

SPECIFICATION

Wet tissue container

5 The present invention relates to a wet tissue dispenser which may permit continuous dispensing of tissues and the construction of which minimises the vaporization of a liquid in the container.

Wet tissues; that is, tissues moistened with a
10 suitable liquid such as a toilet water or a face lotion have been widely used in many fields.

Figure 1 of the accompanying drawings shows a prior art wet tissue dispenser in which a large number of wet tissues *b* are stacked in a container. A
15 user may insert her fingers through an opening *a* formed through the top of the container, grip the topmost tissue and withdraw it through the opening *a*. This prior art wet tissue dispenser has the defect that when the opening *a* is kept opened, a moistening liquid vaporizes so that the wet tissues in the
20 container are dried.

Figure 2 of the accompanying drawings shows another prior art wet tissue dispenser in which is disposed a roll of wet tissue having equidistantly
25 spaced perforated lines. Cruciform slits *d* are cut through a cover *c* made of an elastic material. When the wet tissue *e* is unrolled and drawn through these slits *d*, the latter serves to squeeze excess liquid contained in the tissue and as a guide for cutting a
30 tissue along a perforated line and to hold the leading end of the continuous wet tissue from the roll so that the next tissue sheet may be readily drawn out. This wet tissue dispenser has also some defects. First, the side edges of the slits *d* must be directed upwards so
35 as to facilitate the passage of the wet tissue through the slits *d* when the tissue is drawn. However, when the tissue is drawn and cut off, the side edges must spring back so as to close the slits *d* as tightly as possible in order to prevent the vaporization of the moistening liquid through the slits. As a result, the
40 slits *d* must be cut with a higher degree of accuracy and consequently the cost is increased. Moreover the leading end of the tissue is held in the slits *d* so that the vaporization of the moistening liquid
45 through the slits *d* cannot be avoided. Moreover, when the dispenser is turned upside down, the moistening liquid accumulated at the bottom of the container flows out of the slits.

It is an object of the present invention to alleviate
50 the above problems encountered in the prior art wet tissue containers.

Accordingly the present invention provides a wet-tissue dispenser comprising a container having a main body housing a length of tissue strip having
55 spaced transverse lines of perforations, and a cap releasably fitted to the main body and which carries a resilient tissue-retaining member having an aperture therein which is sufficiently small substantially to seal the container against the escape of liquid
60 when the tissue strip extends therethrough, the resilience of the tissue retaining member being such that the aperture therein can enlarge to accommodate substantial variations in thickness as the tissue is drawn therethrough without thereby exerting on
65 the tissue a force such as to cause tearing of the

tissue except at the said lines of perforations.

In order to promote a fuller understanding of the above and other aspects of the present invention, some embodiments will now be described, by way of example only, with reference to Figures 3 to 8 of the accompanying drawings, in which:

Figures 1 and 2 are perspective views of prior art wet tissue dispensers,

Figure 3 is a vertical sectional view of a wet tissue dispenser in accordance with the present invention,
75 Figures 4(A) and 4(B) show perforated lines of tissues,

Figure 5(A) is a top view of a wet tissue drawing member,

80 Figure 5(B) is a sectional view thereof taken in the direction indicated by arrows A of Figure 5(A), and Figures 6, 7 and 8 are sectional views of modifications of the wet tissue drawing member.

Referring to Figures 3 to 5, the embodiment shown
85 comprises in general a main body 1 which is made of plastics and in which is stored a roll of tissue 3 and a cap 2 which is made of plastic and is threadably fitted over the main body 31 to close its open upper end.

The cap 2 has a centre opening into which is fitted
90 a dome-shaped wet tissue drawing member 5. The member 5 is made of a soft rubber and is formed at the apex with a small, tissue drawing hole 4 about one millimeter in diameter. A cylindrical protective neck 6 is extended from the top of the cap 2 coaxially
95 thereof so as to surround the wet tissue drawing member 5. The open top end of the cylindrical neck 6 is fitted with a protective cap 7 in order to prevent the adhesion of dust and bacteria to the leading end of the wet tissue strip exposed out of the drawing
100 hole 4.

As shown in Figures 4(A) and 4(B) the wet tissue strip is formed with perforated lines 8 or 9 which are spaced apart from each other by a suitable distance. The roll of wet tissue 3 is partly immersed in and
105 moistened with a suitable moistening liquid 10 such as a toilet water. Instead of the roll, the tissue 3 may be folded in a zig-zag form.

Next the mode of operation will be described. First, a user takes the cap 2 from the main body 1,
110 places the roll of tissue 3 therein and introduces toilet water or other liquid 10 into the main body 1. The leading end of the tissue strip 3 is unrolled and inserted through the drawing-hole 4 so as to be slightly extended out of it into the protective cylindrical neck 6. Thereafter the cap 2 is fitted over the
115 main body.

When a user needs a tissue, she removes the protective cap 7 from the neck 6 and grips and draws the leading end of the tissue strip. Then the tissue is
120 twisted and compressed as it is drawn through the hole 4 so that the excessive moistening liquid 10 may be squeezed out of the tissue. In this manner, the moisture content of the drawn out tissue 3 may be suitably controlled. The drawn tissue is torn off
125 along a perforated line 8 or 9 in such a way that the leading end of the tissue strip remains slightly extended out of the drawing hole 4. Thus when the leading end of the tissue strip is initially inserted through the drawing hole 4 in the manner described,
130 the wet tissue may be continuously drawn out of the

wet tissue dispenser.

Since the wet tissue drawing member 5 is made of a soft rubber having a high elasticity, when the tissue 3 is drawn out of the drawing hole 4, the latter is widened or increased in diameter as indicated by two-dot chain lines in Figures 5(A) and 5(B) so that the drawing of tissue may be facilitated. However, when the tissue is not drawn, the drawing hole 4 may return to its initial form and exerts suitable pressure against the tissue in the opening 4 because of the elasticity of the wet tissue drawing member 5. As a result, the vaporization of the moistening liquid or toilet water 10 may be minimized and the leakage through the drawing hole 4 of the moistening liquid 10 may be prevented even when the container is turned upside down. Therefore the wet tissue dispenser may be installed upside down so that the tissue may be drawn from the lower side of the container. Furthermore because of the elasticity of the wet tissue drawing member 5, various types of tissues different in thickness may be equally employed.

After the required length of tissue has been drawn out, the protective cap 7 is fitted over the protective neck 6 so that the sanitary condition of the tissue exposed out of the drawing hole 4 into the protective neck 6 may be maintained; that is, the adhesion of dust and bacteria to the exposed tissue may be avoided.

Figure 6 shows a modification of the tissue drawing member. The wet tissue drawing member 5a which is also made of a soft rubber is in the form of a cone with a relatively small semivertical angle so that as the tissue approaches the drawing hole 4, more compressive forces may be imparted to the tissue and that the smooth drawing of tissue may be permitted.

In another modification shown in Figure 7, the wet tissue drawing member 5b which is made of a soft rubber and is in the form of a cup. When the tissue is drawn through the drawing hole 4b, the wet tissue drawing member 5b is raised into an inverted cup form as indicated by two-dot chain lines. After a desired length of tissue has been squeezed and cut off, the wet tissue drawing member 5b returns to its initial form. The toilet water 10 squeezed out of the drawn tissue and leaked out of the drawing hole 4b may be accumulated in the recess as shown and used advantageously to moisten the trailing tissue strip.

In a further modification shown in Figure 8, the wet tissue drawing member 5c is made of a soft rubber and is in the form of a disk formed with a centre opening 4c three millimeters in diameter.

With the modified wet tissue drawing members described above, the wet tissue containers in accordance with the present invention may store various types of tissues.

Instead of a soft rubber, the wet tissue drawing member 5 with the drawing hole 4 may be made of any suitable material which is as elastic as a soft rubber. With a material having an extreme high elasticity, the drawing hole 4 may be made in the form of a pin hole so that the leakage of the moistening liquid may be completely prevented

even when the wet tissue container is turned upside down.

The features and advantages of the present invention will be described in comparison with the prior art wet tissue container of the type having cruciform slits as shown in Figure 2. As the tissue is drawn through the cruciform slits, it partly engages with the side edges of the slits so that the drawn tissue has a portion which has been squeezed and a portion which has not been squeezed at all. In other words, it is impossible to draw out of the prior art wet tissue dispenser a tissue which is uniformly moistened. However, when the tissue is drawn through the drawing hole of an embodiment of the present invention, the contracting forces of the wet tissue drawing member exert uniform squeezing forces on the tissue being drawn. Therefore the drawn tissue is suitably and uniformly moistened.

With the prior art wet tissue dispensers, the tissue may be drawn out only upwardly due to the risk of leakage of the moistening liquid in the inverted position but with the wet tissue dispenser in accordance with the present invention, the tissue may be drawn out with the container in any desired orientation and may be positively cut off. Therefore the wet tissue dispenser in accordance with the present invention is very convenient in use.

The features and advantages of the wet tissue dispenser of the present invention with the above construction may be summarized as follows:

(I) The continuous drawing of the tissue may be permitted.

(II) The vaporization of a moistening liquid in the container may be substantially eliminated. Furthermore the leakage of a moistening liquid may be prevented even when the container is turned upside down so that the tissue may be drawn from the lower end of the container.

(III) The drawn out tissue is uniformly and suitably moistened.

(IV) Even though the tissue may be drawn out in any direction, it may be positively cut off from the trailing tissue strip.

(V) Various types of tissue may be stored in the containers.

(VI) Because of excellent sealing performance, even heated wet tissues may be stored.

(VII) The wet tissue dispenser in accordance with the present invention is very simple in construction so that there is no production problem. As a result, the cost may be considerably reduced. Moreover, the satisfactory performance may be ensured for a long service life.

120 CLAIMS

1. A wet tissue dispenser comprising a container having a main body housing a length of tissue strip having spaced transverse lines of perforations, and a cap releasably fitted to the main body and which carries a resilient tissue-retaining member having an aperture therein which is sufficiently small substantially to seal the container against the escape of liquid when the tissue strip extends therethrough, the resilience of the tissue retaining member being



wet tissue dispenser.

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After the required length of tissue has been drawn out, the protective cap 7 is fitted over the protective neck 6 so that the sanitary condition of the tissue exposed out of the drawing hole 4 into the protective neck 6 may be maintained; that is, the adhesion of dust and bacteria to the exposed tissue may be avoided.

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In a further modification shown in Figure 8, the wet tissue drawing member 5c is made of a soft rubber and is in the form of a disk formed with a centre opening 4c three millimeters in diameter.

With the modified wet tissue drawing members described above, the wet tissue containers in accordance with the present invention may store various types of tissues.

Instead of a soft rubber, the wet tissue drawing member 5 with the drawing hole 4 may be made of any suitable material which is as elastic as a soft rubber. With a material having an extreme high elasticity, the drawing hole 4 may be made in the form of a pin hole so that the leakage of the moistening liquid may be completely prevented

even when the wet tissue container is turned upside down.

The features and advantages of the present invention will be described in comparison with the prior art wet tissue container of the type having cruciform slits as shown in Figure 2. As the tissue is drawn through the cruciform slits, it partly engages with the side edges of the slits so that the drawn tissue has a portion which has been squeezed and a portion which has not been squeezed at all. In other words, it is impossible to draw out of the prior art wet tissue dispenser a tissue which is uniformly moistened. However, when the tissue is drawn through the drawing hole of an embodiment of the present invention, the contracting forces of the wet tissue drawing member exert uniform squeezing forces on the tissue being drawn. Therefore the drawn tissue is suitably and uniformly moistened.

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The features and advantages of the wet tissue dispenser of the present invention with the above construction may be summarized as follows:

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- (II) The vaporization of a moistening liquid in the container may be substantially eliminated. Furthermore the leakage of a moistening liquid may be prevented even when the container is turned upside down so that the tissue may be drawn from the lower end of the container.
- (III) The drawn out tissue is uniformly and suitably moistened.
- (IV) Even though the tissue may be drawn out in any direction, it may be positively cut off from the trailing tissue strip.
- (V) Various types of tissue may be stored in the containers.
- (VI) Because of excellent sealing performance, even heated wet tissues may be stored.
- (VII) The wet tissue dispenser in accordance with the present invention is very simple in construction so that there is no production problem. As a result, the cost may be considerably reduced. Moreover, the satisfactory performance may be ensured for a long service life.

120 CLAIMS

1. A wet tissue dispenser comprising a container having a main body housing a length of tissue strip having spaced transverse lines of perforations, and a cap releasably fitted to the main body and which carries a resilient tissue-retaining member having an aperture therein which is sufficiently small substantially to seal the container against the escape of liquid when the tissue strip extends therethrough, the resilience of the tissue retaining member being



such that the aperture therein can enlarge to accommodate substantial variations in thickness as the tissue is drawn therethrough without thereby exerting on the tissue a force such as to cause tearing
5 of the tissue except at the said lines of perforations.

2. A wet tissue dispenser as set forth in Claim 1 wherein said wet tissue drawing member is in the form of a dome projecting outwardly of the container; and said tissue drawing hole is formed at the
10 apex of said dome-shaped wet tissue drawing member.

3. A wet tissue dispenser as set forth in Claim 1 wherein said wet tissue drawing member is in the form of a cone projecting outwardly of the container
15 having an acute cone angle; and said tissue drawing hole is formed at the apex of said cone-shaped wet tissue drawing member.

4. A wet tissue dispenser as set forth in Claim 1 wherein said wet tissue drawing member is in the
20 form of a cup projecting into said main body; and said tissue drawing hole is formed in the bottom of said cup-shaped wet tissue drawing member.

5. A wet tissue dispenser as set forth in Claim 1 wherein said wet tissue drawing member is in the
25 form of a disk; and said tissue drawing hole is formed at the centre of said disk shaped wet tissue drawing member.

6. A wet tissue dispenser substantially as herein described with reference to Figures 3 to 8 of the
30 accompanying drawings.

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