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(54) **WATER-SAVING TOILET**

(57) This invention relates to a water-saving toilet (1), which enables flushing of solid and liquid wastes within the toilet receptacle with increased pressure of the flushing water from the reservoir (3) by determining the duct (6) to be followed within the receptacle after removal of the usual ring channel.

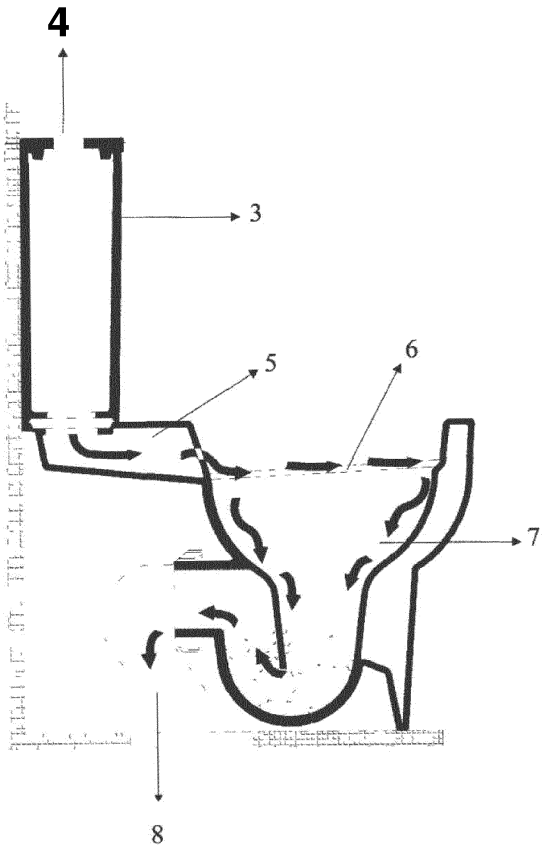

Figure 1

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Description

Technical Field of the Invention

[0001] The present invention relates to internal-washing water-saving toilet closet that aims to use the flush water from the reservoir in lesser amounts, and that enable flushing of solid and liquid wastes within the receptacle by reducing the time required for the receptacle flush water to reach the receptacle by increasing the pressure of the fresh water from the reservoir by determining the path to be followed within the receptacle by altering the receptacle structure at the toilet closets through removal of the ring.

Prior Art of the Invention

[0002] The cleaning process for the interior section of the receptacle of the toilet closet after fulfilling the personal need is as follows at the toilet closets available on the market. The fresh water within the reservoir is supplied to the fresh water intake duct by pressing the reservoir pushbutton; the fresh water reaching to the ring from there flows into the receptacle at a certain pressure from the holes under the ring; thus enable cleaning of solid and liquid wastes within the receptacle. At this system, while the water is circulating within the ring, the water pressure decreases due to closed structure within the ring, and also due to the contractions within the ring that slow down the water. Such drop in pressure reduces the speed of the water flowing into the receptacle from the holes under the ring, thus complicates cleaning of solid and liquid wastes within the receptacle. Due to this fact and similar factors, redundant water is consumed for receptacle cleaning of the toilet closet, desired cleaning cannot be fully achieved and the cleaning time increased

Brief Description of the Invention

[0003] The subject matter of the present invention is internal-washing water-saving toilet closet that aims to consume water in lesser amounts thus, save from water while maximizing the cleaning process of the toilet closet receptacle by prioritizing hygiene, and human health, taking into consideration the global warming, and accordingly the importance and value of water consumption. The present invention aims to reduce the amount of water used for receptacle cleaning at the toilet closets available on the market and ensure hygiene.

Description of the Figures Illustrating the Invention

[0004] The figures and associated descriptions used for better understanding of the internal-washing water-saving toilet closet developed with this invention are as follows.

Figure-1 is the side sectional view of the internal-washing water-saving toilet closet.

Figure-2: is the side perspective view of the internal-washing water-saving toilet closet.

Figure-3: is the side sectional view of the toilet closet available on the market (prior art).

Figure-4: is the perspective sectional view of the toilet closet available on the market (prior art).

Definition of the Elements Forming the Invention

[0005] The elements of the invention referred to as the internal-washing water-saving toilet closet are as follows:

1. Toilet closet
2. Toilet closet cover
3. Reservoir
4. Reservoir pushbutton
5. Fresh water intake duct
6. Duct to be followed by the fresh water
7. Receptacle
8. Waste water outlet duct

[0006] The elements of the toilet closet available in prior art are as follows:

1. Enclosed area formed by the ring
2. The Ring
3. Holes under the Ring
4. Receptacle

Detailed Description of the Invention

[0007] The internal-washing water-saving toilet closet (1) that enables cleaning of the solid and liquid wastes within receptacles with less water comprises of the following elements in its most basic form,

- a toilet closet (1) to which the waste water outlet duct (8) is connected,
- a toilet closet cover (2) which is used to cover the toilet closet (1) when not in use,
- a reservoir (3) wherein fresh water stored,
- a reservoir pushbutton (4) available on the reservoir (3) for transferring the fresh water from the reservoir (3) to the fresh water intake duct (5),
- a fresh water intake duct (5) that enables transfer of water to the duct to be followed by the fresh water (6),
- a duct to be followed by the fresh water (6) that enables transfer of fresh water to the receptacle (7) in a pressurized manner,
- a receptacle (7) where the solid and liquid wastes are accumulated after the personal need is fulfilled; and
- a waste water outlet duct (8) that establishes the connection between the toilet closet (1) and the sewer system.

[0008] The toilet closet (1) is manufactured in compli-

ance with the standards applicable in toilet applications. Connection between the toilet closet (1) and the sewer system is ensured by the waste water outlet duct (8). Waste water outlet duct (8) is designed to have a wide diameter structure.

[0009] Cleaning of the receptacle (7) within the toilet closet (1) is performed by means of the fresh water supplied from the reservoir (3) to the toilet closet (1). The fresh water in the reservoir (3) is transferred to the fresh water intake duct (5) as the user presses the reservoir pushbutton (4). The fresh water reaching here is directed towards the receptacle (7) from the toilet closet (1) via the duct to be followed by the fresh water (6). Water passing through the duct to be followed by the fresh water (6) reaches directly to the receptacle (7). The solid and liquid wastes within the receptacle (7) are directed towards the waste water outlet duct (8) with the help of the fresh water and then are discharged to the sewer system. In order to enable cleaning of the solid and liquid wastes within the receptacle (7) with less water and in a better manner, the water must reach the receptacle (7) in a fast and pressurized manner. In order to enable progress of water in a pressurized manner, the duct to be followed by the fresh water (6) is designed horizontally towards the front of the toilet closet (1) and as inclined towards the receptacle (7). Moreover, the duct to be followed by the fresh water (6) should be free of obstacles, contractions and enlargements that will decelerate the water. As there is no contraction or enlargement at the duct to be followed by the fresh water (6) in our invention, there is no drop at the water pressure. By virtue of the inclined structure of the duct to be followed by the fresh water (6) and the certain angle applied at the receptacle (7) in our invention enables water to reach receptacle (7) from fresh water duct (6) with higher pressure. In this manner, the toilet closet (1) is cleaned with less water, thus preventing water consumption.

Claims

1. An internal-washing water-saving toilet closet (1) for cleaning the solid and liquid wastes within the receptacle, comprising,

    - a waste water outlet duct (8) that establishes the connection between the toilet closet (1) and sewer system,
    - a toilet closet cover (2) which is used to cover the toilet closet (1) when not in use,
    - a reservoir (3) wherein fresh water is stored,
    - a reservoir pushbutton (4) available on the reservoir (3) for transferring the fresh water from the reservoir (3) to the fresh water intake duct (5)
    - a receptacle (7) where the solid and liquid wastes are accumulated after the personal need is fulfilled, and
    - the fresh water intake duct (5),

    characterized in that; the toilet closet(1) further comprising,

    - duct to be followed by the fresh water (6) to which the fresh water is transferred by means of said fresh water intake duct (5); that enables transfer of fresh water to the receptacle (7) and positioned horizontally towards the front of the toilet closet (1) and as inclined towards the receptacle (7).

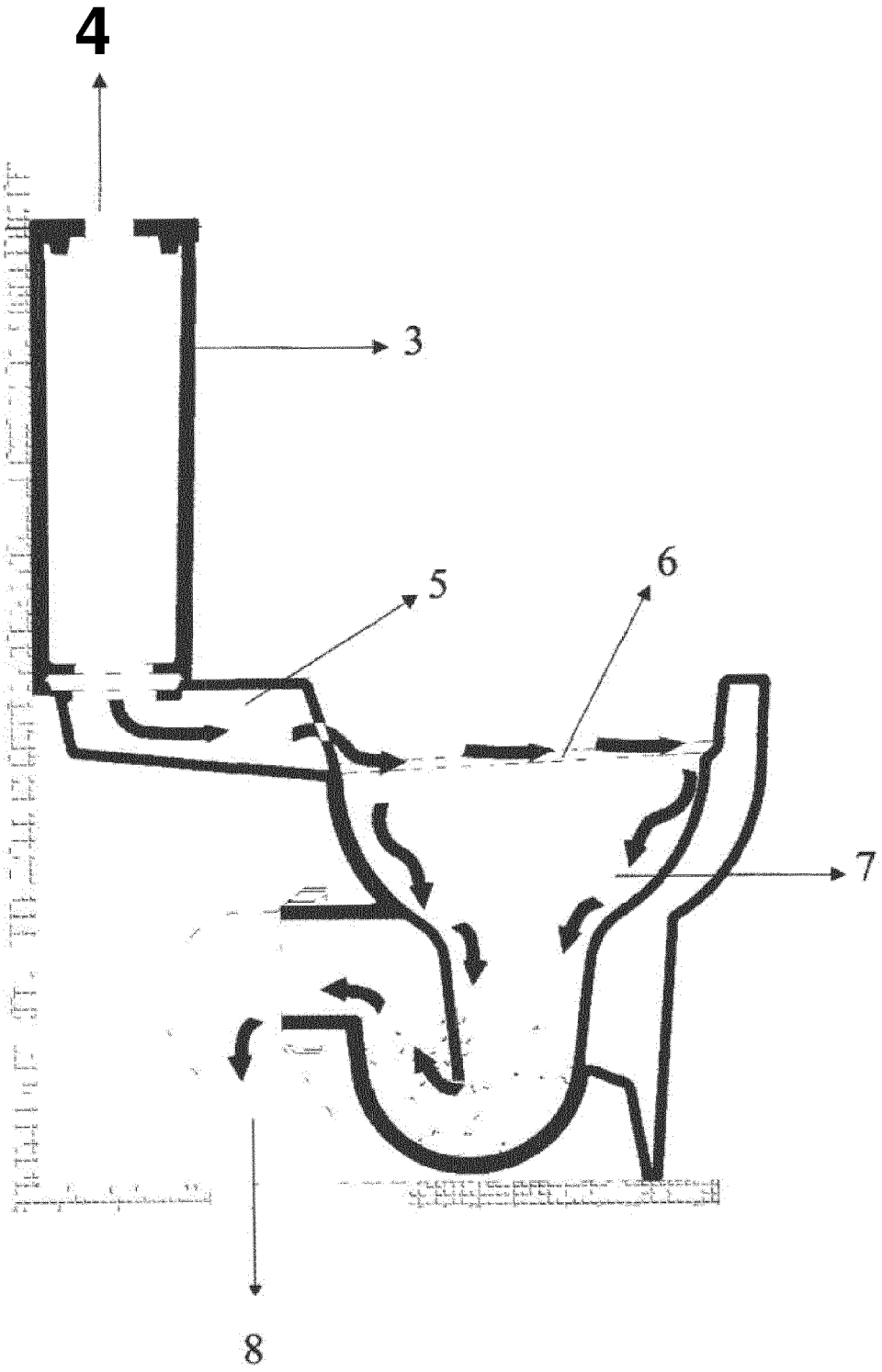


Figure 1

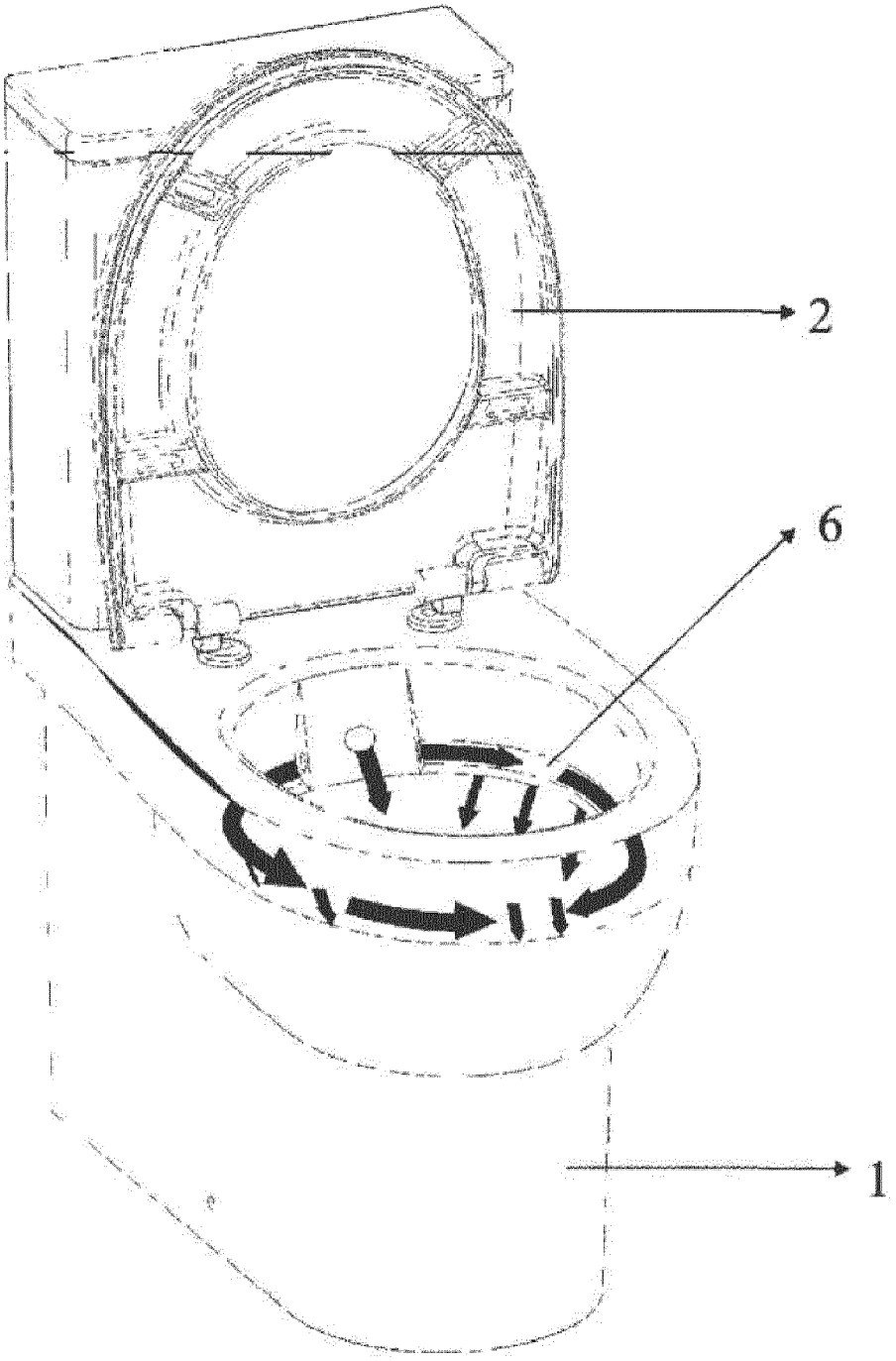
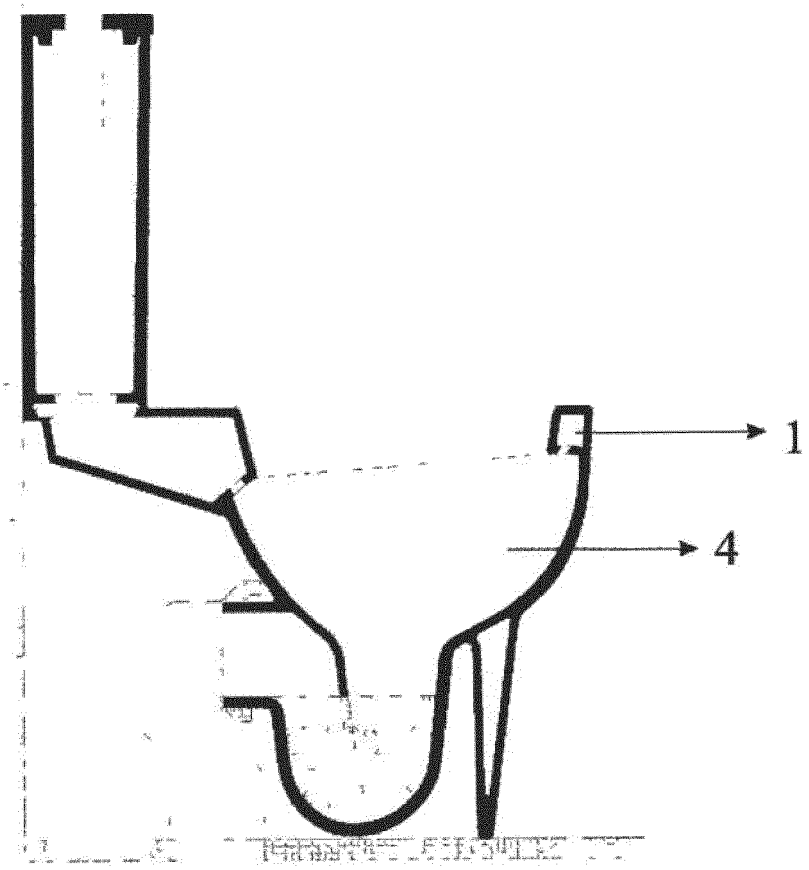


Figure 2



Prior Art

Figure 3

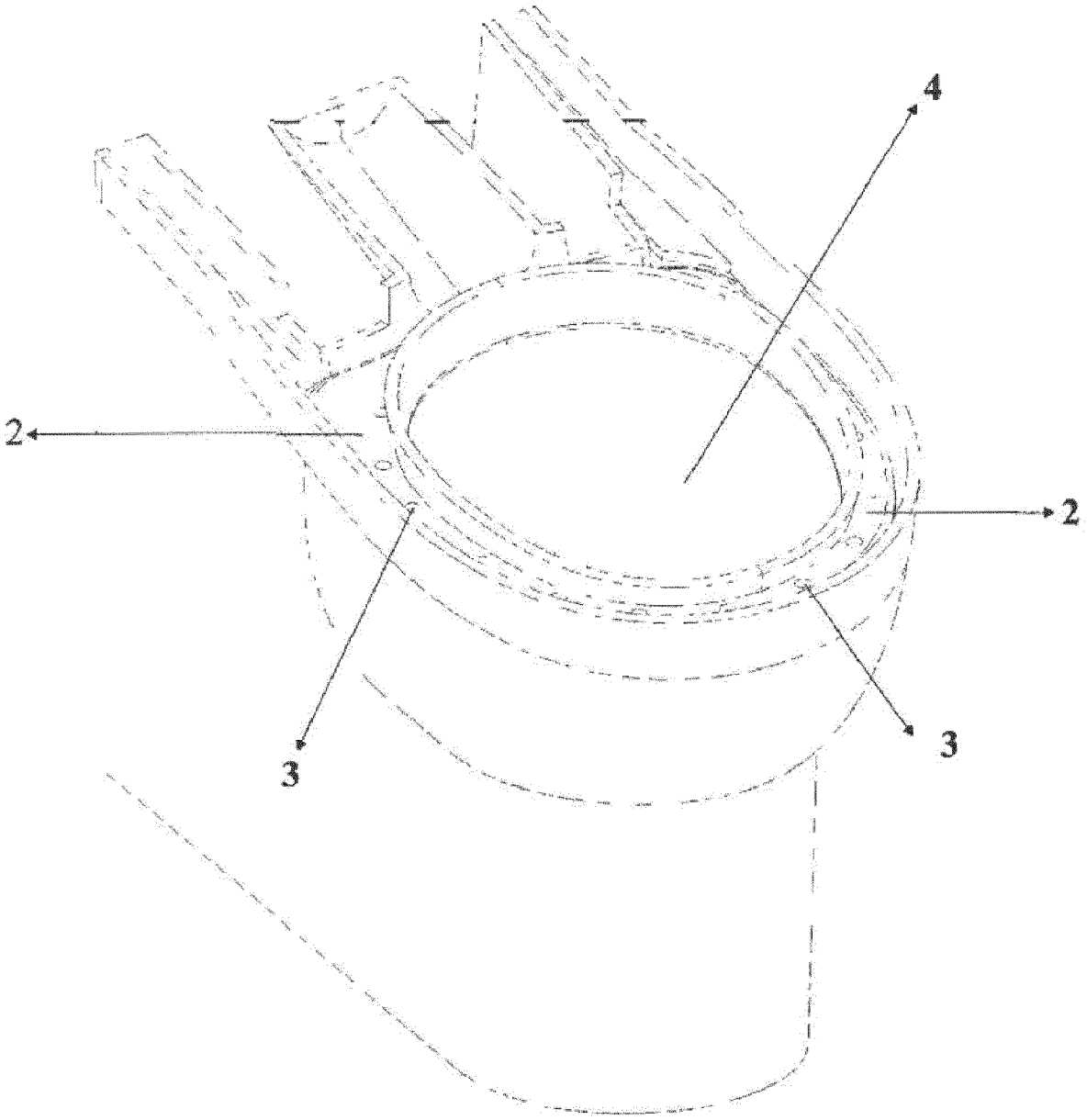


Figure 4 Prior Art

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EUROPEAN SEARCH REPORT

Application Number
EP 15 15 4134

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 476 011 A (HAMILTON, JOHN) 31 May 1892 (1892-05-31) * the whole document *	1	INV. E03D11/08
X	GB 2 431 937 A (TWYFORD BATHROOMS [GB]) 9 May 2007 (2007-05-09) * the whole document *	1	
X	JP 2007 169964 A (INAX CORP) 5 July 2007 (2007-07-05) * the whole document *	1	
			TECHNICAL FIELDS SEARCHED (IPC) E03D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	20 May 2015	Horst, Werner

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
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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
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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 15 15 4134

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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20-05-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 476011 A	31-05-1892	NONE	
GB 2431937 A	09-05-2007	NONE	
JP 2007169964 A	05-07-2007	JP 4518017 B2	04-08-2010
		JP 2007169964 A	05-07-2007

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