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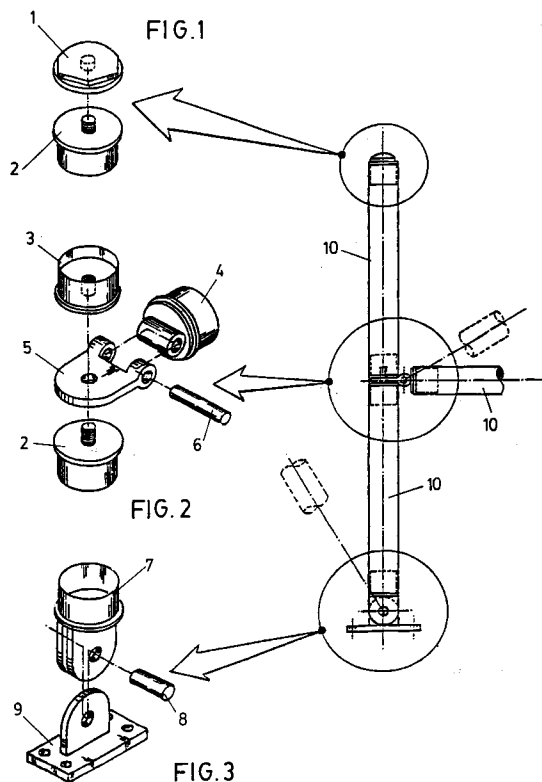
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E-28040 Madrid (ES)(54) **Universal handrail and fences.**

(57) System to join stretches of tube (10) which allows the construction of handrails and fences adaptable to any unevenness of the ground. It consists of: One base plate (9) to fix the vertical support to the ground. One piece (7) to join the vertical support to this base (9) which allows a movement up to 180°. A third piece set into the upper end of the first stretch of the support with a screw threaded stud (2), which adapts to a fourth piece (3) set into the upper stretch, and which allows to fix a fifth piece consisting of a bush (5), a pin (6) and another piece (4) to fix another support. This piece allows a movement in the horizontal plane of 180° and in the vertical plane of 90°. This knot can be repeated as many times as necessary.

The upper piece (1) of the support is an hemisphere with a female screw to be adapted to a piece "three" (2).

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OBJECT OF THE INVENTION

The present invention refers to a new system to join stretches of tube, which allows the construction of handrails and fences adaptable to any unevenness of the ground without welding and with the possibility of recovering the pieces once they have fulfilled their function.

BACKGROUND OF THE INVENTION

Before the invention of this system, the handrails had to be built with several points of welding, moreover it was necessary to study the unevenness of the ground and too many stretches of tube were needed, which required a greater amount of labour and skilled workers.

DESCRIPTION OF THE INVENTION

This invention refers to a system of pieces pressed into the tubes and screwed to one another, which can be put in any position, both vertically and horizontally.

The vertical supports consist of one hemispherical cup (1) at the top with a female screw in the inferior part.

Piece 2 is a bush set into the stanchion with a screw threaded stud where pieces 1 and 2 can be adapted.

Piece 3 is set into the tube or stanchion 10 and has a female screw where another piece 2 is screwed.

One or more pieces 5 are trapped between these two; these pieces 5 allow the rotation in one plane, and joined to piece 4 by one pin 6, this piece 4 can be folded if required by the unevenness of the ground.

Knots 4, 5 and 6 between 2 and 3 can be repeated in the stanchion as many times as necessary.

Piece 7 is also a bush set into the tube 10 with two inferior laps which fasten the stanchion to piece 9 by means of a pin or screw 8.

Piece 9 or base of the stanchion is fixed to the ground with several screws.

The union of pieces 9 and 7 by means of a pin of screw 8 allows a movement up to 180°.

DESCRIPTION OF THE DRAWINGS

This system is divided into three different figures (Fig. 1, Fig. 2, and Fig. 3) with several pieces repeated in each of them.

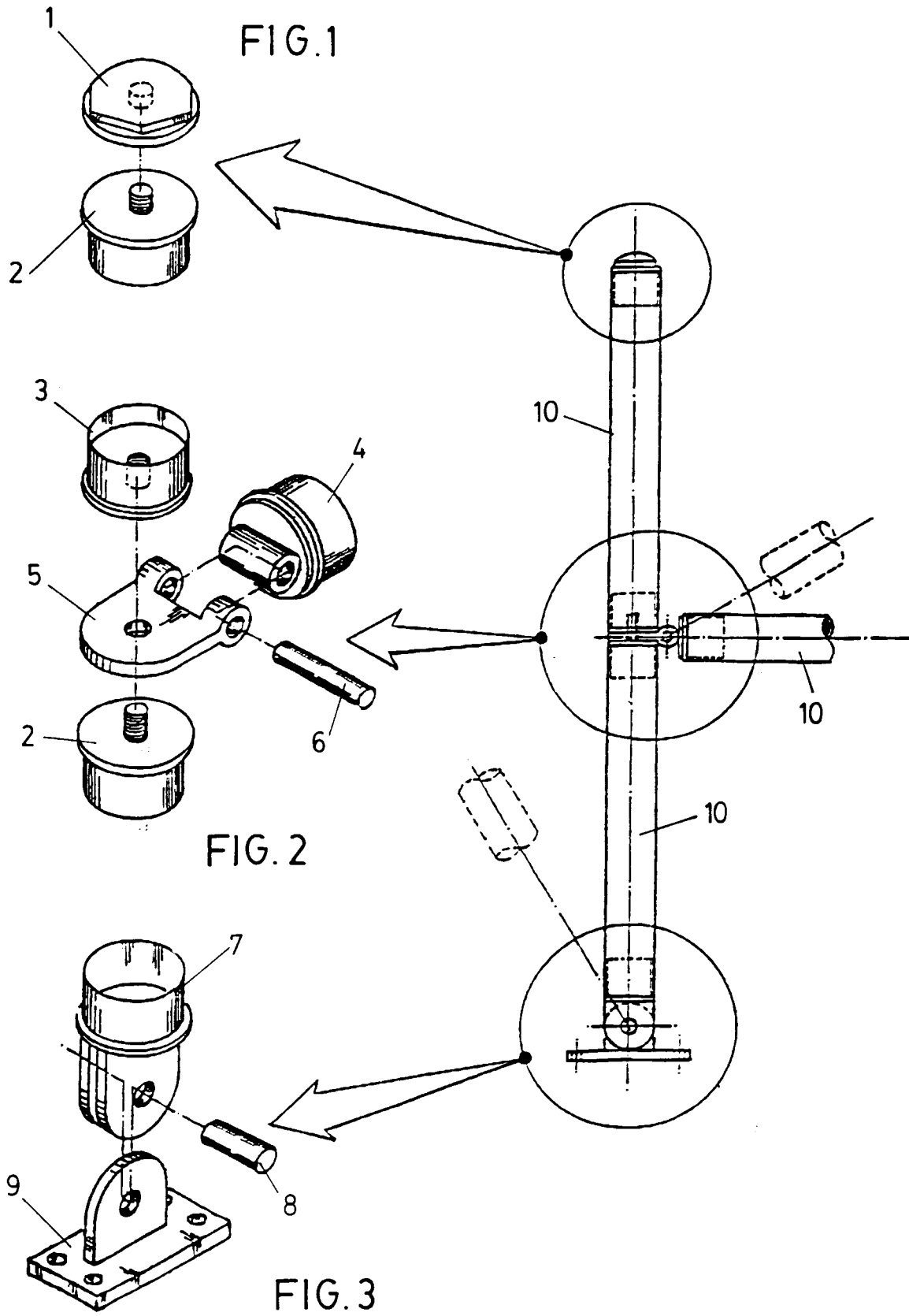
Figure 1 - It consists of two pieces 1 and 2 which offer the possibility to trap pieces 5 and 4 if it were necessary to build a handrail.

Figure 2 - This set 2, 3, 4, 5 and 6 will be repeated as many times as necessary, and at the height required by the fence or handrail.

Figure 3 - Two pieces joined by a pin or screw 8 which fixes the stanchion to the ground and allows to adapt it to any unevenness of the ground.

Claims

1. Handrail and fence consisting of a system of pieces set into the tubes and screwed to one another, which can be put in any position, both vertically and horizontally.
2. Handrail and fence, according to the previous claim, in which the vertical supports have at the top a hemispherical cup with a female screw in the inferior part (1).
3. Handrail and fence, according to previous claims, with a bush 2 set into the stanchion and with a screw threaded stud to adapt piece 1.
4. Handrail and fence, according to previous claims, with a bush 3 with a female screw to adapt piece 2.
5. Handrail and fence, according to previous claims, is a set 4, 5, and 6 which offers the possibility to rotate around the stud of piece 2 and to fold piece 4 by means of a pin 6, fastened to piece 5.
6. Handrail and fence, according to previous claims, with a bush 7 set into the lower part of the stanchion with two perforated laps to trap piece 9 or base of the stanchion. These two pieces joined by a screw or pin 8 will keep the support in vertical position even if the ground is uneven.





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EUROPEAN SEARCH REPORT

Application Number
EP 93 50 0162

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	GB-A-614 844 (STEWARTS & LLOYDS LTD) * page 1, line 8 - line 13 * * page 2, line 100 - page 3, line 9; figure 1 *	1-4	E04F11/18 E04H17/14
X	GB-A-384 769 (MOORE) * page 2, line 51 - line 57 * * page 2, line 68 - line 75; figures 1,4,5 *	1	
A	FR-A-2 606 098 (C.R.A.I.E.) * page 4, line 18 - page 6, line 9; figure 1 *	3,4	
A	US-A-2 715 513 (KOOLS) * column 3, line 1 - line 42; figures 1-3,5,6 *	5	
A	BE-A-716 696 (SIBENALER) * page 4, line 14 - line 20; figure 3 *	6	
A	US-A-1 423 927 (FALK)		TECHNICAL FIELDS SEARCHED (Int.Cl.6) E04F E04H E04B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 11 May 1994	Examiner Porwoll, H
CATEGORY OF CITED DOCUMENTS 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 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			