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(54) Title: DISPENSING DEVICE

(57) Abstract: A removable drawer liner dispenser for dispensing a concentrated flowable laundry composition via a drawer of a washing machine. Also a method of washing fabrics within a washing machine, with a concentrated laundry composition and the drawer liner dispenser, the method comprising the steps of: 1. transfer the concentrated laundry composition into drawer liner dispenser 2. inserting the drawer liner dispenser into the drawer of the washing machine 3. washing the fabrics.



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DISPENSING DEVICE

The present invention relates to a dispensing device for use in a washing machine having a drawer for receiving and supplying concentrated laundry compositions.

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Many automatic washing machines comprise a box shaped recess and a drawer which is slidably mounted in said recess. The drawer is provided with a plurality of separate compartments for containing wash and/or rinse products to be flushed by an incoming water flow into the washing receptacle.

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Concentrated laundry compositions offer huge benefits in terms of reduced monetary and environmental costs. However dosing accurately is essential as even a small amount of overdosing can have a great impact. Dosing flowable liquid or gel compositions accurately via the drawer can be difficult, pre-measuring in a dosing cup and pouring into the drawer has the disadvantage that flowable liquids especially thick ones, leave a residue which means the dose may be incorrect. One alternative is to use a measured dosing device such as a metered dispensing device, however these can be expensive monetarily and environmentally due to the increased amount of materials and complexity of design.

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An objective is to provide an improved dispensing device for concentrated flowable laundry compositions in automatic washing machines with drawers.

25 Accordingly, in a first aspect, the present invention provides a drawer liner dispenser, which is preferably removable, for dispensing a concentrated flowable laundry composition via a drawer of a washing machine.

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In second aspect the invention provides a method of washing fabrics within a washing machine, with a concentrated laundry composition and the drawer liner dispenser of the first aspect of the invention, the method comprising the steps of:

- 5 1. transfer the concentrated laundry composition into drawer liner dispenser
2. inserting the drawer liner dispenser into the drawer of the washing machine
3. washing the fabrics.

10 In third aspect the present invention provides a packaged concentrated laundry composition comprising a package containing concentrated laundry composition and a drawer liner dispenser of the first aspect.

15 In a fourth aspect the present invention provides a washing machine comprising a drawer for receiving and supplying laundry compositions, including concentrated flowable laundry compositions, said drawer containing a drawer liner dispenser according to the first aspect of the invention.

20 With the arrangement, dispensing of concentrated flowable laundry compositions within a washing machine via the drawer can be effected conveniently by dosing into the drawer liner dispenser. The drawer liner dispenser may be already in the drawer or may be out of the drawer, to be placed therein after the composition has been transferred.

25 The third aspect preferably contains instructions for use according to the second aspect.

30 Preferably the drawer liner dispenser comprises measuring indicia so that the composition can be measured as it is transfer into or onto the drawer liner dispenser. This negates the need for measured dispensing devices on the main package.

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For highly viscous compositions which pile up, the measured indicia may be a shape which has an area calibrated to the viscosity of the composition such that a predetermined volume is dosed providing the composition is transferred by pouring, squeezing or pumping etc. onto the shape until the shape is covered by the composition.

There may be multiple shapes, so the user can select according to the method of transfer or dose. The shapes may overlap so providing smaller versus larger shapes, for smaller versus larger doses respectively.

The shape may be a circle which may have further indicia such as a central point to indicate that the composition should be directed toward the centre of the circle to ensure maximum accuracy of dosage.

The shape may be an elongate rectangle, such that the composition is directed onto the shape in an elongate path which may be linear or curved. The shape may indicia to indicate one or more starting points and/or one or more endpoints.

Washing machine drawers generally comprise multiple compartments into which the flowable laundry composition is dispensed according to its type e.g. whether it is main wash detergent, pre-wash detergent, rinse conditioner, bleach etc. The drawer liner dispenser is preferably configured for placement one or more of such compartments. Where the drawer comprises such compartments, the term drawer within this specification should be construed as referring to these compartments.

The drawer liner dispenser may comprise an inclined wall which, in use (when the device is placed in the drawer) is inclined at an obtuse angle with respect to the base of the drawer. The advantage of this feature is that the presence of the wall restricts the flow of the flowable composition during dosing so that the whole dose remains visible, but enables the device to be tipped over in the direction of the

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water flow out of the drawer by a vertical force (such as water from a water inlet pipe which feeds into the drawer from an upward position) such that the wall will tend to lie more aligned, and preferably flat against the base to allow egress of the flowable composition together with the feed water toward the washing receptacle (drum) of the machine. After the water flow has stopped, and drawer liner device emptied, it may spring back to an upright position with the inclined wall back in the original retaining position.

The device may be constructed so that it is unstable (with a concave base for example) to encourage such tipping.

The drawer liner dispenser may comprise a foldable structure which is provided flat (so it can be transported with the composition more economically) with instructions for consumer erection after purchase. There may be one or more fold lines to allow construction of the drawer liner dispenser. There may be one or more fold lines to provide a inclined wall as described above.

The device may incorporate a moveable wall where in a first position it is upright to restrict the flow of the flowable composition during dosing, and in a second position it is inclined at an obtuse angle with respect to the base of the drawer, or flat against the base of the drawer.

The device preferably comprises at least one or more flexible walls, to allow ease of fitting in different sized drawers or drawer compartments.

The drawer liner device is preferably re-usable and as such it is preferred that the device comprises a water insoluble material such as a polyolefin e.g. polypropylene (PP), polyethylene (PE), polyethylene terephthalate (PET). Smooth surfaces are preferred as these prevent composition being retained unnecessarily.

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The device is removable, however, it may contain temporary means of retaining the device in place for a single or multiple washes such as flexible walls which flex against the sides of the drawer or even adhesive.

- 5 The flowable laundry composition may be an industrial or domestic fabric wash or fabric conditioning composition and/or a washing and conditioning composition (so-called through the wash conditioner compositions) and/or a fabric care composition.
- 10 The flowable composition may be a liquid or gel or may be a particulate product. By "particulates" it is meant herein to include powders, agglomerates, granules.

Various non-limiting embodiments of the invention will now be more particularly described with reference to the following figures in which:

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Figure 1 shows a first drawer liner dispenser according to one embodiment of the invention

- Referring to figure 1, a removable drawer liner dispenser 1 for dispensing a
- 20 concentrated flowable laundry composition 3 via a drawer 4 (having compartment 5) of a washing machine 7.

- With this arrangement, dispensing the concentrated flowable laundry composition 3 within a washing machine 7 via the drawer compartment 5 can be effected
- 25 conveniently by dosing into the drawer liner dispenser 1. The drawer liner dispenser 1 may be already in the drawer compartment 5 or may be elsewhere, to be placed therein after the composition 3 has been transferred.

- The drawer liner dispenser 1 comprises measuring indicia (Not shown) so that the
- 30 composition can be measured as it is transfer into or onto the drawer liner

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dispenser. This negates the need for measured dispensing devices on the main package.

The drawer liner dispenser comprises an inclined wall 9 which, in use (when the device is placed in the drawer) is inclined at an obtuse angle with respect to the base 11 of the drawer compartment 5. The advantage of this feature is that the presence of the wall 9 restricts the flow of the flowable composition 3 during dosing so that the whole dose remains visible, but enables the drawer liner dispenser to be tipped over in the direction of the water flow out of the drawer by a vertical force (such as water 15 from a water inlet pipe which feeds into the drawer from an upward position) such that the wall 9 will tend to lie more aligned with the base 11 and allow egress of the flowable composition 3 together with the feed water 15 out of the draw in the normal way, toward the washing receptacle (drum) of the machine (not shown). After the water flow 15 has stopped, and drawer liner device 1 emptied, it springs back to an upright position with the inclined wall 9 back in the original retaining position. The drawer liner dispenser 1 is constructed so that it is unstable (with a concave base 17) to encourage such tipping.

The device comprises flexible walls, to allow ease of fitting in different sized drawers or drawer compartments. The drawer liner device is preferably re-usable and as such it is preferred that the device comprises a water insoluble material such as a polyolefin e.g. polypropylene (PP), polyethylene (PE), polyethylene terephthalate (PET). Smooth surfaces are preferred as these prevent composition being retained unnecessarily.

The flowable laundry composition may be an industrial or domestic fabric wash or fabric conditioning composition and/or a washing and conditioning composition (so-called through the wash conditioner compositions) and/or a fabric care composition.

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The flowable composition may be a liquid or gel or may be a particulate product. By "particulates" it is meant herein to include powders, agglomerates, granules.

It is of course to be understood that the invention is not intended to be restricted to
5 the details of the above embodiment which are described by way of example only.

CLAIMS

1. A drawer liner dispenser for dispensing a concentrated flowable laundry composition via a drawer of a washing machine.
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2. A drawer liner dispenser according to claim 1 wherein the dispenser is removable.
3. A drawer liner dispenser according to any preceding claim wherein the
10 dispenser comprises measuring indicia.
4. A drawer liner dispenser according to claim 3 wherein the indicia comprise one or more shapes with area calibrated to the viscosity of the flowable composition such that a predetermined volume is dosed providing the
15 composition is transferred by pouring, squeezing or pumping etc. onto the shape until the shape is covered by the composition.
5. A drawer liner dispenser according to any preceding claim wherein the dispenser comprises an inclined wall which, in use (when the device is
20 placed in the drawer) is inclined at an obtuse angle with respect to the base of the drawer.
6. A drawer liner dispenser according to any preceding claim wherein the
25 drawer liner is unstable to encourage such tipping.
7. A drawer liner dispenser according to any preceding claim wherein the drawer liner is unstable to encourage such tipping by means of a concave base.
- 30 8. A drawer liner dispenser according to any preceding claim wherein the drawer liner dispenser comprises a foldable structure which is provided flat

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(so it can be transported with the composition more economically) with instructions for consumer erection after purchase.

- 5 9. A drawer liner dispenser according to claim 8 wherein the drawer liner comprises one or more fold lines to provide the inclined wall according to claims 5-7.
- 10 10. A drawer liner dispenser according to any preceding claim wherein the drawer liner incorporates a moveable wall where in a first position it is upright to restrict the flow of the flowable composition during dosing, and in a second position it is inclined at an obtuse angle with respect to the base of the drawer, or flat against the base of the drawer.
- 15 11. A drawer liner dispenser according to any preceding claim wherein the drawer liner incorporates one or more flexible walls, to allow ease of fitting in different sized drawers or drawer compartments.
- 20 12. A drawer liner dispenser according to any preceding claim wherein the drawer liner incorporates means of temporarily retaining the device in place for a single or multiple washes such as flexible walls which flex against the sides of the drawer or even adhesive.
- 25 13. A packaged concentrated laundry composition comprising a package containing flowable concentrated laundry composition and a drawer liner dispenser of any preceding claim.
- 30 14. A washing machine comprising a drawer for receiving and supplying laundry compositions, including concentrated flowable laundry compositions, said drawer containing a drawer liner dispenser according to any of claims 1-12.

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15. A method of washing fabrics within a washing machine, with a concentrated laundry composition and the drawer liner dispenser of claims 1-12 the method comprising the steps of:

- 5 1. transfer the concentrated laundry composition into drawer liner dispenser
2. inserting the drawer liner dispenser into the drawer of the washing machine
3. washing the fabrics.

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16. A drawer liner dispenser substantially as hereinbefore described with reference to and/or as illustrated in the accompanying drawings.

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17. A washing machine incorporating a drawer liner substantially as hereinbefore described with reference to and/or as illustrated in the accompanying drawings.

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18. A packaged laundry product incorporating a drawer liner substantially as hereinbefore described with reference to and/or as illustrated in the accompanying drawings.

Fig. 1

