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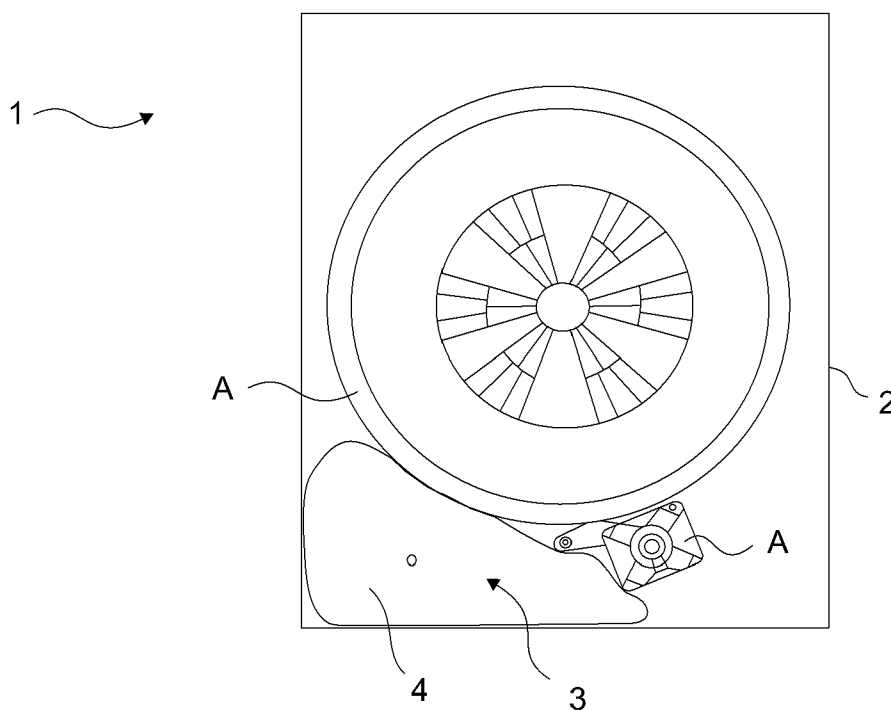
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(54) Title: A HOUSEHOLD APPLIANCE

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(57) Abstract: The present invention relates to a household appliance (1) comprising a low cost support apparatus (3) that can be mounted and dismantled without opening the body (2) of the household appliance (1), for preventing the probable damages that may happen during transportation.

Description

A HOUSEHOLD APPLIANCE

- [0001] The present invention relates to a household appliance, which is prevented from being damaged during transportation.
- [0002] The household appliances can slide in the vehicle wherein they are emplaced and can collide with each other during transportation. Some of the components inside the household appliance, for example the tub and drive group for washer/dryers can move and bump to the inner wall of the household appliance body as a result of sliding and colliding and result in damaging of the body and themselves.
- [0003] In state of the art, the components of the household appliance that may move during transportation and damage the body are temporarily fixed to the main body to be disengaged after the transportation process. The components fixed to the body can damage the shipped household appliance, for example the bolts used for fixing the tub of the washer/dryer to the body can tear off the region forming the vicinity of the bolt hole in the tub thus causing damage in cases when the transport vehicle stops suddenly, and fast releasing or falling down of the freight on the floor.
- [0004] On the other hand, since the support provided by the said fixing elements sometimes cannot prevent damaging of the household appliance during transportation, styropor of various shapes and sizes is disposed in the appliance to support components that may move.
- [0005] The cost is high when considering that the said fixing and supporting elements will only be used during transportation. On the other hand, the body of the household appliance has to be opened and closed again in order to mount the said fixing and supporting elements and dismount again after transport. This is both a demanding and time consuming process.
- [0006] In the Turkish patent application no. TR200302290, the explanation is given for a fixing mechanism having a bolt with weakened body sections, that fixes the tub of the washer/dryer to the external body, that bears the forces affecting due to oscillations of the tub, which is deformed and broken due to sudden and excessive loads formed during transport, preventing the region around the bolt hole in the tub to be torn.

- [0007] In the Turkish patent application no. TR200400782, a support structure in a washing machine is explained which is made of bumpers that are disposed between the tub or the motor and the body and mounted on at least the tub, motor or the body so as to prevent the oscillating components such as the tub and the motor from hitting the body.
- [0008] In the Japanese patent application no. JP2000128273, a bag is described that is situated at the base of the machine that can be inflated and deflated from the outside to support the tub and the drive group in a washing machine.
- [0009] The object of the present invention is to design a household appliance comprising a practical and low cost support apparatus that prevents the probable damages by supporting the movable components within the body
- [0010] The household appliance designed to fulfill the objective of the present invention, comprises a support apparatus, which can be mounted and dismounted without opening the body and when the appliance is moved during transportation supports the elements that may move within the body preventing damaging.
- [0011] The support apparatus comprises a balloon that serves as a bag by being inflated with air, a hose with one end extending to the orifice of the balloon and the other end extending to the exterior surrounding by passing through an opening on the body and a valve that controls the flow of air from the hose.
- [0012] A washer/dryer designed to fulfill the objective of the present invention is illustrated in the attached figures, where:
- [0013] Figure 1 □s the cross-sectional view of an embodiment of the present invention.
- [0014] Figure 2 □s the cross-sectional view of another embodiment of the present invention.
- [0015] Figure 3 □s the perspective view of an embodiment of the present invention.
- [0016] Figure 4 □s the detailed view of an embodiment of the present invention.
- [0017] The elements illustrated in the figures are numbered as follows:
1. Household appliance

2. Body
3. Support apparatus
4. Balloon
5. Hose
6. Valve
7. Opening
8. Cover

[0018] The household appliance (1) comprises a body (2) that safeguards the operating components within, at least one support apparatus (3) having a balloon (4) that supports the components (A) in the body (2) that may be damaged by moving during the transportation of the household appliance (1), and at least one opening (7) formed on the body (2) for mounting and dismounting the support apparatus (3) to the household appliance (1), large enough for the support apparatus (3) to go through when the balloon (4) is deflated (Figure 1).

[0019] It is sufficient for the opening (7) to be large enough for the support apparatus (3) to pass through when the balloon (4) is deflated since it does not take up much space on the body (2). By means of the opening (7), the support apparatus (3) can be mounted or dismounted to the household appliance (1) without the need for an additional assembly tool.

[0020] The support apparatus (3) comprises a balloon (4) that supports the damageable components (A) by being inflated with air, a hose (5) with one end extending to the orifice of the balloon (4) and the other end extending to the exterior surrounding by passing through the opening (7), providing air inflow and outflow to the balloon (4) and a valve (6) that controls the passage of air from the hose (5) (Figure 2).

[0021] When the household appliance (1) of the present invention is to be transported, the valve (6) opens to inflate the balloon (4) with air through the hose (5) so that the support apparatus (3) can fulfill the supporting function. The inflated balloon (4) becomes a bag that supports the components (A) that can be damaged by oscillating within the body (2) and attenuates the movement that can occur within the body (2) during transportation. Consequently, the components (A) are prevented from

causing damage by bumping to the body (2) or to the other elements in the household appliance (1). When the transportation ends and the household appliance (1) is delivered to the end user, the valve (6) is opened again, deflating the air in the balloon (4). Afterwards, the hose (5) is pulled and the balloon (4) is passed through the opening (7) formed on the body (2) thus the support apparatus (3) is dismounted from the household appliance (1). The support apparatus (3) is stored to be utilized when the household appliance (1) is to be transported another time and the balloon (4) is mounted by inserting again through the opening (7) on the body (2) and used again.

[0022] In an embodiment of the present invention, the balloon (4) is manufactured of a resilient and durable material. When filled with air, it is inflated due to resiliency of the material and takes the shape of the space wherein it is disposed. Accordingly, it contacts the components (A) within the body (2) that may be damaged by motion and attenuates the motion when required (Figure 1).

[0023] In another embodiment of the present invention, the balloon (4) has a predetermined shape and size. When filled with air, it takes the determined shape. The determined shape is preferably such that it will contact the components (A) that may be damaged by moving within the body (2) and thus will attenuate the motion when required (Figure 2).

[0024] In an embodiment of the present invention, the support apparatus (3) is disposed in the body (2) in such a way that the components (A) that may be damaged by moving within the body (2) are supported from the bottom (Figure 1).

[0025] In another embodiment of the present invention, the support apparatus (3) is disposed in the body (2) in such a way that the components (A) that may be damaged by moving within the body (2) are supported from the sides (Figure 2).

[0026] In an embodiment of the present invention, the opening (7) is situated at the frontal side of the household appliance (1). Accordingly, in order to bring the household appliance (1) to the position of use, the need for

turning or displacing is eliminated after dismantling the support apparatus (3) (Figure 3).

- [0027] In an embodiment of the present invention, a cover (8) is used in order to provide an esthetic appearance when the support apparatus (3) is not mounted on the household appliance (1) by closing the opening (7) that is formed on the body (2) for mounting and dismantling the support apparatus (3) (Figure 3).
- [0028] In an embodiment of the present invention, the household appliance (1) is a horizontal axis washer/dryer. In washer/dryers the motor described as the drive group (A) for rotating the tub and the drum within the tub can move within the body (2) during transportation. The drive group (A) has to be supported in order to prevent damaging by bumping to the body (2) and the other elements or causing damage as a result of this movement. Therefore, the support apparatus (3) is mounted in the washer/dryer machine in a manner that the drive group (A) is supported when the balloon (4) is inflated.
- [0029] In the household appliance (1) of the present invention, an economic support apparatus (3) is provided that supports the components (A) in the household appliance (1) that can be damaged by being activated in the case of an excessive load acting upon during transportation, which can be mounted and dismantled from the household appliance (1) only to be used temporarily during transportation, providing the transportation safety of the household appliance (1).

Claims

1. A household appliance (1) comprising a body (2) and characterized by at least one support apparatus (3) having a balloon (4) inflated with air to support the components (A) in the body (2) that may be damaged by motion during transportation and at least one opening (7) formed on the body (2) for mounting and dismounting the support apparatus (3) to the household appliance (1), large enough for the support apparatus (3) to go through when the balloon (4) is deflated.
2. A household appliance (1) as in Claim 1, characterized by a support apparatus (3) comprising a hose (5) with one end extending to the orifice of the balloon (4) and the other end extending to the exterior surrounding by passing through the opening (7), providing air inflow/outflow to/from the balloon (4) and a valve (6) that controls the passage of air from the hose (5).
3. A household appliance (1) as in Claim 1 or 2, characterized by a cover (8) that provides an esthetic appearance when the support apparatus (3) is not mounted on the household appliance (1) by closing the opening (7) that is formed on the body (2) for mounting and dismounting the support apparatus (3).
4. A household appliance (1) as in any one of the above claims, characterized by a balloon (4) manufactured of a resilient and durable material and when filled with air takes the shape of the space wherein it is disposed by being inflated due to resiliency of the material.
5. A household appliance (1) as in any one of the above claims 1 to 3, characterized by a balloon (4) that has a predetermined shape and size and when filled with air, takes the determined shape.
6. A household appliance (1) as in any one of the above claims, characterized by a balloon (4) disposed in the body (2) in such a way that the components (A) within the body (2) that may be damaged by motion are supported from the bottom.
7. A household appliance (1) as in any one of the above claims, characterized by a support apparatus (3) disposed in the body (2) in such a way that the components (A) within the body (2) that may be damaged by motion are supported from the sides.

8. A household appliance (1) as in any one of the above claims, characterized by an opening (7) situated at the frontal side of the household appliance (1) thus eliminating the need for turning or displacing the household appliance (1) for bringing it to the position of use after dismounting the support apparatus (3).
9. A household appliance (1) as in any one of the above claims, which is a horizontal axis washer/dryer.

Figure 1

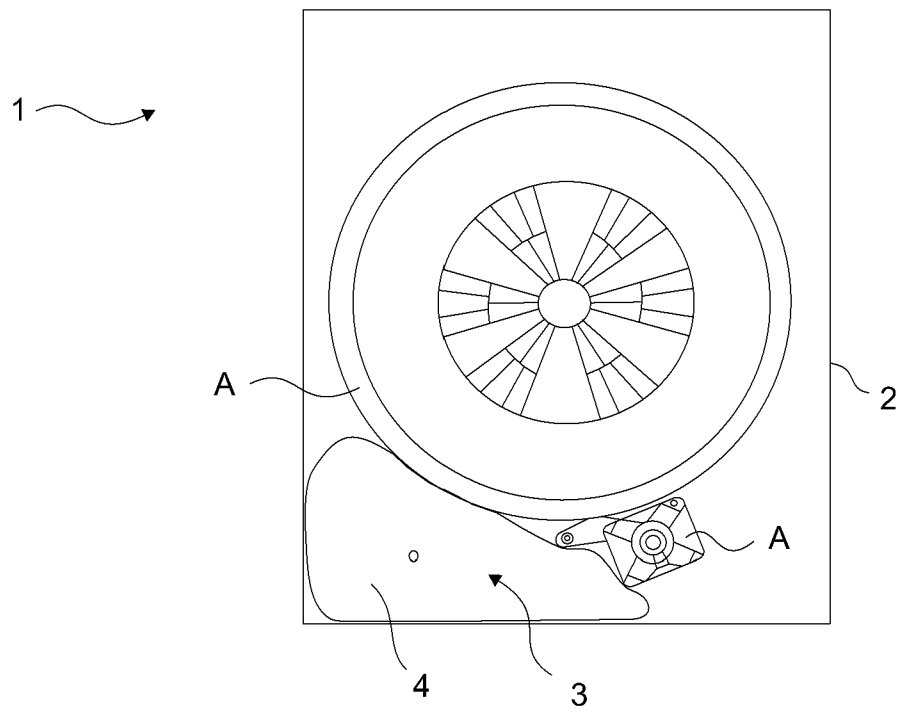


Figure 2

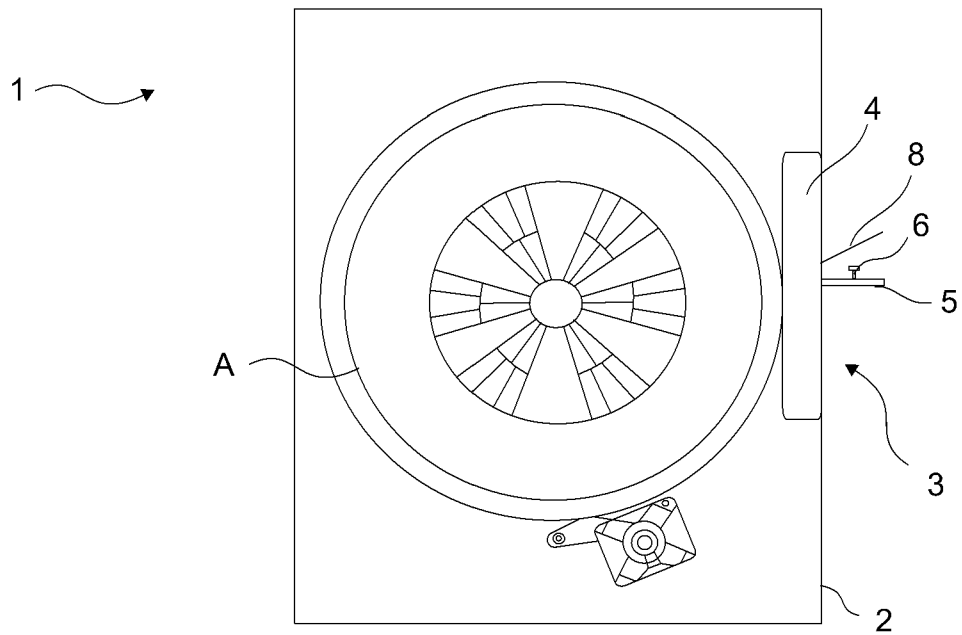


Figure 3

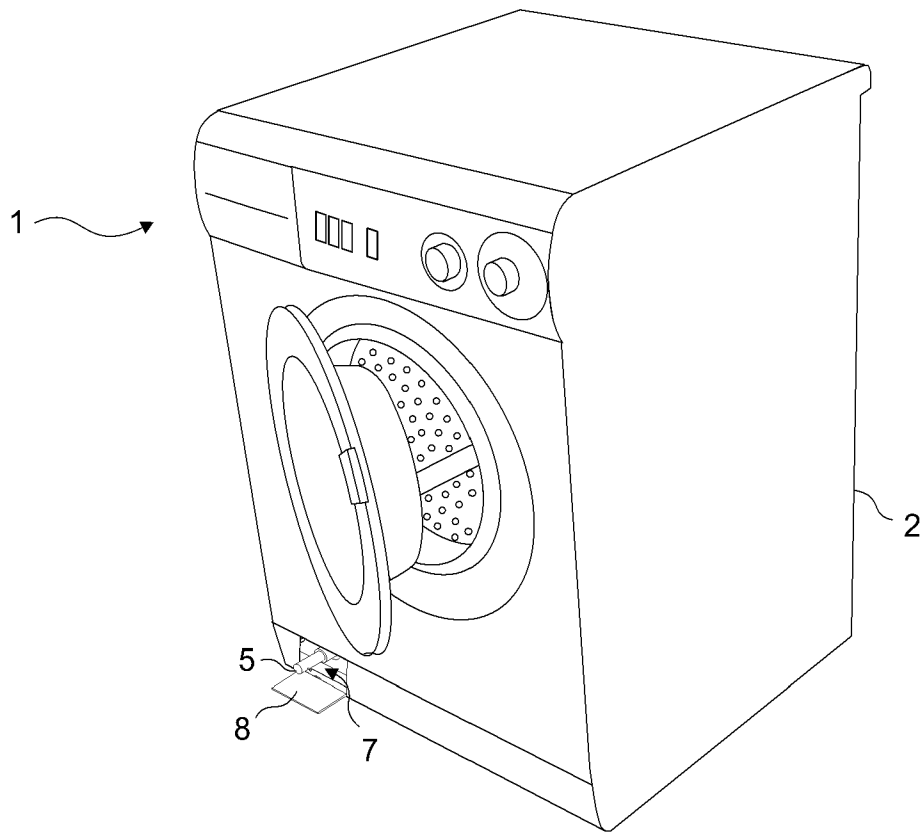


Figure 4

