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(54) Smell extractor device for toilet bowls

(57) A smell extractor device for toilet bowls comprises a duct (1) provided with a plurality of bores (2) and a connecting pipe (3) to an extractor (4) fit to force out of the bathroom the air sucked inside the toilet bowl (5) through the bores (2) of the duct (1). The duct (1) has an "M" shaped configuration wherein the end portions are fixed to the fixing means (6) of the cover (7). The bores (2) are carried out only in the middle portion of the duct (1), which is slightly inside the mouth (51) of the toilet bowl (5) and which has a configuration almost parallel to a back portion of the mouth (51) of toilet bowl (5).

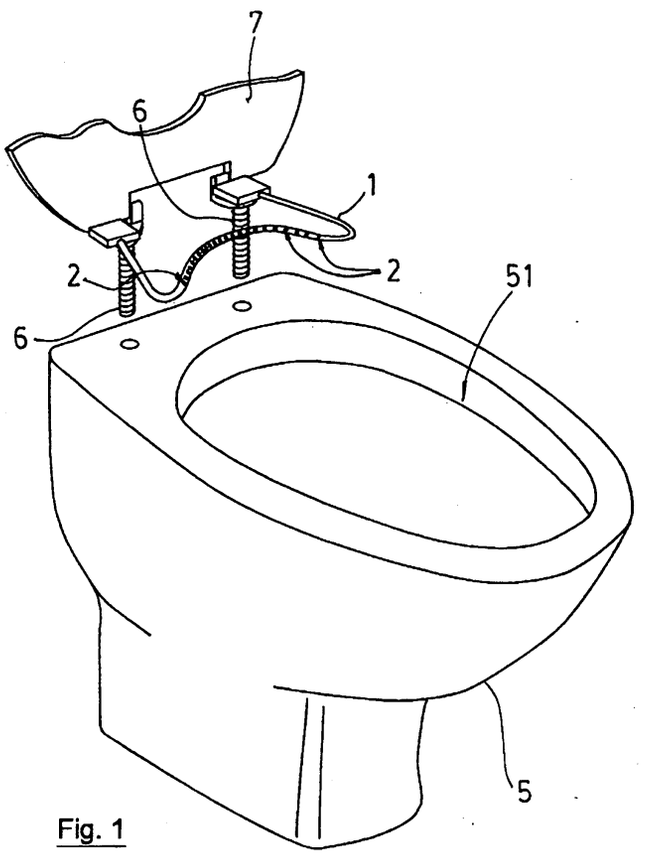


Fig. 1

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Description

[0001] The invention refers to a smell extractor device for toilet bowl, of the type including a duct provided with a plurality of bores and a connection pipe to an extractor fit to force out of the bathroom the air sucked inside the toilet bowl through the bores of the duct.

[0002] At present the bathrooms comprising a toilet bowl have a problem due to the smells produced during the use of said toilet bowl.

[0003] Though good ventilation solves this problem, it is not possible to apply this solution always. Mainly the lack of windows makes difficult to carry out said ventilation.

[0004] Nevertheless there are means for carrying out a forced ventilation of bathrooms. Among those has to be mentioned the Spanish utility model application U-200202322, of the same applicant and concerning an "extractor device for toilet bowls", which discloses a device allowing to solve the problem of bad smells by means of a duct fixed above the lower surface of the toilet seat and provided with a plurality of side bores, oriented toward the toilet bowl inside. The duct position is such as said duct, when the toilet seat is in position of use, matches with the mouth of toilet bowl, carrying out a perimetric closure between the toilet seat and the toilet bowl. The device comprises a connection pipe acting as jointing element between the duct fixed to the toilet seat and an air extractor with forced draught with external outlet.

[0005] Nevertheless said device, because its position in the lower face of annular toilet seat, is subject to movement during the raising and lowering operations of cover, which may cause a failure, especially in the connection between the suction duct connected to the extractor.

[0006] In order to overcome the above-mentioned problems, it is provided the smell extractor device for toilet bowls of the present invention, which includes structural characteristics fit for making easier the use thereof, without interfering with the lowering of toilet seat of the cover.

[0007] Furthermore the smell extractor device is of the type comprising a duct provided with a plurality of bores and a connection pipe to an extractor fit to force out of the bathroom the air sucked inside the toilet bowl through the bores of the duct.

[0008] In accordance with the invention, the duct has an "M" shaped configuration wherein the end portions are fixed to the fixing means of the cover. Furthermore, in accordance with the invention, the bores are carried out only in the middle portion of duct, which is slightly inside the toilet bowl mouth and which has a design almost parallel to a back portion of the toilet bowl mouth.

[0009] It has to be highlighted that the connection pipe to extractor is coupled to one of the duct ends, but there is also the option to couple it to both ends.

[0010] On the other hand, it is necessary to point out that the fixing of the end portions of duct to the fixing means of the cover will be carried out by suitable means for the cover model to deal with.

[0011] Consequently, the smell extractor device has the duct shaped in such a way to carry out the extractor function of the smells generated inside the toilet bowl, without interfering with the lowering movement of the toilet seat of the cover. Furthermore, due to the position that the duct takes with respect to the toilet bowl, it is difficult to have said duct dirty and thus a convenient look is assured in every moment.

[0012] In order to integrate the description and with the purpose to make easier the comprehension of the features of the invention, a set of drawings are enclosed to the present description by way of example and not limiting, wherein:

- figure 1 shows a prospective partial view of the smell extractor device in its position of placement on a toilet bowl;
- figure 2 shows a plan view of the smell extractor device positioned in a toilet bowl.

[0013] With reference to the attached figures, the smell extractor device for toilet bowls comprises a duct 1 provided with a plurality of bores 2, a connecting pipe 3 and an extractor 4 with outlet outside the bathroom.

[0014] The device allows its own installation in a toilet bowl 5 carried out by providing fixing means 6 of the respective cover 7. Once the device is assembled, as shown in figure 2, the middle portion of duct 1 is slightly inside the mouth 51 of toilet bowl 5 and has a configuration almost parallel to the back portion of said mouth 51.

[0015] It is important to emphasize that the bores 2 are provided only in the middle portion of duct 1. In other words, there are bores 2 only in the portion of duct 1 which is inside the mouth 51 of toilet bowl 5, since this portion is the portion surrounding the area where the bad smells are generated and therefore where the effectiveness of the suction function is greater.

[0016] Consequently, the extractor 4 sucks the air inside the toilet bowl 5 through the bores 2 of duct 1 and thus the bad smells are evacuated outwards the bathrooms, circulating through the inside of duct 1 and of connecting pipe 3.

[0017] Once sufficiently described the nature of the invention as well as a preferred embodiment, it has to be underlined that materials, shape, dimensions and arrangement of the described elements will be able to be modified, always and when that does not change the basic characteristics of the invention, which are claimed in the following.

Claims

1. Smell extractor device for toilet bowls of the type

comprising a duct (1) provided with a plurality of bores (2) and a connecting pipe (3) to an extractor (4) fit to force out of the bathroom the air sucked inside the toilet bowl (5) through the bores (2) of the duct (1); **characterized in that** the duct (1) has an "M" shaped configuration wherein the end portions are fixed to the fixing means (6) of the cover (7); the bores (2) being carried out only in the middle portion of the duct (1), which is slightly inside the mouth (51) of the toilet bowl (5) and which has a configuration almost parallel to a back portion of the mouth (51) of toilet bowl (5).

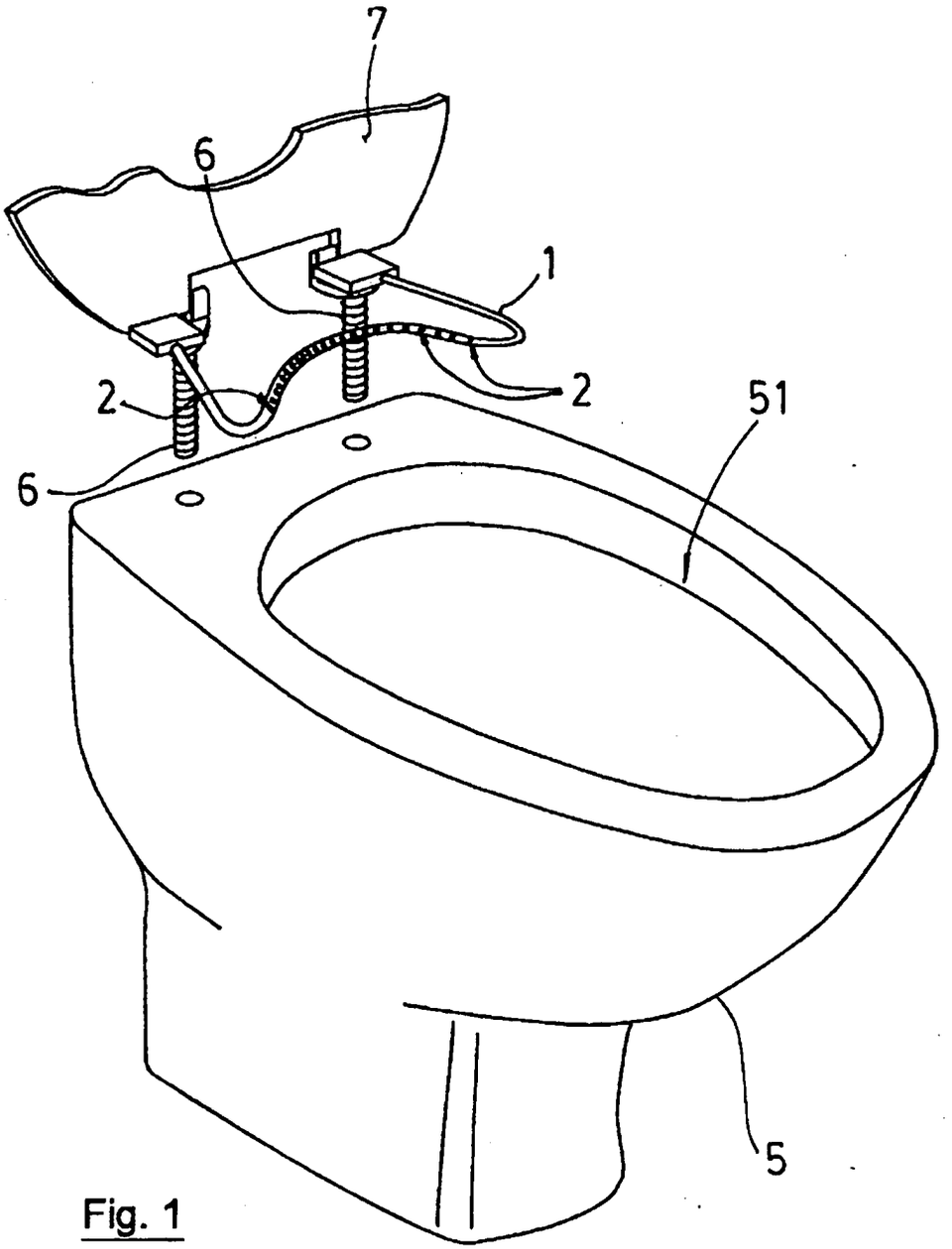


Fig. 1

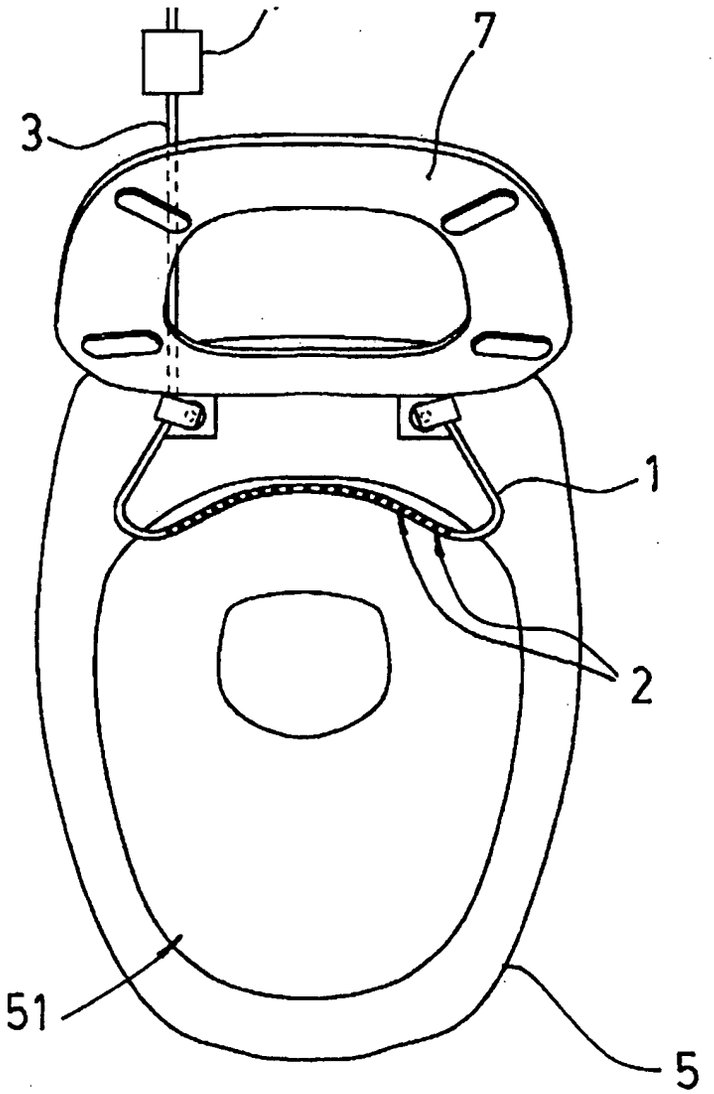


Fig. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 04 01 0559

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	US 2 309 885 A (CARMAN JAMES W) 2 February 1943 (1943-02-02) * page 1, line 29 - line 37; figures 2,9 *	1	E03D9/05
X	US 1 695 530 A (BRUDER AUGUST J) 18 December 1928 (1928-12-18) * page 1, line 66 - line 108; figure 1 *	1	
A	US 6 260 215 B1 (MILLER MAX) 17 July 2001 (2001-07-17) * figure 1 *	1	
A	US 5 724 682 A (JOHNSON STEVEN) 10 March 1998 (1998-03-10) * figure 2 *	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

E03D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	15 June 2004	Flygare, E

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 04 01 0559

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
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15-06-2004

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