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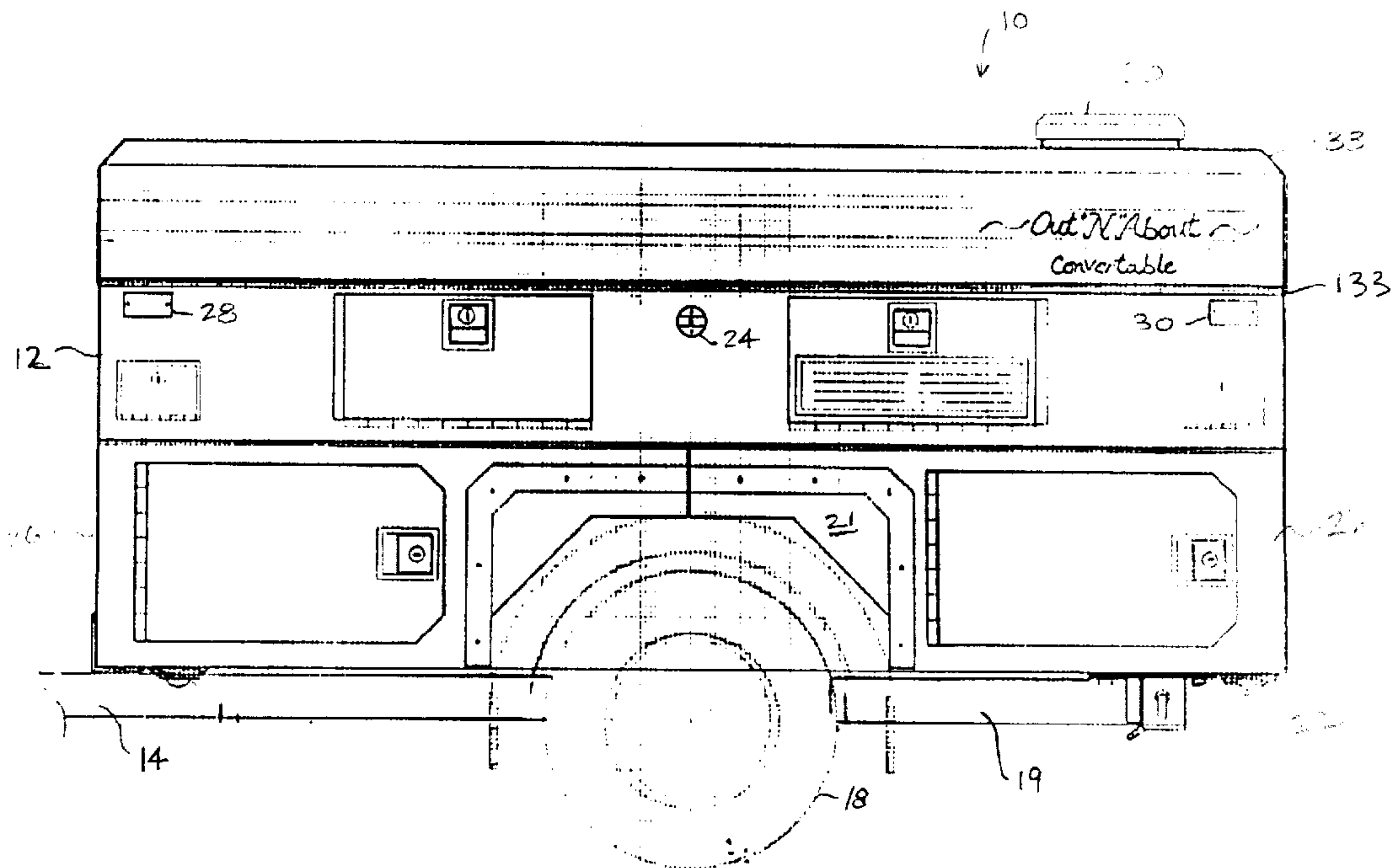
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(71) Demandeur/Applicant:  
BROWN, GREGORY THOMAS, CA

(72) Inventeur/Inventor:  
BROWN, GREGORY THOMAS, CA

(54) Titre : TENTE REMORQUE TRANSFORMABLE EN CAMPEUSE SUR CAMIONNETTE

(54) Title: CAMPER TRAILER CONVERTIBLE TO A TRUCK CAMPER



(57) Abrégé/Abstract:

A camper-trailer which is easily convertible to a truck camper. A removable camper which is removable from a back of the pickup truck at a camping destination. The removable camper has a chassis, a plurality of roller wheels affixed to the chassis positioned so that both a front and rear of said chassis is supported by said roller wheels when the chassis is on a flat surface, and a pair of retractable legs on both a front and rear of the chassis, extendible when the chassis is at least partially removed from the back of the pickup truck to contact ground. The removable camper also includes a rigid top member, a flexible fabric material interconnecting the rigid top and the chassis 4 telescopic lift poles coupled to the rigid top operative to raise the rigid top to an elevated position in which the flexible fabric encloses sides of the camper. The rollers and retractable legs permit the chassis to be removed from the back of a pickup truck or to free stand also in the trailer mode and to be made self supporting and movable leaving the truck or car to operate independent of the camper.



**ABSTRACT**

A camper-trailer which is easily convertible to a truck camper.  
A removable camper which is removable from a back of the  
5 pickup truck at a camping destination. The removable camper  
has a chassis, a plurality of roller wheels affixed to the  
chassis positioned so that both a front and rear of said  
chassis is supported by said roller wheels when the chassis  
is on a flat surface, and a pair of retractable legs on both  
10 a front and rear of the chassis, extendible when the chassis  
is at least partially removed from the back of the pickup  
truck to contact ground. The removable camper also includes a  
rigid top member, a flexible fabric material interconnecting  
the rigid top and the chassis 4 telescopic lift poles coupled  
15 to the rigid top operative to raise the rigid top to an  
elevated position in which the flexible fabric encloses sides  
of the camper. The rollers and retractable legs permit the  
chassis to be removed from the back of a pickup truck or to  
free stand also in the trailer mode and to be made self  
20 supporting and movable leaving the truck or car to operate  
independent of the camper.

**CAMPLER-TRAILER CONVERTIBLE TO A TRUCK CAMPER****FIELD:**

5           The present invention relates to a camper trailer that can be towed behind any car or truck which is convertible to a truck camper that can be carried in the box of a pickup truck.

**BACKGROUND:**

10           The large capital expense of recreational vehicles and large trailers has forced many people to purchase a less expensive option such as the common and well-known tent-trailer. The tent-trailer has a large trailer frame and box with relatively narrow wheels. Upon erecting the tent-trailer, the hardtop is raised to an elevated position exposing beds, a table and appliances available for use. However, the narrow wheels of known tent trailers makes them susceptible to dangerous blowouts in response to prolonged high speeds required of highway driving. Another option is a camper mounted in the box of a pickup truck. Such units are extremely heavy and in many cases cause the truck to exceed its gross vehicle weight.

20           Moreover, such units cannot easily be removed from the truck to allow the truck to be used without the camper. Aside from the disadvantages of campers and tent trailers known campers

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function only as campers and known tent trailers function only as tent trailers. There is no known vehicle, which can be converted from one to the other.

5           Accordingly it is an object of the invention to provide a light weight, compact camper trailer which can be easily towed by almost any car or truck. Another object is to provide a camper trailer that can be easily converted to a truck-camper by removing the cargo compartment and the  
10           trailer frame assembly, which is then readily mounted in a truck-box.

#### **SUMMARY OF THE INVENTION**

15           According to the invention there is provided a removable camper which is removable from a back of a pickup truck at a camping destination. The removable camper has a chassis, a plurality of roller wheels affixed to the chassis positioned so that both a front and rear of said chassis is supported by  
20           said roller wheels when the chassis is on a flat surface, and a pair of retractable legs on both a front and rear of the chassis, extendible when the chassis is at least partially removed from the back of the pickup truck to contact ground. The removable camper also includes a rigid top member, a  
25           flexible fabric material interconnecting the rigid top and the chassis and a reversibly extendible frame coupled to the

rigid top operative to raise the rigid top to an elevated position in which the flexible fabric encloses sides of the camper. The rollers and retractable legs permit the chassis to be removed from the back of a pickup truck and to be made self supporting and movable leaving the truck to operate unencumbered by the camper.

A plurality of swing arm assemblies may be affixed to sides of the chassis proximate an upper edge thereof having swing arms rotatable from a position aligned with associated sides of the chassis to a position extendible outwardly from associated sides of the chassis, the swing arms operative when in the extended position to support an overlying bed platform.

The pair of retractable legs may be located proximate a front of the chassis and may be pivotal from an extended position to a position adjacent sides of the chassis.

The pair of legs proximate a rear of said chassis may be telescopically extendible.

The removable camper of claim 1, including a trailer having a frame with a transverse member at a rear thereof and a positioning bracket proximate a front thereof, and wherein said camper has a pair of spaced apart retaining members

positioned to engage and retain said transverse member as a bracket on a front of said chassis engages said positioning bracket.

5 The removable camper of claim 1, wherein said trailer has a pair of wheels journaled on each side thereof.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

10 Further features and advantages will be apparent from the following detailed description, given by way of example, of a preferred embodiment taken in conjunction with the accompanying drawings, wherein:

15 Fig. 1 is a side elevation view of the camper-trailer with its telescopic drop legs in the retracted position;

Fig. 2 is a rear elevation view of the camper-trailer;

20 Fig. 3 is a front elevation view of the camper-trailer;

Fig. 4 is a bottom view of the camper-trailer;

25 Fig. 5 is a bottom view of trailer without the chassis affixed thereto;

Fig. 6 is a perspective view of a front portion of the trailer and a front portion of the camper chassis shown in dotted outline;

5 Fig. 7 is a perspective view showing one of two chassis retainers;

10 Fig. 8 is a side elevation view of the camper chassis with its rear legs/wheels extended and its front wheels pivoted up to a folded position;

15 Fig. 9 is an exploded elevation view showing a portion of the chassis, the chassis roller wheel(s), and a retractable leg partially extended with a bed support an extended position;

Fig. 10 is a perspective view of the outer shell of the chassis;

20 Fig. 11 is a top sectional view of the camper showing its floor plan and layout;

Fig. 12 is a side elevation view of the camper chassis showing access doors for swing arms and functional controls;

Figs. 13a and 13b are perspective views showing 2 of 4  
removable camper cargo compartments;

Fig. 14 is an elevation view of the chassis showing the  
15 swing arms pivoted into a stored position inside the  
access door;

Fig. 15 is a rear elevation view of the aluminum tubing  
frame which fits into the inside of the outer shell;

Fig. 16 is a front elevation view of the aluminum tubing  
frame;

Fig. 17 is a bottom view of the aluminum tubing frame;

6A

Fig. 18 is a top sectional view of the camper with the bed platforms 114 and 120 in a folded, stored position;

Fig. 19 is a top sectional view of the camper with both of the bed platforms extended and one unfolded;

Fig. 20 is a top sectional view of the camper with the bed platforms in an extended and unfolded position except for the utility access panels; and

Fig. 21 top sectional view of the camper with the bed platforms in an extended and completely unfolded position.

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#### DETAILED DESCRIPTION WITH REFERENCE TO THE DRAWINGS

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Referring to Fig. 1 the convertible camper-trailer 10 is made up of a camper chassis 12 removably supported by a trailer 14. The trailer 14 has a trailer hitch 16 (see Fig. 4), wheels 18 and a frame 19 to which wheels 18 are mounted and which supports the camper chassis 12. The camper chassis 12 has a combination vent and skylight 20 located on roof 33,

lights 28 and 30, a spirit level 24 and storage containers 26 which are mounted within a recess region extending from wheel recess 21 to a front and rear of the chassis 12. A pair of extendable, telescoping wheels 22 extends down to the ground and, together with wheels 18 support the chassis 12 when not being towed. Wheels 18 are full size 13-14 inch automobile tires. Wheels 22 (see Fig. 8) may be locked or may be replaced with a skid plate to ensure no inadvertent movement of the camper trailer 10.

Referring to Fig. 2 the rear of the chassis 12 has a recessed handle 34 on either side, recessed tail lights 36 and a spirit level 32. A detachable hinged door 38 provides access to the interior of the camper chassis and removable storage container areas 36 12. A step-retaining bracket 40 permits a step to be locked in place against a bottom of the door 38. In Fig. 3 the front of the camper-trailer 10 has a pair of recessed handle openings 42 and removable storage containers 26.

Tent fabric 133 (see Fig. 1) is attached to the roof or top 33 of the camper 10. The tent fabric 133 extends between top 33 and upper edge of chassis 12 in conjunction with sleeping platforms 114 and 120 (see Fig. 11) where it is attached. Raising the rigid roof or top 33 and sliding out

sleeping platforms on both sides of the chassis causes the tent fabric 133 to be unfolded.

Referring to Fig. 4 the camper-trailer, in the trailer mode, includes chassis 12 and trailer frame 14. Located at the rear of the chassis are two telescopically extendible legs 22 and near the front on either side two pivotal legs 56 with fixed wheels 108 (see Fig. 8) affixed at distal ends thereof. A pair of trailer retainers 44 (see also Fig. 7) mounted to the bottom of chassis 12 on either side receives and retains ends 52 of a trailer frame 14. Frame 14 also includes side members 19 and front member 15. Sets of leaf springs 54 are mounted to the side member 19 and serve to suspend the axle 21. Fig. 5 is a bottom view of the trailer frame 14 without the chassis 12. Referring to Fig. 6 a positioning bracket 60 has boltholes 62 and a central pin 72 on an upstanding portion 66. On chassis 12 there is a positioning hole 64 and threaded screw holes 63 which register with the threads of bolts 68. By fully inserting positioning pin 72 into hole 64 one lines up holes 62 with threaded holes 63. Bolts 68 can then be inserted through holes 62 and threadedly engage threaded holes 63. At the time of insertion, ends 52 (see Fig. 7) of member 46 enter retainers 44. Bolts 57 pass through the sides of retainers 44 and threadedly register with nuts 46 welded to the sides of retainers 44.

Referring to Fig. 8 the camper-trailer 10 has a pair of roller wheels 88a and 88b (see Fig. 17) near all four which extend below the bottom of chassis 12. Pivotal leg 56 is shown in a horizontal pivoted position. Leg 56 is telescopically extendable by simply pulling pin 57 and sliding out wheel 108 and sleeve 51. Leg 56 is kept in the horizontal position by a locking pin 55 which, when released, pivots about pivot pin 53. A pair of horizontally disposed swing arms 84a and 84b can be moved to extend outwardly of the side of chassis 12. Telescopically extendable leg 22 is locked by pin 89. Wheel 76 can be locked by lever lock 78. Alternatively, wheel 76 can be removed leaving a skid plate. Leg 22 and leg 56 is activated by a manual crank and/or electric motor assembly (not shown).

Fig. 9 is an exploded view of a swing arm bed support assembly 83. The swing arm 84b rotates about pin 87 which is slidably inserted in a sleeve 86 affixed to a bracket 83. Bracket 83 is affixed to outer shell 107 and aluminum tubing frame 61. The swing arms 84a and 84b may be rotated either to a stored position against a side of chassis 12 or to an extended position as shown. A roller wheel 88b is rotatably affixed to a recess in the bottom of chassis 106. Chassis shell 107 fits over and is affixed to aluminum tubing frame 61.

Referring to Fig. 10 the outer shell 107, which is formed of plastic or aluminum, has bottom recesses 109 on each side which serves as the wheel wells 21 (see Fig. 1) and receive front and rear cargo compartments 106a and 106b (see Figs. 13a and 13b).

Referring to Fig. 11 an interior floor plan of the camper-trailer consists of bed platforms 114 and 120, which are normally folded in half from the inside about hinges and then slide inward from outside stored. When slid out they lie horizontally over the extended swing arms 84a and 84b and are supported thereby. Air mattresses and sleeping bags can be placed on the bed platforms 114 and 120, which can accommodate up to 4 people (2 persons per side). Table top 112 is normally stored in a horizontal position against the interior of the front wall 109. A propane tank 110 (see Fig. 3) is located above the trailer hitch 16 on the exterior of the front wall and for truck camper mode can be relocated to the rear of chassis. A canvass structure is attached to the chassis around the bottom of sleeping platforms 114 and 120, at the top to a rectangular rigid structure and around the front and back. A set of 4 telescopic lift poles (not) support the rigid structure near the corners as the rigid structure is raised from a stored or collapsed position to a raised position. A sink 81 is positioned at a corner near the

back and under the sink in storage for a chemical toilet. Refrigerator **83** on an opposite side with furnace stationed below.

5           Referring to Fig. **12** each side of the outer shell **107** has an upper portion which extends 6 inches over the top of a truck box       when used as a camper on the back of a pickup truck.

10       The lower chassis portion **132** fits inside the truck box against the truck box walls and floor. Recess **109** in part forms the wheel well area **21**. A front swing arm access door **134** covers the swing arm **84a**, the main electrical control panel, the power top lift, the power legs and the lights. A  
15       rear swing arm access door **135** covers the swing arm **84b** and a manual crank for the hard top **33** (see Fig. **1**). Access door **137** provides access to the manual crank for the rear telescoping legs **22** and a camper tie-down. Access door **136** provides access to the manual crank for the front pivoting  
20       legs **56** and a camper tie-down.

          Referring to Figs. **13a** and **13b** cargo compartments **106a** and **106b** are installed one on the front and one on the rear of each side of the chassis **12** in the lower recessed regions **109**  
25       adjacent the wheel wells **21**.

Referring to Fig. 14 the swing assembly 84a is shown pivoted into the stored position behind access door 134. It consists of a steel arm 140, horizontally disposed, a vertical pivot bolt 142 and a diagonal bracing arm 144. This design is an alternative to the design shown in Fig. 9.

Referring to Figs. 15 and 16 the rear and front sections of the chassis reinforcement is provided by an aluminum tubing frame 106 which conforms to the shape of the interior of the outer shell 107 into which it is fitted. Fig. 17 is a diagram of a bottom of the aluminum tubing frame 106. It is seen that the bottom roller wheels 88a and 88b are mounted in the frame 106 as are the pivotal legs 56 and the telescoping legs 22. Fig. 18 shows a side view of the aluminum tubing frame.

In the trailer mode of operation, positioning bracket 60 is engaged with hole 64 and ends 52 of the trailer frame 19 insert into and are held by retainers 44. When camping, legs 22 are extended and pivotal legs 56 are pivoted and locked in a vertical position. The upper rigid rectangular roof or top 33 is raised making the interior accessible through door 38 and a canvass door of the tent structure that interconnects structure 33 with the chassis 12. If it is desired to remove the trailer frame 14, bolts 68 are removed as are bolts 57 (see Fig. 7) and the trailer frame 14 pulled away from bracket 60. Finally, if it is desired to load the

chassis 12 onto the back of a pickup truck, all 4 cargo compartments are removed and pivoting wheels 56 are pivoted to a horizontal position as seen in Fig. 12 once the front end of chassis is over the tailgate. with the pivotal wheels 56 raised, the chassis is pushed forward until roller wheels 88a are on the tailgate. The chassis 12 is then pushed forward until the tailgate is proximate the telescoping wheels 22. The telescoping wheels 22 are then raised and then the rest of the chassis 12 is pushed onto the back of the pickup truck until the rear roller wheels 88b engage the tailgate. The entire chassis may then be pushed into place.

Figures 18 to 21 show a top view of the camper with the bed platforms 114 and 120 and utility platforms 140 and 142, in various positions from a stored position shown in Fig. 18 to a fully extended and unfolded position as shown in Fig. 21.

Accordingly, while this invention has been described with reference to illustrative embodiments, this description is not intended to be construed in a limiting sense. Various modifications of the illustrative embodiments, as well as other embodiments of the invention, will be apparent to persons skilled in the art upon reference to this description. It is therefore contemplated that the appended claims will cover any such modifications or embodiments as fall within the true scope of invention.

## I CLAIM:

1. A camper-trailer which is convertible to fit in the box of  
a pickup truck onto roadway or parking area, comprising:

(a) a chassis;

(b) roller wheels affixed to said chassis positioned so  
that both a front and rear of said chassis is supported by  
said roller wheels when said chassis is on a flat surface;

(c) a pair of retractable legs on both a front and rear of  
said chassis, extendible when said chassis is at least  
partially removed from the back of said pickup truck or in  
the trailer mode to contact ground;

(d) a rigid top member;

(e) a flexible fabric material interconnecting said rigid  
top and said chassis; and

(f) 4 telescopic lift poles coupled to said rigid top  
operative to raise said rigid top to an elevated position  
in which said flexible fabric encloses sides of said of  
camper.

2. The camper-trailer of claim 1, including a plurality of swing arm assemblies affixed to sides of said chassis proximate an upper edge thereof having swing arms rotatable from a position aligned with associated sides of said chassis to a position extendible outwardly from associated sides of said chassis, said swing arms operative when in the extended position to support an overlying bed support.

3. The camper-trailer of claim 1, wherein the pair of said retractable legs proximate a front of said chassis are pivotal from an extended position to a position adjacent sides of said chassis.

4. The camper of claim 1, wherein the pair of said legs proximate a rear of said chassis are telescopically extendible

5. . The camper of claim 1, including a trailer having a frame with a transverse member at a rear thereof and a positioning bracket proximate a front thereof, and wherein said camper-trailer has a pair of spaced apart retaining members positioned to engage and retain said transverse member as a bracket on a front of said chassis engages said positioning bracket.

6. The camper-trailer of claim 1, wherein said trailer has a wheel journaled proximate each side thereof.

7. A truck-camper which is removable from a back of a pickup truck onto a parking area, comprising:

- 5           (a) a chassis;
- (b) a pair of spaced apart swing arms mounted to each side of said chassis located to support a bed platform when extended over said swing arms;
- (c) a rigid top member;
- 10          (d) a flexible fabric material interconnecting said rigid top and said chassis; and
- (e) 4 telescopic lift poles coupled to said rigid top operative to raise said rigid top to an elevated position in which said flexible fabric encloses
- 15           sides of said of truck-camper.

8. A truck-camper according to claim 1, including a pair of retractable legs on both a front and rear of said chassis, extendible when said chassis is at least partially removed from the back of said pickup truck to contact ground;

20          9. A camper according to claim 7, including a pivotal leg on each side of said chassis pivotal from a substantially horizontal position to a vertical position.

25          10. A camper according to claim 7, including a pair of roller wheels rotatably mounted to each side of said chassis.

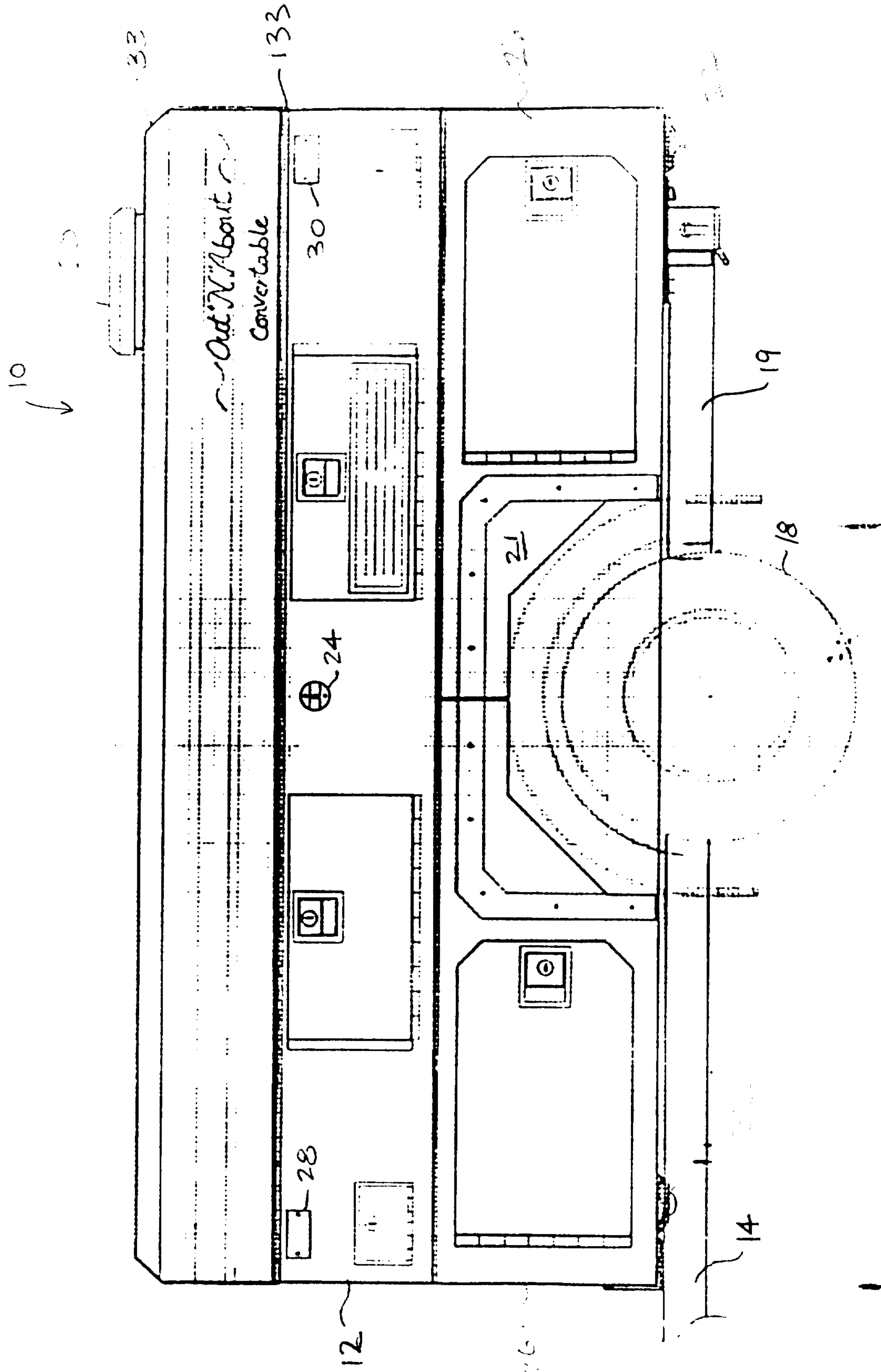


Fig. 1

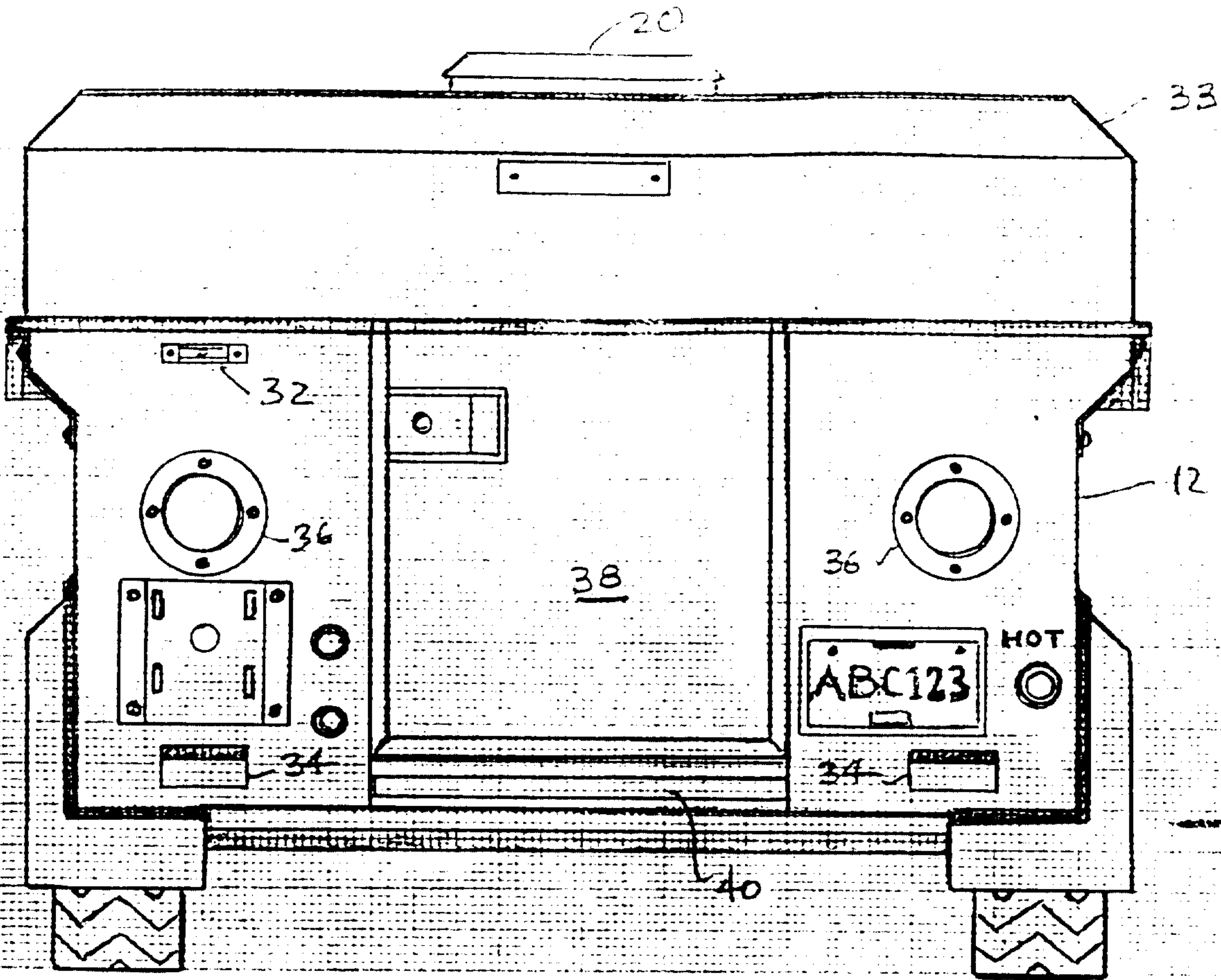


FIG. 2

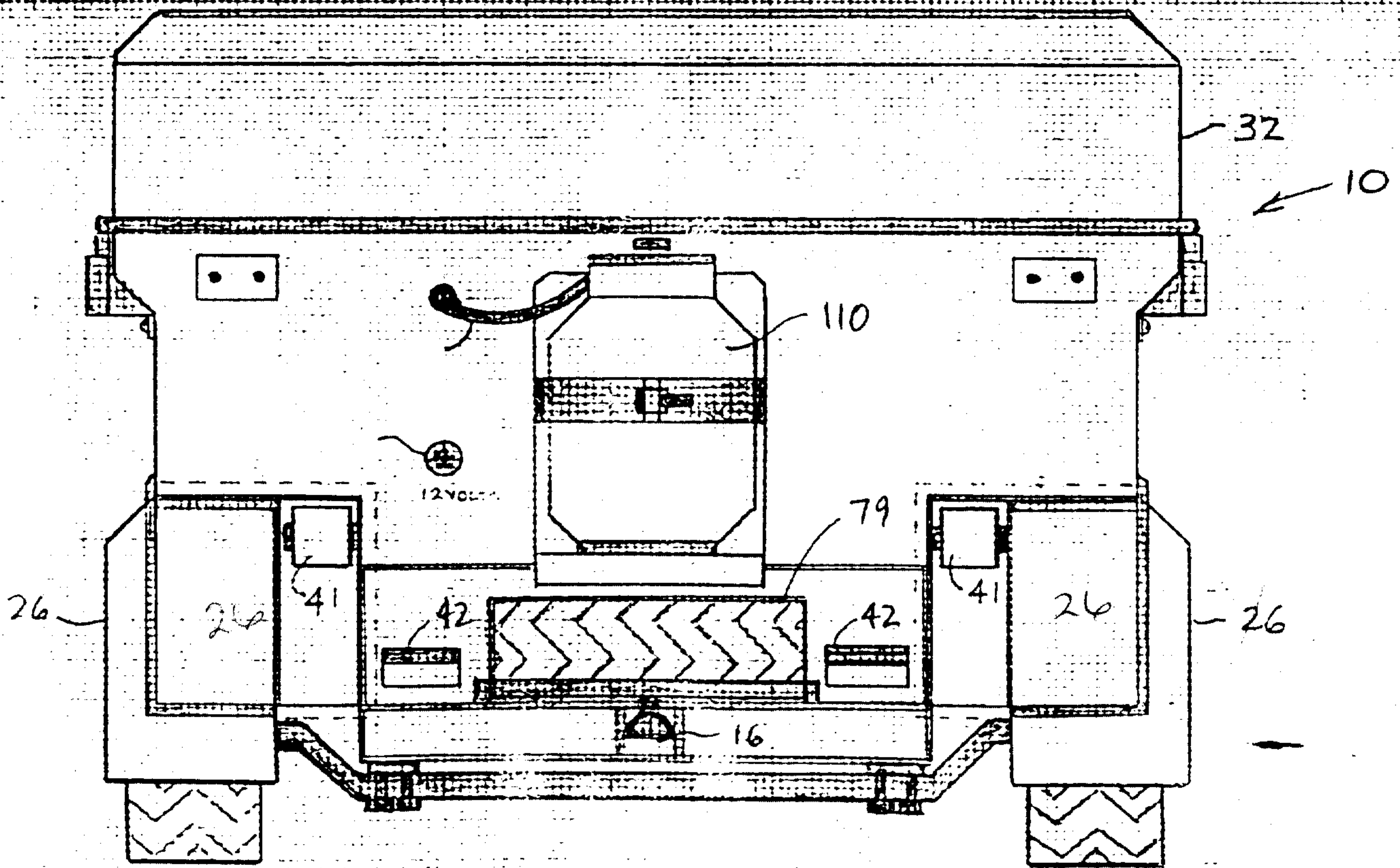


FIG. 3

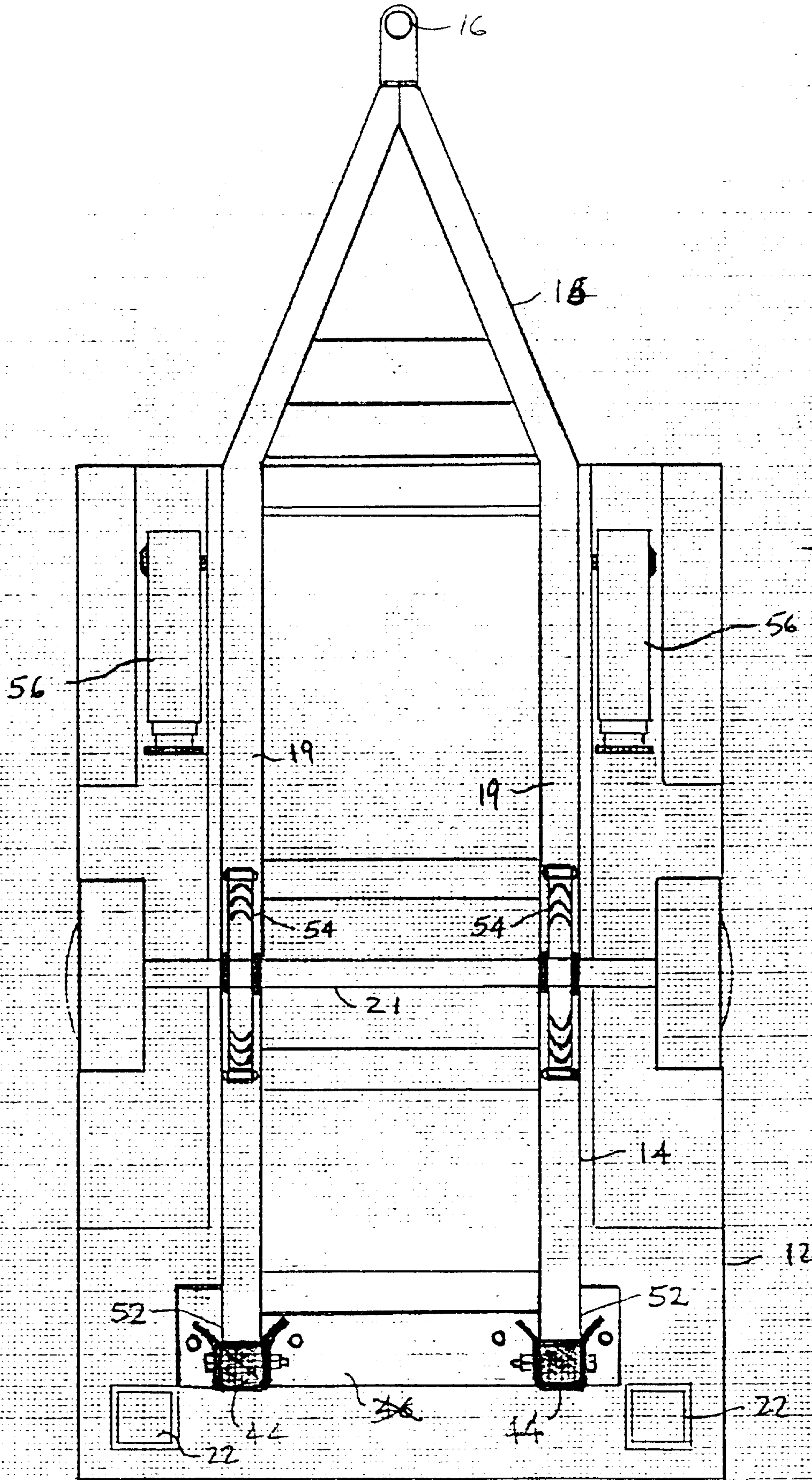


FIG. 4

FIG. 5

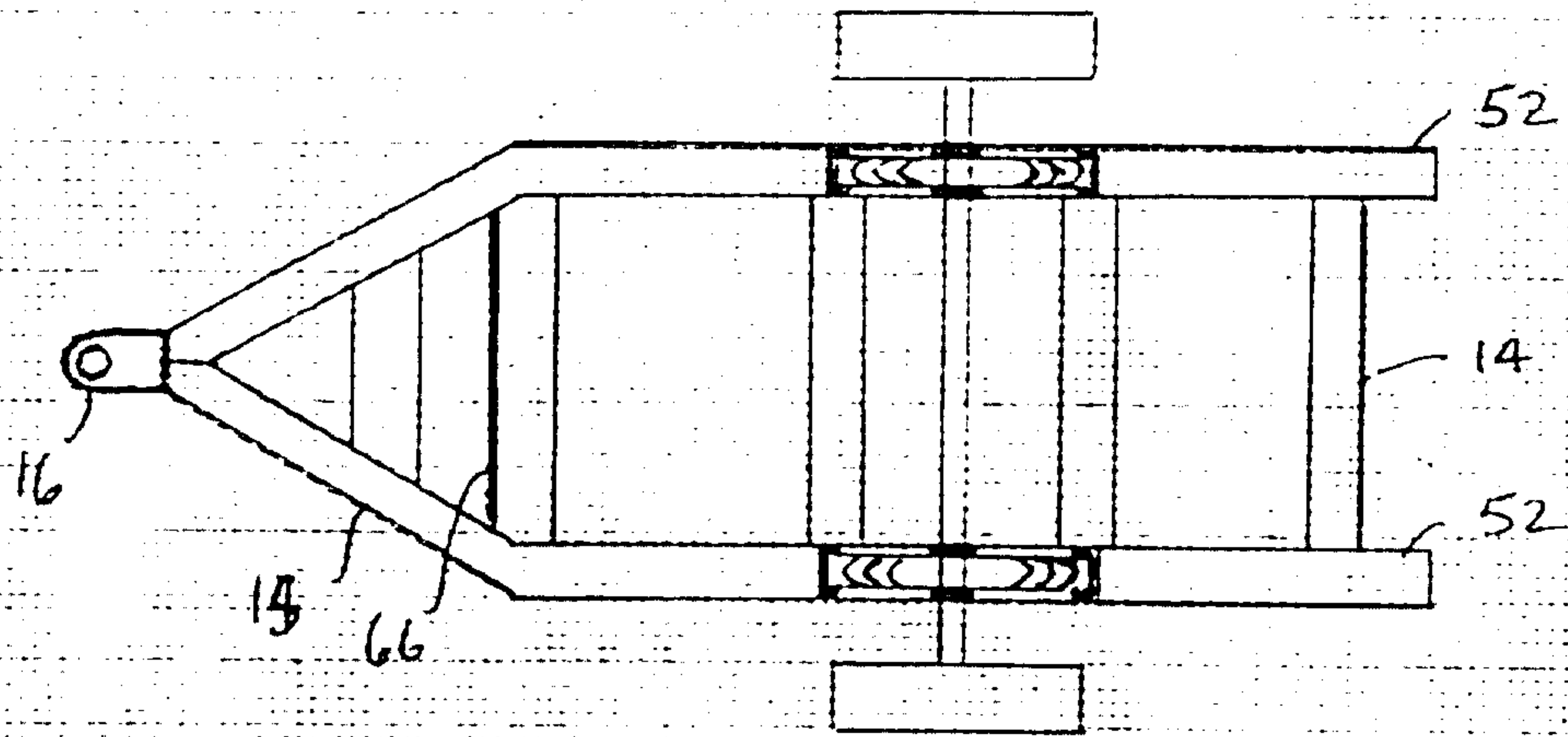


Fig 5

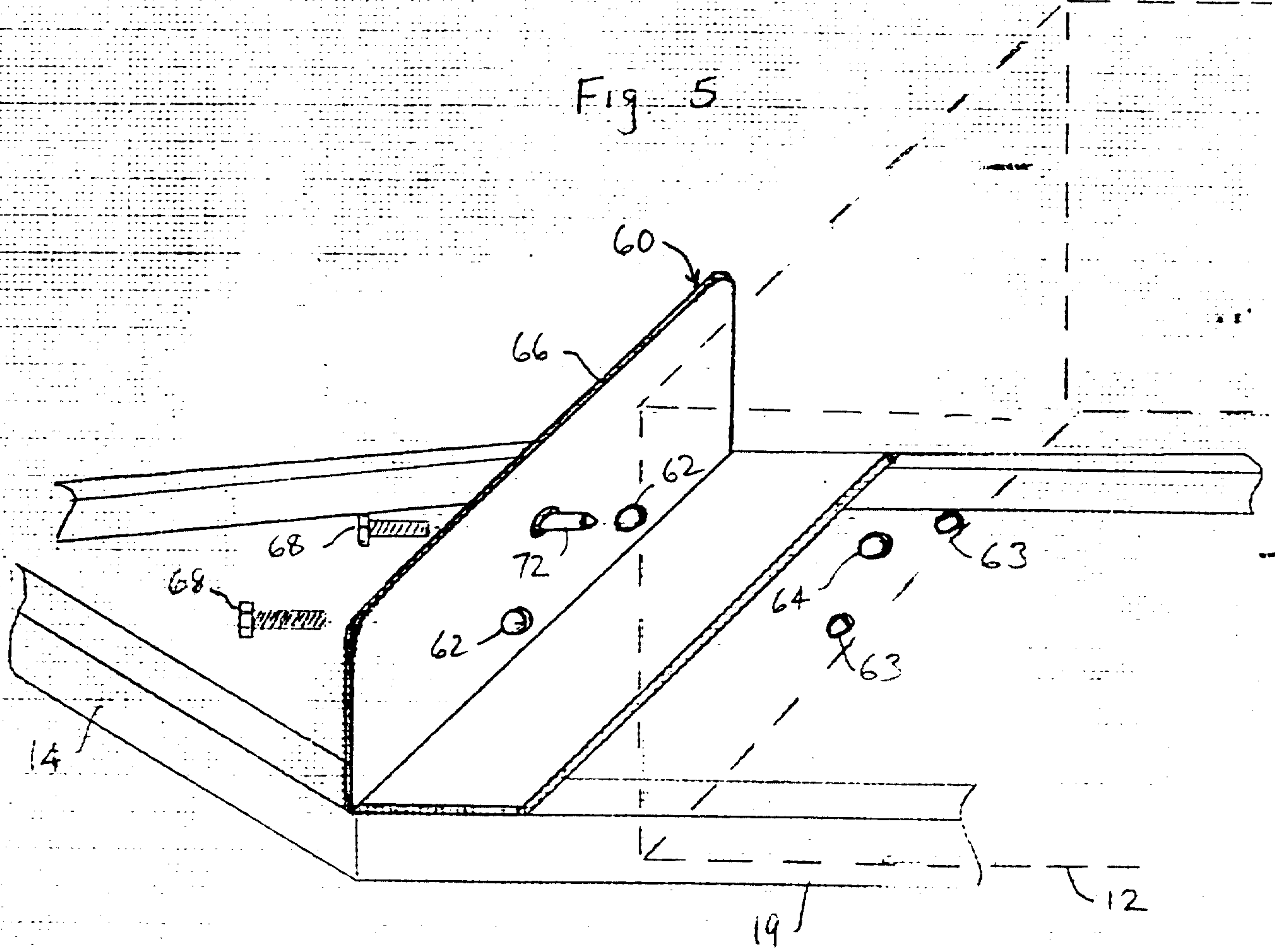


FIG. 6

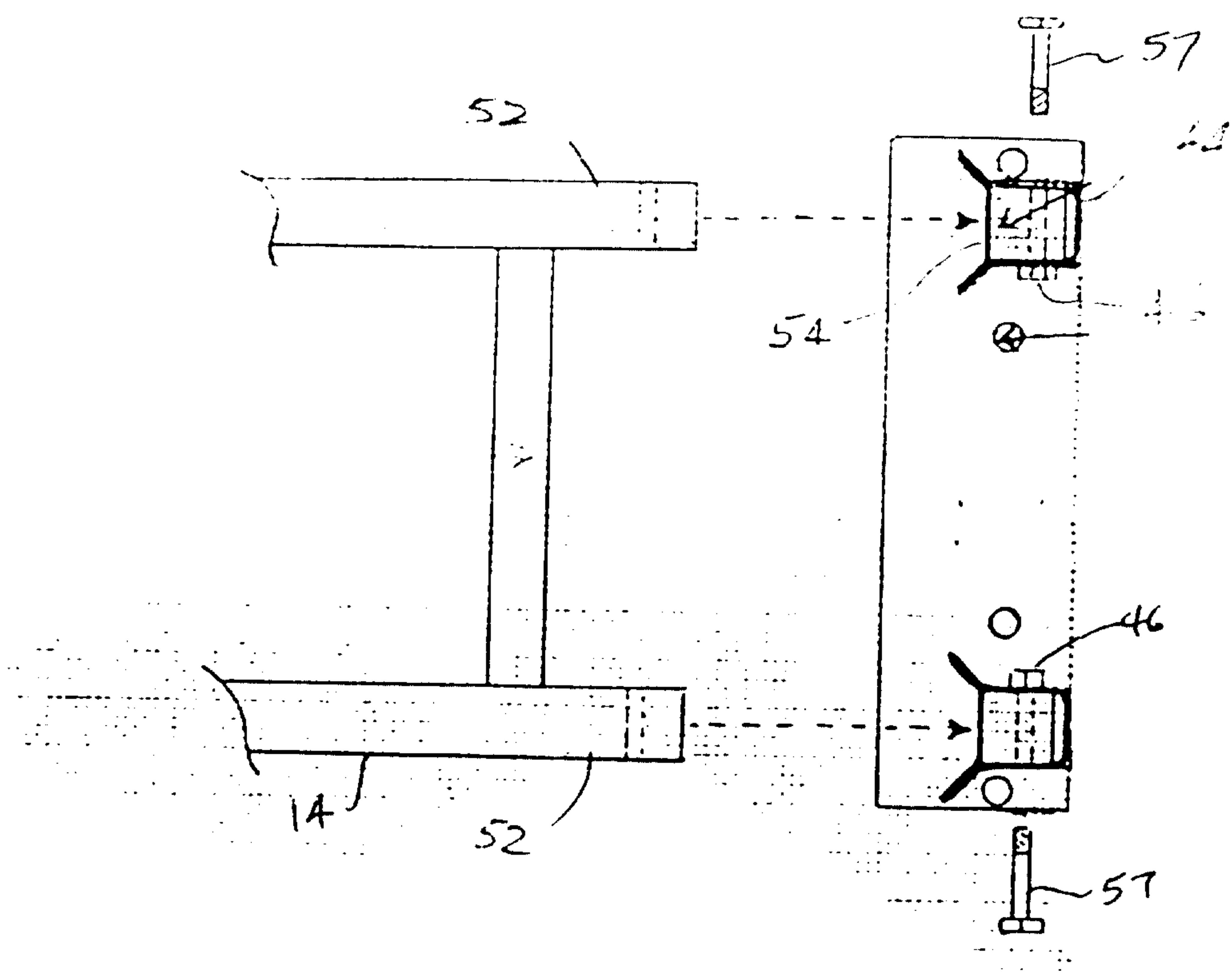


Fig. 7

FIG. 8

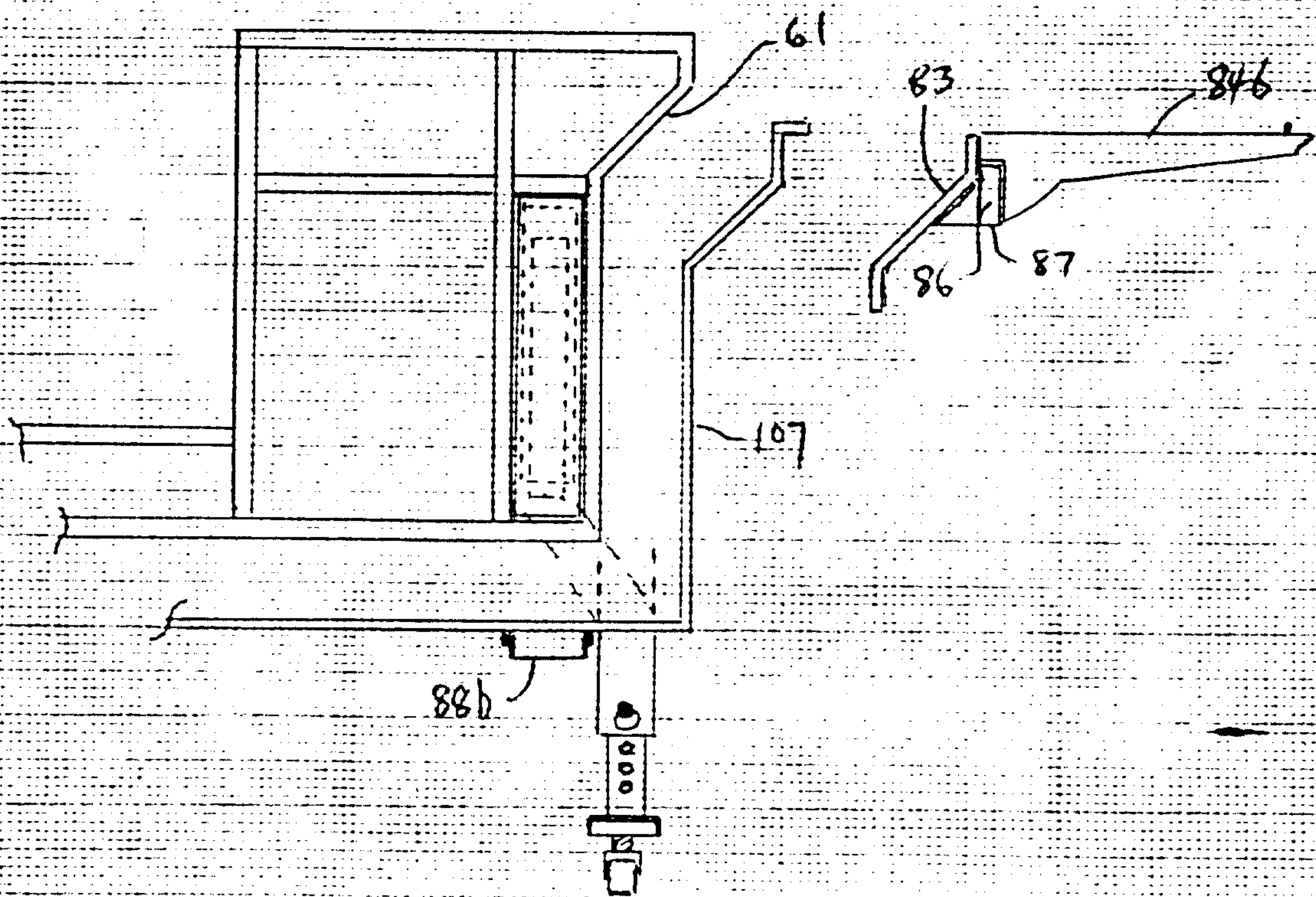
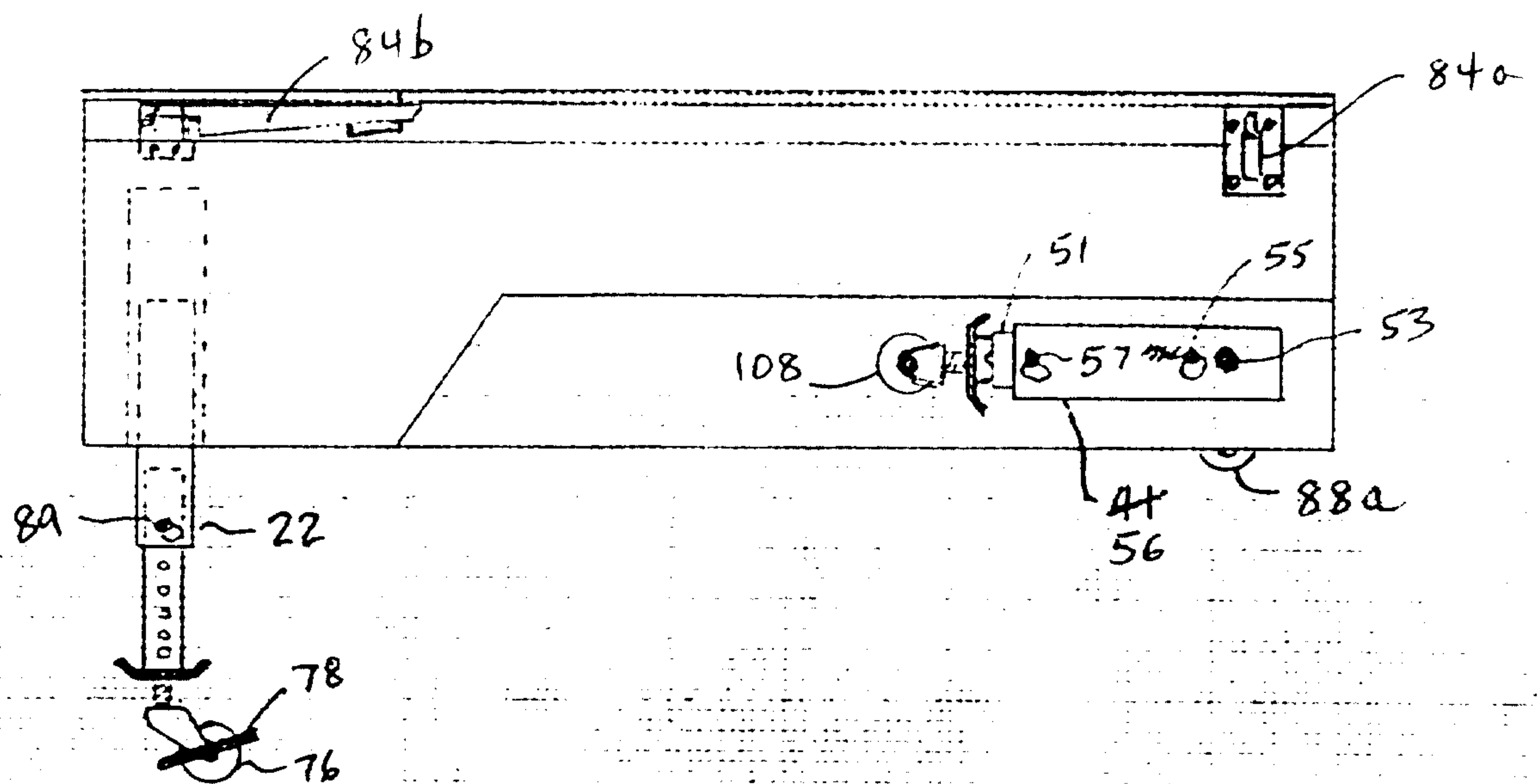


FIG. 9

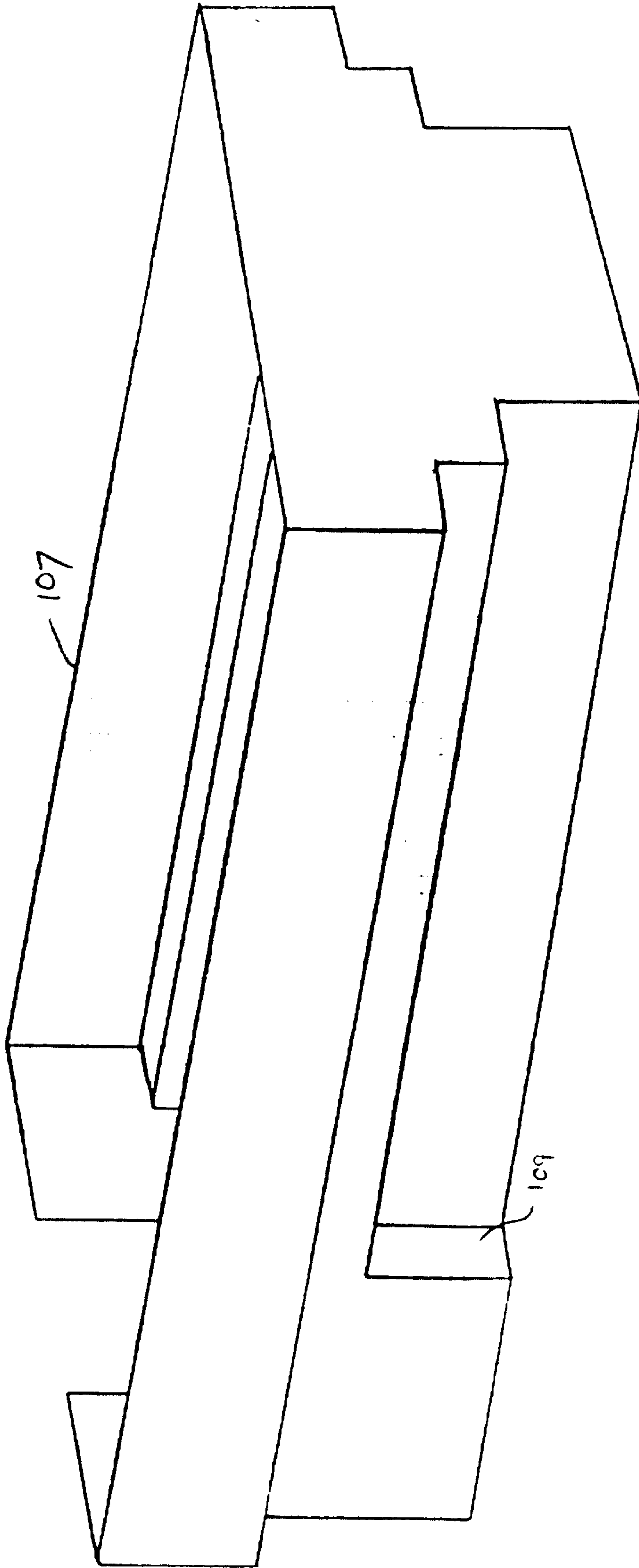
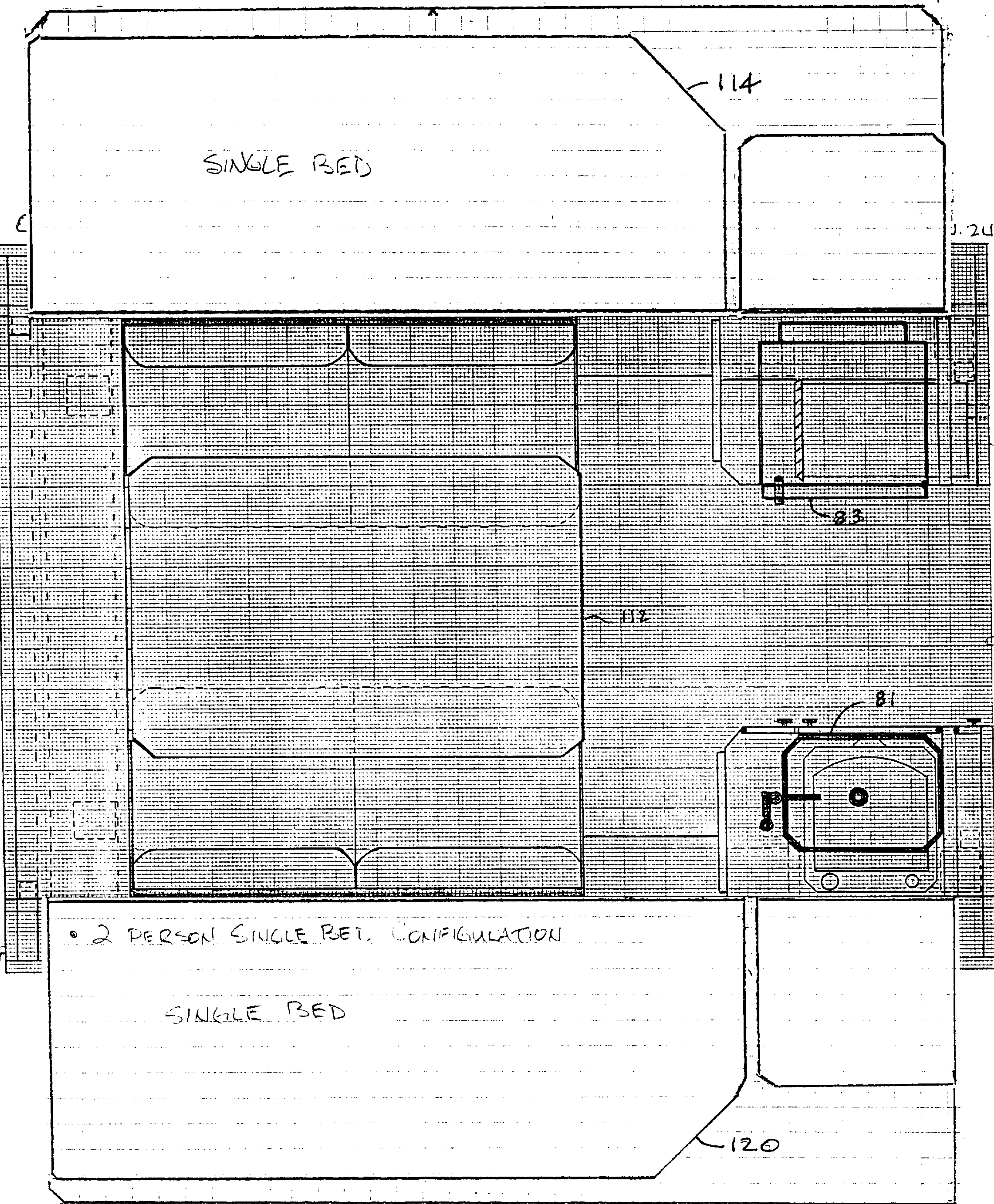


Fig. 10

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1095



10 MM/CM

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Fig. 11

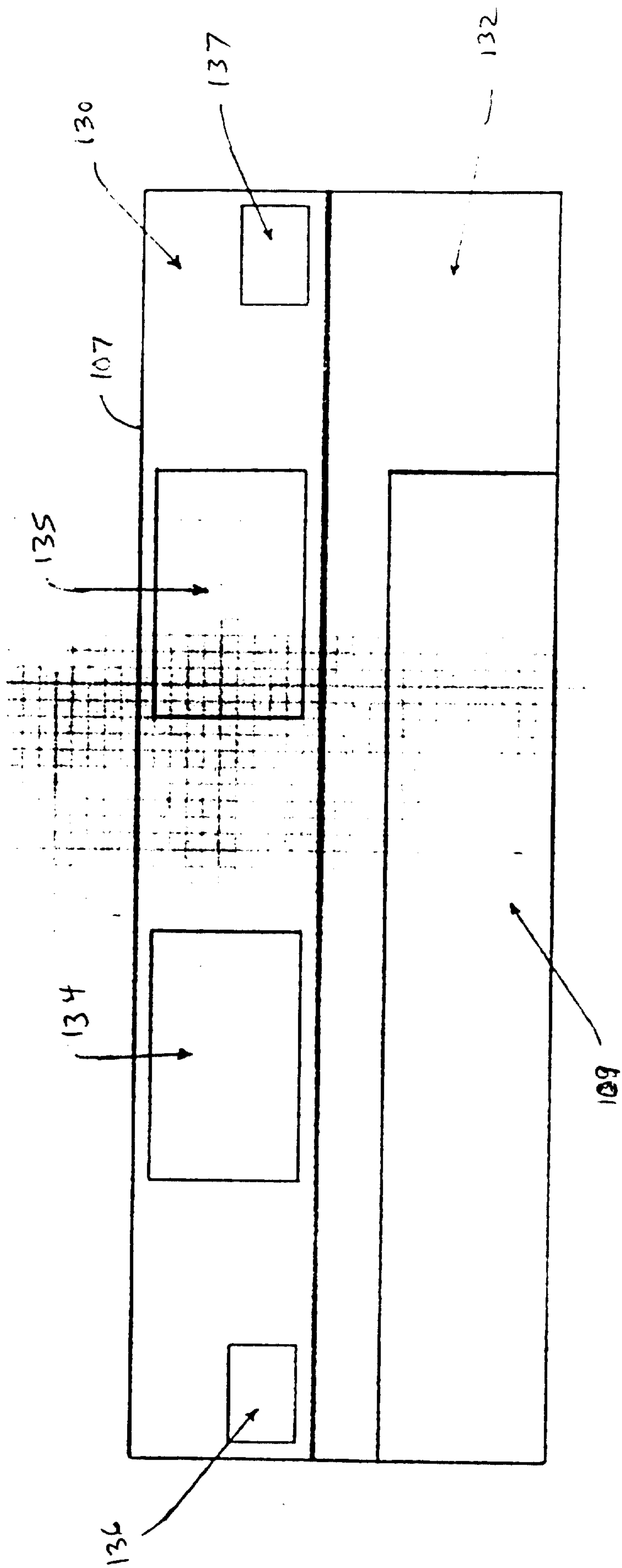


Fig 12

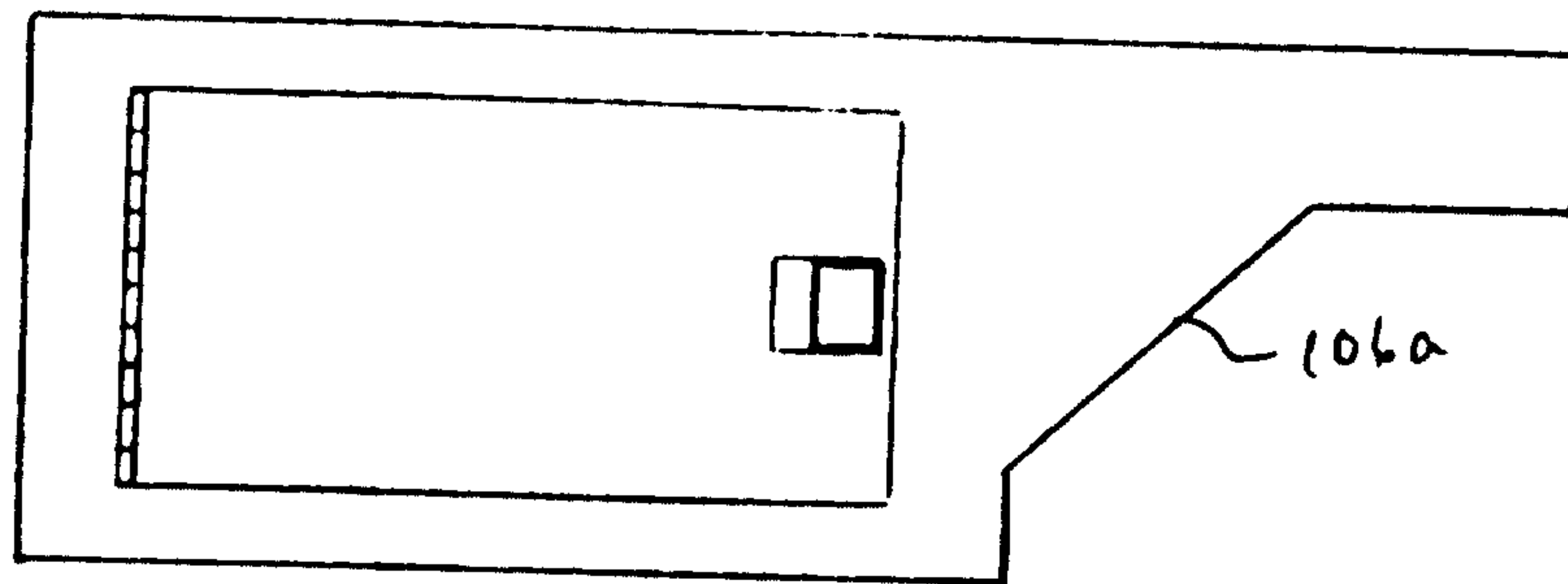


Fig 13a

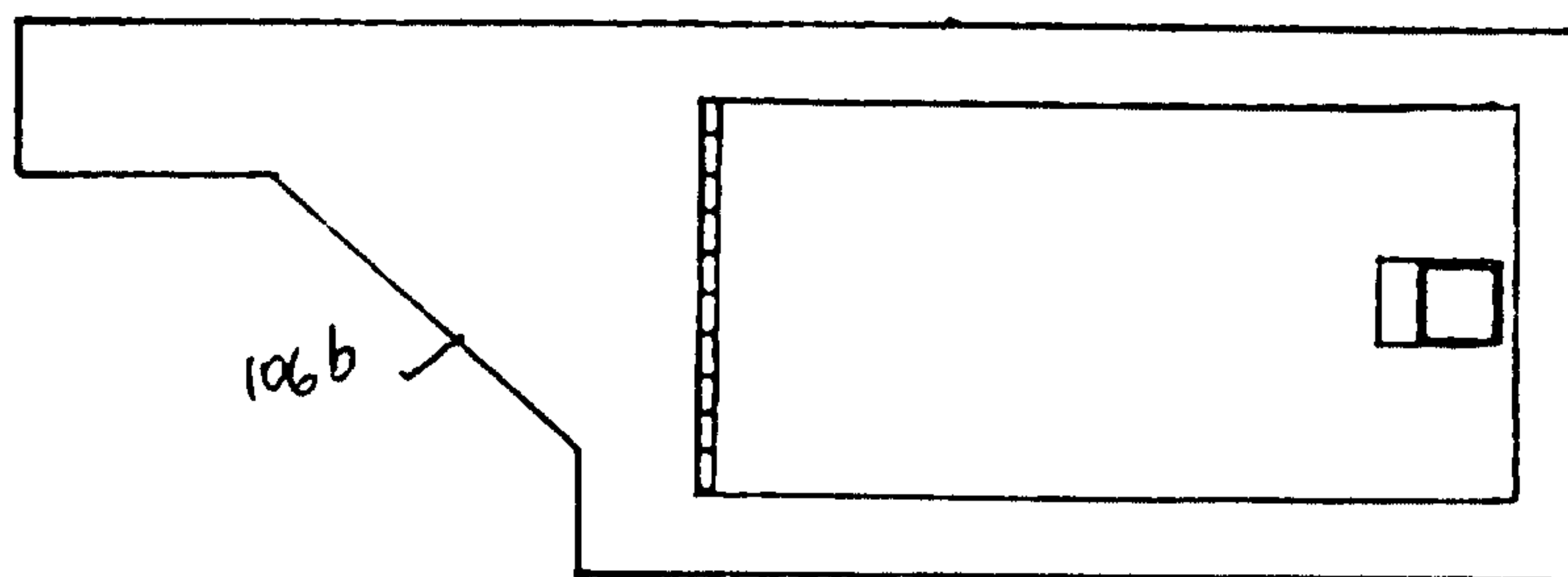


Fig 13b



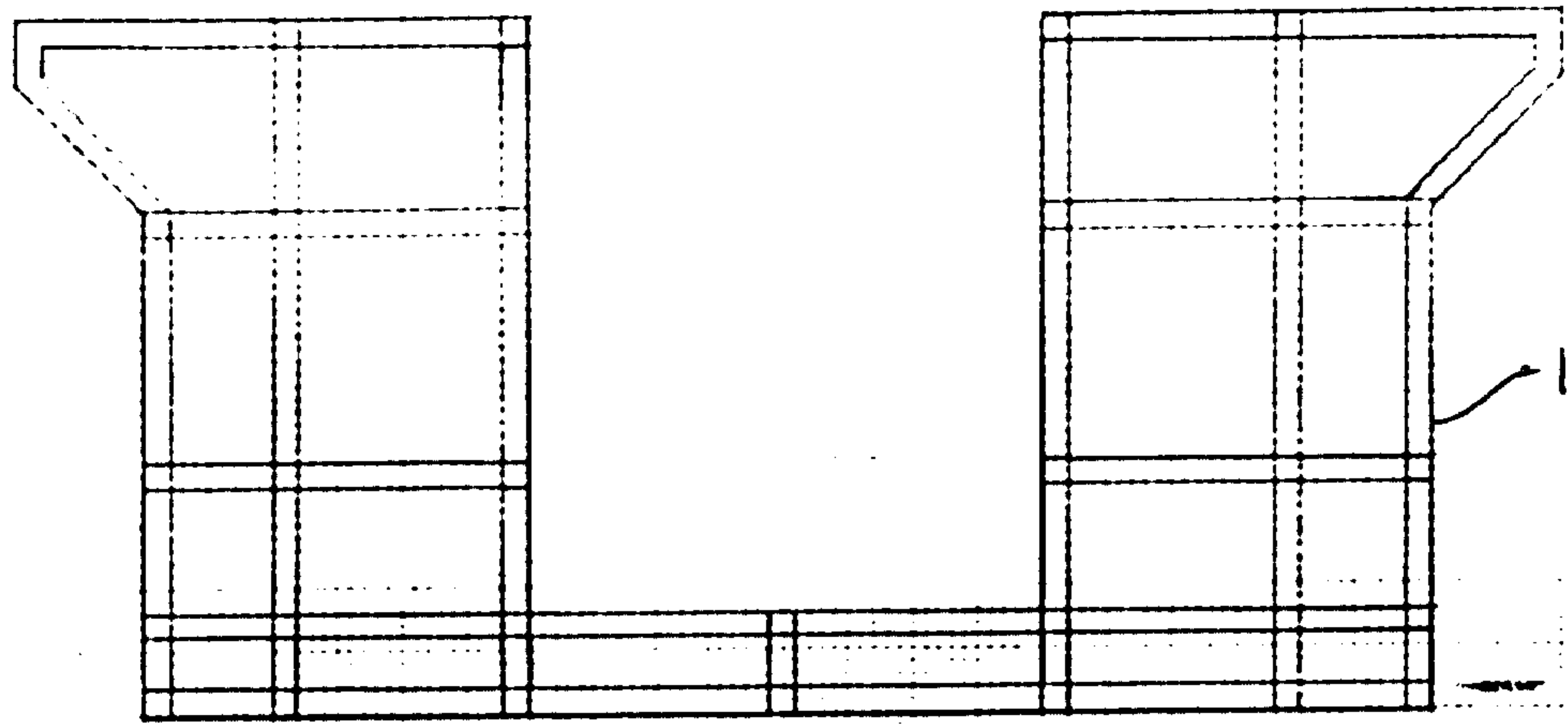


Fig. 15

FRONT SECTION

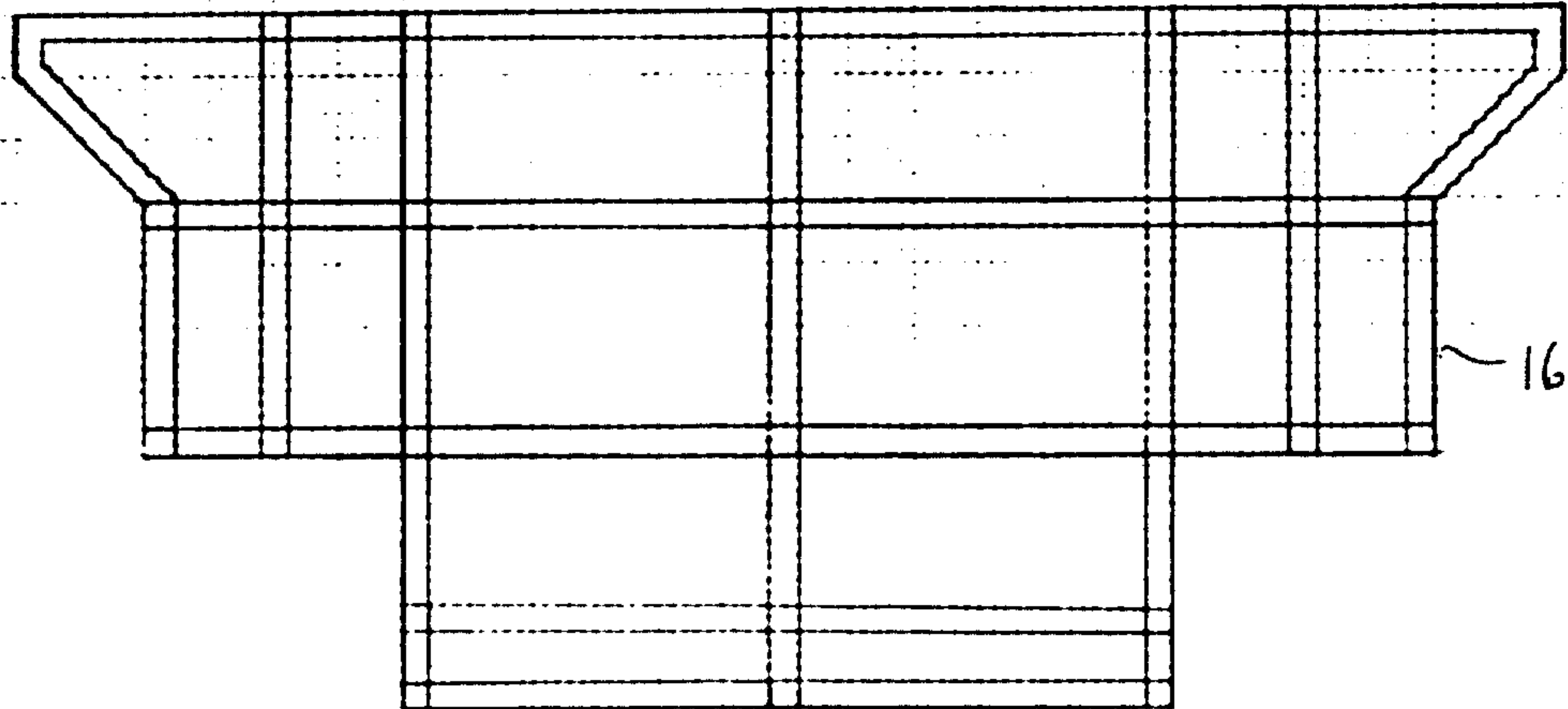


Fig 16

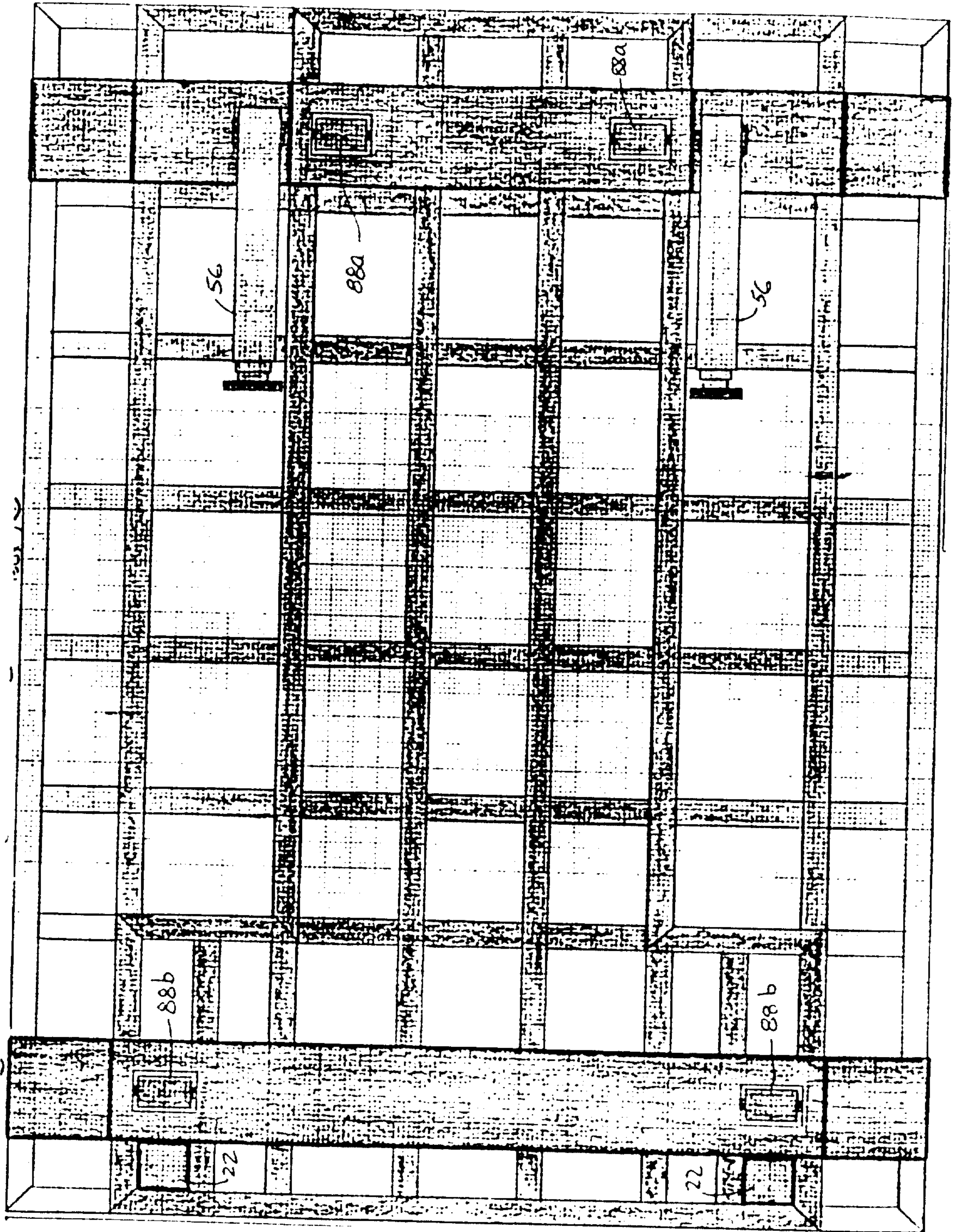
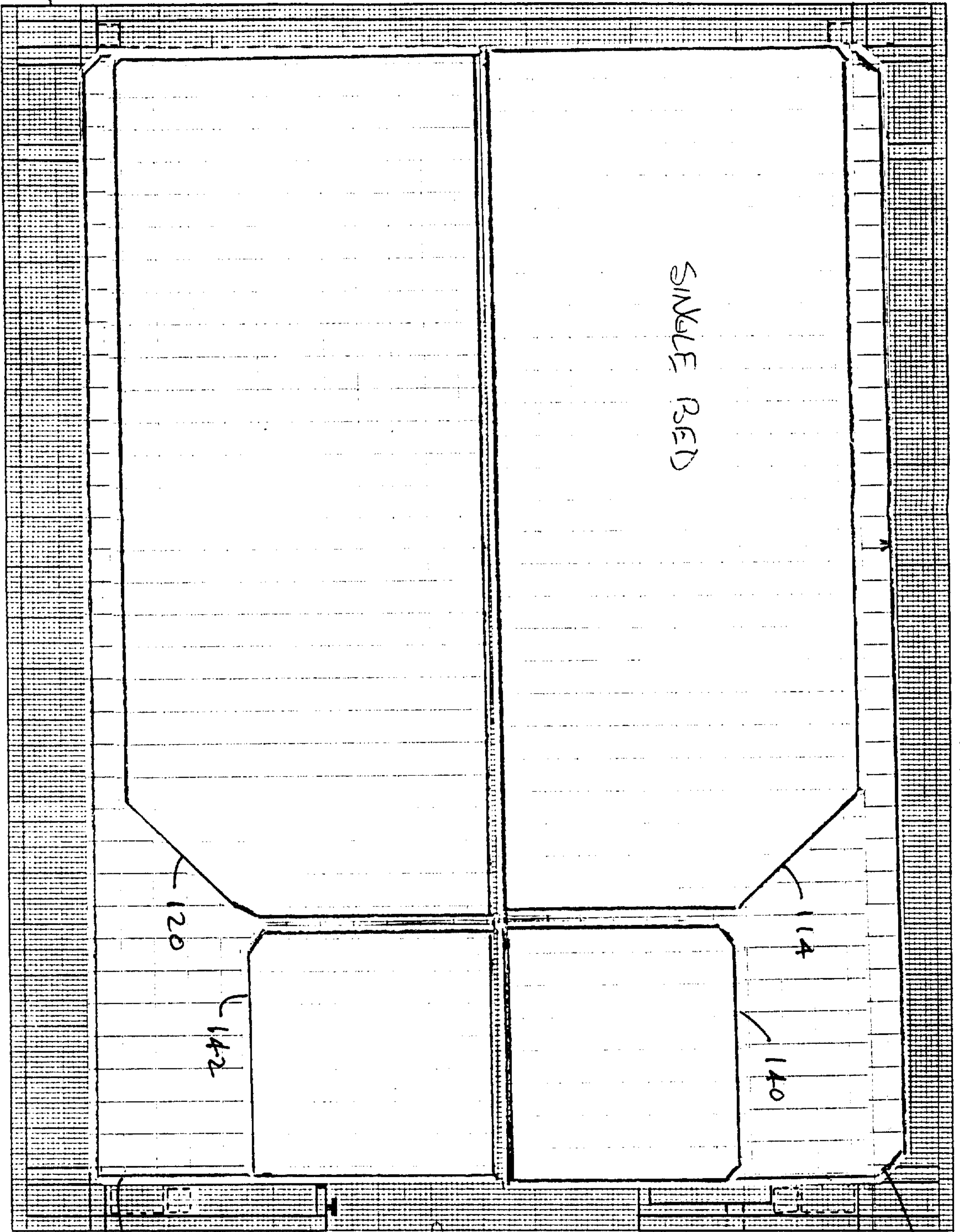


Fig. 17

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TOP VIEW - SLEEPING PLATFORMS ILLUSTRATION. (w/ TOP RAISE)

1. FROM BOTH, LEFT AND RIGHT SIDE... SLIDE PLATFORMS OUT AND SECURE (w/ SWIVEL KEYS)

Fig. 18

THIS DRAWING READ AND  
UNDERSTOOD BY:  
Greg Brown  
February 2000

OUT "N" ABOUT CONVERTABLE CAMPER - 8' MODEL - BASIC FLOOR PLAN & LAY-OUT.  
- REVISED FROM ORIGINAL OF NOV. 24th 1999.

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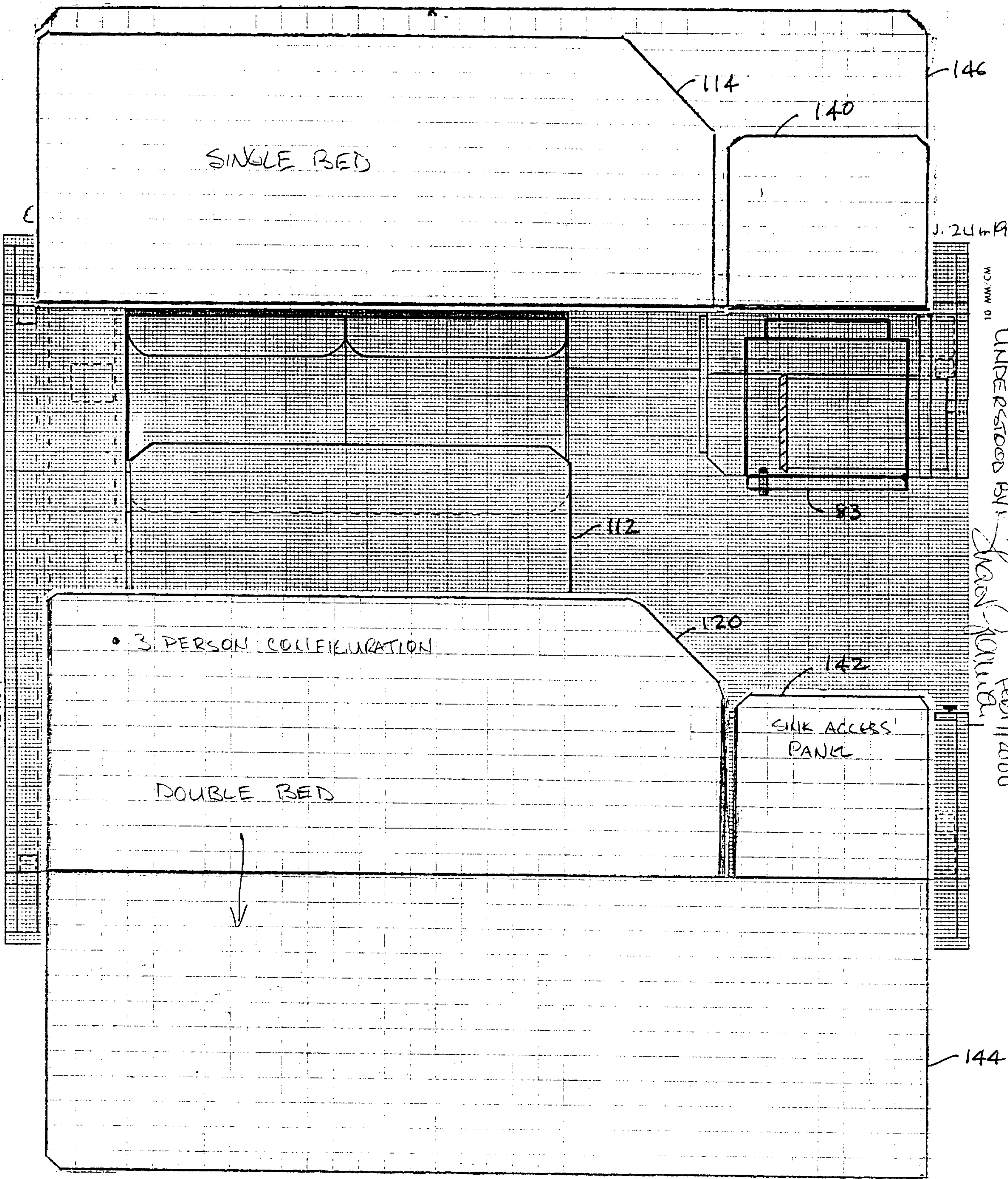


Fig. 19

10 MM CM

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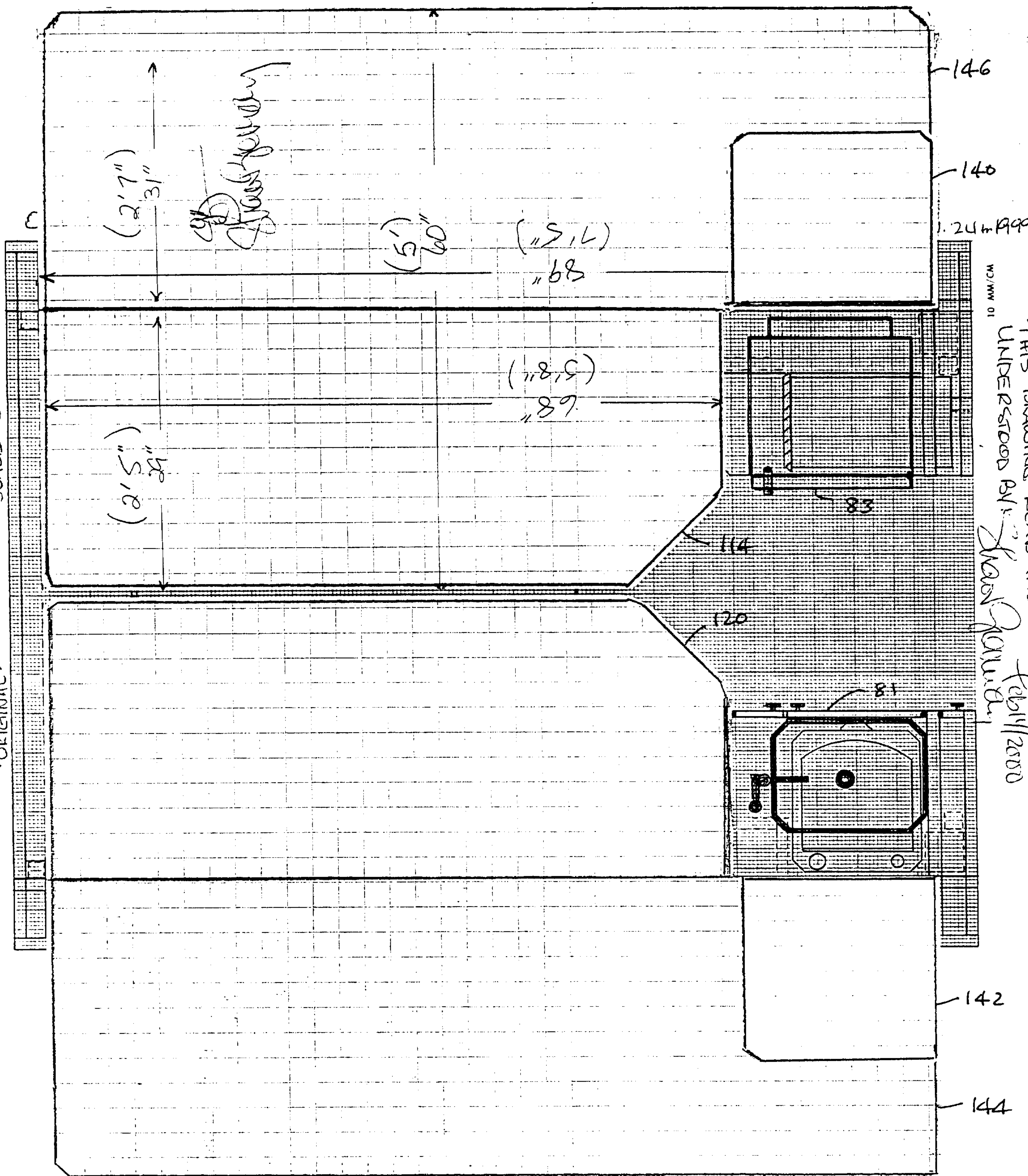


Fig. 20

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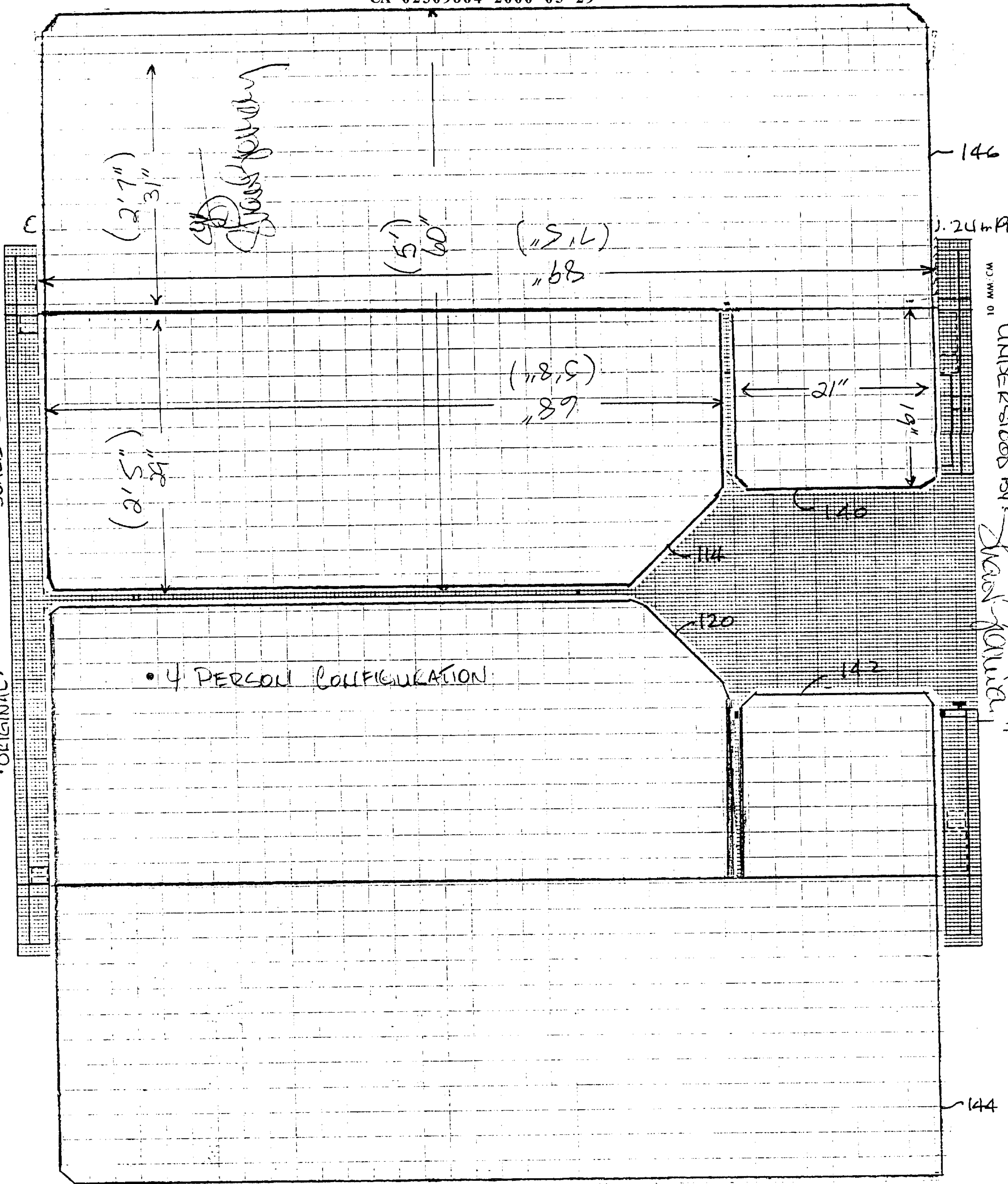


Fig. 21

