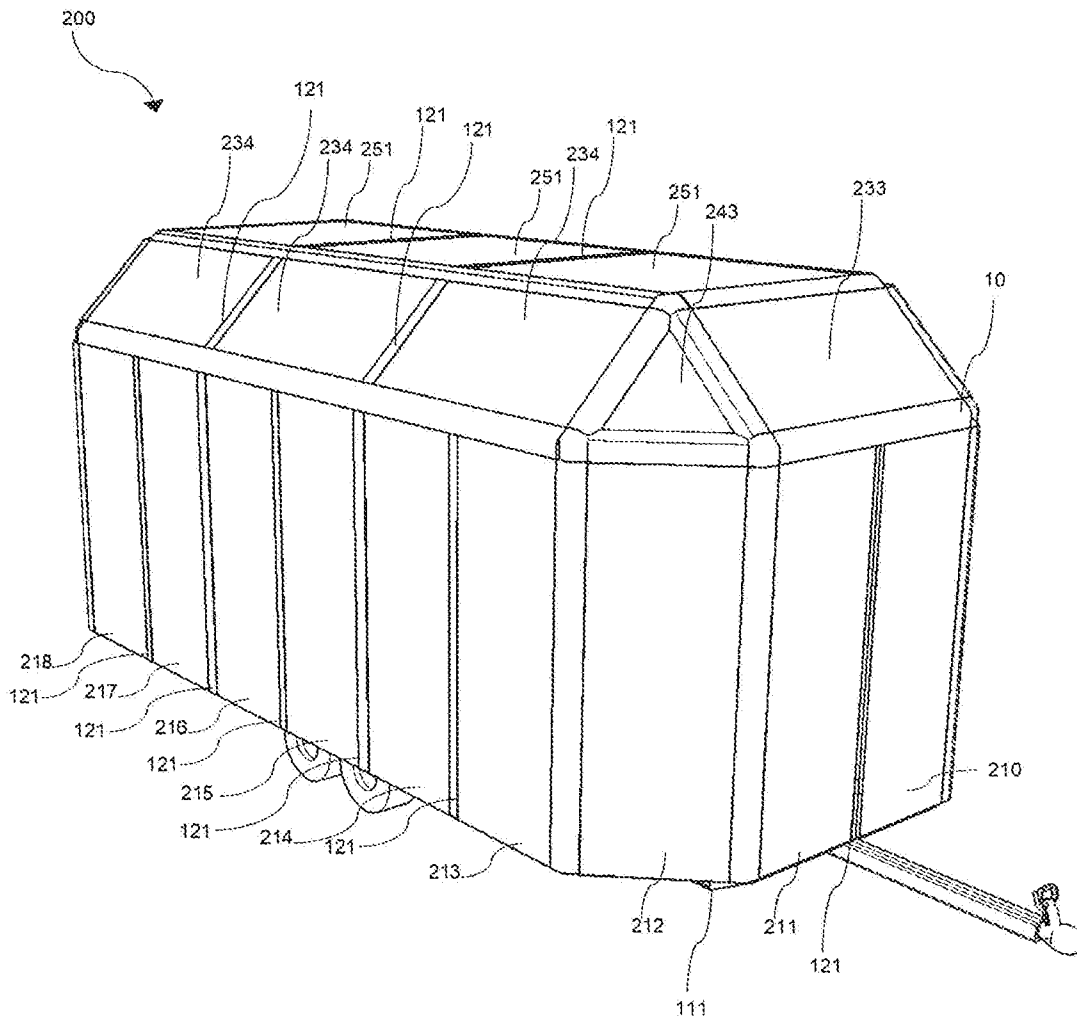


Figure 5

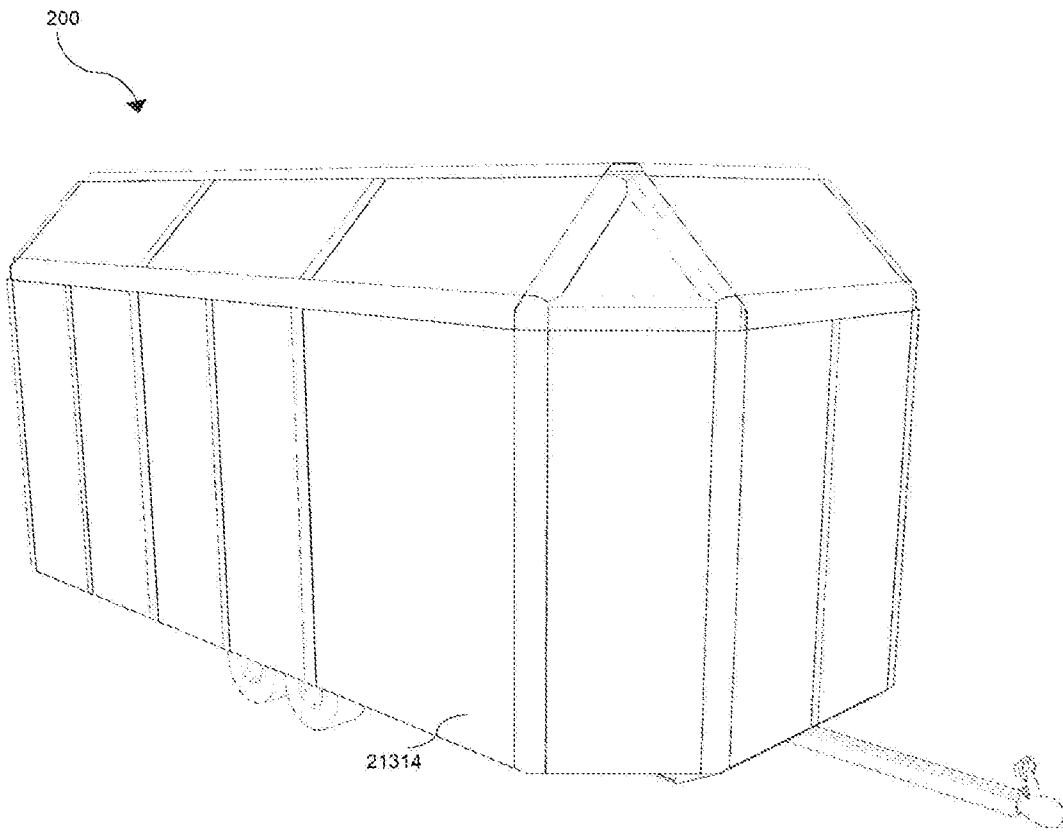


Figure 6

200

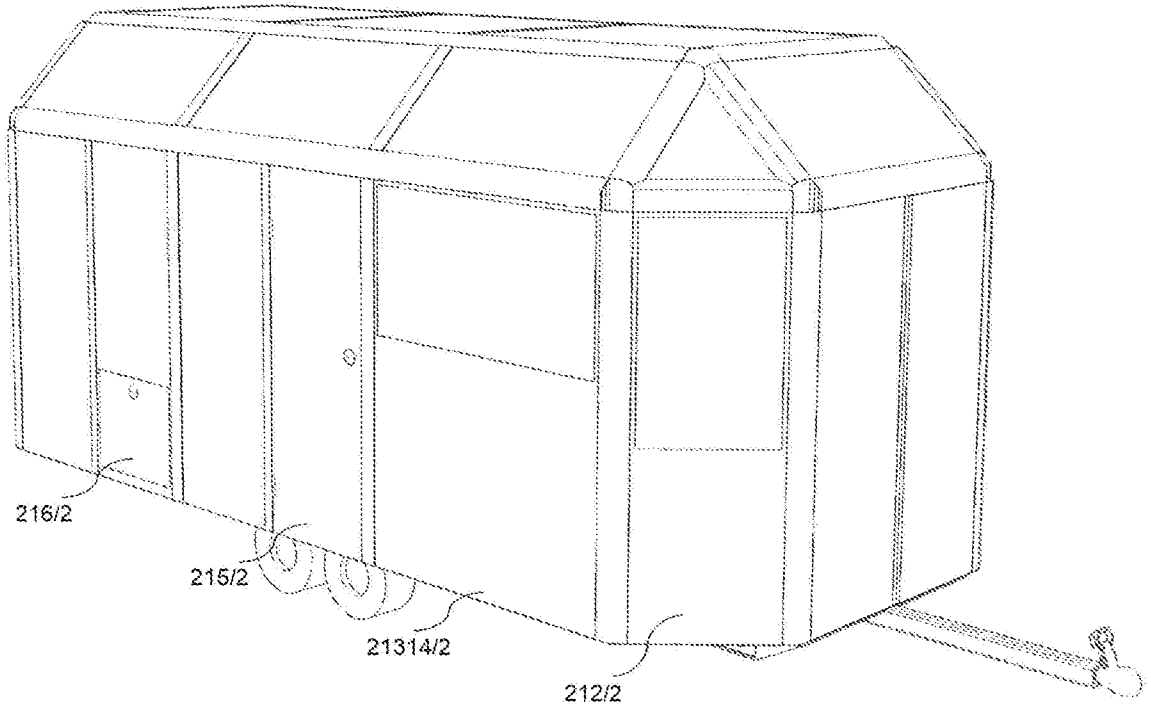


Figure 7

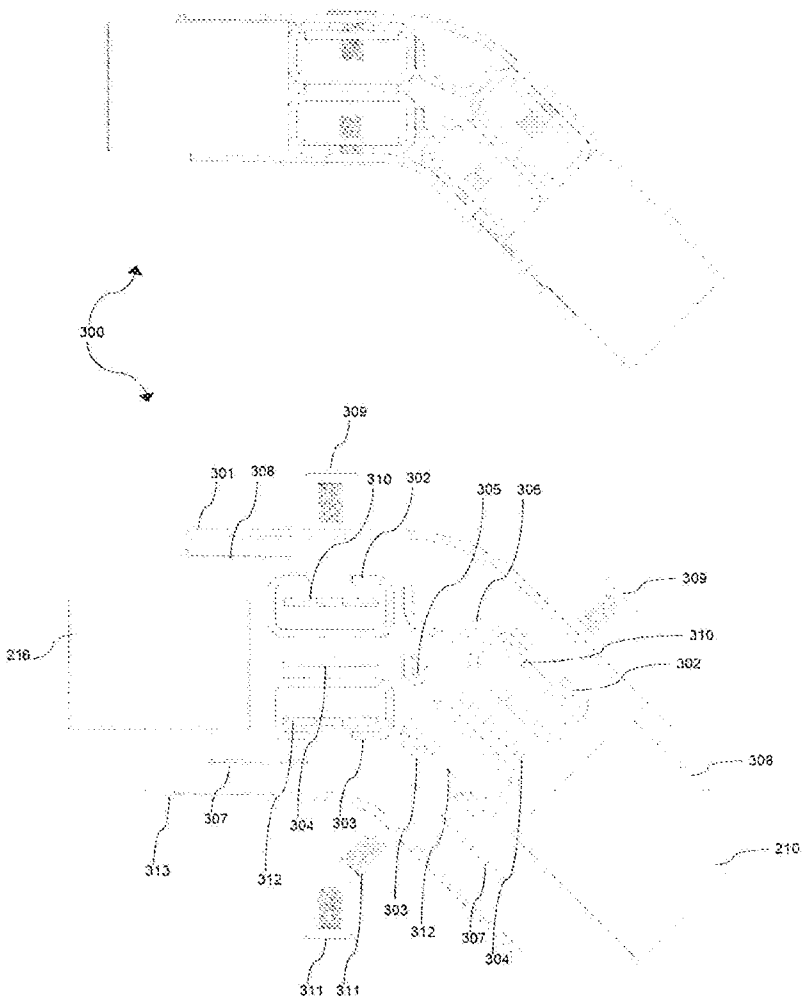


Figure 8

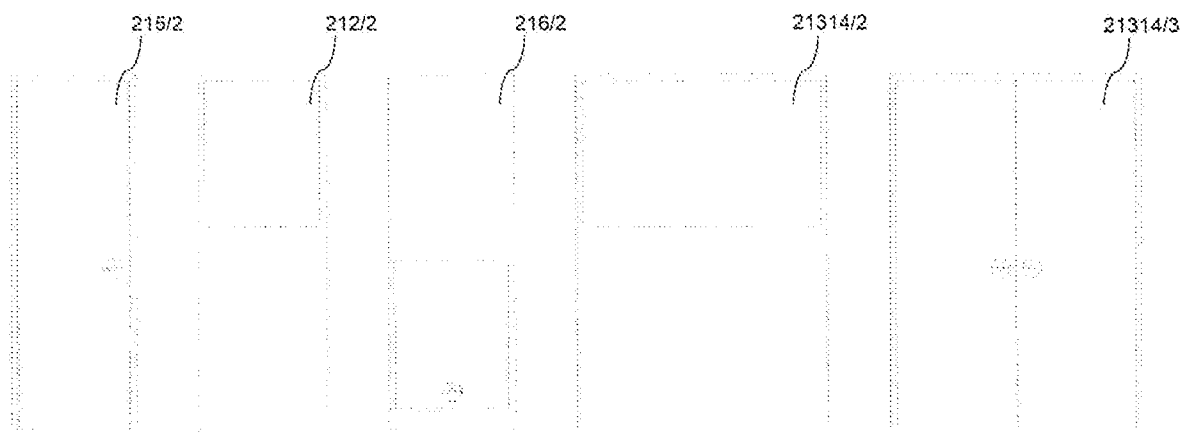


Figure 9

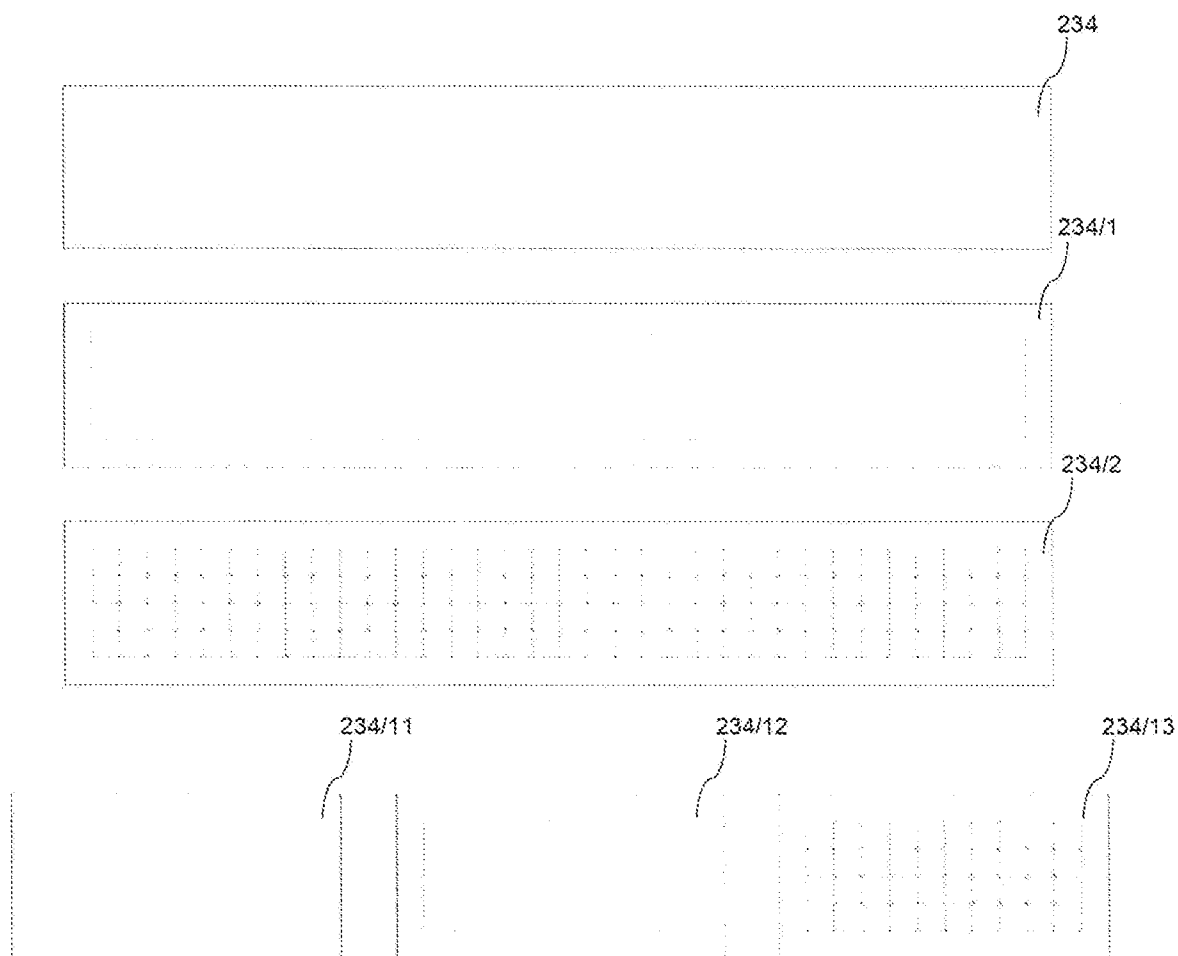


Figure 10

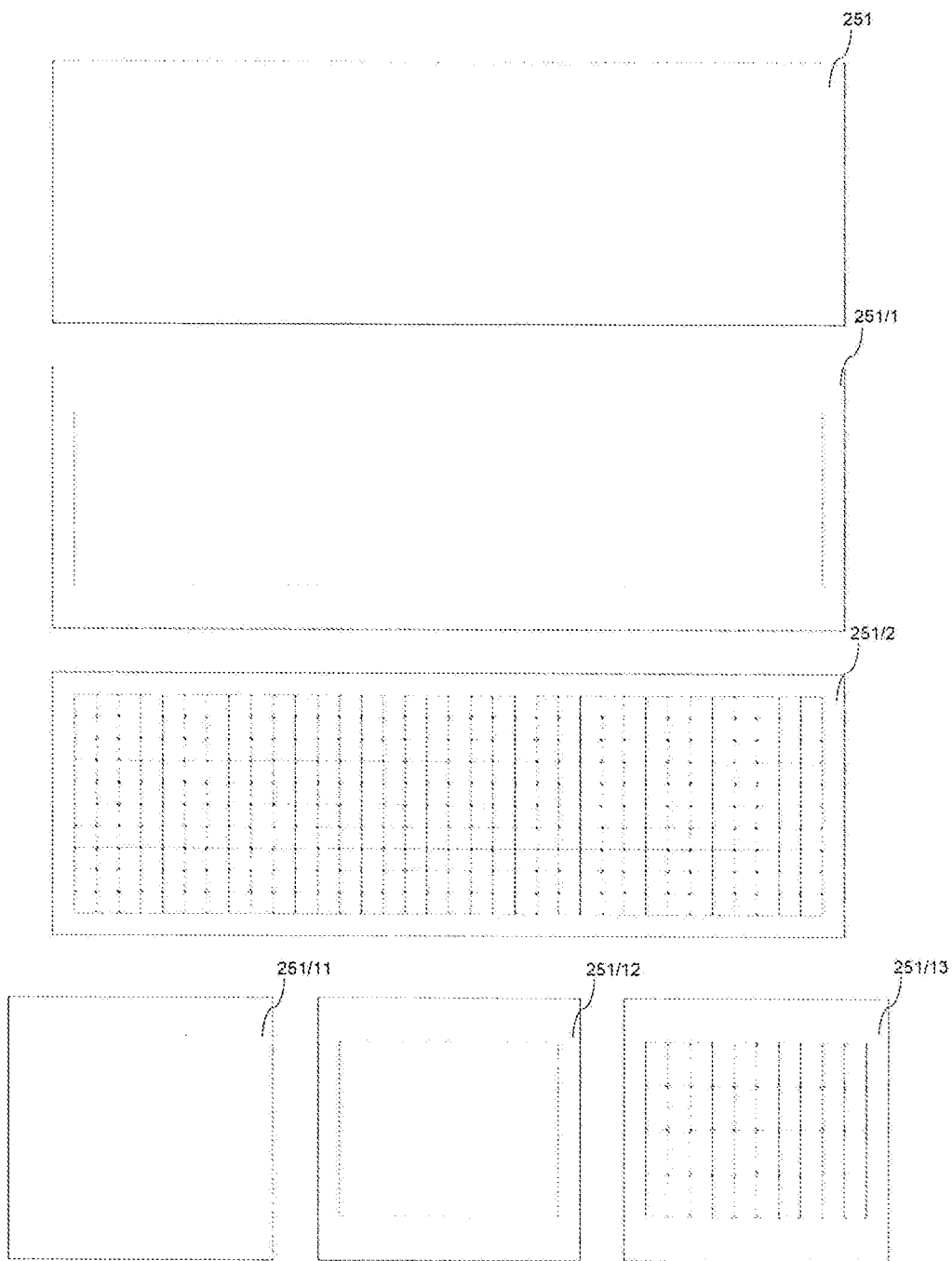


Figure 11

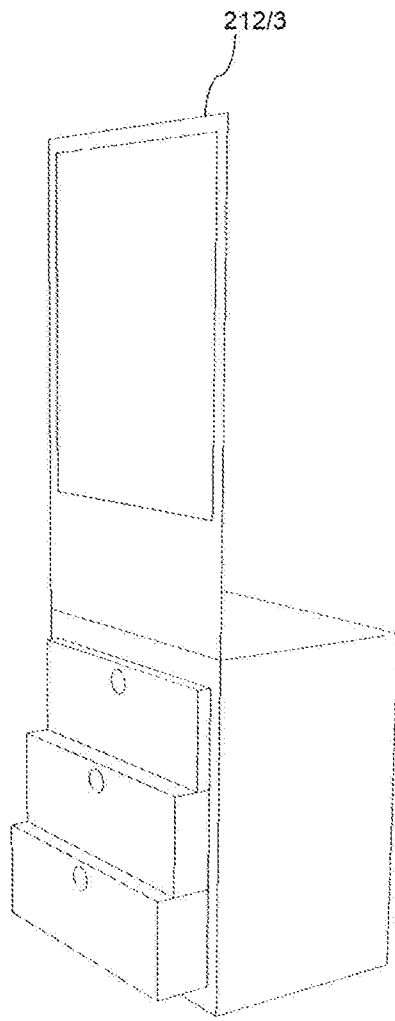


Figure 12

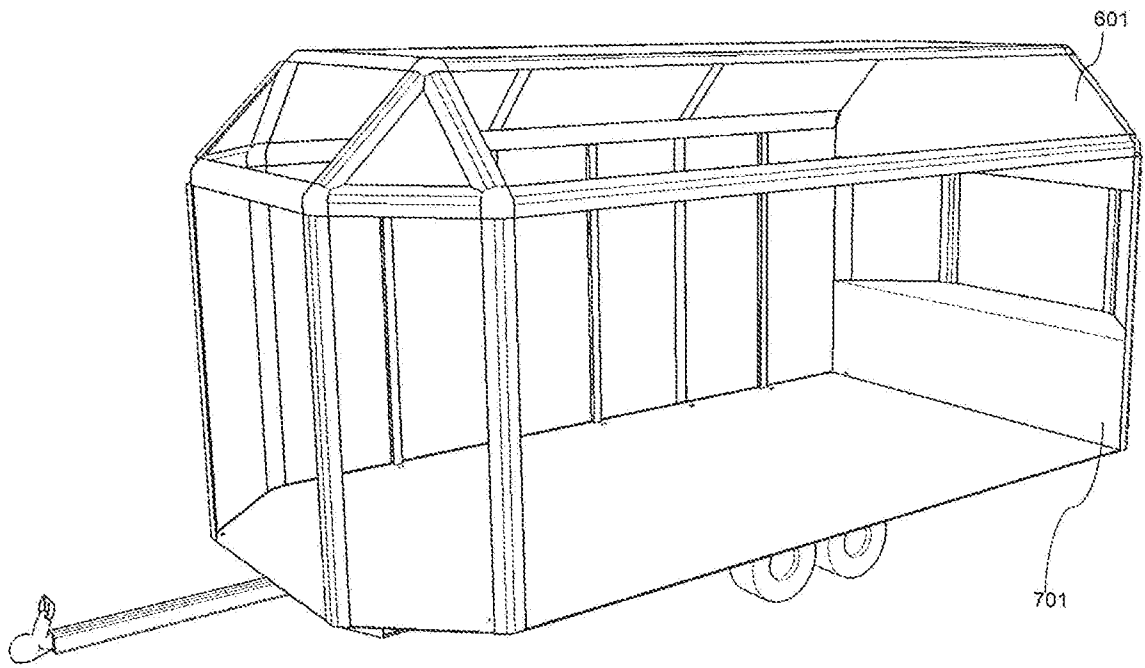


Figure 13

SAMENWERKINGSVERDRAG (PCT)

RAPPORT BETREFFENDE NIEUWHEIDSONDERZOEK VAN INTERNATIONAAL TYPE

IDENTIFICATIE VAN DE NATIONALE AANVRAGE	KENMERK VAN DE AANVRAGER OF VAN DE GEMACHTIGDE
Nederlands aanvraag nr. 1044054	Indieningsdatum 07-06-2021
	Ingeroepen voorrangsdatum
Aanvrager (Naam) mr. ir. Marinus Hubertus Tiehatten	
Datum van het verzoek voor een onderzoek van internationaal type 17-07-2021	Door de Instantie voor Internationaal Onderzoek aan het verzoek voor een onderzoek van internationaal type toegekend nr. SN79160
I. CLASSIFICATIE VAN HET ONDERWERP (bij toepassing van verschillende classificaties, alle classificatiesymbolen opgeven)	
Volgens de internationale classificatie (IPC) Zie onderzoeksrapport	
II. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK	
Onderzochte minimumdocumentatie	
Classificatiesysteem	Classificatiesymbolen
IPC	Zie onderzoeksrapport
Onderzochte andere documentatie dan de minimum documentatie, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen	
III.	GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES (opmerkingen op aanvullingsblad)
IV.	GEBREK AAN EENHEID VAN UITVINDING (opmerkingen op aanvullingsblad)

**ONDERZOEKSRAPPORT BETREFFENDE HET
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Nummer van het verzoek om een onderzoek naar
de stand van de techniek

NL 1044054

A. CLASSIFICATIE VAN HET ONDERWERP

INV. B60P3/34 B62D63/06

ADD.

Volgens de Internationale Classificatie van octrooien (IPC) of zowel volgens de nationale classificatie als volgens de IPC.

B. ONDERZOCHETE GEBIEDEN VAN DE TECHNIEK

Onderzochte minimum documentatie (classificatie gevolgd door classificatiesymbolen)

B60P B62D

Onderzochte andere documentatie dan de minimum documentatie, voor dergelijke documenten, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

Tijdens het onderzoek geraadpleegde elektronische gegevensbestanden (naam van de gegevensbestanden en, waar uitvoerbaar, gebruikte trefwoorden)

EPO-Internal, WPI Data

C. VAN BELANG GEACHTE DOCUMENTEN

Categorie °	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
X	US 3 633 324 A (CUYLITS JACQUES) 11 januari 1972 (1972-01-11)	1, 2, 4-7
A	* kolom 1, regel 54 - regel 66; figuren 5, 6 * * kolom 2, regel 73 - kolom 3, regel 1 *	3
X	EP 0 482 563 A1 (FIAT AUTO SPA [IT]) 29 april 1992 (1992-04-29)	1, 3
X	* kolom 2, regel 27 - regel 37; figuur 1 *	
	US 4 863 212 A (JANSEN JOHANNES F M [NL]) 5 september 1989 (1989-09-05)	1
	* kolom 3, regel 10 - regel 23; figuur 5 *	

Verdere documenten worden vermeld in het vervolg van vak C.

Leden van dezelfde octroofamilie zijn vermeld in een bijlage

° Speciale categorieën van aangehaalde documenten

"A" niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft

"D" in de octrooiaanvraag vermeld

"E" eerdere octrooi(aanvraag), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven

"L" om andere redenen vermelde literatuur

"O" niet-schriftelijke stand van de techniek

"P" tussen de voorrangsdatum en de indieningsdatum gepubliceerde literatuur

"T" na de indieningsdatum of de voorrangsdatum gepubliceerde literatuur die niet bezwarend is voor de octrooiaanvraag, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding

"X" de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur

"Y" de conclusie wordt als niet inventief beschouwd ten opzichte van de combinatie van deze literatuur met andere geciteerde literatuur van dezelfde categorie, waarbij de combinatie voor de vakman voor de hand liggend wordt geacht

"&" lid van dezelfde octroofamilie of overeenkomstige octrooipublicatie

Datum waarop het onderzoek naar de stand van de techniek van internationaal type werd voltooid

22 februari 2022

Verzenddatum van het rapport van het onderzoek naar de stand van de techniek van internationaal type

Naam en adres van de instantie

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

De bevoegde ambtenaar

Salé, Yoann

**ONDERZOEKSRAPPORT BETREFFENDE HET
 RESULTAAT VAN HET ONDERZOEK NAAR DE STAND
 VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Informatie over leden van dezelfde octrooifamilie

Nummer van het verzoek om een onderzoek naar
 de stand van de techniek

NL 1044054

In het rapport genoemd octrooigeschrift	Datum van publicatie	Overeenkomend(e) geschrift(en)	Datum van publicatie
US 3633324	A	11-01-1972	GEEN

EP 0482563	A1	29-04-1992	DE 69113388 T2 07-03-1996
		EP 0482563 A1	29-04-1992
		IT 1240984 B	27-12-1993

US 4863212	A	05-09-1989	GEEN

WRITTEN OPINION

File No. SN79160	Filing date (<i>day/month/year</i>) 07.06.2021	Priority date (<i>day/month/year</i>)	Application No. NL1044054
International Patent Classification (IPC) INV. B60P3/34 B62D63/06			
Applicant mr. ir. Marinus Hubertus Tiehatten			

This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the application
- Box No. VIII Certain observations on the application

	Examiner Salé, Yoann
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WRITTEN OPINION**Box No. I Basis of this opinion**

1. This opinion has been established on the basis of the latest set of claims filed before the start of the search.
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - a sequence listing
 - table(s) related to the sequence listing
 - b. format of material:
 - on paper
 - in electronic form
 - c. time of filing/furnishing:
 - contained in the application as filed.
 - filed together with the application in electronic form.
 - furnished subsequently for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty	Yes: Claims	3
	No: Claims	1, 2, 4-7
Inventive step	Yes: Claims	
	No: Claims	1-7
Industrial applicability	Yes: Claims	1-7
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1.1 Reference is made to the following documents:

- D1 US 3 633 324 A (CUYLITS JACQUES) 11 januari 1972
(1972-01-11)
- D2 EP 0 482 563 A1 (FIAT AUTO SPA [IT]) 29 april 1992 (1992-04-29)
- D3 US 4 863 212 A (JANSEN JOHANNES F M [NL]) 5 september
1989 (1989-09-05)

1.2 The present application does not meet the criteria of patentability, because the subject-matter of claim 1 is not new.

1.2.1 D1 discloses a:

Kampeervoertuig ("caravan", see fig. 1 to 5) , zoals een aanhanger voor recreatief gebruik, omvattende:

- een frame (1, 2, 5, 6, 8),
- tenminste vier wanden (see fig. 6),
- tenminste één dak (3); waarbij het frame (1, 2, 5, 6, 8) en de wanden tezamen deel uitmaken van een begrenzungswandconstructie die tenminste één inwendige verblijfsruimte van het kampeervoertuig definieert (see fig. 6), met de kenmerken, dat:
 - tenminste één wand is samengesteld met tenminste één paneel (10, see col. 1, l. 58-66) dat losneembaar is,
 - de losneembare panelen individueel en zonder schade losneembaar zijn,
 - de losneembare panelen eenheidsmaten hebben (see fig. 6),
 - tenminste één paneel geheel of gedeeltelijk de functie van deur vervult,
 - tenminste één paneel geheel of gedeeltelijk de functie van raam vervult (see col. 1, l. 60-63).

1.2.2 D3 discloses also all the technical features of claim 1 (see in particular fig. 5, col. 3, l.10-23)

1.3 The subject-matter of claim is also not inventive in view of D2 (See fig. 1, col. 2, l. 27-37).

1.4 Dependent claims 2-7 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of novelty and/or inventive step, see:

1.4.1 Claims 2, 4 and 6: see D1, col. 2, l. 73 - Col. 3, l. 1

1.4.2 Claim 5: see D1, col. 1, l. 54-57

1.4.3 Claim 7: See D1, col. 1, l. 60-63

1.4.4 Claim 3: D2 discloses a "voertuig (1) waarbij het frame (10, 11, 12, 13, see fig. 1) zelfdragend is, met het kenmerk,
- dat het frame (10, 11, 12, 13) zo is ontworpen dat de losneembare panelen (15) in de wanden (5, 6) verplaatsbaar zijn tussen de posities in de wanden,
- dat het frame (10, 11, 12, 13) zo is ontworpen dat de losneembare panelen (15) in het dak (7) verplaatsbaar zijn tussen de vergelijkbare posities in het dak (See col. 2, l. 27-37)".

Although the vehicle as disclosed in D2 is not per se a "kampeervoertuig", the skilled person would consider as obvious to convert the vehicle of D2 into a "kampeervoertuig".

The subject-matter of claim 3 is therefore not inventive.