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(71) Applicant: **ARCELIK ANONIM SIRKETI** [TR/TR];  
Sutluce Karaagac Caddesi No: 2/6 Beyoglu, 34445 ISTAN-  
BUL (TR).

(72) Inventors: **TOSUN, Isa**; E5 Ankara Asfalti Uzeri, Tuzla,  
34950 ISTANBUL (TR). **OZTURK, Tansel**; E5 Ankara  
Asfalti Uzeri, Tuzla, 34950 ISTANBUL (TR). **MUTLU-**

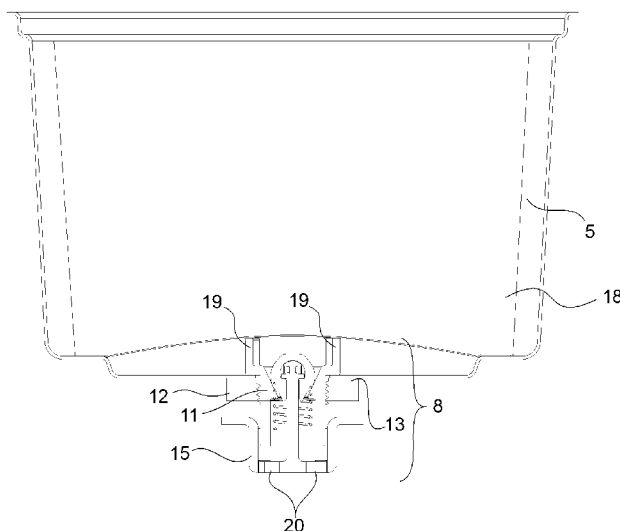
**DOGAN, Mehmet**; E5 Ankara Asfalti Uzeri, Tuzla, 34950  
ISTANBUL (TR). **KAYISDAG, Varol**; E5 Ankara Asfalti  
Uzeri, Tuzla, 34950 ISTANBUL (TR). **MUTLU, Eren**;  
Sutluce Karaagac Caddesi No: 2/6 Beyoglu, 34445 ISTAN-  
BUL (TR).

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(54) Title: A HOT BEVERAGE PREPARATION MACHINE

Figure 2



(57) Abstract: The present invention relates to a hot beverage preparation machine (1) comprising a body (2); a water reservoir (3) wherein water is filled; a water heater (4) enabling the water in the water reservoir (3) to be heated; a brewing chamber (5) wherein the raw material of the beverage to be prepared is put and whereto the water heated in the water reservoir (3) is transferred, wherein the brewing process is performed as a result of the interaction between the raw beverage material and water; a housing (6) which is positioned on the body (2), under the brewing chamber (5); a pot (7) which is placed into the housing (6), the top surface thereof being at least partially open and whereto the beverage brewed in the brewing chamber (5) is transferred.

UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

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**Description****A HOT BEVERAGE PREPARATION MACHINE**

- [0001] The present invention relates to a hot beverage preparation machine for automatically preparing beverages.
- [0002] In hot beverage preparation machines, the water filled into the water reservoir is heated by a water heater and is transferred to the brewing chamber containing raw beverage material to be prepared. The brewing process is performed in the brewing chamber as a result of the interaction between the raw beverage material and water. The brewed beverage is afterwards transferred into a pot and served. The period of time the raw beverage material interacts with the water is one of the important parameters which define the brew strength, hence the taste of the beverage. In the state of the art, machines are known which carry out brewing process for certain periods of time as per user selection. After staying in the brewing chamber for a certain period of time, the beverage is transferred into the pot. Electronic valves are used for transferring the water into the pot. Due to accumulation of beverage residues on the valve in the course of time, some beverage may remain in the brewing chamber. Since the user cannot access the electronic valves, the cleaning process cannot be carried out, and as some old beverage remains in the brewing chamber, hygiene problems such as mold, etc. may arise. This situation causes user dissatisfaction.
- [0003] In the state of the art International Patent Application No. WO2008049163, a tea maker is disclosed, wherein the pulp of the used beverage material is removed from the brewing chamber.
- [0004] The aim of the present invention is the realization of a hot beverage preparation machine which provides ease of use and cleaning.
- [0005] The hot beverage preparation machine realized in order to attain the aim of the present invention and explicated in the claims, comprises a body; a water reservoir which is placed onto the body and wherein the brewing water is heated; a brewing chamber wherein the brewing process is performed as a result of the interaction between raw beverage material and water; a housing which is provided on the body; and a pot which is

placed on the housing so as to allow the beverage brewed in the brewing chamber to be distilled therein. When the brewing process is completed, the hot beverage is strained from the brewing chamber to the pot and separated from the raw beverage material. Thus, the taste of the beverage obtained momentarily during the brewing process is kept for a longer time and the beverage is prevented from getting stale.

[0006] The hot beverage preparation machine of the present invention comprises a transfer mechanism which can be detachably attached onto the brewing chamber by the user. By means of the transfer mechanism, the beverage brewed in the brewing chamber is transferred into the pot. The transfer mechanism can be efficiently cleaned by means of the detachable structure thereof.

[0007] In an embodiment of the present invention, the hot beverage preparation machine comprises a hole which is provided on the base of the brewing chamber and a connection member which is fixed by being passed through the hole and rotated. A plurality of threads and a nut moving over the threads are provided on the connection member. By means of the nut moving over the threads, the connection member is fixed onto the brewing chamber or separated from the brewing chamber. A gasket is provided between the nut and the connection member. By means of the gasket, leak-proofing is ensured during the transfer of the beverage.

[0008] In an embodiment of the present invention, the hot beverage preparation machine comprises the almost oval shaped hole. By means of the oval shape of the hole, the connection member can be fixed onto the brewing chamber after being passed through the hole and rotated.

[0009] In an embodiment of the present invention, the hot beverage preparation machine comprises a channel which passes through the center of the connection member, a receptacle which is positioned under the channel, a plurality of openings which are provided on the receptacle, a plug which extends from the receptacle towards the brewing chamber, and a spring which is positioned under the plug. By means of the plug, the flow of the beverage into the pot is controlled. The beverage to be transferred to the pot is transferred from the brewing chamber into the receptacle and from

there delivered to the pot by means of the openings. By means of the spring, the plug is enabled to move upwards/downwards.

[0010] In an embodiment of the present invention, the hot beverage preparation machine comprises a filter which strains the beverage and the connection member having a plurality of protrusions providing that a gap remains between the brewing chamber and the filter upon being attached to the brewing chamber. Thus, the beverage is enabled to be strained more quickly.

[0011] By means of the present invention, a hot beverage preparation machine is realized, wherein the flow of the beverage into the pot is mechanically controlled.

[0012] The hot beverage preparation machine realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

[0013] Figure 1 - is the front perspective view of the hot beverage preparation machine.

[0014] Figure 2 - is the schematic view of the hot beverage preparation machine comprising the brewing chamber in an embodiment of the present invention.

[0015] Figure 3 - is the front schematic view of the receptacle, the channel and the gasket in the hot beverage preparation machine in an embodiment of the present invention.

[0016] Figure 4 - is the top perspective view of the brewing chamber comprising the hole in an embodiment of the present invention.

[0017] Figure 5 - is the perspective view of the relation between the connection member and the channel in the hot beverage preparation machine in an embodiment of the present invention.

[0018] The elements illustrated in the figures are numbered as follows:

1. Hot beverage preparation machine
2. Body
3. Water reservoir
4. Water heater
5. Brewing chamber
6. Housing

- 7. Pot
- 8. Transfer mechanism
- 9. Hole
- 10. Thread
- 11. Connection member
- 12. Nut
- 13. Gasket
- 14. Channel
- 15. Receptacle
- 16. Plug
- 17. Spring
- 18. Filter
- 19. Protrusion
- 20. Opening

[0019] The hot beverage preparation machine (1) comprises a body (2); a water reservoir (3) wherein water is filled; a water heater (4) enabling the water in the water reservoir (3) to be heated; a brewing chamber (5) wherein the raw material of the beverage to be prepared is put and whereto the water heated in the water reservoir (3) is transferred, wherein the brewing process is performed as a result of the interaction between the raw beverage material and water; a housing (6) which is positioned on the body (2), under the brewing chamber (5); a pot (7) which is placed into the housing (6), the top surface thereof being at least partially open and whereto the beverage brewed in the brewing chamber (5) is transferred. The raw material of the beverage is put into the brewing chamber (5) by the user. By taking the water boiled by means of the water heater (4) into the brewing chamber (5), the beverage is brewed for a period of time. The prepared beverage at the completion of the brewing process is transferred from the brewing chamber (5) into the pot (7).

[0020] The hot beverage preparation machine (1) of the present invention comprises a transfer mechanism (8) which is provided at the base of the brewing chamber (5), which transfers the brewed beverage into the pot (7) and which can be detachably attached onto the brewing chamber (5) by

the user. By means of the transfer mechanism (8), the beverage brewed in the brewing chamber (5) is strained and transferred into the pot (7). The transfer mechanism (8) can be detached and efficiently cleaned by the user. Thus, beverage residues are prevented from accumulating on the transfer mechanism (8), decreasing the rate of malfunction.

- [0021] In an embodiment of the present invention, the hot beverage preparation machine (1) comprises a hole (9) which is provided on the base of the brewing chamber (5); and the transfer mechanism (8) having a connection member (11) which is fixed by being rotated on the hole (9) and which has a plurality of threads (10), a nut (12) which moves by rotating on the threads (10) on the connection member (11), and a gasket (13) which is provided between the nut (12) and the connection member (11) and which provides leak-proofing. The connection member (11) is passed through the hole (9) and rotated so as to be attached to the brewing chamber (5). As the nut (12) moves on the threads (10) towards the brewing chamber (5), the connection member (11) is fixed to the brewing chamber (5). By moving the nut in the opposite direction, the connection member (11) is detached from the brewing chamber (5).
- [0022] In an embodiment of the present invention, the hot beverage preparation machine (1) comprises the almost oval shaped hole (9). By means of the oval- or key-shaped hole (9), the connection member (11) is rotated and fixed onto the hole (9). Thanks to the difference in diameter or shape, the connection member (11) is prevented from detaching from the brewing chamber (5).
- [0023] In an embodiment of the present invention, the hot beverage preparation machine (1) comprises a channel (14) which is provided at the center of the connection member (11), a receptacle (15) which is positioned under the channel (14), a plurality of openings (20) which are provided on the receptacle (15), a plug (16) which extends from the receptacle (15) along the channel (14), and a spring (17) which is positioned under the plug (16). By means of the channel (14) extending along the connection member (11), the beverage is transferred into the pot (7). The plug (16) extending from the receptacle (15) along the channel (14) enables the beverage to

be controlled. By means of the spring (17), the plug (16) is enabled to move upwards/downwards. When the user detaches the transfer mechanism (8) from the brewing chamber (5), the plug (16) and the receptacle (15) can be thoroughly cleaned. Thus, dirt accumulating on the channel (14) or the opening (20) is cleaned, ensuring the flow of beverage.

[0024] In an embodiment of the present invention, the hot beverage preparation machine (1) comprises a filter (18) which is provided on the brewing chamber (5) and which separates the raw beverage material from the beverage, and the connection member (11) having a plurality of protrusions (19) providing that a gap remains between the brewing chamber (5) and the filter (18) upon being attached to the brewing chamber (5). By means of the filter (18), the beverage is strained and then transferred to the brewing chamber (5), and the raw beverage material is retained on the filter (18). By means of the claws remaining between the brewing chamber (5) and the filter (18), a gap is formed between the filter (18) and the brewing chamber (5). Thus, the straining process is performed more efficiently.

[0025] By means of the present invention, a hot beverage preparation machine (1) is realized, wherein the brewed beverage is transferred into the pot (7) by means of mechanical components. Thus, the user can access and efficiently clean the components.

## Claims

1. A hot beverage preparation machine (1) **comprising**
  - a body (2);
  - a water reservoir (3) wherein water is filled;
  - a water heater (4) enabling the water in the water reservoir (3) to be heated;
  - a brewing chamber (5) wherein the raw material of the beverage to be prepared is put and whereto the water heated in the water reservoir (3) is transferred, wherein the brewing process is performed as a result of the interaction between the raw beverage material and water;
  - a housing (6) which is situated on the body (2), under the brewing chamber (5); and
  - a pot (7) which is placed into the housing (6), the top surface thereof being at least partially open and whereto the beverage brewed in the brewing chamber (5) is transferred,**characterized by** a transfer mechanism (8)
  - which is provided at the base of the brewing chamber (5), which transfers the brewed beverage into the pot (7) and
  - which can be detachably attached onto the brewing chamber (5) by the user.
2. A hot beverage preparation machine (1) as in Claim 1, **characterized by** a hole (9) which is provided on the base of the brewing chamber (5); and the transfer mechanism (8) having a connection member (11) which is fixed by being rotated on the hole (9) and which has a plurality of threads (10), a nut (12) which moves by rotating on the threads (10) on the connection member (11), and a gasket (13) which is provided between the nut (12) and the connection member (11) and which provides leak-proofing.
3. A hot beverage preparation machine (1) as in Claim 2, **characterized by** the almost oval shaped hole (9).
4. A hot beverage preparation machine (1) as in Claim 2, **characterized by** the transfer mechanism (8) comprising a channel (14) which is provided at the center of the connection member (11), a receptacle (15) which is positioned under the channel (14), a plurality of openings (20) which are provided on the receptacle (15), a plug (16) which extends from the receptacle (15) along the channel (14), and a spring (17) which is positioned under the plug (16).

5. A hot beverage preparation machine (1) as in Claim 2 or Claim 4,  
**characterized by** a filter (18) which is provided on the brewing chamber (5) and which separates the raw beverage material from the beverage, and the connection member (11) having a plurality of protrusions (19) providing that a gap remains between the brewing chamber (5) and the filter (18) upon being attached to the brewing chamber (5).

Figure 1

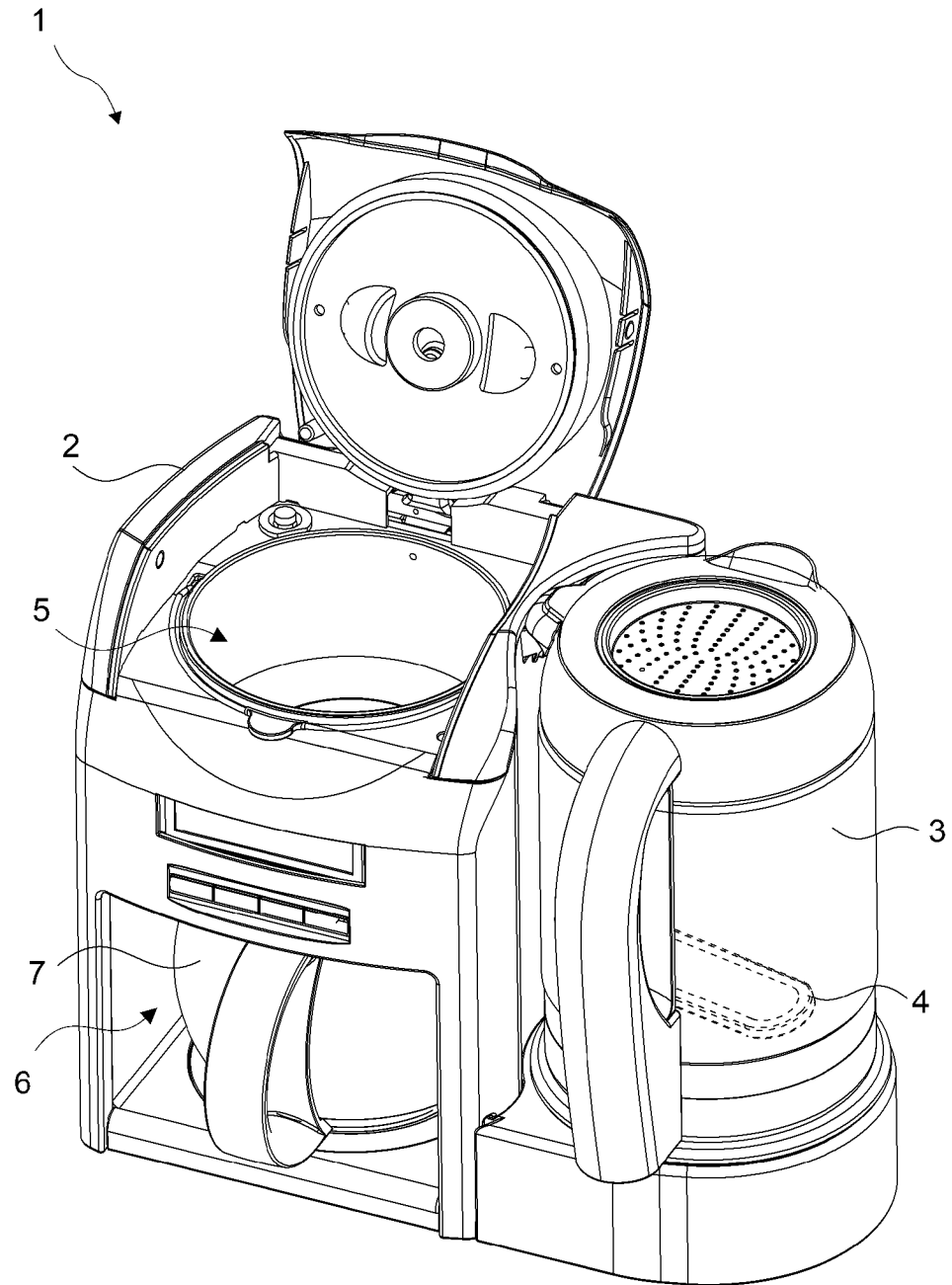


Figure 2

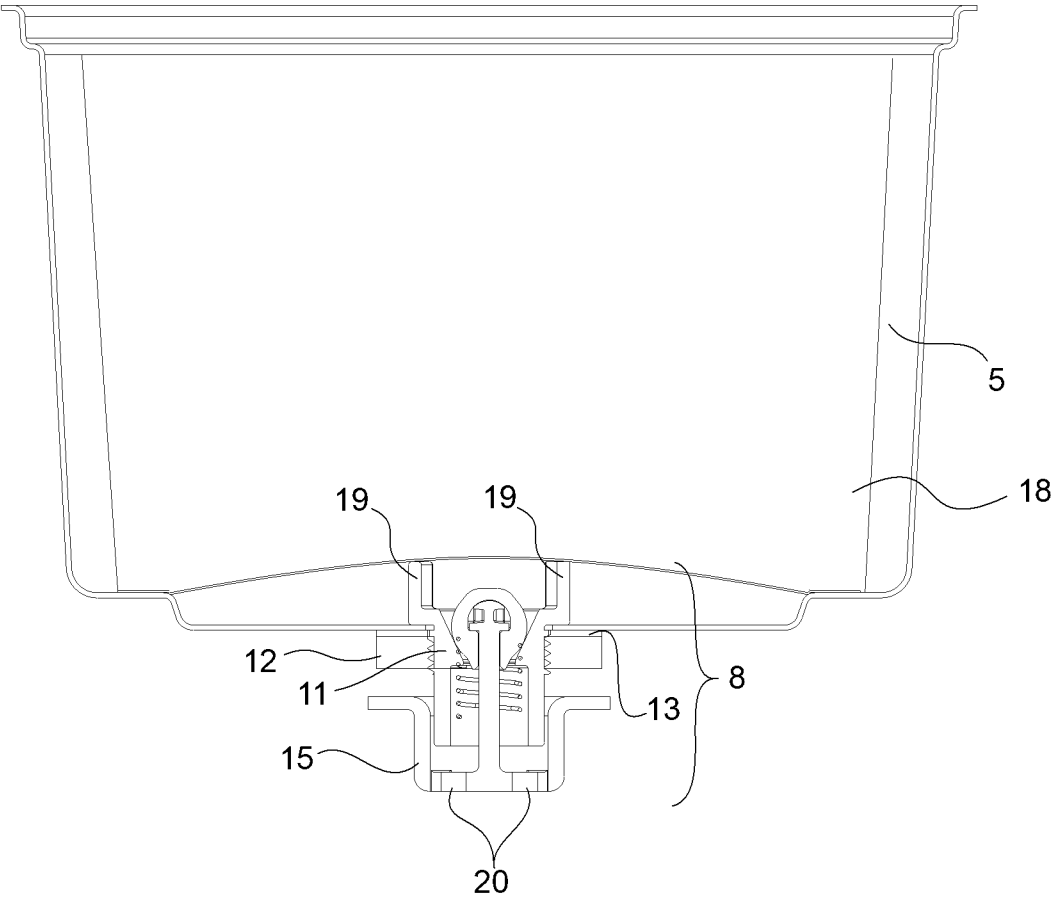


Figure 3

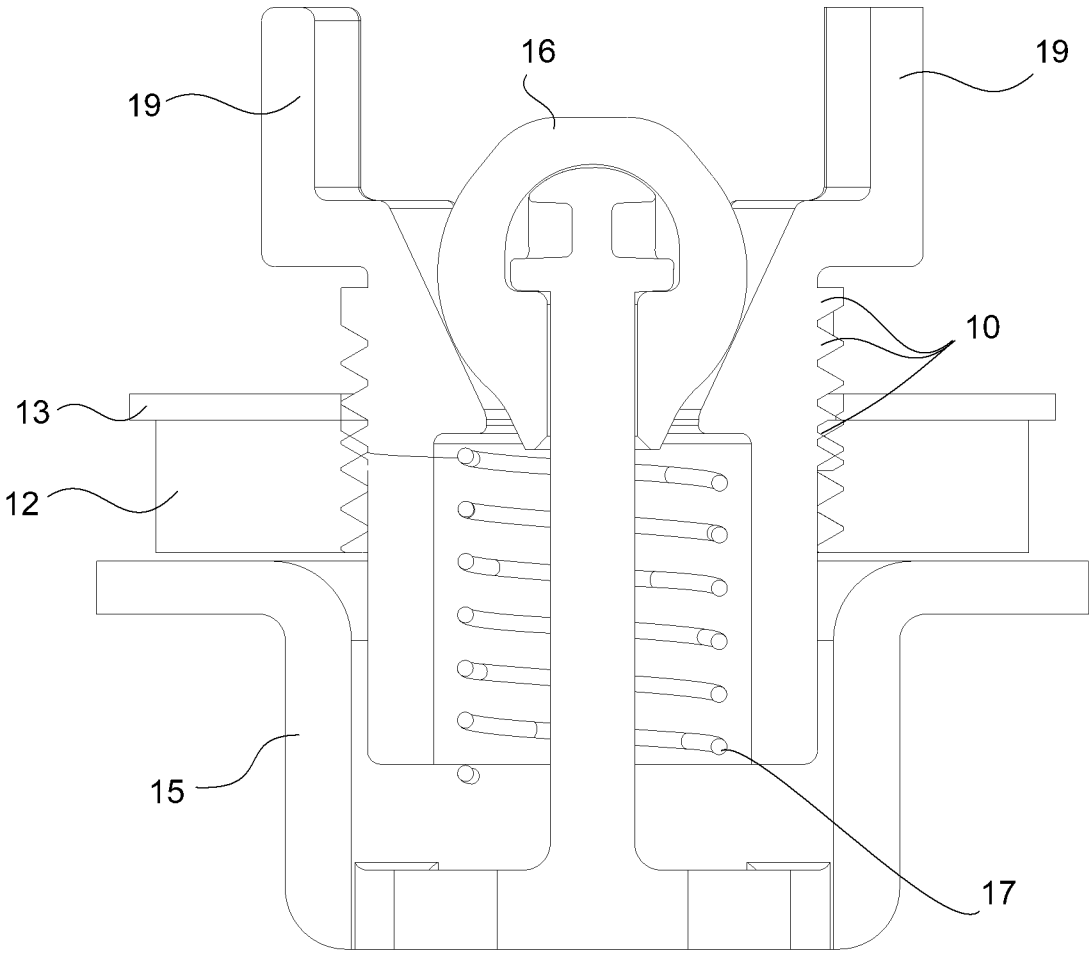


Figure 4

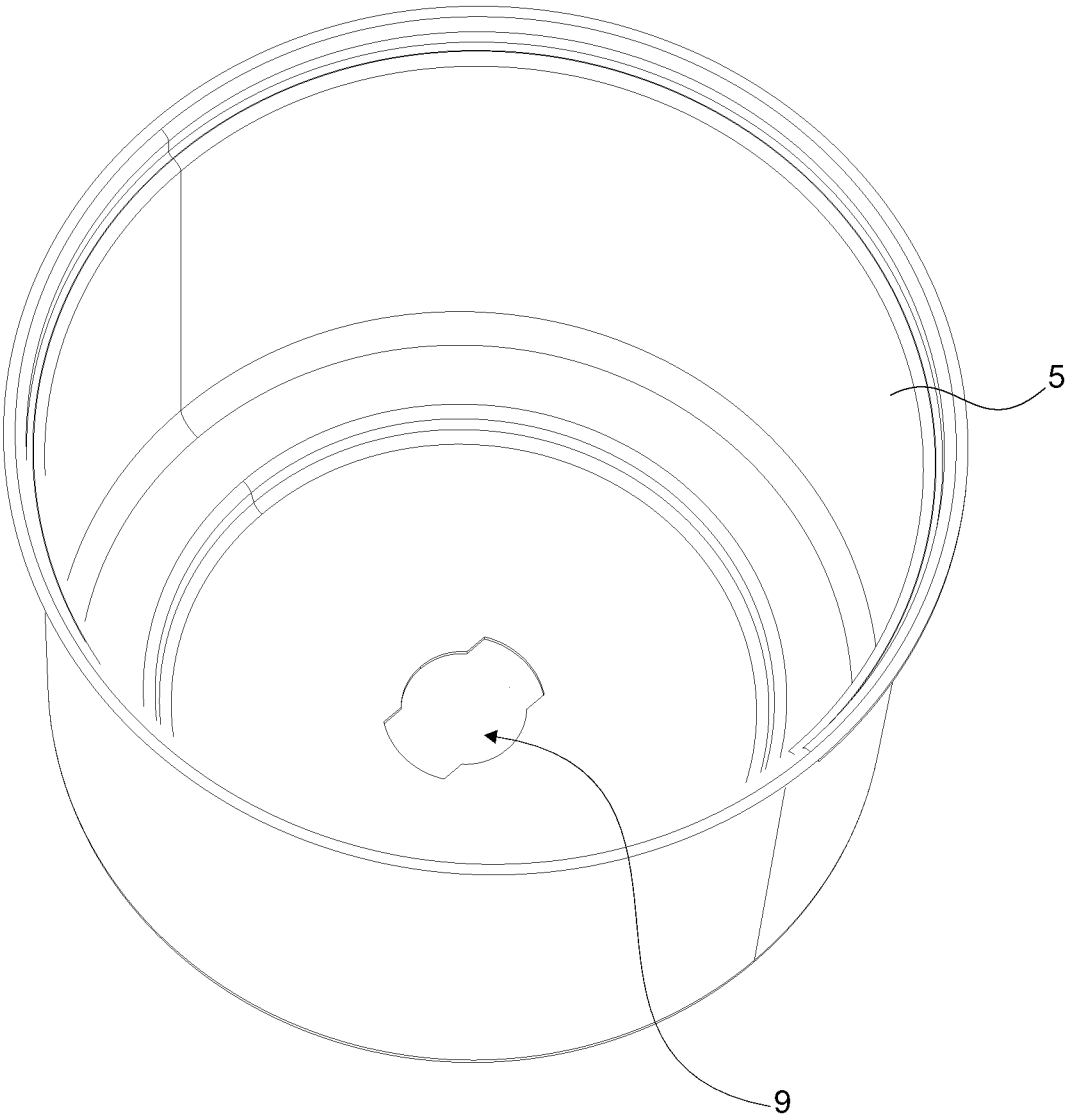
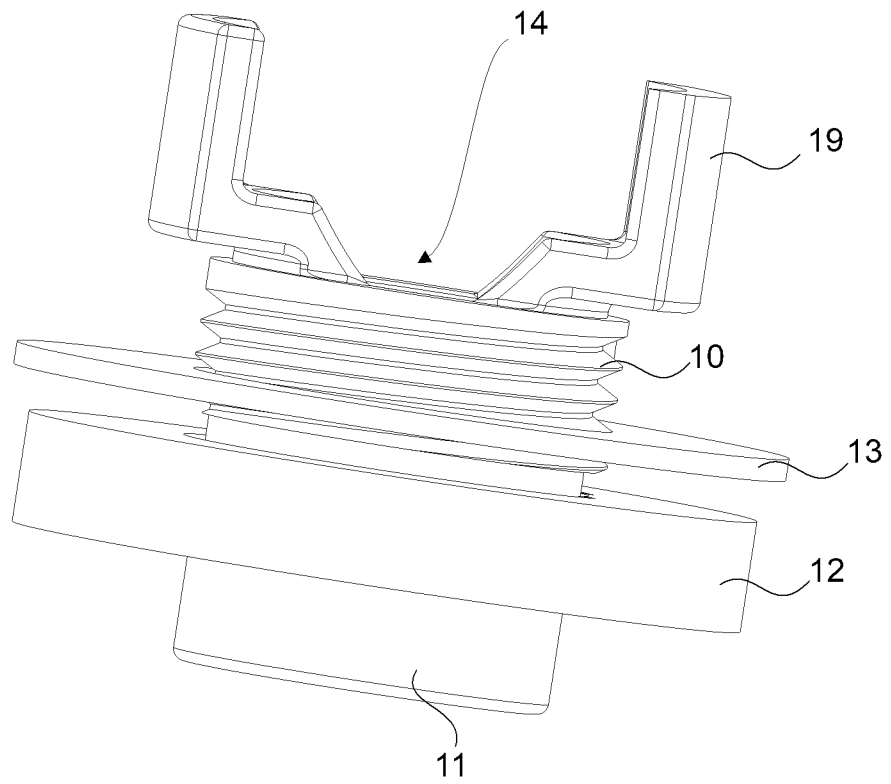


Figure 5



# INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2020/058319

A. CLASSIFICATION OF SUBJECT MATTER  
INV. A47J31/057 A47J31/06  
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)  
A47J

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)

EP0-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 3 793 933 A (WEBER R)<br>26 February 1974 (1974-02-26)                                                                           | 1                     |
| Y         | column 4, lines 48-66<br>column 5, lines 36-62<br>figure 2                                                                          | 2-5                   |
| Y         | -----<br>US 4 798 222 A (KAUFFMAN WILLIAM [US])<br>17 January 1989 (1989-01-17)<br>column 3, line 49 - columns 4-19; figures<br>1-3 | 2,3                   |
| Y         | -----<br>US 2013/019754 A1 (TIEN PAO-WU [TW] ET AL)<br>24 January 2013 (2013-01-24)<br>paragraphs [0027], [0029]; figure 3          | 4,5                   |
| X         | -----<br>US 8 033 212 B2 (LIU MING-TUNG [TW])<br>11 October 2011 (2011-10-11)<br>figures 1-3                                        | 1                     |
|           | -----<br>-/--                                                                                                                       |                       |



Further documents are listed in the continuation of Box C.



See patent family annex.

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Date of the actual completion of the international search

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Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040,  
Fax: (+31-70) 340-3016

Authorized officer

Leblanc, Romain

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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|-----------|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X         | US 8 397 628 B2 (WEBSTER JOSEPH P [US]; JACOBSEN JODY G [US]; NEWCO ENTPR INC [US]) 19 March 2013 (2013-03-19) figures 2A,5<br>----- | 1,2                   |
| X         | EP 1 319 357 A2 (CELAYA EMPARANZA GALDOS SA [ES]) 18 June 2003 (2003-06-18) figure 1<br>-----                                        | 1,2                   |
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2020/058319

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date                                                               |
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