

(12)

## EUROPEAN PATENT APPLICATION

(43) Date of publication:  
**25.12.2013 Bulletin 2013/52**

(51) Int Cl.:  
**E04H 12/22** <sup>(2006.01)</sup> **E04H 17/14** <sup>(2006.01)</sup>  
**E04H 17/18** <sup>(2006.01)</sup>

(21) Application number: **13172272.0**

(22) Date of filing: 17.06.2013

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB**  
**GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO**  
**PL PT RO RS SE SI SK SM TR**  
 Designated Extension States:  
**BA ME**

(71) Applicant: **Leach, Eddie**  
**Lake Tapps, WA 98391 (US)**

(72) Inventor: **Leach, Eddie**  
**Lake Tapps, WA 98391 (US)**

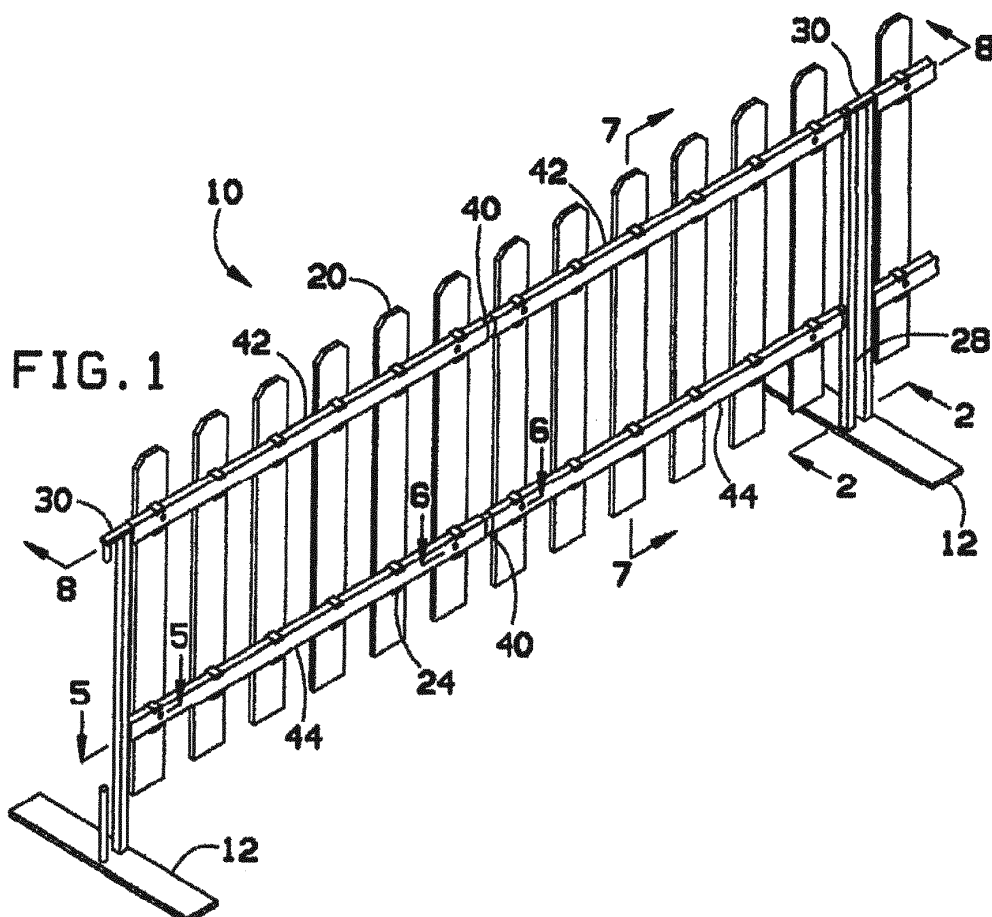
(74) Representative: **Arrowsmith, Peter Michael E.**  
**Cleveland**  
**10 Fetter Lane**  
**London EC4A 1BR (GB)**

(30) Priority: 19.06.2012 US 201213527130

(54) **Do-it-yourself fence**

(57) A sectional fence (10) wherein each section is stand-alone and designed to be assembled and/or dis-

assembled without tools and packaged individually such that each section can be stored and transported as a unit without the need for auxiliary equipment.



## Description

### Technical Field

**[0001]** The current invention deals with fencing, and more particularly, with fencing that is constructed such that it can be stored and transported in a dismantled packaged condition, and when on site, can be quickly and easily snapped together without tools and erected to form a barrier. The fencing can be utilized in multiple sections, wherein each section is self-contained in a portable container.

### Background of the Invention

**[0002]** Fences have historically been used for multiple purposes, including keeping animals and/or people within a confined area, or in the alternative, keeping animals and/or people outside of an area. Historically, fences have tended to be permanent structures, but with the mobility of the current generation, the need has arisen for non-permanent fencing structures to temporarily define a space, whether that be for construction and/or entertainment. One of the problems encountered is that the current fencing on the market usually requires trucks and/or other heavy-duty equipment to transport the fence units from one location to another. The current fencing available also requires tools to assemble or disassemble.

**[0003]** Prior art known to the inventor pertinent to the present invention include:

U.S. Patent 4,266,757 granted to Kirkwood on May 12, 1981, which discloses a corner fence clip, which in conjunction with a fence post, allows the random placement of rails, in that the attachment for the posts may be placed at any one of selected angles and the rails are snapped therein.

U.S. Patent 4,951,925 granted August 28, 1990 to Schultz et al, discloses a fence connector assembly wherein rail shapes are threaded into a post and the rails are then snapped into position over the post member.

U.S. Patent 4,986,513 granted to Schultz et al January 26, 1991, further including locking rails.

U.S. Publication US2010/004466 published February 25, 2010 to Walmsley discloses a fence assembly, wherein the pales are snap-fit into the rails at predetermined locations.

U.S. Publication US2011/0017968 published January 27, 2011 to Christoffer et al discloses a preassembled sectional safety rail for use in construction, wherein the rails are secured to a base plate by telescopically inserting vertical posts into the vertical ends of the rails.

U.S. Publication US2011/0073823 published March 31, 2011 to Mitrovik, wherein the various elements are threadingly secured together to complete a fence structure.

U.S. Publication US2012/0061636 published March 15, 2012 to Williams SR et al discloses a system for strengthening vinyl fences, wherein a kit is provided including U-shaped channel member which are inserted into the top and bottom sections of the pre-existing railings.

### Summary of the Invention

**[0004]** With the above-noted history and the problems in mind, it is the desire of the current invention to provide lightweight, portable effective fencing, such that the user can quickly and easily transport the fencing units to the desired location and quickly erect a fencing structure of any desired length or configuration.

**[0005]** It is further a desire of the present invention to provide a novel fencing structure, such that the erection and/or dismantling of the fence can be completed without the use of tools.

**[0006]** Still another desirable aspect of the current invention is the fact that the fencing structure is very stable and solid in appearance, and yet is quickly and easily dismantled and transported to another location, whether for storage or use.

**[0007]** A further feature of the present invention is that each fencing unit is prepackaged and portable.

### Brief Description of the Drawings

**[0008]** Figure 1 is a perspective view of the assembled do-it-yourself fence according to the preferred embodiment of the present invention.

**[0009]** Figure 2 is a sectional view of the fence taken along lines 2-2 of Figure 1.

**[0010]** Figure 3 is a detailed view of the intersection of two panels as shown in Figure 1.

**[0011]** Figure 4 is an exploded perspective view of portions of Figure 1.

**[0012]** Figure 5 is a sectional view of the fence taken along lines 5-5 of Figure 1.

**[0013]** Figure 6 is a sectional view of the fence taken along lines 6-6 of Figure 1.

**[0014]** Figure 7 is a sectional view of the fence taken along lines 7-7 of Figure 1.

**[0015]** Figure 8 is a sectional view of the fence taken along lines 8-8 of Figure 1.

**[0016]** Figure 9 is an isometric view of the portable cart for transporting the inventive fence.

**[0017]** Figure 10 is an isometric view of the portable cart which has attached thereto a container for containing the fence.

### Best Mode for Carrying Out the Invention

**[0018]** Referring now to the Figures 1-8, the isometric view of the fence kit 10 (Figure 1) includes a left post 30 and a right post 28. For top and bottom rails 42, 44, two rail connectors 38, see Figure 4, as well as two footings

12-12, pickets 18 and tube clips 26.

**[0019]** The left post 30 has an F-shape in profile and includes a vertical member 34. The vertical member 34 may be a 3ft long 1 inch x 1 inch x 0.65 inch rectangular steel tubing. A top horizontal member 38 and mid-height member 38 are welded to the right side of the first end of vertical member 34. The horizontal member 38 may be 8 inches long 1 inch x 1 inch x 0.165 inch rectangular steel tubing. The mid-height member 38 is located approximately 12 inches from the bottom end. A flat metal piece 36A is welded to the top side of horizontal member 38 in such a way that the metal piece 36A overhangs about 3-1/2 inches toward the vertical member 34. A frame connector pin or rail connector 32 is welded to the bottom side of the overhanging portion of metal piece 36A. The frame connector pin 32 may be a 3/4-inch long stub made of 3/4-inch hot rolled steel.

**[0020]** The right post 28 is a mirror image of the left post 30, with two exceptions, in that the flat metal piece 36 equivalent to the flat metal piece 36A has a length of only 8 inches and does not form an overhang such that two facing elements may be conveniently joined together, right to left.

**[0021]** A rail connector 40 (see Figure 6) includes a horizontal member 38 and flat metal piece 36 welded to the top side of horizontal member 38. The flat metal piece may be an 8 inch x 1/4 inch x 1 inch flat piece of metal. A 1/2 inch diameter hole 39 is drilled 4 inches from each end of the horizontal member 38. A tube clip 26 with a button pin 27 is disposed inside of each end of the horizontal member in a manner that allows the button pin 27 to pop out through the hole 39.

**[0022]** The top and bottom rails 42, 44 should be 47 inches x 2 inches x 1, 0.65 inch rectangular tubes having 1/2-inch diameter hole 43 drilled in one of the 2-inch sides 4 inches from each end of the rails. Hole 43 seizes the button pin 27. Hook and loop squares 22 having the size of 1 inch x 1 inch are affixed to the non-drilled side of the top and bottom rails 42, 44 about 8 inches apart to secure the slats 18 to the top and bottom rails. It is to be noted that only one portion of the hook/loop combination is shown in Figure 4.

**[0023]** The footing includes a flat base 46 formed of a 24 inch long 1/4 inch x 2 inch flat metal plate having two rods 48 above and perpendicular in the center of the base one inch apart. The rods are 6 inches long hot rolled 3/4-inch steel bar and are formed to removably fit into the second end of vertical members 34. Pickets 18 may include a wood slat 20 approximately 38 inches long and 4 inches wide with a Roman top at one end or other design of choice. One 2 inch plastic table clip 24 is glued to the wood slat 20 about 3 inches from the top and another one about 6 inches from the bottom, such that the clips may be clipped on the top and bottom rails 42, 44 over the hook and loop squares 22. It is to be understood that the post 28, 30 and the pickets 18 may be made larger to accommodate the customer's needs. In addition, different types of slats may be used, such as vinyl, wood,

wrought iron, cedar slats or fence wire to give different looks other than the picket fence look, as shown. Instead of rectangular tubing, round tubing may be used.

**[0024]** As seen in Figure 9, a cart is shown having a horizontal platform 50 and a vertical handle 52, and further including wheels 54, wherein said cart is designed to be secured to a container by straps 56, as shown in Figure 10, to hold, transport and store a fencing section 10.

**[0025]** As best seen in Figure 10, the handle 52 extends above the container 58 and allows easy transport of the fence sections secured within the container.

**[0026]** The do-it-yourself fence kit may address the needs of the rental industry, such as party rentals, fence rental companies and wedding and event planners. It is too be understood that it may be modified into gates, railing or balusters and may be used to form dog kennels, chicken coops and the like.

**[0027]** Although a preferred embodiment has been disclosed for purposes of illustration, it should be understood that various changes and modifications and substitutions could be made in the preferred embodiment without departing from the spirit of the invention as defined by the claims which follow:

## Claims

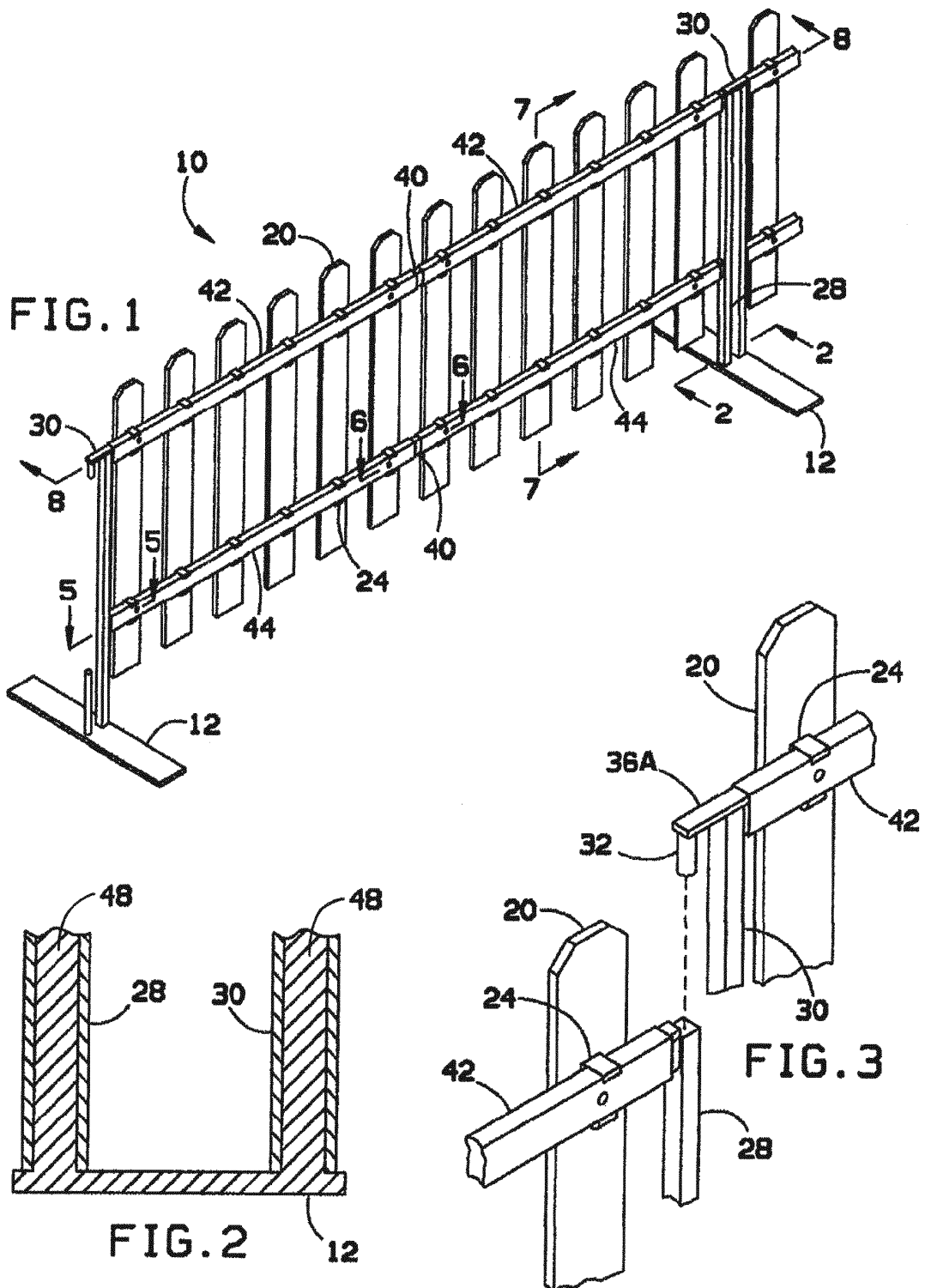
1. A portable sectional fence kit, comprising:

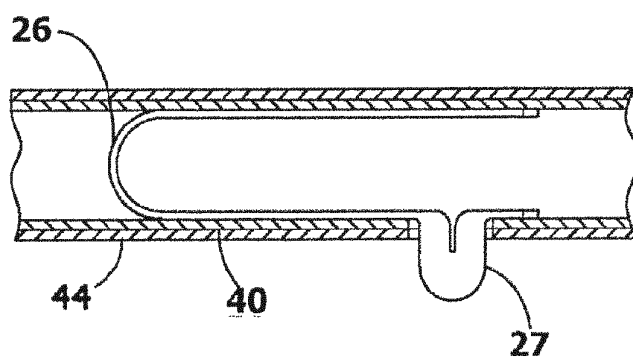
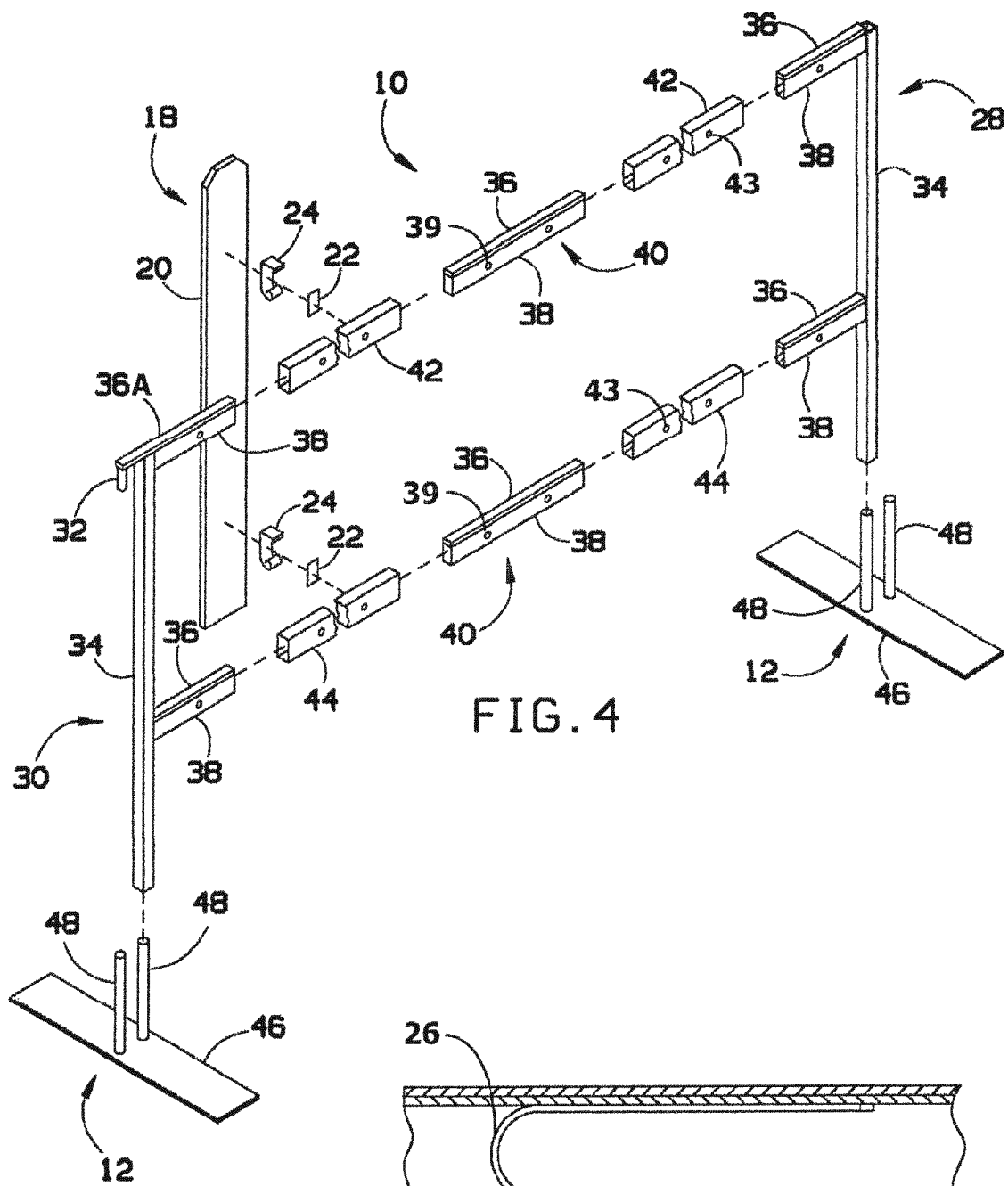
a top rail, a bottom rails and end posts to interconnect the top and bottom rail;  
foot members to support the end posts and a plurality of vertical slats readily interconnected to said top and bottom rail; and  
said individual elements readily interconnected without tools and stored and transported in a wheeled container.

2. A portable frame kit as in claim 1, wherein the interconnection between the top and bottom rail is a friction, slip fit.

3. A portable fence kit as claimed in any of the preceding claims, wherein the top rail and bottom rail are at least two pieces which snap together.

4. A portable fence kit as claimed in any of the preceding claims, wherein the foot members are capable of supporting two end posts enjoining two sections.





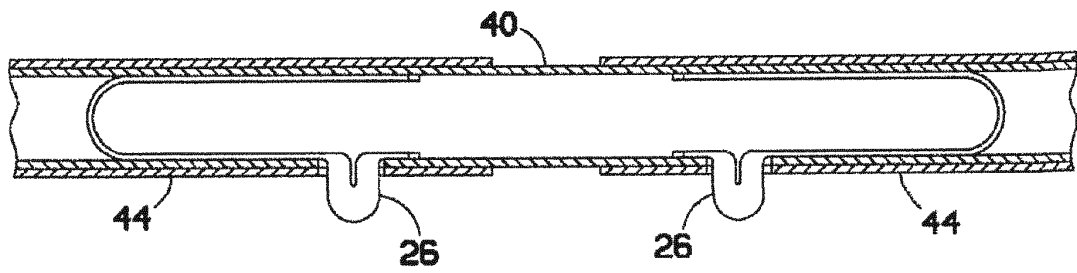


FIG. 6

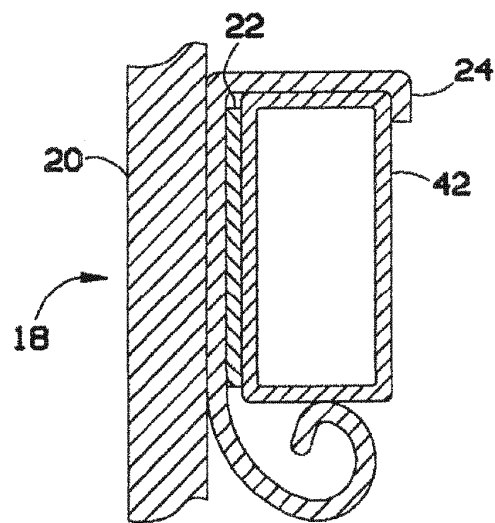


FIG. 7

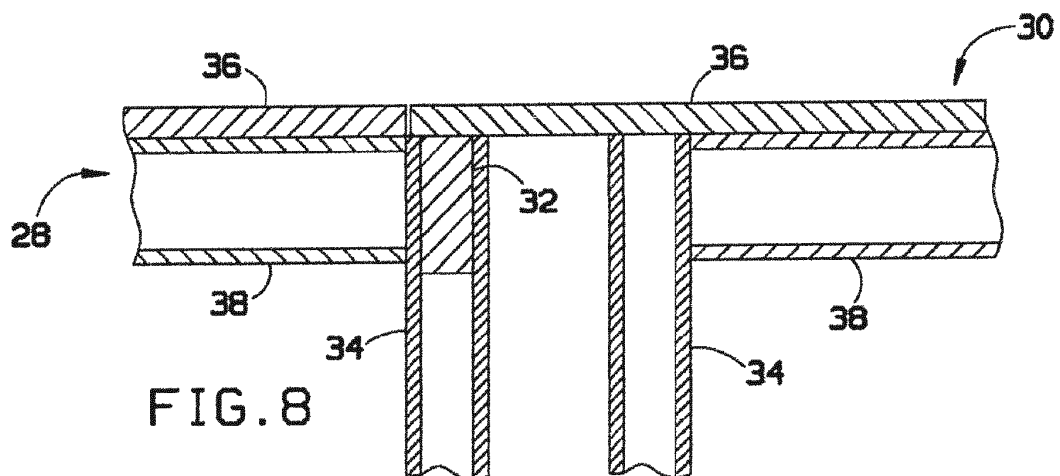
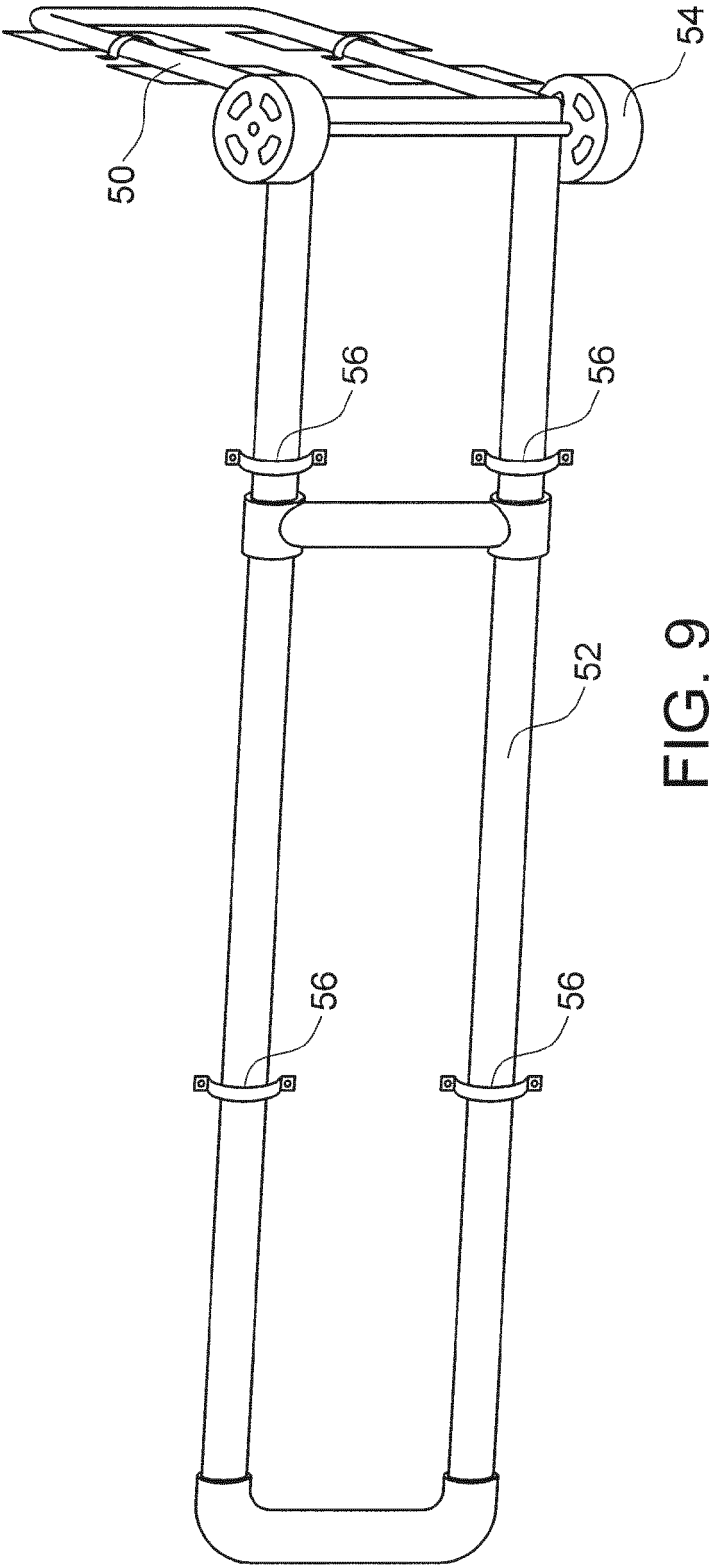


FIG. 8



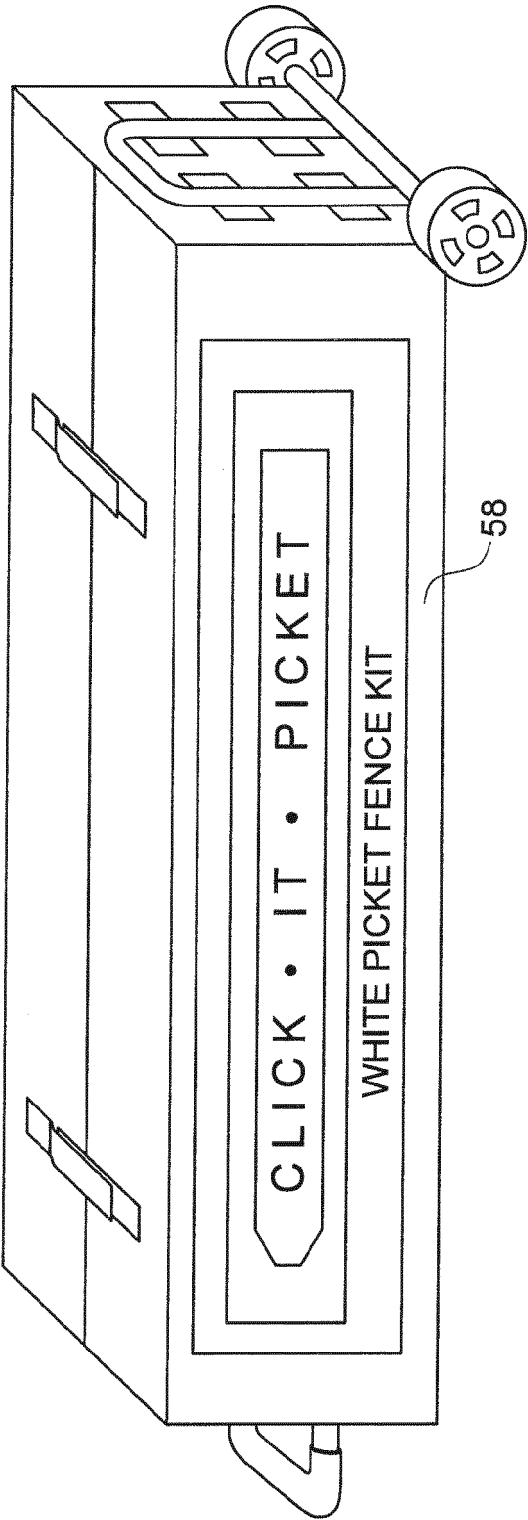


FIG. 10



**REFERENCES CITED IN THE DESCRIPTION**

*This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.*

**Patent documents cited in the description**

- US 4266757 A, Kirkwood [0003]
- US 4951925 A, Schultz [0003]
- US 4986513 A, Schultz [0003]
- US 201004466 A, Walmsley [0003]
- US 20110017968 A, Christoffer [0003]
- US 20110073823 A, Mitrovik [0003]
- US 20120061636 A, Williams SR [0003]