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54 **Structure for the formation of rows of seats and seat constructed with the same.**

57 Two semi-clamps (6) and (7) encase the bolster (1) and are fitted with tailpieces (11) and (12) completed by a part (13), the one juxtaposed on the other and housed in the upper end of the column (2), with the means of extension operated via holes (20) in the column. The back sides (23) and (24) of the seat and the back are juxtaposed and joined to the bigger sides of the bolster (1).

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STRUCTURE FOR THE FORMATION OF ROWS OF SEATS AND THE SEAT CONSTRUCTED WITH THE SAME

The present invention concerns a structure for the formation of rows of seats and the seat itself, a design which is both simple and robust.

BACKGROUND OF THE INVENTION

Rows of seats formed by a horizontal bolster held up by supporting legs, on to which the seats bolted, are well-known. One of the problems associated with this type of row of seats is the fixing of the supporting legs to the horizontal bolster. Generally, rather complicated means are used, involving numerous screws or even welding which render unattractive the structure of the row.

Another problem associated with these designs is the system used to fix the seats to the bolster itself. It is generally the case that the seats are made of a single casing or molding, which has to incorporate reinforcements capable of supporting the weight it will be subjected to during its use.

DESCRIPTION OF THE INVENTION

In an attempt to solve the above problems, a structure has been invented which has a rigid horizontal bolster, held up by supporting legs, along which the seats and an optional complementary table are fixed characterized in that the legs are attached to the bolster by track clamps made up of two pieces or semi-clamps which are self complementing, whose outline of the whole corresponds to the outline of the bolster, these clamps having means to alter their grip on the bolster, being fitted with extension tracks in the form of juxtaposed tailpieces, and being completed with a third piece juxtaposed with the extension of one at least of the semi-clamps described above, forming on the whole a group whose external outline corresponds to the internal outline of the upper end of the leg, which is of a tubular shape, being fitted inside of this end the two extensions and the complementary piece, being equipped the described group with means to guide and centre it into a working position and also with drive-screws to adjust its extension against the inward-facing part of the tubular leg end, thereby fixing it in the working position.

The extensions of the semi-clamps which shape the main clamp, as well as the complementary piece, are fitted with pins which can easily be

inserted in corresponding holes of the adjoining part, in order to fix them in an adequate working position and guide its movement along the inward-facing part of the tubular leg end.

5 The complementary piece of the semi-clamp extensions is fitted with screws mounted in threaded holes, these screws moving freely over holes in the adjoining extension of one of the semi-clamps and resting against the other extension, in such a way that the heads of the screws are situated opposite an opening in the end of the leg so that to allow access with a conventional screw-driver.

10 One of the semi-clamps is equipped with a threaded lug which runs along the length of its inward-facing side and crosses a hole made in the bolster, the other semi-clamp having a hole through which a screw is inserted which crosses the bolster and threads into the aforementioned lug, thus securing the semi-clamps to the bolster.

15 The bolster is of a tubular shape, and in at least one of its ends there is an end-piece attached, which is then situated at the side of the adjoining seat, and also fitted with a flexed extension, which fits into the end of the bolster, and is attached by sets of screws and bolts.

20 Every seat comprises two similar parts that constitute the actual seat, and the back, both parts being equipped with back sides shaped to fit the front and upper sides, respectively, of the bolster, onto which they are placed and fixed by screws and bolts.

25 The bolster has a rectangular cross section and is fixed in a transversely inclined position. The inclined back rests of the seats are positioned and fixed onto the bigger sides of the bolster.

BRIEF DESCRIPTION OF THE DRAWINGS

40 In order to allow for a better understanding of the above description, some drawings are attached which, though only an example, represent a practical embodiment of the structure and seat which are the basis of this invention.

45 In the afore-mentioned drawings, figure 1 is a longitudinal section of the mounted structure, on a plane which passes through one of the legs supporting the bolster; figure 2 is a cross section of the structure on a plane parallel to the previous figure, showing the join of a seat to its corresponding back in the bolster; figure 3 is a cross section of the upper end of one of the legs, showing the arrangement of the semi-clamp extensions; finally,

figure 4 is a front elevation, partially sectioned, which shows one end of the bolster with the side in place.

DESCRIPTION OF A PREFERRED EMBODIMENT

It can be seen from the drawings that the structure for the construction of rows of seats is made up of a tubular bolster 1, rectangular in cross section, supported by tubular legs 2, whose bottom end 3 is joined by screws 4 to a base 5.

The join of the legs 2 to the bolster 1 is achieved through two complementary semi-clamps, 6 and 7. They form a "C" shape which complements the outer outline of the bolster. Semi-clamp 6 has a protruding lug 8 on its inner side, with a threaded hole, while the semi-clamp 7 is fitted with a hole 9. A screw 10 runs through this hole and then the bolster 1 and screws into the threaded lug 8. Thus the semi-clamps are fixed to the bolster 1.

The semi-clamps 6 and 7 are fitted with extension tracks or tails 11 and 12, which complement each other. When they are placed in the work position they are completed by part 13, which fits next to the extension 12. In this way the shape of the three juxtaposed pieces is consistent with the inner outline of the upper end of column 2, within which are fitted the three parts 11, 12 and 13. Tailpiece 11 is fitted with a rod 14 which fits into a corresponding hole 15 in tailpiece 12. This, in its turn, is fitted with a rod 16 which fits into a hole 17 in part 13. These rods and holes are intended to fix the parts in the work position, as well as holding parts 12 and 13 in position when moved in or out - a process which will be described later.

Part 13 is equipped with two screws 15 which are screwed into threaded holes. These go freely through holes 19 in tailpiece 12 and come to rest touching tailpiece 11. The heads of the screws are situated opposite openings 20 in column 2 which allow access by conventional tools.

When the screws 18 are tightened, parts 11 and 13 expand against the inner side of column 2 so that the semi-clamps 6 and 7 are perfectly joined to the upper end of the column. One only has to undo the screws 18 to be able to dismount the semi-clamps without any difficulty.

The seats consist of two similar parts 21 and 22, like small perforated plate buckets, which constitute the actual seat and its back. These parts have an inclining rear side so that they complement the main surfaces, both front and back, of the bolster 1, against which they are positioned and attached by means of screws 25 and bolts 26 or another similar anchoring device.

The sides or end-pieces 27 are housed in one of the two ends of the bolster 1. These are equipped with a flexed extension 28, which is intended to fit into the end of the bolster, to which it is attached by screws 29.

A complementary table can be added to the whole, fixed to one of the two ends of the bolster using conventional joins.

From all the above description it follows that the join of the legs 2 to the bolster 1 via semi-clamps 6 and 7, fitted with tailpieces 11 and 12, with complementary part 13, is extremely simple and at the same time robust. What is more, there are no visible soldered joints or screws, thereby giving the row a much more attractive and clean aspect than many other well-known makes which leave various screws and bolts visible, or even disfiguring soldering marks.

On the other hand, the configuration of the seats is a very simple one, as is their join to the bolster. It is, nevertheless, very strong and offers a wide contact surface area to the user with its back sides 23 and 24.

The seat and the back are made out of a single piece; a perforated sheet and in the shape of a shallow bucket. They are self-supporting; they need no additional reinforcement, nor do they need any special mechanisms to join them to the bolster, as the sides of the parts give them sufficient rigidity.

Outside the objective of this invention are the materials used in the construction of the seat's components, the shape and dimensions of the same and any other additional accessorial details, as long as they do not affect the basic nature of the seat.

Claims

1. Structure for the formation of rows of seats which consist of a fixed horizontal bolster (1), held up by supporting legs, along which the seats and an optional complementary table are fixed characterised in that the legs (2) are attached to the bolster (1) by track clamps made up of two pieces or semi-clamps (6,7) which are self complementing, whose outline of the whole corresponds to the outline of the bolster (1). these clamps having means to alter their grip on the bolster (1), being fitted with extension tracks in the form of juxtaposed tailpieces (11,12), and being completed with a third piece (13) juxtaposed with the extension of one at least of the semi-clamps described above, forming on the whole a group whose external outline corresponds to the internal outline of the upper end of the leg, which is of a tubular shape, being fitted inside of this end the two extensions

and the complementary piece, being equipped the described group with means to guide and centre it into a working position and also with drive-screws (15) to adjust its extension against the inward-facing part of the tubular leg end, thereby fixing it in the working position. 5

2. Structure for the formation of rows of seats, according to claim 1, characterised in that the extensions (11,12) of the semi-clamps which shape the main clamp, as well as the complementary piece (13), are fitted with pins (14,16) which can easily be inserted in corresponding holes (15,17) of the adjoining part, in order to fix them in an adequate working position and guide its movement along the inward-facing part of the tubular leg end. 10 15

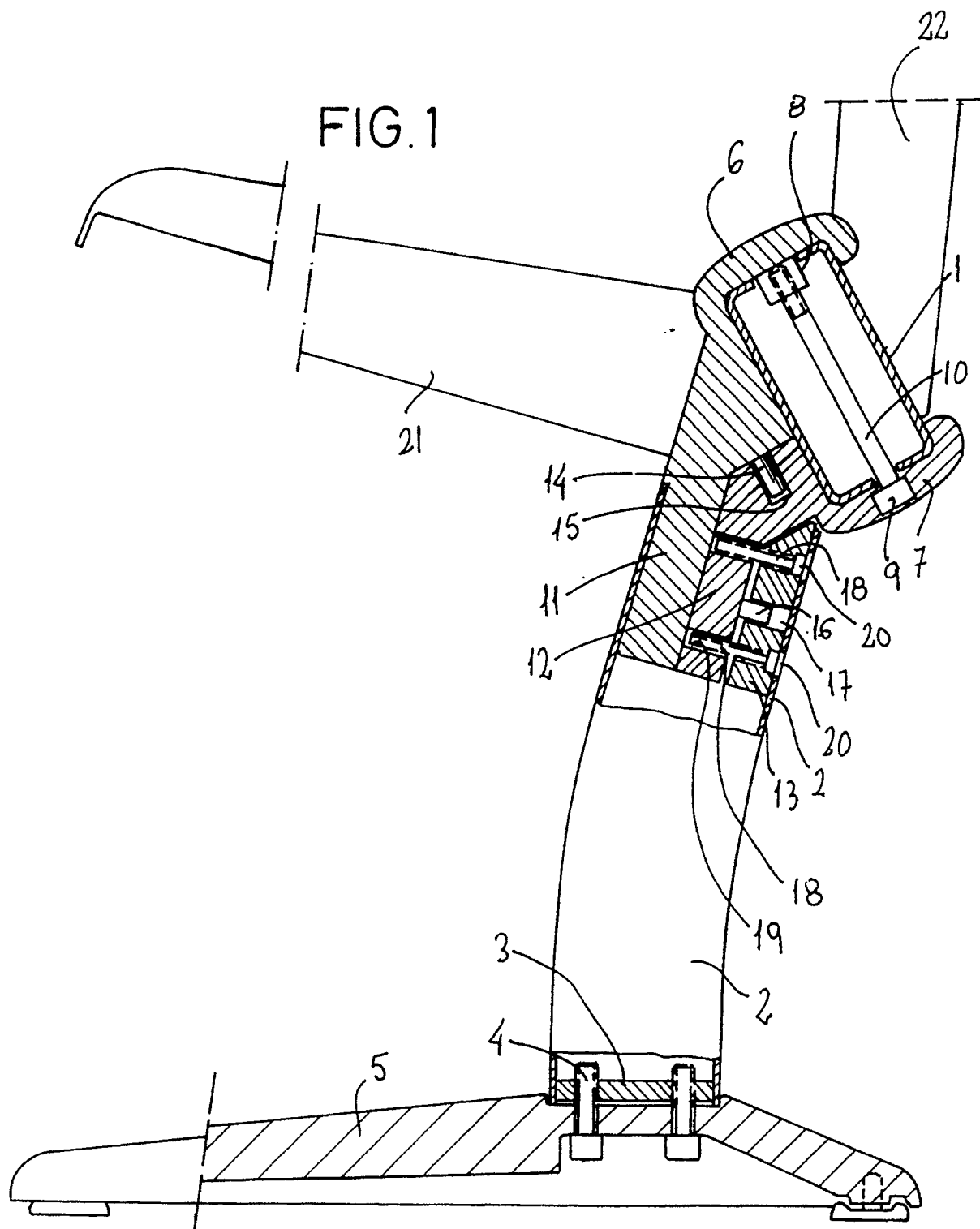
3. Structure for the formation of rows of seats, according to claim 1, characterised in that the complementary piece (13) of the semi-clamp extensions is fitted with screws (18) mounted in threaded holes, these screws moving freely over holes (19) in the adjoining extension of one of the semi-clamps and resting against the other extension (11), in such a way that the heads of the screws are situated opposite an opening (20) in the end of the leg so that to allow access with a conventional screw-driver. 20 25

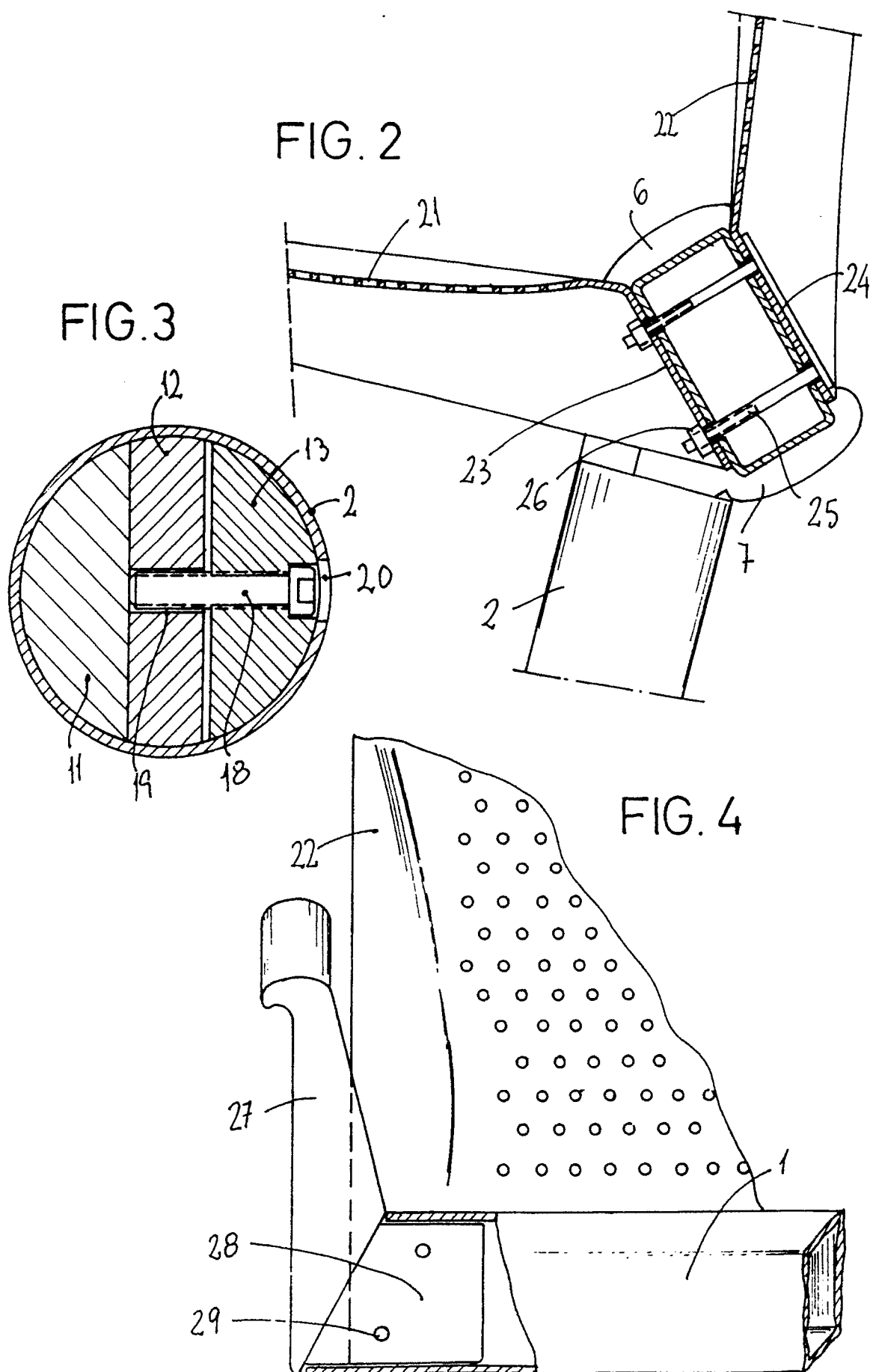
4. Structure for the formation of rows of seats, according to claim 1, characterised in that one of the semi-clamps is equipped with a threaded lug (8) which runs along the length of its inward-facing side and crosses a hole made in the bolster (1), the other semi-clamp having a hole (9) through which a screw (10) is inserted which crosses the bolster (1) and threads into the aforementioned lug, thus securing the semi-clamps to the bolster (1). 30 35

5. Structure for the formation of rows of seats, according to claim 1, characterised in that the bolster (1) is of a tubular shape, and in at least one of its ends there is an end-piece attached (27), which is situated at the side of the adjoining seat, and also fitted with a flexed extension (28) which fits into the end of the bolster (1), and is attached by sets of screws and bolts (29). 40

6. A seat constructed according to the structure in claim 1, characterised in that it comprises two similar parts that constitute, respectively, the actual seat (21), and the back (22), both parts being equipped with back sides (23, 24) shaped to fit the front and upper sides, respectively, of the bolster (1), onto which they are placed and fixed by screws and bolts (29). 45 50

7. A seat, according to claim 6, characterised in that the back sides (23, 24) of the seat (21) and the back (22) are flat and inclined, and juxtaposed to the opposite bigger sides of the bolster (1), which has a rectangular and inclined cross section. 55







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EUROPEAN SEARCH REPORT

Application Number

EP 90 50 0087

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	US-A-3 230 005 (STAPLES) * Column 2, line 39 - column 3, line 17; figures * - - -	1	A 47 C 1/12		
A	FR-A-2 139 844 (CASTELLI) * Page 2, lines 24-28; figures * - - - - -	1			
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)		
			A 47 C		
The present search report has been drawn up for all claims					
Place of search The Hague		Date of completion of search 11 December 90	Examiner VANDEVONDELE J.P.H.		
<table><tr><td>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</td><td>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</td></tr></table>				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
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