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NL PT SE**(30) Priority: **08.07.1996 US 21380 P****03.07.1997 US 888087**(71) Applicant: **Lyon, Christopher****Estill, South Carolina 29918 (US)**(72) Inventor: **Lyon, Christopher****Estill, South Carolina 29918 (US)**(74) Representative: **Ede, Eric****Fitzpatrick's,****4 West Regent Street****Glasgow G2 1RS (GB)**(54) **Transporting and storage device for tools and other items**

(57) A tool trolley has a pair of end-to-end panels (12,14) carrying tools such as spanners in individual array so they can easily be selected for use. The trolley is long and narrow so it can pass through narrow passages and is convenient for storing in a restricted space.

The panels (12,14) are mounted on a frame (2) so that they can be swung to ease access to the tool array.

They can be dismantled from the frame (2). The frame (2) is rectangular and has apertures (28) in an upper beam (10) and corresponding recesses (30) in a base beam (4) of the frame (2). These apertures and recesses accommodate the handles of long-handled tools holding them upright on the trolley enhancing its versatility.

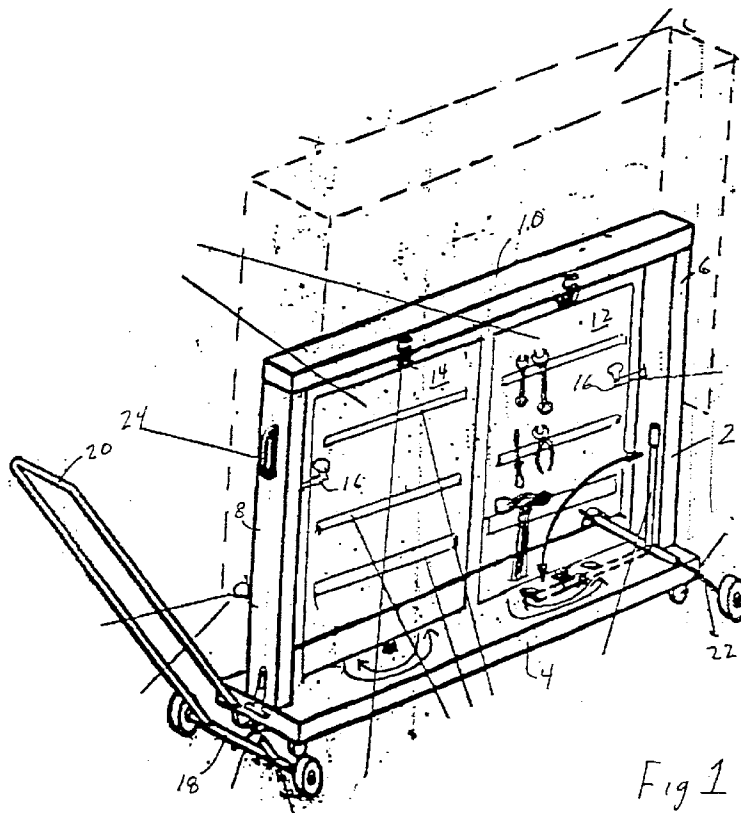


Fig 1

EP 0 819 502 A2

Description

This invention relates to a transporting and storage device for tools or other items comprising a trolley.

Such tools can be, for example, those used in a home, garden, or workshop i.e. domestically or industrially. A few examples are hammers, pliers, wrenches, spanners and power tools.

Tool transporting and storage trolleys are known enabling tools to be brought to a work site and to be used direct from the trolley. These trolleys can, however, be rather inefficient in use.

The present invention is concerned with a mobile transporting and storage device with improved ease of use.

According to the invention the trolley is provided with an upright support adapted to carry said tools in individual array.

Thus the tools can readily be selected and used from the support.

The support can comprise an upstanding panel which is preferably mounted for swinging movement about a vertical axis to enhance access to the tools it carries for selection or replacement. Two or more such panels can be arranged end-to-end.

The trolley is preferably rectangular in plan view and is desirably substantially longer in its travel direction than in its width. The length can be at least three times greater than the width, e.g. four to five times greater. This enables the mobile device to pass more easily through confined spaces when being moved and to be more easily accommodated in restricted spaces in use and in the storage mode.

Desirably, the panel or panels are dismountable and the trolley is adapted to carry tools with long handles using the space vacated by the panel(s). Such long-handled tools can be hoes, rakes, pitchforks, shovels, brooms, pruners and dustpans. This then renders the device capable of accommodating a greater variety of tools.

The device can be designed for pulling or pushing manually or it can be driven.

Embodiments of the invention will now be described with reference to the accompanying diagrammatic drawings in which:

Figure 1 is a perspective view of a transporting and storage device for tools according to the present invention with support panels in place and in transporting mode;

Figure 2 is an enlarged view of the device in Figure 1 in storage mode;

Figure 3 is a perspective view of a modified device with its support panels having been removed in transporting mode;

Figure 4 is a perspective view of two devices of Figure 1 locked side-by-side in storage mode and with its storage panels having been removed;

Figure 5 is a view upwardly from below of a device with a modified castor arrangement for transport.

In the drawings, the device or trolley has a frame 2 which is a rectangular structure with a horizontal base beam 4 forming a floor of the trolley, two upright side beams 6,8, at opposite ends of the floor, and an upper horizontal beam 10 joining the top ends of the side beams. The floor is substantially longer than it is wide, e.g. by a multiple of four to five times.

In Figures 1 and 2, upright multiple tool rack panels 12,14 are mounted end-to-end within the frame 2. Top and bottom rotation shafts or axles 15 are engaged with each panel 12,14 at their vertical axes 6,8 and are received in apertures in the upper beam 10 and corresponding recesses in the base beam 4. Thus the panels 12, 14 can be swung about their vertical axes. In this case the swinging motion can be a full rotation of 360°. When raised fully in their position on the frame the lower shafts 15 will then just clear the recesses in the base beam 4 so the panels 12, 14 can easily be dismounted.

The panels have slots, racks, shelves, magnetic means or other means for retaining tools and similar articles on the panels 12,14.

Wheels or castors are provided for use in the transport mode. The wheels can be dismountable so that in the storage mode they are removed from their operative positions and stored on the trolley. The trolley then is supported on four feet extending downwardly from the corners of the base beam 4.

A front dolly in the form of a wheeled jack 18 (Figure 1) has a towing hook or spike which can be engaged through an aperture in a forwardly extending flange on the leading end of the base beam 4. The leading end is thus raised, and can be steered and pulled along via a handle 20 on the jack 18. The jack 18 is storable on the trolley by means of apertures and clamps when not in use. At the trailing end another wheeled jack 22 is mounted on the base beam 4, and can be swung between an operative and inoperative (storage) position using a lever movable between a vertical and a horizontal position.

In Figure 3 an arrangement of conventional climbing wheels is provided to enable the trolley to cope with kerbs or similar sudden rises in the ground over which it travels.

Another wheel arrangement is shown in Figure 5 castors 32 are permanently mounted on arms on the base beam 4 so that the arms can swing about associated pivots 34 through 90° between a storage position in the longitudinal direction of the base beam 4 and a transport position in which the arms run laterally of the beam 4. Thus in storage the trolley cannot roll and the narrow profile is maintained for ease of storage.

One or more handles 24 can be disposed on the side beams for moving the trolley about. Straps (Figure 4) can be used for locking two trolleys together side-by-side in their storage mode. Clamps, hooks and other means to enable the holding and storage of tools can be provided on the frame 2.

The upper beam 10 has a row of apertures 28 along its length, and the base beam 4 has a corresponding row of recesses in similar positions. When the panels 12,14 have been dismounted, lawn and garden tools such as hoes, pitchforks and shovels can be carried on the frame with their long handles passing through the apertures 28 and their distal ends being received in the recesses 30 so the tools are upright. Shorter handled tools can also conveniently be carried in the apertures 28.

A lockable cover, shown in broken lines in Figure 1, or lockable doors (not shown) can be provided for the panels 12,14.

The trolley has ease of use in that: the panels 12,14 carry the tools in a discrete fashion, the tools being easily individually selectable from their positions on the panels 12,14; the panels 12,14 can be swung outwardly for easier access to them; the panels 12,14 are upright saving space in the width of the trolley; the trolley is long and narrow in plan view for ease of movement in narrow spaces and ease of storage; the panels 12,14 are removable enabling then long-handled tools to be carried so that the trolley is highly versatility having the capacity to deal with a wide range of tools and the like including just by way of example garden tools and hoses, power tools, mechanics' and carpenters' tools.

Claims

1. A transporting and storage device for tools or other items comprising a trolley characterised in that the trolley has an upstanding support (12,14) adapted to carry said tools in individual array.
2. A device according to claim 1 characterised in that the support comprises a panel (12,14).
3. A device according to claim 2 characterised in that a said panel (12,14) is mounted so that it can swing about a vertical axis.
4. A device according to claim 3 characterised in that a plurality of panels (12,14) is mounted end-to-end.
5. A device according to any preceding claim characterised in that the trolley is generally rectangular in plan view and is substantially longer in its direction of travel than in its width.
6. A device according to claim 5 characterised in that the length is at least three times the width.
7. A device according to claim 6 characterised in that the length is four to five times the width.
8. A device according to any preceding claim characterised in that the trolley has an upright rectangular frame (2) and the support (12,14) is mounted within the frame (2).
9. A device according to any of claims 1 to 7 characterised in that the upstanding support (12,14) is dismountable and the trolley has a frame (2) including a horizontal base beam (4) and an upper horizontal beam (10), the upper beam (10) having a plurality of apertures (28) therein and the base beam (4) having a plurality of corresponding recesses (30) therein so that, in the absence of the support (12,14), long handles of tools can pass through the apertures (28) and their distal ends be supported in the corresponding recesses (30), the tools being supported in an upright configuration.
10. A device according to any preceding claim characterised in that the trolley has feet which support it in storage mode and has wheeled jacks (18,20), (22,32) at either end thereof which can be swung to raise the trolley and render it mobile.
11. A device according to claim 10 characterised in that the wheeled jack (18,20) at the leading end of the trolley can be turned by a handle (20) for steering the trolley.
12. A device according to claim 11 characterised in that the said wheeled jack (18,20) at the leading end is disengageable from the leading end and has a storage position on the trolley when not in use.
13. A transporting and storage device for tools or other items comprising:
 - a. a frame;
 - b. at least one storage panel having means for rotatably mounting the panel within said frame;
 - c. a dolly which is mounted near one end of said frame, said dolly having at least one castor mounted thereto;
 - d. at least two castors mounted near an opposite end of said frame;
 - e. a handle for pushing and pulling said frame mounted on one end of said frame.
14. A device according to claim 13 wherein said castors are mounted to an axle, and said axle comprises means for pivoting said castors relative to the frame and alternately below said frame and above a lower surface of said frame.

15. A device according to claim 14 wherein means for mounting said dolly is present on said frame remote from said near one end of said frame and means for mounting said axle and said castors is present on said frame and is remote from said near an opposite end of said frame. 5

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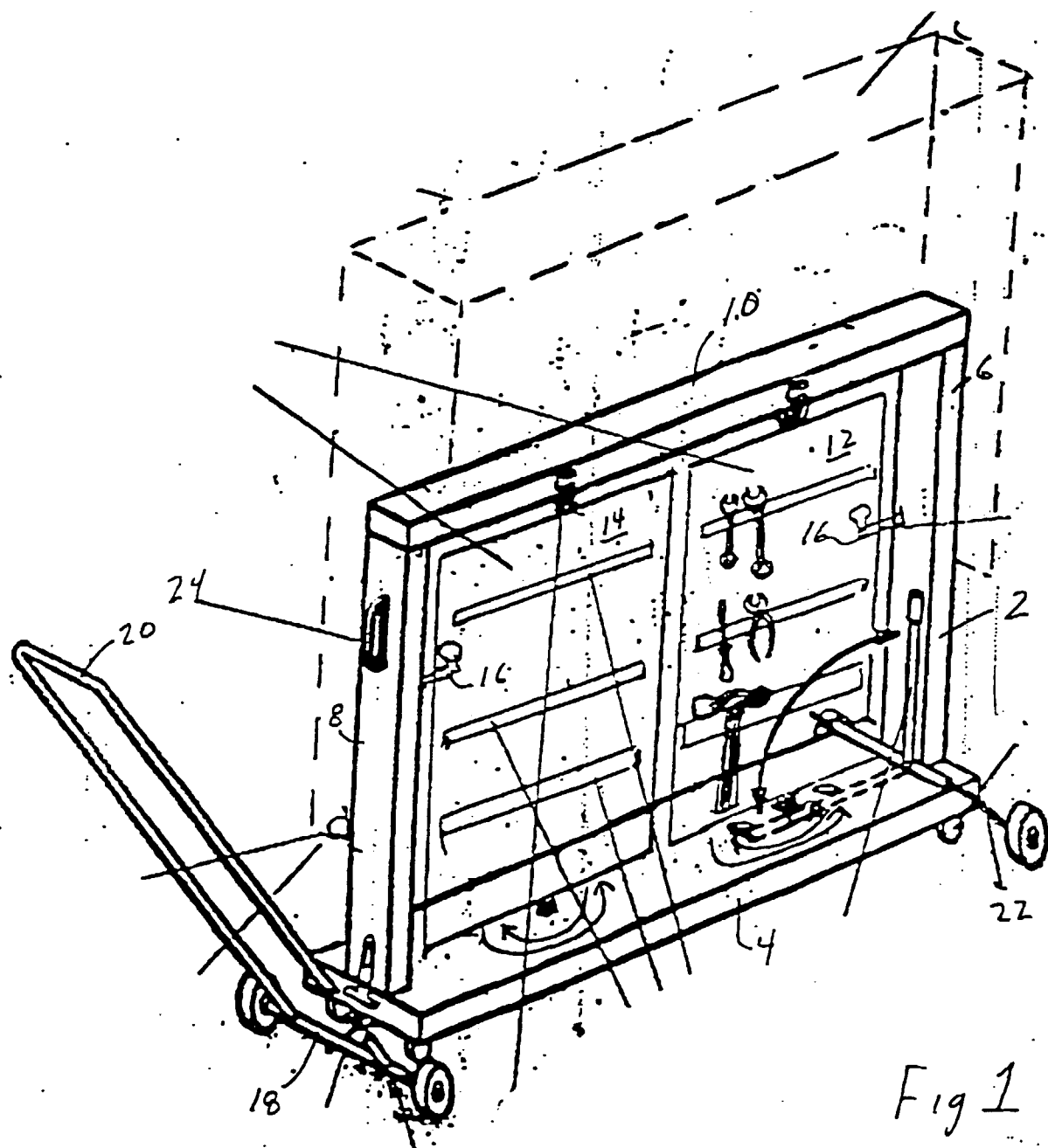


Fig 1

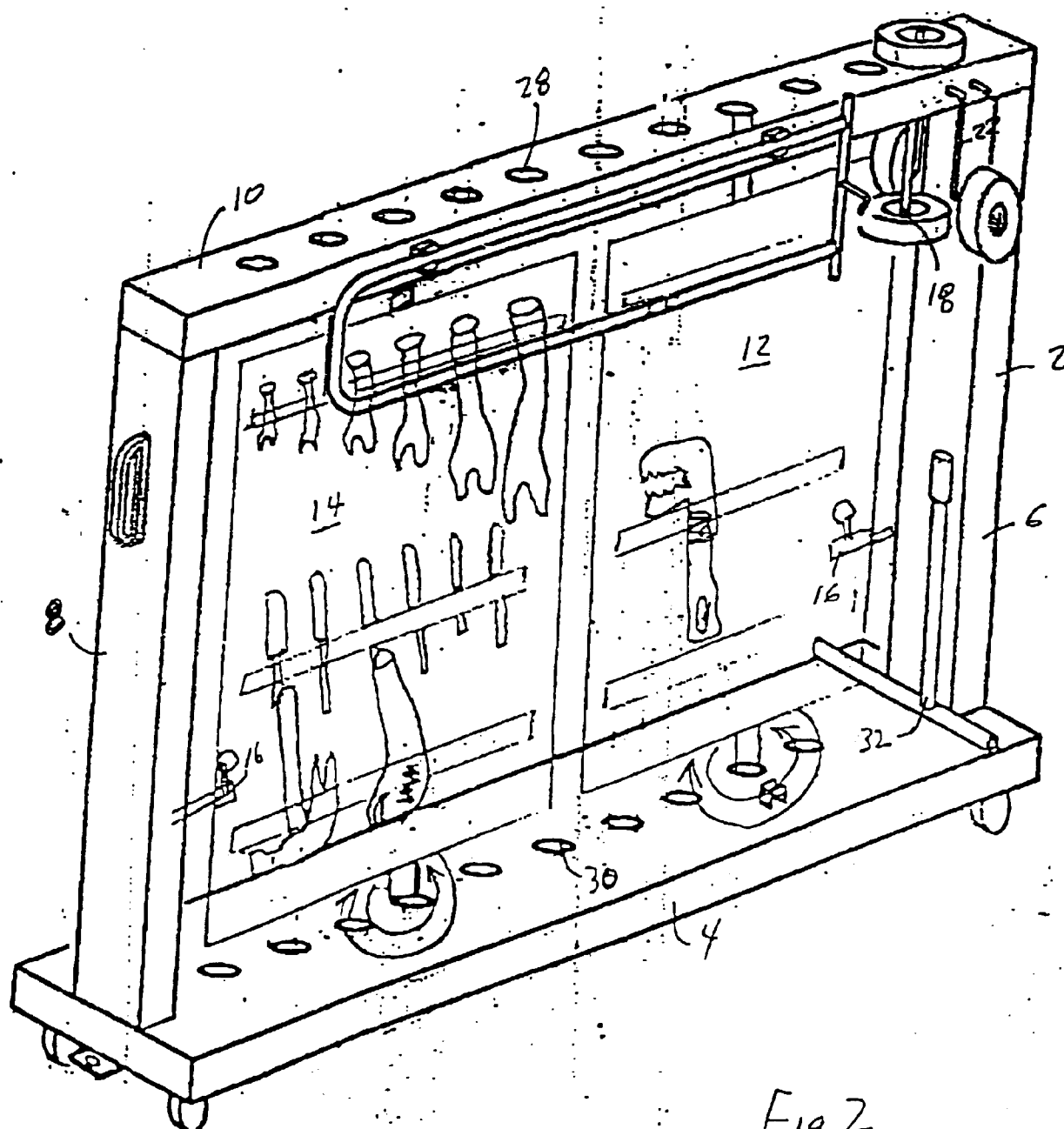
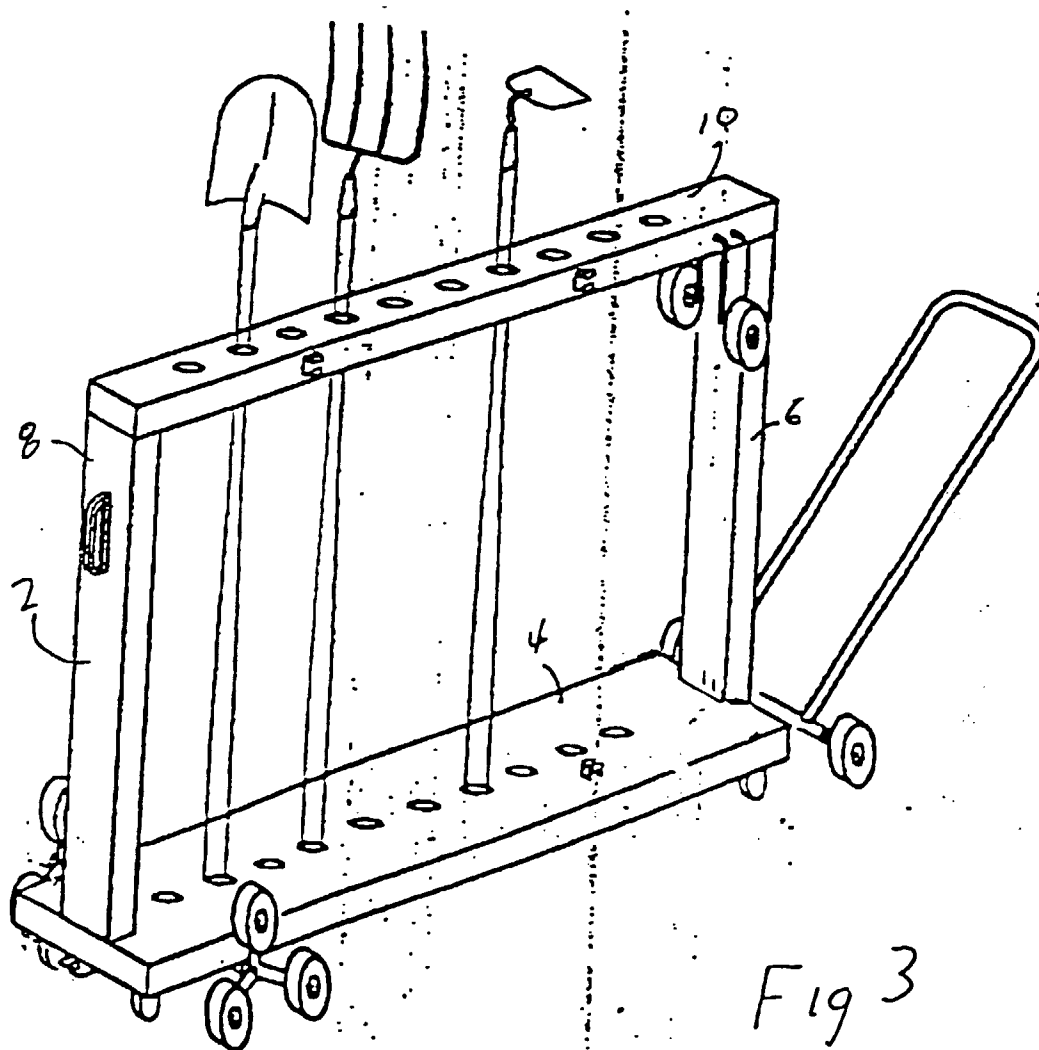
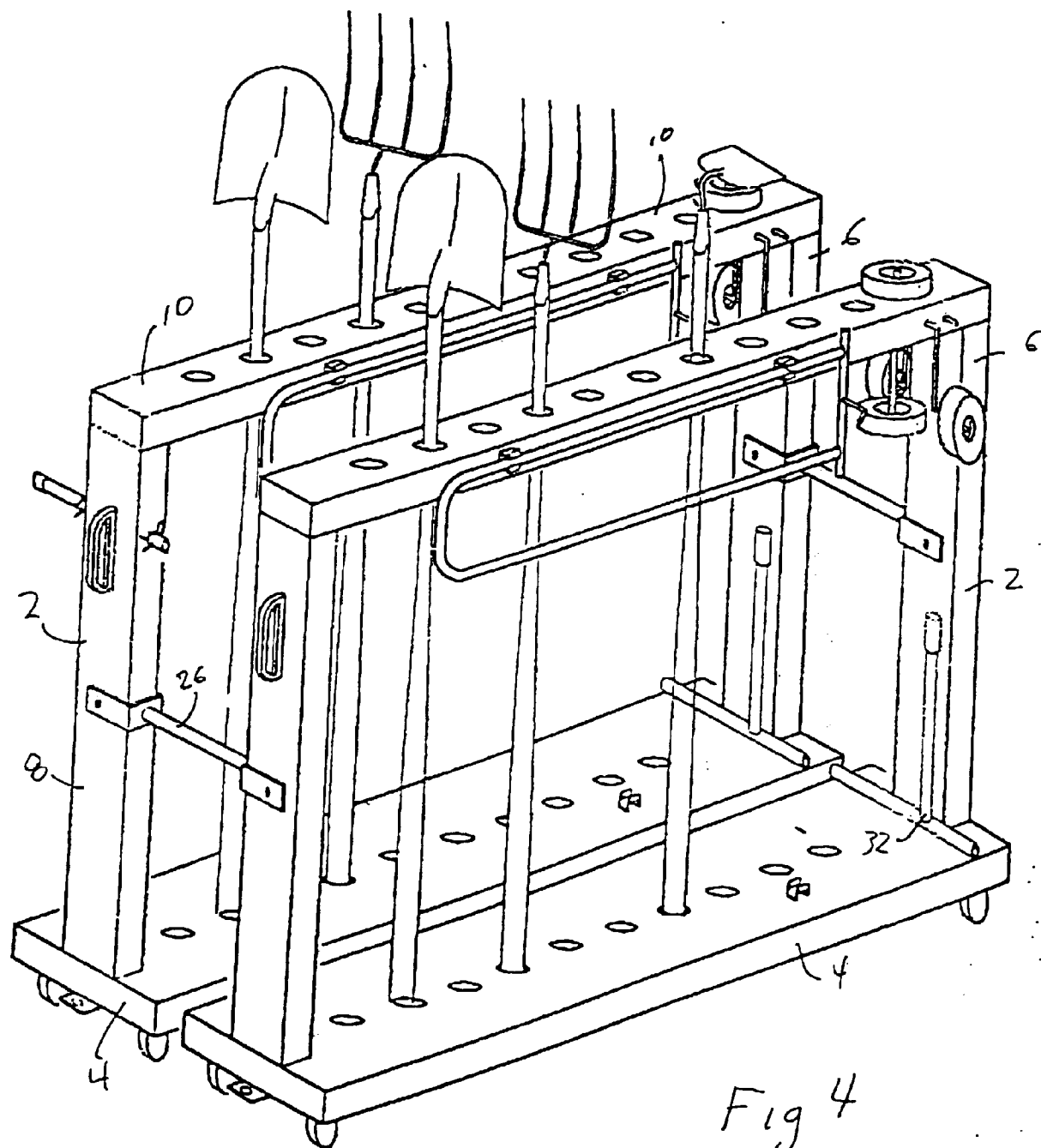


Fig 2





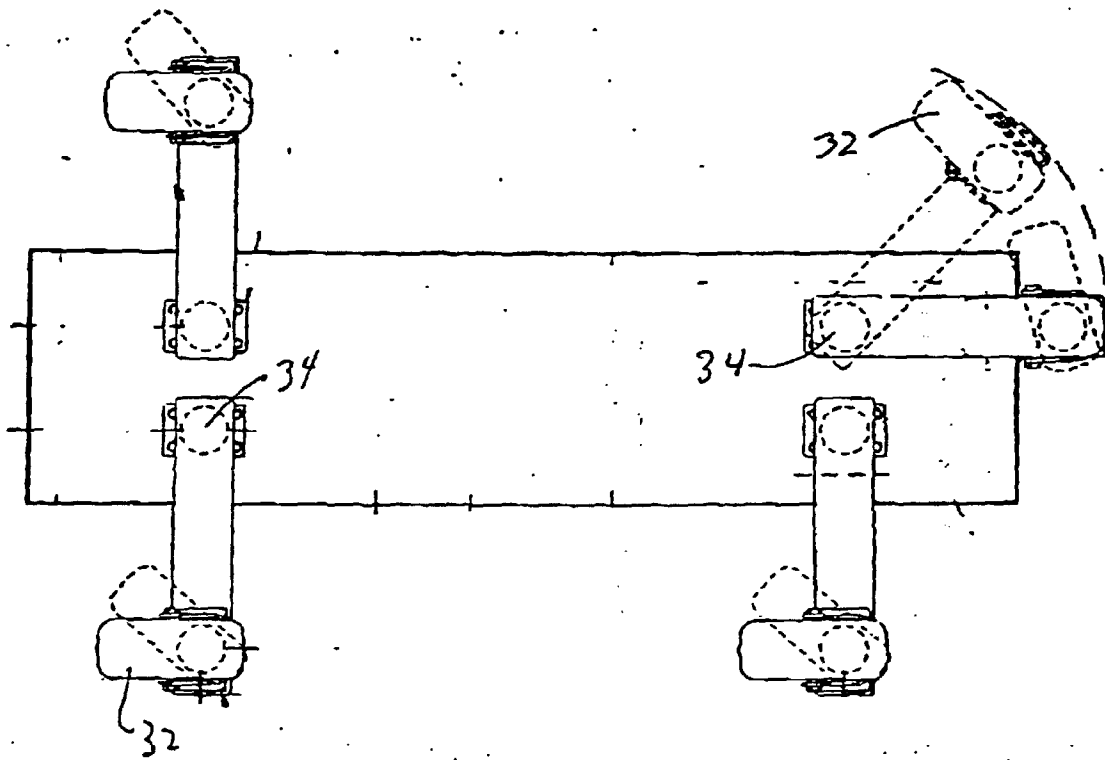


Fig 5