



(22) Date de dépôt/Filing Date: 2001/10/22

(41) Mise à la disp. pub./Open to Public Insp.: 2002/04/20

(45) Date de délivrance/Issue Date: 2008/02/12

(30) Priorité/Priority: 2000/10/20 (CA2,324,050)

(51) Cl.Int./Int.Cl. *A47B 21/00* (2006.01),
A47B 83/00 (2006.01)

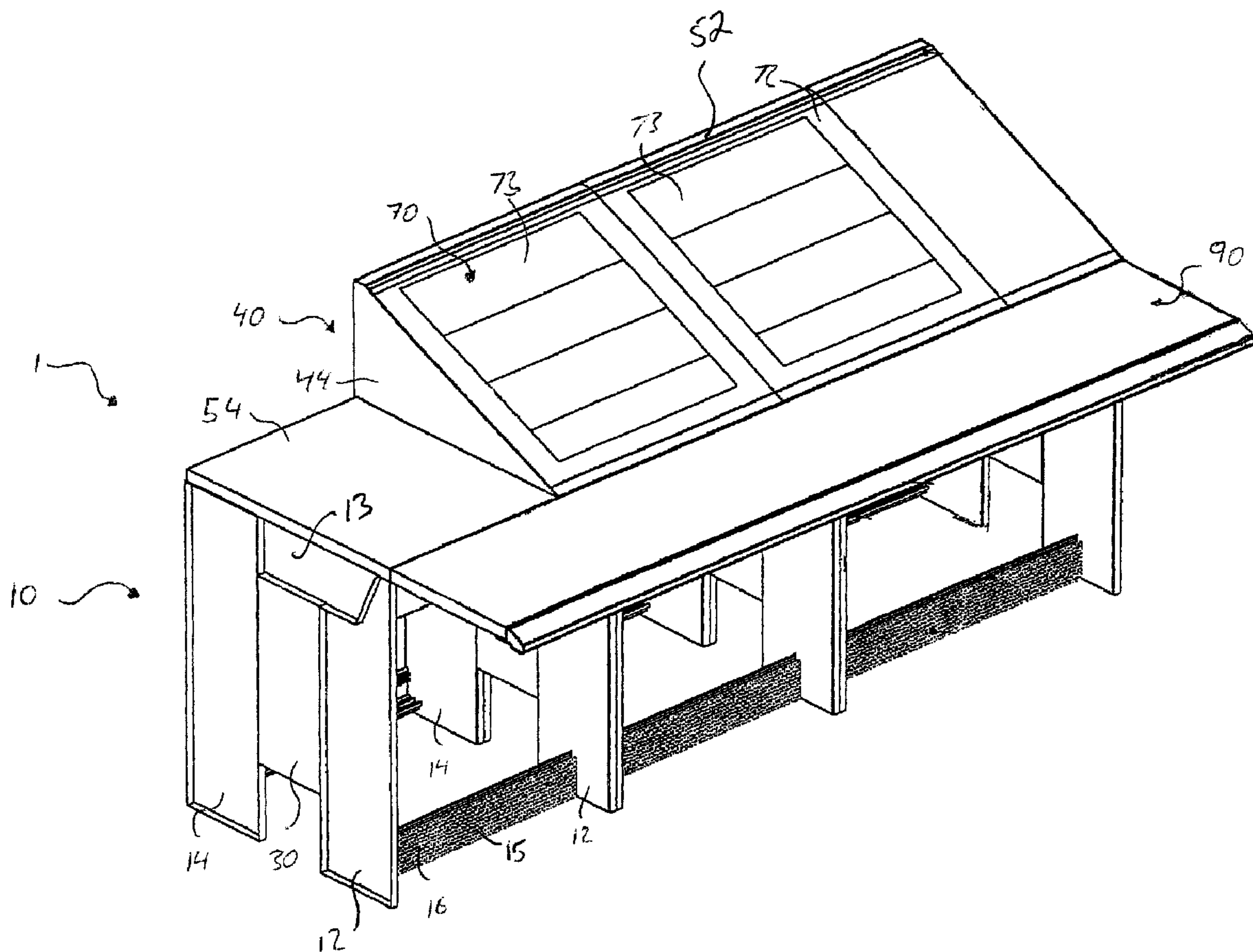
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(54) Titre : PUPITRE DE COMMANDE

(54) Title: CONTROL CONSOLE



(57) Abrégé/Abstract:

A modular equipment console comprising at least one base structure, each base structure having a uniform height and an upper surface with a predetermined depth; at least one turret structure, each turret structure being mountable onto one or more base



(57) **Abrégé(suite)/Abstract(continued):**

structures; at least one equipment mount, each equipment mount being connectable to one or more of the turret structures and being adaptable for various types of equipment; and a work area, the work area being mountable on at least one of the base structures; wherein the modular equipment console can be arranged into various configurations using different numbers or types of base structures, turret structures, equipment mounts, and work areas.

ABSTRACT

A modular equipment console comprising at least one base structure, each base structure having a uniform height and an upper surface with a predetermined depth; at least one turret structure, each turret structure being mountable onto one or more
5 base structures; at least one equipment mount, each equipment mount being connectable to one or more of the turret structures and being adaptable for various types of equipment; and a work area, the work area being mountable on at least one of the base structures; wherein the modular equipment console can be arranged into various configurations using different numbers or types of base structures, turret
10 structures, equipment mounts, and work areas.

CONTROL CONSOLE

FIELD OF THE INVENTION

The present invention relates to a framework for supporting pieces of work station equipment, and more particularly to a console structure for supporting electronic equipment in the nature of computers, video monitors, control panels and the like.

BACKGROUND OF THE INVENTION

Control consoles of the type described herein generally include a framework for receiving and supporting the necessary pieces of electronic and support equipment including terminals, monitors, keyboards, switch panels, telephone turrets, lighting and so forth, and a planar work surface extending outwardly from the framework at a convenient height. Some of the equipment including video monitors and output displays is supported to be visible above the work surface for convenient viewing and user access. Finishing panels can also be supported by the basic framework.

To date, many work station consoles have been custom manufactured which in terms of design and construction is both expensive and time consuming. This approach has been necessitated by customer requirements that are often unique in terms of work station size, equipment placement, human engineering and cost considerations. In the result, the completed console structures are not only extremely expensive, but are also difficult if not impossible to subsequently modify for the reconfiguration of existing equipment or to retrofit new equipment. An alternative approach has been to assemble the consoles from fixed size modular sections. This approach can reduce costs, and although there may be some loss of flexibility with respect to subsequent modifications and reconfigurations of equipment within the console, there are simply many instances in which the cost savings outweigh the advantages of a system critically engineered to permit unlimited post-installation reconfiguration. Some flexibility must however remain.

A need therefore exists for a console structure which overcomes the problems inherent in either the custom design and manufacture or modular assembly of

console structures. One such approach has been developed by the Applicant and is described in Canadian Patent 1,291,518 issued October 29, 1991 (equivalent to U.S. Patent 4,836,625).

5 The backbone of the console structure shown in the aforementioned patents are the horizontally spaced, vertically upright gable members commonly referred to as G-frames. The gables are interconnected by stringers to provide a rigid framework for the console structure. The spacing between gables is infinitely variable so that the framework as a whole is easily adapted to custom requirements both before and after initial on-site assembly. Because most of the equipment in the console is
10 supported by or suspended from the interconnecting stringers, changing the distance between gables is not in and of itself all that disruptive of the system as a whole and particularly the equipment mounting hardware, and this lends the overall structure enormous flexibility. This flexibility comes however at a cost. The gables themselves are metal fabricated usually from tubular steel and are therefore relatively expensive
15 to manufacture and store. The stringers are typically aluminum extrusions and are therefore relatively inexpensive linear stock easily stored, but a lot of different stringers of different shapes and configurations depending upon function are required and an idea of the number and types of stringers needed can be seen from Figures 3 to 9 of the patent. This therefore also adds to cost and the need for significant
20 inventory control. The need for this number of stringers is made necessary in part because the gables, as aforesaid, are almost entirely structural in function and integrate no channels, interlocks or other mechanical means that increase their versatility or allow them to perform multiple tasks.

25 The Applicant has found that although there will continue to be a strong demand for the flexibility and retrofit capabilities of its G-frame consoles, and for more modular "discreet logic" systems that cost less, many customers now require accommodation for increasingly large pieces of equipment such as, for example, 26 inch monitors, and computer towers that are increasing particularly in height. To accommodate such items, and to maximize the remaining available space for other
30 pieces of equipment usually mounted below the monitors, it is increasingly desirable to further reduce the number of components making up the console framework. The

more vertical and horizontal structural members eliminated, the greater the unimpeded space available for oversized monitors and the like.

SUMMARY OF THE INVENTION

5 The Applicant has therefore developed a console system which is flexible enough to meet the demands of a custom environment, but wherein the number of components in the system is significantly reduced for cost savings. Many of the remaining components "multi-task", assembly is made easier and less costly, and structural integrity is maintained.

10 The present invention therefore seeks to provide a console structure comprising a relatively few basic components which can be easily assembled into a supporting framework for a wide variety of equipment pieces and shapes without major modifications to the basic components themselves.

15 The present invention further seeks to provide a console framework providing as much unimpeded space therein as possible to maximize the adaptability of the framework for the mounting of different pieces of equipment at different locations, and the ability to meet custom requirements using the same basic components.

20 The present invention therefore provides a modular equipment console comprising at least one base structure having a predetermined height, width and depth, said base structure further comprising a front mounting rail extending laterally along the top and front of said base structure; said front mounting rail being disposed such that said front mounting rail forms a continuous mounting rail with the front mounting rail of additional said base structures aligned with said at least one base structure in side by side relationship; a rear mounting rail extending laterally along the top and rear of said base structure; said rear mounting rail being disposed such that
25 said rear mounting rail forms a continuous mounting rail with the rear mounting rail of additional said base structures aligned with said at least one base structure in side by side relationship; at least one turret structure mountable onto said at least one base structure, said turret structure having a lower surface adapted to allow said turret structure to be positioned for mounting along any part of said front and rear
30 mounting rails of said at least one base structure and any of said additional base structures; at least one equipment mount connectable to said at least one turret

structure for supporting equipment; and a work area mountable on any of said at least one or said additional base structures; wherein said modular equipment console can be configured using different numbers of said base structures, turret structures, equipment mounts and work areas.

5 The present invention also provides an equipment console comprising at least one ground engaging base module having a predetermined height, width and depth; at least one turret module for supporting equipment therefrom and being mountable onto said base module, said base module including laterally extending spaced apart horizontal rail members for supporting said at least one turret module thereon, said
10 turret module being moveably connectable to said rail members for adjustments to the lateral positioning of said turret module relative to said base module, said rail members comprising a front rail and a rear rail and wherein said at least one turret module can be selectively positioned at any point along said front and rear rails.

BRIEF DESCRIPTION OF THE DRAWINGS

15 Preferred embodiments of the present invention will now be described in greater detail, and will be better understood when read in conjunction with the following drawings in which:

Figure 1 is a perspective view of the console structure in accordance with one embodiment of the present invention;

Figure 2 is a perspective view of the console of Figure 1 in a partially opened condition;

5 Figure 3 is a partially exploded view of the console of Figure 1;

Figure 4 is a rear perspective view of the console of Figure 1;

Figure 5 is a perspective exploded view of a single module console;

Figure 6 is a schematical side elevational view of the present console with a turret;

10 Figure 7 is a cross sectional view of the rail extrusion forming part of the present console;

Figure 8 is a side-elevational cross sectional view of a hinge assembly forming part of the present console;

15 Figure 8a is a front elevational view of a locking mechanism forming part of the hinge assembly of Figure 8;

Figure 9 is a cross-sectional view of one part of the hinge assembly;

Figure 10 is a cross-sectional view of another part of the hinge assembly;

Figure 11 is a plan view of corner modules;

20 Figure 12 is a side elevational, partially sectional view of a desktop configuration of the present console;

Figure 13 is a side elevational, partially sectional view of the present console with a turret; and

Figure 14 is the console of Figure 13 with enlargements to show the connection of the turret to the base.

25 DETAILED DESCRIPTION

The present invention provides a solution to the shortcomings of the prior art by supplying a modular console structure that is capable of being configured according to a client's needs, and that can be reconfigured easily and with minimal engineering input when required.

30 Reference is now made to Figures 1 to 6, which show a first preferred embodiment of console structure 1. In this embodiment, console 1 is comprised of

four basic elements: base structure 10; turret structure 40; equipment mount 70; and work area 90. Each element is described in more detail below.

Base structure 10 is comprised of a defined module of a predetermined width, height and depth. An individual base structure 10 is best seen in Figure 5. This set height, width and depth creates the advantage that console structure 1 can be configured with various turrets and tops with minimum design or engineering effort by ensuring the top of one base structure 10 is the same as the tops of the other base structures used in console structure 1. In console structure 1, multiple base structures 10 can be used side by side, as is best seen in Figures 1 to 4.

Base structure 10 includes two front frame gables 12 and two rear frame gables 14 and an intermediate spacer 30. In a preferred embodiment, front and rear gables 12 and 14 and spacers 30 respectively are comprised of formed sheet metal. Front frame gables 12 are laterally offset from each other by a lower front stringer 16 and a front top rail 20. In a standard, squared base structure, front stringer 16 and front rail 20 are the same length, allowing front frame gables 12 to be parallel to one another and perpendicular to the floor.

Front stringer 16 is preferably comprised of an aluminium extrusion and can include a PVC baseboard cap 15 disposed on its outer side for aesthetic purposes.

Front rail 20 has the combined function of structurally separating front frame structural components 12 and providing a flat surface for turret 40 to rest on. Front rail 20 is mounted to front gables 12 so that the top of the rail is flush with the tops of gables 12. Front stringer 16 and front rail 20 can be connected to frame gables 12 by screws, clips or any other suitable fasteners, welds or adhesive.

Rear frame gables 14 are laterally separated by a lower rear stringer 22 and a rear top rail 26. Rear stringer 22 is comprised of extruded aluminium and has the same width as front stringer 16. Preferably, rear stringer 22 and front stringer 16 are the same, thus creating cost savings in the manufacturing process.

Rear rail 26, in a preferred embodiment, is an aluminum extrusion, and serves the dual purpose of structurally separating rear frame structural components 14 and providing a flat surface on which to mount turret 40. Rear rail 26 is mounted to rear frame gables 14 so that its top surface is flush with the tops of rear gables 14.

Further, the top of rear rail 26 is level with the top of front rail 20, providing a level frame unit on which to mount turret 40.

As shown in Figures 1 to 5, upper rails 20 and 26 are simple extrusions including flat continuous upper surfaces to support the turrets thereon and to connect to the turrets using screws, clips or any other suitable fasteners. For greater flexibility, and more connecting options, the applicant has developed a modified rail as shown most clearly in the cross-sectional view of Figure 7.

Gables 12 and 14 are connected to the rail shown in Figure 7 by means of screws that pass through their sheet metal into horizontal screw ports 31. The rail takes the form of an inverted L in shape having a downwardly depending vertical leg 27 and an inwardly projecting horizontal leg 28. The rail includes threaded or unthreaded longitudinally extending slots 32 adapted to receive fasteners, clips or anchors used to connect additional elements such as cable management clips, brackets, clamps or even connectors for finishing panels. Upper leg 28 is formed with a pocket 38 and a T-slot 34. The T-slot can be used for slidably receiving a washer/threaded nut combination for connection to bolts extending from the lower edges of the turrets for a strong fixed connection, or the slot can be used for a snap fit with compressible clips or spring loaded plungers which again are disposed along the turret's lower edges for a quick release connection as will be described in greater detail below. Pocket 38 can be used for fasteners to connect the turrets, or for other pieces of ancillary equipment. Reference has been made to the use of the rails for mounting the turrets, but the same connecting options are available for connection of work surfaces 54 such as those shown in Figures 1 and 3.

The supporting surfaces of horizontal leg 28 are actually the flanges 37 that define the openings into T slot 34 and pocket 38. As will be seen most clearly in the views of Figures 13 and 14, flanges 37 project slightly above the upper edges of gables 12 and 14. This exposes the slots 33 (Figure 7) defined by flanges 37 for a sliding interlock connection between the turrets and rails and facilitates lateral adjustments to the positioning of the turrets relative to the base structures.

Finally, the rail includes at the intersection of the vertical and horizontal legs a registration flange 35. This flange can serve a number of purposes, including proper and instantaneous registration of the turrets relative to the base structure. As

well, the flange defines a cavity 36 which can be used to hinge the turrets to the base as will be described below. The flange's upper surface 39 can be used to spot and/or support the inner edge of work surface 90 extending forwardly from the console as shown most clearly in the enlarged section of Figure 14.

5 To interconnect gables 12 and 14, spacers 30 are provided between the two and are connected by means of screws, spot welds or by any other means known in the art. If preferred, the spacers can be manufactured in a variety of different widths to control the total depth of the present console without varying the widths of gables 12/14 themselves.

10 Base structure 10 thus provides a support structure with a top that is at a predetermined height, width, and depth, thus facilitating the modular configuration and reconfiguration of the items supported by it.

Turret structure 40 is best seen in Figures 1 to 6 and 13. Turret structure 40 includes side gables 42, end gables 44, a back plate 46, a cooling fan housing 48
15 (optional), front connection stringer 50 and hinge mechanism 52.

Side gables 42 are comprised of formed sheet metal and are generally triangular in shape to support equipment front 72 at an angle to the viewer. The depth of side gables 42 generally correlates to the depth of base structure 10 or the distance between registration flanges 35 on rails 20/26. Side gables 42 will typically
20 include screw holes to allow multiple turrets 40 to be joined side by side, as required for each project.

End gables 44 have the same profile as side gables 42 and can be attached to the outer sides of side gables 42 to form a finished surface or they can be spaced from side gables 42 as shown in Figures 3 and 4 to elongate the assembled turret
25 structure or to increase the available space within the turret.

Back plate 46 is comprised of a formed sheet metal structure whose height matches the height of side gable 42. The width of back plate 46 will be selected to accommodate the width of equipment fronts 72. The bottom edge of back plate 46 is disposed to rest on the top of rear rail 26 for connection thereto.

30 Back plate 46 further includes cooling fan mount housing 48 which allows a fan to be mounted to cool any equipment or electronics located within turret 40 or within the base.

Front connection stringer 50 is typically formed sheet metal and is shaped to receive and or support the front edge of equipment front 72.

Side gables 42, back plate 46, and front connecting stringer 50 thus form a rectangular base which is meant to rest on base structure 10 at any point along the base's length, which can include positions that straddle individual bases 10 as shown in Figures 2 and 3. Preferably, the connection of spacers 30 and front gables 12 define a void 13 which provides clearance for the equipment 76 suspended below equipment fronts 72 when the turrets straddle a base 10 or when the turrets are moved from side to side over one or more bases to adjust their position. Normally, equipment fronts 72 will be hinged to the upper edge of back plate 46 for easy access to the equipment 76 mounted beneath the front and the interior of the console. Standard hinge hardware can be used, although the applicant has developed another extrusion that will be described in greater detail below that can be used advantageously for this purpose. The ability of turrets 40 to straddle base structures 10 further allows the widths of turrets 40 and equipment fronts 72 to be customized to meet project requirements.

Turret 40 may be affixed to base structure 10 by various means which are well known in the art and can include metal screws. In a preferred embodiment, however, it is envisioned that turret 40 will affix to base structure 10 through a sliding interlock or snap fit connection for greater flexibility and adjustability. More specifically, and with particular reference to Figure 14, each turret will include a small outwardly extending horizontal flange 47 at or along its lower front and rear edges. To connect the turret to the base, rear flange 47 is fully inserted into cavity 36 of the registration flange 35 in rear rail 26. With the turret in the tilted position as shown in broken lines labelled Stage 1 in Figure 14, the turret is then pivoted downwardly in the direction of arrow A into the position shown in broken lines labelled Stage 2. The turret is then moved slightly forwardly into its fixed position shown in solid lines in Figure 14 and identified as Stage 3. In Stage 3, the flange 47 on the forward edge of the turret partially extends into registration cavity 36 in front rail 20, and the rear flange 47 is still partially inserted into cavity 36 in rear rail 26 so that the turrets cannot move vertically. To prevent the turrets from moving back and forth, each turret is provided with one or more spring loaded pins or plungers 49. As seen most clearly in the

enlarged portion of Figure 14, the plunger's pin is in a raised position shown in dotted lines when the turret is positioned at Stage 2. When the turret is moved to Stage 3, the pin, which is normally biased into an outwardly extended position, clicks into slot 34 in rail 20. To disengage the turret, the pin (or pins if there are multiple plungers) can be pulled up to clear slot 34, and the turrets can then be slid back into Stage 2 and tilted into Stage 3 for complete the removal from the base.

Instead of or in addition to turret 40, a work surface 54 may be disposed on base structure 10. The lower edges of work surface 54 are disposed to fit onto front and rear rails 20 and 26 and affix to the rails in the same manner as turret 40. In a preferred embodiment work surface 54 is comprised of a wood or pasteboard material finished with a laminate surface.

Equipment mount 70 allows a client's equipment 76 to be mounted to console structure 1. The mount includes a typically rectangular wood or metal equipment front 72 formed with a rectangular opening 73 for the insertion and installation of the equipment 76 to be supported in the turret. The rear edge of front 72 is advantageously hinged to the upper edge of the turret's rear surface 46. This can be done in any conventional way, but the applicant has developed an extruded aluminum hinge 52 that can be substituted for advantage. The hinge itself is shown in Figures 8, 9 and 10, and is shown assembled to the console in Figure 13.

Hinge 52 comprises three basic components, namely a pivot hanger 76 shown separately in Figure 9, a pivot extrusion 77 shown in Figure 10 and a pivotable lock 78. Hanger 76 connects to the upper edge of the turret's back plate 46 as will be described below, pivot extrusion 77 connects to the rear edge of equipment front 72 and lock 78 is pivotably connected adjacent one or both ends of pivot extrusion 77 by means of a pin or screw that is received into longitudinally extending screw port 79. Each lock is inwardly biased by a spring 96 located on the pin axis as shown in Figure 8a. To connect pivot hanger 76 to the upper edge of plate 46, the plate's upper edge is formed with a pair of spaced apart, horizontal inwardly directed, downwardly sloping flanges 48 and 49 seen most clearly in Figure 13 and also shown in broken lines in Figure 8. Upper flange 48 slides into registration cavity 80 and can be bonded to hanger 76 by means of glue or very high bond (VHB) tape applied between the flange and the hanger in the area marked with reference numeral 94 in

Figure 8. and lower flange 49 is wide enough to cover a T-slot 86 in the pivot hanger's lower surface. The T-slot slidably receives threaded nuts to connect with correspondingly threaded bolts that pass through holes in lower flange 49 to provide a rigid connection between hanger 76 and flanges 48 and 49. Hanger 76 additionally includes a hanger lip 82 to pivotally support a longitudinally extending hinge bead 84 on pivot extrusion 77. Bead 84 is formed at the end of an arm 85 that bears against the inner surface of hanger 76 to limit extrusion's 77 clockwise rotation relative to hanger 76. Lock 78 is used to prevent bead 84 from separating from lip 82, and, when equipment front 72 is pivoted open, the lock can be pivoted about lock point 79 to hold the front in its open position.

Pivot extrusion 77 is additionally formed with a pair of forwardly facing grooves or channels 81 and 87 separated by a removable tab 83. Channel 81 is for the rear edge of equipment front 72 which is fixedly connected to the extrusion by means of screws that extend through the channel's lower surface 88 with spotting of the screws aided by a screw registration groove 89. If the equipment front includes a separate metal or laminate finishing panel, its rearmost edge can be friction fit into upper channel 87. If the equipment front is, for example, all wood, or is a solid substrate with a finishing laminate permanently glued or connected thereto, tab 83 can be broken off to accommodate the additional full thickness of front 72.

Console structure 1 further comprises a work surface 90. Work surface 90 is disposed forwardly of base 10 and serves as, amongst other things, a writing surface, a keyboard support or as a support for a drawer 260. The lower inner edge of the work surface can rest atop surface 39 of registration flange 35 and is otherwise mounted to the console using sheet metal brackets 232 that can be screwed to front gables 12 as seen most clearly in Figure 12.

The combination of the four basic elements of the present console as described above creates a modular, reconfigurable structure. A variety of turret modules can be variously placed on the base structure without the need to modify its height, width, or depth. This allows flexibility in the composition of console structure 1 without the need for significant re-engineering.

The rise angles of the turrets will be governed by customer requirements with angles of 25°, 30° and 40° probably being the most common. The nature of the

equipment supported by equipment fronts 72 will also vary with each installation, the equipment including the likes of CRT monitors, radar screens, switchgear, communications equipment and so forth. The mounting of the equipment on the equipment fronts is conventional and well known in the art and will not be described in further detail herein. The mountings will include conventional flush mounting of the screens and monitors, and the fronts can also be equipped with monitor jacks or adjustable platforms allowing monitors to be raised or lowered, tilted or moved to meet the operator's preference.

In order to accommodate corners, console structure 1 is provided with corner modules as best seen in Figure 11. Figure 11 illustrates eight different corner modules in two rows of four. The top row illustrates corner modules with a long apex and the bottom row illustrates corner modules with a short apex.

Reference is now made to first corner module 150. First corner module 150 is provided with extended work surface 152 if required for a specific project. First corner module 150 is further provided with a top plate 154 and top plate fasteners 156. In a preferred embodiment, top plate 154 is comprised of a 1/8" aluminium sheet with a painted finish. Further, in a preferred embodiment, first corner module 150 had an apex of 8" (20.32 cm) and a corner angle of 22.5 degrees.

Similarly, second corner module 160 has an apex of 8" (20.32 cm) and a corner angle of 30 degrees, third corner module 170 has an apex of 8" (20.32 cm) and a corner angle of 36 degrees and fourth corner module 180 had an apex of 8" (20.32 cm) and a corner angle of 45 degrees.

Fifth corner module 190 is provided with extended work surface 192 if required for a specific project. Fifth corner module 190 is further provided with a top plate 194 and top plate fasteners 196. Further, in a preferred embodiment, fifth corner module 190 had a pointed apex and a corner angle of 22.5 degrees.

Similarly, sixth corner module 200 had a pointed apex and a corner angle of 30 degrees, seventh corner module 210 had a pointed apex and a corner angle of 36 degrees and eighth corner module 220 had a pointed apex and a corner angle of 45 degrees.

More detailed embodiments of the present invention are shown in Figures 12 and 13. Figure 12 shows a configuration of console structure 1 in which a work surface 54 is fitted instead of a turret.

Figure 13 shows a turret 40 installed above base structure 10.

5 The frontal openings of base structure 10 between gables can be closed with a panel or door 236 mounted on hinges 238 to allow easy access.

The rearward openings of the base are similarly closed with a panel 240 or door using hinges 242.

10 Front and rear stringers 16 and 22 are adapted to support a lower shelf 244 and levelling legs 246 and 248. The front stringer also supports forwardly extending foot 250 which stabilizes the console against tipping.

The consoles shown in Figures 12 and 13 additionally include mounts 252 for a slidable shelf, and front and rear rack mounts 254 and 256 for racks, shelves or brackets useful for storage or to support other pieces of equipment.

15 Also shown is a shelf 260 slidably mounted beneath work surface 90. The shelf can be useful for a keyboard or for storage.

The above-described embodiments of the present invention are meant to be illustrative of preferred embodiments and are not intended to limit the scope of the present invention. Various modifications, which would be readily apparent to one skilled in the art, are intended to be within the scope of the present invention. The only limitations to the scope of the present invention are set forth in the following claims appended hereto.

20

**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. A modular equipment console comprising:

(a) at least one base structure having a predetermined height, width and depth, said base structure further comprising:

a front mounting rail extending laterally along the top and front of said base structure;

said front mounting rail being disposed such that said front mounting rail forms a continuous mounting rail with the front mounting rail of additional said base structures aligned with said at least one base structure in side by side relationship;

a rear mounting rail extending laterally along the top and rear of said base structure;

said rear mounting rail being disposed such that said rear mounting rail forms a continuous mounting rail with the rear mounting rail of additional said base structures aligned with said at least one base structure in side by side relationship;

(b) at least one turret structure mountable onto said at least one base structure,

said turret structure having a lower surface adapted to allow said turret structure to be positioned for mounting along any part of said front and rear mounting rails of said at least one base structure and any of said additional base structures;

(c) at least one equipment mount connectable to said at least one turret structure for supporting equipment; and

(d) a work area mountable on any of said at least one or said additional base structures;

wherein said modular equipment console can be configured using different numbers of said base structures, turret structures, equipment mounts and work areas.

2. The modular equipment console of claim 1 wherein said turret structure has a predetermined height, width and depth.

3. The modular equipment console of claim 2 wherein said width of said turret structure may be less than, equal to or greater than said width of said base structure.
4. The modular equipment console of claims 1, 2 or 3 wherein said turret structure supports said equipment at an angle to the horizontal to facilitate viewing of said equipment by an operator.
5. The modular equipment console of claim 4 wherein said angle to the horizontal is selected in the range from about 25 degrees to 45 degrees.
6. The modular equipment console of any one of claims 1 to 5 further comprising a corner base structure to introduce a predetermined angle into said equipment console when placed beside one of said base structures or between two adjacent base structures,
 - said corner base structure having a front and rear surface, said front surface being narrower in width than said rear surface,
 - wherein said front surface and rear surface of said corner base unit are laterally centred, and the difference in width between said front and rear surface determines the angle introduced into said equipment console.
7. The modular equipment console of claim 6 further comprising:
 - a corner turret structure configured to mount onto said corner base structure.
8. An equipment console comprising:
 - at least one ground engaging base module having a predetermined height, width and depth;
 - at least one turret module for supporting equipment therefrom and being mountable onto said base module, said base module including laterally extending spaced apart horizontal rail members for supporting said at least one turret module thereon, said turret module being moveably connectable to said rail members for adjustments to the lateral positioning of said turret module relative to said base

module, said rail members comprising a front rail and a rear rail and wherein said at least one turret module can be selectively positioned at any point along said front and rear rails.

9. The equipment console of claim 8 comprising a plurality of said base modules arranged in side by side relationship wherein said front and rear rails of said base modules respectively form continuous front and rear rails.

10. The equipment console of claim 9 wherein said at least one turret module can be selectively positioned at any point along said continuous front and rear rails.

11. The equipment console of claim 8, 9 or 10 wherein said least one turret module is connected to said rails using fastener means.

12. The equipment console of any one of claims 8 to 11 wherein said front and rear rails each include longitudinally extending cavities therein opening towards one another, and said at least one turret module includes a lower front edge and a lower rear edge, each of said edges including an outwardly extending flange adapted to be respectively received into said cavities in said front and rear rails.

13. The equipment console of claim 12 wherein said flanges are slidably received in said cavities to facilitate adjustment to the position of said turret module relative to said base modules.

14. The equipment console of claim 13 wherein the engagement of said flanges in said cavities restrains vertical movement of said turret module relative to said base modules.

15. The equipment console of any one of claims 8 to 14 wherein one or both of said front and rear rails includes an upwardly opening longitudinally extending slot.

16. The equipment console of claim 15 wherein said turret module includes at least one pin member operable between a retracted and an extended position, said pin member, when in said extended position thereof, extends into said slot to prevent back and forth movement of said turret module relative to said base modules.

17. The equipment console of claim 16 wherein said pin member is normally biased into said extended position thereof.

18. The equipment console of claim 17 wherein said slot is further adapted to receive therein threaded fasteners for fixably connecting said turret module to said rails.

19. The equipment module of claim 16 wherein each of said base modules includes spaced apart opposed side surfaces, said side surfaces each comprising a pair of vertically upright spaced apart gable members interconnected by a spacer member connectably disposed therebetween, said gable members and said spacer member, when connected together, defining said depth of each of said base modules.

20. The equipment console of claim 19 wherein said spacer member can be replaced by another spacer member of a different size to change the depth of a said base module.

21. The equipment console of claim 20 wherein said front rail is connected between said gable members at the front of each said base module, and said rear rail is connected between said gable members at the rear of each said base module.

22. The equipment console of claim 21 wherein said side surfaces of each said base module are formed with a void in the upper ends thereof providing clearance for said equipment supported by said turret module.

23. The equipment console of any one of claims 8 to 22 wherein said turret module includes an equipment mount connected thereto, said equipment mount being adapted for directly supporting said equipment therefrom.

24. The equipment console of claim 23 wherein said equipment mount is hingedly connected to said turret module for pivotably raising or lowering said equipment mount.

25. The equipment console of claim 24 wherein said turret module supports said equipment mount at an angle to the horizontal to facilitate viewing of said equipment by an operator.

26. The equipment console of any one of claims 12 to 25 wherein said equipment console further comprises a work surface supported by at least one of said base modules.

27. The equipment console of claim 26 wherein said rails include a raised upper surface arranged to support an edge of said work surface.

28. The equipment console of claim 27 wherein said raised upper surface defines the upper surface of said longitudinally extending cavity in each of said front and rear rails.

29. The equipment console of any one of claims 8 to 22 wherein said turret module has a predetermined height, width and depth.

30. The equipment console of claim 30 wherein said width of said turret module may be less than, equal to or greater than said width of said base module.

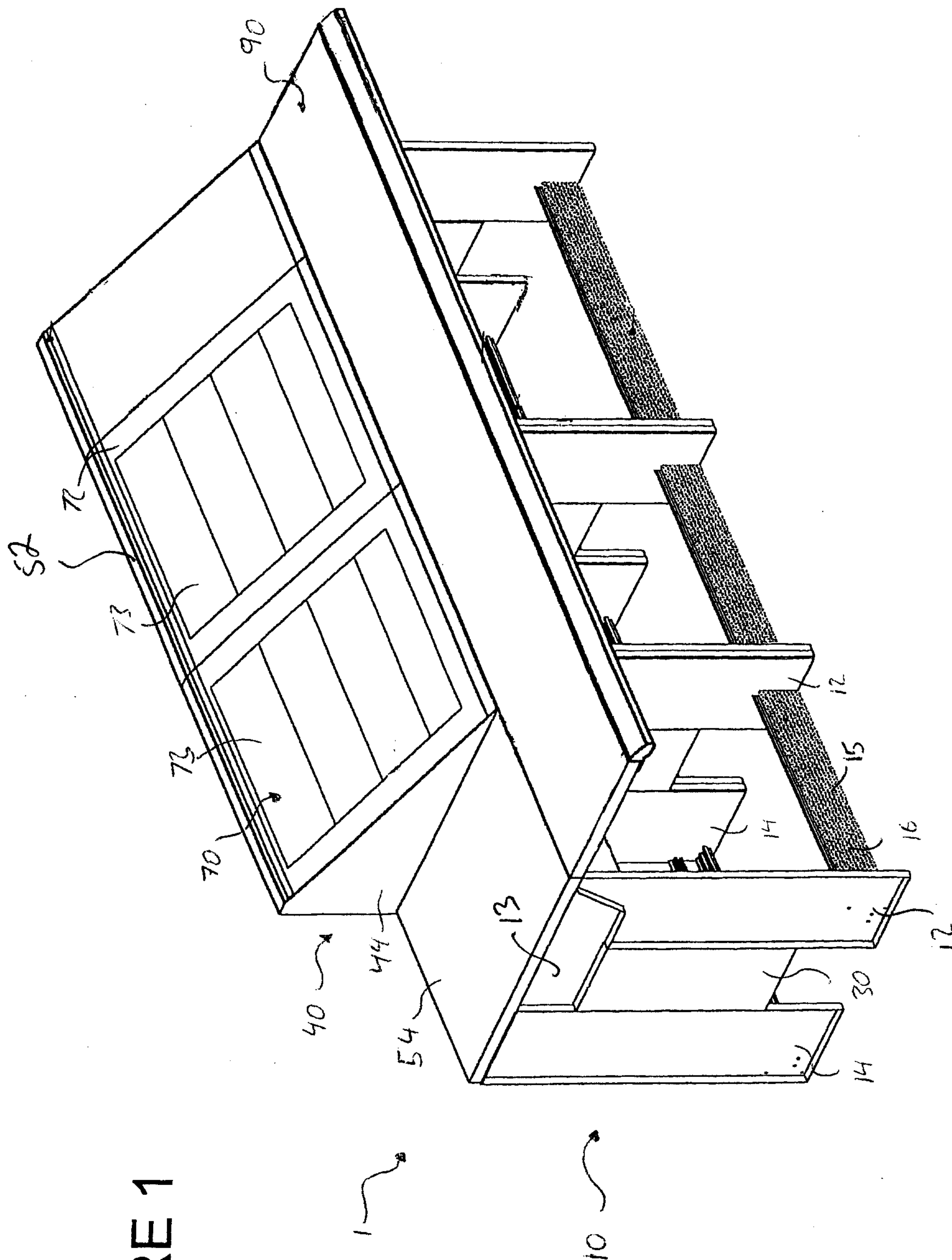


FIGURE 1

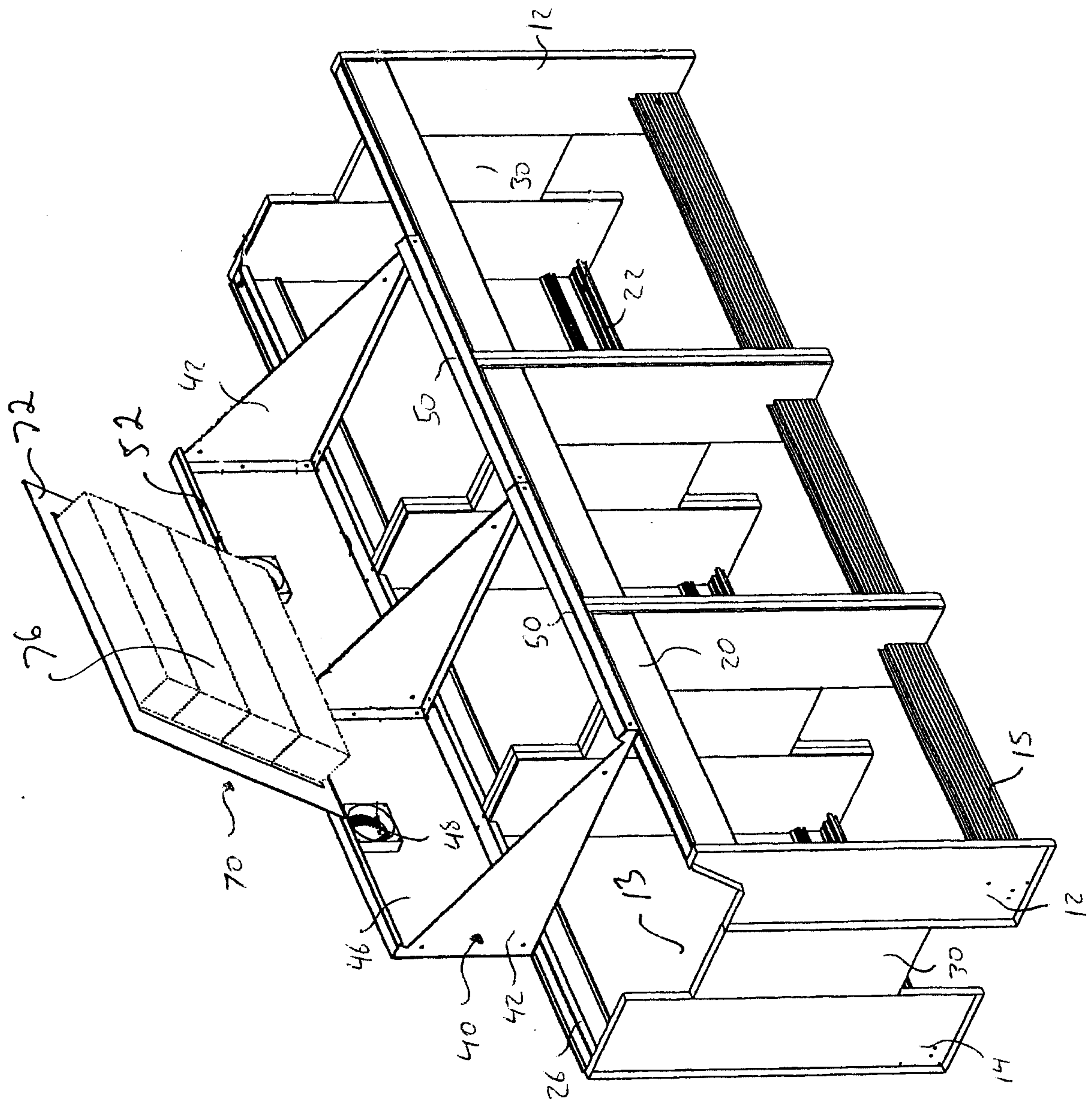
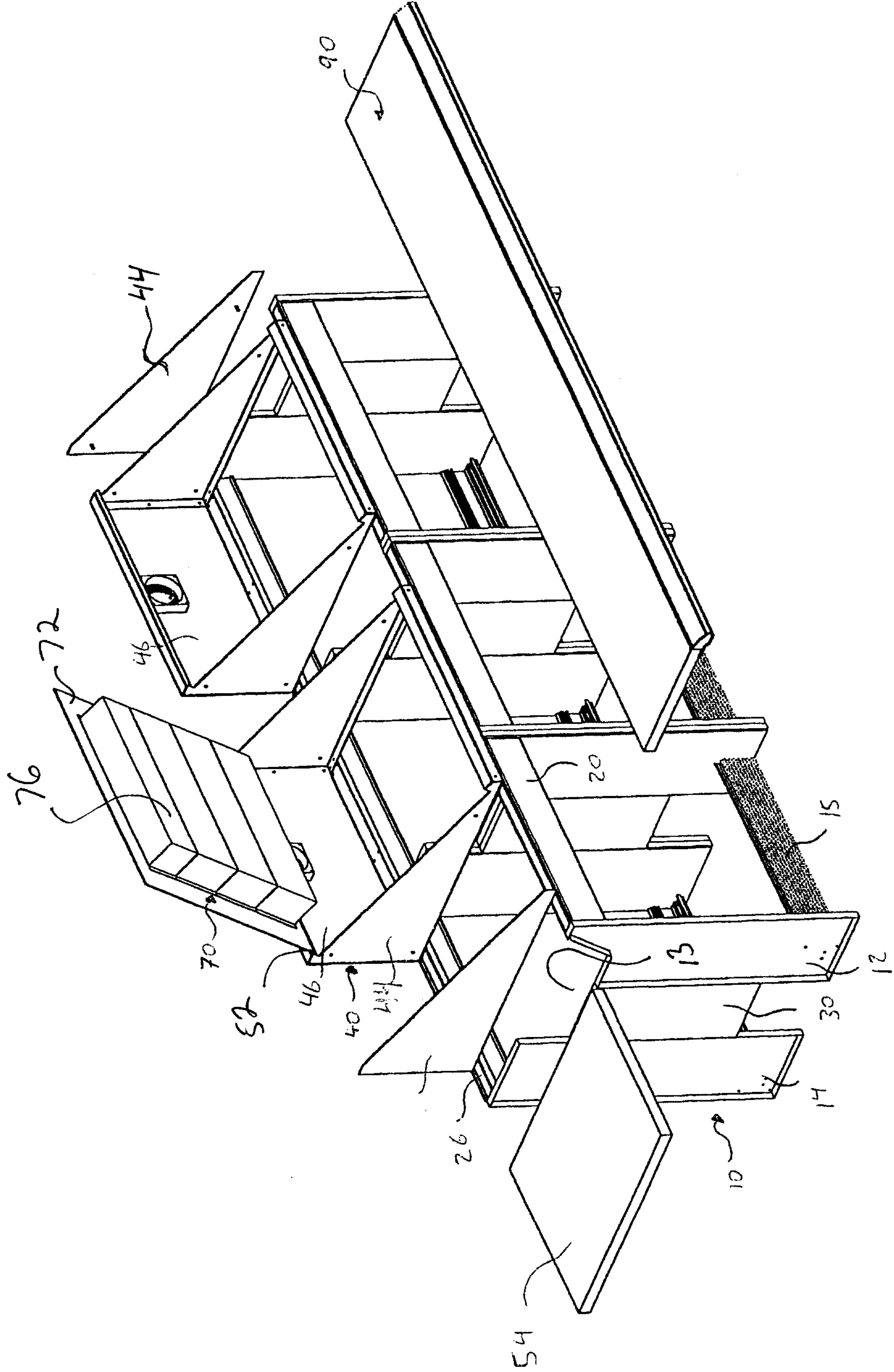


FIGURE 2

FIGURE 3



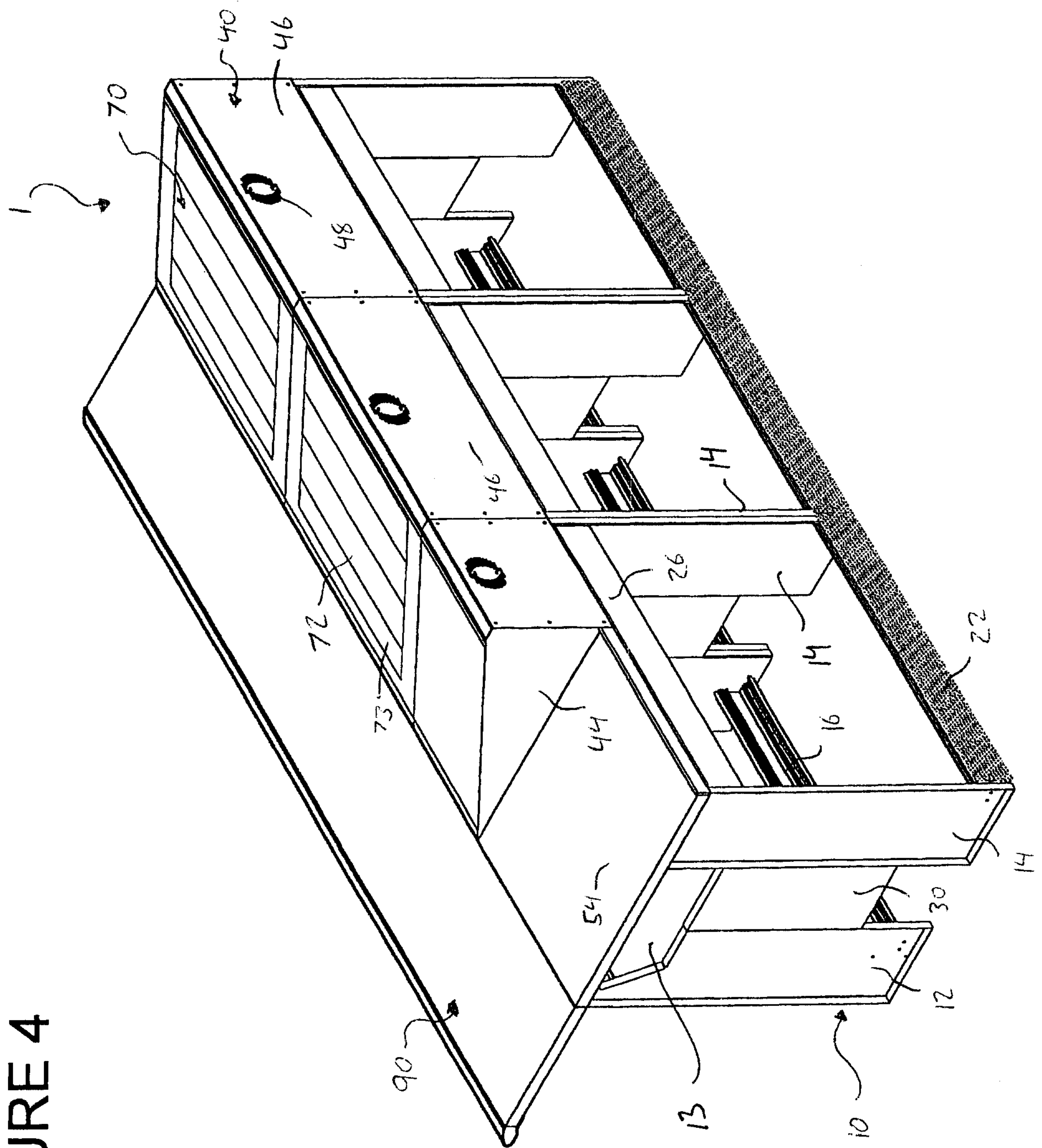


FIGURE 4

FIGURE 5

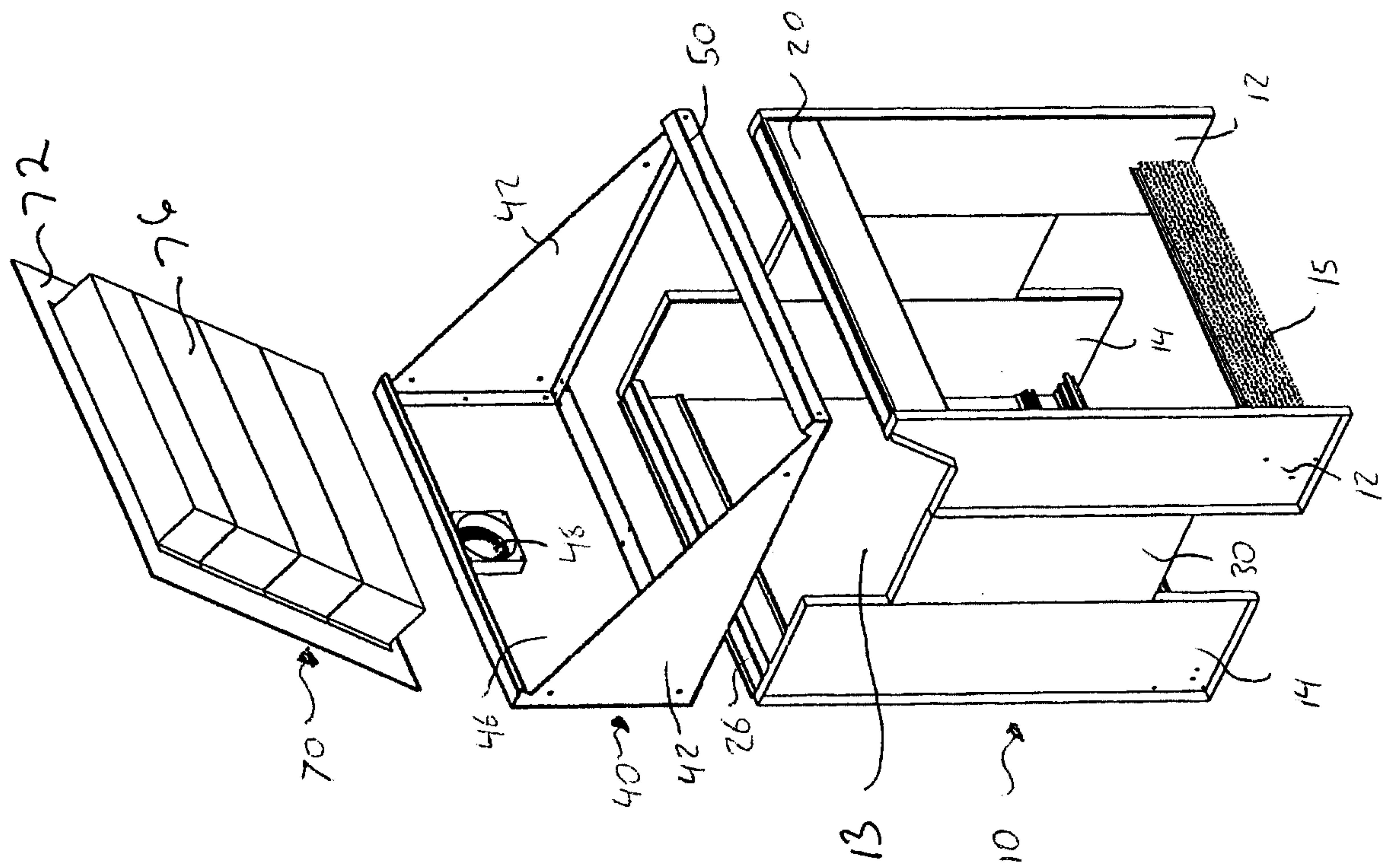


FIGURE 6

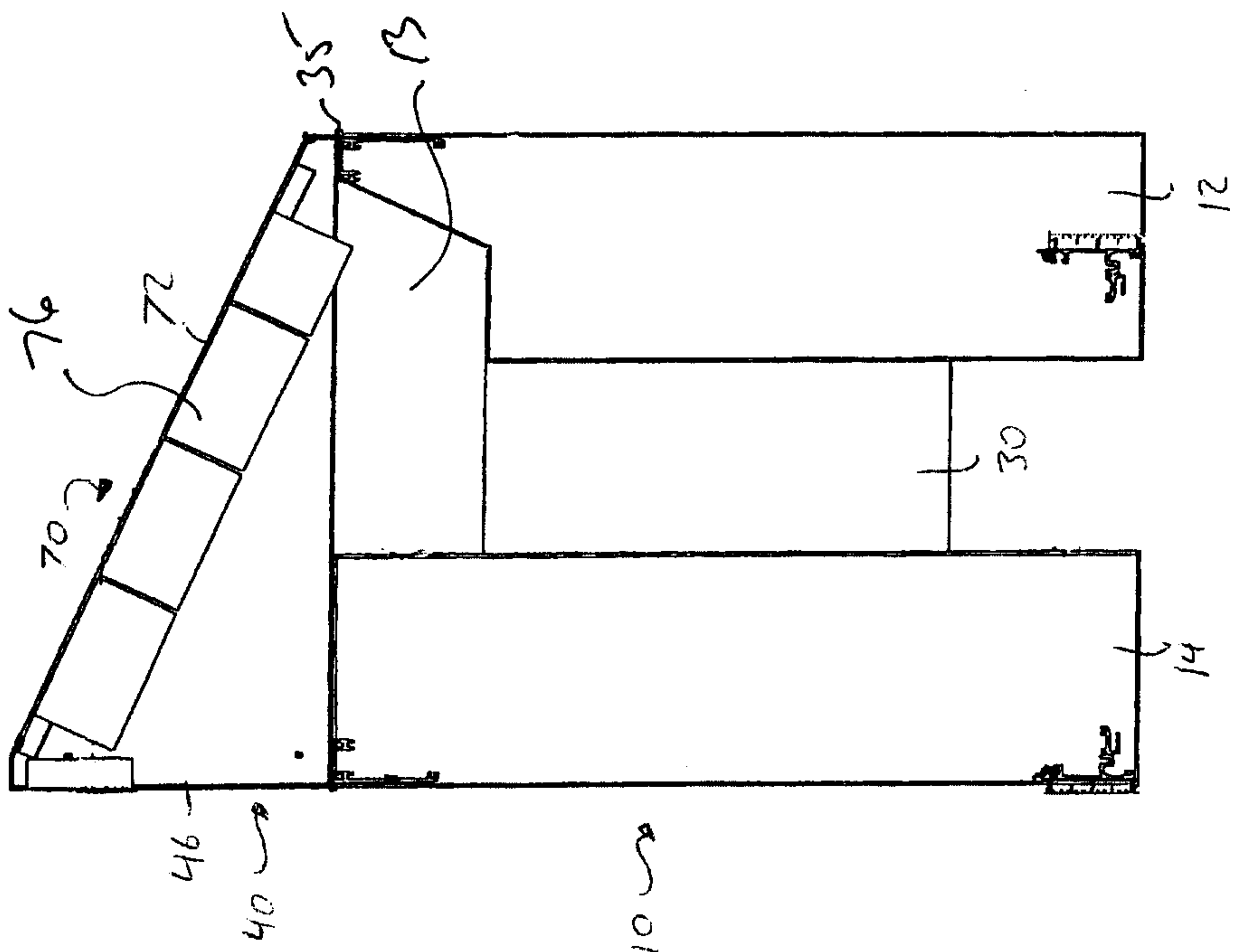


FIGURE 7

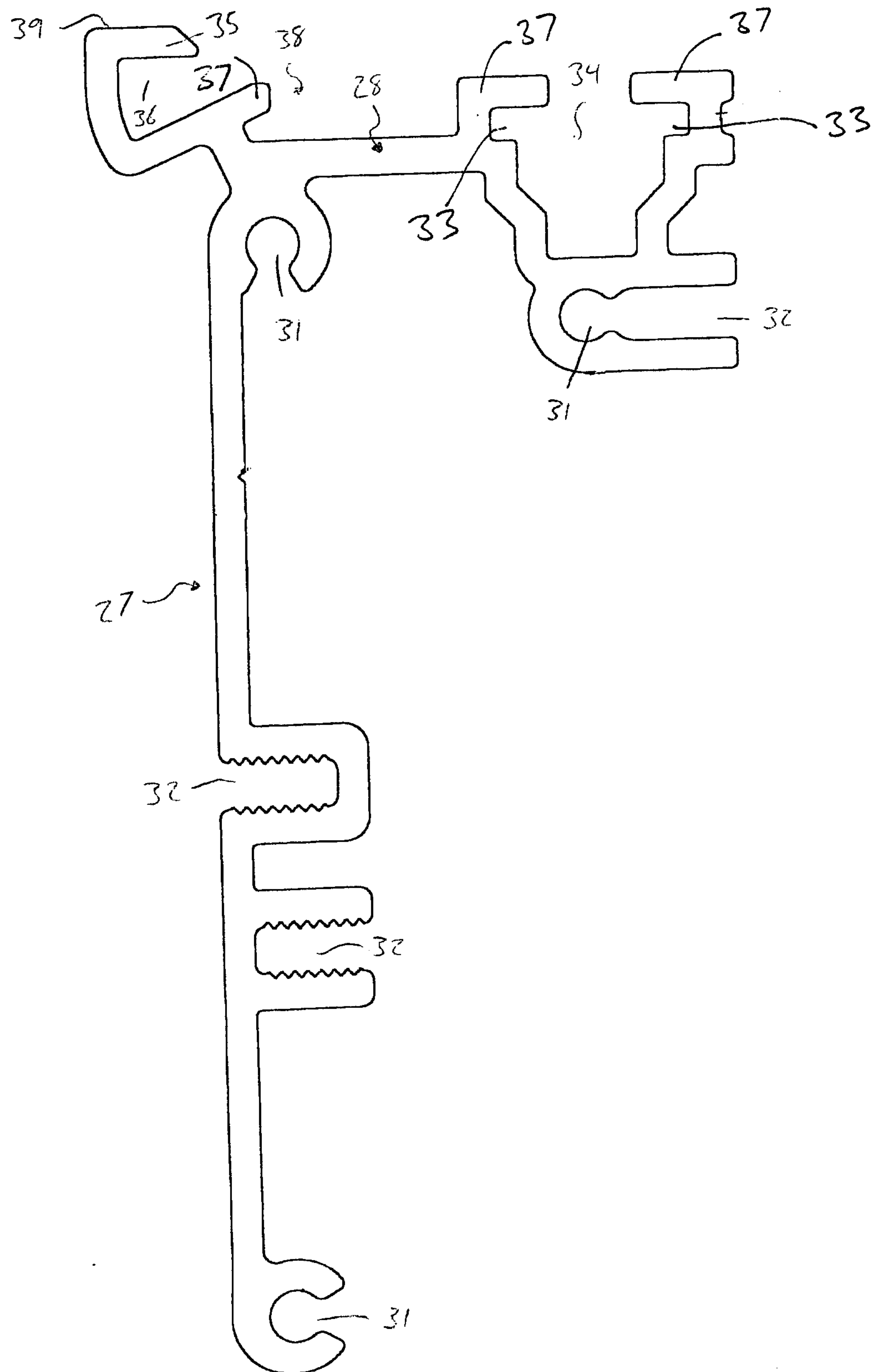


FIGURE 8

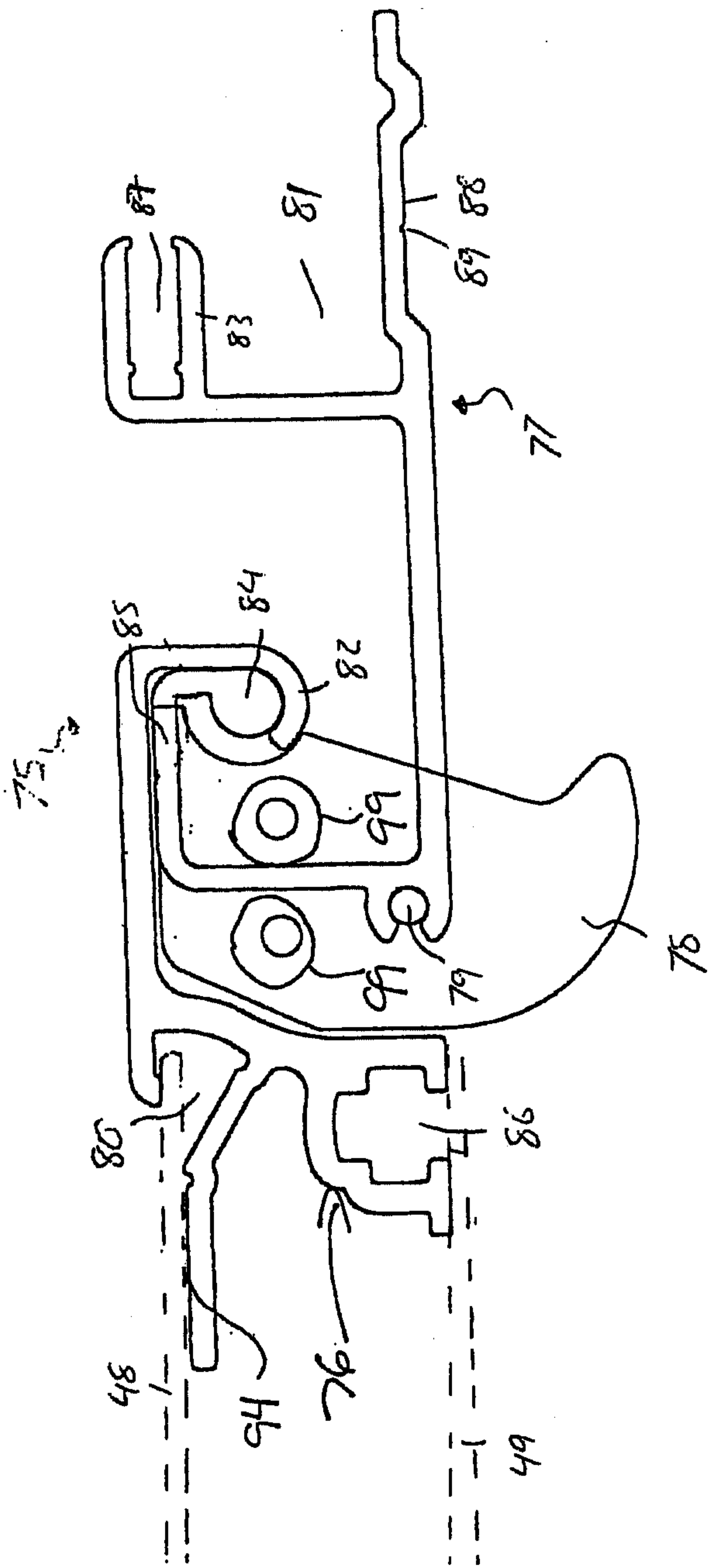


FIGURE 10

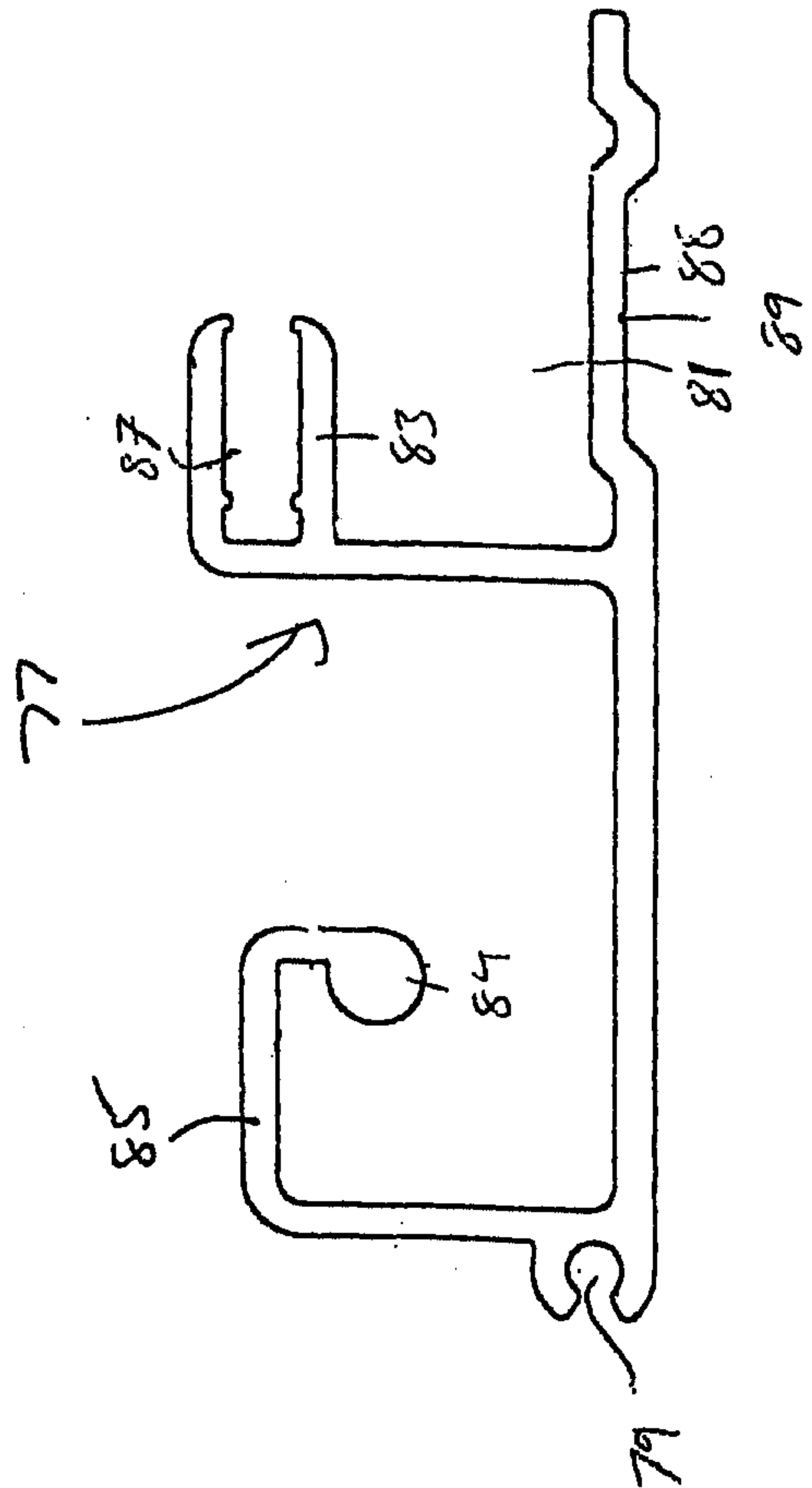
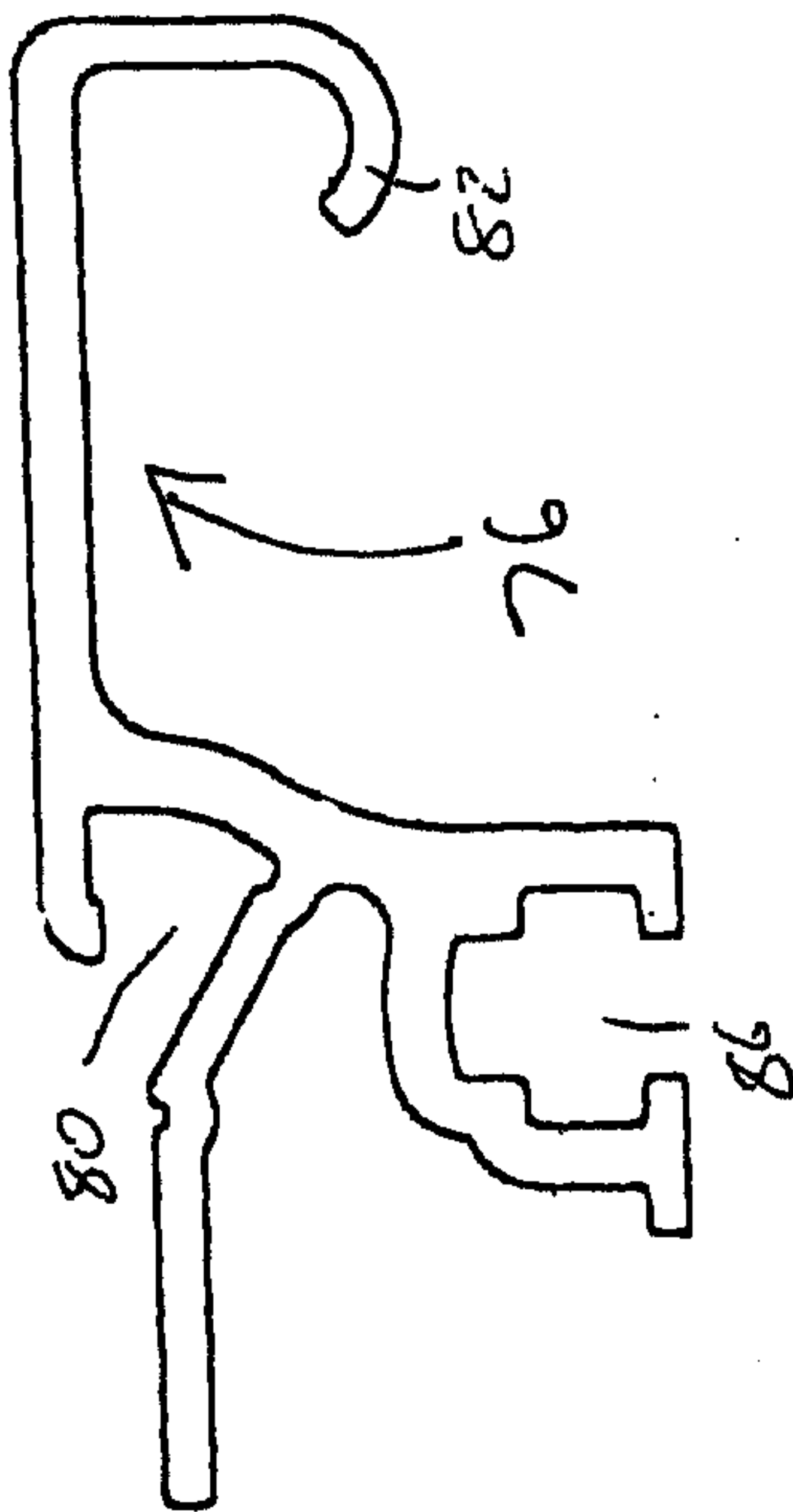


FIGURE 9



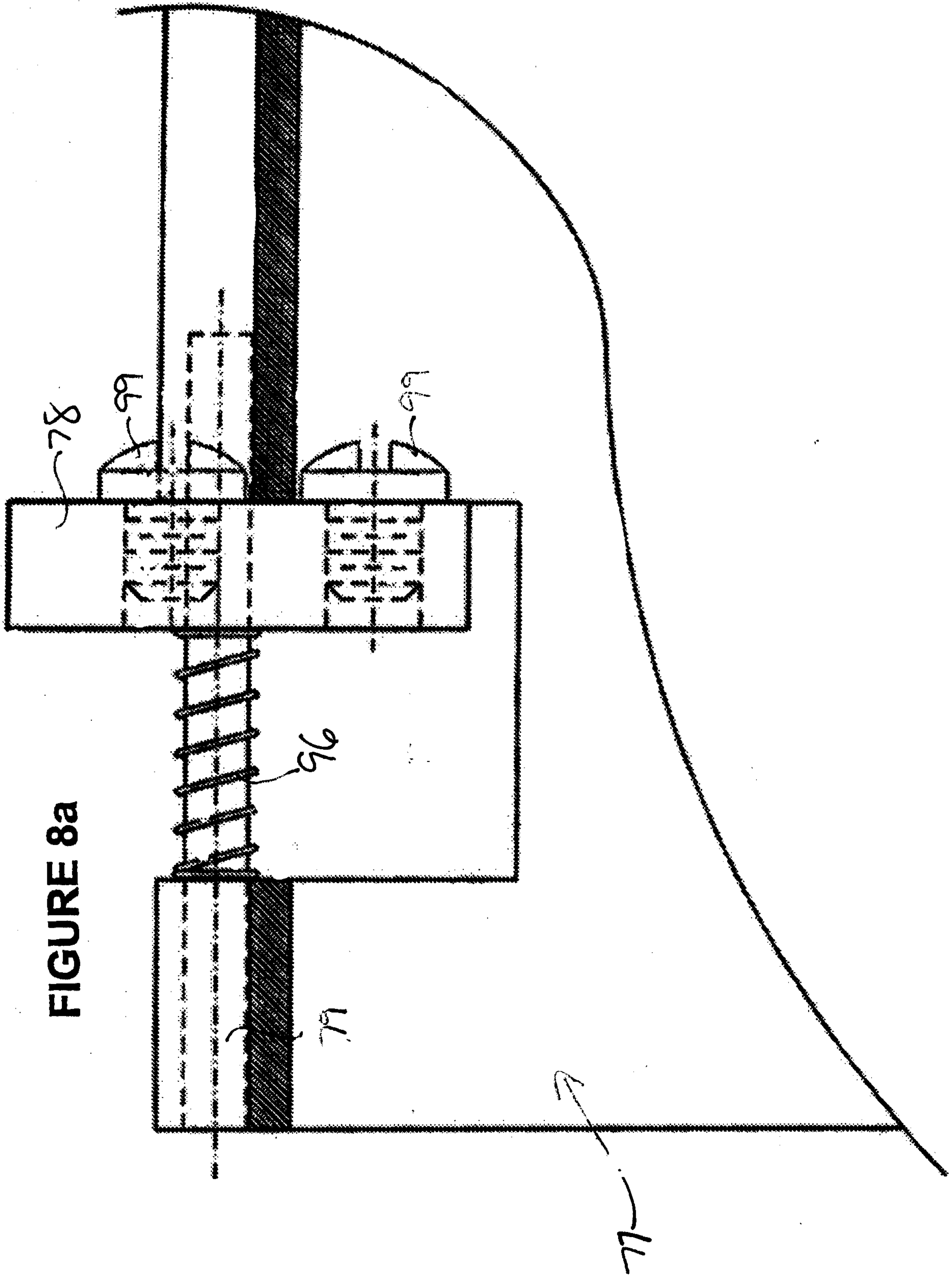
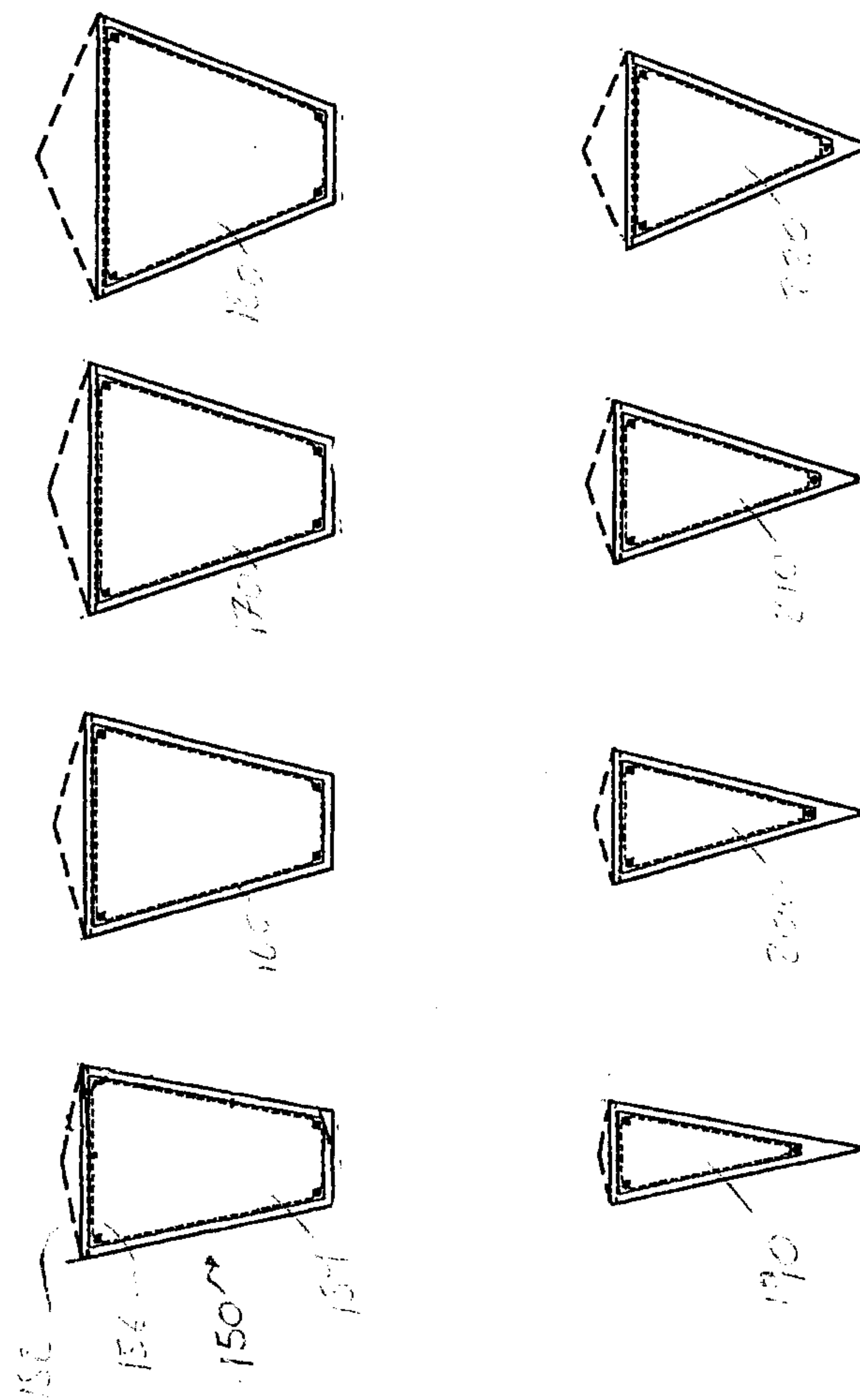


FIGURE 11



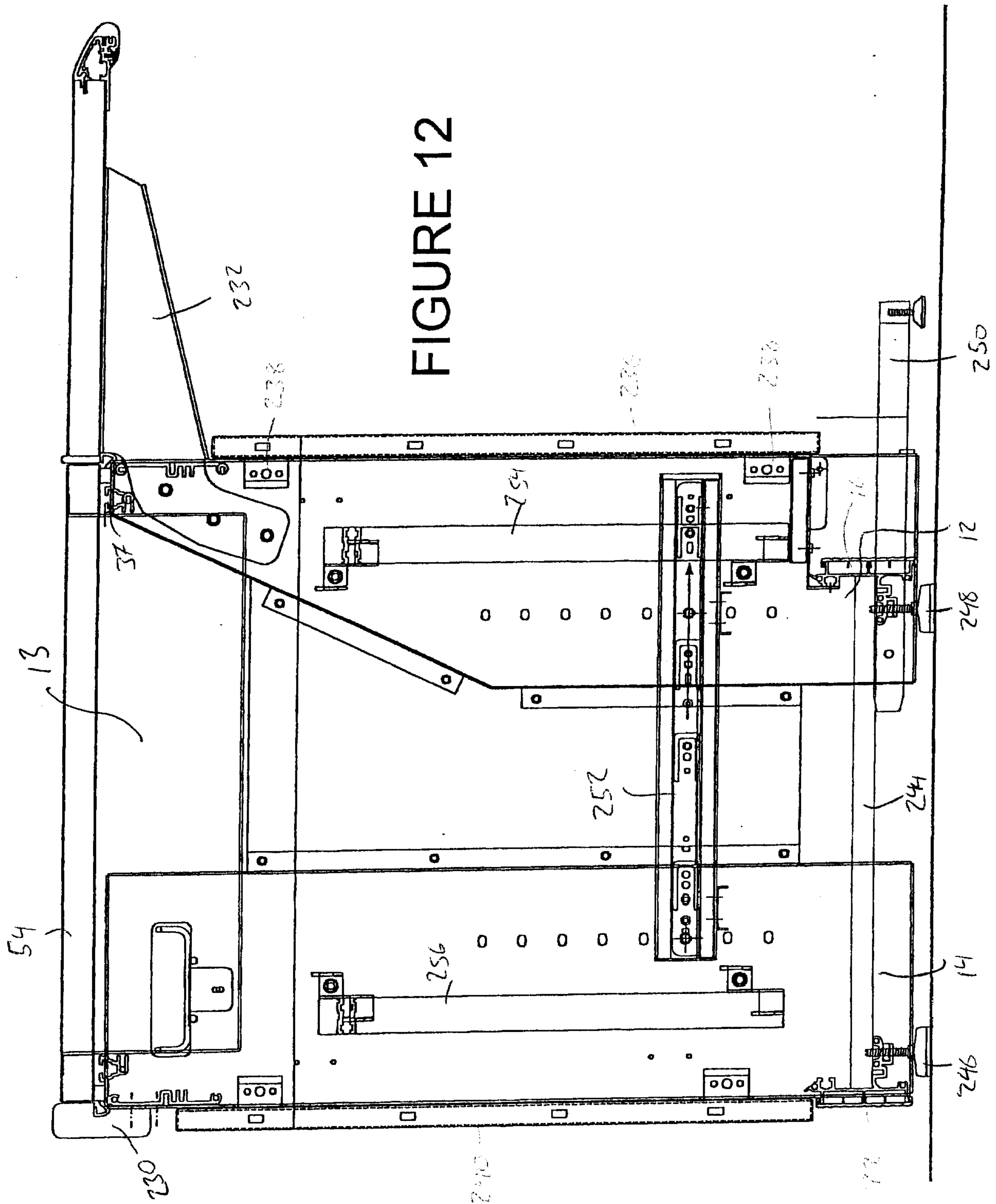


FIGURE 13

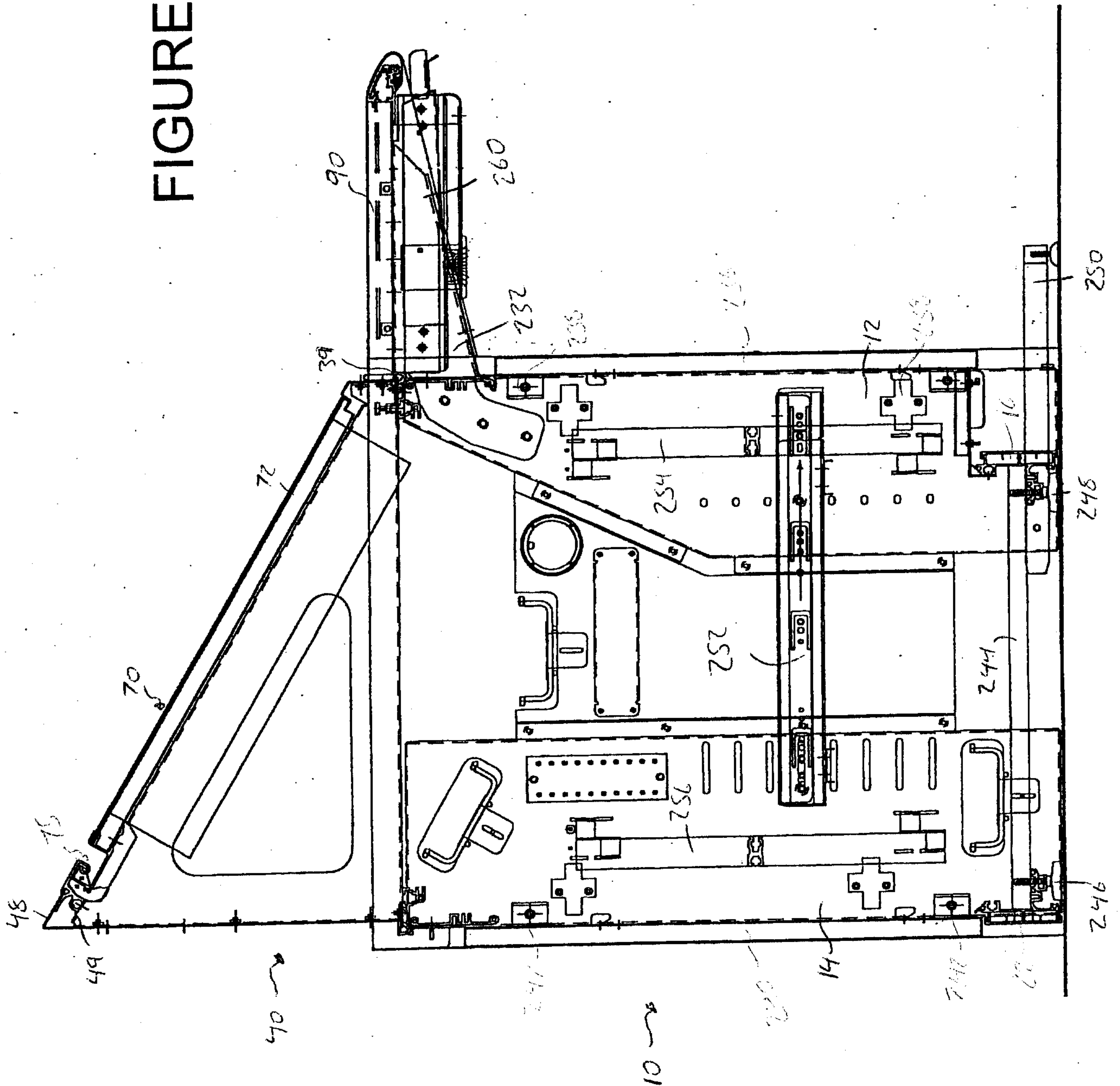
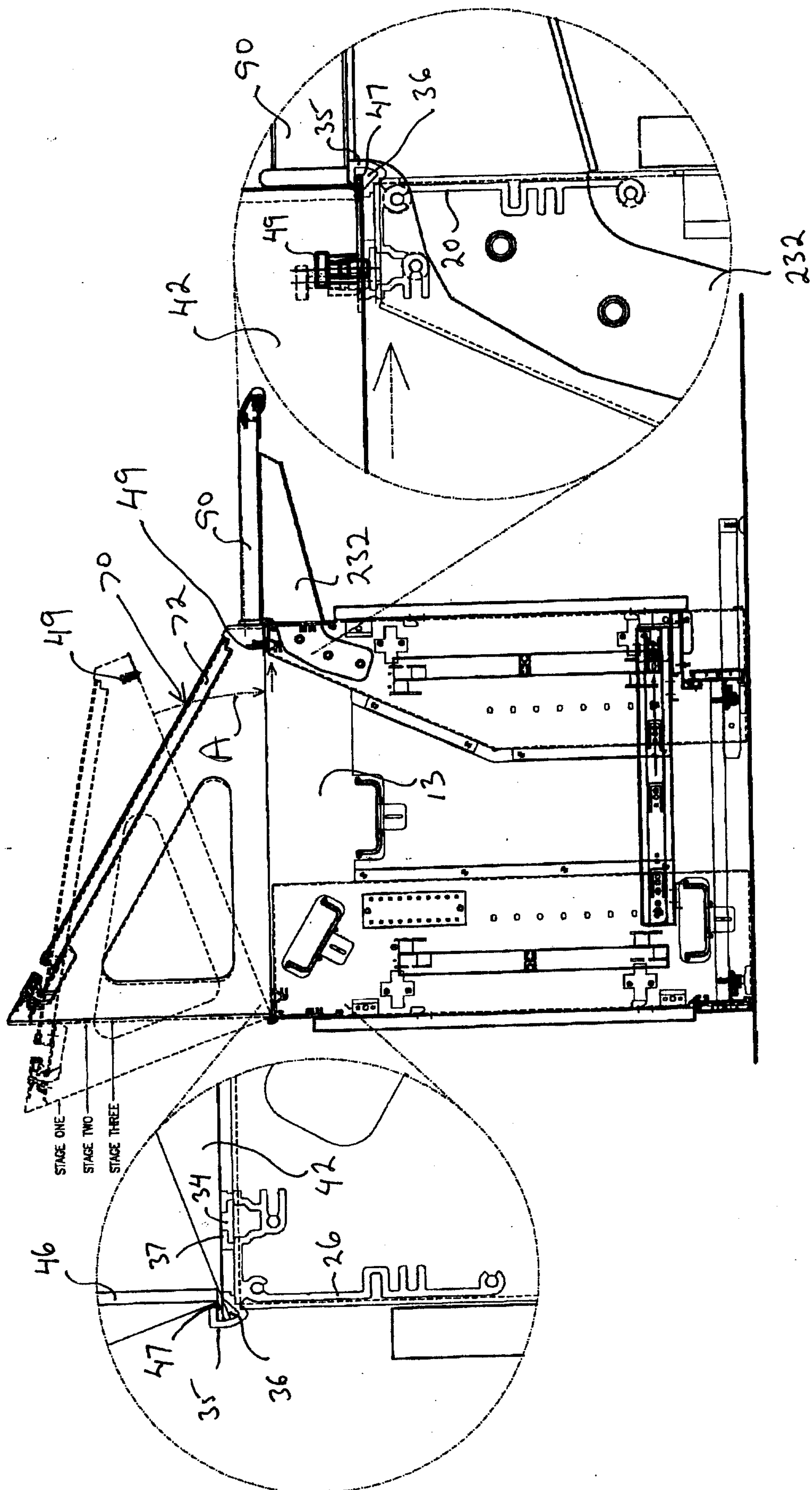


FIGURE 14



Application number/ Numéro de demande : 2359547

Documents of poor quality scanned
(request original documents in File Prep. Section on the 10th floor)

Documents de piètre qualité numérisés
(Pour obtenir les documents originaux, veuillez vous adresser à la Section de préparation
des dossiers, située au 10^e étage)

