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(74) Agent: ANKARA PATENT BUREAU; Bestekar Sokak
No.10, Kavaklıdere, 06680 Ankara (TR).

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(71) Applicant (*for all designated States except US*): ARCELIK ANONIM SIRKETI [TR/TR]; E5 Ankara Asfaltı Uzeri, Tuzla, 34950 Istanbul (TR).

(72) Inventors; and

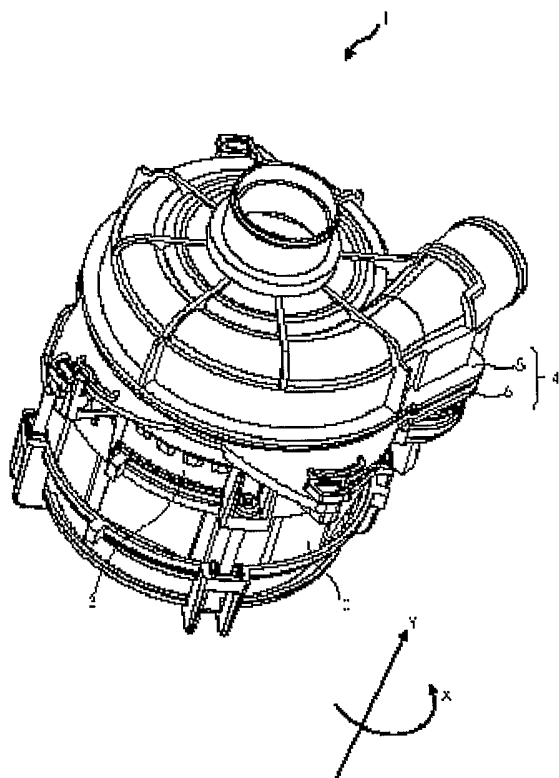
(75) Inventors/Applicants (*for US only*): NUMANOGLU, Guvenc [TR/TR]; Arcelik Anonim Sirketi, E5 Ankara Asfaltı Uzeri, Tuzla, 34950 Istanbul (TR). ASKIN, Ufuk [TR/TR]; Arcelik Anonim Sirketi, E5 Ankara Asfaltı Uzeri, Tuzla, 34950 Istanbul (TR).

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[Continued on next page]

(54) Title: A PUMP



(57) Abstract: This invention relates to a pump (1) which provides an easy production and service by means of the mounting/demounting of the pump motor (2) and the pump body (4) by means of the locking mechanism (12) which can be stretched and not be deformed.



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- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*
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Description

A PUMP

- [001] This invention relates to a pump which is particularly used in the dishwashers and washing machines, and can be easily mounted and demounted.
- [002] The pumps used in the washing machines to direct the flow of washing water to the points desired during the washing processes consist of a pump motor and a pump body. The assembly of the pump motor together with the pump body is provided by means of the bayonet-type methods.
- [003] In state of art, German Patent Application 1959087 discloses the pump motor and the pump body is integrated to each other by means of a bayonet-type method..
- [004] In German Patent Application 19718027 the pump motor and the pump body is integrated by means of a bayonet-type method and the steady integration is provided by inserting thermoplastic elastomer thereof.
- [005] In German Patent Application 19927897 the pump motor and the pump body is connected to each other through an improved bayonet-type method.
- [006] The object of this invention is to provide a pump which is particularly used in the dishwashers and washing machines and the pump motor together with the pump body of which can be easily mounted and demounted.
- [007] The pump realized to attain the object of the present invention is illustrated in the attached drawings, wherein
- [008] Figure 1 is a perspective view of a pump.
- [009] Figure 2 is a perspective view of the lower body of a pump.
- [010] Figure 3 is a perspective view of the upper cover of a motor.
- [011] Figure 4 is a detailed view of a pump flange.
- [012] Figure 5 is a detailed view of a fixation arm of the upper cover of a motor.
- [013] Figure 6 is a detailed view of a position in which a detent stands on the peak when the lower pump body is attached to the upper motor cover .
- [014] Figure 7 is a detailed view of a position in which a detent reaches at the peak when the lower pump body is attached to the upper motor cover.
- [015] Figure 8 is a detailed view of a position in which a detent fits in the housing by passing a peak when the lower pump body is attached to the upper motor cover .
- [016] The figures have been each numbered corresponding the following:
1. Pump
 2. Pump motor
 3. Motor upper cover
 4. Pump body
 5. Pump upper body
 6. Pump lower body
 7. Fixation arm

1. Fixer
2. Detent
3. Flange
4. Locking mechanism
5. Extension
6. Housing
7. Peak
8. Discharge
9. Set

[017] The pump (1) which is the subject of the invention comprises a pump motor (2) which drives the pump (1), motor upper cover (3) which covers the motor (2) and a pump body (4) onto which the motor upper cover (3) is placed.

[018] Pump body (4) comprises a pump upper body (5) which is connected to each other preferably by means of the heat welding and pump lower body (6) which can be mounted on the motor upper cover (3).

[019] Motor upper cover (3) comprises one or more fixation arms (7) which provide the attachment of the pump lower body (6) .

[020] The fixation arm (7) comprises one or more fixers (9) which are used to limit the movement of the pump lower body (6) in the axial direction (y direction) and one or more detents (10) which are used to limit the movement of the pump lower body (6) in the radial direction (x direction).

[021] The pump lower body (6) comprises one or more flanges (11) which receive the fixation arms (7) when attached to the motor upper cover (3) and one or more locking mechanisms (12) which are on the said flanges (11).

[022] The locking mechanism (12) comprises an extension (13) which limits the movement of the pump lower body (6) in the axial direction (y direction) by penetrating under the fixer (9), a housing (14) into which a detent(10) is fixed, a peak (15) which limits the movement of the pump lower body (6) in the radial direction (x direction) by preventing the exit of the detent (10) from the housing and the detent (10) comprises a discharge (16) on the flange (11) adjacent to the peak (15) and the housing (14) preventing the deformation by stretching the peak (15) when the pump lower body (6) is attached to the motor upper cover (3).

[023] Discharge (16) having curled preferably "s" form increases the flexibility of the peak (15).

[024] When the pump (1) is mounted, firstly the motor upper cover (3) is attached to the pump motor (2) and the pump body (4) is formed by attaching the pump upper body (5) with the pump lower body (6) by means of the plastic welding. Afterwards pump body (4) is placed on the motor upper cover (3). The pump lower body (6) is rotated and when the detent (10) stands on the peak (15) as a result of the rotation process, extension (13) penetrates under the fixer (9). As the rotation process is continued, the

detent(10) passes over the peak (15) due to the stretching force towards the discharge (16) and fixes into the housing (14) whereas the extension (13) penetrates under the fixer (9).

[025] When the pump is required to be demounted, the pump lower body (6) placed onto the motor upper cover (3) is reversed and the detent (10) leaves from the housing (14) by passing over the peak (15) due to the stretching towards the discharge (16) whereas the extension (13) gets out of the fixer (9).

[026] In another embodiment of the invention, the locking mechanism (12) comprises a set (17) which extends among the discharge (16), peak (15) and the housing (14) and provides the stretch of the peak (15) towards the discharge (16) when the detent (10) passes over and rotation to its prior position easily.

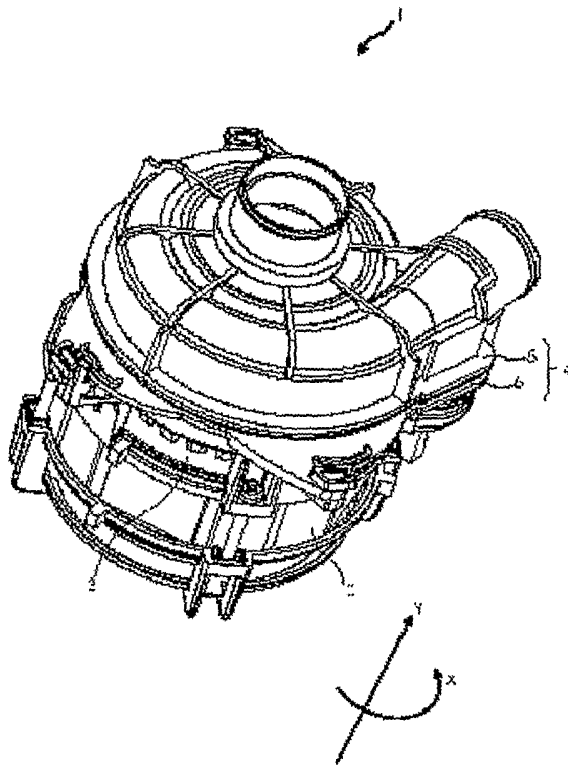
[027] In another embodiment of the invention, the pump body (4) is formed by the attachment of the pump upper body (5) with the pump lower body (6) by means of the plastic welding after the pump lower body (6) is attached to the motor upper cover (3).

[028] The mounting/demounting of the pump (1) which is the subject of the invention with the pump motor (2) and the pump body (4) by means of the locking mechanism (12) which can be stretched and not be deformed provides an easy production and service.

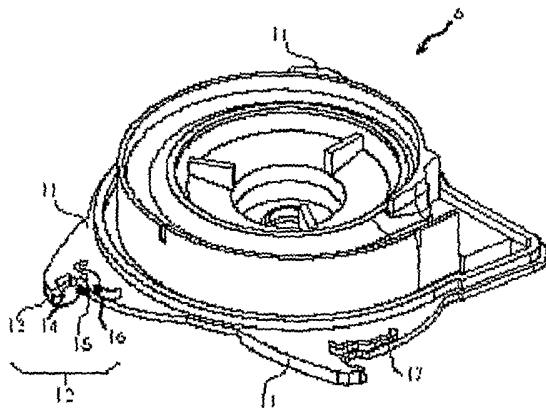
Claims

- [001] A pump (1) having a pump motor (2) which drives the pump (1), motor upper cover (3) which covers the pump motor (2), a pump body (4) comprising pump upper body (5) which is placed on the motor upper cover (3) and pump lower body (6) characterized with the pump lower body (6) comprising the motor upper cover (3) having one or more fixation arms (7) providing the attachment of the pump lower body (6), one or more flange (11) receiving the fixation arms (7) when attached to the upper cover (3) of the motor and one or more locking mechanism (12) on the flanges (11).
- [002] A pump (1) as defined in Claim 1 characterized with a fixation arm (7) comprising one or more fixers (9) which are used to limit the movement of the pump lower body (6) in the axial direction (y direction) and one or more detent (10) which are used to limit the movement of the pump lower body (6) in the radial direction (x direction).
- [003] A pump as defined in Claim 1 and 2 characterized with a locking mechanism (12) comprising an extension (13) which limits the movement of the pump lower body (6) in the axial direction (y direction) by penetrating under the fixer (9), a housing (14) into which a detent(10) is fixed, a peak (15) which limits the movement of the pump lower body (6) in the radial direction (x direction) by preventing the exit of the detent (10) from the housing and the detent(10) comprises a discharge (16) on the flange (11) adjacent to the peak (15) and the housing (14) preventing the deformation by stretching the peak (15) when the pump lower body (6) is attached to the motor upper cover (3).
- [004] A pump (1) as defined in Claim 3 characterized with a discharge (16) which increases the flexibility of the peak with its curled preferably "s" form.
- [005] A pump (1) as defined in Claim 3 characterized with a locking mechanism (12) comprising a set (17) which extends among the discharge (16), peak (15) and the housing (14) and provides the stretch of the peak (15) towards the discharge (16) when the detent (10) passes over and rotation to its prior position easily.

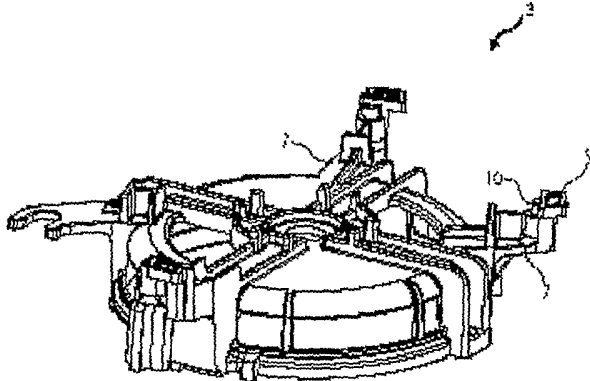
[Fig. 001]



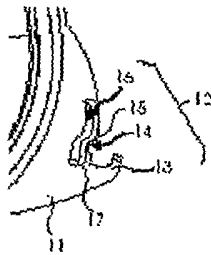
[Fig. 002]



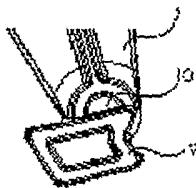
[Fig. 003]



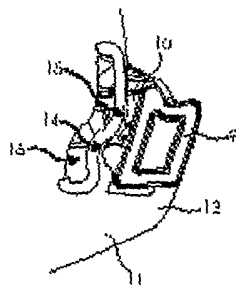
[Fig. 004]



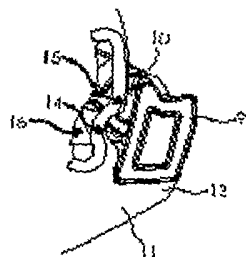
[Fig. 005]



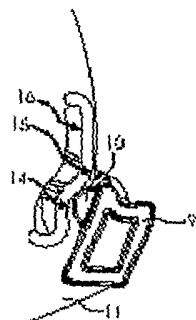
[Fig. 006]



[Fig. 007]



[Fig. 008]



INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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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)
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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 practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 100 45 596 A (BUEHLER MOTOR GMBH) 4 April 2002 (2002-04-04) the whole document	1
A	DE 21 54 750 A (LICENTIA GMBH) 24 May 1973 (1973-05-24) the whole document	1
A	& DE 200 05 247 U (GRUNDFOS A S BJERRINGBRO) 25 May 2000 (2000-05-25)	1
A	EP 0 849 473 A (KLEIN SCHANZLIN & BECKER AG) 24 June 1998 (1998-06-24) the whole document	1

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

☒ Patent family members are listed in 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, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Giorgini, G

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