

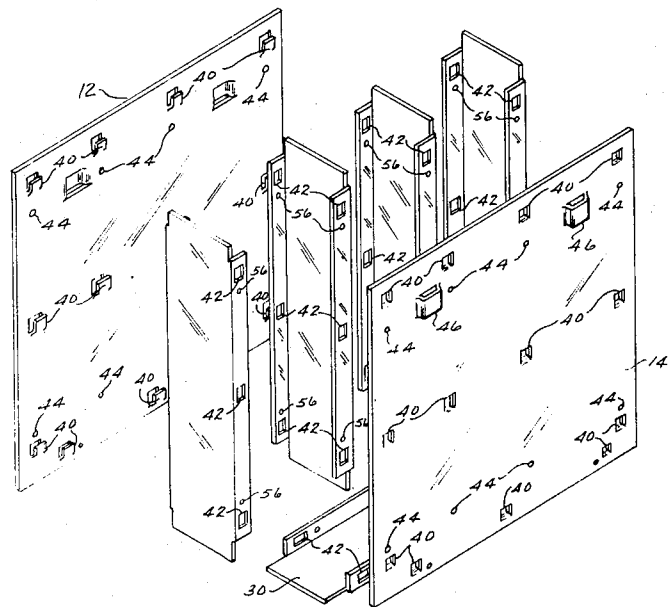
[54] **RECEPTACLE**
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[22] Filed: **March 2, 1970**
[21] Appl. No.: **15,508**
[52] U.S. Cl. **220/4 R, 220/18, 220/22**
[51] Int. Cl. **B65d 7/24, B65d 25/04, B65d 25/22**
[58] Field of Search **220/4, 20, 22, 18, 4 R**

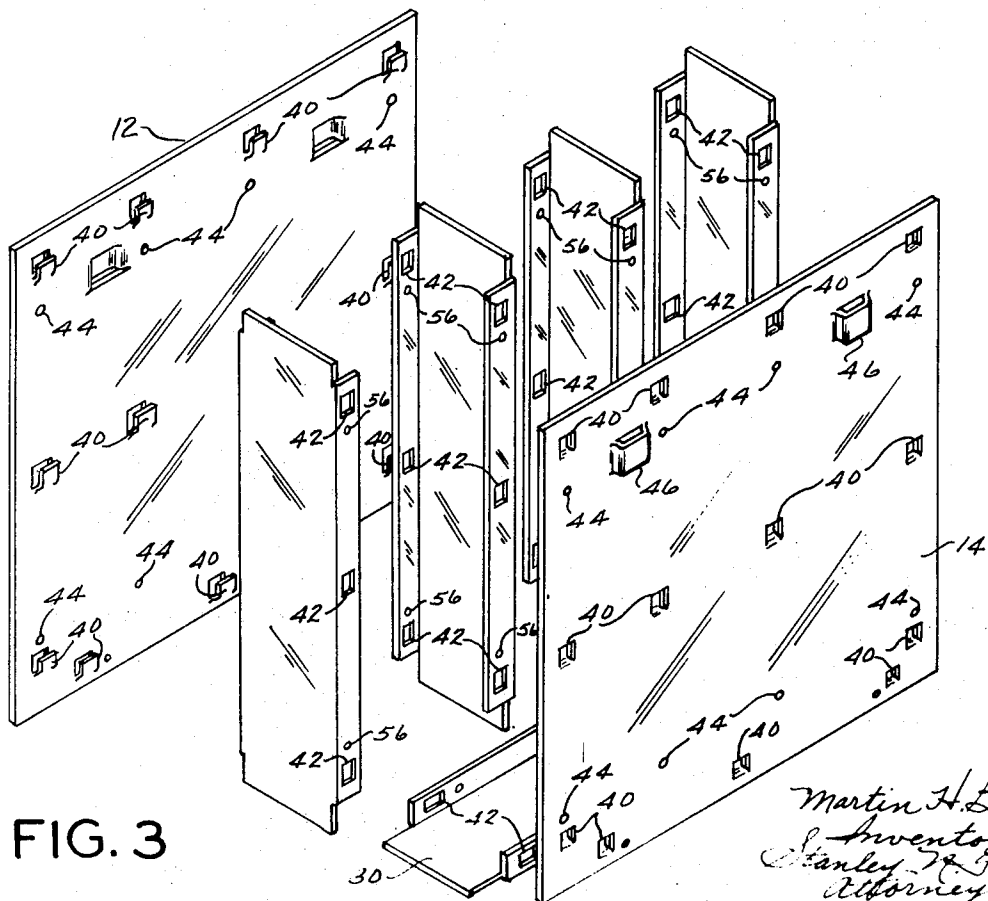
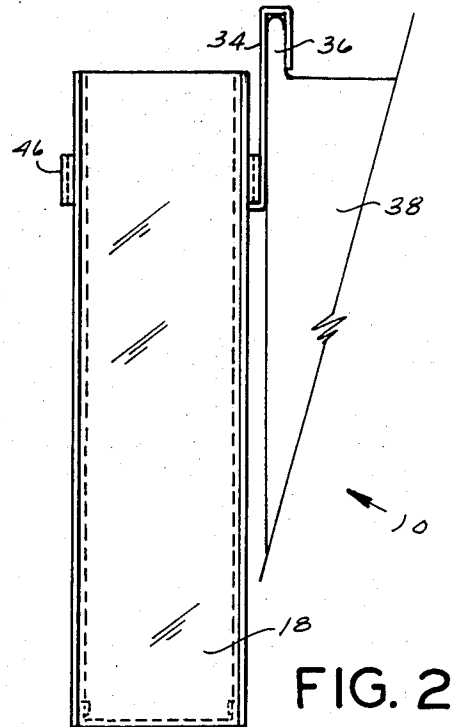
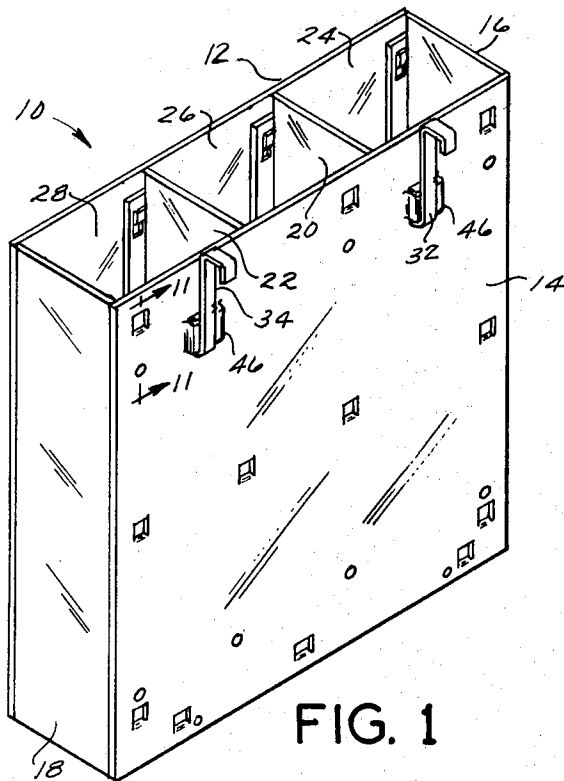
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Primary Examiner—George E. Lowrance
Attorney—Stanley N. Garber and William R. O'Meara

[57] **ABSTRACT**
A receptacle for holding objects such as welding rods is disclosed which includes side walls, a bottom wall and partitions defining a box having a plurality of compartments, the walls and partitions being separate members which consist of two different kinds of parts. The members are provided with inter-fitting slots and tabs so that the members can be readily assembled into the form of a box and disassembled as desired, and without the necessity of screws or bolts and nuts.

18 Claims, 13 Drawing Figures





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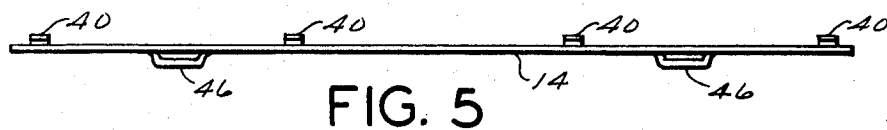


FIG. 5

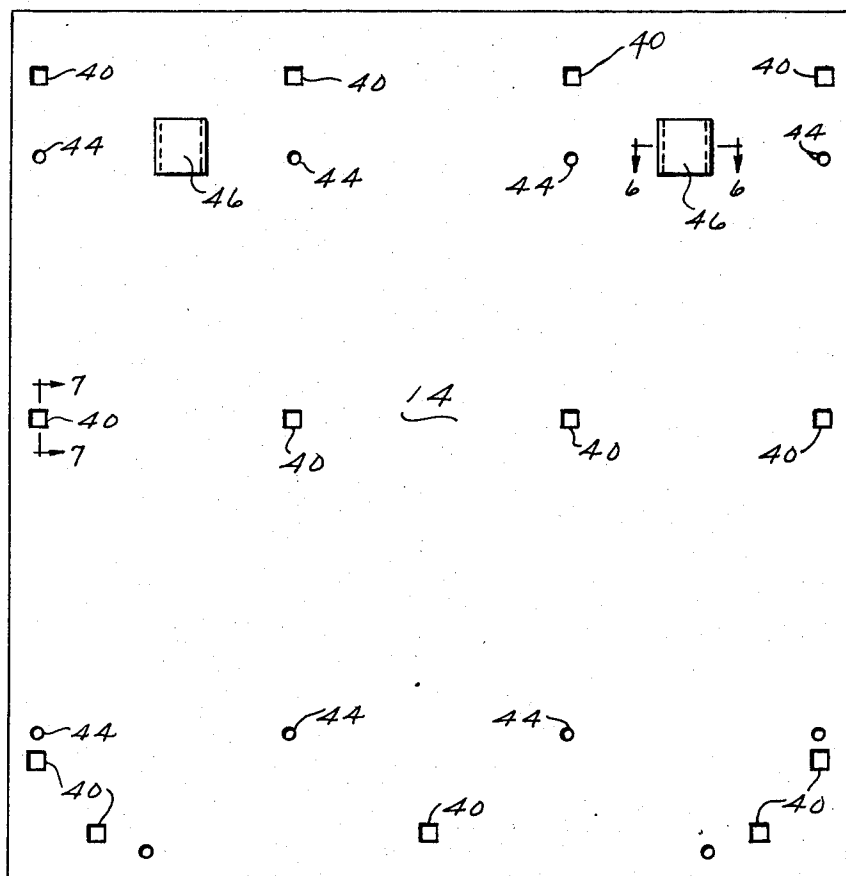


FIG. 4

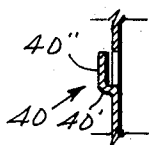


FIG. 7

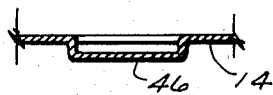


FIG. 6

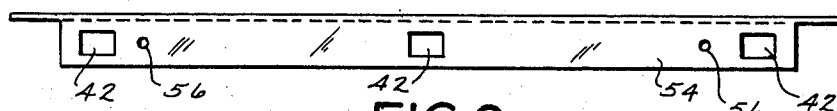


FIG. 9

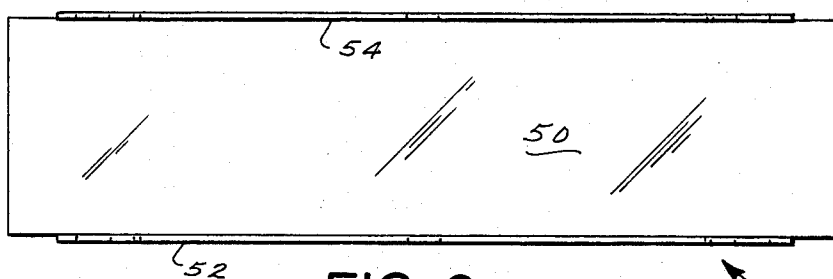


FIG. 8

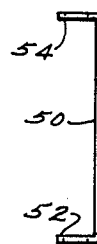


FIG. 10

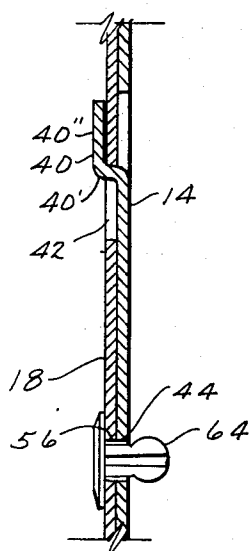


FIG. 11

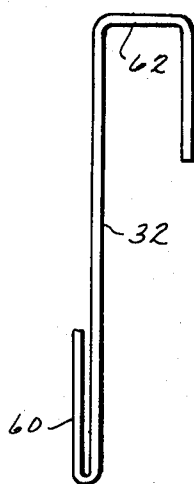


FIG. 12

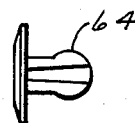


FIG. 13

RECEPTACLE

BACKGROUND OF THE INVENTION

This invention relates to receptacles and more particularly to a receptacle of the type which can be readily assembled from a plurality of parts.

It is often desirable to provide parts which can be assembled into a receptacle or box rather than an assembled box. For example, the disassembled parts of even a relatively large box usually provides a relatively small package which can be more economically shipped and stored, and also more easily handled or sold. It is of course, desirable to provide parts which can be easily and quickly assembled to form the box, and without the necessity of screws, bolts, and nuts, and which economically contains a minimum number of differently shaped parts. Some prior art receptacles consisted of a relatively large number of differently shaped parts and/or required threaded screws or like to hold the parts together.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a plurality of parts which can be readily assembled to form a receptacle and which economically includes parts of like configuration.

Another object is to provide a receptacle formed of a plurality of separate parts which can be readily assembled without the necessity of screws or the like to hold the parts together, and wherein a minimum number of differently shaped parts are required.

Another object is to provide a receptacle which is formed of separate members including two pairs of opposed side members, a bottom member, and a partition member providing the receptacle with compartments, and wherein these parts economically consist of only two differently shaped parts and which can be quickly and easily assembled together and disassembled without the necessity of screws or the like.

These and other objects and advantages of the present invention will be apparent from the following detailed description and accompanying drawings.

In accordance with one aspect of the present invention, a receptacle is provided which includes first and second pairs of opposed side members and a bottom member, the members being provided with cooperable connection means releasably holding the members together, the side members of the first pair being substantially identical to each other, and the side members of the second pair being substantially identical to each other.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a receptacle in accordance with a preferred embodiment of the present invention;

FIG. 2 is a side view of the receptacle of FIG. 1 with the receptacle shown attached to an associated device;

FIG. 3 is an exploded view of the receptacle of FIG. 1;

FIG. 4 is an enlarged elevational view of one of the side members of the receptacle of FIG. 1;

FIG. 5 is a top view of the side member of FIG. 4;

FIG. 6 is a sectional view taken along the line 6—6 of FIG. 4;

FIG. 7 is a sectional view taken along the line 7—7 of FIG. 4;

FIG. 8 is an enlarged plan view of another side member of the receptacle of FIG. 1;

FIG. 9 is a top view of the member of FIG. 8;

FIG. 10 is a right end view of the member of FIG. 8;

FIG. 11 is an enlarged sectional view taken along the line 11—11 of FIG. 1;

FIG. 12 is an enlarged side view of receptacle attachment member shown in FIG. 1; and

FIG. 13 is a side view of a fastener member which may be used in the receptacle of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, and particularly to FIGS. 1 and 2, there is shown a receptacle or box 10 including a pair of opposed parallel, generally rectangular side members or panels 12 and 14, another pair of opposed parallel side members or panels 16 and 18, and a pair of parallel partition members or panels 20 and 22 dividing box into three compartments 24, 26 and 28. Also, as seen in FIG. 3, a bottom member or panel 30 extends lengthwise of the box between the opposed side members 16 and 18. A pair of box hanger members 32 and 34 are shown which may be used to hang the box from a supporting device. As seen in FIG. 2, the box 10 is shown attached to an edge or rail 36 of a device 38 by the hanger members 32 and 34. The receptacle may be, for example, a container for receiving and holding a plurality welding rods (not shown) and the device 38 may be a welding machine.

As is apparent in FIG. 3, the opposed side panels 12 and 14 are identical to each other, and the panels 16, 18, 20, 22 and 30 are identical to each other. Thus, the box 10 includes only two different kinds or differently shaped panels. All of the panels may be formed, for example, from sheet metal.

Since side panels 12 and 14 are identical to each other, only the panel 14 is shown enlarged in the drawings to show greater details thereof. As seen in FIG. 4, panel 14 is a generally rectangular member having a plurality of predeterminedly located connection means shown as generally L-shaped tabs or hooks, 40, as seen also in FIGS. 5 and 7. Each tab 40 is an integral extension of the panel 14 and has a lower portion 40' which extends outwardly from one side of the panel or normal to the plane of the panel, and a vertical portion 40'' which extends upwardly and parallel to the plane of the panel.

The tabs 40 on panels 12 and 14 cooperate respectively with other connection means, shown in the drawings as openings or slots 42, on the other panels to maintain all the panels in assembled relation. As seen in FIG. 4, there are three aligned tabs along each of the right, left, and bottom sides that are located for cooperation with slots 42 in the outside panels 16, 18 and 30 (FIG. 3), respectively. Two pairs of tabs 40, that are equally spaced between the left and right edges of the panel are adapted to respectively cooperate with slots 42 in the partition panels 20 and 22. The panels 12 and 14 are also shown provided with a plurality of holes 44 to be discussed hereinafter, and a pair of openings or eyelets 46, seen also in FIGS. 5 and 6, for cooperation with the hangers 32 and 34, hanger 32 being shown also in FIG. 12. Where the panels are formed of sheet metal, the tabs 40 and the eyelets 46 may be shear-formed, for example, by use of a shear-and-forming die set.

The panels 16, 18, 20, 22 and 30 are shown in the illustrated embodiment as generally channel-shaped members which are identical in configuration to each other. Panel 16 is shown in enlarged detail in FIG. 8, 9 and 10 and includes a main flat portion or web 50 and opposed parallel side portions or flanges 52 and 54 that are normal to the plane of the web 50. Each of the flanges 52 and 54 are shown provided with three similar slots 42 and several holes 56. The web 50 extends longitudinally beyond the ends of the flanges 52 and 54 a distance greater than the height of the flanges. The web extensions permit a good or close fitting relationship between the bottom panel 30 and each of the other panels of the box.

In FIG. 11, a tab 40 on panel 14 is shown extending through an opening 42, in panel 18 and is illustrative of the position or relationship of each tab 40 of one panel and its cooperating adjacent opening 42 in another panel. The openings 42 are greater in size than that of the tabs 40 so that all three aligned tabs 40 along a side of a panel 12 or 14 will enter associated openings 42 in an adjoining channel-shaped panel. Once the tabs 40 of a panel have entered the openings 42 of an adjoining panel, the panels are moved relative to each other so that the channel-shaped vertical panels rest on the portions 40' of the tabs. Panel 30 also receives tabs 40 on panels 12 and 14.

The hangers 32 and 34 are identical and each has lower and upper hook portions 60 and 62, as indicated in FIG. 12. The lower hook portions respectively fit within the eyelets 46 of the panel 14, and the upper hook portions respectfully fit over the support 38 (FIG. 2).

It will now be apparent that there has been provided a receptacle or box which can be easily assembled and disassembled or collapsed and without requiring tools or fastening means. The weight of the panels, for example, when the box is hanging from a support, ensures that they remain in assembled relation.

Only two different kinds or differently shaped panels are required in the box 10 shown, thus, it can be made very economically, for example, because of the minimum number of different types of dies necessary, and because of the handling and storing of a minimum number of different parts. Also, when the box is disassembled, the panels can be economically packaged, the panels providing a compact stack for packaging.

Furthermore, it will be apparent that the five panels 16, 18, 20, 22 and 30 are symmetrical about their geometric longitudinal axis and also about a geometric center axis, normal to the longitudinal or lengthwise dimension or axis of the panel. Thus, these panels are interchangeable with each other in the assembly and each can be rotated 180°, thereby simplifying the assembling of the panels into a box. The relatively large panels 12 and 14 are also shown symmetrical about a vertical center axis and can be interchanged in the assembly.

In the illustrated embodiment holes 44 in panels 12 and 14 are respectively aligned with holes 56 in panels 16, 18, 20 22 and 30. Where these holes are provided, a plurality of fasteners, such as conventional resilient stud fasteners 64 in FIGS. 11 and 13, may be used if desired. For example, a fastener 64 is shown in FIG. 11 inserted into a pair of aligned holes 44 and 56 to hold panels 14 and 18 against relative movement. The use of fasteners 64 between each pair of adjoining panels permits the box to be used in any position while ensuring that panels will not become disassembled or loose during such use.

In view of the above, it is apparent that the several objects of the invention are achieved and other advantageous results obtained. As various changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A receptacle comprising:

a first pair of separate opposed side members substantially identical in shape to each other;

a second pair of separate opposed side members substantially identical in shape to each other;

a separate bottom member having a shape substantially identical to each of said first pair of members;

at least one partition member identical in shape to said bottom member connected between said second pair of members to divide the receptacle into a plurality of compartments, said first pair, said bottom member, and said partition member being channel shaped; and

means for holding said members together, said holding means comprising integral hooks on some of said members and openings on others of said members respectively receiving said hooks to thereby releasably hold all said members together.

2. The receptacle according to claim 1 further including hanger means for suspending said receptacle from a support, and wherein each member of said second member pair includes a slot means for receiving said hanger means.

3. The receptacle according to claim 2 wherein all of said

members are formed of sheet metal.

4. A receptacle comprising:

a first pair of separate opposed side members substantially identical in shape to each other;

a second pair of separate opposed side members substantially identical in shape to each other;

a separate bottom member substantially identical in shape to one of said first and second opposed side member pairs; and

means for holding said members together, said holding means comprising integral hooks on some of said members and openings on other of said members respectively receiving said hooks to thereby releasably hold all of said members together.

5. The receptacle according to claim 4 wherein each member of said second pair comprises a generally channel shaped panel having parallel side portions and said bottom member is identical to said second member pair.

6. The receptacle according to claim 5 further including at least one partition member identical in configuration to said bottom member and connected between said members of said first member pair to provide the receptacle with a plurality of compartments.

7. The receptacle according to claim 4 wherein said bottom member is substantially identical in configuration to each member of said pairs of members.

8. The receptacle according to claim 7 further including a partition panel substantially identical in configuration to said bottom member, said partition being connected between the members of said second pair to provide the receptacle with a plurality of compartments.

9. The receptacle according to claim 5 wherein all of said members are sheet metal members.

10. The receptacle according to claim 5 wherein each of said members has at least one hole therein, the holes being aligned in adjoining members to receive resilient fastener means.

11. The receptacle according to claim 5 further including hanger means for suspending said receptacle from a support, and wherein each member of said second pair of members includes slot means receiving said hanger means.

12. A receptacle comprising a rigid structure having, a first number of sides including opposed sides and a bottom having a first substantially identical geometrical shape and a second number of opposed sides having a second substantially identical geometrical shape different from said first geometrical shape, and means for removably mounting said sides to one another to form said structure, said mounting means comprising integral hooks on some of said sides and openings on other of said sides respectively receiving said hooks to thereby releasably hold all said sides together.

13. The receptacle of claim 12 wherein the greater number of said first and second number of sides is said first number of sides, said first number of sides also being channel shaped.

14. The receptacle according to claim 13 wherein each of said sides has at least one hole therein, the holes being aligned in adjoining sides to receive resilient fastener means.

15. The receptacle according to claim 14 wherein all of said sides have identical length and width dimensions.

16. The receptacle according to claim 13 wherein all said sides are sheet metal members.

17. The receptacle according to claim 16 wherein each of said sides has at least one hole therein the holes being adjacent in adjoining panels to receive resilient fastener means.

18. The receptacle according to claim 16 further including hanger means for suspending said receptacle from a support, and wherein each side of said second number of sides includes slot means receiving said hanger means.

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