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REFILL POUCH FOR CONTAINERS

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FIELD OF THE INVENTION

The present invention relates to a refill pouch which can be used for refilling a container for packing a liquid, powder and the like.

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BACKGROUND OF THE INVENTION

In general, a container for liquid products such as a liquid detergent or a liquid shampoo may be subjected to the so-called refilling, to be refilled with a new contained material after consumption. Such a refill liquid or the like is preferably stored in a simple and low-priced container, and a refill pouch which is easy to pack is widely employed.

Such a refill pouch is generally unsealed by transversely cutting the overall upper portion and removing the same. If the refill pouch contains liquid or powder, however, the liquid or the like may disadvantageously spill out from the upper portion when the pouch is held by hand, since the refill pouch is made of a flexible material of a laminate film.

As a method of solving this problem, Japanese Utility Model Laying-Open No. 5-81042 discloses a structure which can define a pour spout by simply cutting a corner part of a sealed portion. Thus, it is possible to define a pour spout by cutting the corner part for pouring the liquid or the like into the container.

However, when the container has a small opening, it is difficult to hold the pour spout of the refill pouch in a stable state with respect to the opening of the container, and hence the liquid or the like may disadvantageously spill out departing from the opening of the container in refilling.

Therefore, an object of the present invention is to provide a refill pouch which can be readily set in the most preferable position for refilling a container through an opening of the container, thereby preventing a material to be contained from spilling out departing from the opening of the container.

SUMMARY OF THE INVENTION

The present invention provides a refill pouch which is charged with a material for refilling a container through an opening of the container. The refill pouch is formed by a sealed portion which is formed around the periphery of the refill pouch. The refill pouch has a cut-out which is formed in the sealed portion in the vicinity of a corner part to be cut for defining a pour spout. The cut-out has a groove portion which is sized and shaped to be engageable with an upper wall portion of the opening of the container for pouring the material into the container from the pour spout. Therefore, the pour spout of the refill pouch is correctly positioned with respect to the container opening so that the material in the pouch can be transferred in a stable state. Thus, the material can be readily and reliably transferred also to a container even having a small opening.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a front elevational view showing a refill pouch according to an embodiment of the present invention.

Fig. 2 is an enlarged front elevational view showing a portion around a cut-out of the embodiment shown in Fig. 1.

Fig. 3 is a front elevational view showing the embodiment of Fig. 1 which is not yet charged with a contained material.

Fig. 4 is a front elevational view showing the embodiment of Fig. 1 defining a pour spout by cutting a corner part.

Fig. 5 is a side elevational view showing the refill pouch of the embodiment shown in Fig. 1 in a state transferring the contained material to a container.

Fig. 6 is an enlarged perspective view showing a state of engagement between a groove portion provided in the cut-out of the refill pouch and a wall portion of the container opening in the state shown in Fig. 5.

Fig. 7 is a plan view for illustrating an exemplary step of manufacturing the embodiment shown in Fig. 1.

DETAILED DESCRIPTION OF THE INVENTION

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The present invention provides a refill pouch which is charged with a material for refilling a container through an opening of the container. The refill pouch is formed by a sealed portion which is formed around the periphery of the refill pouch.

5 The refill pouch has a cut-out which is formed in the sealed portion in the vicinity of a corner part to be cut for defining a pour spout. The cut-out has a groove portion which is sized and shaped to be engageable with an upper wall portion of the opening of the container for pouring the material into the container from the pour

10 spout.

In use, after a pour spout is made by cutting the corner part, the refill pouch is relatively positioned at the opening of the container by engaging the groove portion with the upper wall portion of the opening of the container. Therefore, it is possible to

15 set the pour spout of the refill pouch on a preferable position with respect to the opening of the container and to set the angle of inclination of the refill pouch at a preferable value for pouring the contained material into the container from the pour spout. Thus, the material can be readily and reliably transferred to the container.

20 In a preferred embodiment, a second cut-out is preferably formed in the cut-out to remove a sharp projection from an edge of the sealed portion.

In a more proffered embodiment, a notch is preferably formed in the cut-out defining the pour spout. In addition, this

25 notch is preferably formed to extend substantially perpendicularly to the groove portion of the cut-out.

In preferred embodiments, a formation angle of the groove portion with respect to a side of the sealed portion is in the range of 20° to 70°.

30 In a further embodiment, the refill pouch is so configured that the pouch can support itself or stand by itself on a horizontal surface.

Referring to Fig. 1, as an embodiment of the present invention, the refill pouch 1 is formed by heatsealing two laminate

35 films through a sealed portion 2 (shown in hatching).

Each of the laminate films can be prepared by that formed by a multilayer structure of a PET film (12 μm), an Al foil film (7 μm), an

oriented nylon film (15 μm) and an L-LDPE film (80 μm), for example. Such laminate films are heat-sealed through thermal fusion of the inner L-LDPE films.

The laminate films employed in the present invention are not
5 restricted to those of the multilayer structure employed in this embodiment, but are properly selected in consideration of contained materials, usage etc. of the refill pouch, as a matter of course.

Referring to Fig. 1, a portion under a one-dot chain line 6 is formed by inserting still another laminate film which is
10 bent about the portion of the one-dot chain line 6 between the pair of laminate films and pasting these laminate films with each other. The inserted laminate film is provided with semicircular cut-outs on left and right end portions thereof, so that the L-LDPE films forming the outer pair of laminate films are fused with each other to define
15 fused portions 2a. Thus, this portion forms the bottom of the refill pouch 1.

A cut-out 3 is provided in a part of the sealed portion 2 which is located on a side upper portion of the refill pouch 1. This cut-out 3 is provided with a groove portion or concave portion 3a. Another
20 cut-out 4 is also formed in an opposite part of the sealed portion 2.

A perforation 5 is printed to obliquely extend from the cut-out 3 toward an upper portion. A linear notch 7 is formed in a portion where the perforation 5 is in contact with the groove portion 3a of the cut-out 3. This notch 7 is formed to extend substantially
25 perpendicularly to the groove portion 3a. The notch 7 serves as a cut end for defining a pour spout. The upper corner part of the refill pouch 1 is cut from the notch 7 along the perforation 5, to define the pour spout.

Fig. 2 illustrates the portion around the cut-out 3 shown in
30 Fig. 1 in an enlarged manner. In the cut-out 3, a portion of a second cut-out 3b is removed to excise a sharp projection from an edge of the sealed portion 2, as shown in Fig. 2. Referring to Fig. 2, the portion of the second cut-out 3b is shown in hatching. Due to such formation of the second cut-out 3b, it is possible to facilitate
35 engagement of the refill pouch with an upper wall portion of an opening of a container, since the same is not caught by a ridge provided in the opening. When a sharp portion is provided on a side

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of the sealed portion 2, the consumer may inadvertently finger this portion. Therefore, such a sharp portion is preferably removed also in consideration of safety.

Fig. 3 shows the refill pouch 1 appearing in Fig. 1, which is not yet charged with a contained material. As shown in Fig. 3, the refill pouch 1 is open in its upper portion before the same is charged with the contained material such as a liquid. After the contained material is charged from the opening portion, a part of the sealed portion 2 above a one-dot chain line 8 is heat-sealed for sealing the refill pouch 1. The state shown in Fig. 1 is attained by such sealing of the upper part of the sealed portion 2.

Fig. 4 illustrates the refill pouch 1, from which the corner part is cut along the perforation 5 shown in Fig. 1. As shown in Fig. 4, a pour spout 9 is defined by removing the corner part. The material contained in the refill pouch 1 can be taken out to the exterior from the pour spout 9 by inclining the refill pouch 1 to downwardly direct the pour spout 9.

Fig. 5 is a side elevational view showing the refill pouch 1 refilling a container 10 with the contained material from the pour spout 9 which is defined in the aforementioned manner. Referring to Fig. 5, the groove portion 3a of the cutout 3 is engaged with a wall portion of an opening 11 of the container 10 to align the pour spout 9 with the opening 11, for pouring the material which is contained in the refill pouch 1 into the container 10.

Fig. 6 is a perspective view showing the groove portion 3a of the cut-out 3 of the refill pouch 1 which is engaged with the wall portion of the opening 11 of the container 10. As shown in Fig. 6, the position of the pour spot 9 of the refill pouch 1 can be fixed by engaging the groove portion 3a with the wall portion of the opening 11, for transferring the contained material in a stable state. Particularly when the volume of the material contained in the refill pouch 1 is reduced in a final stage of the transfer operation, the contained material must be squeezed out of the refill pouch 1. Also in this case,

the refill pouch 1 is not misaligned with the container 10 due to the groove portion 3a which is engaged with the wall portion of the opening 11, whereby the contained material can be stably squeezed

out of the refill pouch 1 to be transferred into the container 10.

Referring again to Fig. 1, the angle of inclination of the refill pouch 1 for transferring the contained material can be set to some extent by a formation angle θ of the groove portion 3a. The angle θ is defined as an angle which is formed by the side of the sealed portion 2 and the groove portion 3a of the refill pouch 1. The groove portion 3a is engaged along the wall portion of the opening 11 of the container 10 as shown in Fig. 5, whereby the refill pouch 1 is so inclined that its upper edge substantially forms the angle θ with respect to the horizontal direction. Therefore, the angle for inclining the refill pouch 1 for transferring the contained material can be decided by the formation angle θ of the groove portion 3a. In general, this angle θ is set in the range of 20° to 70° , more preferably in the range of 30° to 60° . According to this embodiment, the angle θ is set at about 50° . When the angle θ is set in such a range, the contained material can be readily poured from the refill pouch 1 into the container 10 and can be further completely discharged.

The perforation 5 and the notch 7 extend substantially perpendicularly to the groove portion 3a, as shown in Fig. 1. Therefore, an angle α of the perforation 5 is set at about 90° . Thus, the pour spout 9 is defined substantially perpendicularly to the groove portion 3a, so that the contained material can be further readily transferred.

Fig. 7 is a plan view for illustrating an exemplary step of manufacturing the refill pouch according to this embodiment. Referring to Fig. 7, a mother heat-sealed film 20 is arranged in a state butting opening portions of film bodies for the refill pouch shown in Fig. 3 along its width direction. A plurality of such film bodies are repetitively continuously arranged along the longitudinal direction. Heat-sealed portions 21 are formed in prescribed patterns, and circular fused portions 22 are provided on both side portions of the heat-sealed film 20. The fused portions 22 are cut along a cut line shown by a one-dot chain line, for defining the fused portions 2a shown in Fig. 3 after the cutting. Further, through holes 23 are formed in the vicinity of centers of the sealed portions 21 of the heat-sealed film 20. The through holes 23 are adapted to define the cut-outs 3 and 4 shown in Fig. 3, after the

heat-sealed film 20 is cut along the cut line shown by the one-dot chain line.

The cut-out 4 is formed for a reason, on the manufacturing step so that no problem arises even if misregistration is caused in the cutting along the cut line in the aforementioned manufacturing step. Therefore, the refill pouch 1 may not be provided with the cut-out 4, as a matter of course.

As hereinabove described, the refill pouch according to the present invention can be mass-produced at a low cost, by heat-sealing a long film sheet and thereafter cutting the same.

According to the present invention, the sizes and the shapes of the cut-outs and the groove portion provided in the refill pouch are not restricted to those in the aforementioned embodiment, but any sizes and shapes are employable so far as the groove portion is engaged with an upper wall portion of a container opening to be capable of locating the pour spout of the refill pouch in a prescribed position with respect to the container opening.

The materials to be contained in the refill pouch according to the present invention are not restricted to liquid products such as a liquid detergent and a liquid shampoo but powder products. In other words, the present invention is employable in wide fields of cosmetics such as lotions and creams, liquefied/powdered foods and medicine, and stationery such as paste and ink erasers.



WHAT IS CLAIMED IS:

1. A refill pouch being charged with a material for refilling a container through an opening of said container, said refill pouch being formed by a sealed portion formed around the periphery of
5 said refill pouch.

wherein said refill pouch has a cut-out formed in said sealed portion in the vicinity of a corner part to be cut for defining a pour spout, and said cut-out has a groove portion sized and shaped to be engageable with an upper wall portion of said opening of said
10 container for pouring said material into said container from said pour spout.

2. The refill pouch in accordance with claim 1, wherein a second cut-out is formed in said cut-out to remove a sharp projection from an edge of said sealed portion.

3. The refill pouch in accordance with claim 1 or 2, wherein a notch is formed in said cut-out for serving as a cut end for cutting said corner part for defining said pour spout.

4. The refill pouch in accordance with claim 3, wherein said notch is formed in said groove portion of said cut-out, to extend substantially perpendicularly to said groove portion.

5. The refill pouch in accordance with any of claim 1, wherein a formation angle of said groove portion with respect to a side of said sealed portion is in the range of 20° to 70°.

6. The refill pouch in accordance with any of claim 1, wherein said refill pouch is so configured that said refill pouch can support itself on a horizontal surface.