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US 4826235
CA 1099311
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AU 168154
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US 4294484
AU 281822
US 3531152
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ABSTRACT

5 A camper trailer arrangement has a trailer body (2), a bed base assembly (6) on the
trailer body and a tent assembly (7) hingedly mounted to the bed base so as to extend
in a deployed position to a selected side of the bed base assembly from a stowed
position over the bed base assembly, a removable extension piece (8) adapted to
extend the length of at least a portion of one side of the bed base to provide a full
length sleeping area and a step arrangement (10) hingedly mounted to a selected side
10 of the bed base assembly to be extended from a stowed position over the bed base
assembly to an extended position extending down the side of the bed base assembly.

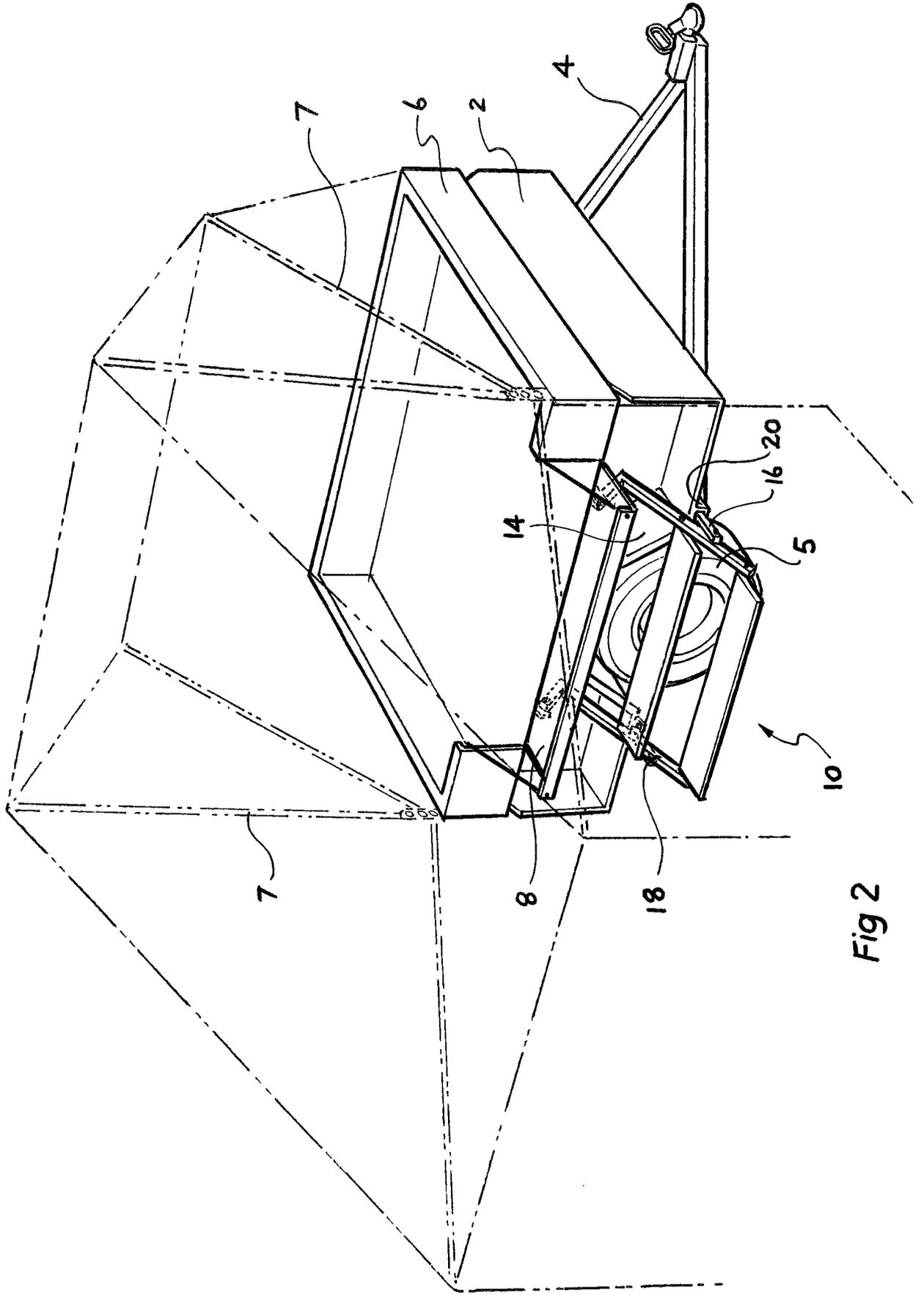


Fig 2

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Regulation 3.2

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COMPLETE SPECIFICATION

FOR A STANDARD PATENT

ORIGINAL

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Invention title: CAMPING TRAILER

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The following statement is a full description of this invention, including the best method of performing it known to me.

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Camping Trailer

Field of Invention

This invention relates to camper trailers and similar camping equipment such as ute
5 backers.

Background of the Invention

Camper trailers generally comprise a 1.8 m or 2.1 m by 1.2 m trailer upon which is
placed a bed base. The bed base can extend over the wheel arch of the trailer on each
10 side of the trailer and generally a tent and frame on the bed base extends over t the
trailer to provide an accommodation area on the bed base and to one side or rear of
the trailer. It is convenient, therefore, for a bed on the bed base to be set up to allow
persons sleeping on the bed base to sleep across the trailer to facilitate entry and
egress from the bed. The width across such a bed base is barely 1.8 m and this is not
15 enough to facilitate comfortable sleep for many people. It is an object of this
invention to provide a solution to this problem.

A further problem exists in relation to facilitating entry and egress from the bed. A
mattress on a bed base fitted onto a trailer necessarily is mounted above the wheels
20 of the trailer and this is relatively high off the ground and can be difficult to climb
onto. It is a further object of this invention to provide a solution to this problem.
When the bed base is on a ute backer the problem is significantly worse.

Description of the Invention

25 In one form therefore the invention is said to reside in a camper trailer bed
arrangement comprising a substantially rectangular bed base and a removable
extension piece adapted to extend the length of at least a portion of one side of the
bed base to provide a full length sleeping area.

30 In one embodiment the extension piece is hinged to the one side of the bed base and
able to be moved from a stowed position on the bed base to a use position.

Alternatively the extension piece is a sliding tray arrangement adapted to be extended from and be retracted into the one side of the bed base.

5 Alternatively the extension piece comprises a panel with a plurality of rods extending therefrom and the one side of the bed base includes sockets to receive the plurality of rods to mount the extension piece to enable it to extend from the bed base to provide the full length sleeping area.

10 Preferably the bed base includes a peripheral upturned edge and the extension piece comprises a portion of the upturned edge on the one side which is hingedly connected to the bed base and able to be moved from a stowed position on the bed base to a use position.

15 The hinged extension piece can be supported by cables extending to the adjacent portion of the upturned edge. Alternatively the hinged extension piece can be supported by telescoping support arms under the bed base.

20 In one embodiment the bed base is adapted for mounting onto a rear tray of a utility vehicle.

There may be further including a mattress on the bed base and stowable folding portion of the mattress to extend onto the extension piece in use.

25 In a further form the invention comprises a camper trailer bed arrangement comprising a substantially rectangular bed base for a sleeping area and a step assembly connected one side of the bed base to provide access to the sleeping area, the step assembly being hingedly connected to the bed base whereby it can be hinged to lie substantially flat on the sleeping area for stowage and can be hinged to extend down beside the bed base in a use position.

30 Preferably the step assembly includes support props which extend back to a portion of the camper trailer.

The step assembly can include folding steps. Alternatively the step assembly can include side frames and steps extending between the side frames.

5 The step assembly can include parallel linkage side frames and steps connected to the parallel linkages whereby the steps fold as the step assembly is stowed.

Preferably the step assembly extends over the wheel arch of the trailer.

10 The step assembly can be supported to the bed base by a hook arrangement on the step assembly engaging a bar or edge on the bed base.

In one embodiment the bed base can include a removable extension piece adapted to extend the length of at least a portion of one side of the bed base to provide a full
15 length sleeping area and the step assembly is hingedly mounted to the extension piece and the extension piece can to be moved from a stowed position on the bed base to a use position.

In a further form the invention comprises a camper trailer arrangement comprising a
20 trailer body, a bed base assembly on the trailer body and a tent assembly hingedly mounted to the bed base so as to extend in a deployed position to a selected side of the bed base assembly from a stowed position over the bed base assembly, a step arrangement hingedly mounted to the selected side of the bed base assembly to be extended from a stowed position over the bed base assembly to an extended position
25 extending down the side of the bed base assembly.

The bed base assembly can comprise a substantially rectangular bed base and an extension piece adapted to extend the length of at least a portion of one side of the bed base to provide a full length sleeping area.

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Brief Description of the Drawings

This then generally describes the invention but to assist with understanding reference will now be made to various embodiments of the invention with the assistance of the accompanying drawings.

In the drawings:

Figure 1 shows one embodiment of a camper trailer incorporating a bed with an extension piece and a step assembly according to one embodiment of the invention;

Figure 2 shows the embodiment of Figure 1 with the bed extension extended and the steps assembly deployed;

Figures 3A, 3B, 3C and 3D show one embodiment of a bed extension according to the present invention including detailed views of some portions;

Figures 4A and 4B show an alternative embodiment of a bed extension according to the present invention;

Figures 5A, 5B and 5C show a further embodiment of a bed extension according to the present invention;

Figures 6A, 6B and 6C show one embodiment of step assembly in various stages of deployment according to the present invention;

Figures 7A and 7B show a alternative embodiment of step assembly in various configurations;

Figure 8A and 8B show a still further embodiment of step assembly according to the present invention;

Figures 9A, 9B and 9C show various configurations of bed assembly incorporating an extension piece according to the present invention;

Figures 10A and 10B show a alternative embodiment of step assembly according to the present invention;

Figure 11 shows a further embodiment of step assembly according to the present invention;

Figures 12A, 12B and 12C show other embodiments of step assembly particularly adapted for a ute backer according to the present invention; and

Figures 13A, 13B, 13C, 13D and 13E show another embodiment of step assembly particularly adapted for a ute backer according to the present invention.

5 Now looking more specifically at Figures 1 and 2, it will be seen that a camper trailer according to the present invention comprises a trailer body 2 with a draw bar 4 and wheels 5 and on top of the trailer body a bed base 6 is supported and as is shown schematically in Figure 2 a tent and tent frame 7 is hingedly mounted to the bed base to open to one side of the bed base.

10 On the side of the bed base 6 which the tent opens out to there is a hinged portion 8. The actual construction of the hinged portion will be discussed in more detail in relation to Figures 3A to 3D. The bed base incorporates a mattress (not shown) which can be folded out to extend over the extension piece to provide a longer
15 sleeping area as is schematically depicted in Figures 9A to 9C.

A step assembly generally shown as 10 is hingedly mounted to the bed base 6 at bracket 12 and in a stowed position fits over the bed base and in a deployed position extends out over the mud guard 14 and wheel 5 of the trailer to enable access to and
20 from the bed. A support prop 16 on the frame 18 of the step assembly 10 extends back into a socket 20 when the ladder is deployed to provide support for the step assembly.

Figures 3A to 3D show one embodiment of extension piece for a bed frame according
25 to the present invention. In this embodiment the bed base 30 shown partially has an upturned edge 32 around its periphery. On one side of the bed base at least a portion 34 of the upturned periphery 32 is hingedly mounted by hinges 36 to the bed base 30 so that it can fold out to be substantially co-planar with the bed base 30. Cables 38 extend between a bracket 40 on the upturned edge to another bracket 42 on the
30 extension piece 34.

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A trailer of the type normally converted into a camper trailer has dimensions of 1.8 or 2.1 x 1.2 meters wide and is usually desirable to sleep across a trailer so that entry and egress from the bed is simplified and by adding the length of the extension piece as depicted in Figures 3A and 3B sufficient extra length is provided for a mattress to allow for comfortable sleeping.

10

In Figures 3A to 3D only a part of one side of the bed frame comprises the extension piece but in Figures 4A and 4B the entire side of a bed frame comprises the extension piece.

15

In Figures 4A and 4B the bed base 50 has upturned edges 52 and a sliding tray like portion 54 also with an upturned edge 55 which is fixed to the bed base by means of bolts 53. The sliding tray like portion 54 has slots 56 and when the bolts 53 are released allow the extension piece 54 to be slid away from the bed base and then the bolts 53 can be tightened to lock the extension piece in place to provide a longer bed frame. The extension piece 54 can have sides which in the stowed position fit within the sides 52.

20

Figures 5A, 5B and 5C show an alternative embodiment of extension piece for a bed frame according to the present invention. In this embodiment the bed base 60 has a portion 62 which can be hinged down to expose sockets 64 on the bed base into which may be fitted arms 66 extending from an extension piece 68. By this arrangement an extension can be provided to the bed with a mattress which can fold out to provide a full length bed.

25

More detail of one embodiment of step assembly mounted to a bed base as shown in Figures 1 and 2 is shown in Figure 6A, 6B and 6C.

30

In this embodiment a bracket 70 is fixed to underside of a bed base 72 on a trailer 74. The step assembly 76 includes side frames 78 which are pivotally mounted to the bracket 70 and in the stowed position as shown in Figure 6A extend up and over the upturned edge of the bed base 72 and across the top of the bed on the bed base.

Mounted to the side frames 78 are steps 80 which are pivotally mounted to the frames 78 so that in the stowed position as shown in Figure 6A the steps 80 align with the frame 78 and in the deployed position shown in Figure 6B the steps are hinged out and engage against stops 82 which supports the steps substantially horizontally so that they can be used for climbing onto the bed base. A prop 84 extends back from the frame 78 to a socket 86 to provide support for the steps assembly when the ladder is in the deployed position.

Figures 7A and 7B show a step assembly according to an alternative embodiment of the present invention associated with a hinged extension piece according to the present invention. In this embodiment the trailer 100 has a bed base 102 and pivotally mounted to the bed base is a hinged extension piece 104. The hinged extension piece 104 is supported by a cable 105. Pivotally mounted to the extension piece 104 is a step assembly 107 including step frame 106 and a prop 108 is provided to extend into a socket 109 on the trailer to support the step assembly 107. The step assembly has steps 110 and a parallel linkage bar 112 which extends parallel to the frame 106 and links the steps 100 with a frame member 114. A stop 116 prevents the frame member 114 from deploying over the horizontal position of the steps but enables the step assembly 107 to be folded out of the way when not in use as shown in Figure 7B.

Figure 8 shows an alternative embodiment of hinged extension piece and step assembly according to the present invention. In this embodiment the trailer 120 has a bed base 121 and pivotally mounted to the bed base is a hinged extension piece 122. The hinged extension piece 122 is supported by telescopic rod 123 extending from a socket 124 underneath the bed base 121. A bracket 127 is provided on the extension piece 122 and pivotally mounted on pivot 126 is a step assembly 119 which includes a frame 125 and steps 128. Cables 129 extending from the frame 125 support each of the steps 128. a prop 119 extends back to the trailer to support the step assembly. It will be noted that whether the extension piece is in the stowed position as Figure 8B or in the deployed position as shown in Figure 8A the step assembly can still be used.

Figure 9 shows schematically how the bed base according to the present invention is improved by use of the various embodiments of extension piece.

5 In Figure 9A a trailer generally shown as 130 has a bed base 132 mounted onto it so that persons 139 can sleep in a double bed style across the trailer. A tent 133 extends over the bed base and out to one side of the trailer. It will be noted that the bed base extends over the wheels 138 but even so without the extension piece 134 the bed is not quite long enough to be comfortable for a tallish person. To provide the required length the bed base 132 has an extension piece 134 and to assist with climbing onto
10 the bed base a step assembly 136 is provided.

Figure 9B shows a similar arrangement but mounted onto a utility vehicle as a ute backer. In this embodiment the bed base 144 is mounted so that persons 147 lie transversely across the vehicle and the tent 142 extends out to one side of the
15 base 144. Again persons sleeping on the bed base have sufficient length because of the extension piece 146. A step assembly 148 is provided to enable people to get onto the bed base.

In an alternative arrangement as shown in Figure 9C a bed base can be mounted onto
20 a utility vehicle 150 so that persons 157 sleeping on a bed base 152 with a tent 154 extending out behind the vehicle have sufficient room to sleep because of the extension piece 156. A step assembly 158 is provided to enable people to get onto the bed base.

25 Figures 10A and 10B show an alternative embodiment of step assembly according to the present invention. In this embodiment the bed base 160 on trailer 162 has a rod 164 mounted under the side and a hook 166 on a step assembly 168 hooks onto the rod 164 mounted under the side and can be removed for stowage on the bed base during travel. Steps 169 allow a user to get onto the bed.

30 Figure 11 shows a double jointed leg assembly for a step arrangement for the side of camper trailer. In this embodiment the step assembly 170 is pivotally mounted at 172

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to a hinged extension piece 174 which is mounted to a bed base 179 on a trailer 181. The step assembly 170 includes an upper portion 175 and a lower portion 176 and steps 177 and 178 with the lower frame 176 and lower step 177 pivotally mounted at 180 to the upper frame 175 and upper step 178 in a double jointed leg assembly so that the step assembly can be easily stowed.

Figures 12A, 12B and 12C show various embodiments of a step assembly particularly adapted for a ute backer.

Figure 12A shows a step assembly installed onto the back of a ute backer. In this embodiment the step frame 200 includes a peg 202 which extends into a socket in the underside of a bed base 204 and the step rests on the utility tray 206. Two steps 208 and 210 are provided extending from the frame 200 and support cables 212 support the steps in the use position. Figure 12B shows the step assembly of Figure 12A in the stowed configuration ready for stowing for instance on the top of the bed base during travel.

Figure 12C shows a similar embodiment to that of Figure 12A and 12B except that instead of using a support cable to support the steps in the deployed position a stop 215 extends against the rear of the step frame 217 for each of the steps 219.

Figures 13A and 13B show two views of a step assembly 220 for the rear of a ute backer 222. In this embodiment the step assembly 220 folds in and slides under the ute backer when not required.

Figures 13C, 13D and 13E show a similar step assembly 226 but mounted onto the side of a ute backer 228 so that it can be folded when not required.

Throughout this specification various indications have been given to the scope of the invention but the invention not limited to any one of these but may reside in two or more of these combined together. The examples are given for illustration and not for limitation.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A camper trailer bed arrangement for a camper trailer, the bed arrangement comprising a substantially rectangular bed base and an extension piece to extend the length of the bed base to provide a full length sleeping area wherein the bed base includes a peripheral upturned edge and the extension piece comprising a portion of the upturned edge on one side of the bed base, the portion of the upturned edge being connected to the bed base by a hinge and able to be moved from a stowed position to a use position in which the extension piece is substantially coplanar with the bed base and a step assembly connected by a hinge to the extension piece to provide access to the sleeping area, whereby the step assembly can be hinged up to lie substantially flat on the sleeping area for stowage and can be hinged down to extend down beside the bed base to a use position.
2. A camper trailer bed arrangement as in claim 1 wherein the hinged extension piece is supported by cables extending to an adjacent portion of the upturned edge.
3. A camper trailer bed arrangement as in claim 1 wherein the bed base is adapted for mounting onto a rear tray of a utility vehicle.
4. A camper trailer bed arrangement as in any one previous claim further including a mattress on the bed base and stowable folding portion of the mattress to extend onto the extension piece in use.
5. A camper trailer bed arrangement as in Claim 1 wherein the step assembly includes support props which extend back to a portion of the camper trailer.
6. A camper trailer bed arrangement as in Claim 1 wherein the step assembly includes folding steps.
7. A camper trailer bed arrangement as in Claim 1 wherein the step assembly includes side frames and steps extending between the side frames.
8. A camper trailer bed arrangement as in Claim 1 wherein the step assembly includes parallel linkage side frames and steps connected to the parallel linkages whereby the steps

fold as the step assembly is stowed.

5 9. A camper trailer arrangement comprising a trailer body, a bed base assembly on the trailer body and a tent assembly mounted to the bed base so as to extend in a deployed position to a selected side of the bed base assembly from a stowed position over the bed base assembly, an extension piece to extend the length of at least a portion of one side of the bed base to provide a full length sleeping area, the extension piece connected to the bed base by a hinge arrangement and a step arrangement mounted to the extension piece by a second hinge arrangement to be extended from a stowed position in which it extends over the bed base assembly to an extended position extending down the side of the bed base assembly.

10 10. A camper trailer arrangement as in Claim 10 wherein the step arrangement includes support legs which extend back to a portion of the camper trailer body.

15 11. A camper trailer arrangement as in Claim 10 wherein the step arrangement includes folding steps.

20 12. A camper trailer arrangement as in Claim 10 wherein the step arrangement includes side frames and steps extending between the side frames.

25 13. A camper trailer bed arrangement as in claim 10 wherein the bed base includes a peripheral upturned edge and the extension piece comprises a portion of the upturned edge on one side of the bed base and the extension piece able to be moved from a stowed position on the bed base to a use position.

14. A camper trailer bed arrangement as in claim 14 wherein the hinged extension piece is supported by cables extending to the adjacent portions of the upturned edge.

30 15. A camper trailer arrangement as in claim 10 wherein the step arrangement extends over a wheel arch of the trailer.

16. A camper trailer arrangement as in claim 10 wherein the trailer body comprises a rear tray of a utility vehicle.

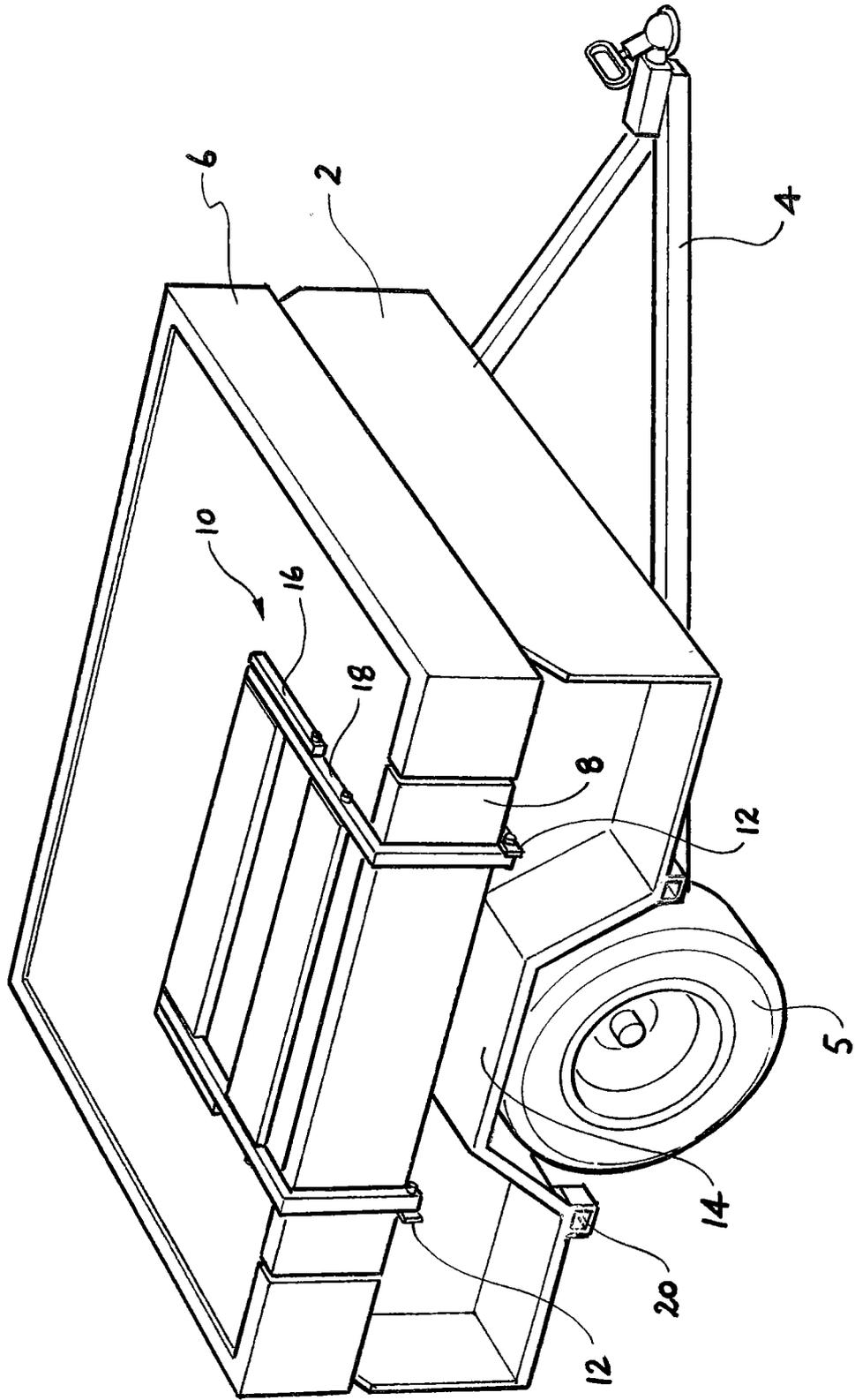


Fig 1

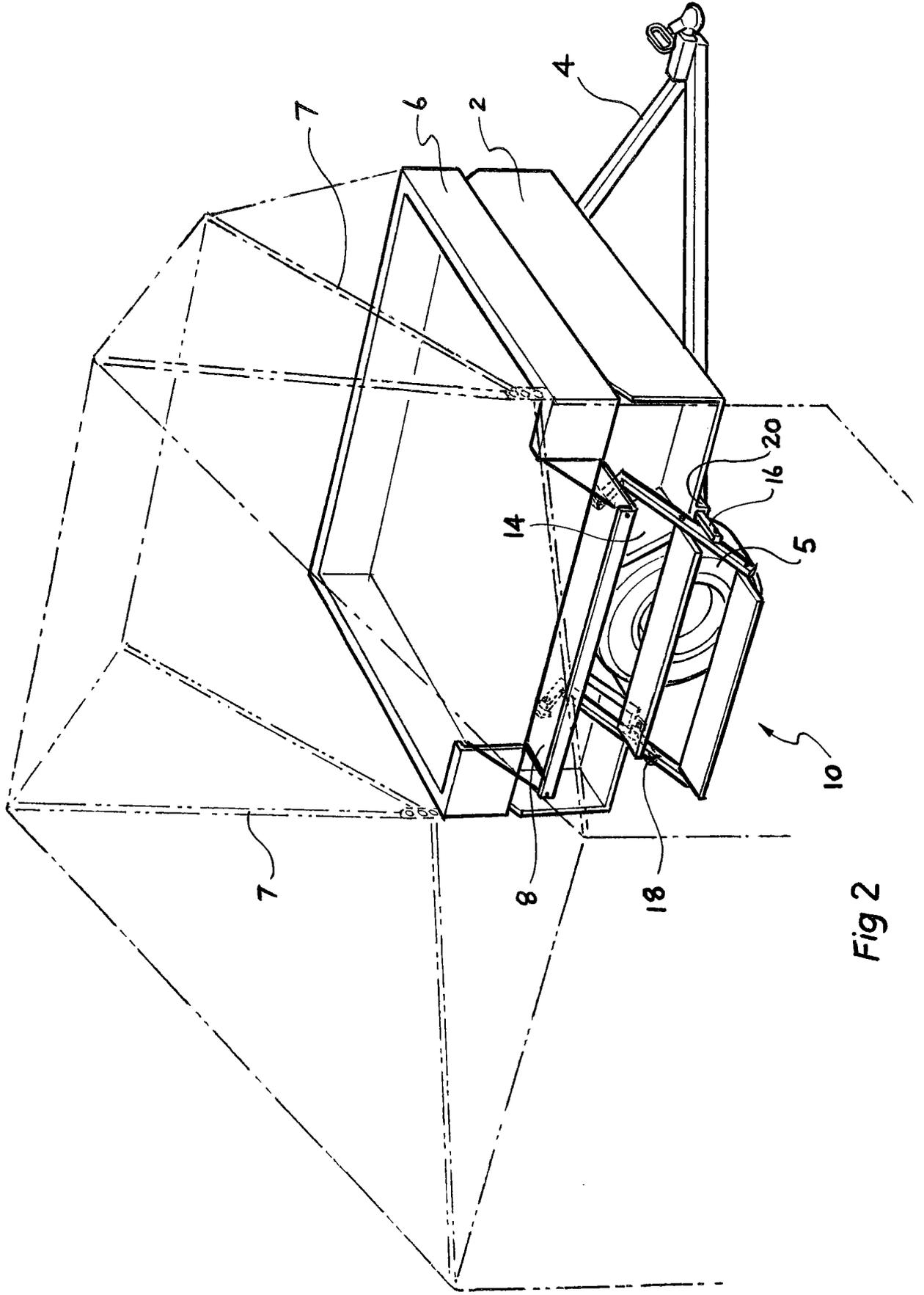


Fig 2

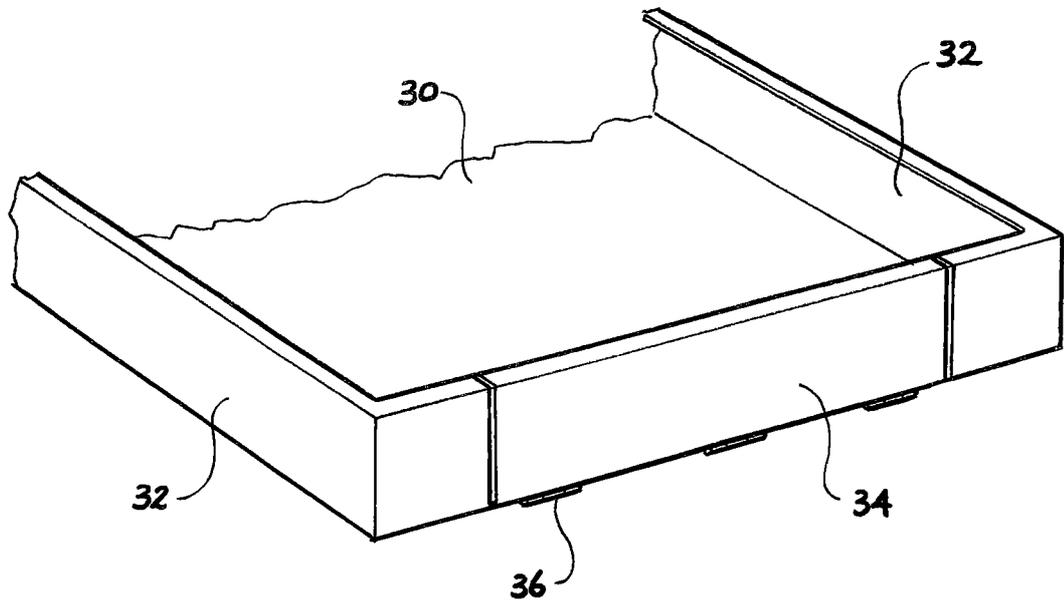


Fig 3A

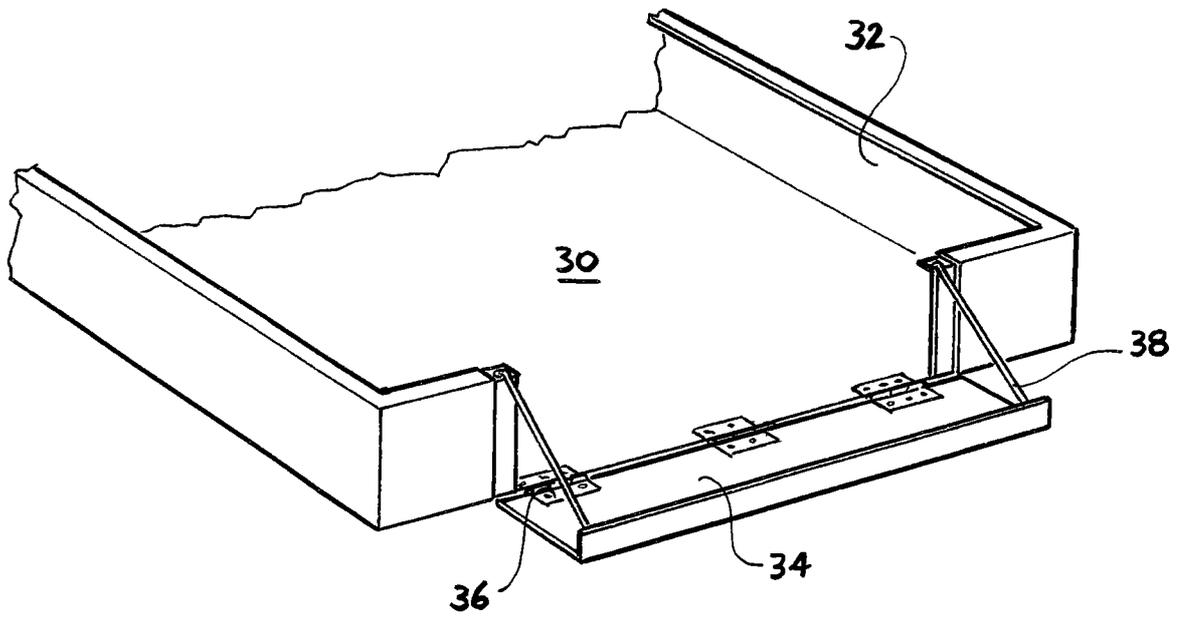


Fig 3B

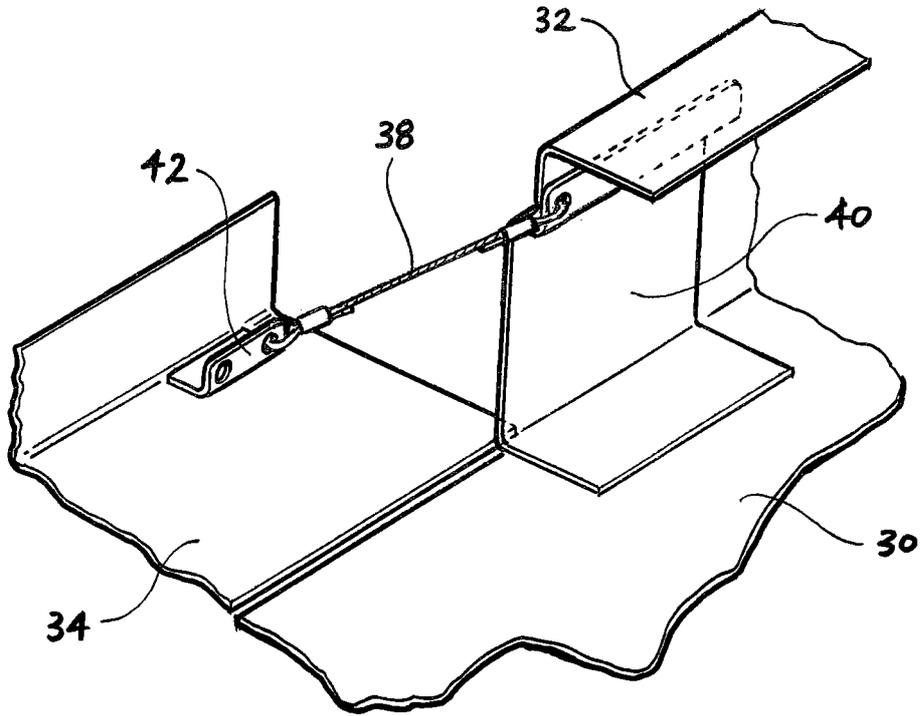


Fig 3C

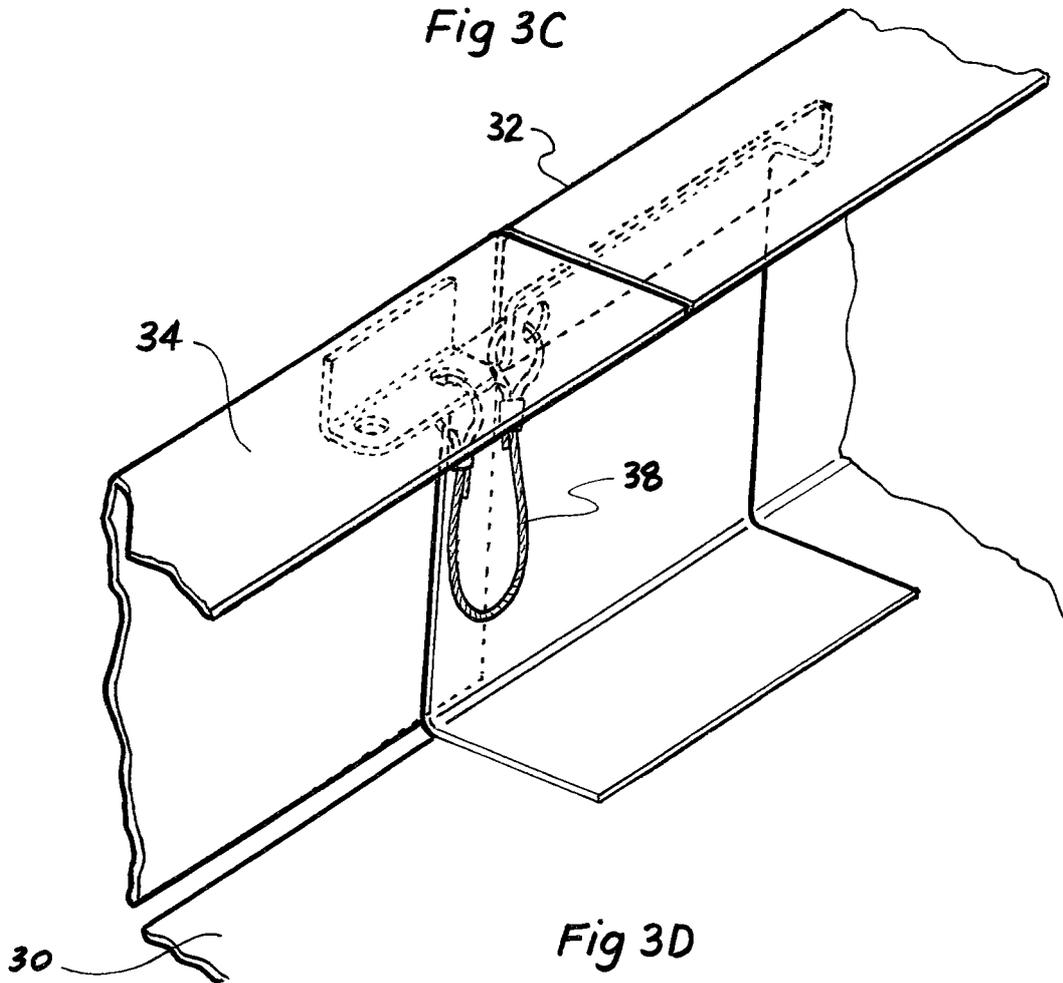


Fig 3D

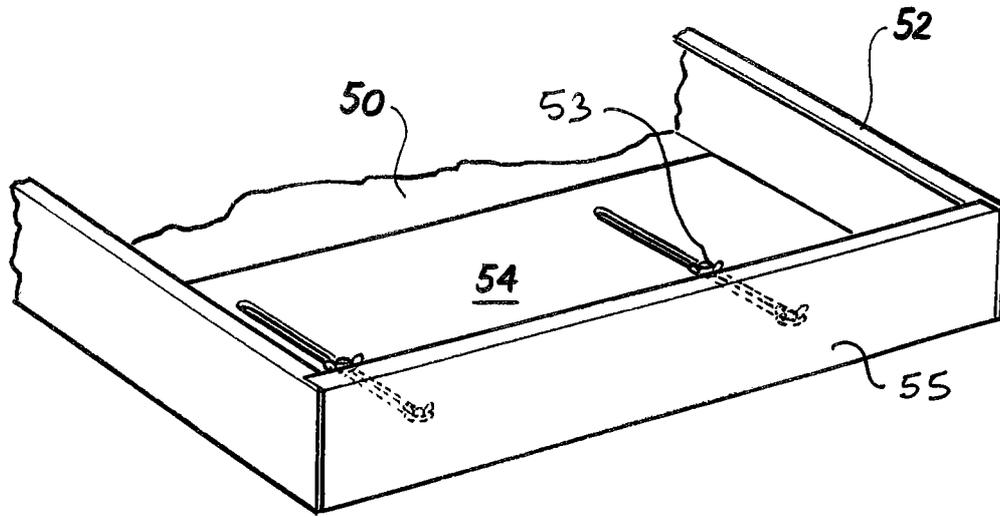


Fig 4A

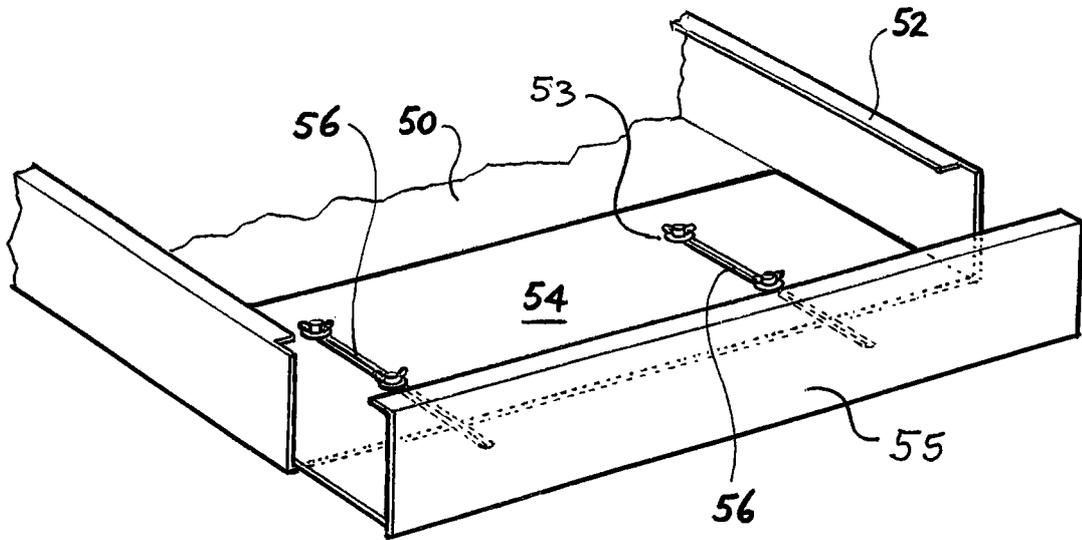


Fig 4B

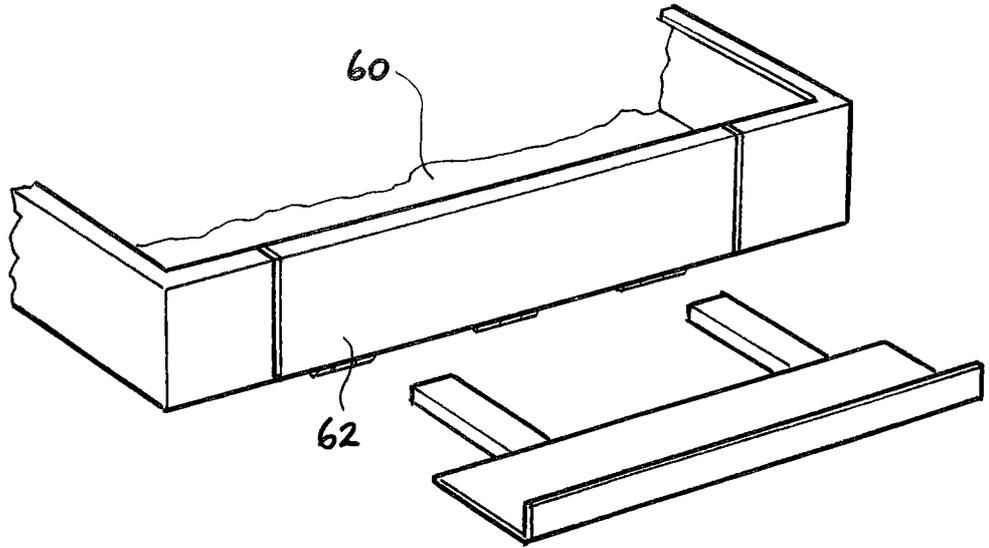


Fig 5A

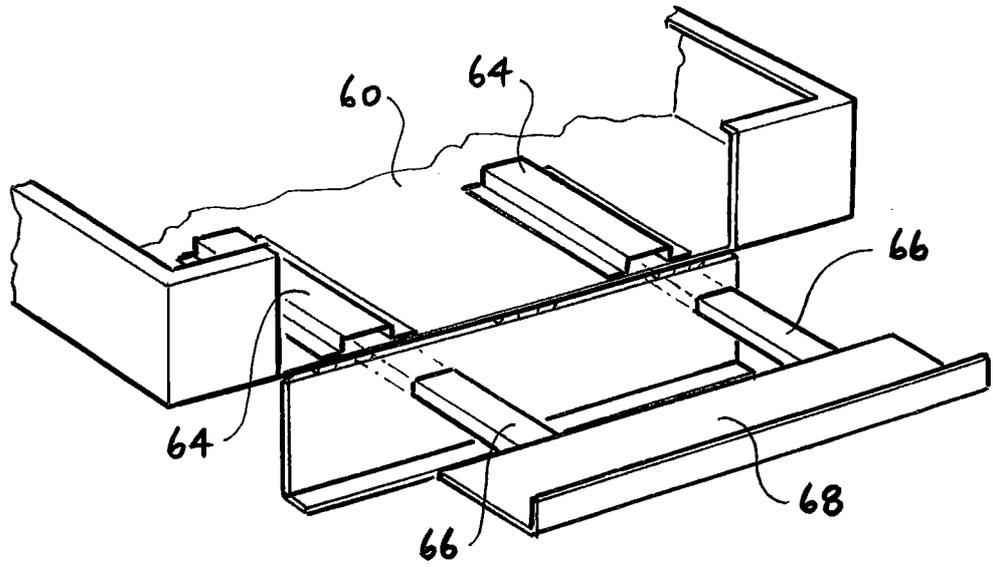


Fig 5B

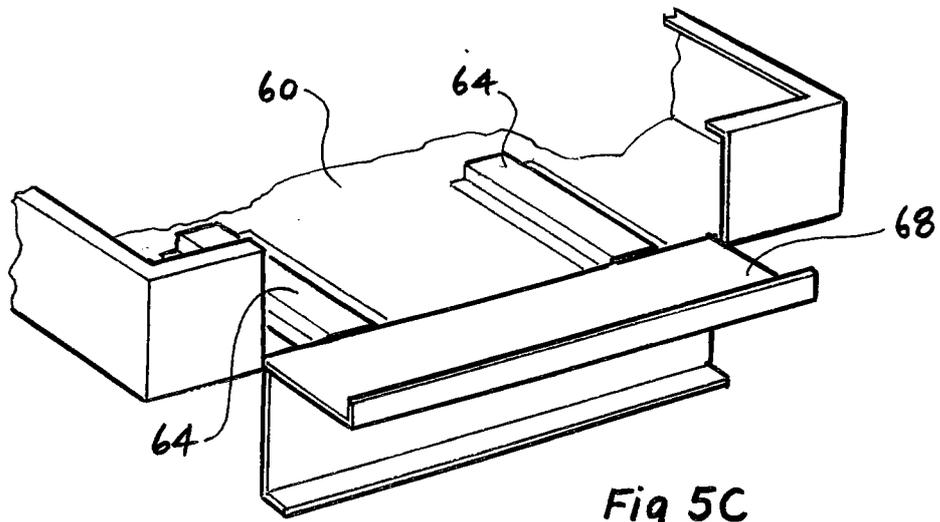
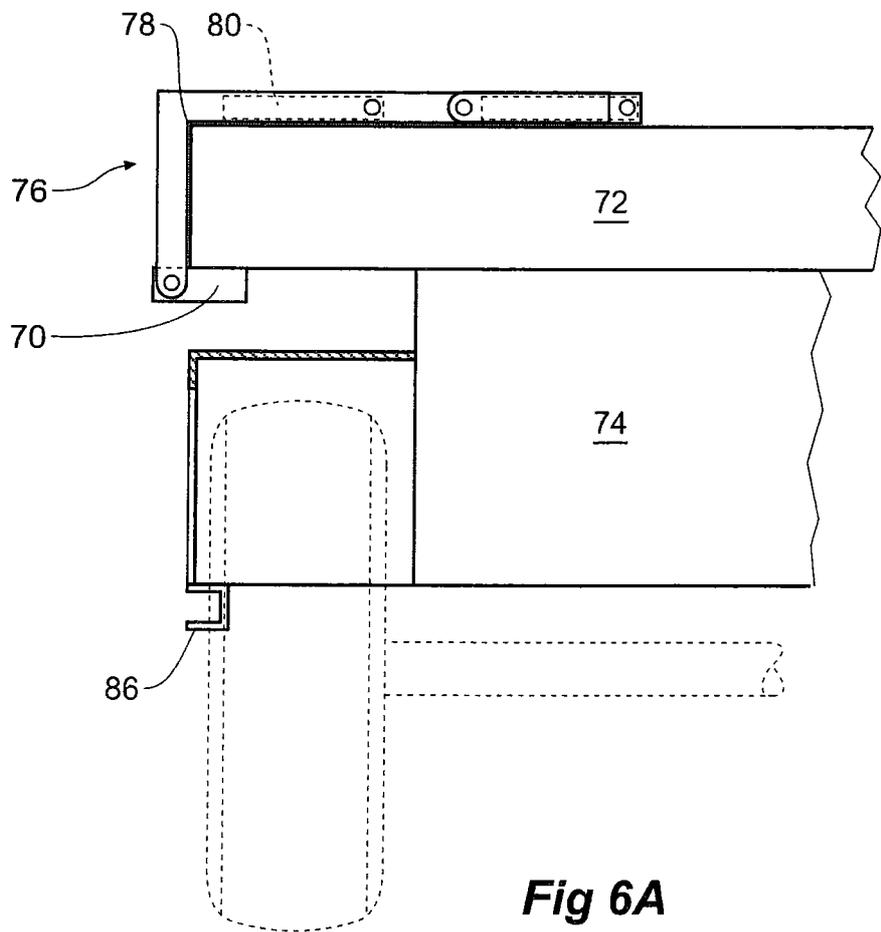
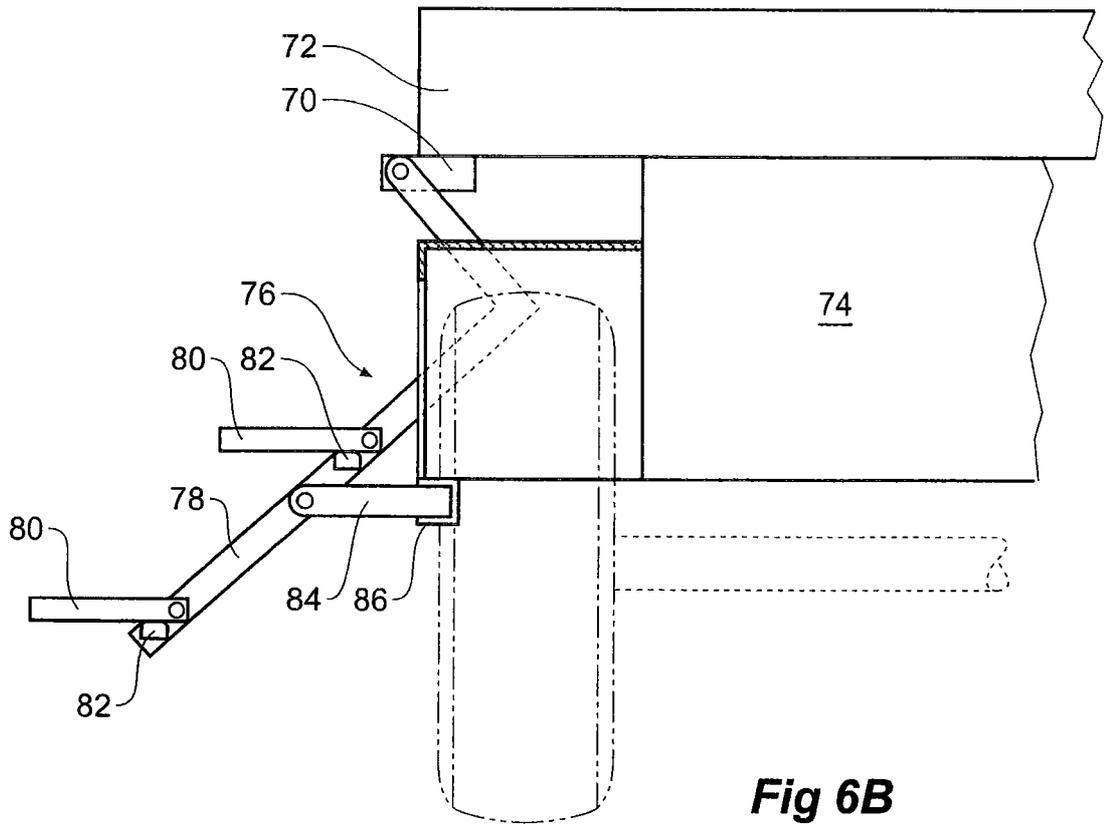


Fig 5C



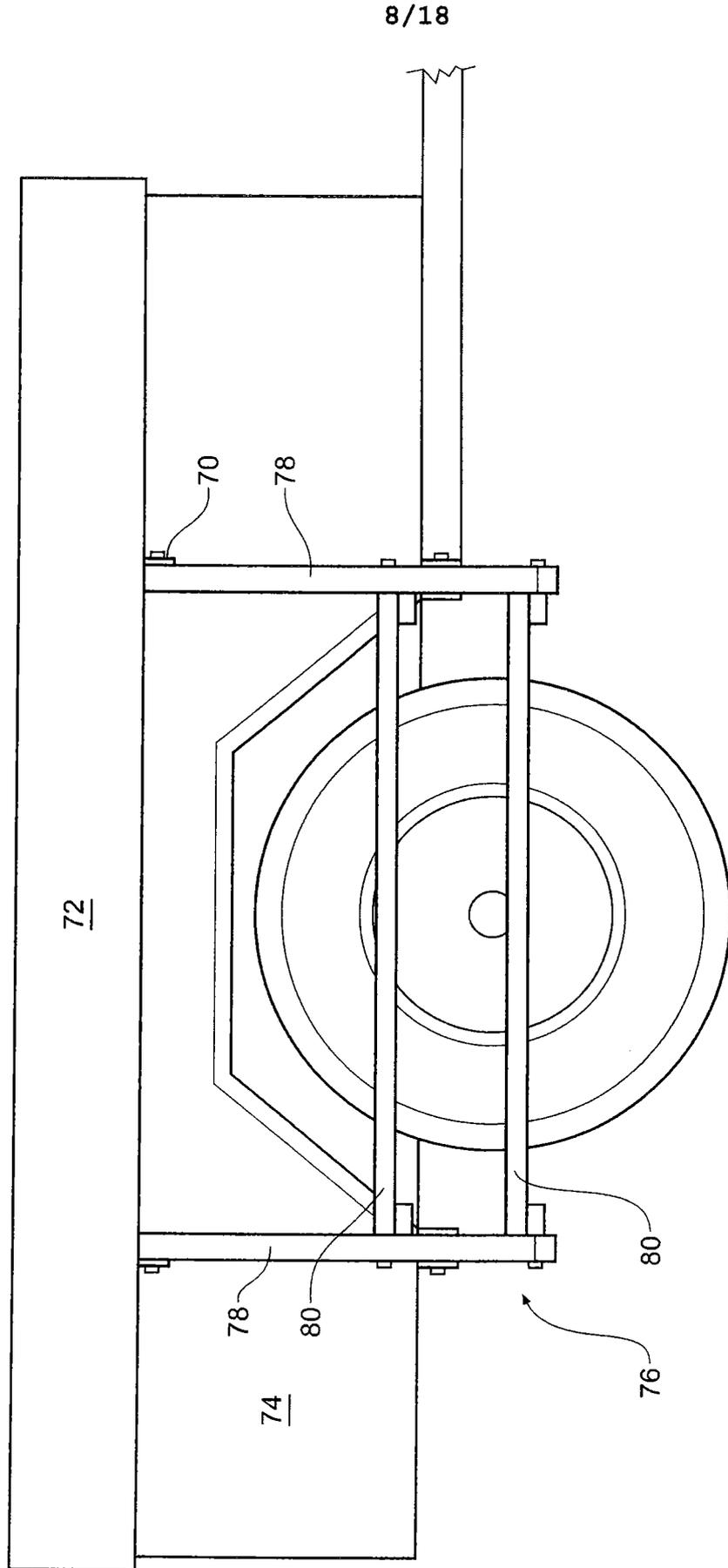


Fig 6C

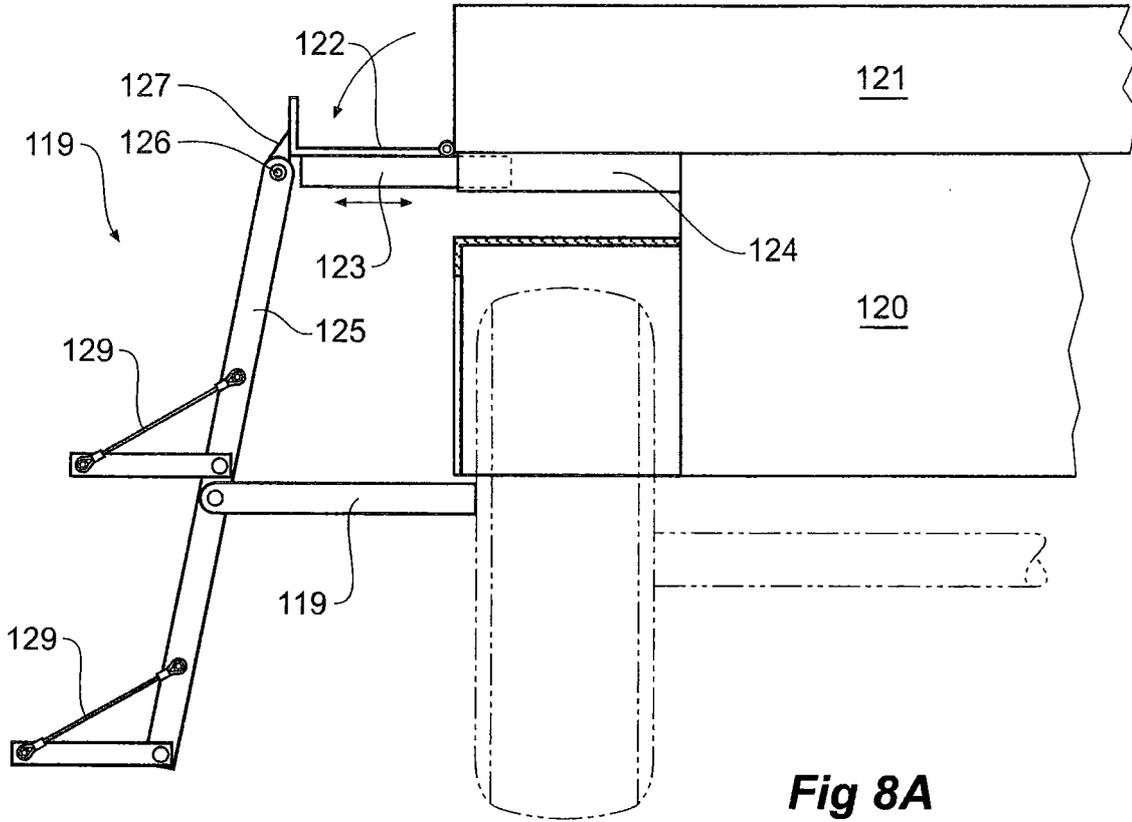


Fig 8A

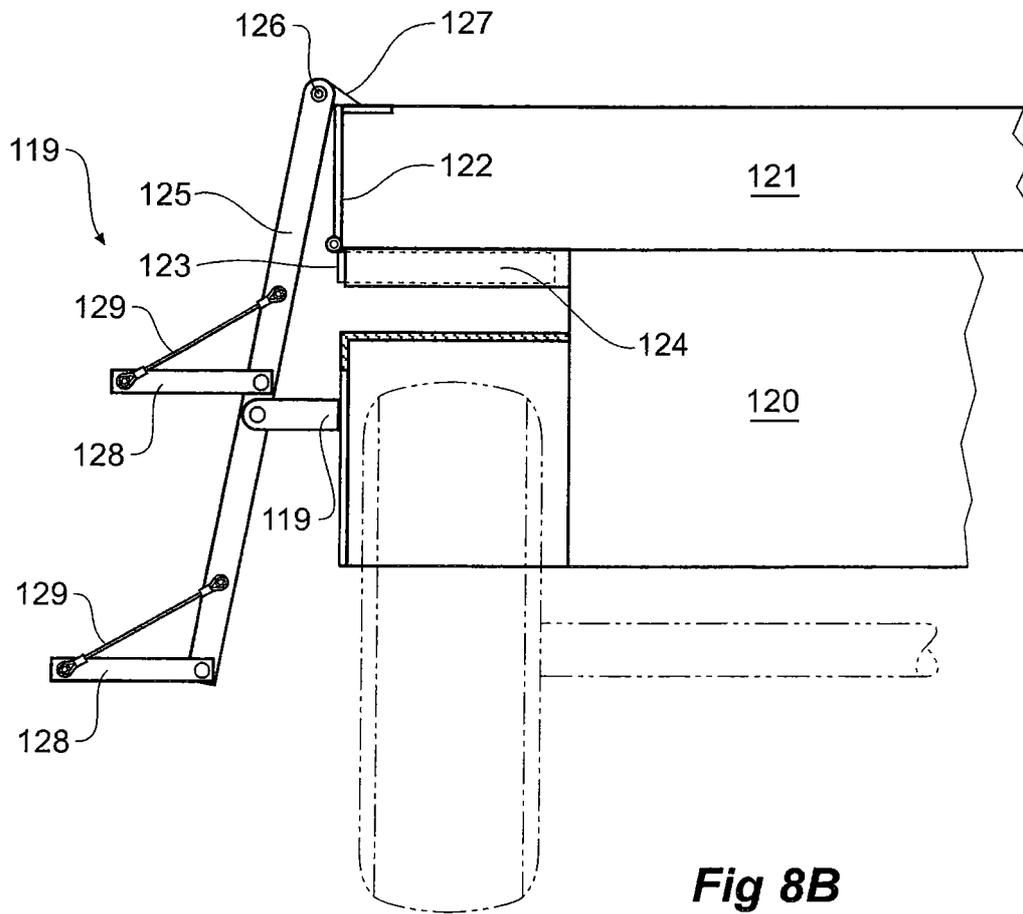


Fig 8B

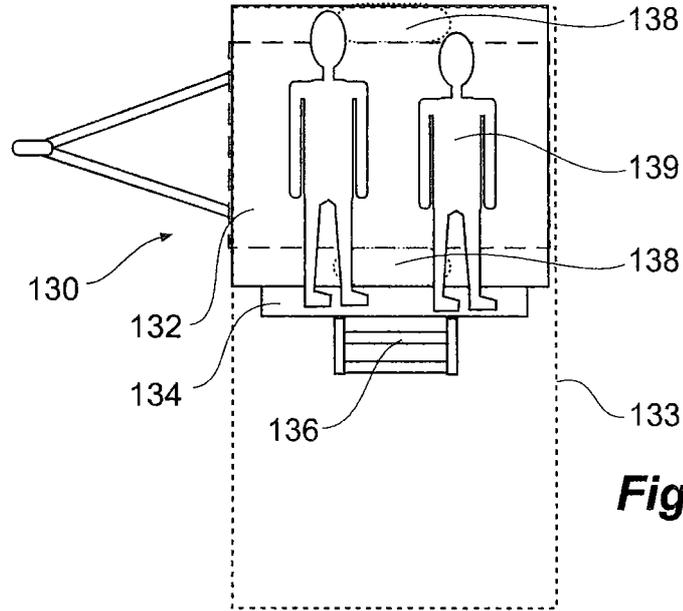


Fig 9A

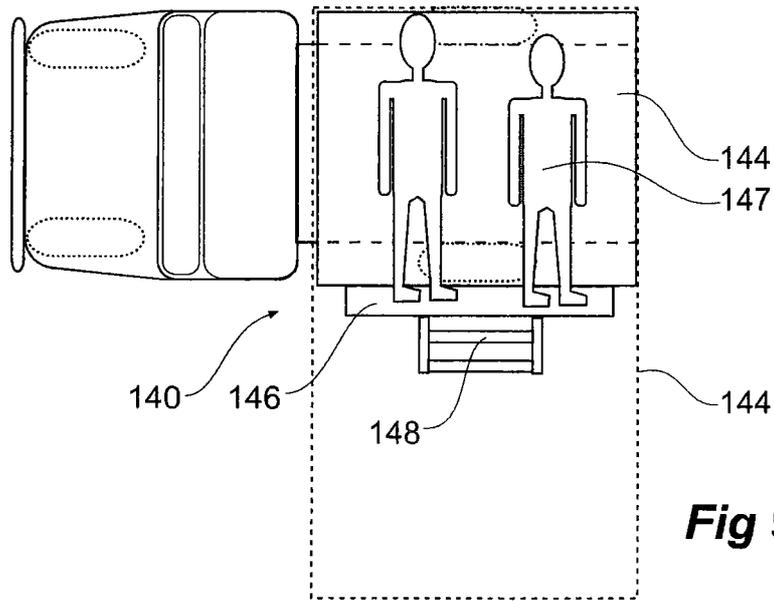


Fig 9B

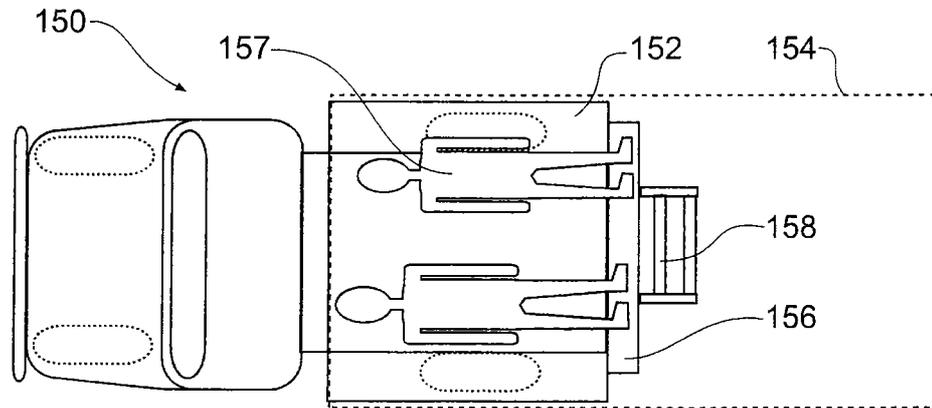
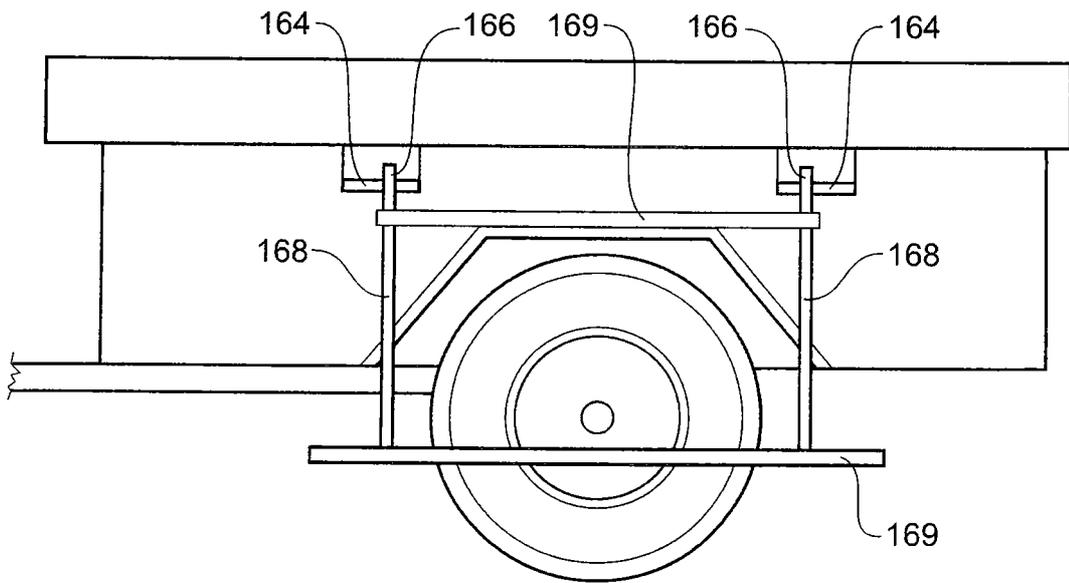
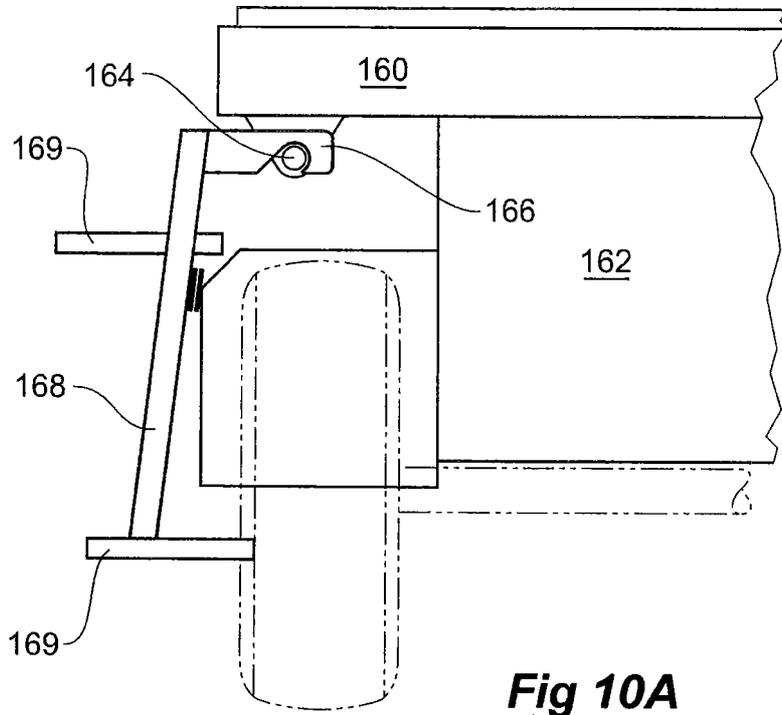


Fig 9C



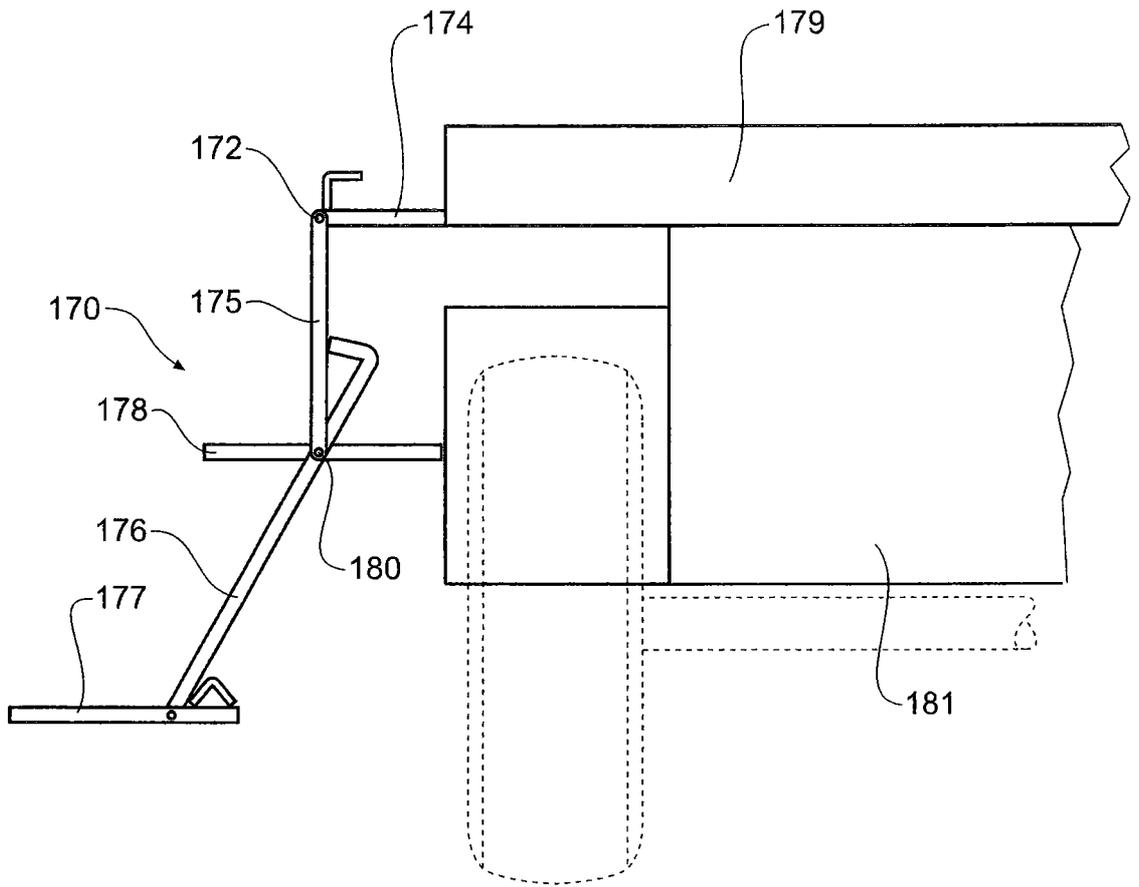


Fig 11

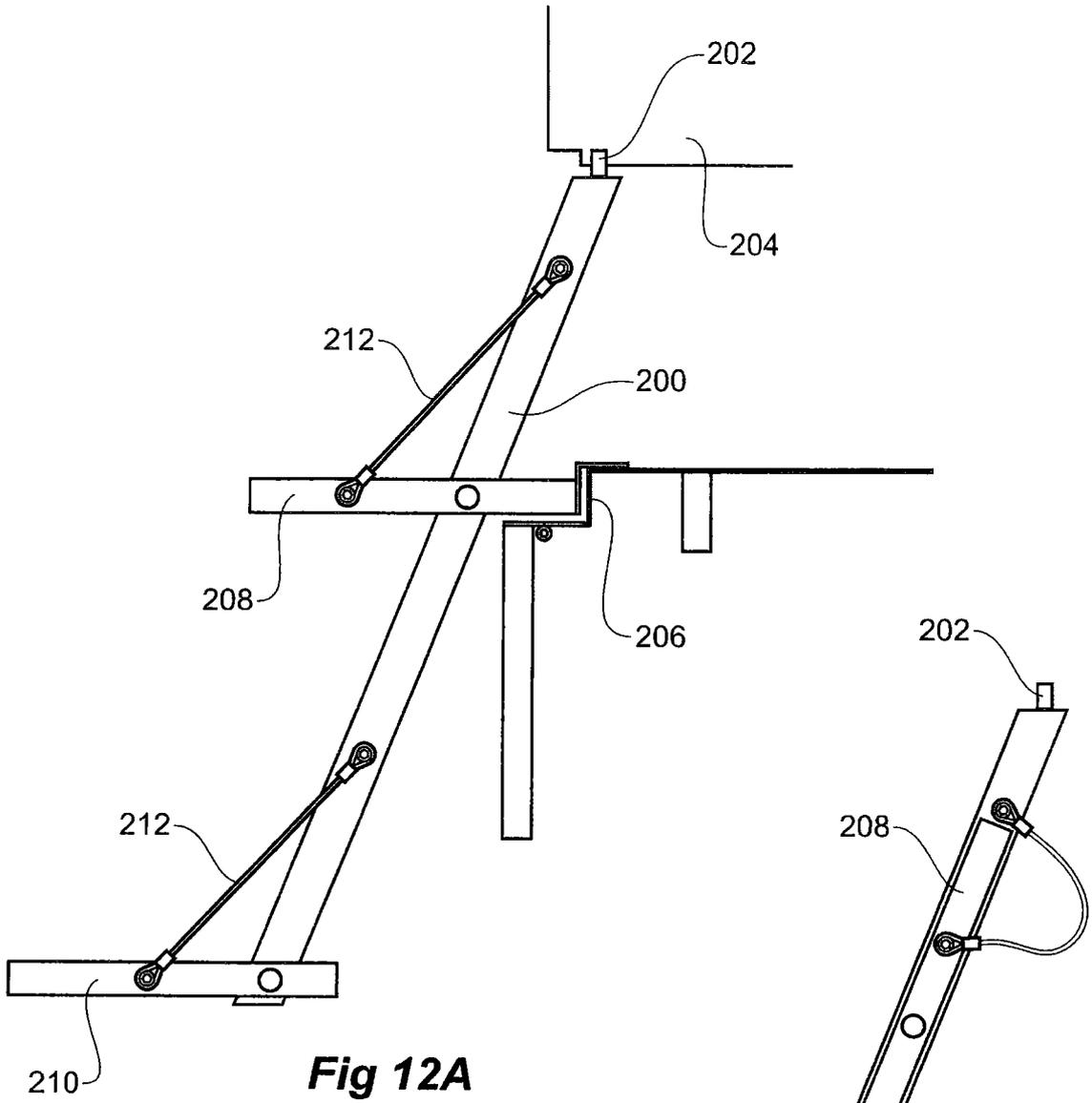


Fig 12A

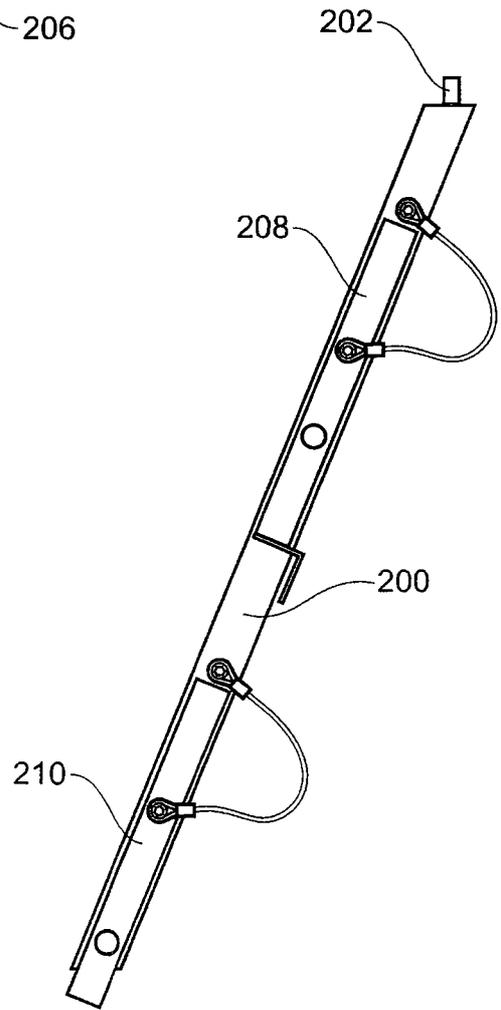


Fig 12B

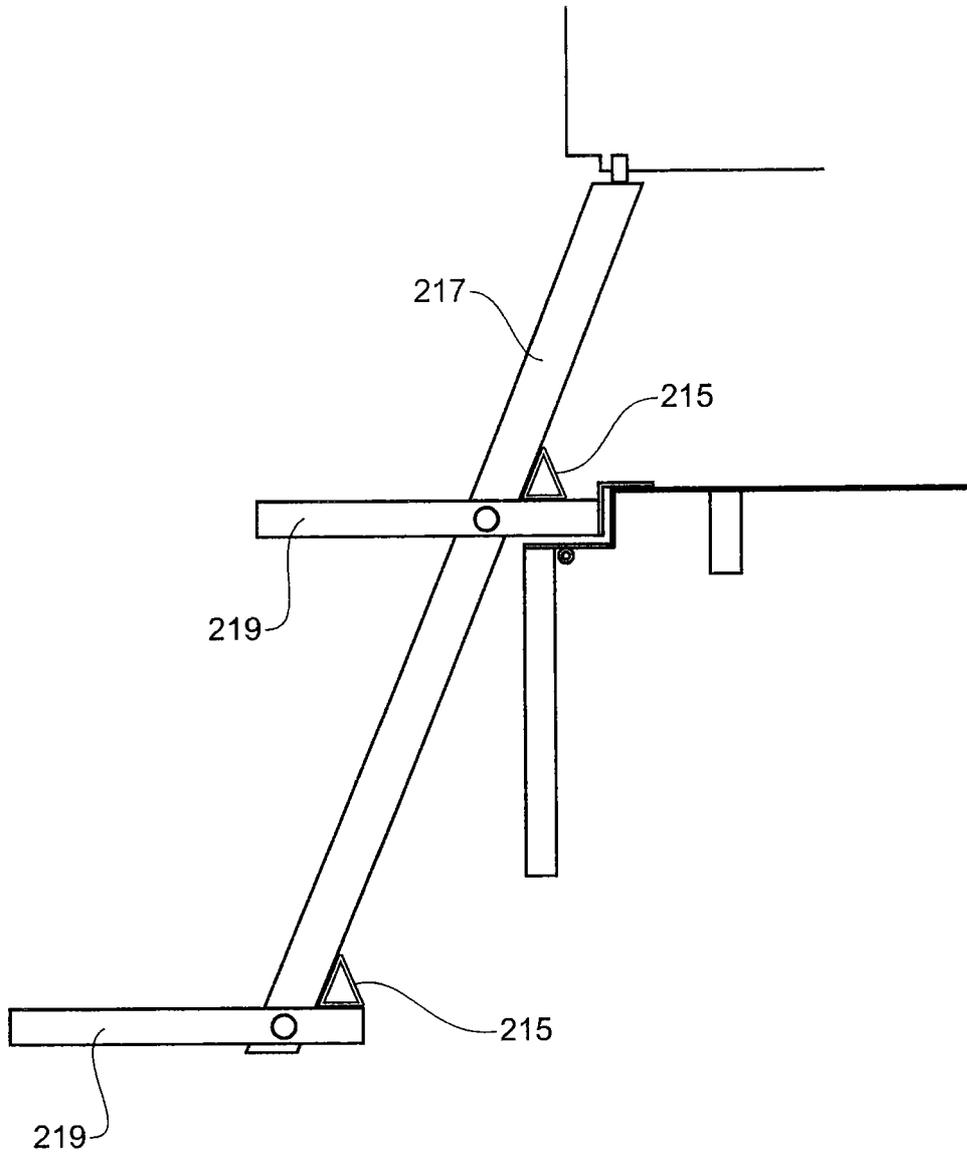


Fig 12C

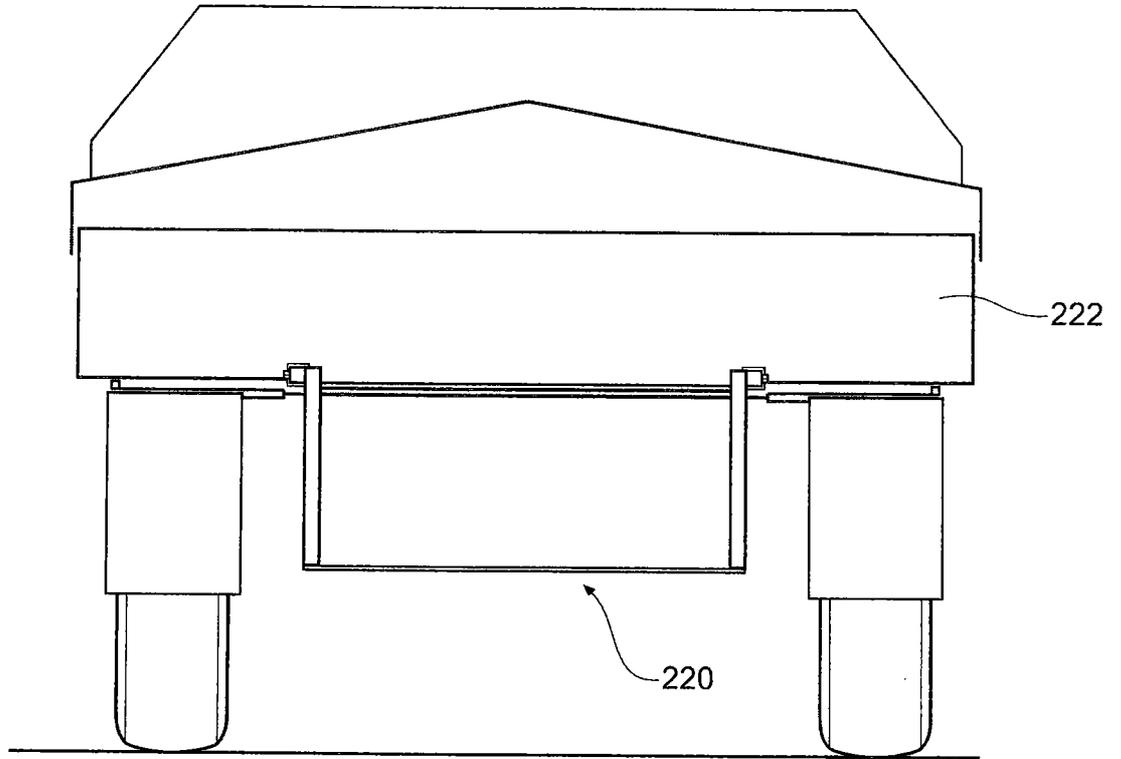


Fig 13A

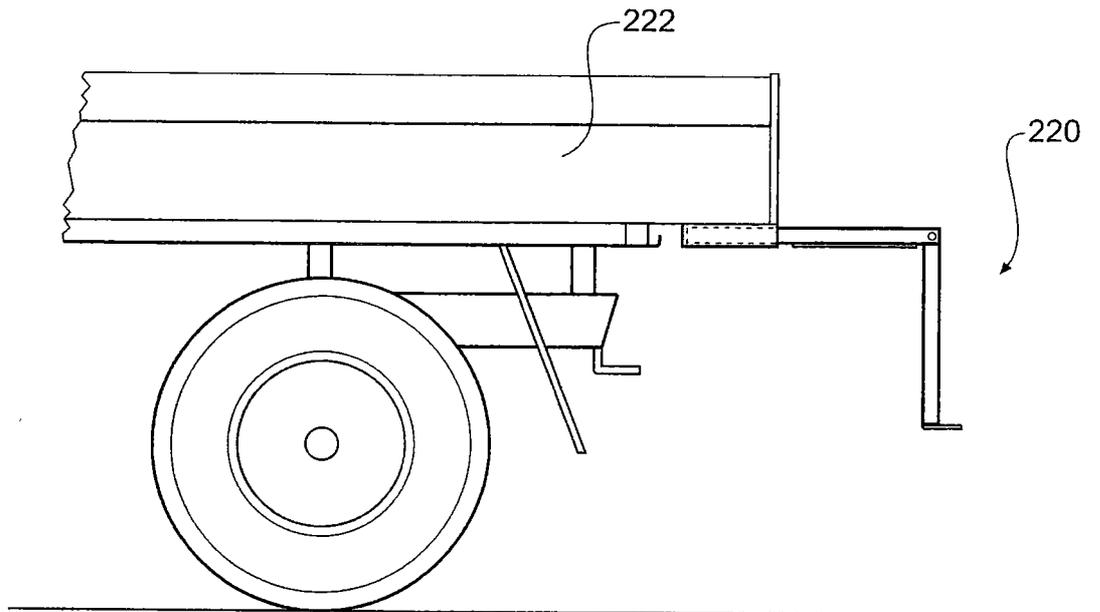


Fig 13B

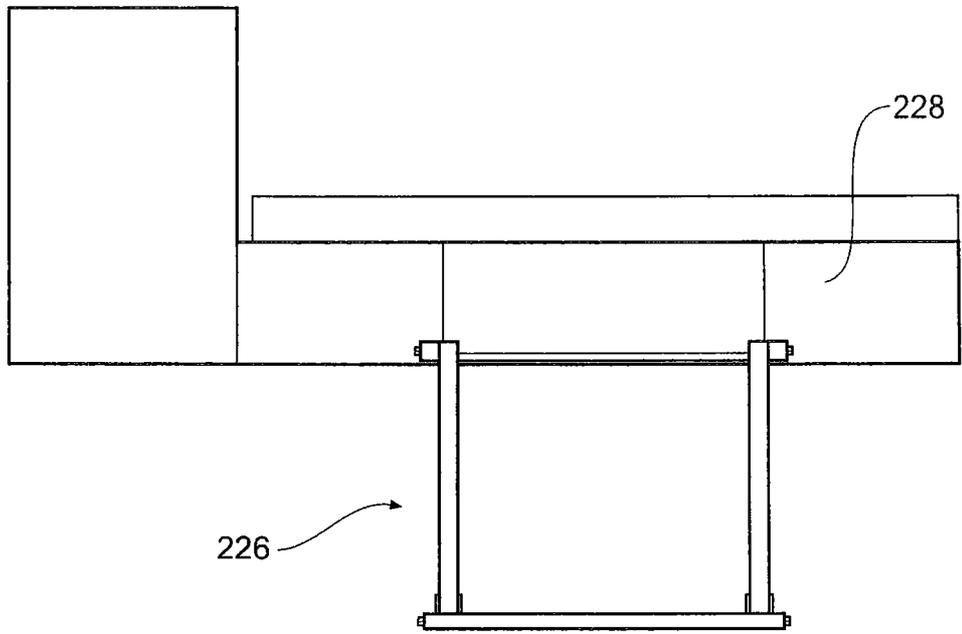


Fig 13C

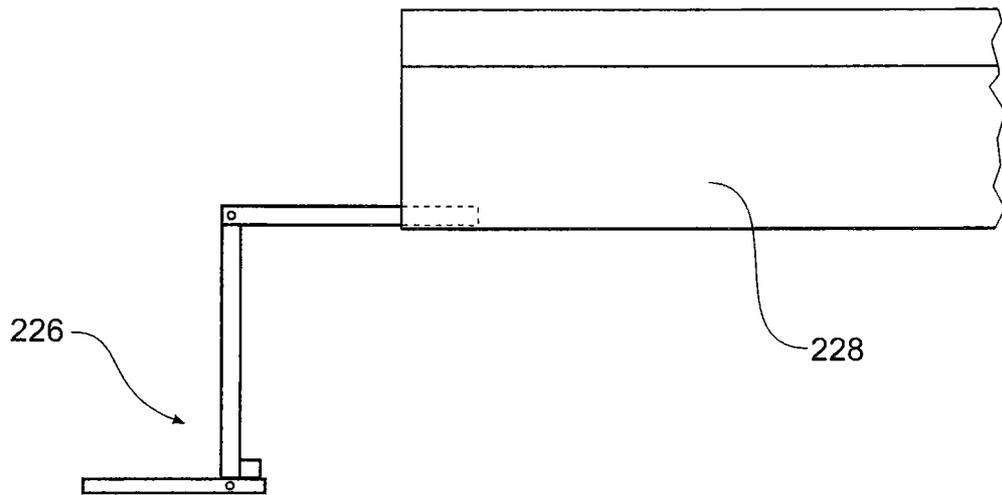


Fig 13D

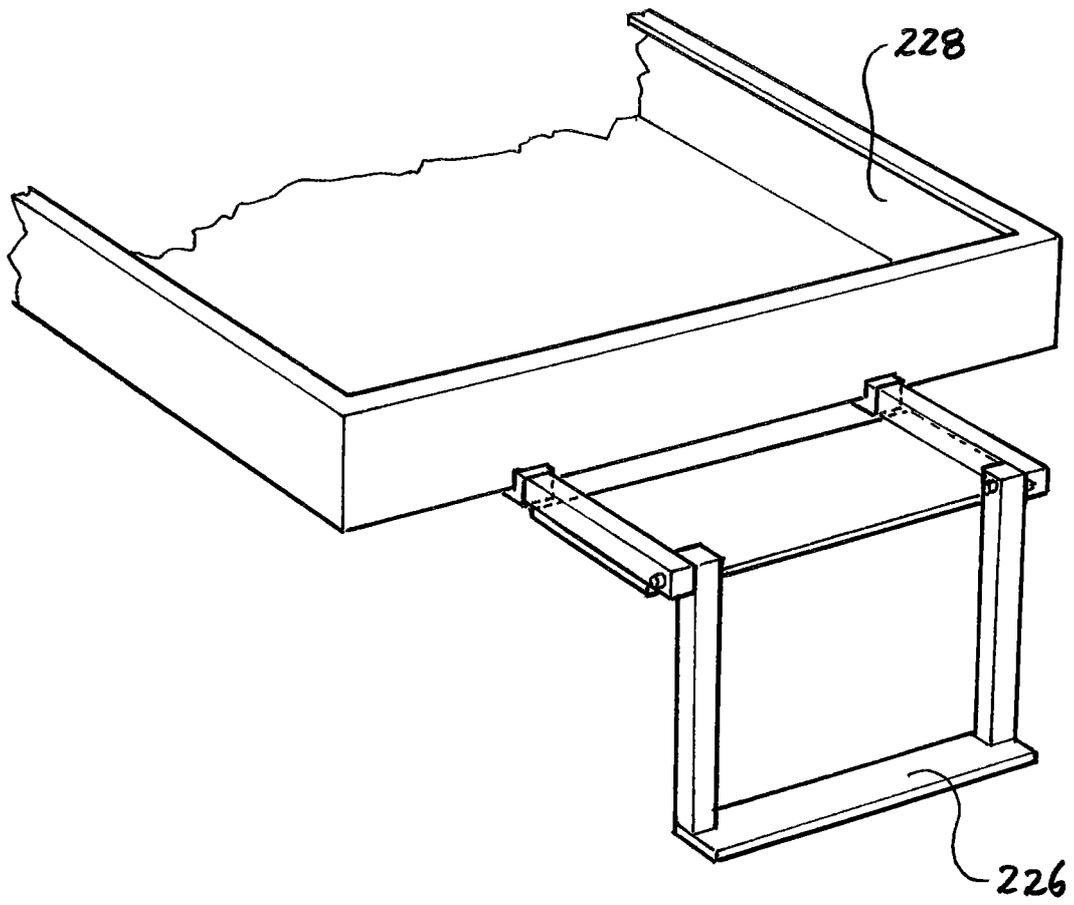


Fig 13E