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(54) Title: IMPROVED TRANSPORTABLE BUILDING

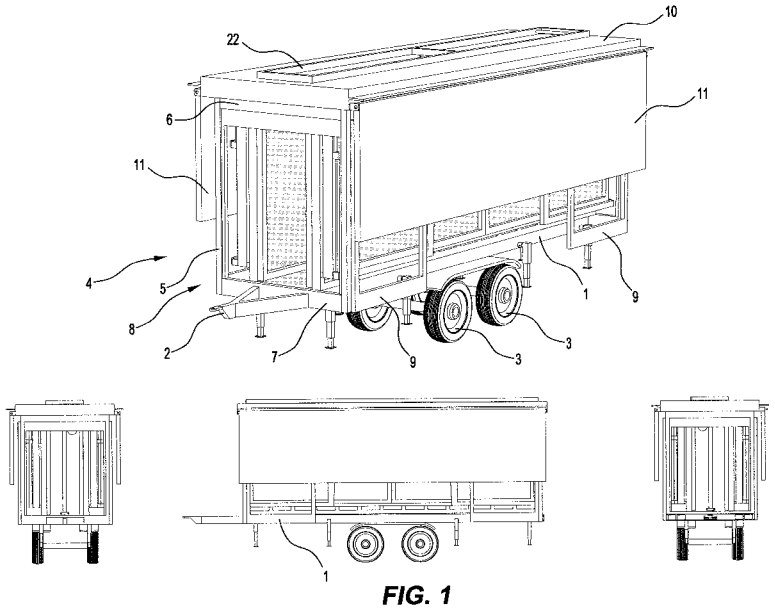

FIG. 1

(57) Abstract: A mobile habitable enclosure adapted for unfolding and folding between an erect expanded habitable state and a folded compacted mobile state, said enclosure comprising a wheeled chassis (1) of roadworthy dimensions adapted for towing to a site said chassis including a first central core single storey sub-enclosure (4), said sub- enclosure being permanently erected and dimensioned for habitation wherein said sub- enclosure further includes floor elements (12,13), wall elements (8, 9,14) and roof elements (11) permanently mounted directly or indirectly to said sub-enclosure, wherein said enclosure is adapted for erection by unfolding and compaction by folding of said elements, wherein said erected enclosure forms a habitable expanded space about said sub-enclosure and said compacted or folded state fits within the dimensional confines of said chassis for roadworthy towing and transportation to said site.

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"Improved transportable building"

Cross-Reference to Related Applications

The present application claims priority from Australian Provisional Application No 2010902775 filed on 23 June 2010 the content of which is incorporated herein by reference.

Introduction to the Invention

This invention relates to mobile and portable structures, and in particular to a structure adapted for habitable use in the entertainment industry providing a highly mobile habitable structure, adapted for prompt assembly and disassembly and capable of being transported on public roads, with no requirement for specialised permits or escort conditions.

Background to the Invention

The entertainment industry, and in particular the entertainment industry involved with the prestige end of outdoor entertainment venues, have a long understood need and requirement for the preparation of the temporary venues, in order to comfortably accommodate the public in a range of outdoor venues for public (or large scale private) events. To date, such venues rely on marquees and other portable structures for providing accommodation and shelter. Whilst such marquees and other temporary shelter arrangements have been developed to a high level of finish and professionalism, these structures nevertheless are manifestly temporary structures and do not provide a high degree of comfort, stability and security which is becoming expected of premium public events in this day and age.

Accordingly, there is a demand for an improved mobile and temporary habitable structure, adapted to provide safe, secure and effectively "permanent" housing for the public in major events, particularly of the type which are mobile and readily transportable from event to event, with minimal time spent assembling and disassembling the structure.

Statement of the Invention

In a first aspect the invention provides a mobile enclosure adapted for unfolding and folding between an erect assembled state and a disassembled state, said enclosure comprising a wheeled chassis of roadworthy dimensions adapted for towing to a site, said enclosure further including floor elements, wall elements and roof elements

permanently mounted directed or indirectly to said chassis wherein said enclosure is adapted for erection or assembly by unfolding and disassembly by folding of said elements wherein said erected enclosure forms a habitable space and said disassembled or folded enclosure fits within the dimensional confines of said chassis for roadworthy towing and transportation to said site.

In another aspect the invention provides a mobile habitable enclosure adapted for unfolding and folding between an erect expanded habitable state and a folded compacted mobile state, said enclosure comprising a wheeled chassis of roadworthy dimensions adapted for towing to a site said chassis including a first central core single storey sub-enclosure, said sub-enclosure being permanently erected and dimensioned for habitation wherein said sub-enclosure further includes floor elements, wall elements and roof elements permanently mounted directly or indirectly to said sub-enclosure, wherein said enclosure is adapted for erection by unfolding and compaction by folding of said elements, wherein said erected enclosure forms a habitable expanded space about said sub-enclosure and said compacted or folded state fits within the dimensional confines of said chassis for roadworthy towing and transportation to said site.

The erect enclosure is preferably modular allowing a plurality of said enclosures to be co-joined to multiply the available habitable space.

The enclosure may be single or multiple storey.

The chassis sub-enclosure preferably includes a generally cuboid primary frame as a permanent fixture configured to comply with said roadworthy dimensions.

The primary frame preferably provides the central first storey end wall elements, a central roof portion and a central partial floor portion.

The central floor element preferably extends the length of the chassis and part of the width of the chassis so as to provide voids either side of the central partial floor element.

The first storey outer end wall elements may be vertically hinged to said primary frame and move between a folded position aligned with the side dimension of said roadworthy chassis and an unfolded or deployed position aligned with said central end wall element.

The top of the primary frame preferably provides a primary roof portion of a width to cover said central end wall elements and length of said chassis. The frame may include twin folding roof elements hinged thereto for extending the roof coverage to cover said outer end wall elements.

The first storey outer floor elements are preferably hinged longitudinally from the centrally positioned partial floor element of said chassis and adapted to fold down to extend the longitudinal central floor portion.

The outer floor elements are preferably dimensioned to fit within the chassis in the folded state and close the void in the expanded state.

The chassis sub-enclosure preferably comprises a generally cuboid primary frame having a central first storey, end wall element or elements, a central roof portion and a centrally positioned partial floor element.

The wall elements preferably include outer wall elements, vertically hinged to the sub-enclosure primary frame for movement between a folded position aligned with the side dimension of the chassis and an unfolded or deployed position aligned with the central end wall elements and side wall elements hinged longitudinally to said outer floor elements and adapted to be raised up to abut the said outer roof elements and the outer end wall elements.

The central roof portion is preferably dimensioned to provide cover to the sub-enclosure primary frame and the roof elements preferably include outer roof elements hinged to the primary frame to extend the roof coverage to cover the outer end wall elements.

The first storey side wall elements are preferably hinged longitudinally to said outer floor elements and adapted to be raised up to abut the folding roof and outer first storey end wall elements to complete the single or first storey enclosure.

In another aspect of the invention the enclosure can be provided in two storeys wherein the primary frame incorporates a secondary frame telescopically co-operating with the primary frame wherein the secondary frame includes the previously described primary roof and primary folding roof fitted to four corner roof struts adapted for telescopic co-operation with the four vertical corner posts forming the extremity of the primary frame.

The top of the primary frame may include a longitudinal central portion of the second storey floor element.

The telescopically extended secondary frame provides the central second storey end wall elements.

The second storey outer floor elements are preferably hinged longitudinally to the top of the primary frame and adapted to fold up to extend the longitudinal central floor portion of the second storey.

The second storey side wall elements preferably hinge longitudinally from the second storey outer floor elements with the second storey outer end wall elements

hinged therefrom such that once the second storey side wall elements are lifted up and the second storey end wall elements folded out the enclosure of the second storey is complete.

The end wall elements and side wall elements may be fitted with windows and/or doors as required.

Legend

1. Chassis
2. Tow bar
3. Wheels
4. Sub-enclosure primary frame
5. Primary vertical post
6. Primary frame top rail
7. Primary frame bottom rail
8. First storey central end wall element
9. First storey outer end wall element
10. Primary roof
11. Outer roof element
12. First storey chassis central floor element
13. First storey outer floor element
14. First storey side wall element
15. Sub-enclosure secondary frame
16. Secondary roof struts
17. Second storey central floor element
18. Second storey central end wall element
19. Second storey outer floor element
20. Second storey side wall element
21. Second storey outer end wall element
22. Turntable winch
23. Stabilizing feet
24. Winch cable
25. Hinge locking pin
26. Inner wind
27. Inner wind cable
28. Insert window/door
29. Interior winch
30. Void

Brief Description of the Drawings

Figure 1 shows views of the enclosure folded up ready for roadworthy towage;

Figure 2 shows the unhitched enclosure ready for unfolding;

Figure 3 shows the unfolding of the outer or folding roof elements;

Figure 4 shows the two storey enclosure with telescopic second sub-enclosure;

Figure 5 shows the unfolding first storey outer end wall elements;

Figure 6 shows the lifting of the second storey outer floor elements;

Figure 7 shows the folding down of the first storey outer floor elements;

Figure 8 shows the lifting of the first storey side wall elements;

Figure 9 shows the full telescopic raising of the second sub-enclosure;

Figure 10 shows the folding out of the second storey outer end wall elements;

Figure 11 shows the raising of the second storey side wall elements;

Figure 12 shows fitting of window/doors to the second storey side wall element and central end wall element;

Figure 13 shows the remaining window/door fittings to the various wall elements;

Figure 14 shows the completely deployed two storey enclosure;

Figure 15 shows an underneath view of Figure 14.

Figure 16 shows a rear view of the erected enclosure.

Figure 17 shows views of the erected enclosure.

Detailed Description of the Invention

In a first aspect the invention will be described with reference to one particular embodiment as shown in the Figures, which provides for the partial representation of a two storey enclosure of the invention. The figures are schematic and include details of the components for one side only and it is to be understood that the mirror image of the components is provided with the enclosure of the invention, so as to provide both left and right hand sides to the structure in question. The figures and description can be adapted to understand the single storey option for the enclosure.

Referring firstly to Figures 1 and 2, the mobile enclosure is shown in the disassembled state where the component elements of the enclosure are all located within the mobile structure and fitted to a wheeled chassis 1, including a towbar 2 and wheels 3. The chassis includes a generally cuboid sub-enclosure 4 which provides the basis of the enclosure. The chassis and disassembled enclosure of the invention as shown in the figures, fully comply with the roadworthy dimensions for towing on

public roads and do not require any special permits, facilities or escorts in order for the enclosure to be hitched to a suitable vehicle and towed to the site in question on public roads.

Referring now to Figure 2, the enclosure of the invention is shown as set up for deployment on site, with the enclosure unhitched from the towing vehicle and the stabilising feet 23 deployed and fitted to suitable mounting or ground blocks. The enclosure is provided with an integral turntable winch 22 which can be moved from the transport position as shown in Figure 1, where the winch is in line with the longitudinal direction of the enclosure to the operational position as shown in Figure 2 with the turntable winch rotated 90 degrees so as project out beyond the side dimensions of the enclosure where the winch cable 24 can be used to assist in the folding and unfolding of the various components of the enclosure.

The enclosure further includes a plurality of floor elements, wall elements and roof elements, all permanently mounted either directly or indirectly to the chassis by way of a plurality of layered and stepped hinging systems, such that the enclosure is adapted for erection or assembly by the systematic unfolding of the floor, wall and roof elements and disassembly by the reverse folding of the elements; wherein in the fully erected state, the enclosure forms a stable habitable space, and in the disassembled or folded form, fits within the dimensional confines of the chassis, allowing for roadworthy towing and transportation to the site in question.

In order to provide maximum expansion and flexibility of the floor and wall elements the chassis preferably includes a partial or central floor element 12 permanently fitted to the chassis and extending the length of the chassis but only occupying the central portion of the chassis so as to provide a void 30 into which the outer floor elements 13 and associated first storey wall elements 14 can be accommodated within the confines of the overall footprint of the chassis.

The provision of centrally positioned partial floor element 12 forming an integral part of the chassis 1 allows the outer floor elements in both the single and multiple storey version of the enclosure to be fully and entirely contained within the absolute dimensions of the chassis thereby allowing the width of the chassis to occupy the maximum available space in compliance with highway codes without the folding floor, wall and roof elements interfering with the provision of the maximum chassis width. In addition, a further advantage of the provision of the centrally positioned partial floor element includes the additional rigidity provided by the outer floor elements 13 hinged along the length of the central partial floor element which when folded down into the expanded state snugly occupy the void 30 and give increased

rigidity to the whole footprint of the chassis when in the expanded state by virtue of the two out of four elements folding down and snugly fitting within the chassis primary frame bottom rails 7. In this manner, the fold lines of the structure are keyed or interlocked to reduce the alignment of multiple fold lines which may introduce potential lines of weakness to the structure.

Referring now to Figure 3, the chassis 1 may include a generally cuboid primary frame 4, extending outward from the chassis and comprising four primary vertical corner posts 5, reinforced by a primary top rail 6 and a primary bottom rail 7. In this manner the cuboid dimensions of the primary frame are established which comply with roadworthy requirements and provide a permanent fixture of the enclosure of the invention, to which are fitted and fixed the component elements so as to provide all the necessary components of the enclosure to be erected on site without the requirement for any additional materials or components thereby eliminating the risk of missing or lost parts and providing for a highly intuitive assembly sequence providing rapid and reliable assembly and disassembly.

Within the confines of the primary frame 4, is provided a central first storey end wall element 8, which is provided at the forward and rear of the primary frame.

Whilst the enclosure of the invention can be made as a single, double or multi-storey structure, and is also provided as a modular unit allowing a plurality of like enclosures to be positioned side by side or end to end, the particular embodiment described herein will refer to the two storey embodiment only and it is understood that the invention extends the single and the multi-storey enclosures.

Referring now to Figure 4, the optional second storey of the enclosure is provided by the lifting up of a sub-enclosure secondary frame 15, where the secondary frame is provided and made up by four corner secondary roof struts 16, which telescopically cooperate with the corner posts 5 of the primary frame by way of a hoist lifting system. The secondary frame 15 is provided with a primary roof 10, where the primary roof is dimensioned to cover the footprint of the primary frame 4. The primary roof 10 preferably includes two folding outer roof elements 11, positioned either side and attached by way of hinges along the longitudinal length thereof. The folding roof elements can be lifted up by the action of the turntable winch 22 and held in position by hinge locking pins 25. In this manner, the outer roof elements 11 can be raised and then held in position by the hinge pins 25, allowing the winch to be decommissioned and used for other purposes.

Referring now to Figure 5, once the second storey roof is partially lifted up by the telescopic action previously described, the first storey outer end wall elements 9

which are vertically hinged to the respective primary vertical posts 5, can be folded out to align with the central end wall element 8. The outer end wall elements are then held in position and the movement thereof allows the second storey outer floor element 19 to be raised with the assistance of the winch 22 as shown in Figure 6. Once the second storey outer floor elements are lifted into place, they can be locked into co-operation with the first storey outer end wall elements so as to provide stability for the partially erected enclosure.

Referring now to Figure 7, the next stage in erection of the enclosure is the lowering of the first storey outer floor elements 13. The lowering of the first storey outer floor elements is assisted by an inner winch 29 (refer to Figure 15) and an inner winch cable 27. The first storey outer floor elements 13 are lowered down and locked into place with the outer first storey end wall elements 9.

Referring now to Figure 8, the next step in the assembly procedure is to raise the first storey side wall elements 14. The first storey side wall elements are hingedly attached to the previously described first storey outer floor elements 13 and are lifted up so as to co-operate and engage the second storey floor element 19, as well as the first storey outer wall element 9, such that the interlocking of these elements provides complete stability for the first storey of the structure. In particular, the interlocking or keying in of the outer floor elements 13 to the chassis void 30 provides high resistance to any skewing distortion and reduces stress on the outer flow element hinges.

The side wall element may be lifted with the assistance of the winch as shown in Figure 8 or alternatively the side wall elements can be provided as two separate panels with a centre vertical support bar (not shown). In this manner, the centre support bar is inverted first then each separate side wall element can be manually raised into place.

Now the first storey of the enclosure is erected or assembled by unfolding of all the integral components, the secondary frame 15 and roof struts 16 are fully lifted up by completing the telescopic action so as to provide the fully extended second frame, which provides a second storey on top of the primary frame 4. Once the secondary frame sub-enclosure is fully lifted as shown in Figure 9, the erection of the second storey wall elements can commence as shown in Figure 10, with the folding up of the second storey outer end wall elements 21, which are hinged to the second storey floor element 19. The drawing up of the second storey end wall elements allows them to be engaged with the secondary frame 15. Once this step is completed, the next step is shown in Figure 11 where the second storey side wall elements 20 are then drawn up by way of a longitudinal hinge running along the edge of the second storey outer floor elements 19. Once the second storey side wall elements are lifted up, they can be

engaged with the primary outer folding roof 11 and the second storey outer end wall elements 21.

At this stage, the floor, wall and side elements of the enclosure can be all interlocked and interconnected so as to provide a perfectly stable structure. The windows and doors are pre-fitted or can be retro fitted as shown in Figures 12 and 13, (the windows and doors are all fitted with the exception of the centre unit upstairs ends) so as to essentially complete the enclosure of the invention.

The fully completed enclosure is shown in perspective view above and beneath in Figures 14 and 15 with a rear view given in Figure 16 and a selection of views of the fully erected structure shown in Figure 17.

The invention provides for the first time, a completely mobile structure suitable for habitation whilst being readily assembled and disassembled and capable of transportation on public roads without permits or special requirements or provisions of any kind. The enclosure of the invention provides all the necessary elements of the enclosure, fitted and connected to the chassis of the enclosure, therefore eliminating the possibility of lost or missing parts and greatly assisting in the intuitive assembly and disassembly of the enclosure, which is aided by the multiple hinging and layering configuration as the various wall, floor and roof elements are intertwined by the step arrangement of a plurality of hinging means.

In disassembling or decommissioning the enclosure of the invention, the assembly process is reversed, allowing the rapid decommissioning and knocking down of the enclosure into the roadworthy configuration and provisions of the folded enclosure. Once the enclosure is folded down and secured, it can be hitched to a suitable vehicle and withdrawn from site and/or moved to a second site or alternative position as required.

The configuration of the enclosure of the invention is completely modular so as to allow a plurality of light enclosures to be assembled side by side, or end to end, so as to provide an almost limitless possibility of erecting a very large enclosure in a highly restricted time period.

The enclosure of the invention once assembled, can be fitted with steps and railings as required, which most preferably disguise the towbar and other facilities required for mobility, such that for all intents and purposes, what appears to be a completely permanent structure can be erected in a very short period of time, across a wide range of venues.

It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the invention as shown in the specific

embodiments without departing from the scope of the invention as broadly described. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

CLAIMS:

1. A mobile habitable enclosure adapted for unfolding and folding between an erect expanded habitable state and a folded compacted mobile state, said enclosure comprising a wheeled chassis of roadworthy dimensions adapted for towing to a site said chassis including a first central core single storey sub-enclosure, said sub-enclosure being permanently erected and dimensioned for habitation wherein said sub-enclosure further includes floor elements, wall elements and roof elements permanently mounted directly or indirectly to said sub-enclosure, wherein said enclosure is adapted for erection by unfolding and compaction by folding of said elements, wherein said erected enclosure forms a habitable expanded space about said sub-enclosure and said compacted or folded state fits within the dimensional confines of said chassis for roadworthy towing and transportation to said site.

2. An enclosure according to claim 1, wherein said chassis includes a centrally positioned partial floor element extending the length of said chassis and part of the width of said chassis so as to provide a chassis void either side of said partial floor element.

3. An enclosure according to claim 1 or 2, wherein said floor elements include two outer floor elements hinged longitudinally from said centrally positioned partial floor element.

4. An enclosure according to claim 3, wherein said outer floor elements are dimensioned to fit within said chassis in said folded state and close said void in said expanded state.

5. An enclosure according to any one of claims 1 to 4, wherein said sub-enclosure comprises a generally cuboid primary frame comprising central first storey end wall elements, a central roof portion and a centrally positioned partial floor element.

6. An enclosure according to claim 5, wherein said wall elements include outer wall elements vertically hinged to said sub-enclosure primary frame for movement between a folded position aligned with the side dimension of said chassis and an unfolded or deployed position aligned with said central end wall element and side wall

elements hinged longitudinally to said outer floor elements and adapted to be raised up to abut said outer roof elements and outer end wall elements.

7. An enclosure according to claim 5 or 6, wherein said central roof portion is of sufficient dimension to cover said sub-enclosure primary frame.

8. An enclosure according to any one of claims 5 to 7, wherein said roof elements include outer roof elements hinged to said primary frame to extend the roof coverage to cover said outer end wall elements.

9. An enclosure according to any one of claims 1 to 8, wherein said enclosure includes a second sub-enclosure telescopically fitted to said first sub-enclosure to provide a two storey enclosure.

10. An enclosure according to claim 9, wherein said second sub-enclosure includes floor elements, wall elements and roof elements permanently mounted directly or indirectly to said second sub-enclosure.

11. An enclosure according to claim 9, wherein said floor elements, wall elements and roof elements for said first and second sub-enclosures are permanently mounted directly or indirectly to any one or a combination of said first and second sub-enclosures.

12. An enclosure according to any one of claims 1 to 11, substantially as hereinbefore described with reference to the figures.

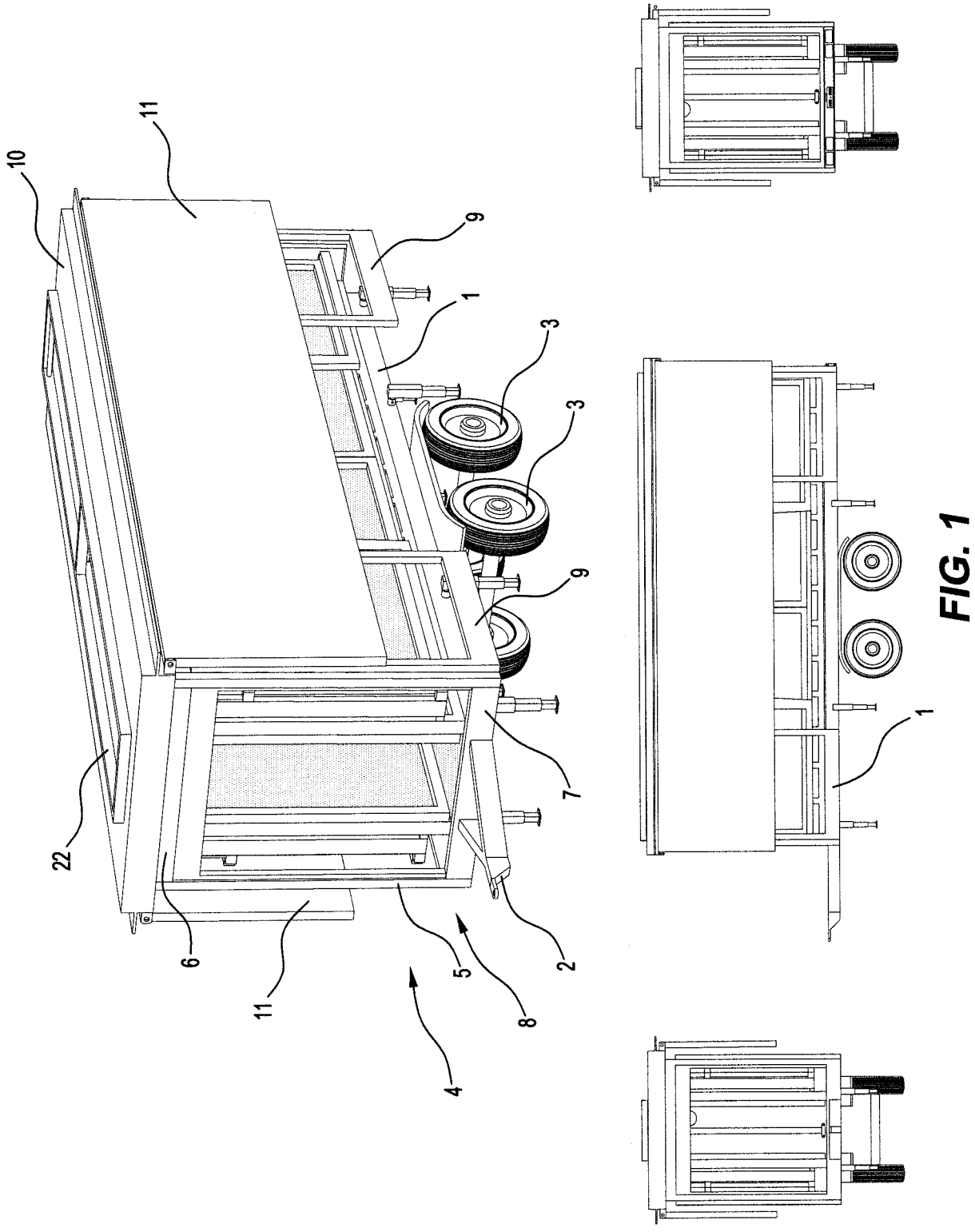

FIG. 1

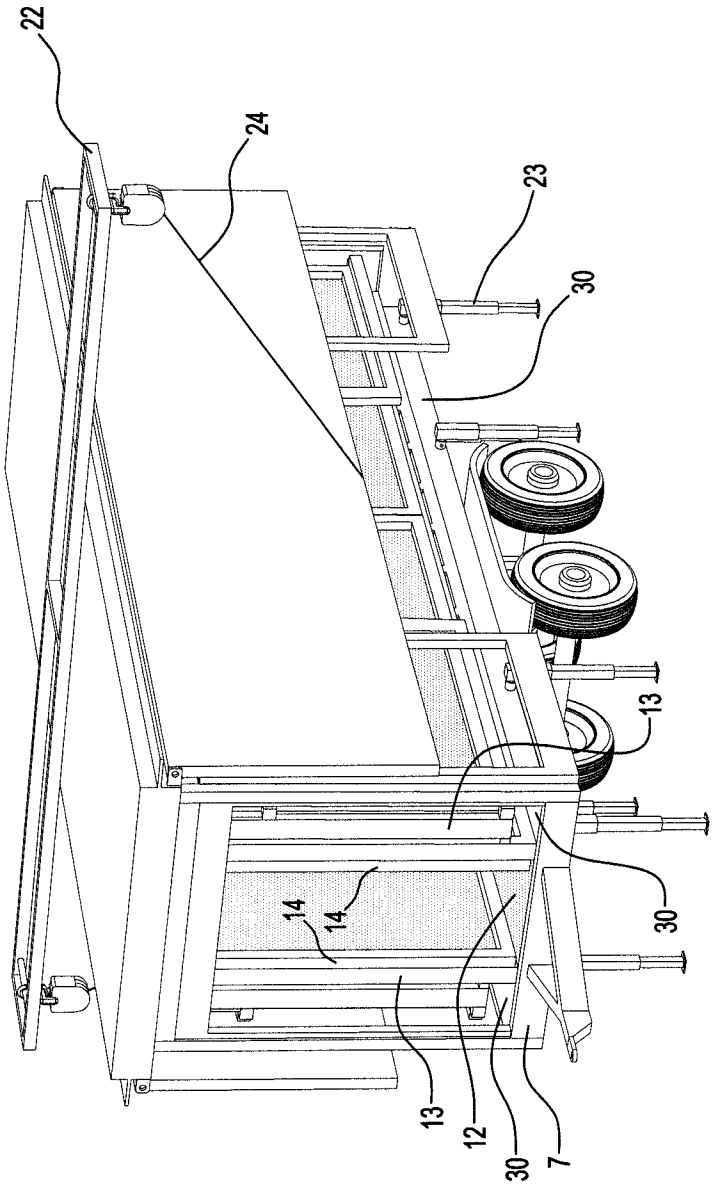

FIG. 2

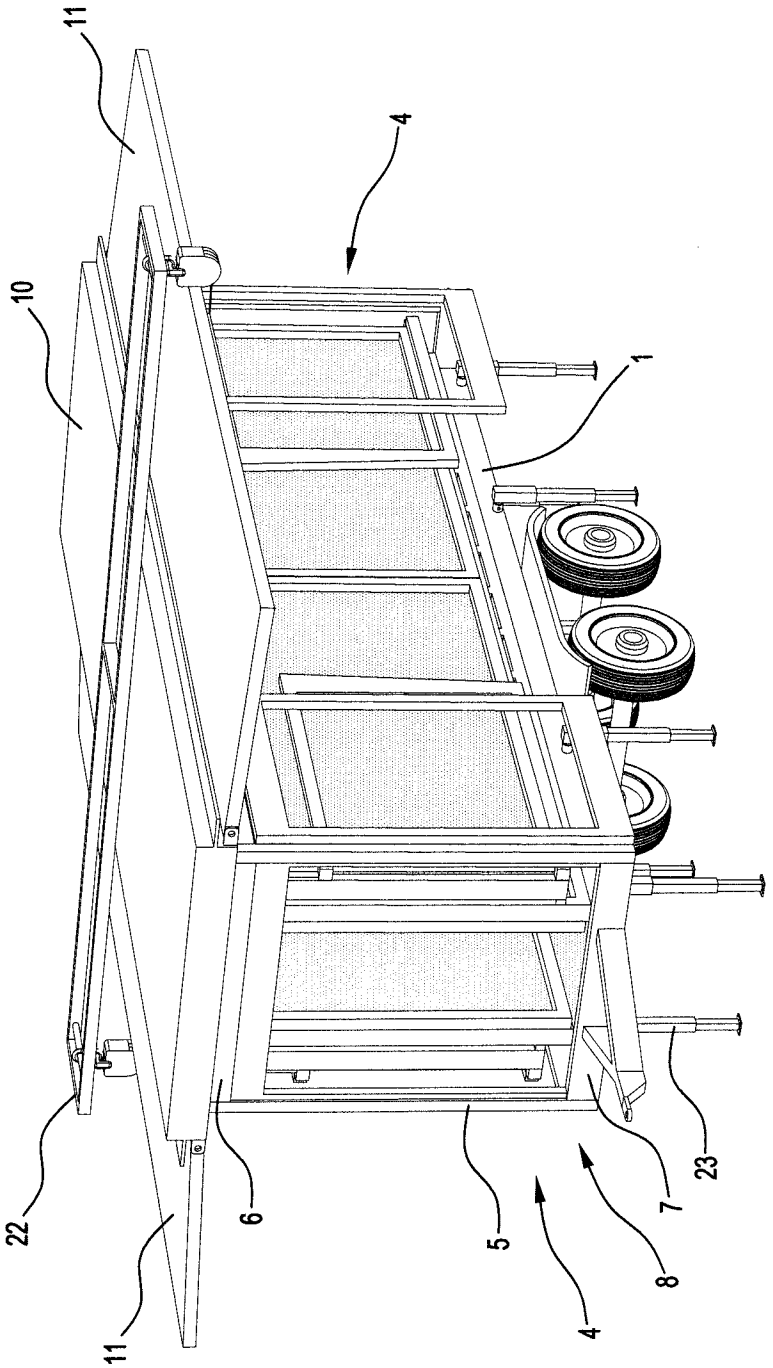

FIG. 3

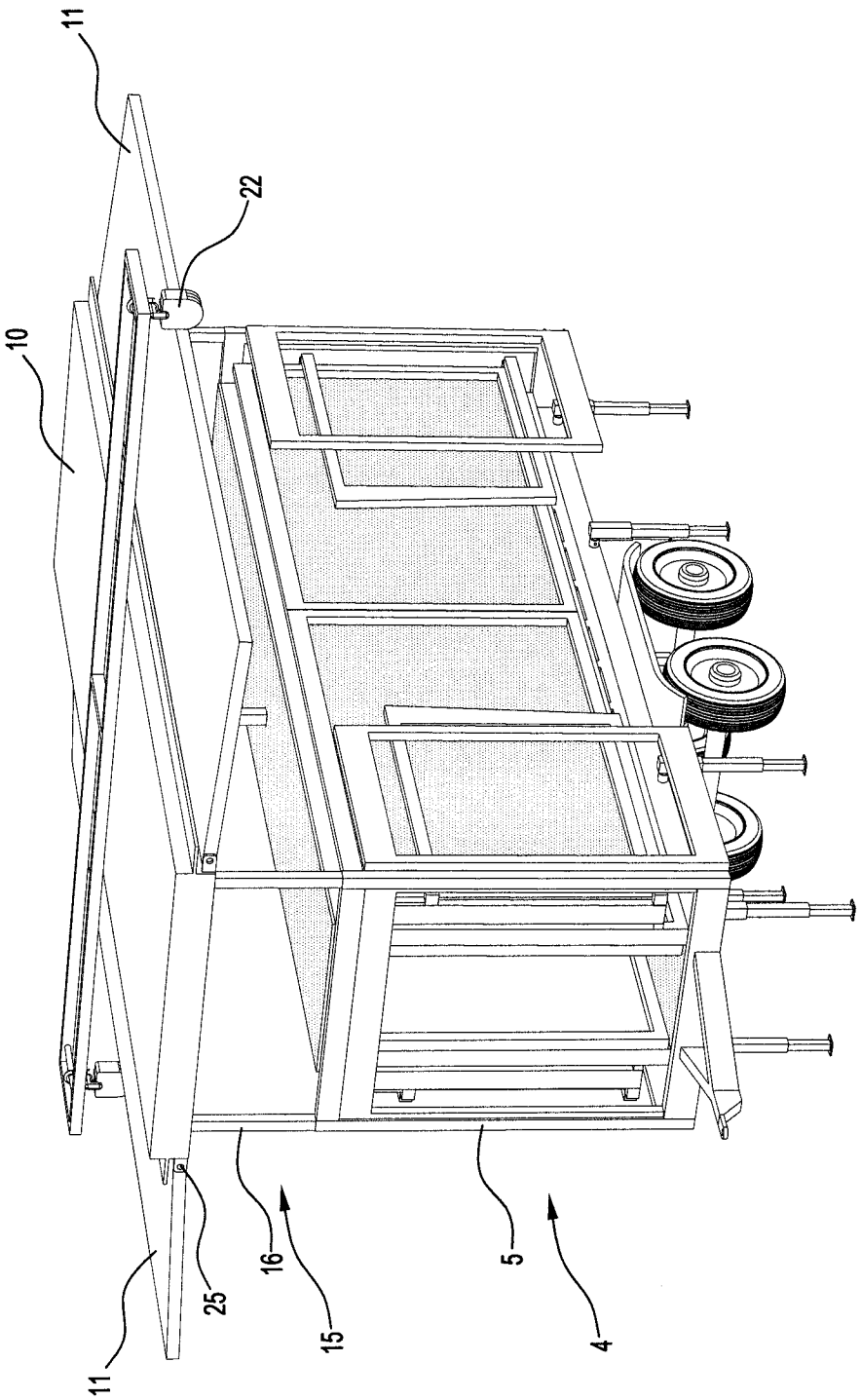

FIG. 4

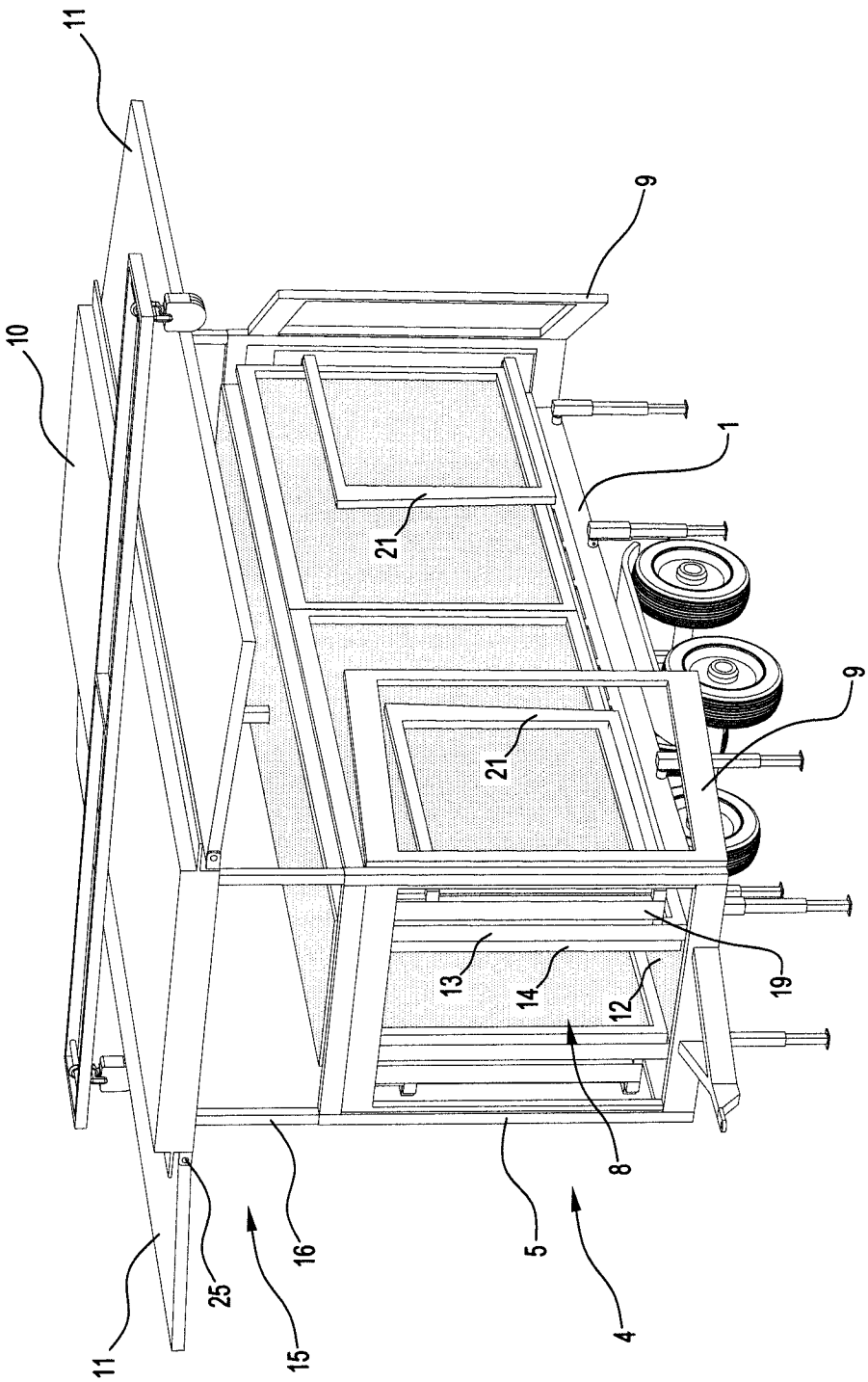

FIG. 5

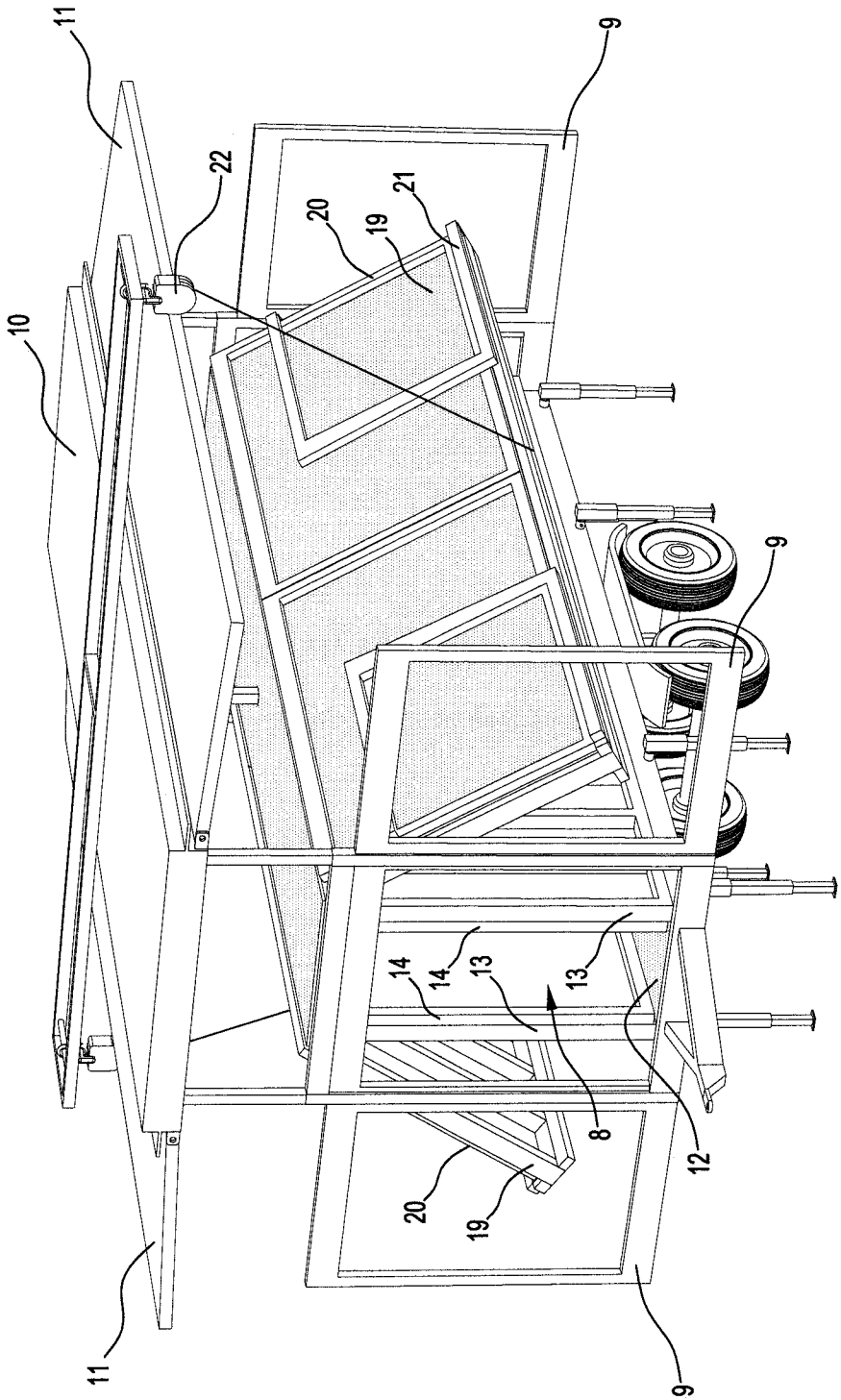

FIG. 6

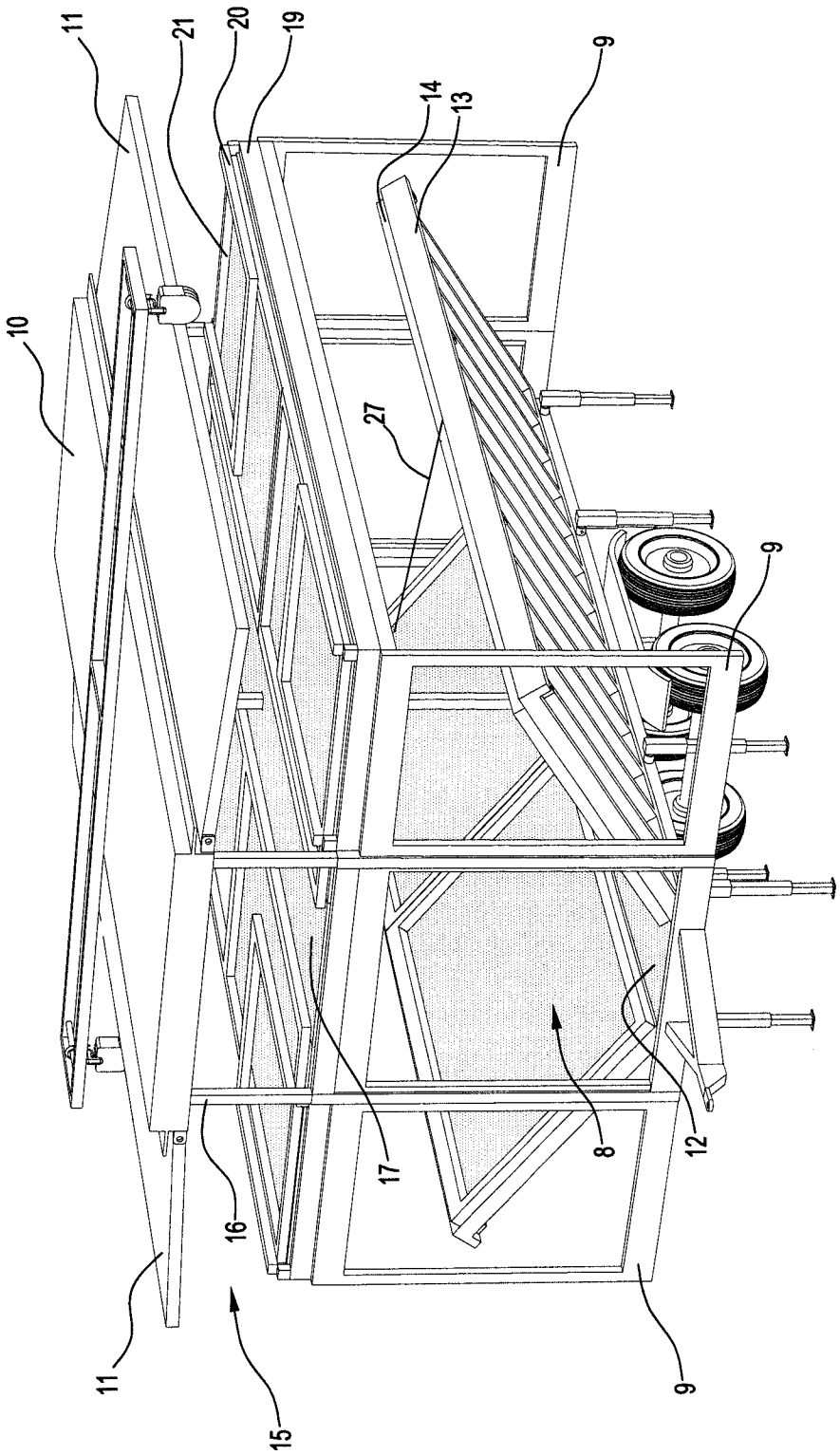

FIG. 7

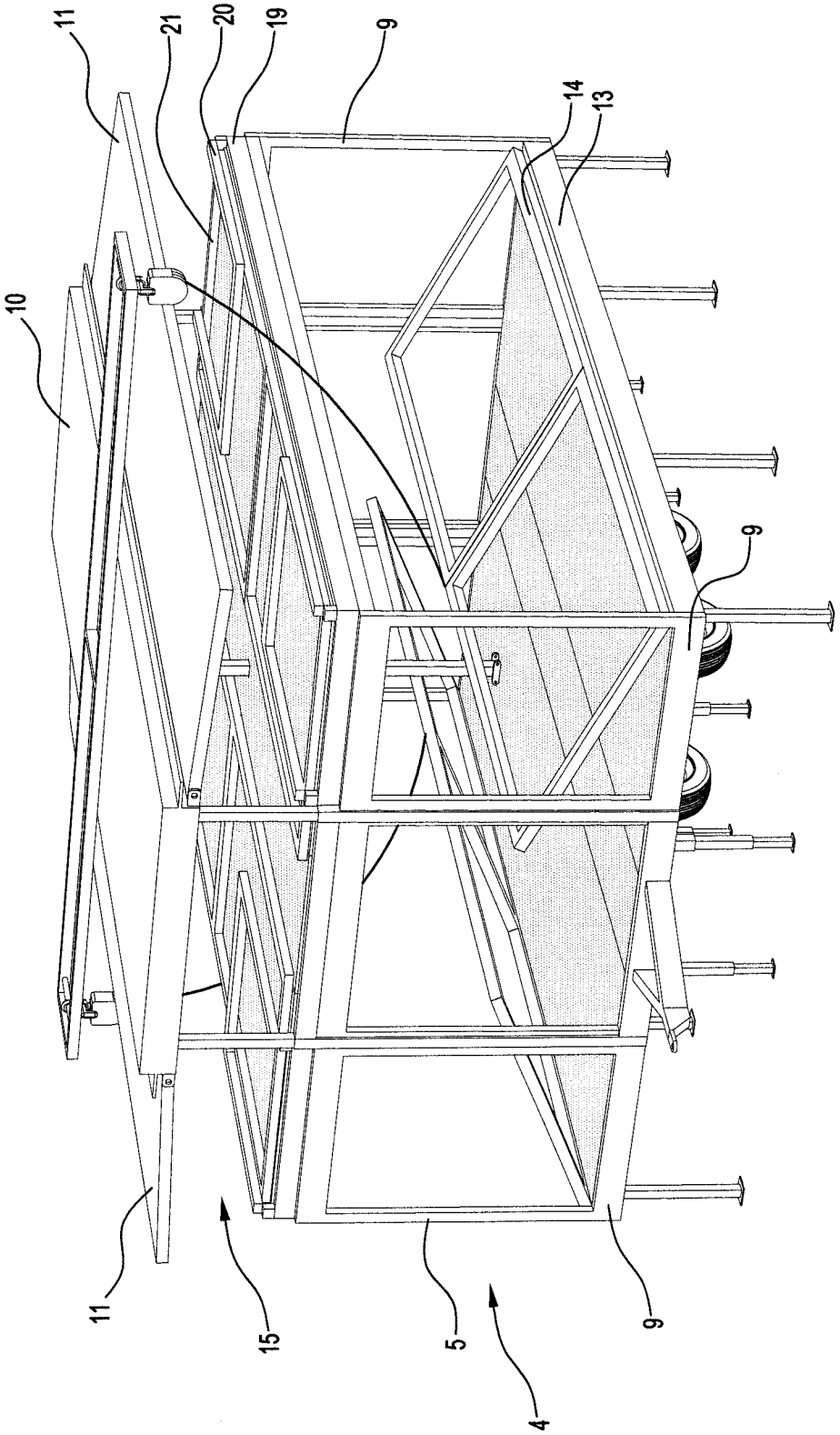

FIG. 8

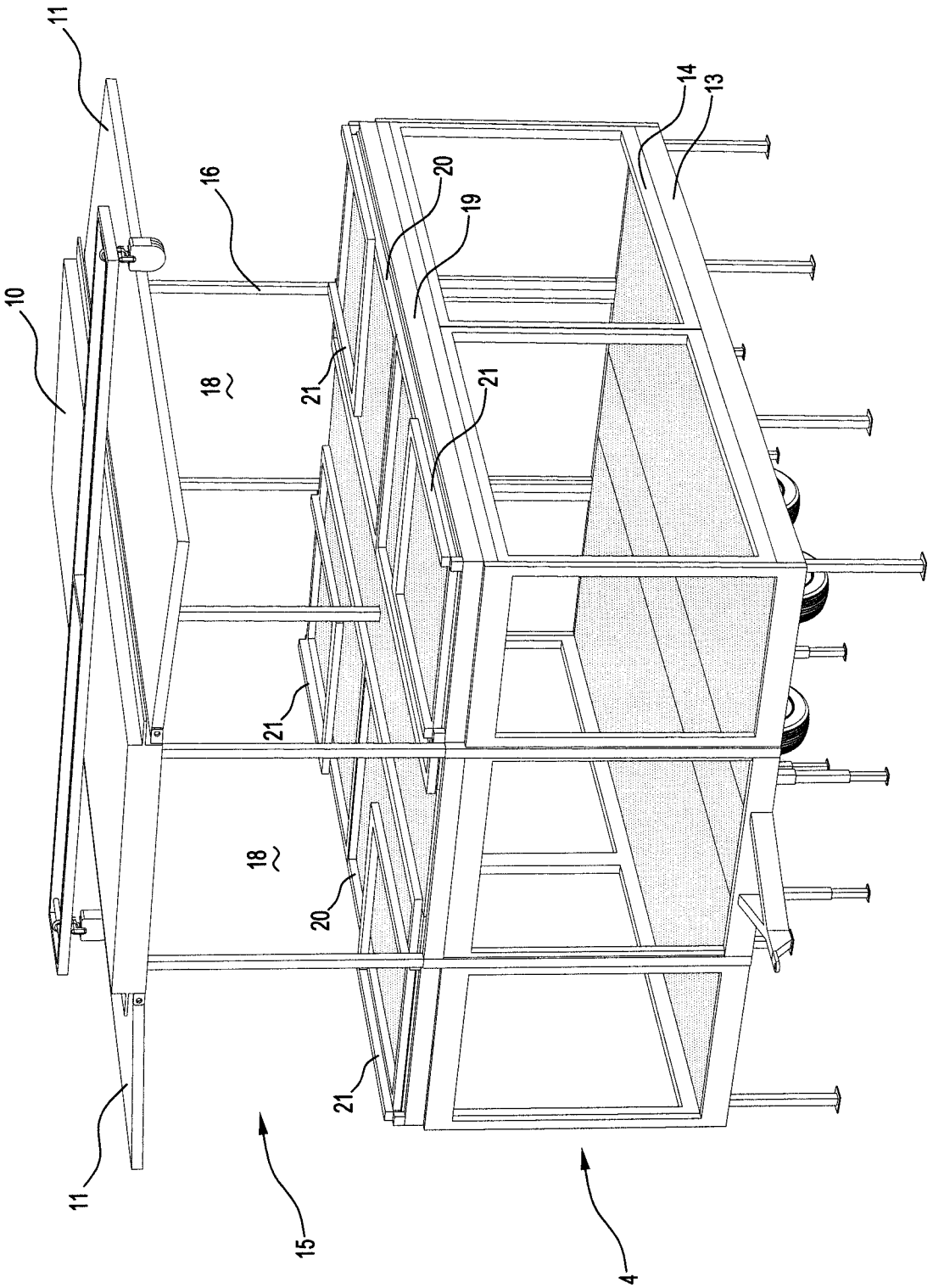

FIG. 9

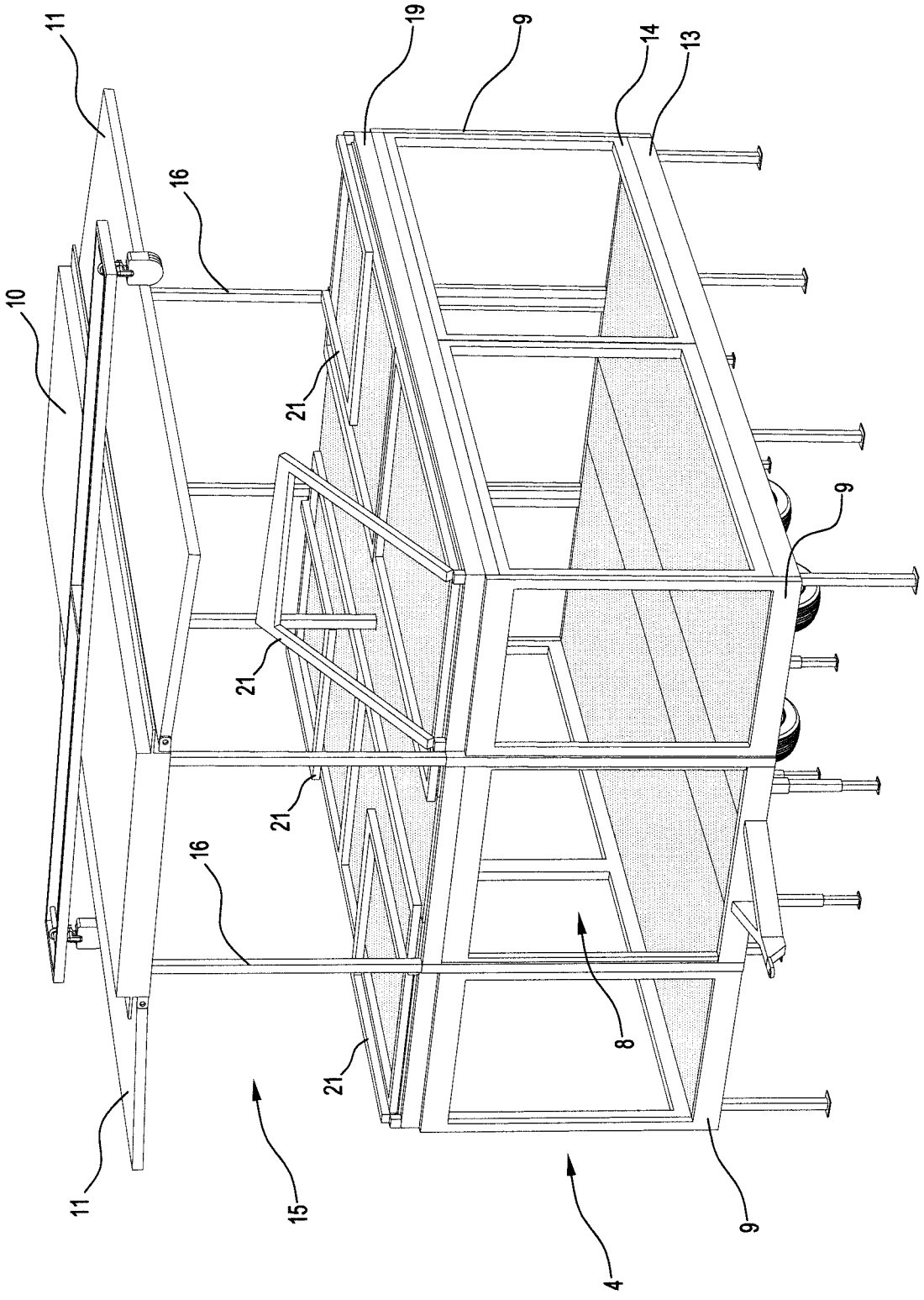

FIG. 10

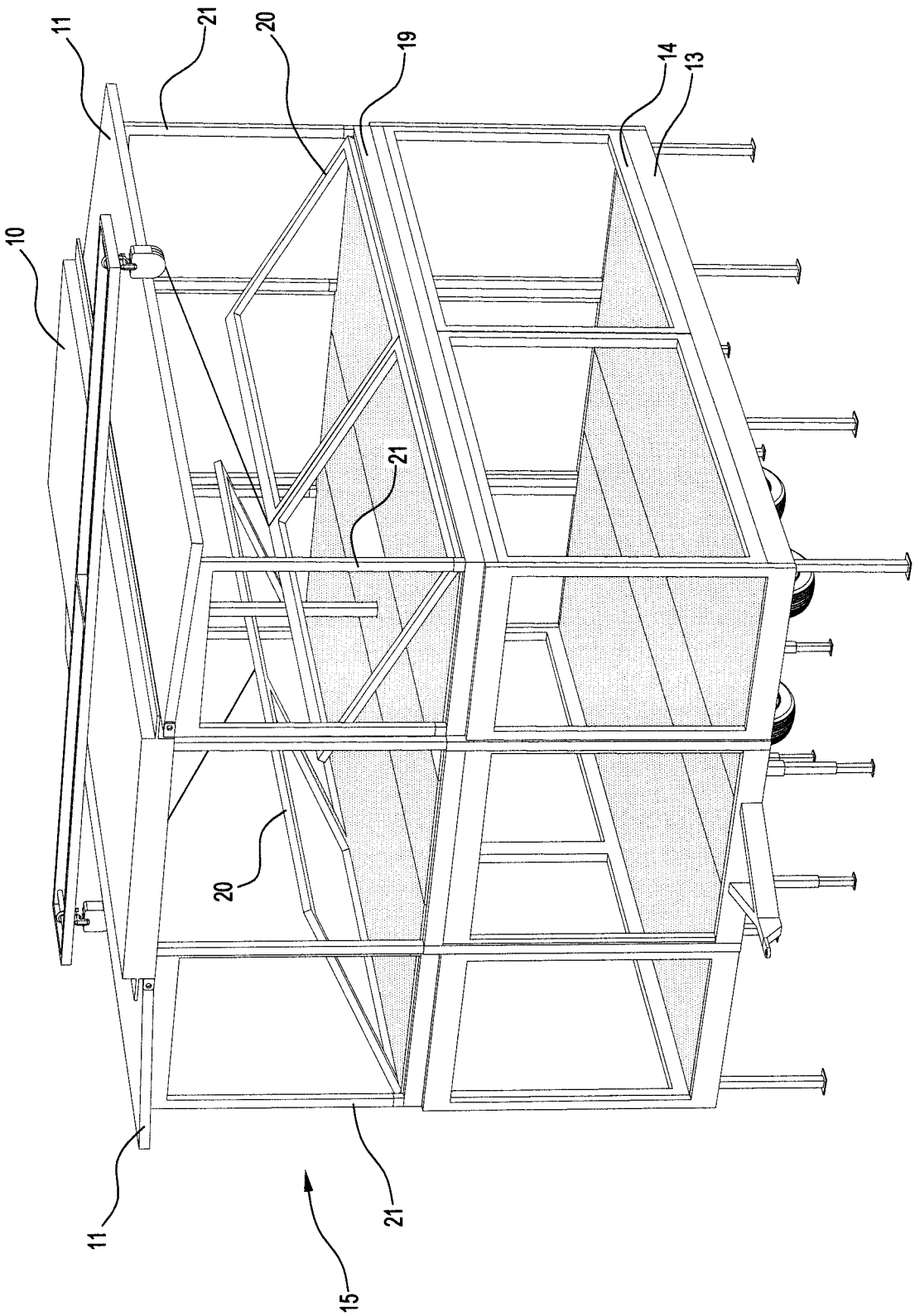

FIG. 11

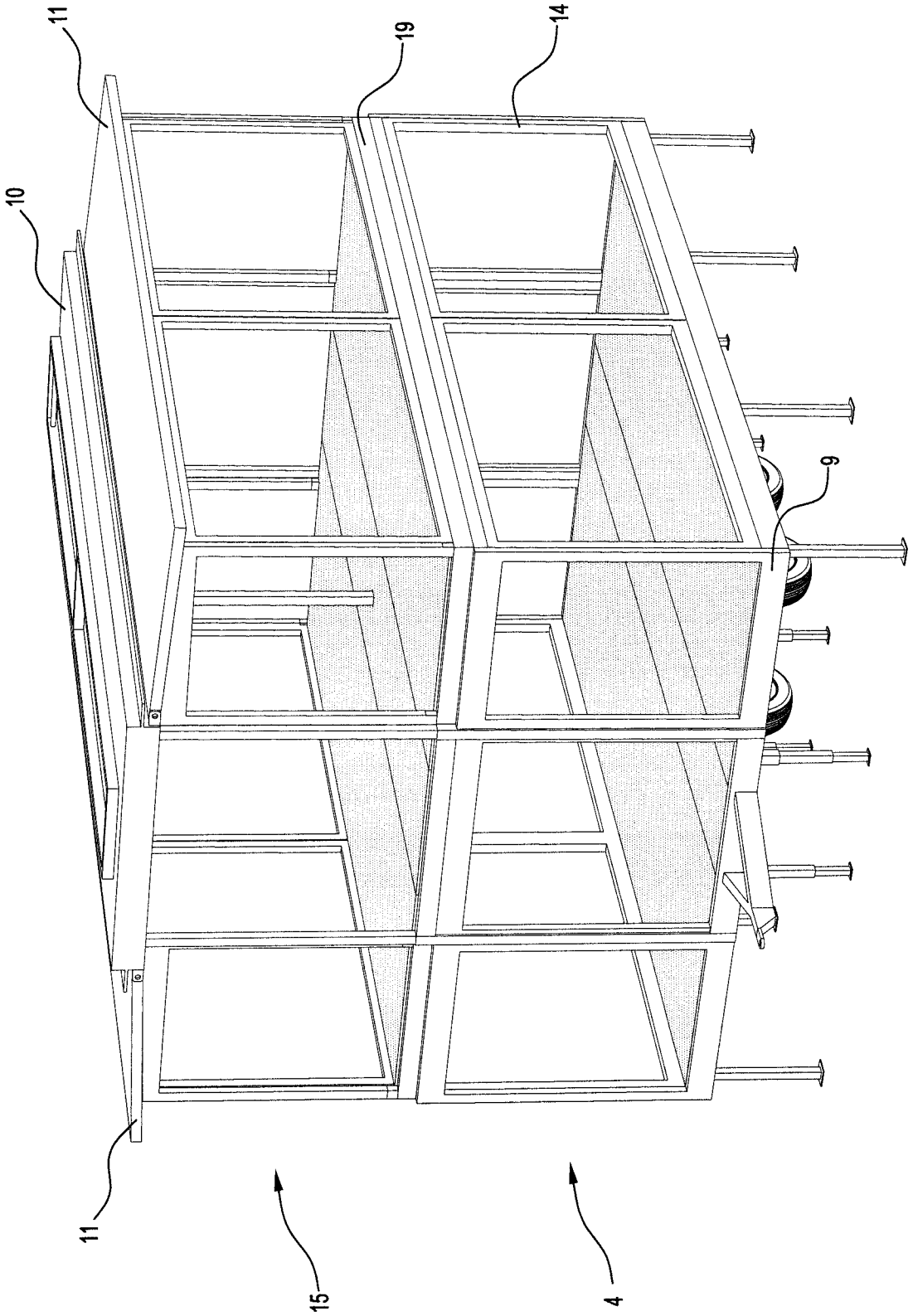

FIG. 12

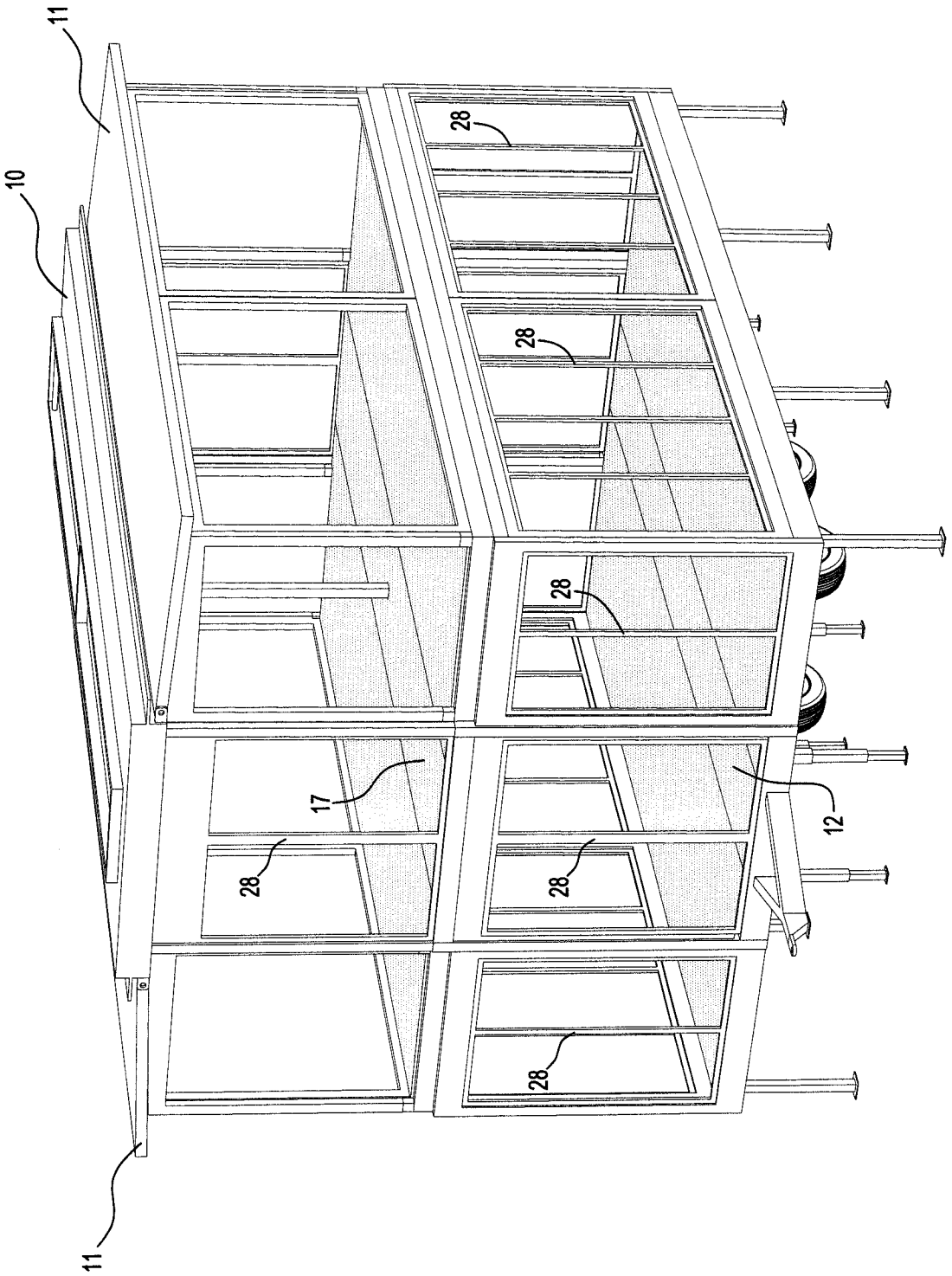

FIG. 13

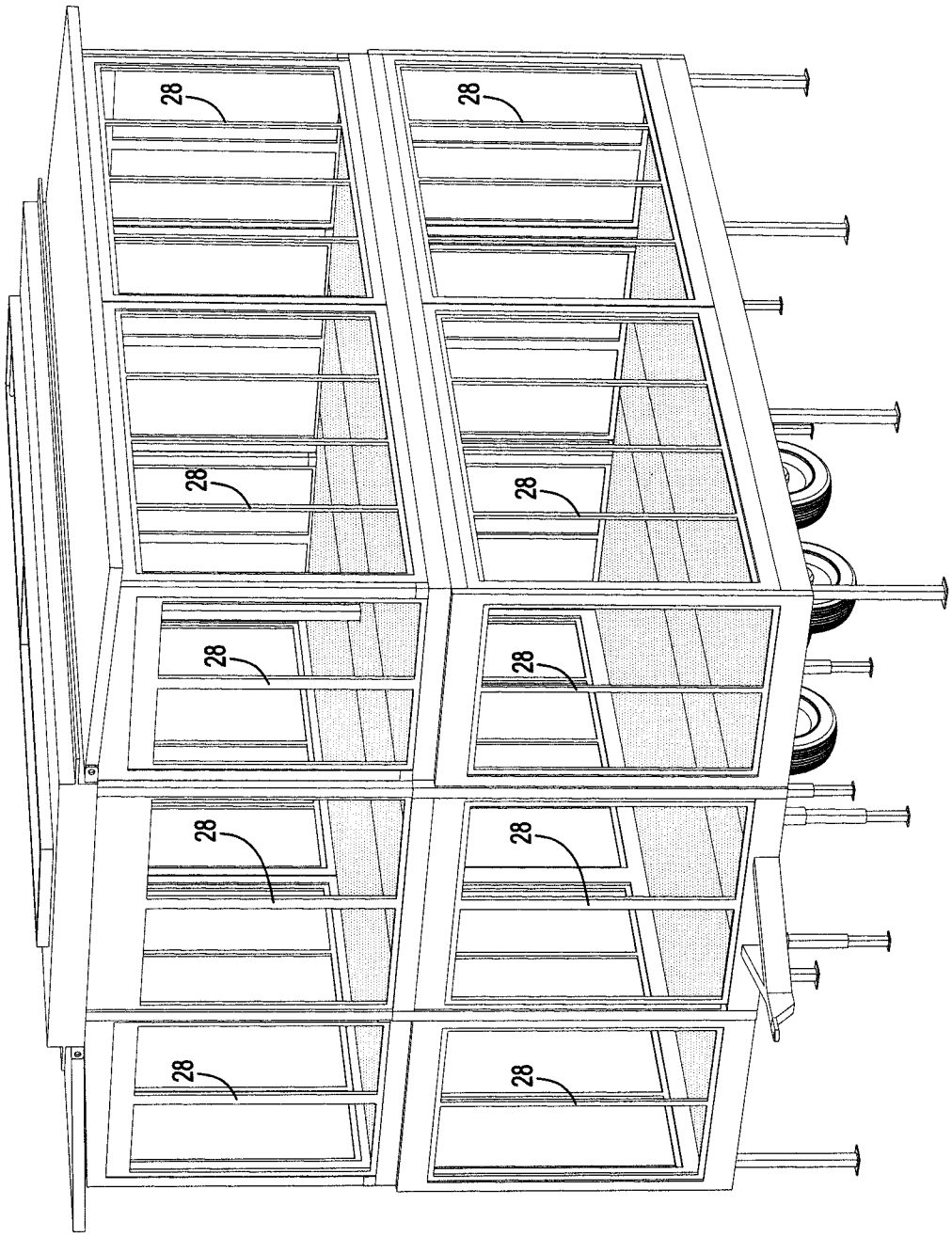

FIG. 14

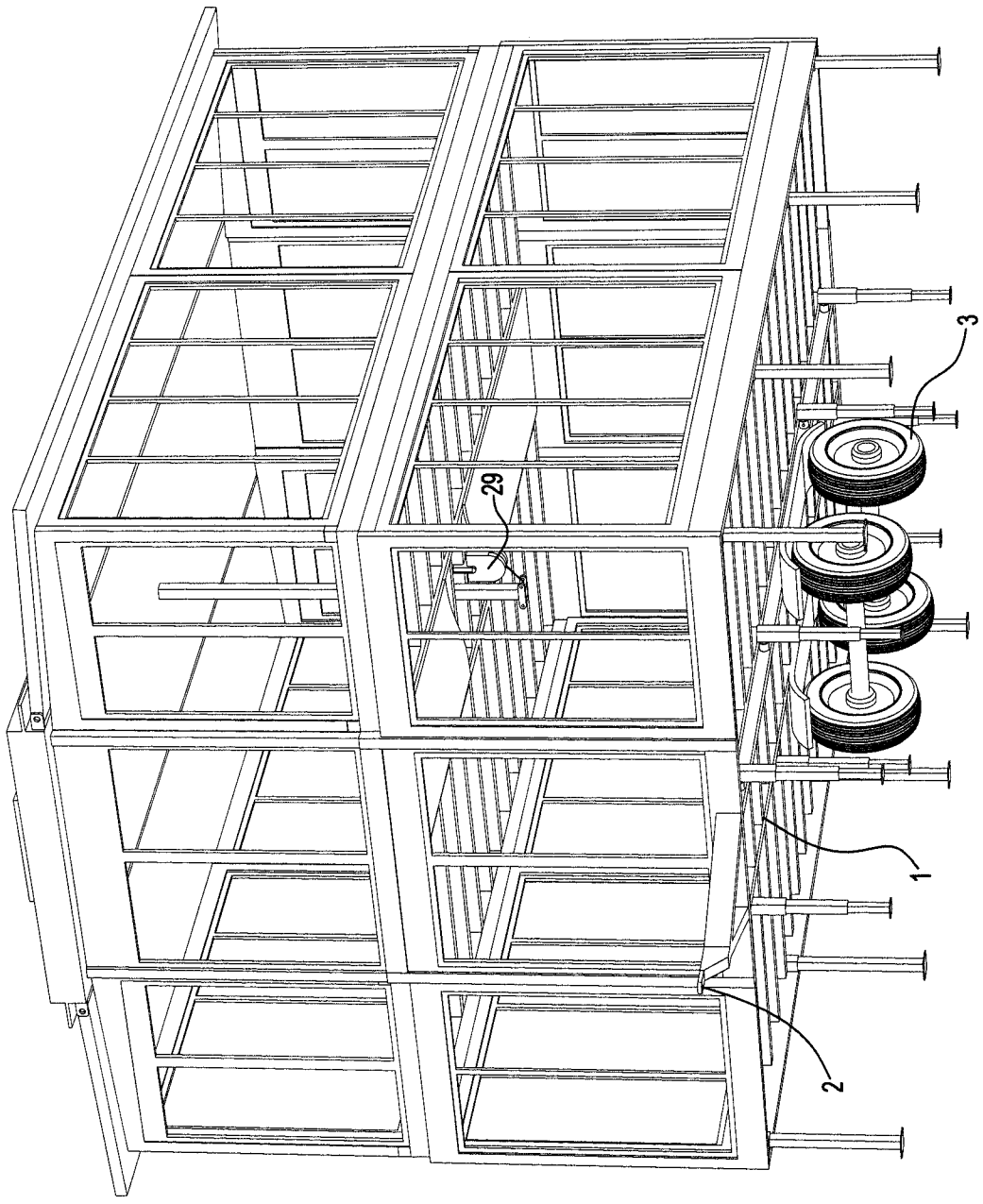

FIG. 15

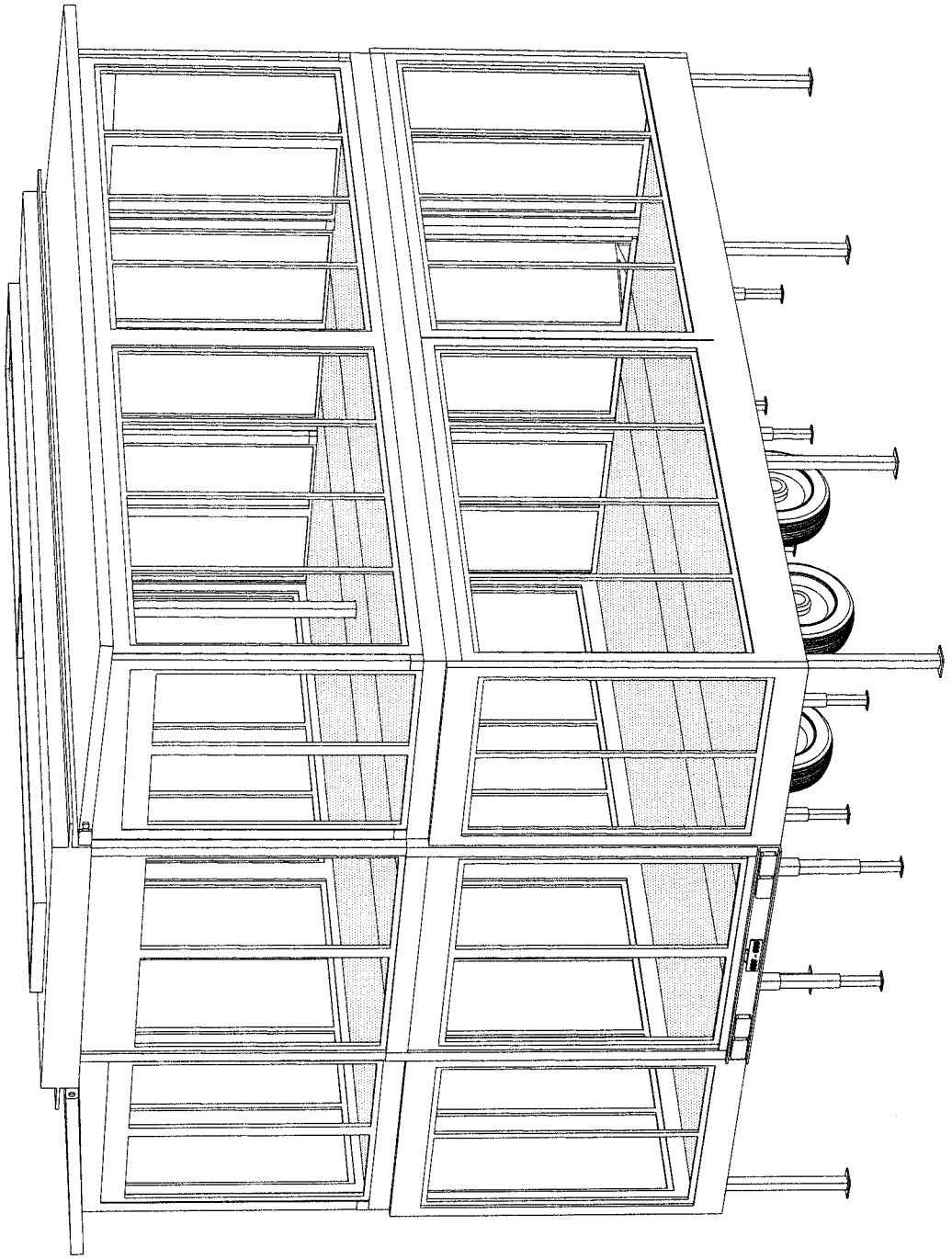

FIG. 16

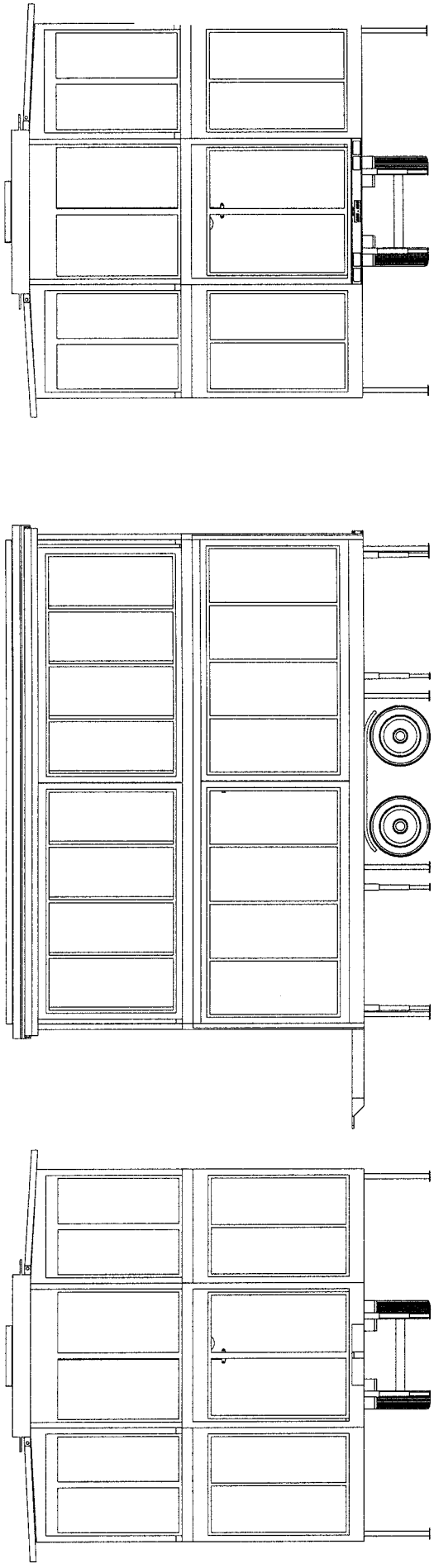

FIG. 17

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2011/000748

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl.

E04B 1/344 (2006.01) ***B60P 3/355*** (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPI, EPODOC, IPC, ECLA: E04B1/344, B60P3/355 & keywords: trailer, caravan, mobile, transportable, tow, chassis, fold, hinge, swing, pivot, storey, level, two, second, multi, telescope, extend, retract, collapse, project, expand and like terms. Google Patents: KW: hospitality trailer.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	ES 2126439 A1 (GESTORES DE PROTECCION INTERNACIONAL) 16 March 1999	
X	Abstract, figures 1, 2, 3 and 5	1-8
Y	Abstract, figures 1, 2, 3 and 5	9-11
	US 4958874 A (HEGEDUS) 25 September 1990	
X	Figures 1, 2 and 7	1-5,7,8
Y	Figures 1, 2 and 7	9-11
	US 5374094 A (SMITH et al.) 20 December 1994	
Y	Figures 1 and 7, col. 2 lines 27 to 43	9-11

☐ Further documents are listed in the continuation of Box C ☒ See patent family annex

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
4 November 2011	09/11/2011
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. +61 2 6283 7999	Authorized officer **G. THOMPSON** AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service) Telephone No : +61 2 6283 2405

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2011/000748

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: **12**
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
The claims do not comply with Rule 6.2(a) because they rely on references to the description and/or drawings.

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU2011/000748

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
ES	2126439	NONE					
US	4958874	AU	25708/88	EP	0317357	JP	1166088
US	5374094	NONE					

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX