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(71) Applicant: **ARCELIK ANONIM SIRKETI** [TR/TR]; E5 Ankara Asfalti Uzeri, Tuzla, 34950 Istanbul (TR).

(72) Inventors: **VATANSEVER, Celal**; E5 Ankara Asfalti Uzeri, Tuzla, 34950 Istanbul (TR). **AYAROGLU, Emre**; E5 Ankara Asfalti Uzeri, Tuzla, 34950 Istanbul (TR). **DONMEZ, Ersin**; E5 Ankara Asfalti Uzeri, Tuzla, 34950 Istanbul (TR). **MUTLUDOGAN, Mehmet**; E5 Ankara Asfalti Uzeri, Tuzla, 34950 Istanbul (TR).

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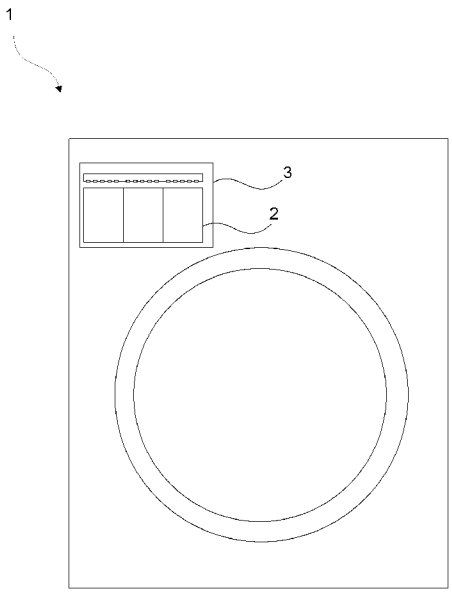
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(54) Title: A WASHING MACHINE COMPRISING A CLEANING AGENT DISPENSER

Figure 1



(57) Abstract: The present invention relates to a washing machine (1) comprising a dispenser (2) wherein cleaning agents like detergent, softener etc. are placed and where the cleaning agents are mixed with water, a housing (3) wherein the dispenser (2) is placed, at least one water conduit (4) that carries water from the mains to the dispenser (2), a flushing device (6) mounted on the dispenser (2), enabling water to be directed into the dispenser (2) and having more than one hole (5) at its base enabling water to pass into the dispenser (2), and a first water inlet (7) and a second water inlet (8) that feed the flushing device (6). The first water inlet (7) transfers the water received from the water conduit (4) to the flushing device (6) angularly, the second water inlet (8) transfers the water received from the water conduit (4) to the flushing device (6) so as to block the water transferred from the first water inlet (7). A first channel (9) is disposed on the flushing device (6), faces the first water inlet (7) and is supplied from the first water inlet (7), a second channel (109) is disposed on the flushing device (6), faces the second water inlet (8) and is supplied from the second water inlet (8), and a third channel (209) is disposed between the first channel (9) and the second channel (109) wherein the jets of water sprayed from the first water inlet (7) and second water inlet (8) flow after colliding with each other. The first water inlet (7) and the second water inlet (8) are provided with cross-sections narrowing towards the flushing device (6).

Description

A WASHING MACHINE COMPRISING A CLEANING AGENT DISPENSER

[0001] The present invention relates to a washing machine comprising a dispenser wherein cleaning agents are placed.

[0002] In washing machines, cleaning agents like detergent, softener etc needed for the cleaning process are placed into a cleaning agent box. The washing water received from the mains is directed into the dispenser. The cleaning agent dissolved-melted by mixing with water is delivered into the washing tub together with the water. Cleaning agent boxes mostly comprise a dispenser having compartments wherein powder and/or liquid washing agents are placed and a flushing device that covers the dispenser and enables the water received from the mains to pass into the dispenser. Water inlets transferring water to the flushing device are provided. However, the flow rate of water decreases until it is delivered from the said inlets to the flushing device and therefore channels on the flushing device cannot be efficiently supplied.

[0003] In the state of the art Chinese Patent Application No. CN101864655, a detergent dispenser that can be taken out of the washing machine for cleaning and an upper cover that is mounted thereon are described.

[0004] The aim of the present invention is the realization of a washing machine comprising a cleaning agent dispenser wherein the spraying effectiveness of the water inlets thereof is improved.

[0005] The washing machine realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises a flushing device that enables the water to be directed into the dispenser. The flushing device enables the water sent thereon to be transferred into the dispenser by means of the holes arranged at the base thereof. The washing machine comprises a first water inlet that faces the flushing device and that transfers the water received from the mains to the flushing device in a direction that is not parallel to the direction of the dispenser, a second water inlet that transfers the water received from the mains to the flushing device so that it collides with the water sprayed from the first water inlet, a first channel that is disposed on the flushing device,

that faces the first water inlet and that is supplied from the first water inlet, a second channel that is disposed on the flushing device, that faces the second water inlet and that is supplied from the second water inlet, and a third channel that is disposed between the first channel and the second channel and wherein the jets of water sprayed from the first water inlet and second water inlet flow after colliding with each other.

[0006] In the washing machine of the present invention, the water inlets have a cross-section narrowing towards the outlets of the water inlets.

[0007] In an embodiment of the present invention, the first water inlet and the second water inlet are eccentric. The water inlets are partially non-linear. Thus, water follows a partially non-linear path at the water inlets.

[0008] By means of the present invention, thanks to the flushing device that is efficiently supplied, the flushing device more efficiently supplies the dispenser, thus the cleaning agents in the dispenser are enabled to be dissolved better, and a washing machine having more hygienic utilization conditions is realized.

[0009] The washing machine realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

[0010] Figure 1 – is the schematic view of a washing machine.

[0011] Figure 2 – is the exploded view of a washing machine cleaning agent box.

[0012] Figure 3 – is the top cross-sectional view of a flushing device.

[0013] Figure 4 – is the view of detail A in Figure 3.

[0014] Figure 5 – is the partial cross-sectional view of the channels and the water inlets in an embodiment of the present invention.

[0015] The elements illustrated in the figures are numbered as follows:

1. Washing machine
2. Dispenser
3. Housing
4. Water conduit
5. Hole
6. Flushing device
7. First water inlet
8. Second water inlet

9. First channel

[0016] 109. Second channel

[0017] 209. Third channel

[0018] The washing machine (1) comprises a dispenser (2) wherein cleaning agents like detergent, softener etc. are placed and where the cleaning agents are mixed with water, a housing (3) wherein the dispenser (2) is placed, at least one water conduit (4) that carries water from the mains to the dispenser (2), a flushing device (6) mounted on the dispenser (2), enabling water to be directed into the dispenser (2) and having more than one hole (5) at its base enabling water to pass into the dispenser (2), a first water inlet (7) that transfers the water received from the water conduit (4) to the flushing device (6) angularly, a second water inlet (8) that transfers the water received from the water conduit (4) to the flushing device (6) so as to block the water transferred from the first water inlet (7), a first channel (9) that is disposed on the flushing device (6), that faces the first water inlet (7) and that is supplied from the first water inlet (7), a second channel (109) that is disposed on the flushing device (6), that faces the second water inlet (8) and that is supplied from the second water inlet (8), and a third channel (209) that is disposed between the first channel (9) and the second channel (109) and wherein the jets of water sprayed from the first water inlet (7) and second water inlet (8) flow after colliding with each other.(Figure 1, Figure 2, Figure 3).

[0019] The washing machine (1) of the present invention furthermore comprises that first water inlet (7) and the second water inlet (8) with cross-sections narrowing towards the flushing device (6) (Figure 4).

[0020] When the flushing device (6) is placed into the washing machine (1), the flushing device (6) surrounds the first inlet (7) and the second inlet (8) from above and the sides. Thus, the water sprayed from the first inlet (7) and the second inlet (8) can be directed into the flushing device (6) or the housing (3). The flushing device (6) comprises a first channel (9) that faces the first water inlet (7) and supplied by the first water inlet (7), a second channel (109) that is disposed on the flushing device (6), facing the second water inlet (8) and supplied by the second water inlet (8), and a

third channel (209) that remains between the first channel (9) and the second channel (117), wherein the jets of water simultaneously sprayed from the first water inlet (7) and second water inlet (8) flow after colliding with each other; and some of the water flows into the housing (3) while the third channel (209) is supplied. By means of the water inlets (7, 8) with narrowing cross-sections, the pressurized spraying required by the manufacturer is provided. Thus, water is sent onto the channels (9, 109, 209) more accurately. Consequently, the effectiveness of the flushing device (6) is improved.

[0021] In an embodiment of the present invention, the first water inlet (7) and the second water inlet (8) are eccentric. The water inlets (7, 8) are quandrant-shaped. Water linearly flowing through the water inlets (7, 8) makes turns; however, the decrease in the flow rate of the water occurring due to this turning movement is reduced and/or prevented thanks to the narrowing cross-sections of the water inlets (7, 8) (Figure 4).

[0022] In the washing machine (1) of the present invention, the flushing device (6) is more efficiently supplied, thus the cleaning agents located in the dispenser (2) are enabled to be better dissolved and the flow rate of the water is prevented from decreasing at the eccentric water inlets (7, 8).

Claims

1. A washing machine (1) **comprising** a dispenser (2) wherein cleaning agents like detergent, softener etc. are placed and where the cleaning agents are mixed with water, a housing (3) wherein the dispenser (2) is placed, at least one water conduit (4) that carries water from the mains to the dispenser (2), a flushing device (6) mounted on the dispenser (2), enabling water to be directed into the dispenser (2) and having more than one hole (5) at its base enabling water to pass into the dispenser (2), a first water inlet (7) that transfers the water received from the water conduit (4) to the flushing device (6) angularly, a second water inlet (8) that transfers the water received from the water conduit (4) to the flushing device (6) so as to block the water transferred from the first water inlet (7), a first channel (9) that is disposed on the flushing device (6), that faces the first water inlet (7) and that is supplied from the first water inlet (7), a second channel (109) that is disposed on the flushing device (6), that faces the second water inlet (8) and that is supplied from the second water inlet (8), and a third channel (209) that is disposed between the first channel (9) and the second channel (109) and wherein the jets of water simultaneously sprayed from the first water inlet (7) and second water inlet (8) flow after colliding with each other,
   characterized in that the first water inlet (7) and the second water inlet (8) with cross-sections narrowing towards the flushing device (6).
2. A washing machine (1) as in Claim 1, **characterized in that** the eccentric first water inlet (7) and the eccentric second water inlet (8) with quadrant-shaped inclinations.

Figure 1

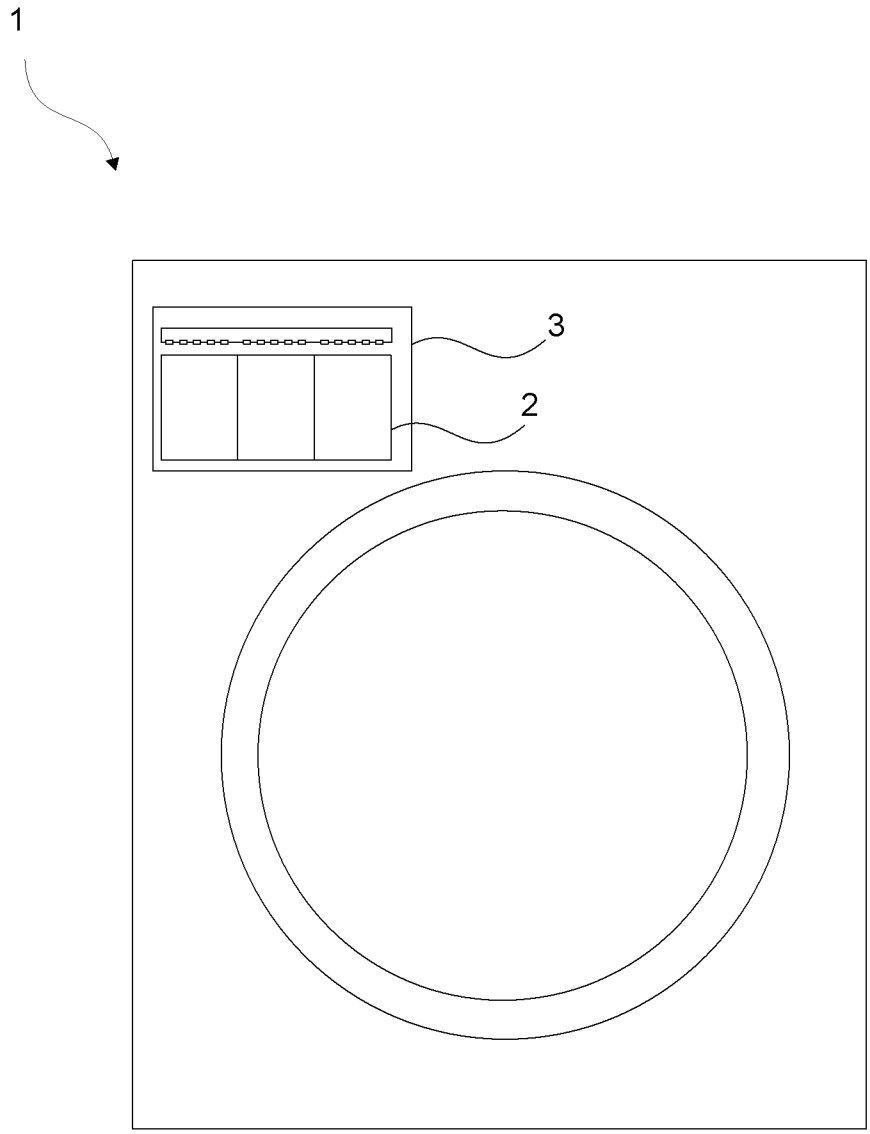


Figure 2

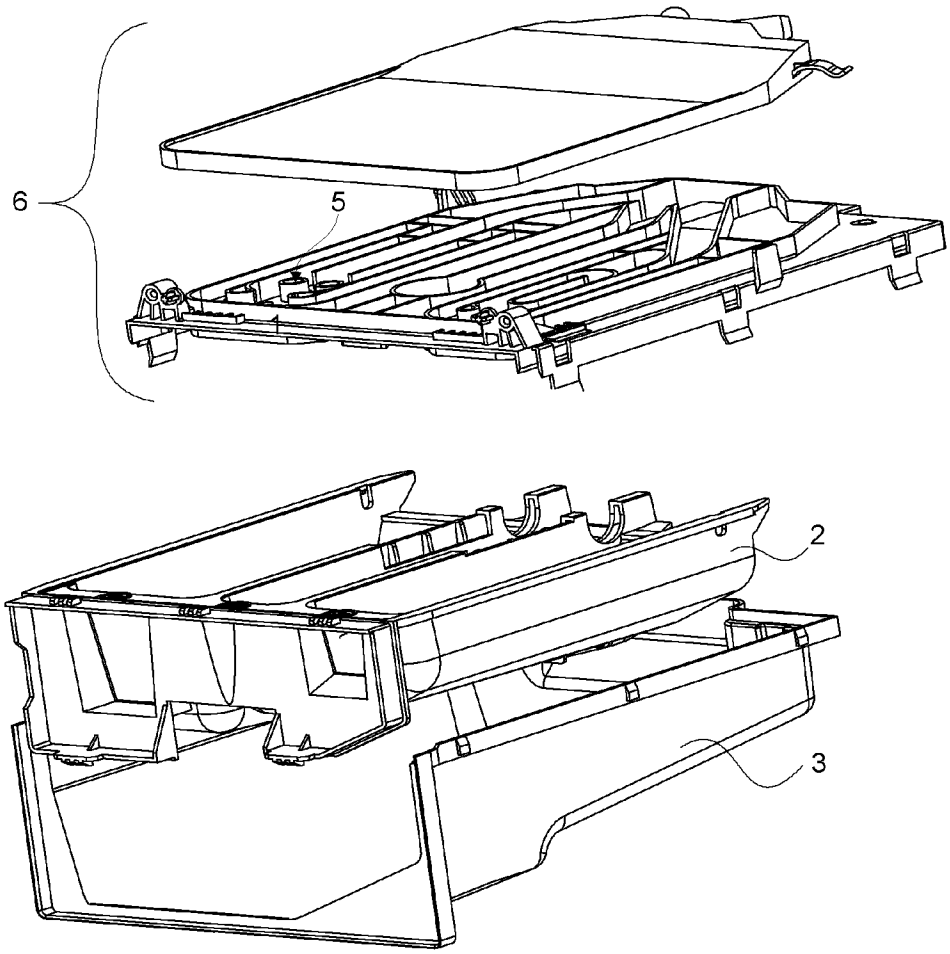


Figure 3

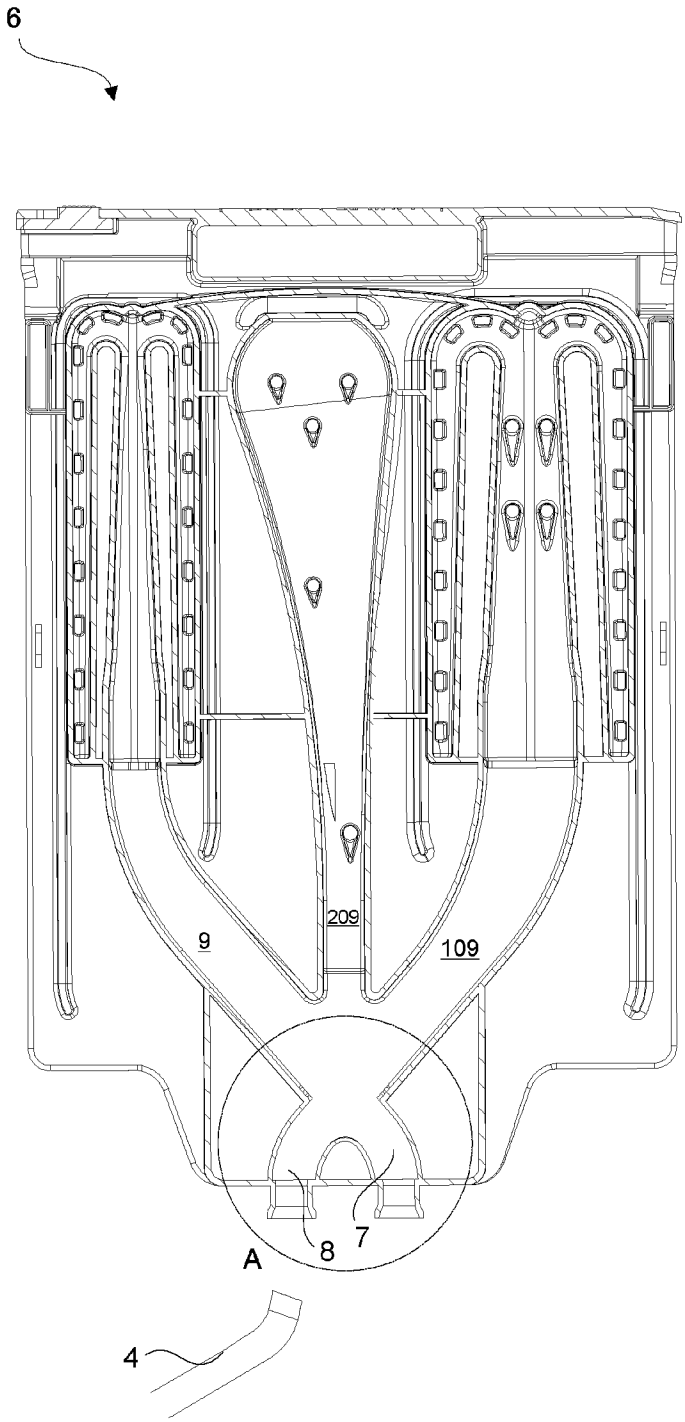


Figure 4

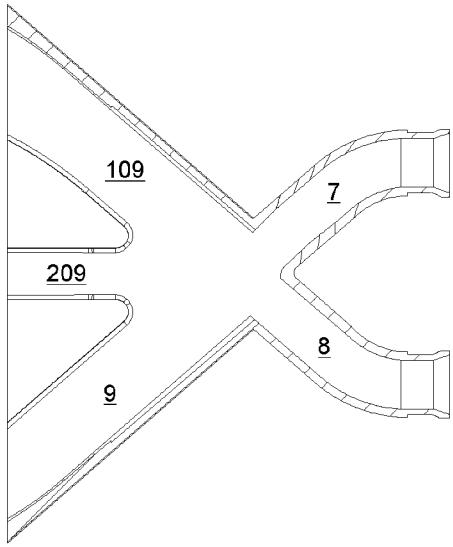
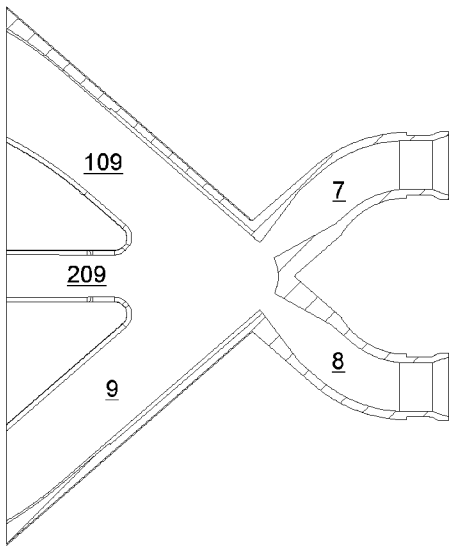


Figure 5



INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2014/072947

A. CLASSIFICATION OF SUBJECT MATTER
INV. D06F39/02
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)
D06F

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	EP 2 078 779 A1 (ELECTROLUX HOME PROD CORP [BE]) 15 July 2009 (2009-07-15) paragraph [0006] - paragraph [0007] paragraph [0010] - paragraph [0023]; figures 1, 2, 3	1,2
X	GB 2 353 540 A (AWECO APPLIANCE SYS GMBH & CO [DE]) 28 February 2001 (2001-02-28) page 1, line 1 - page 2, line 7 page 6, line 19 - page 8, line 18; figure 1	1,2
A	EP 2 241 669 A1 (ELECTROLUX HOME PROD CORP [BE]) 20 October 2010 (2010-10-20) paragraph [0040] - paragraph [0062]; figures 1, 4, 5 paragraph [0104] - paragraph [0108]	1,2

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

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Date of the actual completion of the international search	Date of mailing of the international search report
25 November 2014	05/12/2014

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Sabatucci, Arianna

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2014/072947

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