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(71) Applicant: **ZAG INDUSTRIES LTD.**
Rosh Haayin 48091 (IL)

(72) Inventor: **Fichman, Millie**
Tel Aviv 63562 (IL)

(74) Representative: **Freeman, Avi**
W.H. Beck, Greener & Co.,
7 Stone Buildings,
Lincoln's Inn
London WC2A 3SZ (GB)

(54) A workshop, a desk assembly and a method for installing a workshop

(57) A workshop (10) is formed of back portion (14), a foldable desk (16), and collapsible legs (18). When folded, the latches (46) closed, thus forming a thin profile against a mounting wall (12). The workshop (10) may be easily mounted in any room in a home.

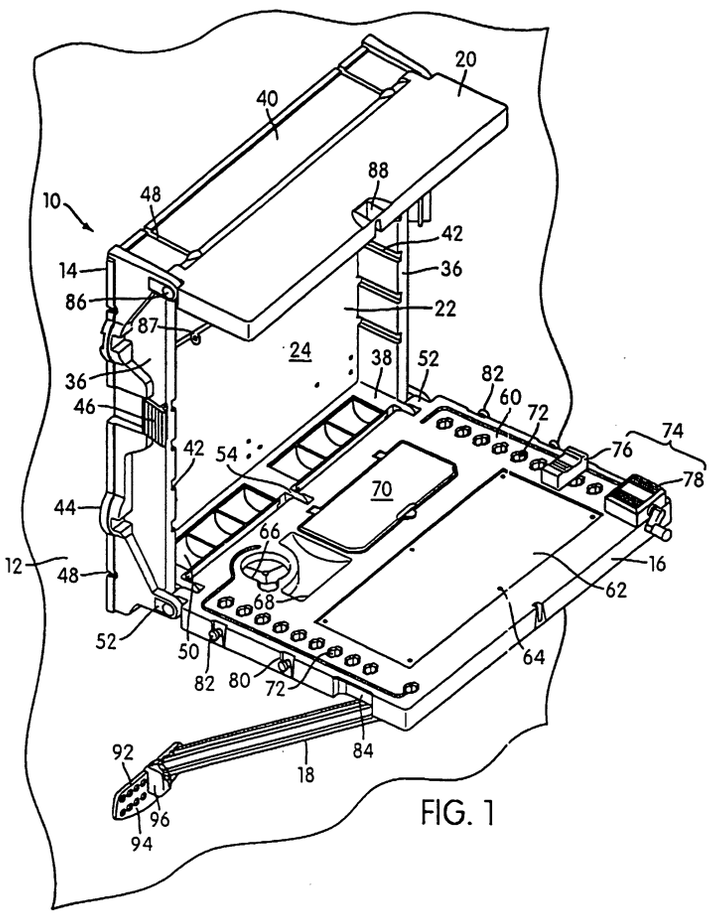

FIG. 1

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Description

[0001] The present invention relates to a workshop, a desk assembly and a method for installing a workshop.

[0002] In the preferred embodiments, the invention relates to a work space for household use. In particular, this invention is directed to a self-contained workshop that may be installed at any location in a home.

[0003] Many people engage in "do-it-yourself" activities and/or craft activities in their homes. Such activities generally require a comfortable work space and space for storing the supplies and tools used in these activities.

[0004] Unfortunately, many homes do not have appropriate or adequate work spaces. As a result, people tend to find any available table or desk to do the activities. Often, this involves occupying the kitchen table, dining room table, or living room coffee table.

[0005] Using inappropriate work spaces can damage the temporary work surface, with scratches, chemical abrasion or adhesives, for example. Craft and home repair supplies are also left out creating an unsightly mess and posing danger to children and pets. Moreover, it is difficult to use tools, such as screwdrivers, hammers, measuring tapes, knives, or vices, in such temporary work spaces.

[0006] Thus, there is a need for a separate work space that can be easily installed at a convenient location and that can be put away to prevent household disruption.

[0007] According to a first aspect of the present invention, there is provided a workshop comprising a back portion having a mounting formation, a desk pivotally mounted to the back portion and having a top work surface, wherein at least one of the back portion and the desk includes a tool support, and at least one support leg secured to the desk. By this arrangement, the desk is foldable against the back portion and the leg is collapsible. Preferably, the workshop is formed substantially of plastic.

[0008] The workshop may also include a foldable top that opens over the desk and closes adjacent the desk against the back portion.

[0009] According to a second aspect of the present invention, there is provided a desk assembly comprising a back having a fastener for fastening the desk assembly to a vertical support surface and a surface for supporting a first accessory, a desk coupled to the back with a pivoting joint, wherein the desk has a work surface and a formation for supporting a second accessory, and a pair of legs. Each leg has a first end coupled to the desk and a second end releasably securable to the vertical support surface. The legs are collapsible and the desk is foldable against the back to form a generally flat box on the vertical support surface.

[0010] The invention provides a convenient, yet unobtrusive work space.

[0011] Furthermore, a work space is provided that can be stowed when not in use.

[0012] The invention also provides a work space capable of supporting and storing tools and accessories associated with do-it-yourself and craft activities.

[0013] According to a third aspect of the present invention, there is provided a method for installing a workshop having a back, a folded desk, and collapsible legs. The method comprises the steps of fastening a mounting hook on a vertical support surface, hanging the workshop on the mounting hook, locating and fastening leg support brackets on the vertical support surface, and unfolding the desk from the back and securing the legs to the leg support brackets.

[0014] The invention provides a work space that is easily installed by a homeowner.

[0015] These and other aspects of the invention will become apparent in view of the following drawings and detailed disclosure of preferred embodiments.

[0016] Examples of embodiments of the present invention will now be described in detail with reference to the accompanying drawings, in which:

FIG. 1 is a side perspective view of the workshop in accordance with an example of embodiment of the present invention in the unfolded condition;

FIG. 2 is a side view of the workshop of FIG. 1;

FIG. 3 is a front view of the workshop of FIG. 1;

FIG. 4 is a back view of the workshop of FIG. 1;

FIG. 5 is a front view of the workshop of FIG. 1 in the folded condition;

FIG. 6 is a side view of the workshop of FIG. 5 shown spaced from the vertical support surface;

FIG. 7 is a bottom partial view of the top of the workshop in accordance with an example of an embodiment of the present invention; and,

FIG. 8 shows a step in the method of installation in accordance with an example of an embodiment of the present invention.

[0017] A workshop 10 in accordance with an example of an embodiment of the invention is shown in FIG. 1 mounted on a vertical support surface, such as a wall 12, and in an open condition. The workshop 10 includes a back portion 14 that is mounted to the wall 12, a desk 16, support legs 18 and a top 20.

[0018] The back portion 14 is formed as an open, shallow box. As seen in FIGs. 1-4, the back portion 14 has a generally planar base 22 with a front surface 24 (seen in FIG. 3) and a back surface 26 (seen in FIG. 4.) Preferably, the base 22 has a plurality of perforations 28, thus creating a peg board. Alternatively, the base 22 can have a peg board insert. The back portion can be

molded of plastic with reinforcing ribs 30, as seen in FIG. 4, on the back surface 26 of base 22. Of course, any rigid material could be used, including wood or metal. The back surface 26 has a plurality of channels 32 that slidably receive a mounting bar 34, preferably made of metal and having a series of apertures 36 therein. Spacers 33 may also be formed on the back surface 26 to create a gap between the back surface 26 and the vertical support surface to accommodate the mounting structure and ensure that the workshop 10 is stably mounted. Preferably, the spacers 33 are integrally molded tabs.

[0019] Back portion 14 also includes a pair of opposed side walls 36, a bottom side wall 38, and a top side wall 40 extending outwardly from the base 22. Side walls 36 preferably include interior grooves 42 for mounting shelves. The outer surface of side walls 36 have a plurality of fastener formations 44 shaped as an ear with an aperture therethrough. Of course, any known fastener formation can be used. Preferably, at least two of the fastener formations 44 align with the apertures 36 in bar 34, as is explained in more detail below.

[0020] Latches 46 are mounted on the outer surface of side walls 36 and can be formed as a releasable handle. The outer surface also has notches 48 formed therein that function as electrical cord passages. Of course, such notches 48 can be formed at any location on the back portion 14, including the bottom side wall 38, if desired, and top side wall 40 as shown in FIG. 1. It is preferred, although not necessary, that each side wall 36 be mirror images of each other for economical manufacturing and to provide versatility during installation.

[0021] The bottom side wall 38 forms a horizontal surface when the workshop 10 is mounted on wall 12. Preferably, cubbies or compartments 50 are formed in the bottom side wall 38 to store items, such as hooks for the pegboard or any other type of accessory. The compartments 50 may be of any shape or number and may have covers if desired.

[0022] The corner of each side wall 36 and the bottom side wall 38 define pivotal hinges 52 that connect to desk 16. A center hinge 54 may also be provided for stability.

[0023] Desk 16 is also preferably made from molded plastic with a bottom surface 56 having reinforcing ribs 58, as seen in FIG. 5. The top surface 60, best seen in FIG. 1, preferably has a sturdy, flat working surface 62. In a preferred embodiment, the working surface 62 is made as a replaceable wooden insert. The insert is preferably secured by adhesive, but it may also be fastened by screws 64 or other fastening methods. The top surface 60 can also have a contoured niche 66 for holding a can or cup, an open compartment 68, and a compartment 70 with a cover. Of course, any configuration is possible, including any number and combination of niches and compartments or an entirely flat surface. A series of key holes 72 are also provided along each side of the desk 16. Each key hole 72 is shaped as a notched circle so that different accessories can be inserted into the hole and then turned to lock them in place.

[0024] One such accessory shown in FIG. 1 is a vice or clamp 74 having a first piece 76 that may be inserted in any one of the key holes 72 to create a fixed position and an adjustable second piece 78 that may be inserted at the first key hole 72. The second piece 78 has a crank that causes the end to move linearly to and from the first piece 76 in order to clamp an object in place. The vice 74 may be removed and stored in compartment 70, if desired. In that case, compartment 70 may also have key holes 72 to prevent the vice 74 from moving within the compartment 70.

[0025] Desk 16 also preferably has a series of slots 80 on each side that receive hooks 82. Hooks 82 may be added as needed and stowed in any of the various compartments 50, 68 or 70. As seen in FIG. 6, hooks 82 can be left in place when the desk 16 is in the folded condition to allow tools or the like to be hung when the workshop 10 is in the stowed position.

[0026] Each side of the desk 16 also has a cut out portion 84 that aligns with the latches 46 when the desk 16 is folded against the back portion 14. The latches 46 hook the cut out portions 84 to securely hold the desk 16 in the folded position. The cut out portions 84 also provide a hand hold for a user when maneuvering the desk 16 into and out of the folded position.

[0027] At the top of the back portion 14, the top 20 is pivotally secured. Similar to the desk 16, each corner of the side walls 36 and the top wall 40 has a pivotal hinge 86 that allows the cover 20 to open out and fold flat. The hinge 86 may be self locking so that the cover 20 stays in an open position when pivoted beyond a certain point until slight pressure is exerted on the cover 20 to fold it down. Alternatively, locking hinge levers 87 can be provided as shown in FIGs. 1 and 2. Again, the cover 20 is preferably formed of molded plastic.

[0028] As seen in FIG. 7, the interior of the cover 20 is hollow and may have a mounting formation 89 for attachment of a light, for example a fluorescent light fixture. The mounting formation 89 may be an integrally molded channel configured to receive a fastener to mount a conventional fluorescent fixture or may be premolded aperture or reinforced area for receiving a fastener. Preferably, the cover 20 includes a locking portion 88 that interacts with the desk 16 when in the folded condition to lock the desk 16 in place. The locking portion 88 is preferably a cut out with a slot designed to receive a separate lock, but it may be another known type of securing mechanism. When folded, the cover 20 can abut the desk 16 or a portion can be overlapped by a lip on the desk. However, It is not necessary to include a top 20 and, if omitted, the desk 16 can be enlarged to match the size of the back portion 14.

[0029] The legs 18 are pivotally secured to the bottom surface 56 of the desk 16 to mounting flanges 90, best seen in FIG. 5. The legs 18 can also be formed of plastic, but may be wooden or metal if desired. The legs 18 are

preferably sized to fit within the back portion 14 flat on the base 22 for shipping. By this configuration, the workshop 10 can be shipped and stored in an efficient rectangular configuration. It is preferred that the legs 18 be mounted to the vertical surface 12, as a shorter leg may be used, using leg support brackets 92. Brackets 92 are formed of a plate having plural apertures 94 and a hinge 96. The end of each leg 18 is releasably secured to the hinge 96. It is also possible to configure the legs 18 to extend perpendicular to the desk 16 and be supported by the floor. In that case, the legs 18 could be extendable in a telescoping manner or formed of plural interconnected shorter parts. Of course, bracket 92 would then not be necessary.

[0030] Referring to FIG. 6, the workshop 10 is shown slightly spaced from the wall 12 to illustrate the method of installation. First, mounting hooks 98 are fastened to the wall. It is recommended that hooks 98 be fastened to a solid or masonry wall or directly to wall studs to provide adequate strength to support the workshop 10. Preferably, two hooks 98 are used, however any number of hooks 98 necessary to support the workshop 10 may be used. The hooks 98 should be mounted at the same vertical position using a level.

[0031] After the hooks 98 are securely mounted to the wall 12, the workshop 10 may be installed. The workshop 10 in its stowed, folded condition is lifted to hang the bar 34 (seen in FIG. 4) on the hooks 98. Once the bar 34 is securely mounted on the hooks 98, the latches 46 should be released to unfold the desk 16 allowing it to hang down. The legs 18, which are preferably stored in the back portion 14, are removed and put aside. Then, the workshop 10 is adjusted horizontally from side to side by sliding to ensure that the openings in the base 22 are aligned with the openings 36 in the bar 34. Fasteners are then inserted through the aligned openings and attached through the base 22 and the bar 34 to the wall 12. Additional fasteners are used to fasten the workshop 10 securely to the wall 12 at the formations 44 and if desired through other apertures in the base 22.

[0032] Other methods of securing the workshop 10 to a support surface are also contemplated. For example, the base 22 can be directly adhered to the wall 12 or directly fastened to the wall 12, by screws for instance. Alternatively, the mounting hooks 98 can be adhesively secured to the wall 12 or other types of mounting elements could be used. It would also be possible to hang the workshop 10 against the wall 12 from an upper support structure.

[0033] The desk 16 is next folded and secured into a stowed position. The legs 18 are attached to hinges 90 by securing the pivot pins in the hinge to the end of each leg 18. The legs 18 can also be secured by a snap fit connection, if desired, with a ball and detent arrangement. As seen FIG. 8, to position the brackets 92, a template 100 cut from the package for the workshop 10 or supplied as an instruction sheet is used. The template 100 is positioned beneath the mounted workshop 10 and the bracket outlines are positioned. The apertures 94 are positioned at an appropriate location on the wall 12, such as at a wall stud. The brackets 92 have multiple apertures 94 so that the optimal position may be established to provide a stable support. After the brackets 92 are properly positioned, each bracket is fastened to the wall 12. The workshop 10 may now be opened for use. The locking formation 88 is released and the latches 46 are opened to open the desk 16 into a horizontal, open work position. The legs 18 are pivoted into position and the ends are secured, preferably snapped or hooked, into the hinges 96.

[0034] Once the desk 16 is opened, accessories may be added. Hooks can be hung on the pegboard base 22. Shelves may be installed between side walls 36. Hooks 82 can be slid into slots 80 and the vice 74 can be installed. Of course, other accessories may be used if desired or no accessories at all. As noted above, a light fixture may be mounted in the top 20. Any electrical accessories, including the light fixture, may be threaded through the back portion 14 and top 20 to hide the electrical cords, which may be then passed through notches 48.

[0035] It can be understood that the workshop 10 may be quickly and easily folded out of the way by stowing any loose accessories or items, folding down the top 20, releasing the legs 18, folding the desk 16 up toward the back portion 14 and engaging the latches 46, and then locking the assembly if desired. Then, the workshop 10 lies in a relatively flat manner against a wall 12, as seen in FIGs. 5 and 6.

[0036] The workshop 10 may be used in any location supported by a vertical surface. For example, the workshop 10 may be installed in a room, a basement, or a garage. The workshop 10 could also be installed outdoors against an exterior wall, if desired.

[0037] The workshop 10 described herein can be modified in various ways and remain within the scope of this invention. For example, the particular detachable elements and their corresponding support structures can take various configurations depending on the desired use for the workshop. Additionally, it is contemplated that the workshop can be formed in various sizes, including a small child size workshop or a large heavy duty workshop that would support power tools and their use.

Claims

1. A workshop comprising:

a back portion (14) having a mounting formation;

a desk (16) pivotally mounted to the back portion (14) and having a top work surface, wherein at least one of the back portion (14) and the desk (16) includes a tool support; and

at least one support leg (18) secured to the desk,

wherein the desk (16) is foldable against the back portion (14) and the leg (18) is collapsible.

2. A workshop according to claim 1, wherein the back portion (14) is formed as an open box with a base (22) and surrounding side walls (36).

3. A workshop according to claim 2, wherein the base (22) includes a peg board.

4. A workshop according to claim 2 or 3, wherein the desk (16) folds adjacent the side walls (36).

5. A workshop according to any of claims 2 to 4, wherein at least one of the side walls (36) includes compartments.

6. A workshop according to any of claims 2 to 5, wherein two opposed side walls (36) include shelf supports (42).

7. A workshop according to any preceding claim, further comprising a latch supported by one of the back portion (14) and the desk (16) and a hook supported by the other of the back portion (14) and the desk (16) to releasably secure the desk (16) to the back portion (14) when folded.

8. A workshop according to any preceding claim, wherein the top work surface of the desk has a hard plate portion (62) and a compartment (70).

9. A workshop according to claim 8, wherein the compartment (70) has a cover.

10. A workshop according to any preceding claim, wherein the desk includes a vice mount.

11. A workshop according to claim 10, further comprising a detachable vice (74) having a first portion (76) fixedly mounted to the work surface of the desk and a second portion (78) mounted to the work surface of the desk (16) that is movable relative to the first portion (76).

12. A workshop according to any preceding claim, wherein the desk (16) has hook supports (82) positioned to be accessible when the desk (16) is folded.

13. A workshop according to claim 12, further comprising hooks (82) detachably mounted to the desk (16).

14. A workshop according to any preceding claim, wherein the back portion (14) has at least one electrical cord passage.

15. A workshop according to any preceding claim, wherein the mounting formation is a hanger that is horizontally adjustable.

16. A workshop according to claim 15, wherein the hanger is a bar (34) and further comprises hooks (18) that support the bar.

17. A workshop according to any preceding claim, further comprising at least one leg support bracket (92) having a mounting formation that mounts to a support and a leg support, wherein the leg is removably attached to the leg support.

18. A workshop according to any preceding claim, wherein the at least one leg (18) comprises two legs (18) pivotally coupled to the desk (16).

19. A workshop according to any preceding claim, further comprising a top (20) pivotally secured to the back portion (14), wherein the top (20) is movable between an open position and a folded position.

20. A workshop according to claim 19, wherein the top (20) extends over the desk (16) in the open position and folds adjacent the desk (16) in the folded position.

21. A workshop according to claim 19 or 20, wherein the top (20) includes a locking structure for locking the top to the desk in the folded position, thus forming a generally flat outer surface.

22. A workshop according to any of claims 19 to 21, wherein the top (20) includes a light support.

23. A workshop according to any preceding claim, wherein the back portion (14) and the desk (16) are made substantially of plastic.

24. A desk assembly comprising:

a back (14) having a fastener for fastening the desk assembly to a vertical support surface and a surface for supporting a first accessory;
a desk (16) coupled to the back (14) ith a pivoting joint, wherein the desk has a work surface and a formation for supporting a second accessory; and
a pair of legs (18), each having a first end coupled to the desk (16) and a second end releasably securable to the vertical support surface,

wherein the legs (18) are collapsible and the desk (16) is foldable against the back (14) to form a generally flat box on the vertical support surface.

25. A desk assembly according to claim 24, wherein the

back (14) and the desk (16) are formed of plastic.

26. A method for installing a workshop having a back (14), a folded desk (16), and collapsible legs (18), comprising the steps of:

fastening a mounting hook (98) on a vertical support surface;
hanging the workshop on the mounting hook (98);
locating and fastening leg support brackets (92) on the vertical support surface; and
unfolding the desk (16) from the back (14) and securing the legs to the leg support brackets (92).

27. A method according to claim 26, wherein hanging the workshop includes sliding the workshop relative to the vertical support surface to adjust the lateral position of the workshop on the vertical support surface.

28. A method according to claim 26 or 27, wherein locating the leg support brackets (92) includes positioning a template on the vertical support surface and marking the location of each leg support bracket for fastening.

29. A method according to any of claims 26 to 28, wherein the workshop includes a top (20), and unfolding the desk (16) includes unfolding the top (20).

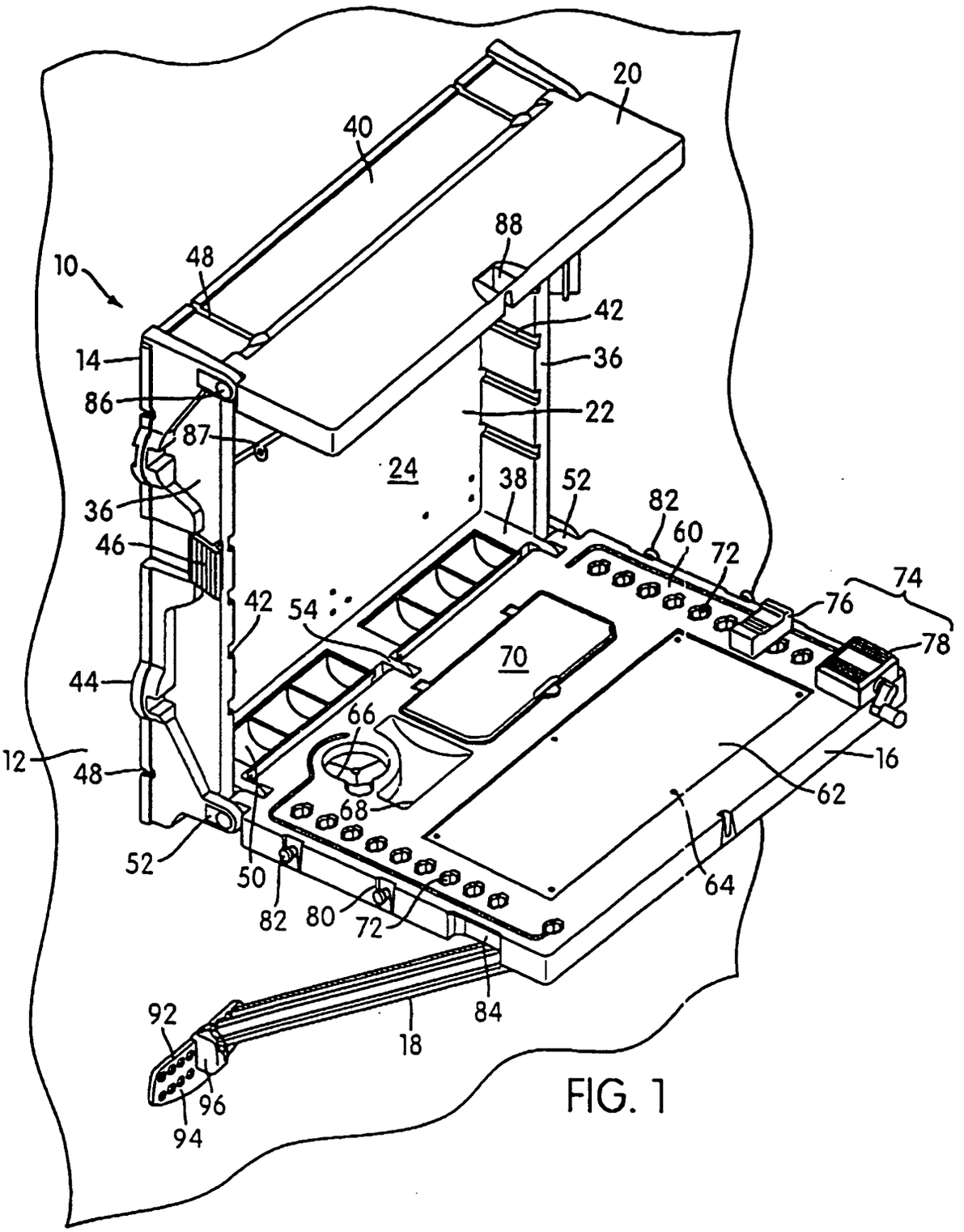
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FIG. 1

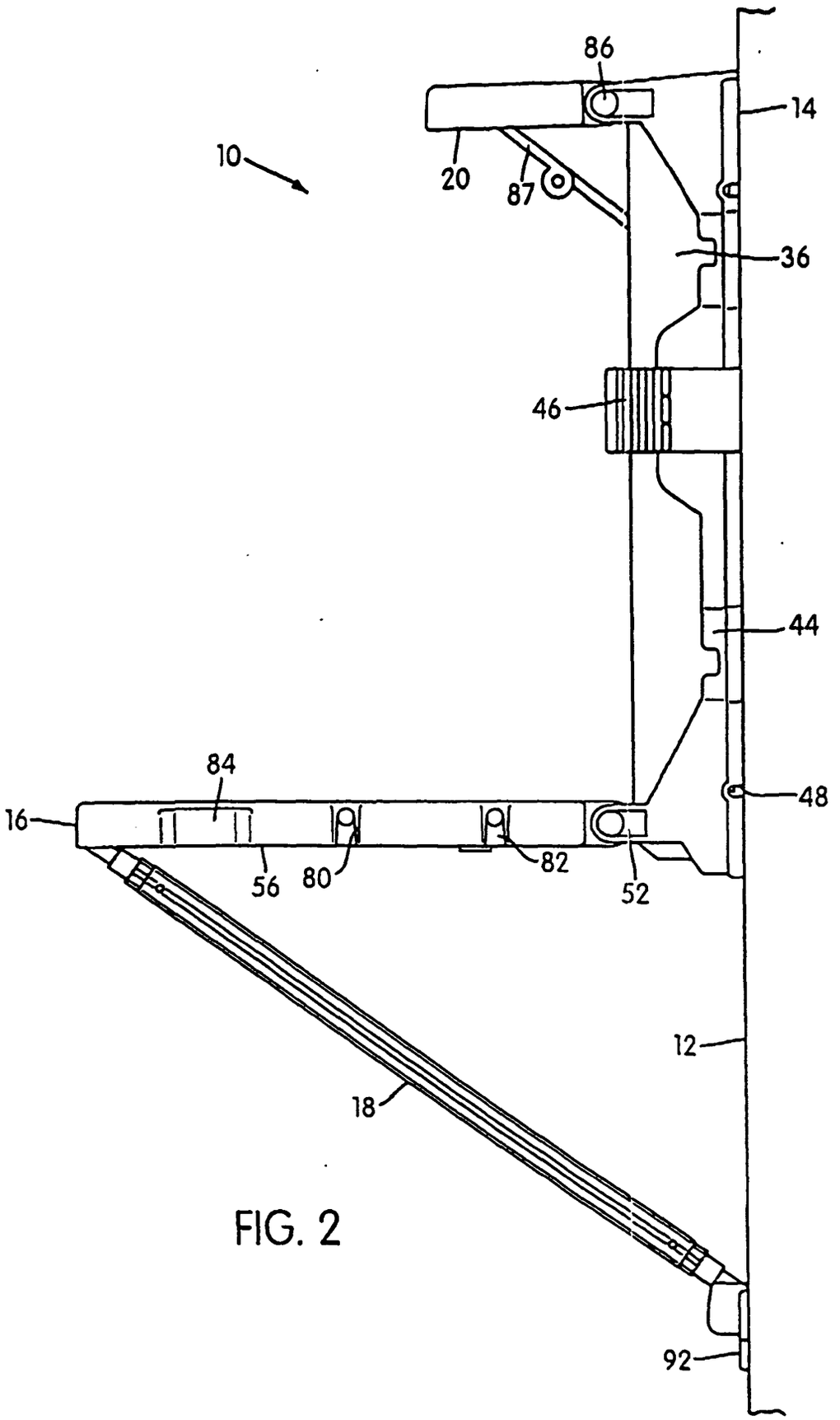

FIG. 2

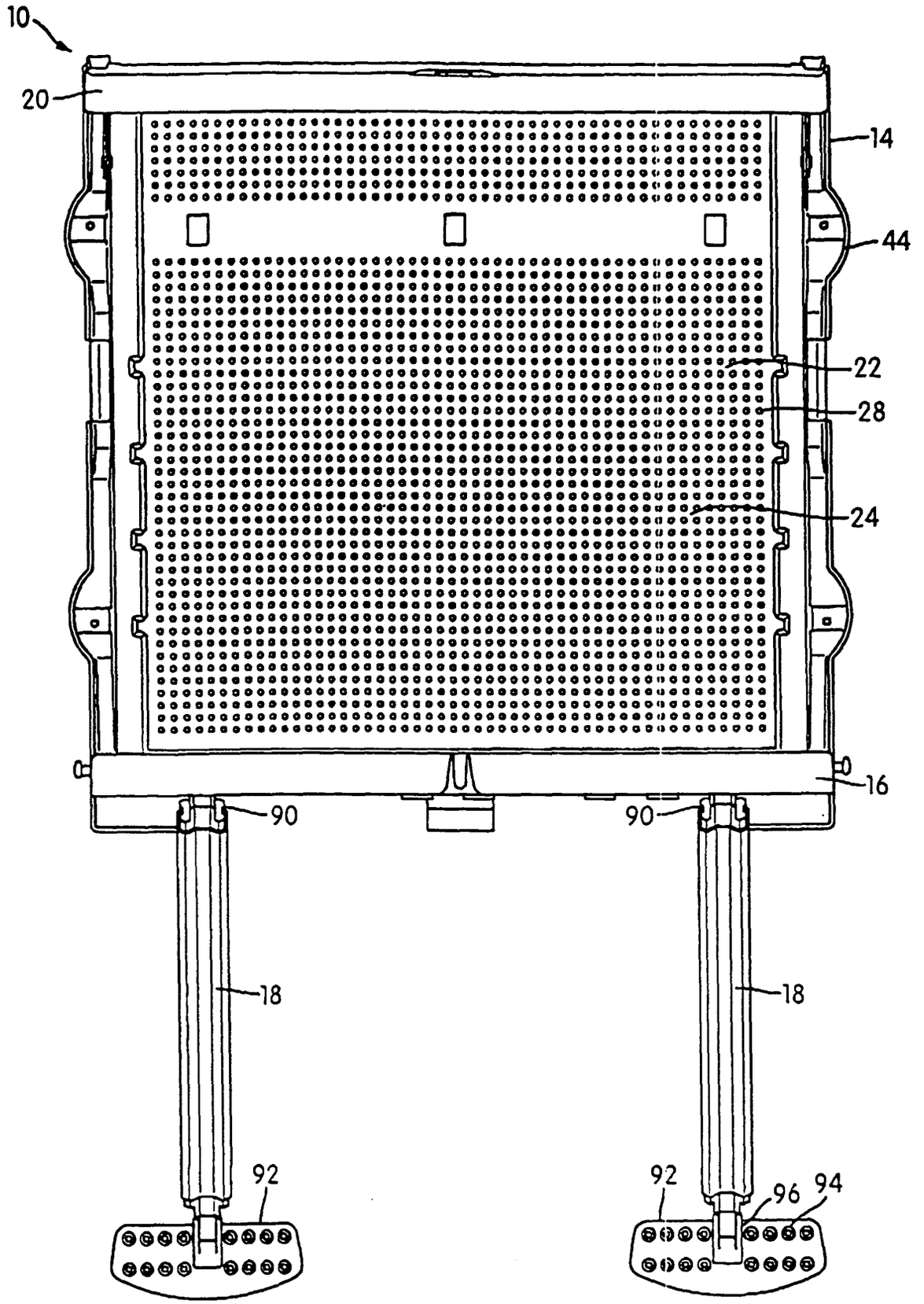

FIG. 3

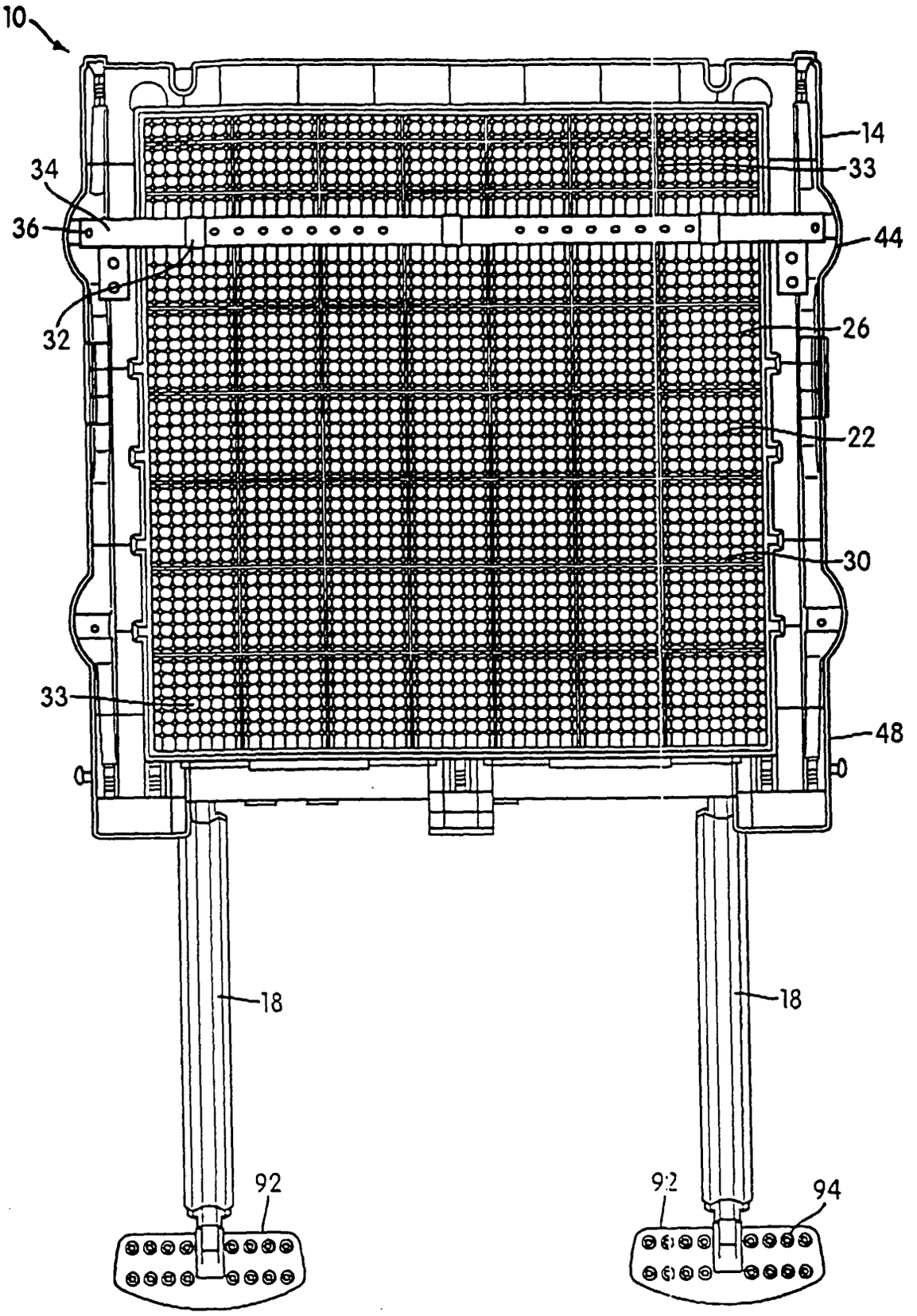

FIG. 4

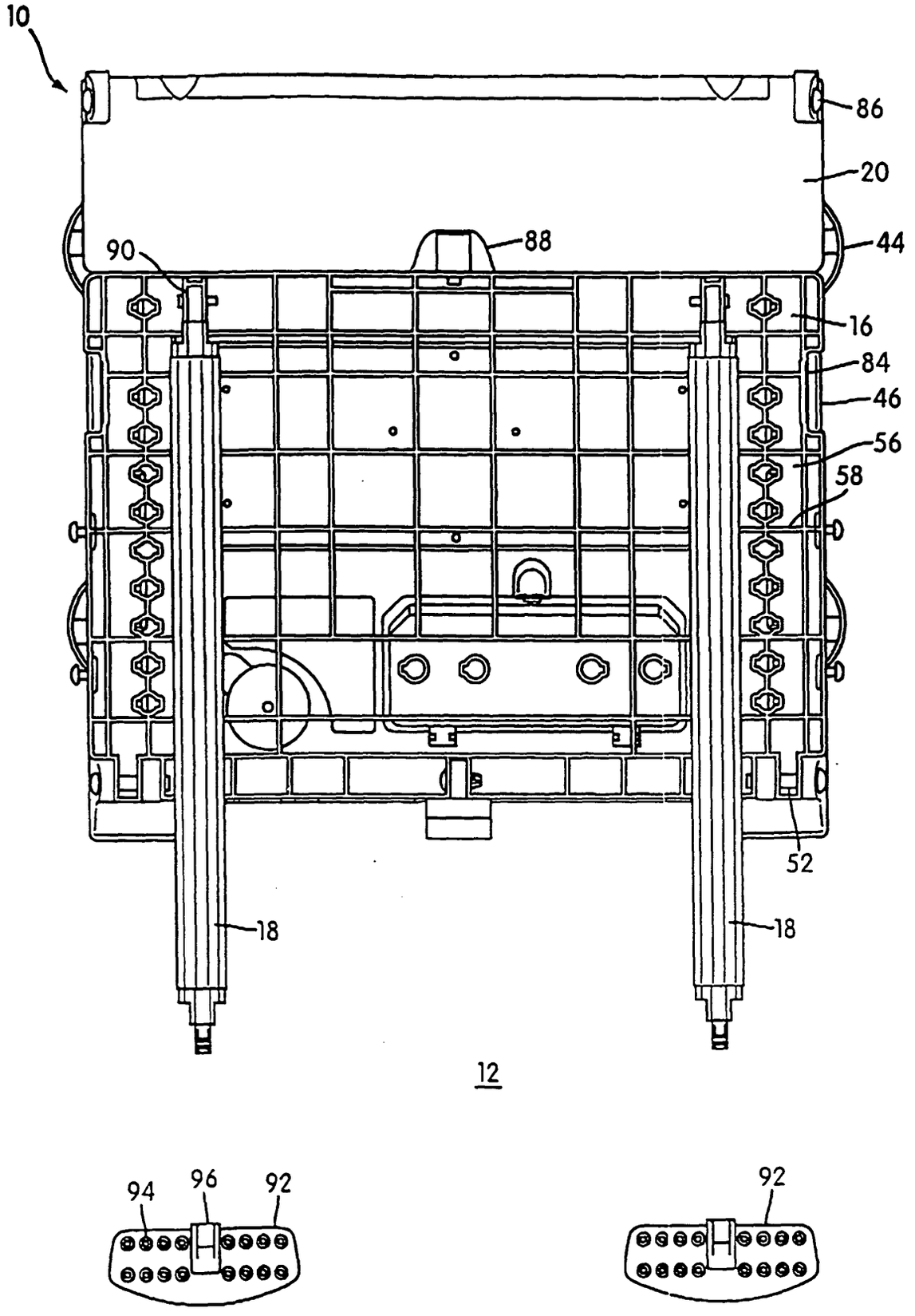

FIG. 5

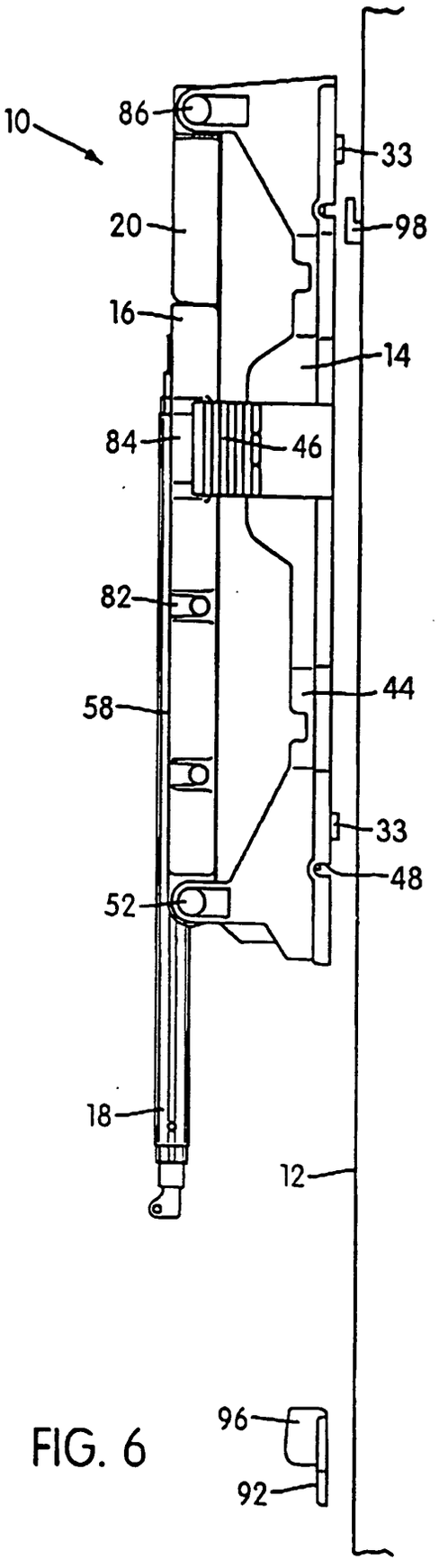

FIG. 6

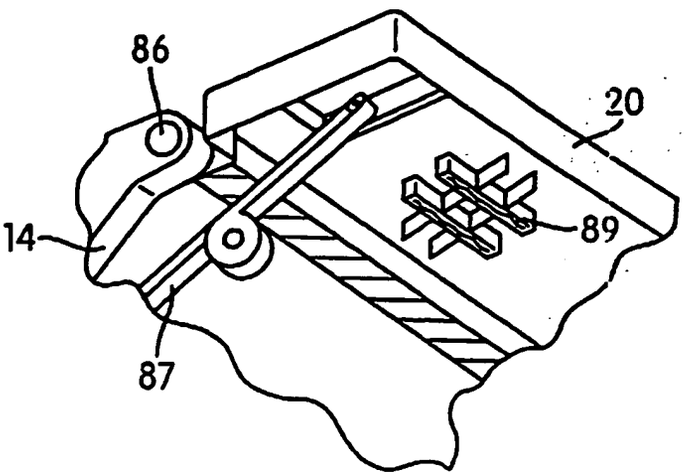

FIG. 7

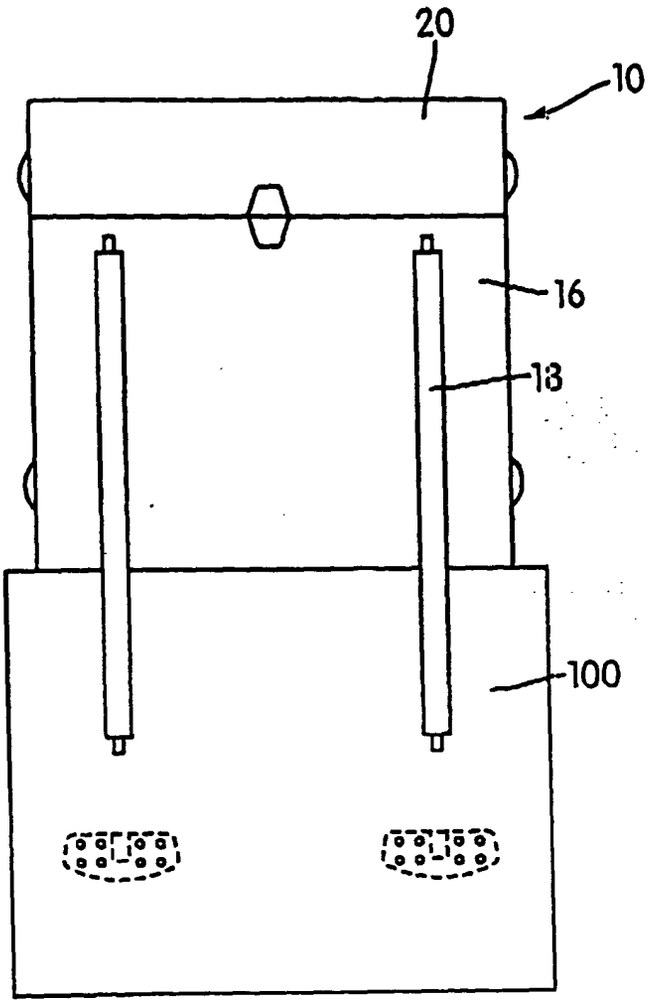

FIG. 8

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 25 7474

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	30 March 2004	Klintebäck, D

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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D : document cited in the application
L : document cited for other reasons

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EPO FORM 1503 03.82 (P04C01)

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EUROPEAN SEARCH REPORT

Application Number
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 03 25 7474

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30-03-2004

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