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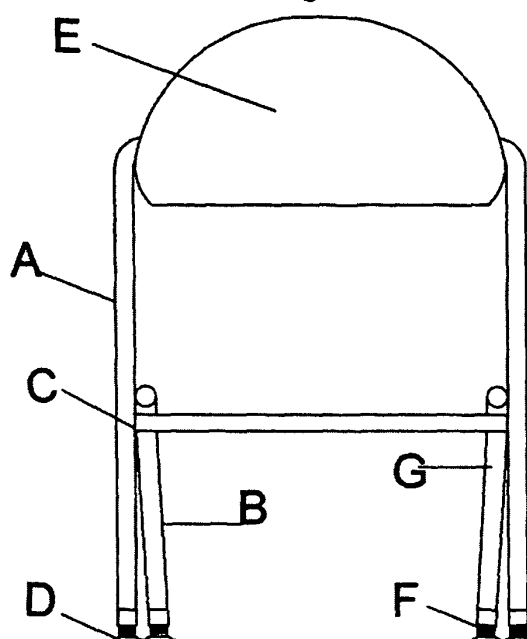
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(54) **STRUCTURAL TOILET SUPPORT SYSTEM**

(57) The invention relates to a structural toilet support system which is used in bathrooms in order to provide assistance, comfort, support and stability to users sitting down on, on or standing up from a toilet. The invention was developed in response to the need for suitable support to be provided for anyone using a toilet, particularly the elderly. The inventive system is suitable for use with

toilets and seats already available on the market. The invention is available in various different colours such that it can be blended with the environment for which it is intended, e.g. silver plating, chromium plating, gold plating, brushed steel or lacquer of different colours. In addition, the invention can be easily removed and transported.

Fig.1



Description

[0001] The present invention refers to a support structure for toilets, used in bathrooms, to ease and provide convenience, support and stability in the act of sitting down on and getting up from the toilet.

[0002] This inventive concept has arisen from the need to offer suitable support for the human population and especially the elderly.

[0003] The appended designs begin the description of the object of this patent application via PCT, in which:

- Figure 1 shows an embodiment of the support structure for toilets in front view.
- Figure 2 shows an embodiment of the support structure for toilets in front view, showing the toilet.
- Figure 3 shows an embodiment of the support structure for toilets in side view.
- Figure 4 shows an embodiment of the support structure for toilets in side view, showing the toilet.
- Figure 5 shows an embodiment of the support structure for toilets in a view from above.
- Figure 6 shows an embodiment of the support structure for toilets in a view from above, showing the toilet.
- Figures 7 to 12 show views corresponding to Figures 1 to 6 illustrating an alternative embodiment of the support structure for toilets.
- Figures 13 to 15 are views in plan from above, front elevations and three-dimensional views respectively of a wedge which can be used in the support structure for toilets according to this invention.

[0004] It basically comprises three curved tubes of metal or acrylic or other material (Figure 1: A, B and G; Figure 3: A and B; Figure 5: A and D), which may be tubular, square or flat, joined together by connections at the front part (Figure 1: C).

[0005] It has a back support (Figure 1: E) to prevent contact between the toilet lid and the posterior part of the metal or acrylic structure, and to provide support for the user's back if the latter wishes to sit with the toilet seat down. This back support may be covered with natural leather, synthetic leather or fabric.

[0006] It also has as structural reinforcement two horizontal bars transverse to the tubes forming the rear feet (Figure 3: C, Figure 5: B and C), a front bar and another rear bar of tubular, square or flattened shape.

[0007] At the intersections between the tubes forming the front feet with the tubes forming the back feet there are two structural reinforcing plates (Figure 3: D).

[0008] It also has a system for adjusting height, attached at the four feet with screws (Figure 1: F).

[0009] If necessary attachment to the floor can be provided by means of suckers (Figure 1:D).

[0010] With the configurations mentioned, the object of the patent of invention, a support structure for toilets, applies to all models of toilets on the market.

[0011] It can be easily dismantled by disconnecting the two sections at the height of the supporting arms (Figure 4: A) and removing screws, markedly reducing its volume for subsequent storage. It may also be provided without the back support (Figure 1: E).

[0012] It is easily movable and transportable.

[0013] It may have various colours, depending upon the environment in which it is used.

[0014] As an alternative option, the rear horizontal transverse bar may have a rectangular plate with two openings to provide an attachment between the toilet seat, the toilet support and the toilet (Figure 11: C). If necessary wedges (Figure 13, 14 and 15) may be used to adjust the level of the seat in this arrangement.

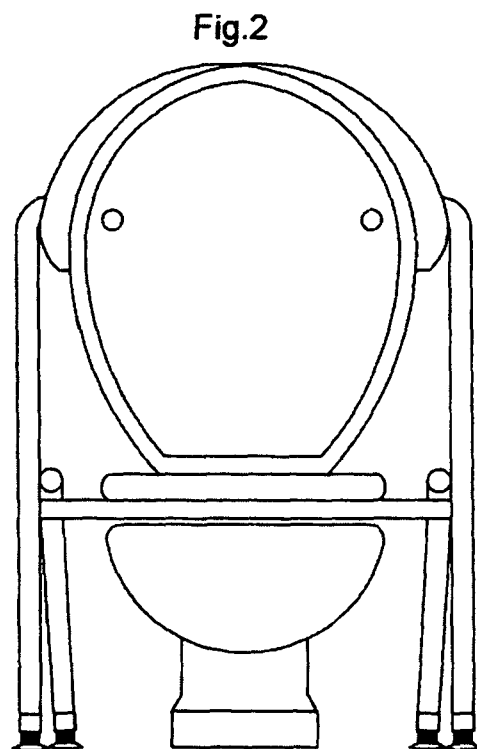
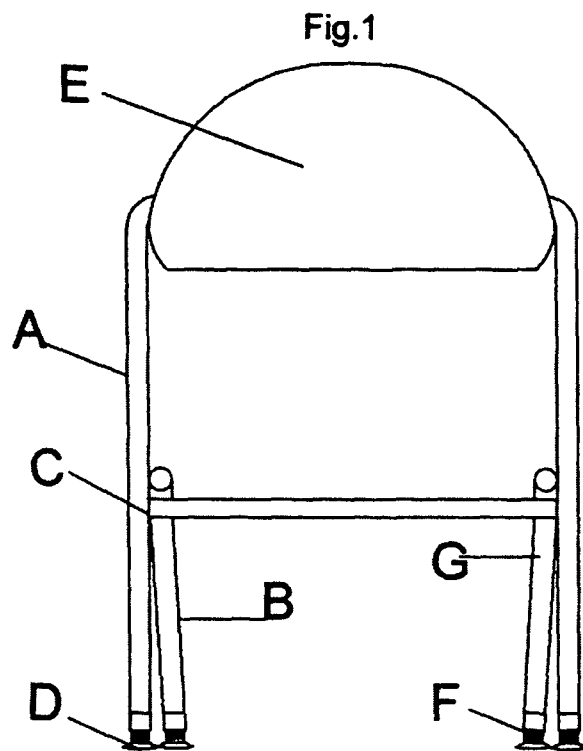
[0015] As another structural alternative it may comprise only two tubes of metal or acrylic or other material (Figure 7: A and B; Figure 9: A and B; Figure 11: A and B), which may be tubular, square or flattened, joined by connections at points on the front (Figure 7: C). In this case the tube forming the rear feet has its front part specially flattened so as not to prejudice levelling of the seat (Figure 8).

Claims

1. A support structure for toilets, **characterised by** three curved tubes of metal, acrylic or other material, which may be of tubular, square or flattened shape, or **characterised by** only two tubes of metal, acrylic or other material which are tubular, square or flattened.
2. A support structure for toilets according to claim 1, **characterised in that** the tubes are joined together by junctions at locations on the front.
3. A support structure for toilets according to claims 1 and 2, **characterised in that** it is fixed to the ground by means of suckers.
4. A support structure for toilets according to 1, 2 and 3, **characterised in that** it has a back support attached to the rear supporting bar in order to prevent contact between the toilet lid and the rear part of the metal or acrylic structure. This back support may be coated with natural leather, synthetic leather, fabric, etc.
5. A support structure for toilets according to claims 1, 2, 3 and 4, **characterised in that** it has a transverse bar joining the tubes forming the rear feet and a transverse bar joining the tubes forming the front feet and structural reinforcements at the intersections between the tubes forming the front feet and the tubes forming the rear feet.
6. A support structure for toilets according to claims 1,

2, 3, 4 and 5, **characterised in that** it has a system for adjusting height with screws located at its four feet.

7. A support structure for toilets according to claims 1, 2, 3, 4, 5 and 6, **characterised in that** it has a system for easy dismantling through disconnecting the two sections in the supporting arms and removing screws. 5
- 10
8. A support structure for toilets according to claims 1, 2, 3, 4, 5, 6 and 7, **characterised in that** it has an alternative option for the structure comprising a rectangular plate with two openings attached to the rear transverse horizontal bar to provide an attachment between the toilet seat, the toilet support and the toilet. In this arrangement wedges if necessary may be used to adjust the level of the seat. 15
9. A support structure for toilets according to claims 1, 2, 3, 4, 5, 6, 7 and 8, **characterised in that** it may comprise only two tubes of metal, acrylic or other material, which may be tubular, square or flattened, joined together by connections at locations on the front, the tube forming the rear feet having its front part specially flattened so as not to prejudice levelling of the seat. 20 25
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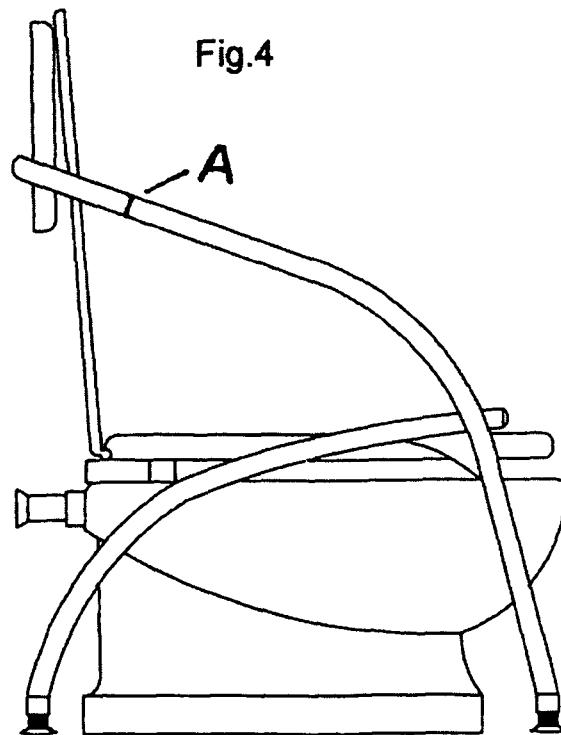
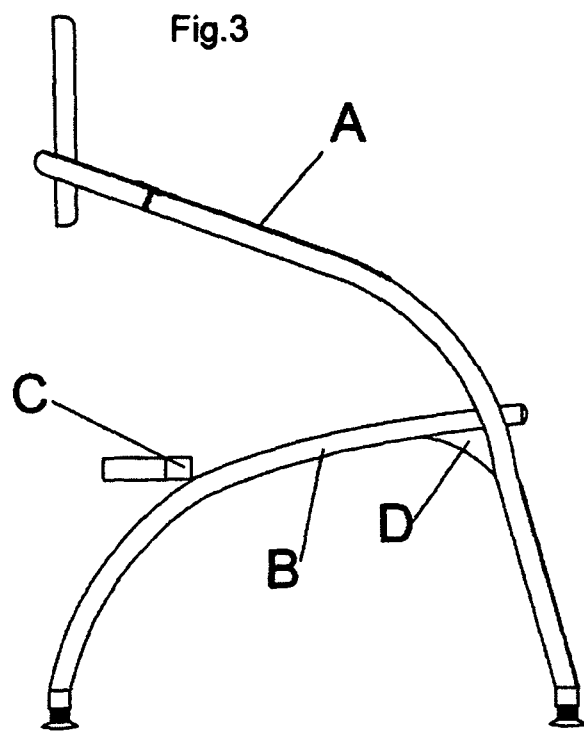


Fig.5

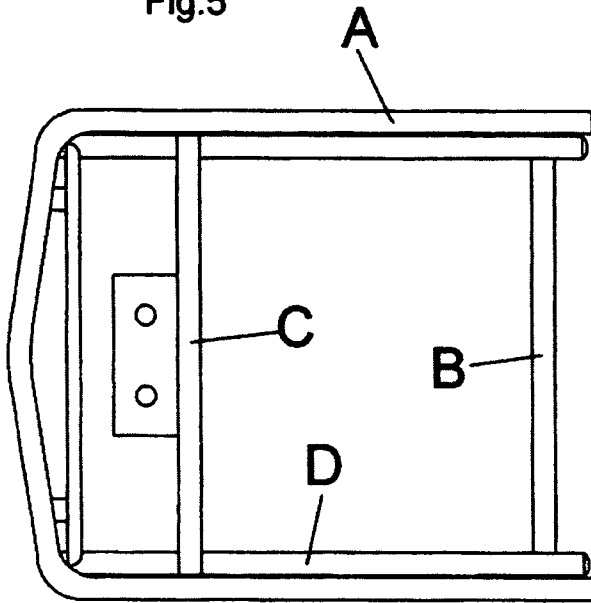
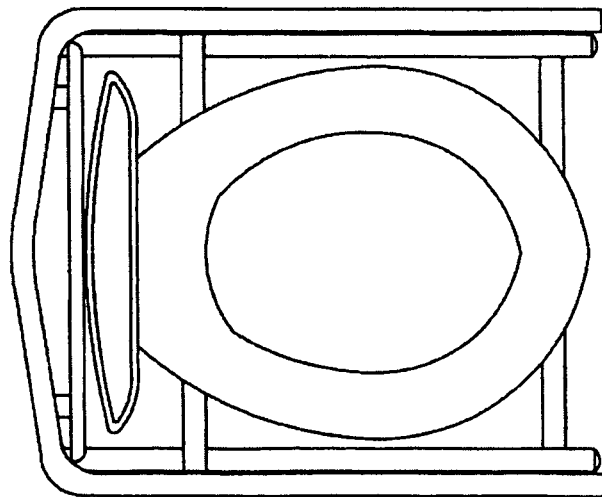
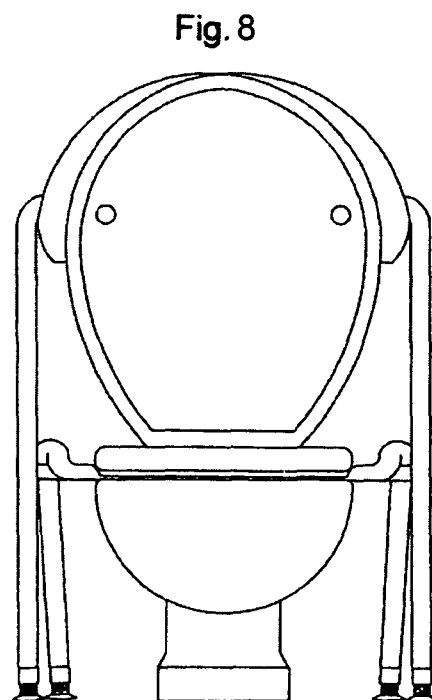
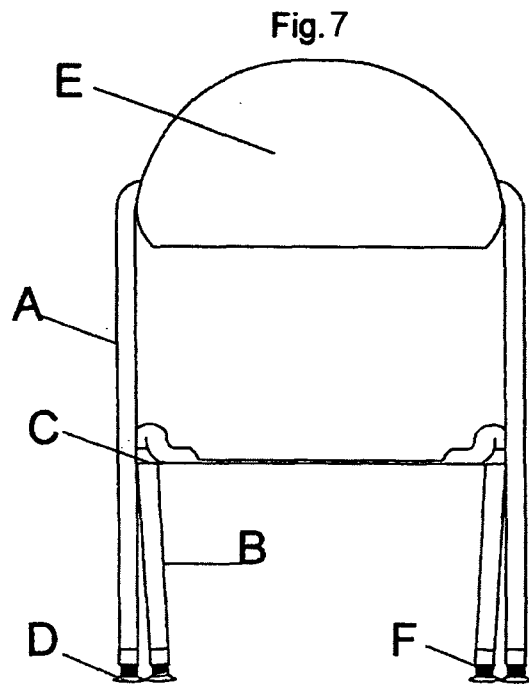


Fig.6





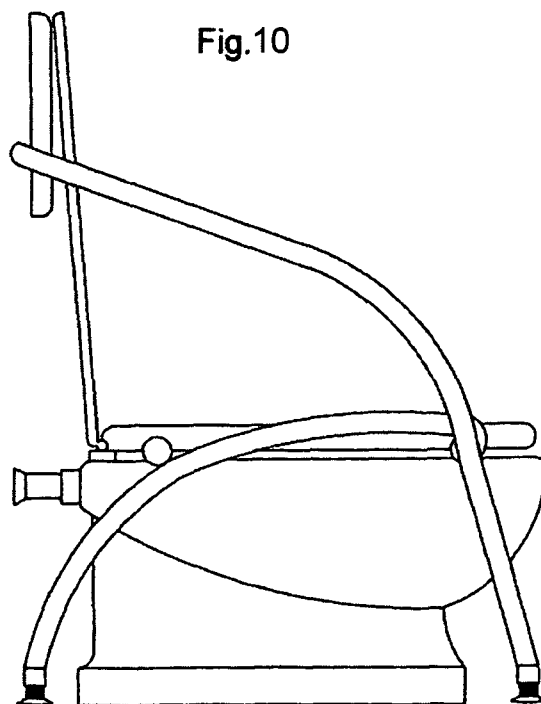
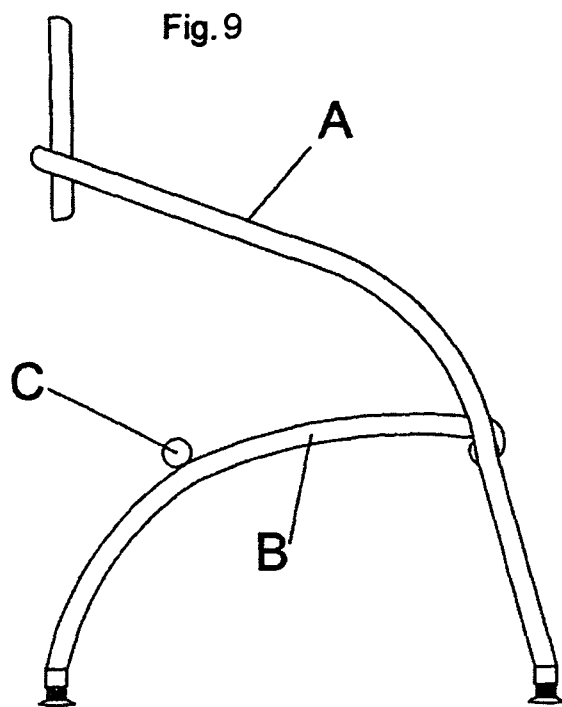


Fig.11

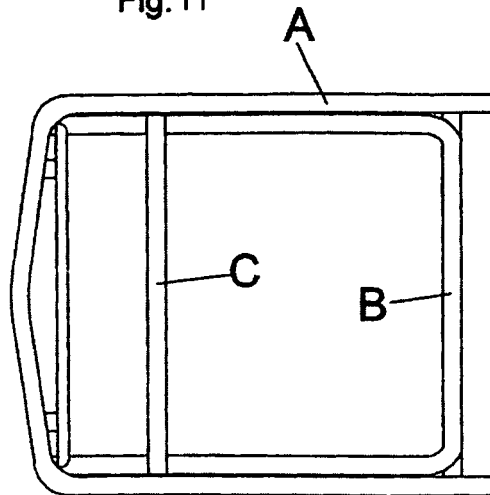


Fig.12

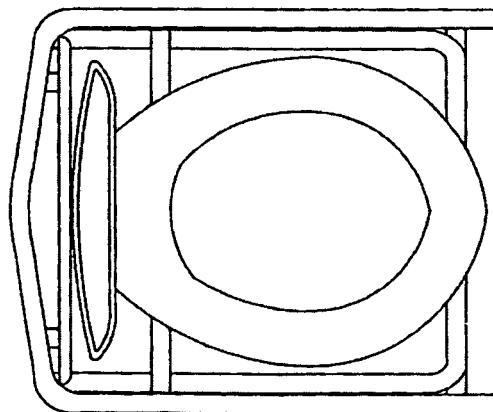


Fig.13

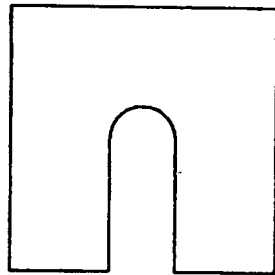
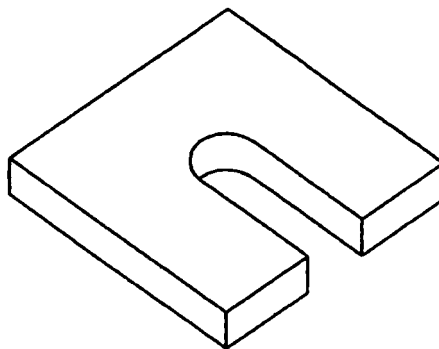


Fig. 14



Fig. 15



INTERNATIONAL SEARCH REPORT

International application No.

PCT/ ES 2006/000281

A. CLASSIFICATION OF SUBJECT MATTER

A47K 17/02 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A47K, E03D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CIBEPAT, EPODOC, WPIL, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	FR 2336906 A (AYROLLES, F.) 29.07.1977, Pág.3, line 3-pág.4, line 11; fig. 5	1,2, 3,5,7,9
X A	EP 777995 A1 (LANDSBERGER, K.) 11.06.1997, the whole document.	1,2,7 3,5,9
X A	US 6324705 B1 (ZEPHIER) 04.12.2001, column 4, line 7-column 5, line 22; figures.	1,4 2,3,6,7,9
X A	US 5553334 A (HILLMAN) 10.09.1996, column 4, line 55-67; figures.	1 2-9
A	US 3405411 A (BROWN) 15.10.1968, the whole document	1-9

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance.		
"E" earlier document but published on or after the international filing date		
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"O" document referring to an oral disclosure use, exhibition, or other means	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other documents, such combination being obvious to a person skilled in the art
"P" document published prior to the international filing date but later than the priority date claimed		
	"&"	document member of the same patent family

Date of the actual completion of the international search

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EP 1 908 385 A1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/ES 2006/000281

Patent document cited in the search report	Publication date	Patent family member(s)	Publication date
FR 1336906 A	06.09.1963	CH 366922 A GB 973190 A	31.01.1963 21.10.1964
EP 0777995 A	11.06.1997	EP 19960308614 EP 0777994 A EP 19960301234 AU 7404696 A AU 4447896 A US 5920917 A DE 69621109 D DE 69621109 T	28.11.1996 11.06.1997 23.02.1996 12.06.1997 12.06.1997 13.07.1999 13.06.2002 12.12.2002
US6324705B B	04.12.2001	NONE	-----
US5553334A A	10.09.1996	NONE	-----
US 3405411 A	15.10.1968	BE 804900 A	02.01.1974 02.01.1974 02.01.1974

Form PCT/ISA/210 (patent family annex) (April 2005)