



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 116 469 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

18.07.2001 Bulletin 2001/29

(51) Int Cl.7: **A47K 17/02**

(21) Application number: **01100576.6**

(22) Date of filing: **10.01.2001**

(84) Designated Contracting States:

**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**

Designated Extension States:

AL LT LV MK RO SI

(72) Inventors:

- **Lokslid, Jan**
3946 Porsgrunn (NO)
- **Tikka, Juha**
02400 Kirkkonummi (FI)

(30) Priority: **10.01.2000 FI 20000041**

(74) Representative: **Zipse + Habersack**

Wotanstrasse 64

80639 München (DE)

(71) Applicant: **IDO Kylpyhuone Oy**
10600 Tammisaari (FI)

(54) Arrangement for toilet

(57) Arrangement for a toilet (4) with an integrated load-bearing toilet bowl (5) comprising an upper support surface (6) intended for receiving a seat ring (7), or seat cover, which is releasably fastenable to fastening apertures (10) provided in connection with the upper support surface (6). The toilet (4) is provided with support handles (12, 12a) releasably fastenable to the fastening ap-

ertures (10) below the upper support surface (6) on both sides of the toilet. In order to ensure an efficient and steady support function the support handles (12, 12a) are part of a support handle unit comprising support members (11) and a connecting means (17). The support handles (12) and respective support members (11) of the support handle unit are connected to each other by the connecting means (17).

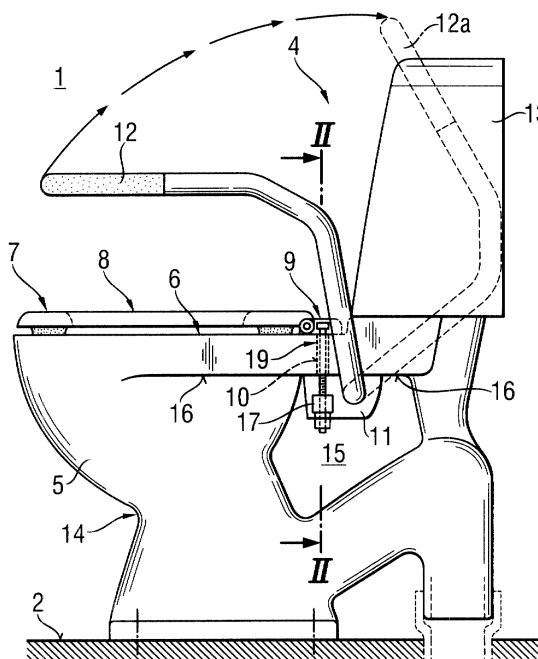


Fig. 1

EP 1 116 469 A1

Description

[0001] The invention relates to an arrangement for a toilet with an integrated load-bearing toilet bowl, which toilet is provided with releasably fastenable support handles according to the preamble of claim 1.

[0002] Such toilets are mainly intended for facilitating the use of the toilet for disabled persons. In previously known solutions, for example shown in US 3,090,051, the support handles are mounted separately beside the toilet or fastened on the toilet. When the support handles are mounted separately beside the toilet the arrangement can easily be made sufficiently steady and strong to handle the weight or load exerted on the handles by persons using the toilet. However, if the handles are mounted on the toilet as in US 3,090,051, it has shown that the toilet structure is not able to carry said weight or load directed only on the outer edges of the toilet, whereby the toilet or toilet bowl will break when the handles are used for support.

[0003] The object of the present invention is to achieve an arrangement by which the aforementioned disadvantages are avoided and which by simple means provides for an effective and reliable support function and convenient mounting. This is attained by an arrangement the main features of which are given in claim 1.

[0004] The invention is based on the idea to achieve an independent support handle unit that easily may be mounted on a typical toilet, especially also on a toilet already in use, and which does not have an effect on the other parts of the toilet or on its use. The support handle unit is intended to be fastened in the same fastening apertures as the seat ring, or seat cover, below the fastening plane of the seat ring, on the underside of the upper support surface of the load-bearing toilet bowl. In this way there is no need to furnish the toilet with additional fastening apertures and furthermore no supplementary parts appear on the upper support surface, whereby the support surface may be cleaned without any additional measures and the seat ring, or seat cover, can be installed in a usual manner.

[0005] For manufacturing reasons the toilet usually, in the area of the fastening apertures for the seat ring, comprises downwardly turned free and often substantially plane surfaces which preferably may be used as support surfaces for support members belonging to the support handle unit. These support members make the unit more stable and therefor safer to use.

[0006] The support handle unit is also provided with a connecting means, which connect the support handles and the support members. This improves the stability of the unit and especially the reciprocal stability of the support handles. Most importantly this ensures that the load or weight exerted on the handles is evenly distributed over the toilet or toilet bowl and not only on the outer edges of the toilet or toilet bowl.

[0007] The fastening of the support handle unit may

be done by only fastening the support members or the support members and the connecting means to the fastening apertures by appropriate fastening means. This is advantageously done according to the respective arrangement of the connecting means and the support handles.

[0008] The connecting means may be connected only to the support members or also directly to the support handles, whereby in the latter case the connecting means may function as a turning axis for the support handles.

[0009] The connecting means may for example be a straight shaft formed element or an arch formed element, depending on the model and installation of the toilet.

[0010] If the toilet is of a floor mounted model, the connecting means preferably are made of a shaft formed element that may be led through the body of the toilet. In a conventional design of the toilet the fastening apertures for the seat ring are situated behind the opening of the toilet bowl, towards the flush box, whereby the body in this area in the first place is constituted of a relatively thin wall part. The shaft element may thus easily be mounted through a bore passing through the wall part.

[0011] If the toilet is of a wall mounted model, the connecting means preferably are made of an arch formed element that passes around the body, around the bowl part of the toilet. In such a model the actual toilet bowl is situated against the wall and the outlet is directed towards or opens into a sewer in the wall, whereby the body of the toilet is rounded and uniform, whereby a bore passing through the body would be inconvenient.

[0012] The support handles are preferably turnable between a supporting position and a raised position, which provides for flexible use of the toilet. The support handles may furthermore be parallelly or separately turnable, whereby in the latter case accessibility may be improved.

[0013] The invention is described more in detail in the following, by way of example and with reference to the enclosed schematic drawings, in which

Fig. 1 shows in sideview a floor mounted toilet provided with a support handle unit,

Fig. 2 shows a front view of the floor mounted toilet along section II-II of Fig.1, and

Fig. 3 shows in sideview a wall mounted toilet provided with a support handle unit.

[0014] In Fig. 1 reference numeral 1 indicates a sanitary space, with a floor 2 and a wall 3 (Fig. 3) and with a toilet 4. The toilet, or water-closet, is of a floor mounted model. The toilet 4 comprises an integrated load-bearing toilet bowl 5 with a substantially circular or oval upper support surface 6. The toilet is provided with a raisable seat ring 7, which in a lowered position is supported on the upper support surface 6 of the toilet bowl 5. The seat

ring 7 comprises a ring part 8, which is turnably fastened to a fastening part 9. The fastening part 9 is fastened with fastening means, for example with screws or bolts 19, wedge elements or corresponding fastening means, in therefor intended fastening apertures 10 in the body 14 of the toilet 4 at the upper support surface 6 on each side of the toilet. The toilet may be provided with a seat cover at wish.

[0015] The toilet 4 is provided with a support handle unit comprising a support member 11 and a support handle 12 on both sides of the toilet. Each support member 11 is fastened in the same aperture 10 as the seat ring 7, with the above mentioned fastening means. The support handles 12 are turnably mounted in the support members 11. The fastening apertures 10 of the seat ring lie in the vicinity of the flush box 13, behind the opening of the toilet bowl 5, in an area where the upper support surface 6 runs substantially aligned with the flush box 13, i.e. substantially straight in comparison to the area in the vicinity of the front side of the toilet bowl 5 which has a circular or oval form. The body 14 of the toilet usually follows the form of the toilet bowl 5 so that the body 14, in the area 15 of the fastening apertures 10, narrows and mainly constitutes a relatively thin wall part. In the area 15 of the fastening apertures 10 the body 14 of the toilet 4 comprises downwardly facing, substantially plane surfaces 16. These surfaces 16 provide suitable support surfaces for the support members 11 of the support handle unit.

[0016] The support handle unit is provided with a connecting means 17 in the form of a shaft formed element, which connects the support members 11 and the support handles 12 mounted on both sides of the toilet. The fastening means 19 fastening the seat ring 7 and the support members 11 may also pass through the connecting means 17 as shown in Fig. 2 to further secure the support handle unit. The support handles 12 are preferably arranged separately turnable between a supporting position (shown with a uniform line; 12) and a raised position (shown with a broken line; 12a) in the support members 11. The support handles 12 may also be directly connected to the connecting means 17a, which thereby at the same time would constitute a turning shaft for the support handles, as shown by way of example in Fig. 3 in connection with the wall mounted toilet.

[0017] In Fig. 3 is shown a wall mounted toilet 4 or water-closet. In this figure corresponding parts are indicated with the same reference numerals as in Fig. 1 and 2. A notable difference follows from the wall mounting, which influences the form of the body 14 of the toilet. In a toilet of this type the outlet (not shown) of the toilet bowl 5 is directed towards the wall 3, whereby the body also surrounds the outlet. This means that the body has a certain volume in the area 18 of the fastening apertures 10, whereby a bore through the body for the connecting means of the support handles is not desirable. The connecting means in this case comprises an arch

formed element 17a, which connects the support members 11 and the support handles 12 arranged on both sides of the toilet. The connecting means may also be connected only to the support members as in Fig. 1 and Fig. 2, and not directly to the support handles as shown in Fig. 3.

[0018] As is apparent from the above described examples the support handle unit according to the invention is a unit that may be easily mounted on most types of toilets or closets in that its fastening is made in already existing, for the seat ring intended holes. Furthermore the main parts of the support handle unit may be mounted on the under side of the upper support surface of the toilet and below the flush box, which ensures a hygienic solution and free passage to the seat ring.

[0019] Additionally the form of the toilet, toilet bowl and body may vary, whereby the form and mounting of the support members and the support handles may be accommodated accordingly.

[0020] The combined effect of the support members and the connecting means of the support handle unit ensure an even distribution of the load or weight directed on the support handles.

[0021] The drawing and the thereto attached specification are only intended for clarifying the idea of the invention. In detail, for example design and mounting of the support members and support handles, type of fastening means, form and place of the connection means, etc., the invention may vary within the scope of the ensuing claims.

Claims

1. Arrangement for a toilet with an integrated load-bearing toilet bowl (5) comprising an upper support surface (6) intended for receiving a seat ring (7), or a seat cover, which is releasably fastenable to fastening apertures (10) provided in connection with the upper support surface (6), which toilet (4) is provided with support handles (12, 12a) releasably fastenable to the fastening apertures (10) below the upper support surface (6) on both sides of the toilet, **characterised in that** the support handles (12, 12a) are part of a support handle unit comprising support members (11) and connecting means (17; 17a) and that the support handles (12) and respective support members (11) of the support handle unit are connected to each other by the connecting means (17; 17a).
2. Arrangement according to claim 1, **characterised in that** only the support members (11) are fastened to the fastening apertures (10) by fastening means (19) or that the support members (11) and the connecting means (17) are fastened to the fastening apertures (10) by fastening means (19).

3. Arrangement according to claim 1, **characterised in that** the connecting means (17) are connected only to the support members (11).
4. Arrangement according to claim 1, **characterised in that** the connecting means (17a) are directly connected to the support handles (12). 5
5. Arrangement according to claim 3 or 4, **characterised in that** the connecting means (17;17a) comprise a shaft formed element or an arch formed element. 10
6. Arrangement according to claim 5, **characterised in that** the toilet (4) is of a floor mounted model, whereby the connecting means (17) comprise a shaft formed element which passes through the body (14) of the toilet. 15
7. Arrangement according to claim 5, **characterised in that** the toilet (4) is of a wall mounted model, whereby the connecting means (17a) comprise an arch formed element which passes around the body (14) of the toilet. 20
25
8. Arrangement according to claim 1, **characterised in that** the support handles are turnable between a supporting position (12) and a raised position (12a).
9. Arrangement according to claim 1, **characterised in that** the support handles are separately turnable. 30
10. Arrangement according to claim 1, **characterised in that** the support handles are parallelly turnable. 35

40

45

50

55

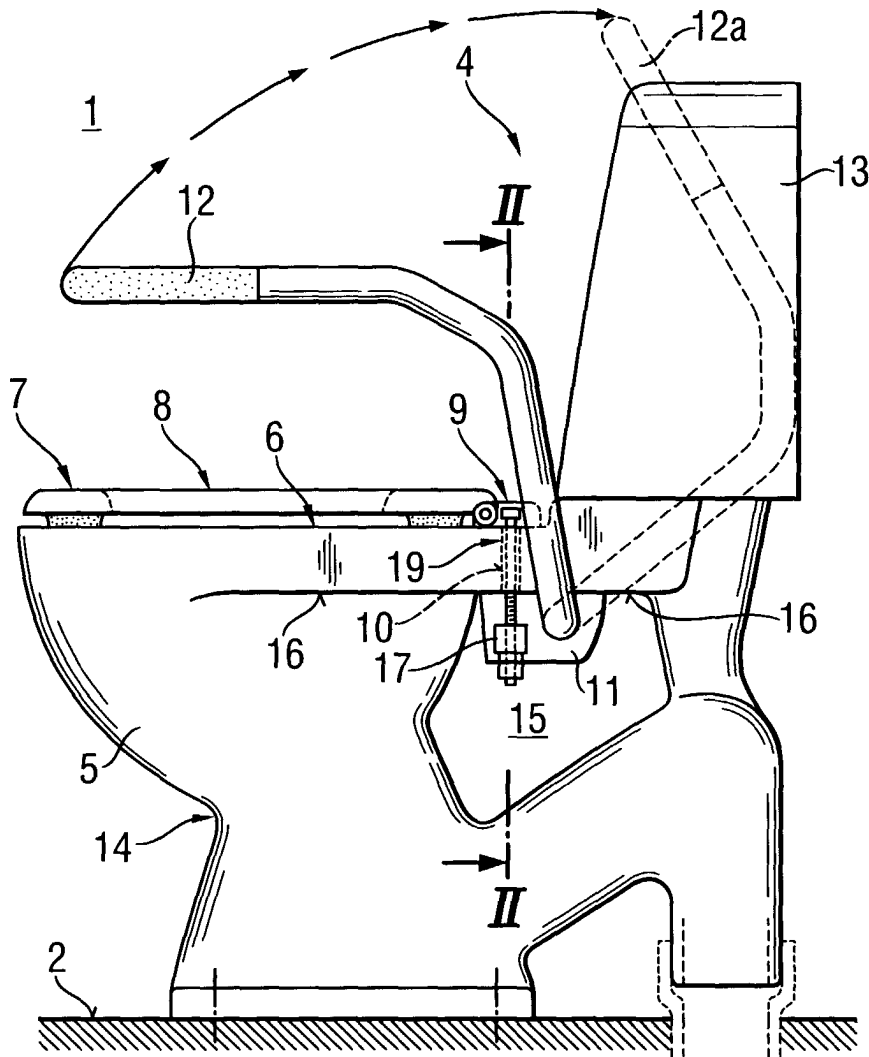


Fig. 1

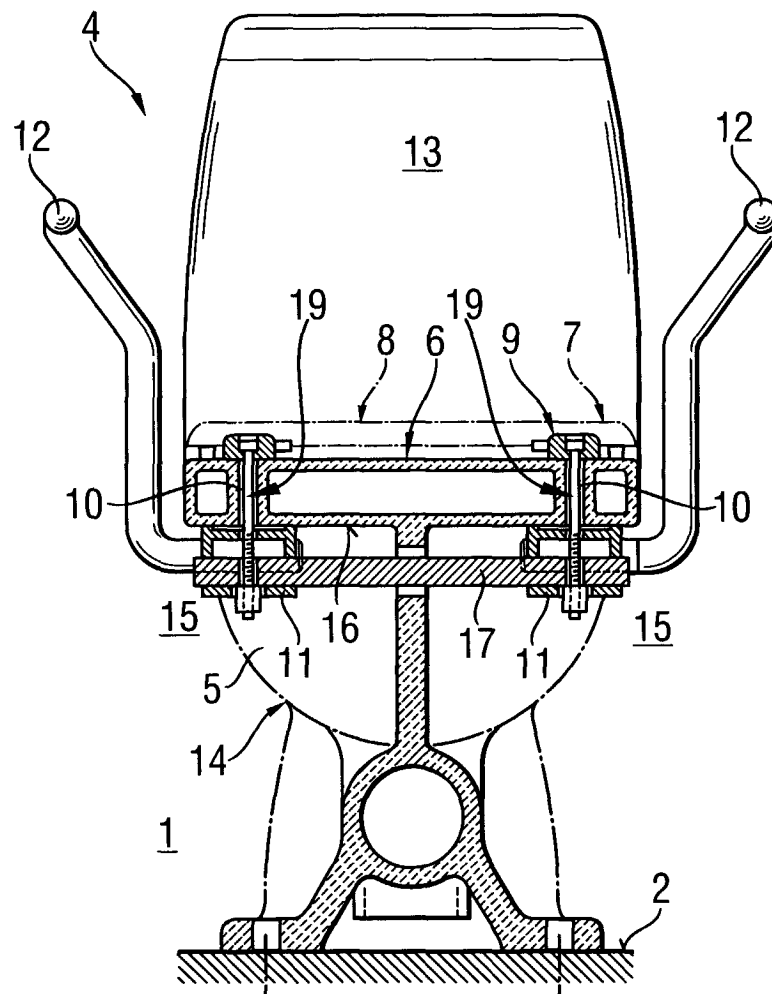


Fig. 2

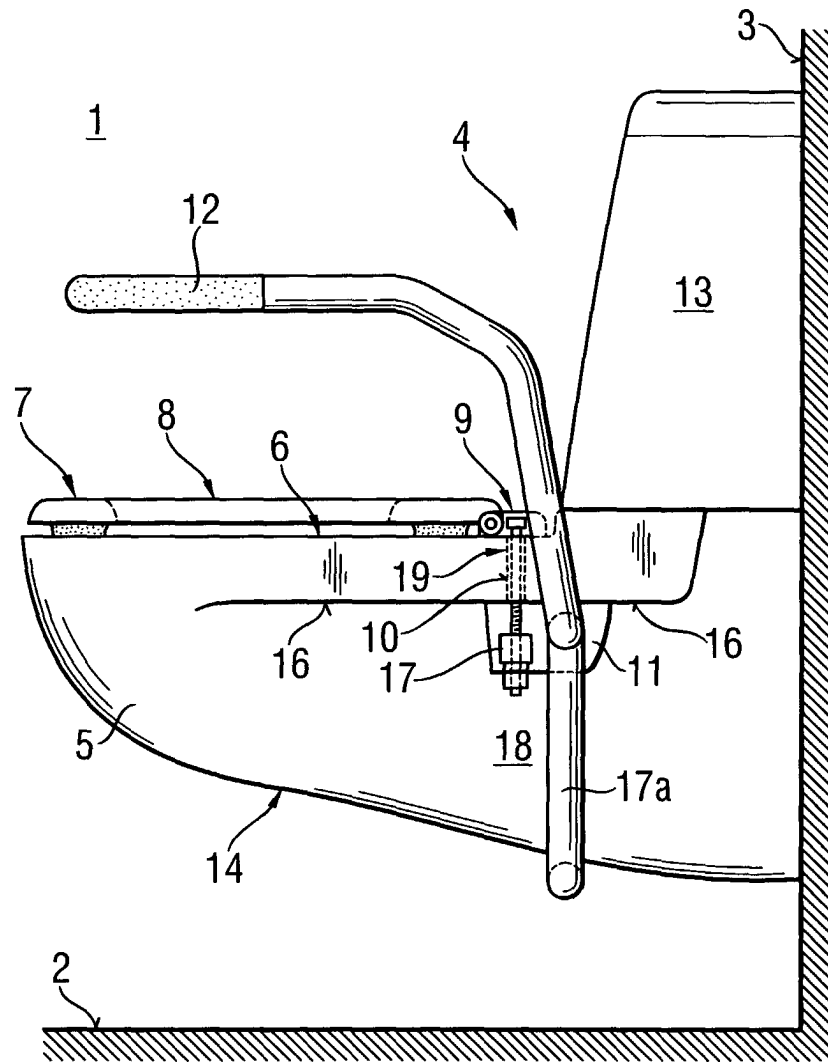


Fig. 3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 10 0576

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.7)
X, D	US 3 090 051 A (J. B. OAKLAND) 21 May 1963 (1963-05-21) * figures 12,13 *	1-3,8,9	A47K17/02
A	WO 99 04678 A (ARDUINI GIOVANNI ; IDEAL STANDARD SPA (IT)) 4 February 1999 (1999-02-04) *, sentence W *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A47K
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		24 April 2001	Delzor, F
<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 & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03 82 (P4/C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 10 0576

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-04-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3090051 A	21-05-1963	NONE	
WO 9904678 A	04-02-1999	IT RE970034 U	21-01-1999
		AU 7767398 A	16-02-1999
		EP 0998210 A	10-05-2000

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82