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(54) A dispensing receptacle for machine washing of clothes by means of a detergent in the form of tablets.

(57) A dispensing receptacle for machine washing of clothes by means of a detergent in the form of tablets which are placed in the interior of the receptacle prior to placing the latter in the drum of the washing machine and the washing process is started, said receptacle comprising a flexible liquid permeable sleeve (2) arranged in an enclosing manner about a comparatively rigid hollow body (1) to form an annular chamber (3) between the body and the sleeve (2). The body (1) has an inlet opening (5) for inserting a tablet (7) into the interior of the body and means for transferring the tablet from the interior of the body to the annular chamber (3). The transfer means comprises a transfer slot (6) formed in the lateral wall of the tubular body (1). Adjacent to the slot (6) a transversal wall (4) is provided in the interior of the tubular body (1). The dispensing receptacle according to the invention is easy to use and ensures a fast and efficient disintegration of the tablets inserted therein.

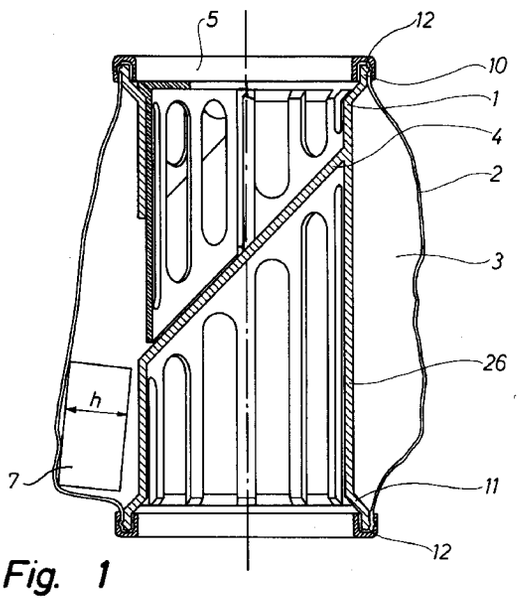

Fig. 1

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The invention relates to a dispensing receptacle for machine washing of clothes by means of a detergent in the form of tablets which are placed in the interior of the receptacle prior to placing the latter in the drum of the washing machine and the washing process is started, said receptacle comprising a flexible, fluid permeable sleeve being arranged in an enclosing manner about a comparatively rigid hollow body to form an annular chamber between the body and the sleeve, said body having an inlet opening for inserting a tablet into the interior of the body.

DK-B 165.759 discloses a dispensing device of the above type, wherein the hollow body having the shape of an essentially tubular body is formed of a mouthpiece and a closing part being at their inner ends in releasable engagement with each other. When the two parts are brought out of engagement with each other, the annular chamber formed between the tubular body and the sleeve communicates directly with the inlet opening in the mouthpiece. As a result, a tablet may be inserted into the annular chamber, and when the two parts are brought into engagement with each other again, the tablet is prevented from leaving the annular chamber in its entirety, as said chamber is closed. The tablet may then as intended only leave the annular chamber in dissolved or pulverized form through the liquid permeable sleeve or through openings in the tubular body. This dispensing device thus requires considerable handling of the two parts for inserting a tablet into the annular chamber.

The object of the invention is to provide a user-friendly dispensing receptacle of the type stated above ensuring a fast and efficient dissolution and disinte gration of the detergent tablets.

The dispensing receptacle according to the invention is characterised in that a transversal wall is arranged the interior of the hollow body and a transfer slot is formed adjacent thereto in the lateral wall of the hollow body allowing transfer of a tablet from the interior of the hollow body to the annular chamber.

Consequently, a tablet may be placed into the annular chamber in an easy manner by introducing it through the inlet opening of the body, whereby it falls down onto the transversal wall. Depending on the inclination of the inclined wall relative to vertical and relative to the adjacent transfer slot formed in the lateral wall of the body, the tablet is guided into the annular chamber, either on its own or by suitable orientation of the body. When the dispensing receptacle is placed inside the drum together with the laundry, the laundry will press the tablet against the hollow body with the sleeve as an intermediary layer, whereby the tablet is gradually disintegrated and dissolved, and the detergent thus leaves the annular chamber in a disintegrated or dissolved state.

According to the invention, the hollow body may be an essentially tubular body. This embodiment has proved particularly advantageous, especially when the tubular body is an essentially circular cylindrical body, as particularly good results are obtained as regards a quick and efficient disintegration and dissolution of the tablets.

Moreover, according to the invention, when seen in direction from the inlet opening to the transfer slot, the transversal wall may be downwardly inclined in the direction towards the latter. Consequently, when being introduced through the inlet opening, a tablet will slide down the inclined wall, through the transfer slot and into the annular chamber, whereby it is ensured that the tablet is actually placed in the annular chamber as intended.

Furthermore, according to the invention the lateral wall of the tubular body may be provided with openings, whereby the annular chamber communicates with the surroundings, i.e. the washing liquid, both through said openings and through the openings of the flexible sleeve. As a result, a rapid renewal of the liquid in the annular chamber is obtained allowing a quick dissolution of the tablet therein.

The invention is described in greater detail in the following with reference to the drawings, in which

Figure 1 is a vertical cross-sectional view through a preferred embodiment of the dispensing receptacle according to the invention,

Figure 2 is a top view of a tubular body of the dispensing receptacle,

Figure 3 is a sectional view through the tubular body along the line III-III in Figure 2,

Figure 4 is a top view of a slide of the dispensing receptacle shown in Figure 1,

Figure 5 is a sectional view along the line IV-IV in Figure 4, and

Figure 6 is a vertical sectional view through a second embodiment of a dispensing receptacle according to the invention.

The embodiment of the dispensing receptacle shown in Figures 1 to 5 comprises a tubular body 1 having an essentially circular cylindrical shape, and a flexible, liquid permeable sleeve 2 of cylinder-shape being at its ends connected to the ends of the tubular body 1 to form an annular chamber 3 therewith.

The sleeve 2 is made of a net-like or woven material, preferably of plastics or a textile and has meshes allowing liquid and possibly small particles to pass through.

In its interior the tubular body 1 is provided with a transversal wall 4, which when seen from the upper end of the tubular body defining an inlet opening 5, inclines downwardly towards a transfer opening 6 of the annular chamber 3. In a side view the transfer opening 6 has the same inclination as the transversal wall 4 and extends over half the periphery of the tubular body 1, as it is evident from Figure 3. Furthermore, the height H of transfer slot 6 is larger than the height h of the tablets 7 to be used in the dispensing recep-

tacle. As it appears from Figure 2, the inclined wall is provided with openings 8 allowing a flow of liquid through the interior of the tubular body 1.

In its outer wall 26 the tubular body is provided with a plurality of spaced slits 9 connecting the annular chamber 3 with the interior of the tubular body 1. At the upper and lower end the tubular body is provided with a annular extended edge portion 10,11 for attachment of the ends of the sleeve, said ends being placed around the respective edge portion 10,11 and a snap ring 12 with a U-shaped cross-section then being arranged in a retaining manner over the edge portion 10, 11 of the tubular body 1 with the end portion of the sleeve as an intermediary layer.

Axially extending guide grooves 13,14 are formed essentially diametrally opposite each other on the inner face of the tubular body 1 between the inclined wall 4 and the inlet opening 5. The guide grooves 13,14 serve to guide strips 15, 16 onto a slide 17 which may be displaced between a position shown in Figure 1, wherein it closes the transfer slot 6 and a position (not shown), wherein the slot is exposed.

With reference to Figures 4 and 5, the slide has an essentially semi-circular cylindrical wall 18 being provided with axial slits 19 and having a lower edge 23 inclining downwardly corresponding to the inclined transversal wall 4 of the tubular body 1. At its upper end the slide is provided with an inwardly projecting upper wall 20, which may be gripped by the user when the slide is to be displaced from its closing position shown in Figure 1 to its exposed position. As mentioned above, the axial displacement of the slide 17 is controlled by opposite guide strips 15,16 on the side rims of the semi-cylindrical wall of the slide being engaged in the guide grooves 13,14. Finally, the semi-cylindrical wall 18 of the slide is provided with two projections 21,22 on the outer face arranged in the area between the inclined edge 23 and the guide strips 15,16. The projections 21,22 are intended to engage recesses 24,25 formed at the upper inner end of the transfer slot 6 for determining the position of the slide, in which the transfer slot 6 is exposed and for preventing that the slide 17 is removed from the tubular body 1.

Figure 6 shows another embodiment of the invention, which only differs from the embodiment of the invention described above by the structure of the closing member for closing the transfer slot. The closing member is formed by five flaps extending across the transfer slot 56 in the tubular body 51, only three of said flaps 30, 31, 32 being visible on the sectional view of Figure 6. The flaps 30,31,32 are formed integrally with the tubular body 51 and connected therewith by means of hinges 33,34,35 formed at the upper edge portion 36 of the transfer slot 56. The flaps 30,31, 32 may pivot about the hinges 33,34,35 in an outwardly direction and thus allow a tablet 57 to be introduced into the annular chamber 53 between the sleeve 52 and the tubular body 51. As the hinges 33,34,35 extend tangentially relative to the tubular body 51, the flaps 30,31,32 are prevented from pivoting inwardly, their inner ends otherwise hitting the inclined wall 54. Consequently, a tablet 57 being introduced into the annular chamber 53 is prevented from leaving this in its entirety.

In any other way the embodiment shown in Figure 6 essentially corresponds to the embodiment shown in Figure 1 to 5, for which reason a further description thereof is unnecessary.

All parts comprising the dispensing receptacle are made from a material being durable at water temperature up to essentially 100°C, and preferably all the parts except the sleeve are made by means of injection moulding of impact-resistant plastics, as previously mentioned said sleeve being made of a net-like or woven material, e.g. of plastics or a textile.

Claims

1. A dispensing receptacle for machine washing of clothes by means of a detergent in the form of tablets which are placed in the interior of the receptacle prior to placing the latter in the drum of the washing machine and the washing process, said receptacle comprising a flexible liquid permeable sleeve (2,52) placed in an enclosing manner about a comparatively rigid hollow body (1,51) to form an annular chamber (3, 53) between the body and the sleeve, said body (1,51) having an inlet opening (5) for inserting a tablet (7,57) into the interior of the body, characterised in that a transversal wall (4,54) is provided in the interior of the hollow body (1,51) and a transfer slot (6,56) is formed adjacent thereto in the lateral wall of the hollow body (1,51), said slot enabling transfer of a tablet from the interior of the hollow body to the annular chamber.

2. A receptacle according to claim 1, characterised in that the hollow body (1,51) is an essentially tubular body.

3. A receptacle according to claim 1 or 2, characterised in that when seen in direction from the inlet opening (5) to the transfer slot (6,56) the transversal wall (4,54) is downwardly inclined in the direction towards the latter.

4. A receptacle according to one or more of the preceding claims, characterised in that the lateral wall of the hollow body is provided with openings (9).

5. A receptacle according to 1 or 3, characterised in that the transversal wall (4,54) is provided with

openings (8).

6. A receptacle according to claim 1, characterised in that it comprises a closing member (17,30,31,32) intended to close the transfer slot (6,56) for preventing a tablet (7,57) inserted into the annular chamber (3,53) from returning to the interior of the body and thus to the surroundings.

7. A receptacle according to claim 6, characterised in that the closing member is formed by a slide (17) slidably arranged relative to the body (1) between an exposed position and a closed position of the transfer slot (6).

8. A receptacle according to claim 7, characterised in that the slide (17) is arranged axially displaceable on the inner face of the body (1).

9. A receptacle according to claim 6, characterised in that the closing member is formed of a flap (30,31,32) hinged to the body, said flap being pivotal between a position, in which it extends across the slot (56) and closes it and a position, in which the slot (56) is exposed.

10. A receptacle according to claim 7, characterised in that the closing member (17) is provided with openings (19).

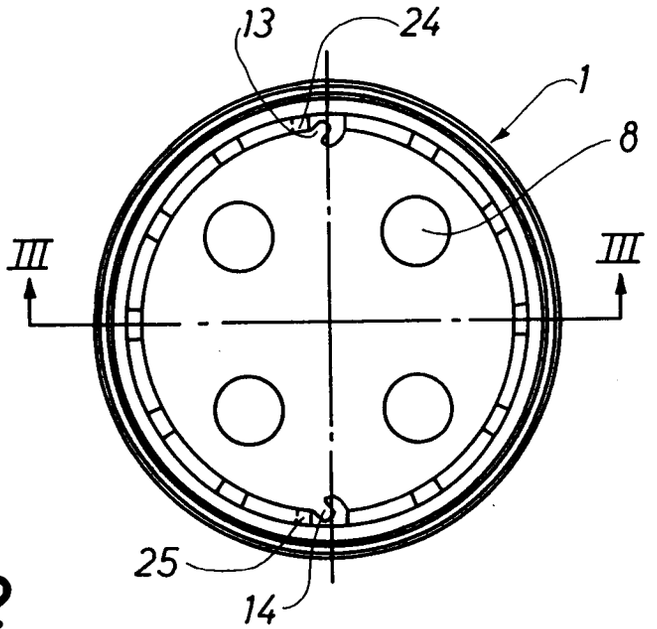

Fig. 2

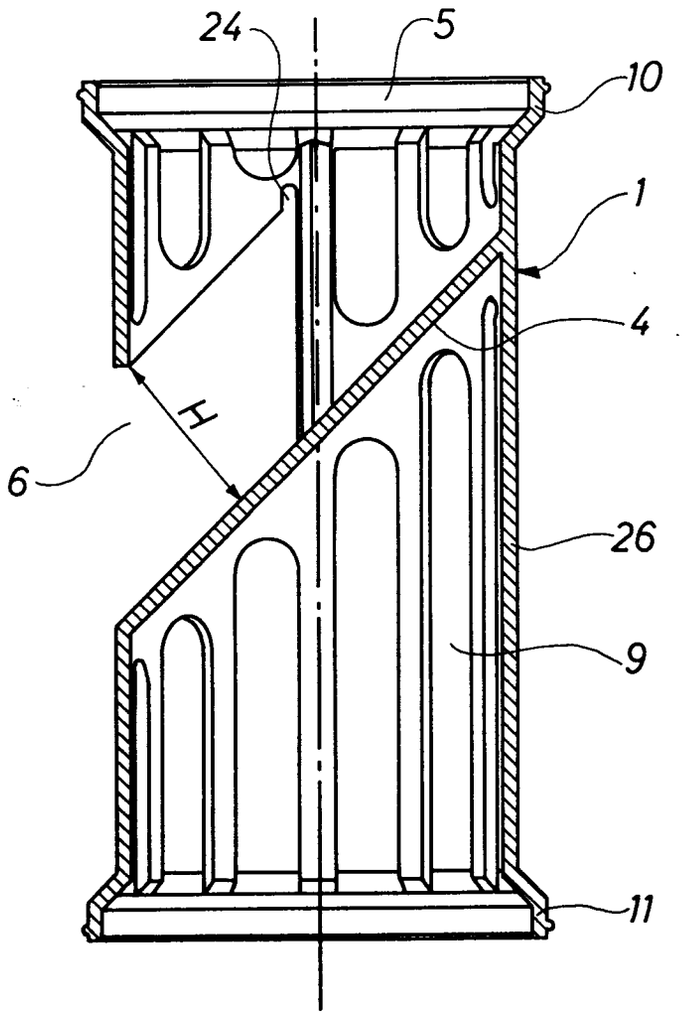

Fig. 3

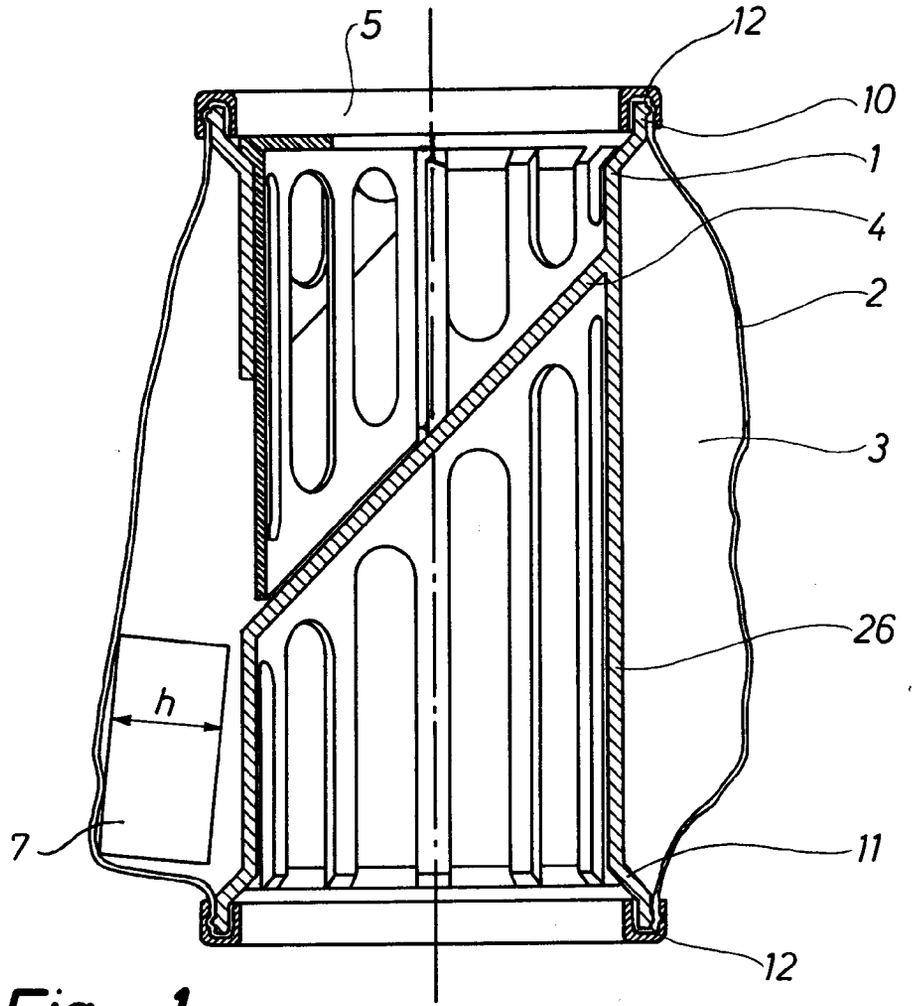

Fig. 1

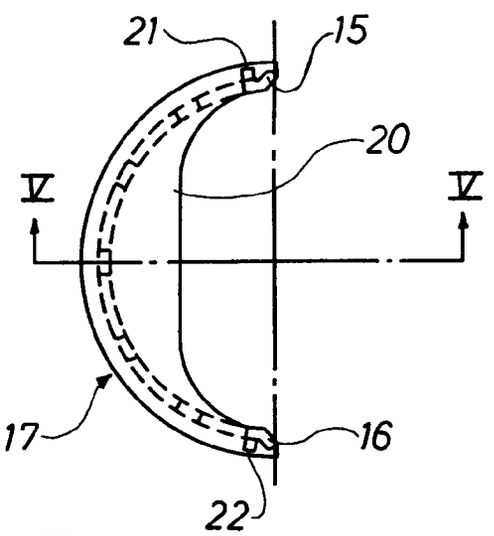

Fig. 4

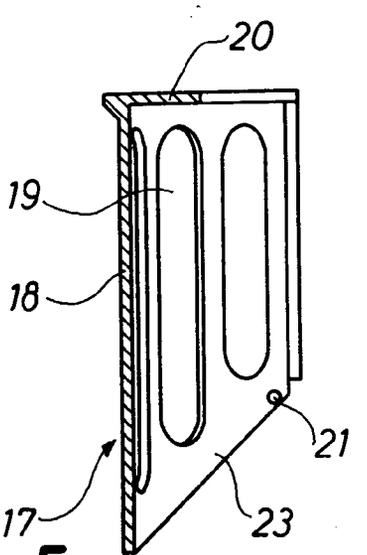

Fig. 5

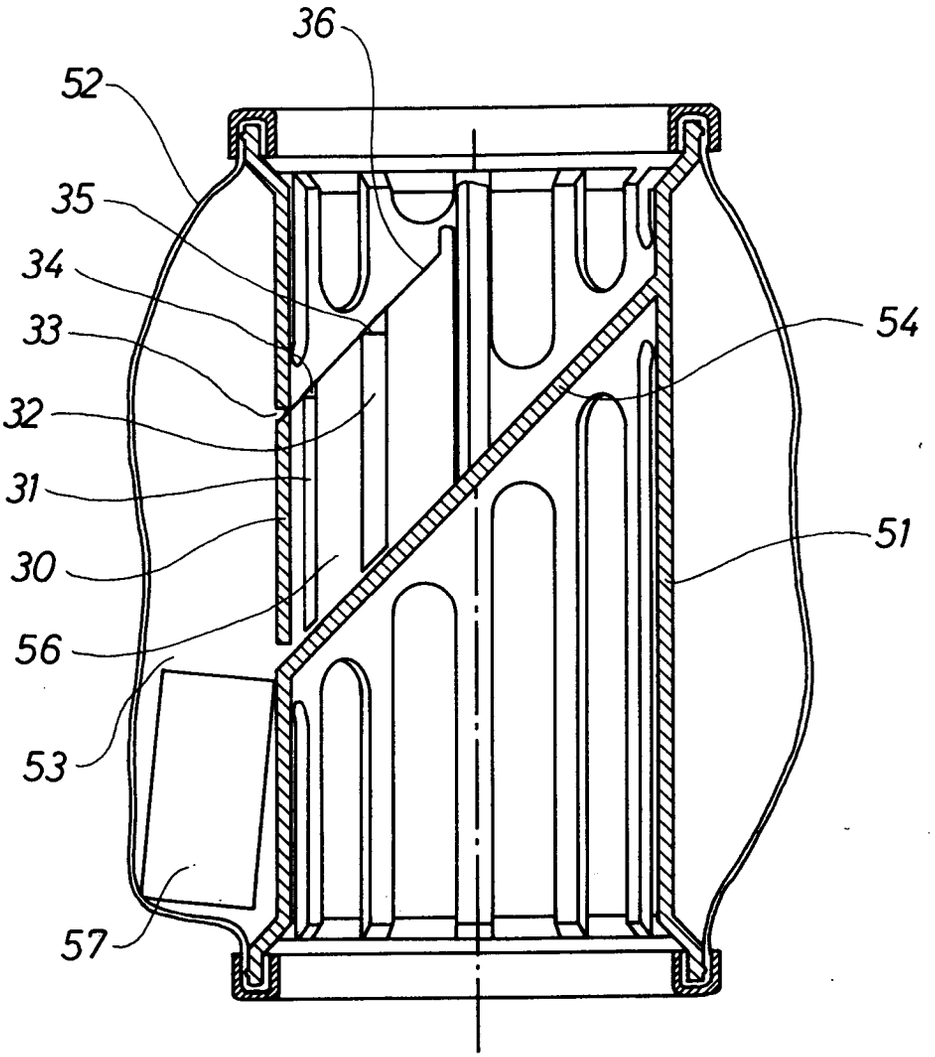

Fig. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 94 61 0028

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.5)
A,D	EP-A-0 479 711 (VIKING INDUSTRIES LIMITED) & DK 165759 * claims; figures *	1	D06F39/02
A	EP-A-0 473 532 (VIKING INDUSTRIES LIMITED) * claims; figures *	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.5)

D06F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	14 September 1994	Courrier, G

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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