

[54] **SUPPORTING DEVICE**

[76] Inventor: **Thomas Jefferson Davis, Jr.**, 505 University Ave., Lubbock, Tex. 79401

[22] Filed: **June 26, 1973**

[21] Appl. No.: **373,807**

[52] U.S. Cl. **182/181, 182/178**

[51] Int. Cl. **F16m 11/00**

[58] Field of Search 182/181, 182, 183, 184, 182/224, 178

[56] **References Cited**

UNITED STATES PATENTS

797,362	8/1905	Landsman.....	182/181
1,462,707	7/1923	Lawlor.....	182/181
2,505,532	4/1950	Ernst.....	182/181
2,832,648	4/1958	Goosmann.....	182/155
3,080,015	3/1963	Devender.....	182/181
3,198,286	8/1965	Wilson.....	182/155
3,760,903	9/1973	Thompson.....	182/181

Primary Examiner—Reinaldo P. Machado

[57]

ABSTRACT

A supporting device constructed to serve as a saw-horse, bench, ladder, seat, tool and equipment holder or the like. The supporting device comprises a relatively wide top panel having a gripping slot therein, a pair of downwardly and outwardly inclined legs disposed adjacent each end of the top panel, and downwardly and outwardly inclined side panels extending substantially the entire length of the top panel being secured to the top panel and the upper portions of the legs adjacent thereto. End brace members are secured to the upper portions of each pair of legs adjacent to the inner and outer end surfaces thereof. The end brace members are of sufficient width to enable stacking of the supporting devices in a stable manner. Depending on the length of the legs, elongated side brace members may also be used. These side brace members are secured to the outer side portions of the legs on each side of the supporting device. In order to ensure the rigidity of the assembled support device, all contacting surfaces are adhesively secured, and the component parts are also secured together with carriage bolts, nails, staples or the like.

6 Claims, 7 Drawing Figures

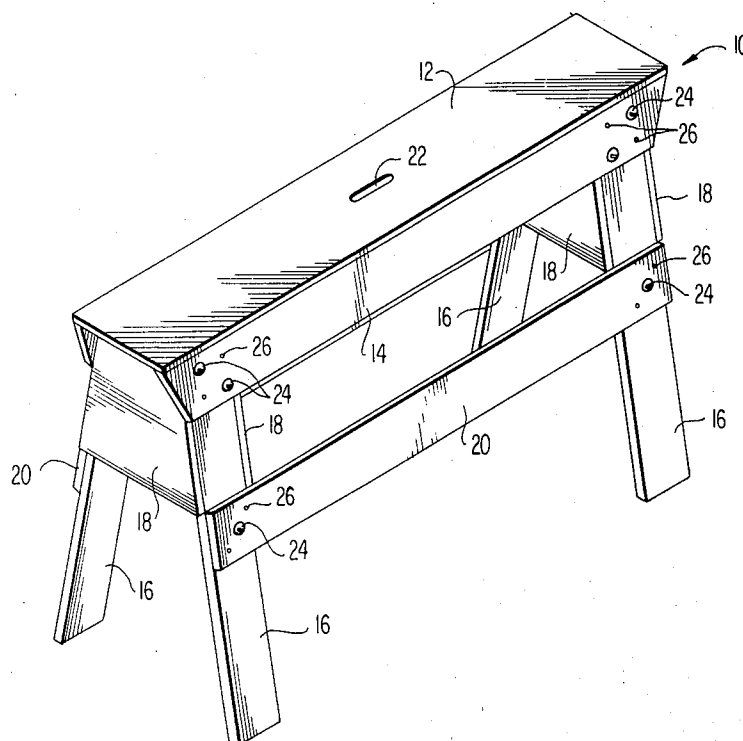


FIG 1

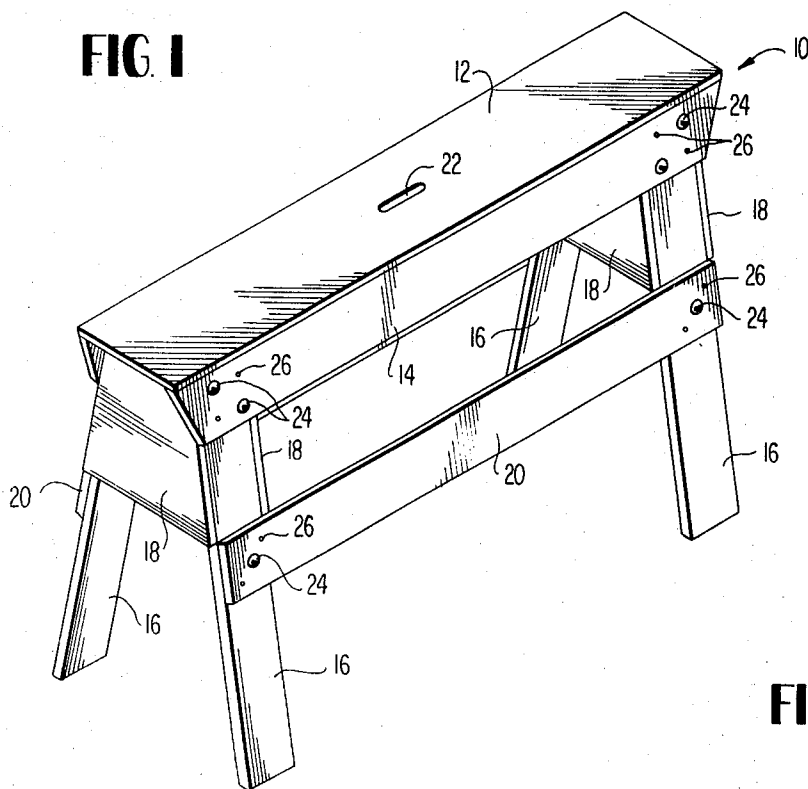


FIG 3

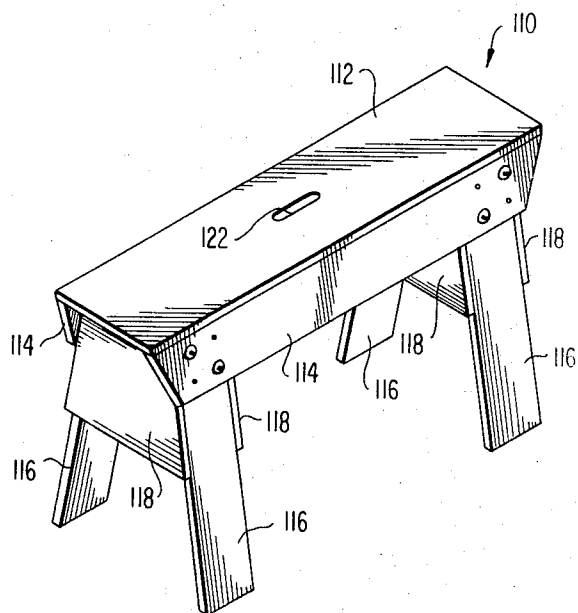
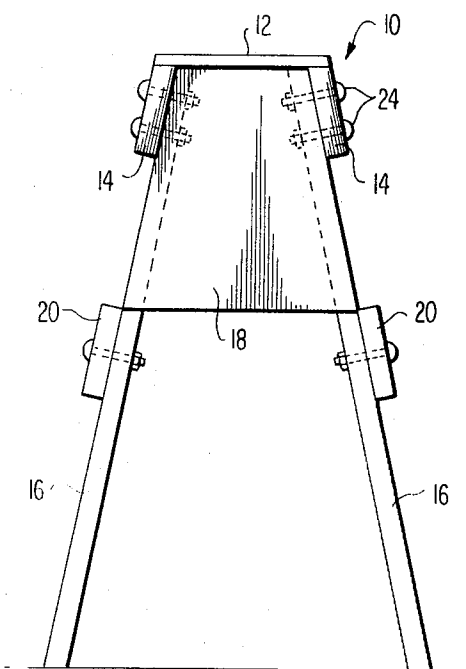
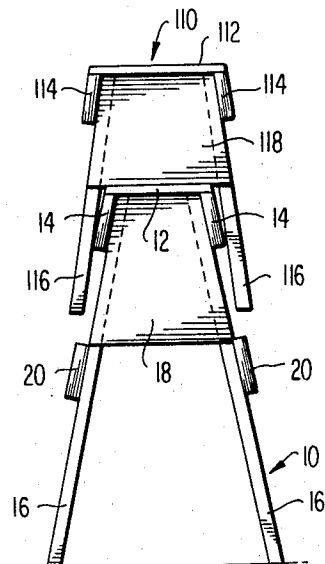
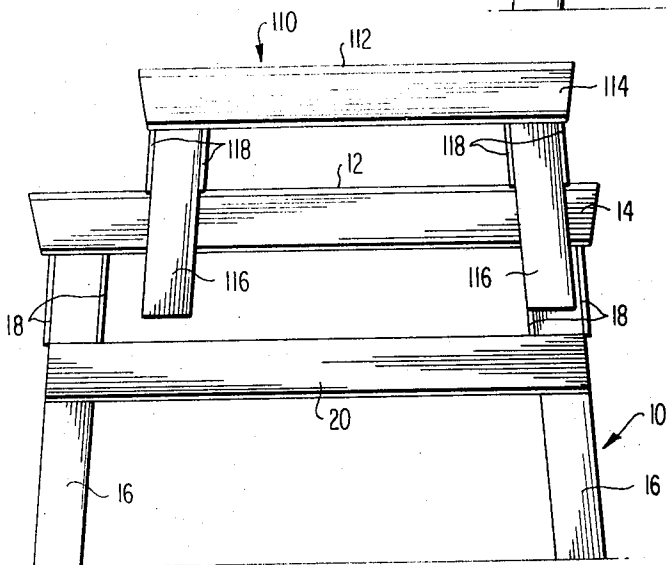
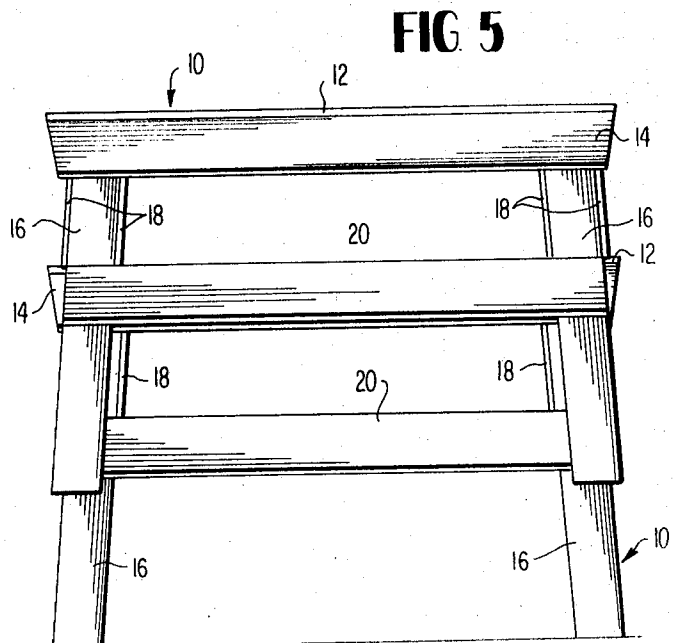
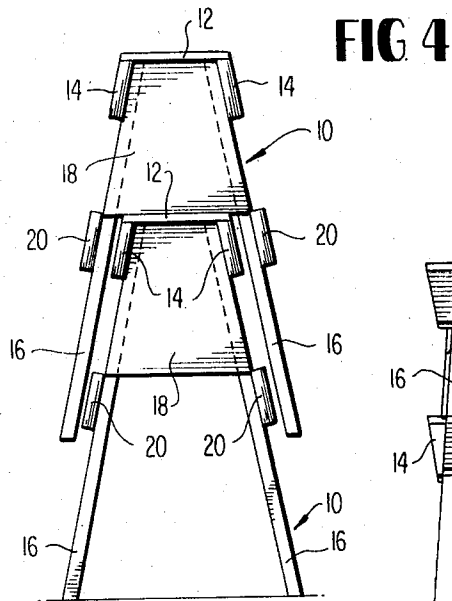


FIG 2





SUPPORTING DEVICE

BACKGROUND OF THE INVENTION

This invention relates to a supporting device and, more particularly, to a supporting device of the type adapted to be used as a sawhorse, bench, ladder, seat, tool holder or the like.

Heretofore, different types of supporting devices such as "sawhorses" have been used on construction sites and the like for supporting lumber or other work pieces, as ladders or benches, or for similar purposes. While these supporting devices or "sawhorses" have generally served the purpose, they have all been subject to one or more of the following disadvantages:

1. In many cases, they have been constructed on the job site from scrap materials and thus have not been uniform in size, construction, strength and durability;

2. the top panel has been quite narrow with the result that they could not be safely used as benches or ladders and were limited in the type of work that can be supported thereon;

3. they have been joined by nails only with the result that they become wobbly after a period of use owing to the loosening of the nail joints;

4. they cannot be stacked for use or for storage;

5. they cannot be easily hand carried from place to place;

6. they have been too weak, too bulky or too heavy to be effectively used and moved for various purposes on job sites;

7. they have not been stable and thus have not provided an effective rigid support for lumber, other work pieces or for workmen; and

8. they have not been usable effectively for more than one purpose, thereby requiring different types and sizes of "sawhorses" for various uses.

The supporting device of the present invention is superior to the previously utilized devices or "sawhorses" or the like in that it is not subject to any of the above disadvantages, and possesses many advantages not possessed by the previously used "sawhorses" or similar devices.

SUMMARY OF THE INVENTION

The supporting device of the present invention may be utilized by itself or in combination with similar supporting devices as a sawhorse, bench, ladder, seat, table, tool holder or the like. It generally comprises a relatively wide, elongated top panel having a gripping slot therein to facilitate the hand carrying of the device, a pair of downwardly and outwardly inclined legs adjacent each end of the top panel, and a pair of downwardly and outwardly inclined side panels, secured to the top panel and the legs adjacent thereto, extending substantially throughout the entire length of the top panel.

End brace members are secured to the inner and outer end surfaces of the legs adjacent the upper portion thereof, and are secured to the inner surface of the side panels and the lower surface of the top panel. Depending on the length of the legs, they may be reinforced by elongated side brace members extending substantially parallel to the top panel and being secured to the legs on each side of the supporting device.

In the construction of the supporting device of the present invention, all component parts preferably are

formed of lightweight materials such as a suitable wood or another suitable material, are adhesively secured at all contacting surfaces thereof, and additionally are secured by securing means such as carriage bolts, nails, staples or the like.

In order to facilitate stacking of more than one supporting device, the bottom surfaces of the end brace members extend substantially parallel to the top surface of the top panel and are of a width greater than the width of the top panel. In this manner, the legs of one supporting device may be positioned over another supporting device until the bottom surfaces of the end brace members of the one supporting device engage the upper surface of the top panel of the other supporting device, thereby enabling the one supporting device to be stacked on the other supporting device in a stable manner.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a first embodiment of a supporting device constructed in accordance with the principles of the present invention;

FIG. 2 is an enlarged, end elevational view of the supporting device shown in FIG. 1;

FIG. 3 is a perspective view of a second embodiment of a supporting device constructed in accordance with the principles of the present invention;

FIG. 4 is an end elevational view of a pair of supporting devices of the type shown in FIG. 1, showing the supporting devices in stacked relation;

FIG. 5 is a front elevational view of the stacked supporting devices shown in FIG. 4;

FIG. 6 is a front elevational view showing the supporting device of FIG. 3 in stacked relation on the supporting device of FIG. 1; and

FIG. 7 is an end elevational view of the stacked supporting devices shown in FIG. 6.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

As shown in FIGS. 1 and 2, the first embodiment 10 of the supporting device of the present invention generally comprises an elongated top panel 12; downwardly and outwardly inclined, elongated side panels 14; downwardly and outwardly inclined legs 16; end brace members 18 and side brace members 20. These component parts of the supporting device 10 may be formed of any suitable materials and may be secured together in any suitable manner. Preferably, the component parts are formed of a suitable wood, are adhesively secured together at all contacting surfaces by any suitable glue or adhesive, and are additionally secured together by bolts, nails and/or staples in the manner described hereinafter.

As an illustrative example, the top panel 12 may be formed of 1/2 inch plyboard having a width of approximately 8 inches and a length of approximately 42 inches. In the center portion of the top panel 12, an elongated slot 22 may be provided for the purpose of receiving the hand of a user to facilitate the picking up and moving of the supporting device 10. The gripping slot 22 may be of any suitable size such as 3/4 inch by 4 inches.

The downwardly and outwardly inclined, elongated side panels 14 may be formed of 1 inches by 4 inches lumber, and preferably have end surfaces tapering

downwardly and inwardly from the ends of the top panel 12, as shown in FIG. 1.

The legs 16 may also be formed of 1 inches by 4 inches lumber and are tapered downwardly and outwardly relative to longitudinal and transverse planes extending through the center portion of the supporting device, as shown in FIGS. 1, 2 and 5, for the purpose of providing a wide, stable base for the supporting device. As an illustrative example, the legs 16 may be downwardly and outwardly inclined at an angle of approximately $9\frac{1}{2}^\circ$ to the vertical relative to the longitudinal plane, and at an angle of approximately $7\frac{3}{4}^\circ$ to the vertical relative to the transverse plane. As a practical matter, it has been found that the legs should be of a sufficient length such that the upper surface of the top panel 12 is sufficiently high (approximately 27½ inch) to facilitate use of the first embodiment of the present invention. Owing to the construction of the legs 16, each leg is substantially identical in size and shape so as to facilitate the interchangeability of the legs and the manufacture and assembly of the supporting device.

As shown in FIGS. 1 and 2, in addition to the adhesive securement, the side panels 14 preferably are secured to the adjacent portions of the legs 16 by nut and bolt connections 24, such as 1/4 inch carriage bolts, and a plurality of nails or staples 26, such as treated or galvanized nails or staples, arranged in any suitable or predetermined manner for the purpose of rigidifying the construction of the supporting device 10. In addition, the top panel 12 may be secured to the side panels 14 and the legs 16 by a plurality of nails or staples of any suitable type, positioned in any suitable spacing or pattern, as well as being adhesively secured thereto.

As an illustrative example, the outer end brace members 18 may be formed of 3/8 inch plyboard, and the inner end brace members 18 may be formed of 1/4 inch plyboard. Other than the difference in thickness, the end brace members 18 are substantially the same in size and shape, and each comprises an upper surface in engagement with the adjacent undersurface of the top panel 12; downwardly and outwardly inclined side surfaces in engagement with the inner surfaces of the side panels 14, in engagement with the end surfaces of the legs 16 and in substantial alignment with the outer side surfaces of the legs 16; and a bottom surface that is substantially parallel to the top surface thereof and the upper surface of the top panel 12. In addition to being adhesively secured to the adjacent end surfaces of the legs 16, each of the end brace members 18 may be additionally secured thereto by a plurality of nails or staples (not shown) of any suitable type and arrangement.

Preferably, the lower surfaces of the end brace members 18 are disposed in a substantially common plane that is substantially parallel to the upper surface of the top panel 12; and the end brace members 18 are of a sufficient vertical length such that the portion of the lower surface of each end brace member between the inner side surfaces of the legs 16 is longer than the width of the top panel 12, for the purpose of facilitating stacking of the supporting devices 10 in a stable manner, as is more fully described hereinafter.

As shown in FIG. 1, the side braces 20 may be formed of 1 inch by 4 inches lumber having inclined end surfaces in substantial alignment with the adjacent outer end surfaces of the legs 16, with the upper sur-

face of each side brace member 20 being disposed at a height approximately at or near the lower surfaces of the end brace members 18. The side brace members 20 may be secured to end of the legs 16 by nut and a bolt connections 24 and nails or staples 26 in a manner similar to the securement of the side panels 14 to the legs 16, in addition to being adhesively secured thereto.

If desired, a shelf (not shown) could extend across and be secured to the side brace members 20 for the support of tools, other equipment or the like. Also, each of the side brace members 20 could be utilized as a step member to facilitate the stepping up onto the top panel 12 when the supporting device 10 is utilized as a ladder, stool or the like.

As shown in FIGS. 4 and 5, the supporting devices 10 of the present invention may be readily stacked in a stable manner by resting the lower surfaces of the end brace members 18 of one supporting device 10 on the upper surface of the top panel 12 of another supporting device 10. As hereinbefore mentioned, this is accomplished by constructing the end brace members 18 such that their lower surfaces are disposed in a substantially common plane that is substantially parallel to the upper surface of the top panel 12, and such that the length of the lower surface of each end brace member 18 extending between the inner side surfaces of the adjacent legs 16 is greater than the width of the top panel 12. Also, as seen in FIG. 5, the length of the top panel 12 should be longer than the longitudinal distance between the outer surfaces of the outer end brace members 18 such that the bottom surfaces of all four end brace members 18 of one supporting device 10 engage the top panel 12 of the other supporting device 10 when the one supporting device is stacked on the other supporting device.

Referring now to FIG. 3, there is illustrated a second embodiment 110 of a supporting device constructed in accordance with the principles of the present invention. The supporting device 110 is very similar in construction to the first supporting device 10 shown in FIGS. 1 and 2 in that it comprises a top panel 112 having a gripping slot 122 therein; downwardly and outwardly inclined, elongated side panels 114; downwardly and outwardly inclined legs 116; and end brace members 118 that are constructed and secured in a manner substantially the same as the corresponding component parts of the supporting device 10.

The basic difference between the supporting device 110 shown in FIG. 3 and the supporting device 10 shown in FIGS. 1 and 2 is that the supporting device 110 is smaller in length and height so as to be adapted to be used as a bench or stool rather than as a "saw-horse" or ladder-like device for which the supporting device 10 is adapted. In the supporting device 110, the top panel 112 may be approximately 10 inches in width and 32 inches in length, such that it is wider than the top panel of the supporting device 10 and shorter than the length thereof. As an illustrative example, the height of the top panel 112 may be approximately 17½ inch. Since the legs 116 of the supporting device 110 are shorter than the legs 16 of the supporting device 10, the supporting device 110 does not require the use of side brace members such as the side brace members 20 of the supporting device 10.

with respect to stacking the supporting device 110 is constructed in a manner similar to the supporting device 10. The bottom surfaces of the end brace members

5

118 are disposed in a substantially common plane that is substantially parallel to the upper surface of the top panel 112, and the length of the bottom surfaces of the end brace members 118 extending between the adjacent inner side surfaces of the legs 116 is greater than the width of the top panel 112 so as to enable stacking of the support devices 110 in a manner the same as that described with respect to the supporting devices 10, as shown in FIGS. 4 and 5. In addition, since the width of the bottom surfaces of the end brace members 118 extending between the adjacent inner surfaces of the legs 116 is also greater than the width of the top panel 12 of the larger supporting device 10, the supporting device 110 may be stacked on the supporting device 10 by resting the bottom surfaces of the end brace members 118 of the supporting device 110 on the top panel 12 of the supporting device 10, as shown in FIGS. 6 and 7.

As will be apparent from the foregoing description, the supporting devices 10 and 110 of the present invention may be readily stacked as shown in FIGS. 4 through 7 for storage, transportation, or for the purpose of serving as a ladder or similar support for a workman desiring to be supported at various elevations. Owing to the wide top panels of these supporting devices and their rigid construction resulting from the component parts being adhesively secured together, as well as by nut and bolt connections and nails or staples where desired, they are lightweight and are capable of being used in various ways. For example, depending on the size of the supporting apparatus of the present invention, it may be used alone or in combination with another supporting apparatus of this invention as a sawhorse, bench, ladder, seat, table, tool and equipment holder or the like.

What is claimed is:

1. A supporting device, comprising:

an elongated top panel having a wide, substantially flat upper surface,

a pair of legs secured to said top panel near each end thereof to support it in an elevated position, said legs of each pair being inclined downwardly and outwardly from said top panel relative to a substantially vertical plane extending longitudinally through the center portion of the supporting device and a substantially vertical plane extending substantially transversely through the center portion of the supporting device,

an elongated side panel disposed adjacent each side

6

of said end panel and being inclined downwardly and outwardly therefrom in overlapping relation to the upper side portions of said legs adjacent thereto, said side panels being secured to said top panel and to said legs, and

an end brace member secured to the inner end surface and the outer end surface of the upper portions of the legs of each of said pair of legs, each end brace member comprising an upper surface in engagement with the lower surface of said top panel, downwardly and outwardly inclined side surfaces in substantial alignment with the outer side surfaces of the pair of legs adjacent thereto, and a bottom surface that is substantially parallel to said upper surface thereof, the bottom surfaces of said end brace members being disposed in a substantially common plane that is substantially parallel to said upper surface of said top panel, the portion of said bottom surfaces extending between each pair of said legs being of a length that is greater than the width of said upper surface of said top panel, and

the length of said top panel being greater than the longitudinal distance between the end brace members having the greatest longitudinal spacing therebetween,

thereby enabling more than one supporting device to be stacked by resting said bottom surfaces of said end brace members of one supporting device on the upper surface of the top panel of another supporting device.

2. The supporting device of claim 1 wherein said top panel has a gripping slot extending therethrough near the center portion thereof.

3. The supporting apparatus of claim 1 wherein said top panel, said legs, said side panels and said end brace members are adhesively secured together.

4. The supporting apparatus of claim 3 wherein said top panel, said legs, said side panels and said end brace members are additionally secured together by nut and bolt connections and by nails.

5. The supporting apparatus of claim 1 wherein an elongated side brace member is secured to the legs on each side of said supporting device.

6. The supporting device of claim 5 wherein the upper surface of each side brace member is disposed near the lower surfaces of said end brace members.

* * * * *

50

55

60

65