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Declarations under Rule 4.17:

— as to the identity of the inventor (Rule 4.17(i))

[Continued on next page]

(54) Title: PRESSURE FLUSHING SYSTEM FOR A TOILET

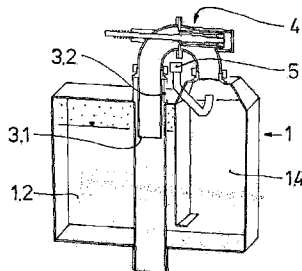


FIG. 5

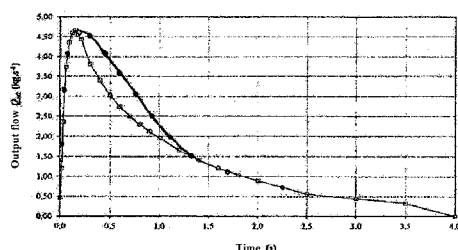


FIG. 10

(57) Abstract: A toilet bowl pressure flushing system with shock wave flushing is a compact rigid unit made by a fixed connection of: - a rigid body of a pressure module (1) containing at least one gas hydraulic accumulator (1.2) and one downstream flow tank (1.4) connected by at least one connection opening (1.3); an overflow pipe (2); an automatic hydraulic valve module (4) comprising a core (4.1), an inlet and outlet elements (4.2, 4.3) of the automatic hydraulic valve, where the inlet element (4.2) of the automatic hydraulic valve is connected to the outlet (1.4.1) of the flow tank (1.4) and where the outlet element (4.3) of the automatic hydraulic valve feeds into the overflow pipe (2). At the same time it comprises an inlet (5) from the pressure water supply that feeds into the rigid body of the pressure module (1) or into the automatic hydraulic valve module (4). It is also possible that the inlet (5) from the pressure water supply in the flow tank (1.4) is directed perpendicular to the outlet (1.4.1) of the flow tank (1.4).



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- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))* — *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*
- *of inventorship (Rule 4.17(iv))*

Published:

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24 November 2016

- *with international search report (Art. 21(3))*

INTERNATIONAL SEARCH REPORT

International application No

PCT/SK2016/050004

A. CLASSIFICATION OF SUBJECT MATTER

INV. E03D3/10

ADD.

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)

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)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2014/208497 A1 (LI CAIYOU [CN]) 31 July 2014 (2014-07-31)	1-3,5-7
Y	the whole document	4,8-16
X	BE 496 594 A (C. GRIFFON) 16 October 1950 (1950-10-16)	1-5
Y	the whole document	8-16
X	CN 2 583 220 Y (LIU ZIQIANG [CN]) 29 October 2003 (2003-10-29)	1-3
Y	the whole document	4,8-16
Y	US 2010/299822 A1 (VARGAS MATT [US] ET AL) 2 December 2010 (2010-12-02) figure 1	4,11,12
	----- -/-	



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent 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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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

"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 such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

15 September 2016

Date of mailing of the international search report

14/10/2016

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No
PCT/SK2016/050004

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 063 701 A1 (ERMITAL AG [LI]) 3 November 1982 (1982-11-03) the whole document -----	8-10
Y	US 5 553 333 A (ANDERSSON SVEN E [US]) 10 September 1996 (1996-09-10) the whole document -----	13
Y	US 746 324 A (GILLIN ROBERT F [US]) 8 December 1903 (1903-12-08) figure 2 -----	14-16
Y	US 2 658 203 A (JOHANN AUE) 10 November 1953 (1953-11-10) the whole document -----	14-16

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SK2016/050004

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1, 2

Details of the material

STF: compact unit is rigid

E: no need for additional housing

2. claims: 3, 4

Details of the inlet

STF: feeds into the pressure module or into the automatic hydraulic valve module; directed perpendicular to the surface of the outlet

E: allows re-filling of flush tank

3. claims: 5-7

Details of the connection between pressure module and tank

STF: inner vertical partition within the rigid body of the pressure module with a connection opening

E: separation of gas in accumulator and water in the tank

4. claims: 8-10

Details of the connection between tank and inlet

STF: ejector located either within the tank or mounted to the outside thereof

E: silent inflow

5. claims: 11, 12

Details of the outlet

STF: overflow pipe extends either through the accumulator or outside

E: compact design

6. claim: 13

Details of back-flow prevention

STF: flow breaker in the overflow pipe

E: sewage cannot be drawn into the freshwater line

7. claims: 14-16

Details of the valve module

STF: bent axes of the valve module, tubular valve sealing against saddle; driven by a piston and a first spring

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

E: confident working of the valve

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/SK2016/050004

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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