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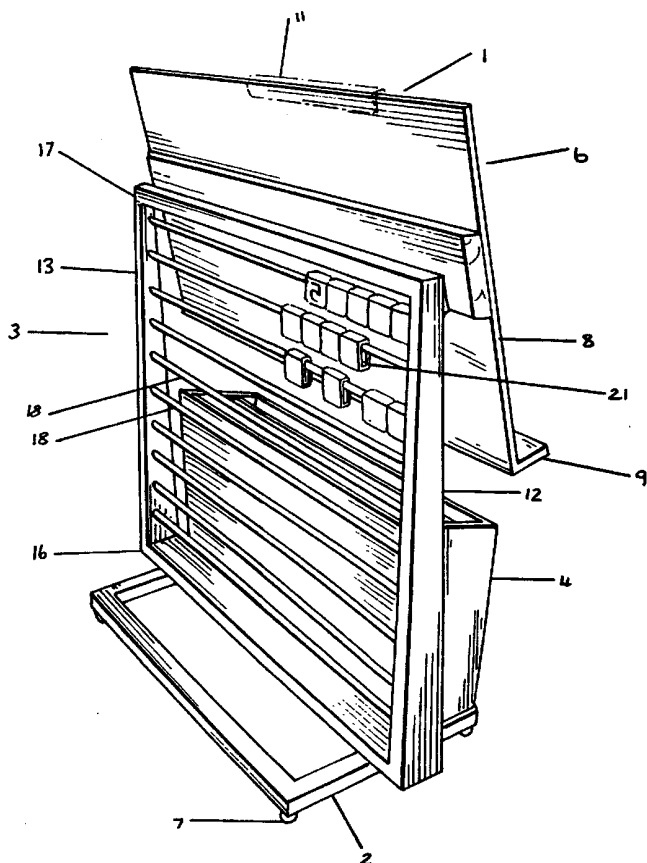
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[Continued on next page]

(54) Title: A TEACHING AID



(57) Abstract: A teaching aid (1) includes a frame (3) and an open-topped box (4), which are mounted on a base (2). The base (2) has wheels (7) for movement of the teaching aid (1). A support (6) is mounted adjacent an upper edge of the frame (2). The frame (2) has horizontally running rails (18). Two forms of blocks (21, 27) may be mounted on the rails. Both forms of blocks (21, 27) may have indicia on their faces. The blocks (27) are readily detachably mountable on the rails (18). The aid may also include indicia carrying stickers (31) which will removably adhere by electrostatic attraction to the blocks (21, 26). A transparent overlay (11) can be mounted on the support (6).

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**Published:**

— *With international search report.*

**Title of Invention:**

A Teaching Aid

5

**Field of Invention:**

This invention will be described by way of example with reference to a teaching aid for teaching literacy and numeracy skills to children. It should be appreciated that this is by way of example only and that the teaching aid of the invention may be used for purposes other than the example given above.

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**Background of the Invention:**

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Teaching of literacy and numeracy skills sometimes employs the use of flash cards which bear indicia such as pictures, letters, words or numerals.

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The teaching aid of this invention aims at providing a viable self-contained and versatile alternative to flash cards and other aids currently used.

**Summary of the Invention:**

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In its broadest aspect, the invention provides a teaching aid comprising:

a frame which in use has at least one horizontal rod and a plurality of indicia-bearing members which are supported by the rod in side-by-side relation,

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characterised in that each member comprises an elongated slotted aperture with closed ends between opposite first and second, indicia-bearing faces of the member generally parallel with the axis of the aperture,

the aperture having a width such that the rod may move relatively between said ends of the aperture whereby by rotating the member about the rod it may be hung therefrom optionally from either of said aperture ends so that  
5 a selected one of said faces will be visible from one side of the frame.

According to another aspect, the present invention provides a teaching aid which includes:

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a base which is adapted to be positioned substantially horizontally;

a frame mounted on the base and extending substantially vertically, the frame including:

15

at least one support rail which extends substantially horizontally between spaced members of the frame; and a plurality of indicia carrying members supported by the rail, each indicia carrying member having:

20

a first face and a second face, each such face being adapted to carry an indicium; and

25

an elongated slotted aperture which extends through the member and through which the rail extends, whereby the aperture is such that the indicia carrying member is rotatable through 180° to locate the rail in the aperture to maintain the indicia carrying member in a selected position to display either the first or the second face to a user,

30

a support mounted on the frame remote from the base, which support includes:

a first substantially planar member which is fixed to the frame so that the plane of the first planar member is at an acute angle to the vertical, such that the outer face of the support is readily visible to an observer remote from and facing the frame.

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**Preferred Aspects of the Invention:**

10 It is preferred that the support includes a second planar member fixed substantially perpendicularly to the first planar member and it is further preferred that the second planar member is fixed to the first planar member at the lower edge of the first planar member.

15 It is preferred that the base is provided with wheels to allow the movement of the teaching aid during a teaching exercise so that students may view first one side of the teaching aid and then the other.

20 The frame preferably includes opposed frame members and it is between two opposed frame members that the support rail is arranged to extend. The frame may be substantially rectangular in shape although other shapes are not excluded.

The or each support rail preferably extends across the frame and is maintained horizontal in use by the frame.

25 Preferably the frame has a plurality of support rails and each of these rails may carry a plurality of indicia carrying members. Preferably where there is a plurality of rails, the rails are all parallel. The frame may carry the rails such that they are vertically spaced from each other although other configurations are not excluded.

30 The frame may be disassembled to allow the rails to be removed. In this way the indicia carrying members which are threaded onto a rail may be removed and replaced with replacement members if desired.

The rails may have any suitable cross sectional shape. Preferably the rails are substantially circular in transverse section.

5 The indicia carrying members may comprise substantially prismatic blocks having a front face and a rear face. Indicia may be carried by these faces and there may be some interrelationship between the indicia on the front and the rear face of the block. For example the front face may have a letter of the alphabet applied to it while the rear face may carry a drawing of an animal whose name starts with that letter of the alphabet.

10

The blocks may be substantially rectangular prismatic shapes. The aperture may extend through side faces of the blocks. The aperture is present as a slot so that the block may hang on the rail with the rail locating at one end of the slot when the front face is presented for viewing from one side of the frame. When the block is rotated through 180° the block hangs from the rail with the rail locating at the other end of the slot to present the rear face for viewing from the one face of the frame. Thus when a block is mounted on a rail it assumes one or other of these positions.

15

A plurality of blocks is present on the rail and the blocks may be moved along the rail as well as rotated in the manner described above. The combined width of all blocks on the rail is less than the length of the rail.

20

In a particularly preferred embodiment, the invention also provides a plurality of blocks, which are readily detachably mountable on the rail. Each such block may be substantially a hollow rectangle in cross-section, with a gap in one side of the rectangle for placement on, and removal from, a rail.

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The invention also preferably provides a plurality of indicia, each of which may be removably attached to a face of a block. In an especially preferred form, each indicium is carried on a substrate which will adhere to a face of a block by electrostatic attraction.

30

In an alternative form, one or more faces of the blocks may be of a material that is suitable for removable marking by a "white-board marker", as is known in the art.

The visible face of the support may include a "white board", as is known in the art.

5

The invention also preferably provides a planar sheet of transparent material which includes a bent-over portion adjacent to one edge. This sheet of material can be placed on the support, to hold a large book, poster or the like between the sheet and the support.

10

The blocks may be of any suitable material. Wood or plastic is preferred although other materials are not excluded. Similarly, the frame may be made of any suitable material. Wood or plastic is preferred although other materials are not excluded.

15

For convenience and so that the teaching aid may be self-contained, it is preferred that an open topped storage box is also mounted on the base. Teaching materials for use with the teaching aid are stored within the box.

20

A particular preferred embodiment of the invention will now be described with reference to the drawings.

#### **Brief Description of the Views of the Drawings:**

25

Figure 1 is a perspective view from one corner of apparatus according to the invention.

Figure 2 is a perspective view from an opposite corner of the apparatus of Figure 1.

30

Figure 3 is an elevational view from a side of the apparatus of Figure 1.

Figure 4 is an elevational view from one end of the apparatus of Figure 1.

Figure 5 is an elevational view of the apparatus from a side opposite that shown in Figure 3.

5 Figure 6 is a cross-sectional view on the line 6-6 of Figure 5 showing one form of block.

Figure 7 is a cross-sectional view of another form of block.

10 Figure 8 is a view of a collection of a plurality of indicia.

### **Description of Preferred Embodiments of the Invention:**

15 Apparatus 1 according to the invention includes a base 2. A substantially vertically extending frame 3 and an open topped box 4 are mounted on the base 2. The base 2 has a wheel 7 adjacent each of its corners to allow ease of movement of the apparatus.

20 A side of the frame 3 which is remote from the base 1 has a support 6 mounted on it. The support 6 includes a planar member 8 which is mounted at an acute angle to the vertical and a planar member 9 which is mounted to the lower edge of member 8.

25 The frame 3 has horizontally spaced frame members 12 and 13 and vertically spaced frame members 16 and 17.

30 Support rails 18 have ends, which are received in blind bores (not shown) in frame member 12. Frame member 13 has through bores (not shown) which receive the opposite ends of support rails 18. A removable cover (not shown) is held relative to the frame member 13 by fasteners which are not shown. When the cover is removed from member 13 the rails may be withdrawn from the frame 3.

The rails 18 receive a plurality of blocks 21. Blocks 18 have two opposed faces 22 and 23 and an aperture 24 extends through each of the blocks and it is through this



aperture that the rails 18 extend. The blocks 21 may have indicia on the faces 22 and 23, and may be moved along the rails 18 as well as rotated about the rails. The number of blocks on a particular rail is such that the combined width of the blocks is less than the total length of the rail. In this way spaces may be present between  
5 some of the blocks on a rail and the blocks may be moved along the rails if desired.

The slot 24 is elongated and of a length greater than the width of the rails. In this way the blocks hang from the rails and readily assume the attitude shown in Figure 6 where face 22 is visible from an open side of the frame 3. When a block is  
10 rotated through 180° and released the opposite face of the block is then visible from that side of the frame 3.

The rails 18 may be removed and the blocks 21 replaced with alternative blocks which carry different indicia if desired.

15 Figure 7 shows an alternative preferred form of block 26 which is readily detachably mountable on a rail 18. The block has a body 27 which is substantially a hollow rectangle in cross section with the hollow interior of the block defining a slot 28. There is a horizontally extending slot 29 in one side face of the body 27.  
20 The block 27 may be mounted on a rail 18 by sideways relative movement of the rail 18 through slot 29 and then up into the upper region of slot 28. The block 27 may be removed from a rail 18 by reversing these movements.

Figure 8 shows a collection of indicia bearing stickers 31 of plastics material which  
25 are electrostatically adhered to a sheet 32. The stickers 31 may be attached to the blocks 21 and 26.

Figure 1 shows how the support 6 may be used for the display of a large book, poster or the like 12. The book, poster or the like 12 is overlaid with a sheet of transparent plastics material 11. The sheet of material 11 has a turned-over upper edge which locates over an upper edge of the support 6. The sheet 11 functions  
30 both to hold the item 12 flat in place and as a surface for receipt of writing or the like.

The item 12, or the other teaching material, may be stored in the box 4 when not in use.

5 The teaching aid according to the invention is a “single focus system” teaching module especially developed for teaching numeracy and literacy in the early classroom years. The single focus method is basic and simple, enabling teachers to show and teach children classroom exercises in an interactive, positive and tactile manner.

10

The present teaching aid allows for many means of simultaneous interaction with lessons occurring on either side of the frame at the same time.

15

Blocks for numeracy generally are permanently numbered on one face and a student can write on the opposite face with a whiteboard marker or can fix a number to that face with a magnet or electrostatic sticker.

20

In the case of literacy blocks, a student may use static stickers or a whiteboard marker to write letters on the blocks and can highlight those letters on the transparent sheet overlying a book or poster on the support.

25

It is particularly advantageous that the teaching aid can be readily moved on its wheels. Classroom space is often tight and the aid has proven to be multi-functional, compact, self-contained and convenient. Most particularly, a teacher can have one component of a lesson pre arranged on one side of the frame and then can easily and quickly turn the teaching aid around so that the pre arranged side can be exposed to the students for their interaction.

**Claims:**

1. A teaching aid comprising:
- 5
- a frame which in use has at least one horizontal rod and a plurality of indicia-bearing members which are supported by the rod in side-by-side relation,
- characterised in that each member comprises an elongated slotted aperture with
- 10 closed ends between opposite first and second, indicia-bearing faces of the member generally parallel with the axis of the aperture,
- the aperture having a width such that the rod may move relatively between said ends of the aperture whereby by rotating the member about the rod it may be hung
- 15 therefrom optionally from either of said aperture ends so that a selected one of said faces will be visible from one side of the frame.
2. A teaching aid which includes:
- 20 a base which is adapted to be positioned substantially horizontally;
- a frame mounted on the base and extending substantially vertically, the frame including:
- 25 at least one support rail which extends substantially horizontally between spaced members of the frame; and a plurality of indicia carrying members supported by the rail, each indicia carrying member having:
- 30 a first face and a second face, each such face being adapted to carry an indicium; and
- an elongated slotted aperture which extends through the member and through which the rail extends, whereby the

aperture is such that the indicia carrying member is rotatable through 180° to locate the rail in the aperture to maintain the indicia carrying member in a selected position to display either the first or the second face to a user,

5

a support mounted on the frame remote from the base, which support includes:

10 a first substantially planar member which is fixed to the frame so that the plane of the first planar member is at an acute angle to the vertical, such that the outer face of the support is readily visible to an observer remote from and facing the frame.

- 15 3. A teaching aid according to claim 1 or claim 2 in which there is an interrelationship between the indicia on the first and second faces of a member such as a letter of the alphabet and an animal whose name starts with that letter.
- 20 4. A teaching aid according to claim 1 or claim 2 in which the aperture in the indicia carrying members extends through one of the first or second faces such that the members are readily detachably mountable on the rail; the aperture in the face being such that it allows the rail to pass therethrough so that a member may be placed on and removed from the rail.
- 25 5. A teaching aid according to claim 2 including a second planar member fixed substantially perpendicularly to the first planar member.
6. A teaching aid according to claim 5 in which the second planar member is fixed to the first planar member at the lower edge of the first planar member.
- 30 7. A teaching aid according to claim 2 including a planar sheet of transparent material which includes a bent-over portion adjacent to one edge such that the said sheet can be placed on the support, to hold a large book, poster or the like between the sheet and the support.

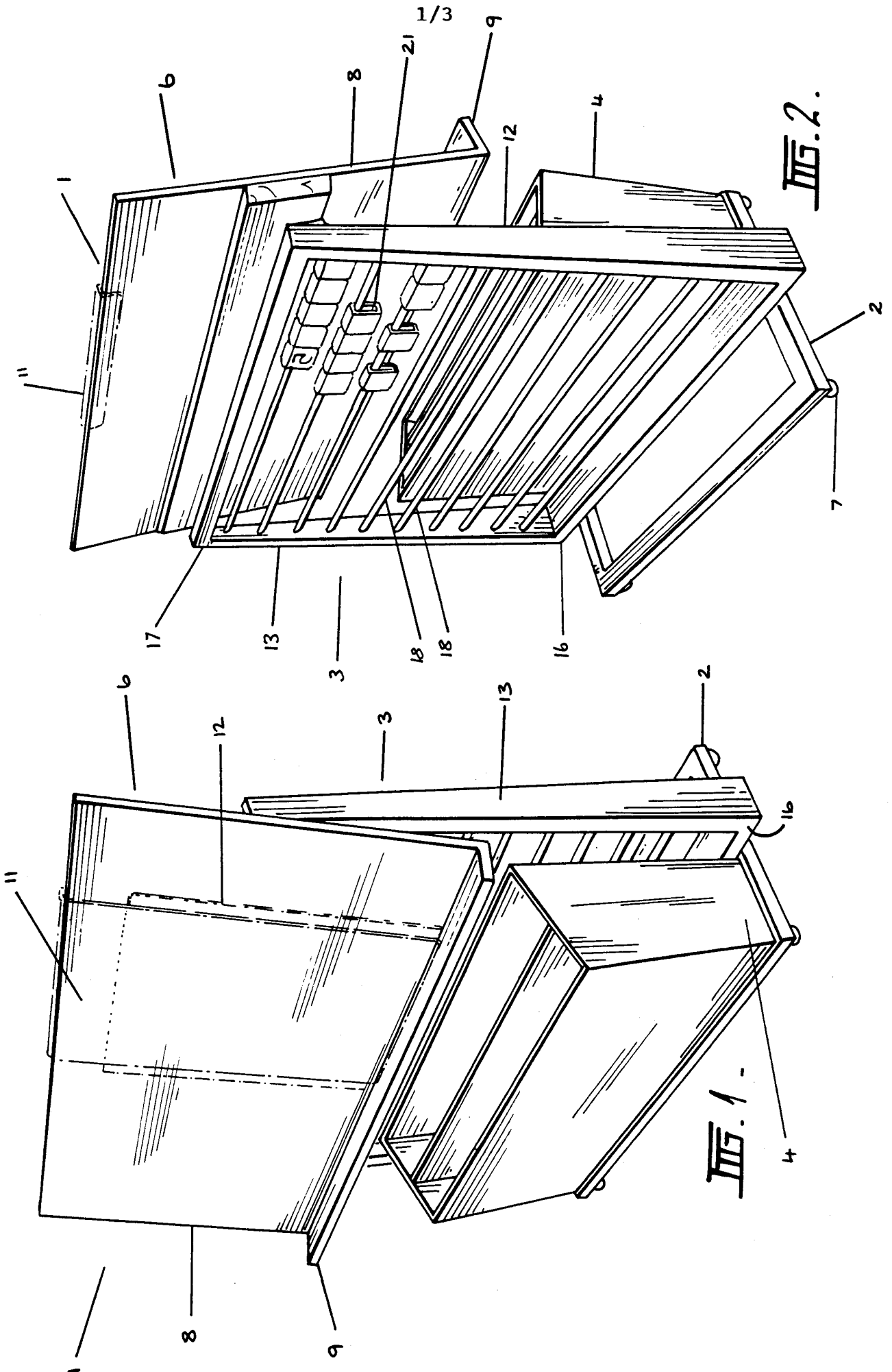


FIG. 2.

FIG. 1.

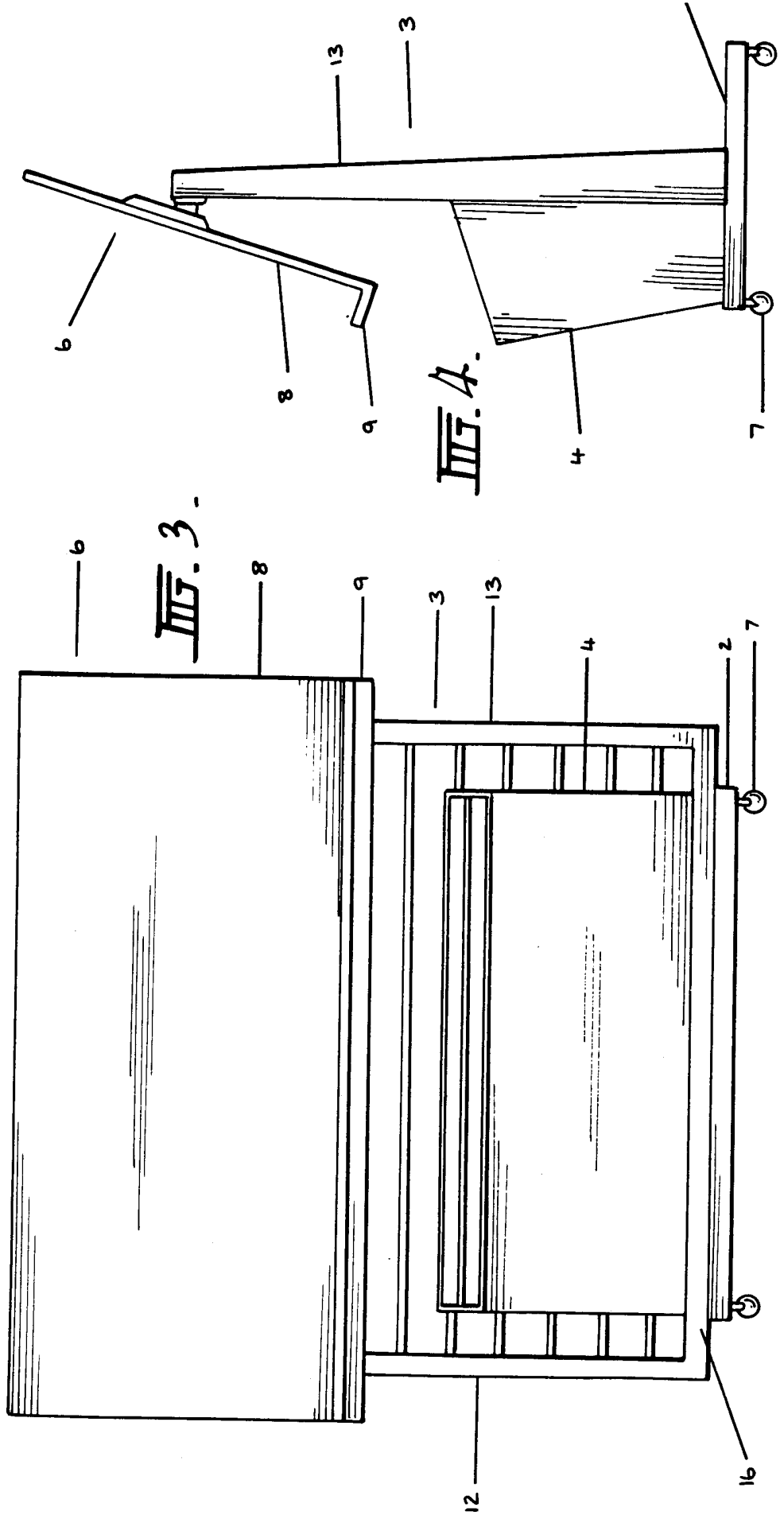


Fig. 3.

Fig. 4.

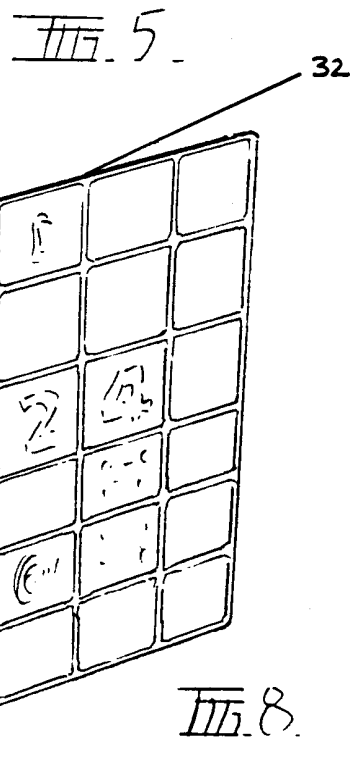
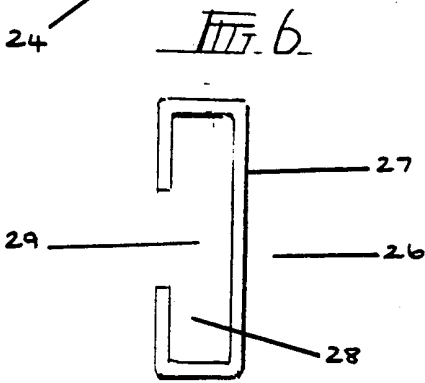
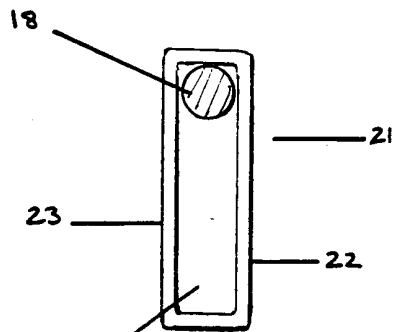
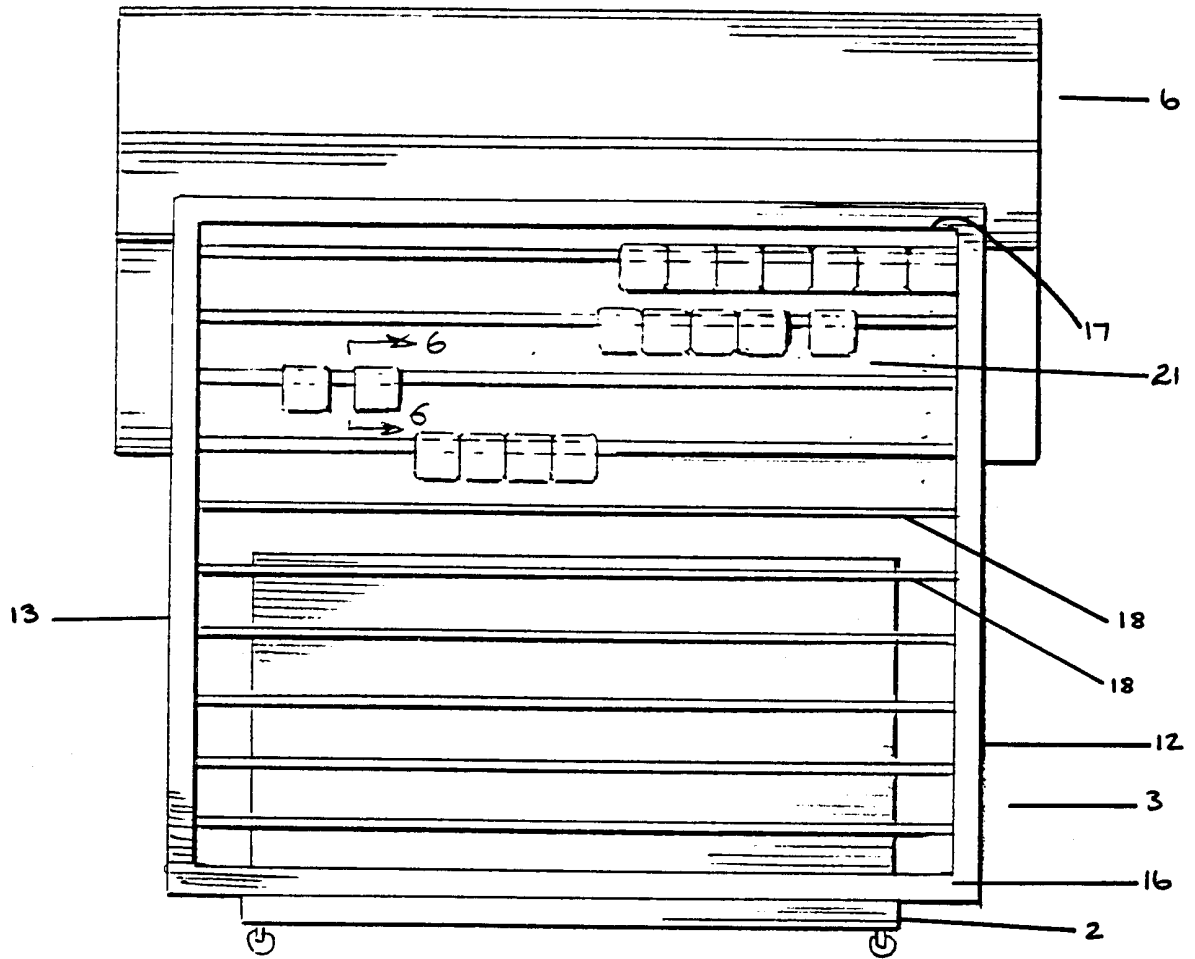


Fig. 7

Fig. 6

Fig. 5

Fig. 8

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/AU00/01467

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
Int. Cl. <sup>7</sup> : G09B 1/00, 1/14		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols) IPC: G09B 1/00, 1/14, A63H 033, G09F 7/10		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched AU: IPC AS ABOVE		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPAT: INDICIA OR SYMBOL+ OR ALPH+; BLOCK+; FRAME OR SUPPORT; ROD OR SHAFT; SLID+		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	AU 79933/98 A (LLOYD) 4 MARCH 1999 Entire document	1,4,5,6
Y	Entire document	2,3,7
Y	US 5429514 A (BRINSON) 4 July 1995 Column 2 Line 23 to Column 3 Line 4	3
A		1-7
Y	WO 84/01111 A (EGRI et al.) 29 March 1984 Entire document	7
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex		
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"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929		Authorized officer  <b>CHARLES BERKO</b> Telephone No : (02) 6283 2169



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU00/01467

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4047307 A (QUINN, III) 13 September 1977 Entire document, particularly drawings and abstract	7
Y	US 5967787 A (TSAO) 19 October 1999 Entire document	2,5
Y	US 3145966 A (LANDON) 21 March 1962 Entire document, particularly drawings and abstract	2,5,6
Y	US 4313727 A (HULTS) 2 February 1982 Entire document, particularly column 3	3
Y	US 374116 A (CROSS) 29 November 1887 Entire document, particularly drawings	2,5,6
Y	US 5950979 A (MIRA) 14 September 1999 Entire document, particularly drawings	2,5,6

