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Greenwood

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[54] **DISMANTLEABLE PORCH INSTALLATION**

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[51] **Int. Cl.** **E04f 11/04,** E04b 1/343

[58] **Field of Search** 52/263, 184, 274, 79, 6, 52/122, 182, 143; 256/24, 59; 108/144; 211/177, 148, 176

[56] **References Cited**

UNITED STATES PATENTS

3,094,848	6/1963	Albrecht	52/263
838,266	12/1906	McKee et al.	52/184
3,181,203	5/1965	Wenger	52/6
1,673,178	6/1928	Bois	52/184 X
3,130,470	4/1964	Bowden et al.	52/263 X
3,494,478	2/1970	Link	211/177 X
3,578,110	5/1971	Seagraves	52/182 X

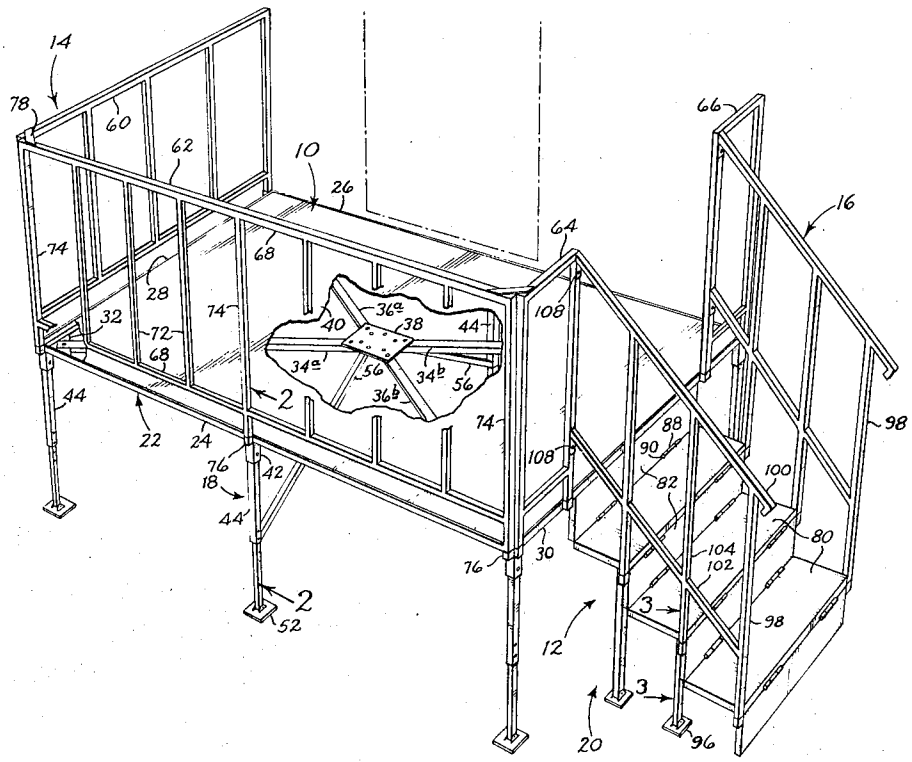
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[57] **ABSTRACT**

A dismantleable porch installation including an elevated deck assembly and a step assembly leading from the ground to the deck assembly. The deck assembly includes a deck border frame made up of rigid frame elements set end-to-end in a course which extends about the perimeter of the deck assembly, and deck paneling seated on said border frame. Stake pockets secured to the border frame at points distributed about the perimeter of the deck assembly seat bottom ends of stake elements forming part of upstanding railing sections which bound the deck assembly in the porch installation. Legs support the deck paneling in an elevated position, which extend downwardly from the border frame and have upper ends seated in sockets presented on the under side of the border frame. The step assembly includes vertically disposed foot board frame sections interspersed with and joined to horizontally disposed tread frame sections. Sockets on forward margins of the tread frame sections receive upper extremities of legs supporting the step assembly. Stake pockets secured to the foot board frame sections receive the bottom ends of stake elements forming part of side railing sections which bound the sides of the porch assembly.

7 Claims, 3 Drawing Figures



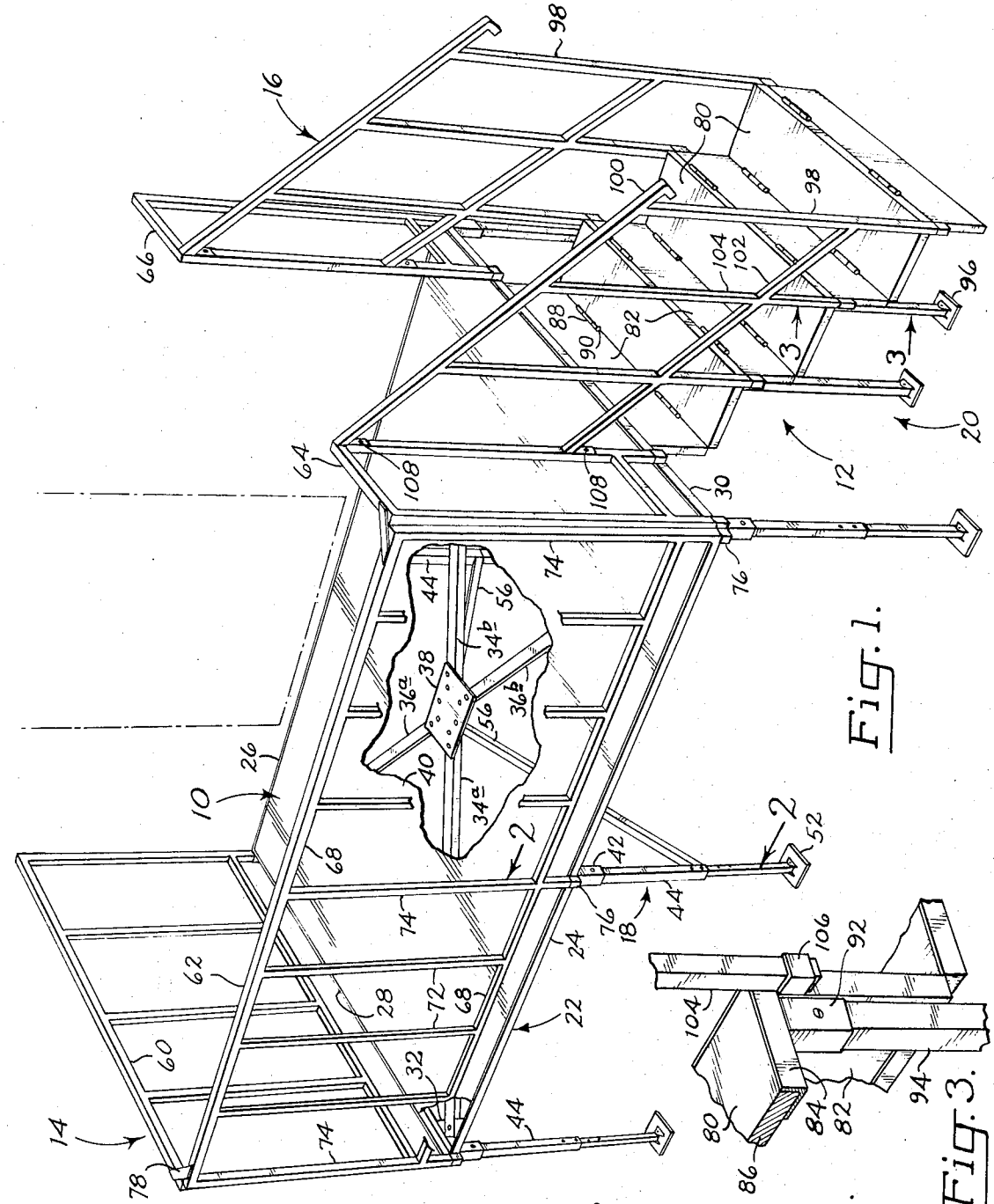


Fig. 1.

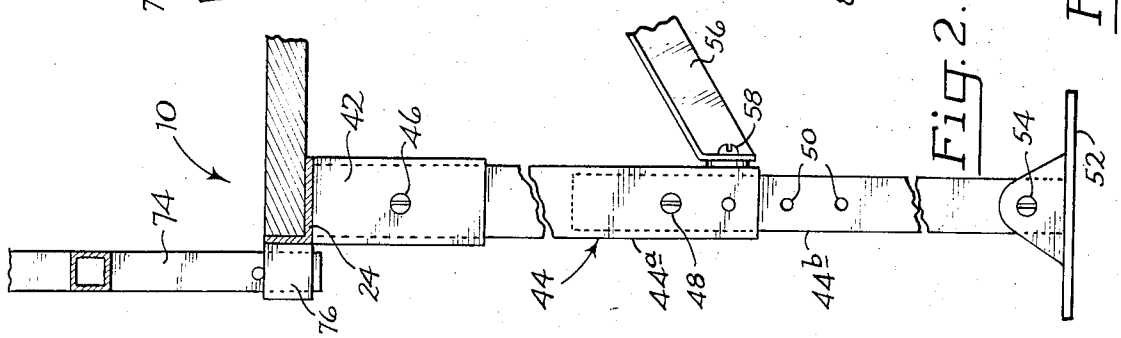


Fig. 2.

Fig. 3.

DISMANTLEABLE PORCH INSTALLATION

This invention relates to a porch installation. More particularly, the invention concerns such an installation including an elevated deck assembly and a step assembly leading up to the top of the deck assembly. The installation is readily dismantled and set up again when the need arises. Because of this feature of the invention, the installation is readily adapted as the means providing access to the entryway of a mobile home.

The usual mobile home has one or more doors providing for entry into the home. Such doors have thresholds elevated in most instances some distance from the ground. A need has been demonstrated for a porch installation that could be set up beside such a mobile home to provide an open area immediately outside the door, for the use and enjoyment of the mobile home occupant.

Porch installations which have been proposed in the past have not been entirely satisfactory. In most instances, the porch has comprised a custom-built installation of a more or less permanent type of construction, which is erected at the site of the home. As a consequence, when the home is moved the installation, in effect, must be torn apart, which frequently is not easily done without considerable labor, and often times damage to the materials making up the installation. Furthermore, if the installation is to be set up again at a new location, differences in ground slopes and elevations may make components of the original installation unsuitable.

Generally, an object of this invention is to provide a novel, dismantleable porch installation, which is easily set up to form an attractive and practical porch beside a unit such as a mobile home.

Another object is to provide such a porch installation which is readily modified to adapt it for different types of ground elevations and slopes.

Yet another object is to provide such an installation which, when broken down, becomes readily transportable from one location to another.

A still further object is to provide such an installation which is entirely sturdy, yet makes minimal use of parts.

Various other objects and advantages of the invention will become more fully apparent as the following description is read in conjunction with the accompanying drawings, wherein:

FIG. **1** is a perspective view, illustrating a porch installation as contemplated;

FIG. **2** is a somewhat enlarged view, taken along the line **2—2** in FIG. **1**; and

FIG. **3** is a view, also somewhat enlarged, taken along the line **3—3** in FIG. **1.**

Referring now to the drawings, the porch installation in general terms comprises an elevated deck assembly shown generally at **10,** and a step assembly **12** leading from the level of the ground up to the deck assembly **10.** Deck railing and step railing, shown generally at **14** and **16,** bound the deck assembly. Legs **18, 20** support the deck assembly and step assembly, respectively.

Considering now in particular the construction of the deck assembly, such comprises a deck border frame **22** made up of elongated rigid frame elements set end-to-end and extending in a course which extends about the perimeter of the deck assembly in the porch installation. Specifically, such includes frame elements **24, 26**

extending along opposite sides of the deck and elements **28, 30** extending along the ends of the deck. These frame elements may be made of any suitable material, such as angle iron, disposed so that the internal angle defined along the length of the angle iron forms an inwardly facing shelf extending about the border frame. Ends of the frame elements are detachably secured together, as by securing them with detachable fasteners through a tie plate **32.**

Introducing rigidity into the border frame are diagonal pieces **34***a*, **34***b* and **36***a*, **36***b*. Inner ends of these pieces are all detachably joined by detachable fasteners to a center tie plate **38.** Outer ends are detachably joined to the border frame adjacent the corners of the border frame, through tie plates **32.**

The deck assembly further includes paneling, as represented by paneling **40,** resting on the border frame within the shelf provided. This paneling may comprise one or more panel pieces disposed in a plane. Plywood, particle board, or other type panels may be used as paneling **40.**

Considering now the leg structure **18** which supports the deck assembly in an elevated position, joined as by welding to the bottoms of the frame elements in the border frame, at points distributed about the border frame, are socket elements or sockets **42.** These may take the form of short segments of metal tubing of rectangular cross section, welded along upper margins to the frame elements. In the particular embodiment of the invention illustrated, six such sockets have been provided, one adjacent each corner of the border frame, and one midway between the ends of each of the frame elements **24, 26** (the socket under frame element **26** is obscured from view in FIG. **1**). The sockets described detachably seat the upper ends of legs **44** which project downwardly from the border frame to lower ends that rest on the ground.

Each of the legs may have the construction illustrated in FIG. **2.** Thus, each comprises an upper section **44***a* which fits within the socket which mounts the leg. The socket, and section **44***a* may be detachably secured together, as by detachable fastener **46.** The lower part of the leg **44** is formed by a lower section **44***b* of rectangular, i.e., square cross section fitting within the upper section **44***a*. Detachable fastener **48** detachably secures the upper and lower sections. The lower section is telescopically received within the upper section, and may be placed at different positions with respect to the upper section, with additional sets of bores **50** providing for the selective reception of a fastener at different adjusted positions. The base of the leg may be provided with a foot pad, such as that shown at **52,** pivotally secured to the lower section **44***b* by fastener **54.**

Extending between center tie plate **38** and the legs **44** which are on either side of the deck assembly and between the ends of the assembly, are struts **56.** Each has an upper end detachably secured to the center tie plate, and inclines downwardly and outwardly from the tie plate to a detachable connection **58** with upper section **44***a* of a leg.

Deck railing **14** comprises multiple railing sections supported in a vertical position along margins of the deck assembly. In the particular embodiment of the invention illustrated, four such railing sections are shown, designated at **60, 62, 64** and **66.**

The various railing sections are similar. With reference to section **62,** such includes top and bottom hori-

zontal rails **68,** which may be made of angle iron and the like, with uprights **72** joined to and extending between these rails. The latter may be made of metal also, and be given twisted or other artistic shape. Also spanning the top and bottom rails, and with lower ends projecting below the bottom rail **70,** are what have been referred to as banister or stake elements **74.**

Joined to the border frame adjacent the ends of frame element **24,** and midway between its ends, are stake pockets **76.** The stake pockets are positioned outwardly of the edges of the deck paneling and function to receive the lower extremities of stake elements **74.**

With the construction just described, it will be noted that the various railing sections are readily mounted in place to provide a barrier around the porch assembly. If desired, and to provide further rigidity to the deck railing, straps such as those shown at **78,** may be detachably connected to adjacent corners of the top rails where they meet.

Considering now the construction of step assembly **12,** illustrated at **80** are horizontally disposed tread elements. Interspersed with these and connected to them are vertically disposed foot board elements **82.** Each tread element, as well as each foot board element, comprises an angle iron frame section such as shown at **84,** to which is suitably joined a facing panel, such as that shown at **86.** The tread frame sections and foot board frame sections collectively make up what is referred to as a framework for the step assembly.

The various tread and foot board elements are joined together by hinges **88.** The hinges connect adjacent margins of a tread and foot board element through the frame sections of these elements. Each hinge includes a detachable pin **90** which, on being removed, permits division of the hinge and separation of the frame sections joined by the hinge.

The foot board element **82** at the top of the step assembly is joined by such hinges to frame element **30** which forms part of the deck border frame. In this way, the step assembly is joined to the deck assembly.

All but the bottommost tread element are supported in their elevated state by leg structures **20** earlier described. The various leg structures are similar. Thus, and with reference to the structure supporting the middle tread element, a socket **92** is joined as by welding to the underside of the angle iron which forms the frame section of the tread element. This socket, like socket **42,** may be made of a short segment of tubular stock, of preferably rectangular or square cross section. Leg **94** has its upper end received within the socket. At the base of the leg is a pad **96** which may resemble pad **52.**

Step assembly side railing **16** comprises a pair of railing sections **98,** with one on each side of the step assembly. Each comprises a hand rail **100,** a rail **102** generally paralleling the hand rail, and upright banister elements **104.** The banister elements protrude below rail **102** and function as stake elements in the railing section.

Joined to the sides of the frame sections in the foot board elements are stake pockets **106.** These are disposed outwardly of the foot board elements, and have upward extremities exposed and in position to receive the bottom ends of banister or stake elements **104.**

Hand rail **100** and rail **102** may be detachably secured to the railing sections of the porch at the top of the step assembly, as by detachable fasteners **108,** thus to add rigidity to the railing sections when mounted in place. With the organization described, it will be noted that the banister elements function to maintain the foot board elements in their upright position.

With the step assembly as shown, the bottom tread element is supported above the ground through the foot board element which is joined to its forward margin. Thus, this bottommost foot board element acts as a leg supporting means in the assembly.

With the step assembly described, it should be obvious that one or more tread elements may be removed, together with any foot board element, to change the elevation at which the lower end of the step assembly is supported, depending upon the location at which the assembly is set up.

From the above description, it is believed obvious how the porch installation may be taken apart to ready it for transport. The leg structures are readily disassembled by removing the legs from the sockets described. The hinged elements in the step assembly are readily taken apart through removal of the pins in its hinges mentioned. The paneling at the base of the deck assembly is lifted up to remove it. The railing sections about the deck and on opposite sides of the porch installation are easily removed by lifting them from their seated positions. It is a relatively simple matter to separate the various elements in the deck frame, and the bracing structure associated therewith.

When disassembled the installation is in a convenient form for moving. Disassembly of the installation may be performed without destroying the component elements therein.

The installation is readily set up at a new location. Differences in elevation of the ground are taken care of through adjustments in the lengths of the various leg structures described.

While a preferred embodiment of the invention has been described, it should be obvious that changes and variations are possible without departing from the invention. It is desired to cover all such modifications and variations as would be apparent to one skilled in the art.

It is claimed and desired to secure by letters Patent:

1. A dismantleable porch installation including a deck assembly, said deck assembly comprising

a deck border frame including rigid frame elements set end-to-end in a course which extends about the perimeter of the deck assembly, said frame elements being rigidly fastened together at their adjacent ends to form a rigid unit of the border frame,

separable deck paneling seated in said border frame and forming a supporting surface in the deck assembly,

stake pockets secured to the border frame at points distributed about the perimeter of the deck assembly and positioned outwardly of the edges of the deck paneling,

upstanding railing sections bounding the deck assembly including stake elements detachably fitted in said stake pockets, and

legs for the deck assembly joined to and extending down from the border frame supporting the border frame and deck paneling in an elevated position.

2. The installation of claim 1, wherein the connection of a leg with the border frame comprises a downwardly facing socket joined to the border frame, and the leg has its upper end seated in said socket.

3. The porch installation of claim 1, which further comprises a step assembly leading from ground level to an edge of the deck paneling, the step assembly including framework joined at the top of the assembly to the border frame, and legs supporting the framework of the step assembly, the framework of the assembly having secured thereto downwardly facing sockets receiving said legs.

4. The porch installation of claim 3, which further comprises side railing sections bounding the sides of the step assembly including stake elements, and said framework of the step assembly has stake pockets joined thereto receiving said stake elements of the side railing sections.

5. The porch installation of claim 3, wherein said framework of the step assembly includes tread frame sections interspersed and connected to foot board frame sections, the tread frame sections occupying a horizontal plane and said foot board frame sections occupying a vertical plane, and said sockets are joined to the tread frame sections adjacent forward margins of the tread frame sections in regions behind a connected foot board frame section.

6. The porch installation of claim 3, wherein said framework of the step assembly includes tread frame sections interspersed and connected with foot board frame sections, with the tread frame sections horizontal and the foot board frame sections vertical, rigid side railing sections bound the sides of the step assembly, each of said side railing sections including at least a pair of stake elements disposed vertically in the railing sections, and stake pockets are provided joined to the sides of the foot board frame sections in the step assembly, the stake pockets of a pair of foot board frame sections receiving bottom extremities of said pair of stake elements.

7. A porch installation comprising

an elevated deck assembly including a deck frame,

a step assembly leading from the ground to the deck assembly,

said step assembly including horizontally disposed tread frame sections interspersed and connected along margins thereof to vertically disposed foot board frame sections,

means connecting the upper margin of the uppermost foot board frame section to the deck frame of the deck assembly,

downwardly facing sockets secured to forward margins of the tread frame sections,

legs supporting the step assembly with upper ends detachably seated in said sockets,

upwardly facing stake pockets joined to the foot board frame sections of the step assembly, and

rigid side railing sections bounding the sides of the step assembly, each of said side railing sections including at least a pair of stake elements disposed vertically in the side railing sections with bottom extremities received in the stake pockets of a pair of foot board frame sections.

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