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(54) Shelving assembly

(57) A shelving assembly comprises a stanchion 10, upper and lower brackets 12 and 14, a cable 16 between the free ends of the brackets and a support 40 mounted

on the cable. The shelf is located on a dowel projecting from the stanchion and rests on the support on the cable. The stanchion is wall mountable.

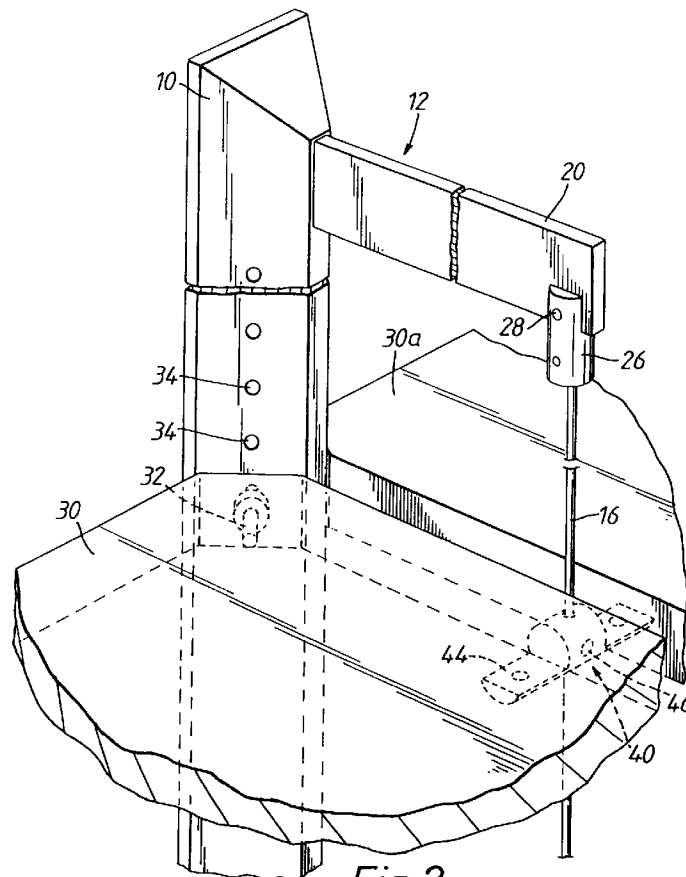


Fig.2

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Description

This invention relates to shelving. The invention is particularly, though not exclusively, applicable to shelving for display purposes in shops as well as for domestic use.

Part of the attractiveness of a shop display of goods stacked on shelves is the elegance of the shelving on which the goods are set out. Shelving should also be adaptable so that it may be reconfigured as necessary. Similarly, display shelving in the home must be as attractive as possible. In both cases, however, it is necessary that the shelving be easy to erect and be reliable when the shelving is in place.

A particularly attractive shelving arrangement uses cables from which the shelves themselves are suspended. The thin cable also presents a minimal obstruction to viewing across shelf supports. In general, cable-based shelving is expensive and has to be constructed carefully by experienced fitters.

It is an object of the present invention to provide shelving that is both inexpensive and reconfigurable and yet also is relatively easy to construct.

According to the present invention there is provided a shelving assembly comprising at least one stanchion, a supporting member projecting laterally outwardly from the stanchion toward one end thereof, at least one cable depending from the member, forward shelf support means connected with the cable, rear shelf support means and a shelf suspended from the first and second shelf support means.

The invention combines the rigidity and simplicity of a rigid rear stanchion with the attractive and unobtrusive cable supporting the shelf toward the front of the display shelf.

The stanchion itself may be wall mounted. In this case, the stanchion provides a large surface area by which it may be secured reliably to a wall. However, it could equally well be arranged that the stanchion has a foot or other supporting plate so that it could stand on the floor and be self-supporting or even be suspended from a ceiling.

Preferably, the shelf is supported on the stanchion by locating means, constituting the rear shelf support means, projecting from one of the stanchion and the shelf into the other. When the cable end, remote from the supporting member, is also secured relative to the stanchion, the locating means have only to resist a shear force as movement of the shelf laterally with respect to the stanchion is substantially prevented by the secured cable. The locating means may be a pin dowel or other projection projecting laterally from the stanchion into the shelf. If the pin or dowel projects at an angle to the width of the shelf it also serves to resist lateral front-to-back and side-to-side movement of the shelf relative to the stanchion.

The arrangement may also have a second cable depending from the member. In this case, the rear shelf support means may be connected with the second cable.

The stanchion may have a triangular, a rectangular or even a circular or other arcuate section. It may be constructed of wood, suitably rigid plastics material, aluminium (either folded sheet or extruded) or steel.

For ease of adjustment the securing means may be releasable for height adjustment. In the case of the rear support means connected with the stanchion the locating pin or dowel may be insertable in one of a series of spaced holes in the stanchion.

The present invention can be put into practice in various ways, one of which will now be described by way of example with reference to the accompanying drawings in which:

- 15 Figure 1 is a side view of a shelf assembly according to the invention;
- Figure 2 is a perspective view of an upper part of the assembly in Figure 1;
- Figure 3 is a lateral section across the stanchion of the assembly of Figure 1;
- 20 Figures 4(a) and (b) are side and front views of the stanchion;
- Figure 5 is a lateral section through the stanchion of Figure 4(a);
- 25 Figure 6 is a front view of the assembly to Figure 1; and
- Figure 7 is a plan view of the assembly of Figure 1.

Referring to the drawings, a shelving arrangement comprises a stanchion 10, which in this embodiment is wall mountable, laterally projecting aluminium upper and lower brackets 12 and 14 and a cable 16 which is suspended from the end of the upper bracket 12 remote from the stanchion 10. The cable is also connected with a lower bracket 14 by means of a tensioning screw arrangement 18.

The upper end of the stanchion is illustrated in more detail in Figures 2 and 4(a) and (b). The upper bracket 12 comprises an arm 20 which projects through a slot in the stanchion. A fixing plate 22 is connected with the arm. This plate is secured onto the surface of a recess 24 (see Figure 3) in the stanchion 10 by four screws. The plate 22 is housed within the recess 24.

The cable 16 is pivotably connected with the arm 20 towards its end remote from the stanchion 10 by a slotted head 26 having a pin 28 which projects through holes in the head and a hole in the arm itself. A shelf 30 is supported, at its wall- or stanchion-side by a pin 32 which is located in one of a series of blind holes 34 running along substantially the length of the stanchion 10. It will be noted that the pin projects at an angle to the width of the shelf 30, in this case about 45°, although normally with respect to the surface into which the hole is formed. A corner of the shelf 30 is chamfered to accommodate the side of the stanchion from which the pin 28 projects. This shelf rests on the pin 32 in a region of the chamfered corner. The chamfered corner is formed with a recess 36 in its lower surface to take the pin.

The embodiment illustrated has an end of the shelf 30 connected with the stanchion on one side and a second shelf 30a starting from the other side of the centre of the stanchion. Of course, a single run of shelving could equally well pass a stanchion and be formed with an appropriately shaped notch to take the stanchion shape and recessed to register with the supporting pins 32.

The front part of the shelf 30 remote from the stanchion 10 is supported by a support 40 which comprises a circular body 42 of material (possibly steel or a durable plastics material or aluminium) that is formed with a pair of upwardly facing flats 44 on either axial end. The shelves 30 and 30a rest on the flats. The body 42 also has a vertical bore through which the cable passes. The body 42 is held in place by a grub screw 46 which is threadingly engaged in a hole in the body, which hole extends normally relative to the axis of the vertical bore. The grub screw 46 is tightened up to bear on the cable 16 passing through the bore. Of course, in the case of a single run of shelving passing a stanchion, the shelf would have to be formed with a hole through which the cable could pass.

Referring to Figure 6 in particular, the lower bracket 14 and tension arrangement 18 for the cable 16 is illustrated. It will be appreciated that the lower bracket 14 is secured to the stanchion in a similar manner to the upper bracket 12. The arm of the lower bracket projects through an opening in the stanchion. A plate secures the arm to the back of the stanchion. The tension arrangement 18 comprises a slotted bolt 50 which is pivotably secured to the lower bracket 14 by a pin 52 in a similar manner to the head 26 secured to the upper bracket 12. An adjuster sleeve 54 is threadingly received on the bolt 50. The sleeve 54 has a smaller bore into which is received the lower end of the cable 16. Grub screws 56 engage the cable 16 through horizontal holes to hold it in the sleeve. By adjusting the effective length of the head 48 by rotating the bolt 50 relative to the sleeve 54 the cable can be arranged to be under tension when the head 48 is secured to the lower bracket 14 by the pin 52.

It will be noted in Figure 6 that both a double and a single shelf support 40 and 40a are shown. The single shelf support 40a has only a single flat formed on one axial end of the drum.

The means of support for the shelf provided by the pins in the stanchion could be replaced by a second cable suspended between the brackets 12 and 14. If the cables are sufficiently stiff and well tensioned the movement laterally with respect to the stanchion will be substantially prevented.

Alternatively, a single cable could be passed around a pulley or other point attached to the stanchion 10 above the upper bracket 12 and down through spaced apertures in the bracket and extending in parallel through similarly spaced holes in the lower bracket 14. The ends of the single cable are then attached to a tensioner also attached to the stanchion 10 beneath the lower bracket 14. The cable is thus supported by the pulley and the

brackets serve as spacers supporting the cables in their spaced relationship.

Although not specifically disclosed, it will be apparent that the stanchion can be bolted or otherwise secured to the wall by suitable fixings such as expansion bolts.

The stanchion provides a secure means of fixing the brackets to a wall. The brackets are fixed reliably and securely to the stanchion instead of having to rely on the less certain securement of the plate of the bracket to masonry. Because the stanchion covers a considerably larger area, it is more likely that a solid fixing for the stanchion can be found. The stanchion also provides a convenient means of keeping the shelf from moving laterally. Thus, the rear stanchion is concerned with lateral movement and supporting the rear of the shelf while the first shelf support mounted on the front cable holds up the front of the shelf.

Claims

1. A shelving assembly comprising at least one stanchion, a supporting member projecting outwardly from the stanchion and being located toward one end thereof, at least one cable depending from the member, forward shelf support means connected with the cable, rear shelf support means and a shelf suspended from the first and second shelf support means.
2. An assembly as claimed in claim 1 in which the stanchion is wall mountable.
3. An assembly as claimed in claim 1 in which the stanchion has a foot enabling the assembly to stand on the floor.
4. An assembly as claimed in any preceding claim in which the rear shelf support means comprise locating means on the stanchion.
5. An assembly as claimed in claim 4 in which the rear shelf support means comprise a projection projecting from the stanchion.
6. An assembly as claimed in claim 5 in which the projection extends at an angle to the supporting member.
7. An assembly as claimed in claim 1, 2 or 3 in which the rear shelf support means are connected with a second cable depending from the support member.
8. An assembly as claimed in any preceding claim in which the shelf support means are releasable for height adjustment.

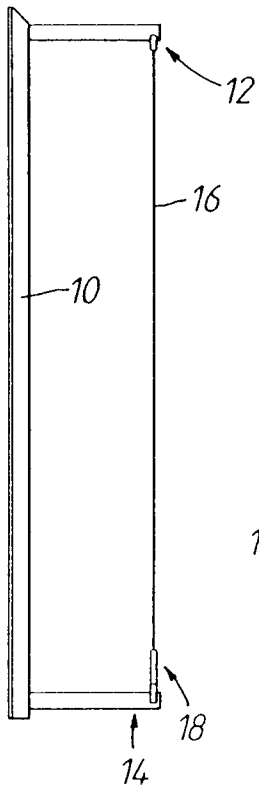


Fig. 1

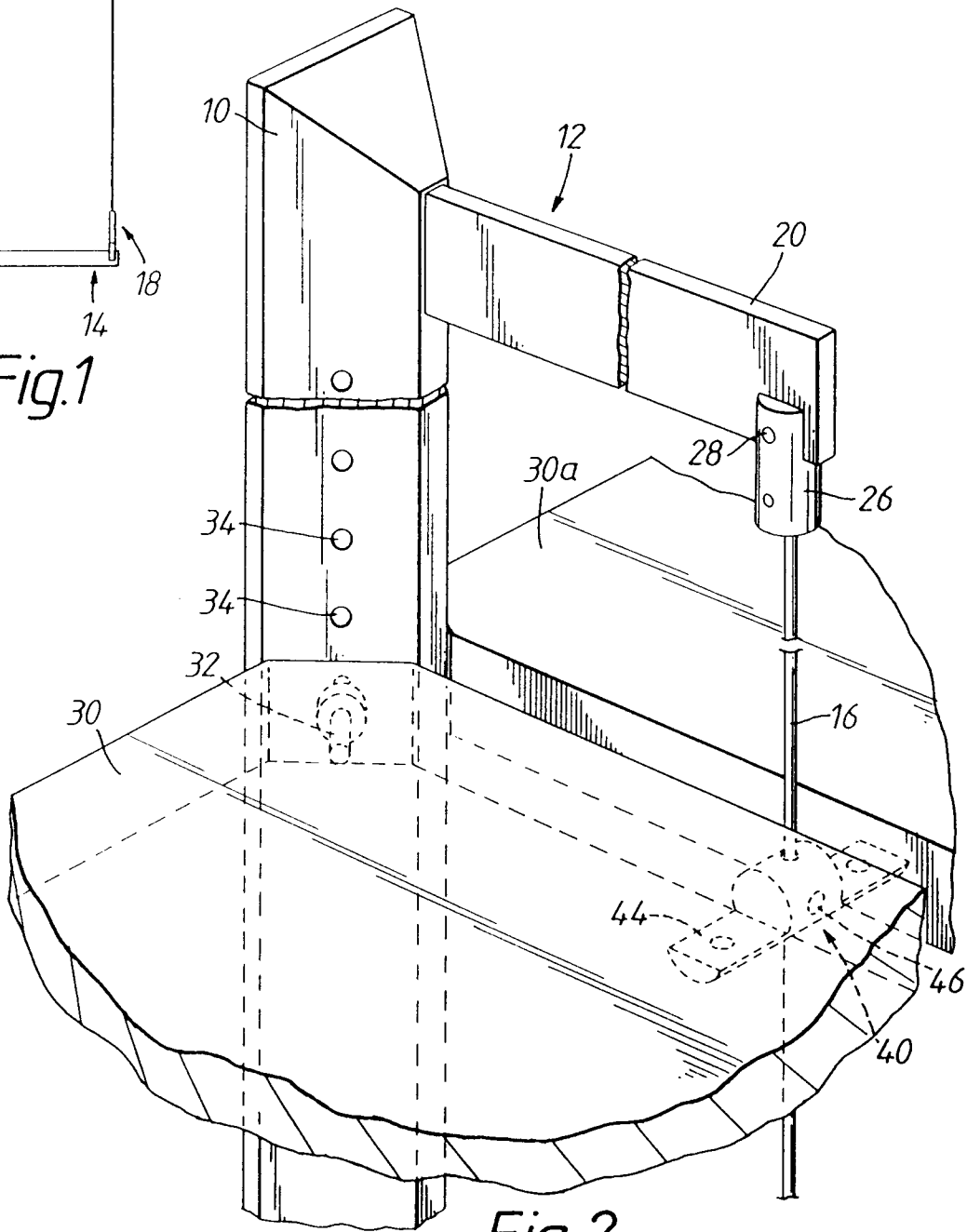
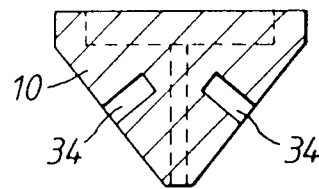
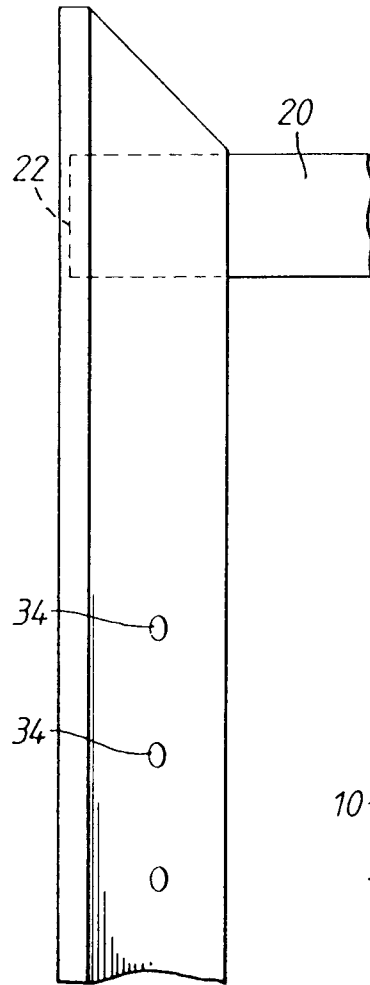
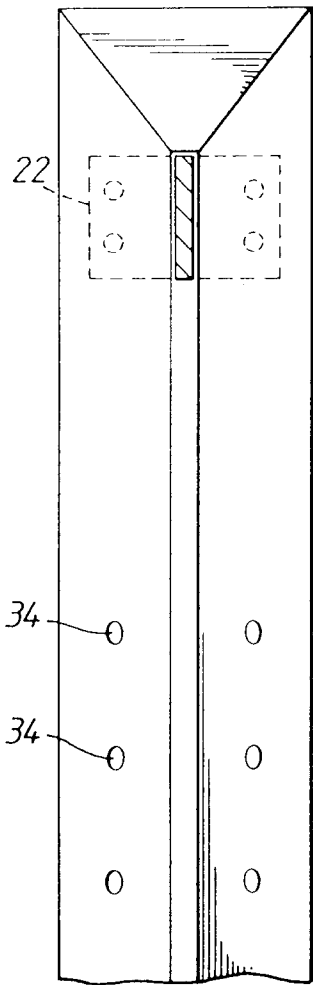
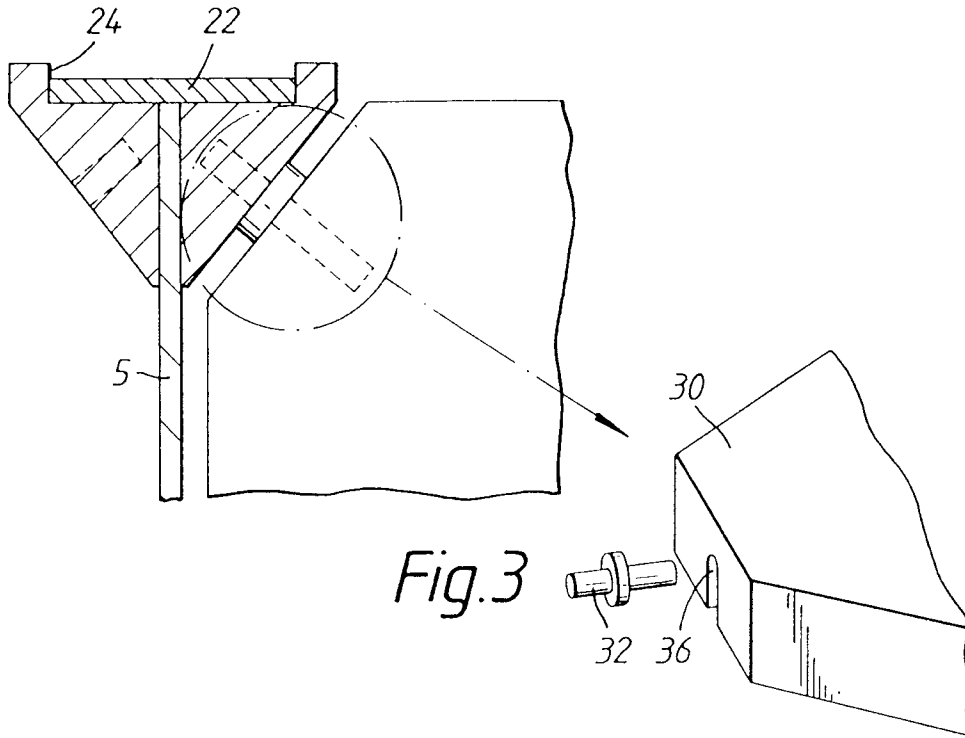


Fig. 2



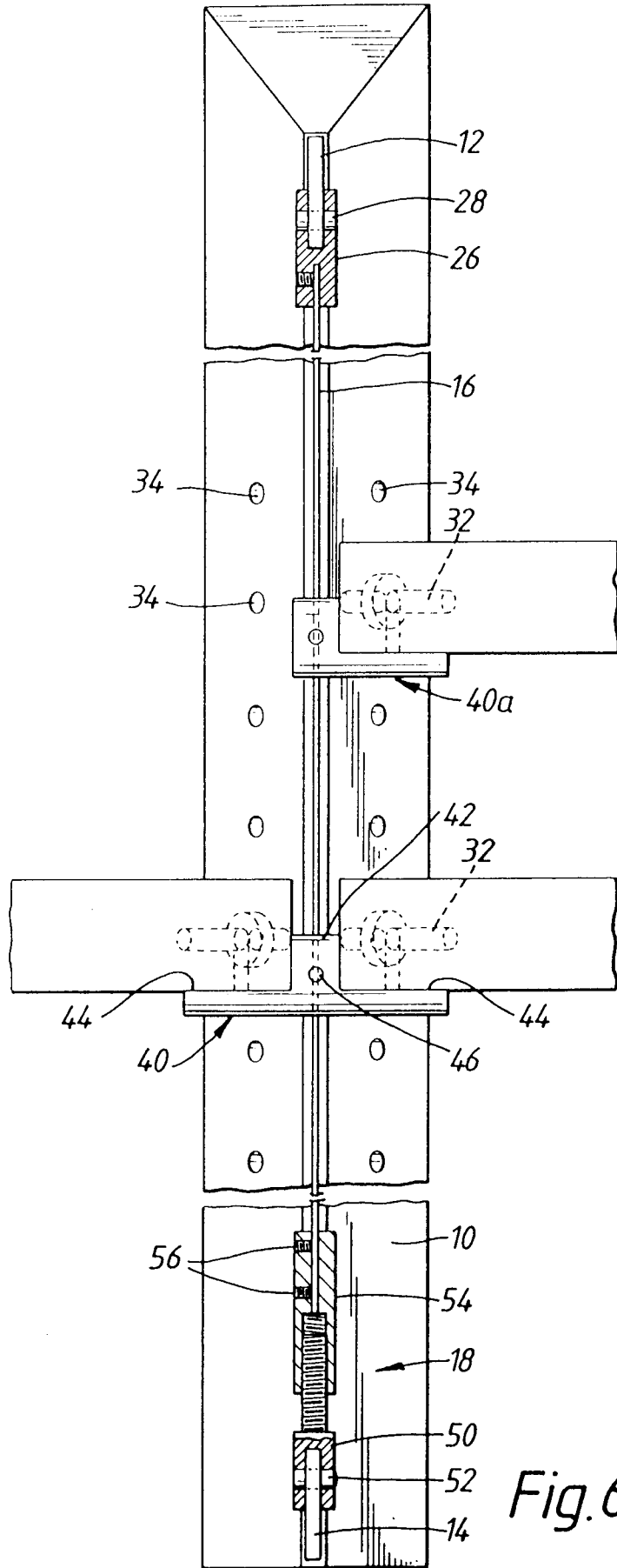


Fig.6

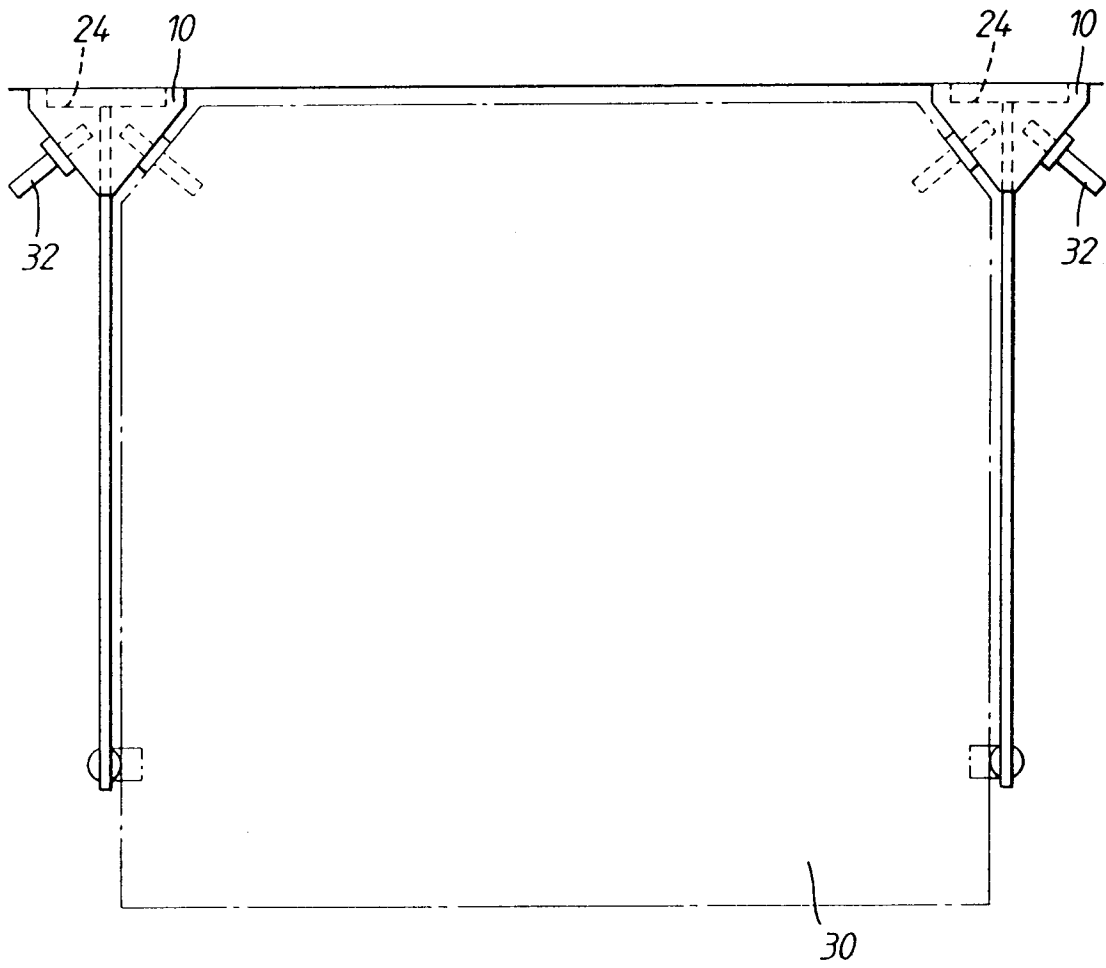


Fig.7



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EUROPEAN SEARCH REPORT

Application Number
EP 94 30 5200

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X Y	DE-U-88 10 286 (FRANKE) * claims 1,3,12; figures 1-4 * * page 5, last paragraph * ---	1-5,8 6,7	A47B43/00 A47B57/48
X	DE-U-86 01 127 (PEILL & PUTZLER GLASHUTTENWERKE GMBH) * claims 1,2,6; figures 1,2,6 * ---	1,3,7	
Y	WO-A-92 14382 (WALTER K. BAUMANN INDURTRIETECHNIK) * abstract; figures 1-3 * ---	6	
Y	EP-A-0 004 517 (BEAUVAIS J.M.) * abstract; figure 1 * -----	7	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A47B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25 November 1994	Examiner Jones, C
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