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54 **Mobility aid.**

57 There is disclosed a mobility aid comprising steadying handle means extending outwardly from support means running alongside a route to be followed by an infirm or disabled person, said handle means being moveable in a step-wise fashion along the support means.

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MOBILITY AID

This invention concerns a mobility aid for use by the infirm, aged or disabled to assist movement particularly, though by no means exclusively, along ramps or stairways.

Although ramps and stairways are invariably provided with hand-rails such can be difficult to grasp by many infirm or disabled persons if they are facing forwardly as is obviously desirable. Some persons have special problems such as those using walking frames to progress downwardly over a ramp when there is danger of the frame tipping forwardly possibly causing the user to fall with risk of serious injury.

It is an object of the present invention to provide a mobility aid to alleviate these kinds of difficulty.

According to the present invention there is provided a mobility aid comprising steadying handle means extending outwardly from support means running alongside a route to be followed by an infirm or disabled person, said handle means being moveable in a step-wise fashion along the support means to positions thereon where it is locked against accidental displacement in either direction along the support means.

The handle means may be movable to hang downwardly in a stowed position at one or both ends of the support means.

The support means may include detent means at spaced intervals therealong engageable to secure the handle means after each step-wise movement thereof.

The support means may be integral with or secured to a conventional hand rail.

The route may be defined by a ramp or stairway.

The invention will be further apparent from the following description, with reference to the several figures of the accompanying drawings, which show, by way of example only two forms of mobility aid embodying same.

Of the drawings:-

Figure 1 is a side elevation of a first form of mobility aid;

Figure 2 is a plan view of the mobility aid of Figure 1

Figure 3 is a fragmentary side elevation of the mobility aid of Figure 1 on an enlarged scale;

Figure 4 is a cross-section through the mobility aid on the line IV - IV of Figure 2;

Figure 5 is a plan view of the carriage for the handle of the mobility aid of Figure 1;

Figure 6 is a fragmentary end elevation of the carriage of Figure 5;

Figure 7 is a fragmentary side elevation of a

second form of mobility aid; and

Figure 8 is a cross-section through the second form of mobility aid on the line VIII - VIII of Figure 7 with the handle means in position thereon.

Referring firstly to Figures 1 to 6, it will be seen that the mobility aid comprises a rod-like handle 10 which extends outwardly from support means 11 running alongside a route, in this example a ramp R to be followed by an infirm or disabled person.

The support means 11 comprises an aluminium extrusion 12 including a back web 13 by which the extrusion 12 is screwed to a side wall W bounding the ramp R. The extrusion also includes a channel 14 of box-like section having its opening 15 on its front face. A wooden moulding 16 is secured on the top wall of the channel 14 to form a conventional hand-rail for use by able or less severely disabled persons.

Extending within the channel 14 along the length thereof is a bar 17 secured to a web 18 extending forwardly from the back web 13

The handle 10 is mounted on an arm 19 which passes through a slot 20 defined between upper and lower moulded strips of plastics material 21 and 22 respectively secured to the front of the channel 14.

The inner end of the arm 19 connects with a carriage 23 which is both slidable axially along the bar 17 and rotatable therearound. The carriage 23 includes side plates 24 and 25 having openings which embrace the bar 17 and wheels 26 which engage with the peripheral surface of the bar 17.

The upper edge of the strip 21 is profiled to define a succession of ramps 27 each leading to a notch 28 which can receive the end of the arm 19 adjacent the handle 10.

In use the handle 10 may be repeatedly lifted to disengage the arm 19 from one notch, slid along the adjacent ramp means and lowered to engage the arm with an adjacent notch whereby the handle is progressed step-wise along the length of the support member to steady an infirm or disabled person ascending or descending the ramp R.

The lower edge of the strip 22 is profiled to provide a step formation over each notch 28 to prevent movement of the handle by more than one notch at a time.

At the opposite ends of the support 11 are slots 29 communicating with the interior of the channel 14 to enable the arm 19 and hence handle 10 to be lowered into a depending stowed position.

It will be appreciated that it is not intended to limit the invention to the above example only, many variations, such as might readily occur to one

skilled in the art, being possible, without departing from the scope thereof.

Thus, for example, the handle means may be designed to be disengageable from the support means at or intermediate either end thereof, all disabled persons in for example a nursing home having their own personal handle which they would carry with them around the premises using it as necessary on support means fixed at all necessary locations. This of course avoids the problem of the handle means being at the opposite end of the support means from that at which it is next required.

Indeed, a standard design of support means might be provided at numerous public places - railway stations, bus stations, public conveniences, cinemas and so forth, to accept a standard handle means available from and returnable to racks therefor sited at suitable public locations or personally owned by those wishing to use them.

Again, a plurality of handle means may be captive on any one support means, the supposition being that over a short period equal numbers of people will progress along the support in either direction.

Yet again, the slot through which an arm carrying the handle means extends may be replaced by a notched profiled strip 30 mounted on an extrusion 31 which also supports bar 17 and provides a web 32 for securing the assembly to a wall or other vertical surface. The strip 31 is embraced by a hook member 33 depending from the arm 19 which is slidably connected with bar 17 by a part-annular end portion 34, all as shown in Figures 7 and 8.

If desired a user may attach himself to the handle with a harness for added security, at least until he has familiarised himself with operation of the aid.

Claims

1. A mobility aid comprising steadying handle means extending outwardly from support means running alongside a route to be followed by an infirm or disabled person, said handle means being moveable in a step-wise fashion along the support means to positions thereon where it is locked against accidental displacement in either direction along the support means.

2. A mobility aid according to Claim 1, wherein said handle means is movable to hang downwardly into a stowed position at one or both ends of the support means.

3. A mobility aid according to claim 1 or claim 2, wherein the support means includes detent means at spaced intervals therealong engageable

to secure the handle means after each step-wise movement thereof.

4. A mobility aid according to any preceding claim, wherein the support means is integral with or secured to a conventional hand rail.

5. A mobility aid according to either claim 1 or claim 2, wherein said support means comprises an extrusion adapted to be secured to a wall alongside said route and supporting a longitudinally extending bar slidably and rotatably engaged by means which carry said handle.

6. A mobility aid according to claim 5, wherein said bar is located within a channel which opens to the side of said route.

7. A mobility aid according to claim 6, wherein the means which engage said bar are joined by an arm which extends outwardly through the open side of the channel to said handle.

8. A mobility aid according to claim 7, wherein strips are secured along the upper and lower edges of the opening to the channel to define a slot through which said arm extends.

9. A mobility aid according to claim 8, wherein the upper edge of the lower strip is profiled to provide notches at spaced intervals therealong.

10. A mobility aid according to claim 9, wherein the lower edge of the upper strip is profiled to provide a step formation over each notch whereby the handle means can only be advanced by one notch at a time.

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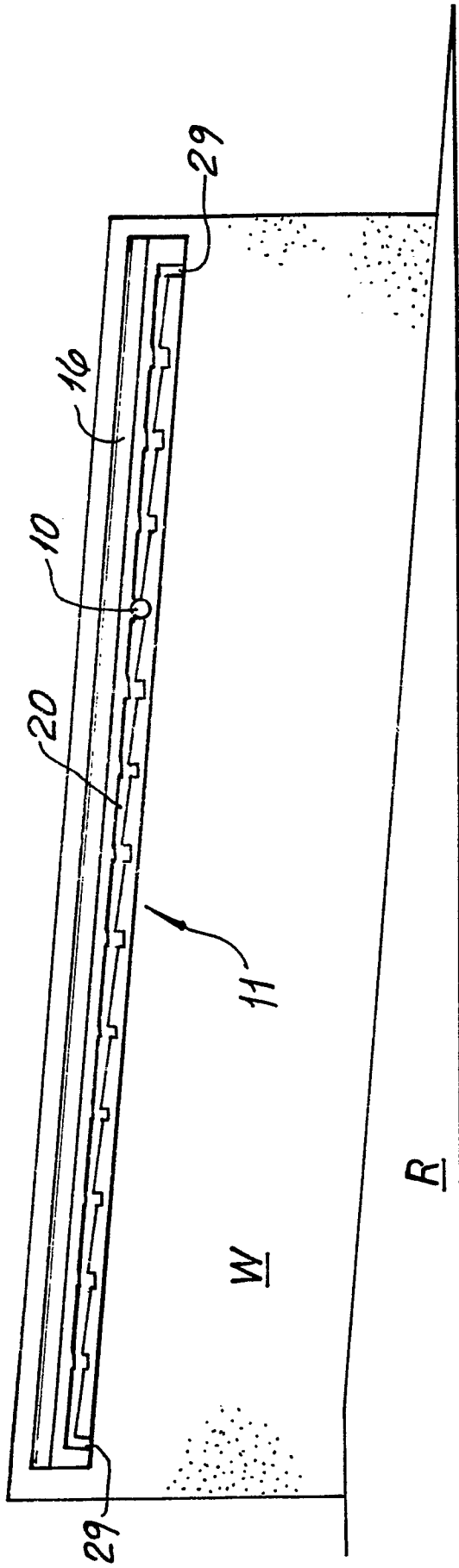


FIG.1

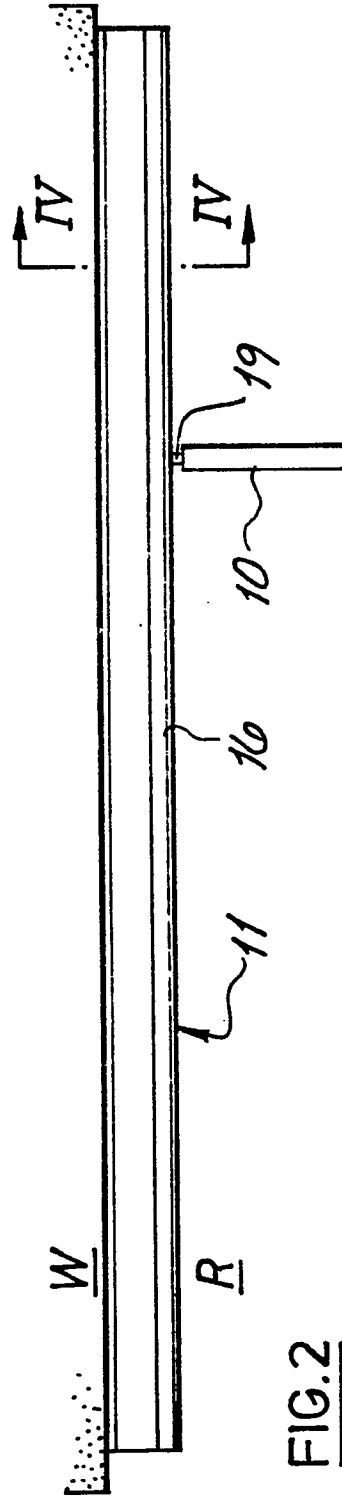


FIG.2

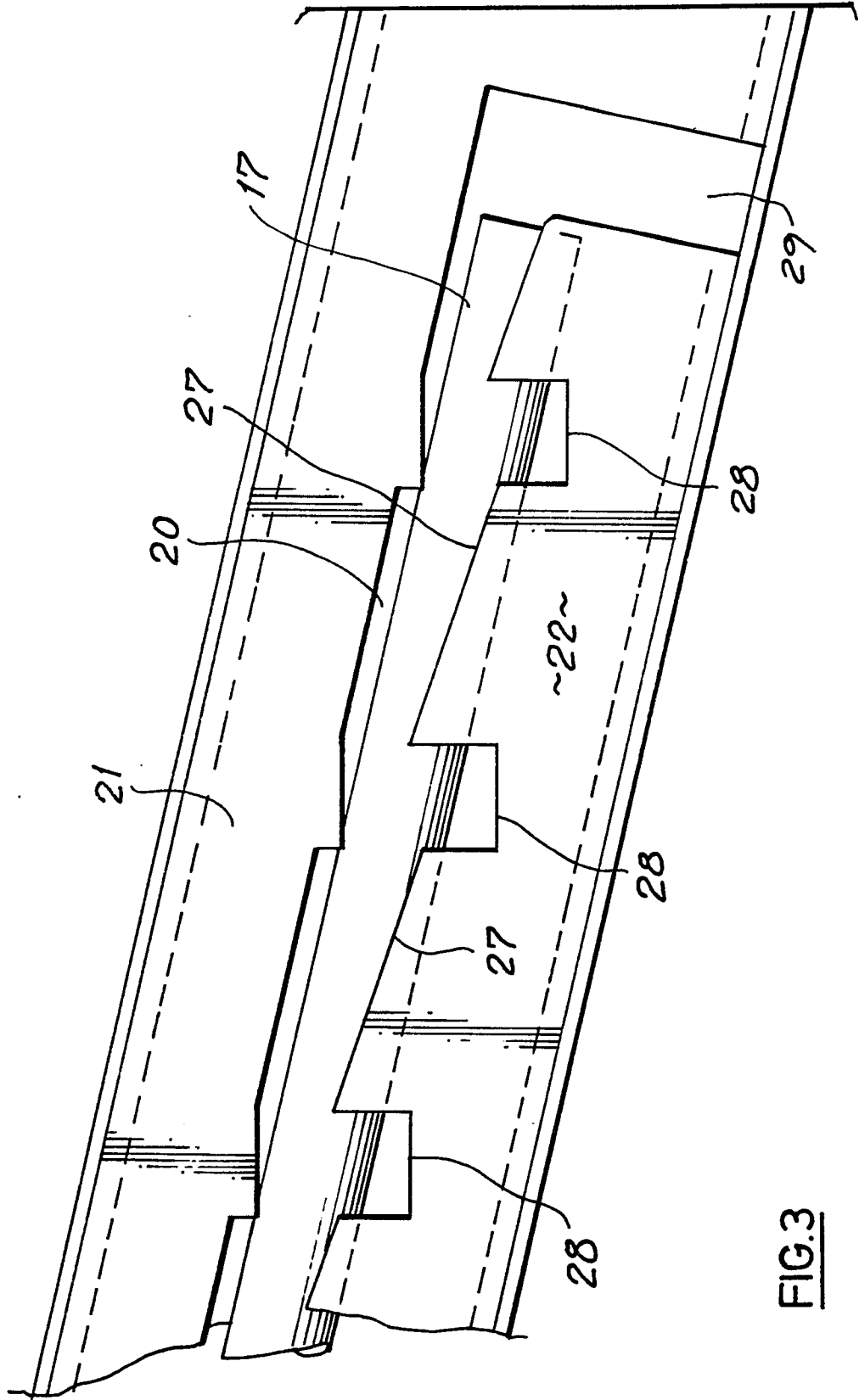
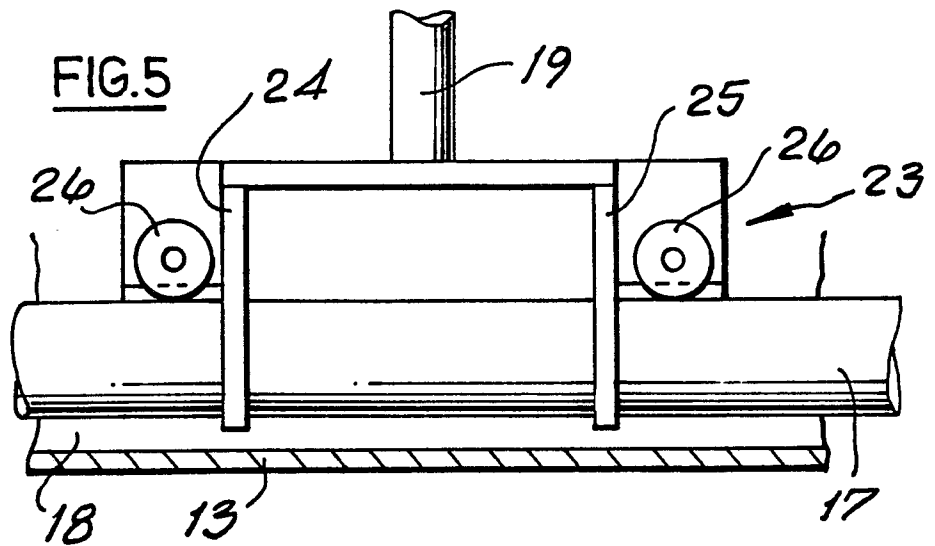
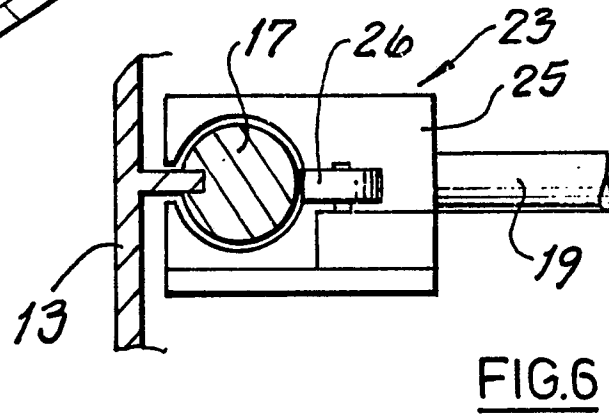
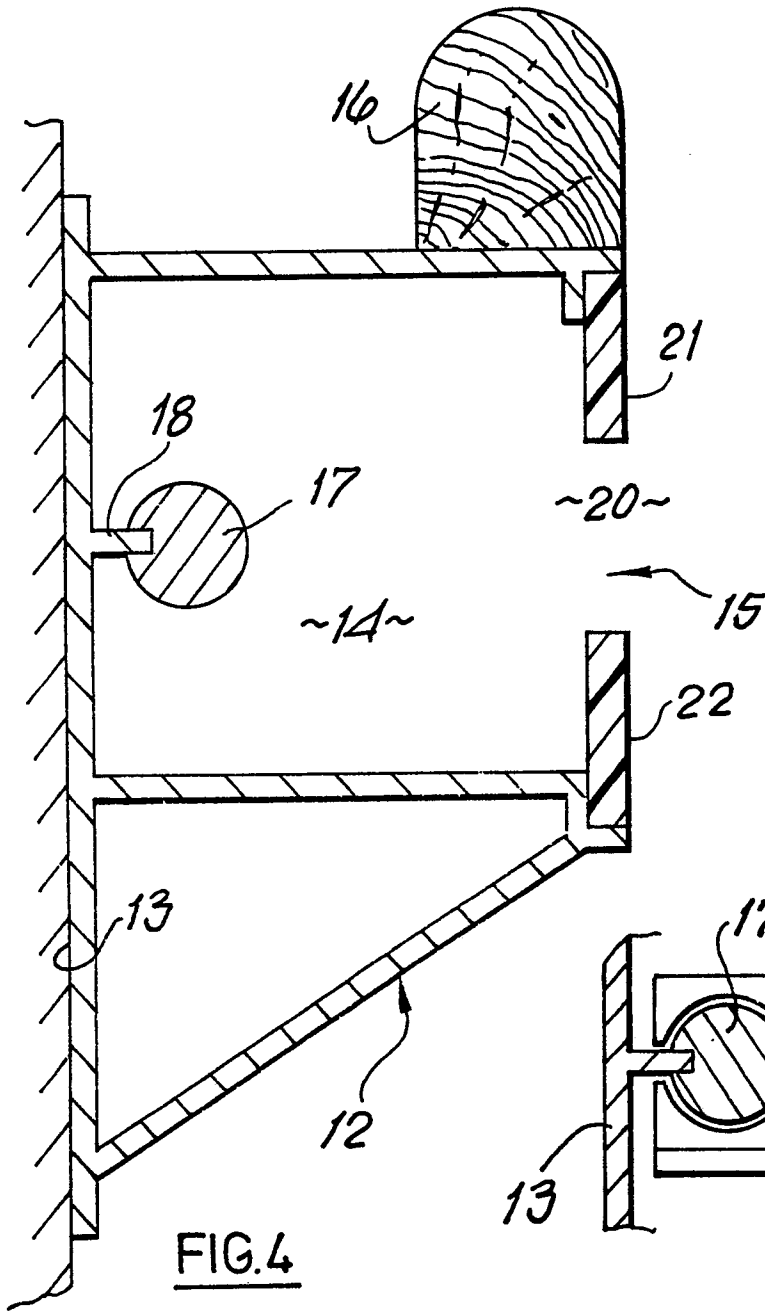
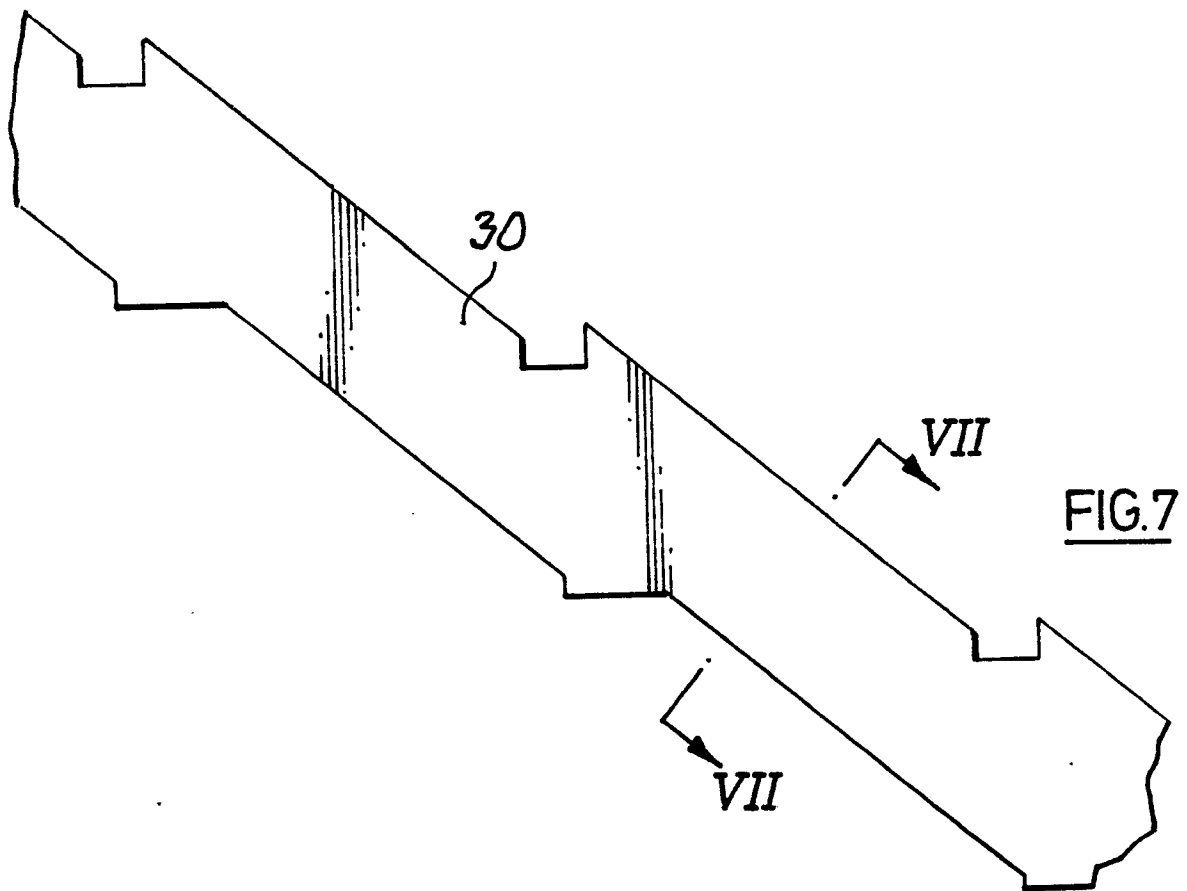
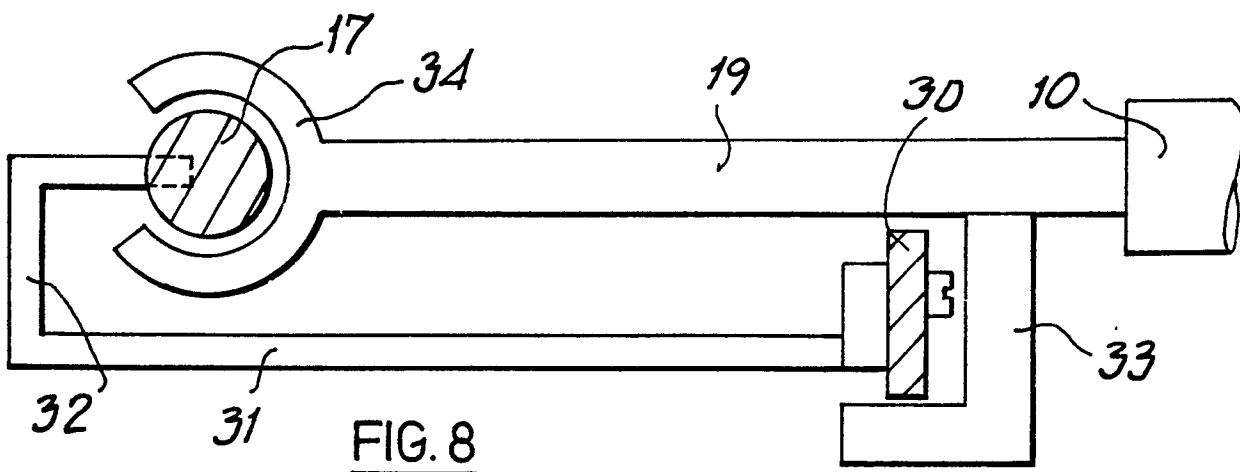


FIG.3







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.5)	
X	GB-A- 960 844 (LEWIS) * Page 1, line 49 - page 2, line 115; figures 1,2 *	1,3,4	E 04 F 11/18	
A	---	5,9		
X	GB-A-1 508 069 (KEEYS et al.) * Page 2, lines 49-116; figures 1-8 *	1,3,4		
A	---	6,8,9, 10		
X	GB-A-1 487 558 (KEEYS et al.) * Page 2, line 112 - page 3, line 84; figures 1-4 *	1,3		
A	---	4,5,6,8 ,9,10		
X	US-A-4 253 287 (OVERMOE) * Column 4, line 13 - column 6, line 18; figures 1-5 *	1,3		
Y	US-A- 425 387 ---	5		TECHNICAL FIELDS SEARCHED (Int. Cl.5)
A	US-A-4 253 287 ---	8,9,10		E 04 F
X	GB-A-2 188 344 (ALLEN) * The whole document *	1,3		
A	---	4,5,6		
X	DE-C- 131 511 (RÜDIGER) * Page 1, left-hand column, line 33 - page 2, left-hand column, line 26; figures 1-5 *	1		
	---	-/-		
The present search report has been drawn up for all claims				
Place of search THE HAGUE		Date of completion of the search 09-03-1990	Examiner AYITER J.	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document		
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document				



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.5)
A	---	3, 5, 9	
Y	GB-A-2 106 790 (ELLIS SON AND PARAMORE LTD.) * Page 1, line 95 - page 3, line 17; figures 1-5 * -----	5	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 09-03-1990	Examiner AYITER J.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>..... & : member of the same patent family, corresponding document</p>			

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