July 17, 1951 A. W. PETERS 2,560,776

POURING SPOUT

Filed Oct. 14, 1947

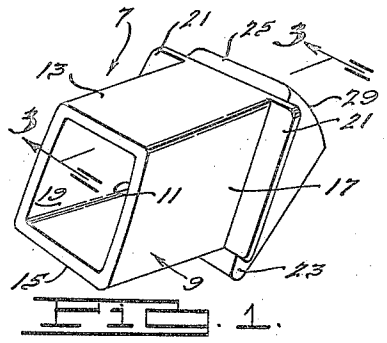


FIG. 1.

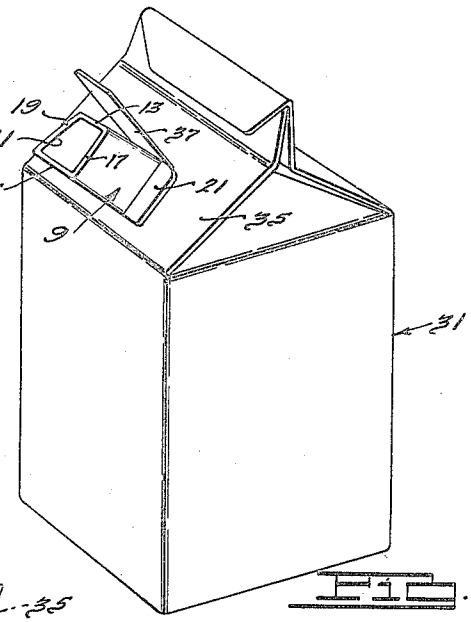


FIG. 2.

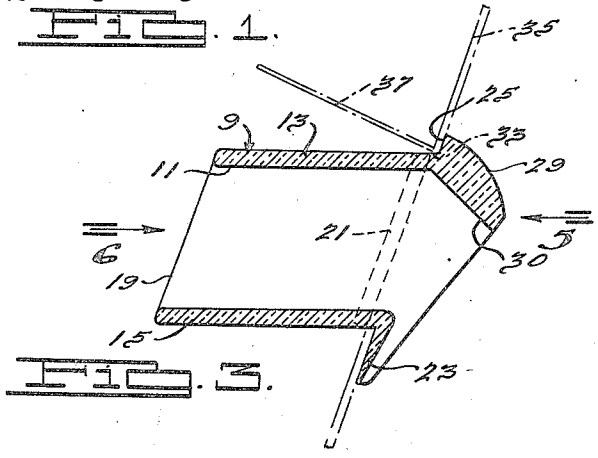


FIG. 3.

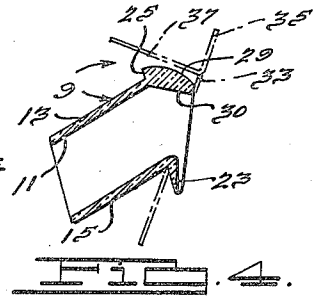


FIG. 4.

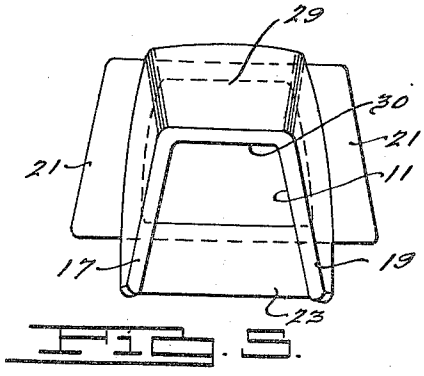


FIG. 5.

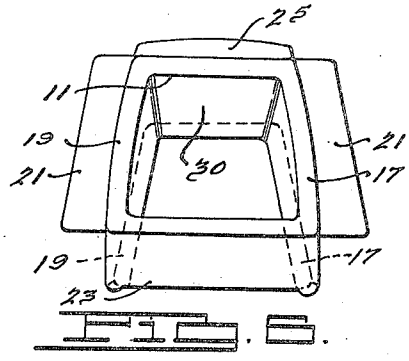


FIG. 6.

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POURING SPOUT

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1 Claim. (Cl. 222—569)

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This invention relates to an improved pouring spout and more particularly to a pouring spout adapted to be detachably connected in a paper container opening such as a milk carton.

The principal objects of this invention are to provide an inexpensive pouring spout which may be detachably connected in a container opening so that the contents of the latter may be easily poured without spilling, dripping, or the like; to provide a pouring spout adapted to be detachably connected in a container opening so as to effectively seal the opening around the spout; to provide a pouring spout of the aforementioned type which can be easily inserted into a container opening without deforming or damaging the wall of the container which defines the opening; to provide a pouring spout of the aforementioned type which may be easily removed from the container when the latter is empty; and to provide an inexpensive pouring spout of the aforementioned type which is compact in arrangement, neat in appearance, and efficient in operation.

These and other objects of this invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawing in which:

Figure 1 is a perspective view of the pouring spout of this invention;

Fig. 2 is a perspective view of a paper container with the pouring spout of this invention mounted in the pouring opening thereof;

Fig. 3 is a vertical, sectional view, taken along the line 3—3 of Fig. 1 and illustrating the pouring spout in its fully inserted position within a container opening;

Fig. 4 is a view similar to Fig. 3 illustrating the pouring spout in a partially inserted position within a container opening;

Fig. 5 is an inner end view of the pouring spout taken in the direction of the arrow 5 of Fig. 3; and

Fig. 6 is an outer end view of the pouring spout taken in the direction of the arrow 6 of Fig. 3.

The pouring spout of this invention is adapted to be detachably connected in a paper container opening and may be formed in any suitable shape so that the entire contents of the container may be poured therefrom without causing any spilling, dripping, or the like. The pouring spout is illustrated in the drawing as being detachably connected to a cardboard container of the type now commercially used for dispensing milk and other fluids. As can be seen in Fig. 1, the pouring spout is generally indicated at 7 and includes an elongated body portion 9, of a trapezoid shape

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in cross section, having a similarly shaped, longitudinally-extending opening 11 therethrough. The opening 11 is defined by a top body wall 13, a bottom wall 15, and side walls 17 and 19. The pouring spout 7 may be made of any suitable material, but is preferably made of plastic or the like and cast as an integral piece. The opening 11 is preferably larger at the outer end of the spout than at the inner end so as to permit easier moulding and so as to eliminate the need for container air bleeds in order that the fluid in the container will properly flow through the spout.

Opposed laterally projecting flanges 21 are formed on the pouring spout side walls 17 and 19 adjacent the inner end thereof. The flanges 21 extend parallel to the inclined outer end face of the pouring spout and substantially the height of the side walls 17 and 19. A depending flange 23 is provided, inwardly of the side flanges 21, which extends downwardly from the inner end of the pouring spout opening 11, substantially parallel to the side flanges 21, and below the bottom wall 15 of the body 9. The outer face of the flange 23, which is disposed below the bottom wall 15, is parallel to and inwardly offset from the inner faces of the side flanges 21. The amount of offset between the inner faces of the side flanges 21 and the outer face of the bottom flange 23 is preferably the thickness of the container wall in which the pouring spout is to be mounted.

A laterally extending upper flange 25 is formed at the inner end of the spout body 9 and projects upwardly above the upper body wall 13. The outer face of the flange 25 extends substantially parallel to, and is inwardly offset from, the inner faces of the side flanges 21. The amount of offset between these faces is again substantially equal to the thickness of the container wall in which the spout is to be connected. Extending downwardly and inwardly from the outer face of the flange 25 is an arcuate cam surface 29 which forms an inclined upper lip 30 for the inner end of the spout opening 11. It will thus be seen that the pair of flanges 21 is angularly disposed with respect to the pair of flanges 23 and 25.

The container in which the pouring spout 7 is shown as being detachably connected in the drawing, is generally indicated at 31 and is of an impregnated paper or cardboard construction capable of holding fluid such as milk. The container 31 is provided with an opening 33 in an inclined upper wall 35 thereof. The opening 33 is normally closed in a conventional manner by

a cover 37 which is hinged along its upper rear edge and which is detachable along the other three edges in order to uncover the opening.

In order to insert the pouring spout 7 in the container opening 33, the container cover 37 is first opened and swung upwardly so as to expose the opening. The lower flange 23 of the pouring spout 7 is then inserted into the container opening 33 so that the junction of the spout bottom wall 15 and the outer face of the flange 23 is seated on the lower edge of the container opening (Fig. 4). When the spout is in this position, the side flanges 21, the upper flange 25, and the cam surface 29, are disposed outwardly of the container wall 35. It will be noted that when the pouring spout is in this position, the inner end of the cam surface 29 is capable of passing beneath the upper edge of the container opening 33. Thus, it is possible to pivot the spout 7 clockwise, from the position illustrated in Fig. 4, so that the cam surface 29 engages the upper edge of the container opening 33 and deflects the same, without causing any permanent distortion or damage thereto, until the outer face of the flange 25 is disposed within the container 31.

The spout is now in the position illustrated in Fig. 3, wherein the outer face of the upper flange 25 engages the inner face of the container wall 35, above the container opening 33, and the outer face of the lower flange 23 abuts the inner face of the container wall 35, below the container opening 33. The spout side flanges 21 now abut the outer face of the container wall 35 on opposite sides of the opening 33 so that the spout is held in position and cannot turn or otherwise move within the container opening 33, as the offset between the outer faces of the upper and lower spout flanges, and the inner faces of the spout side flanges is equal to the thickness of the container wall 35. The inner end of the spout 7 is thus sealed within the container opening 33 so that when the container is tilted to cause the fluid therein to flow through the spout opening 11, no liquid will escape around the spout flanges and the fluid is poured without spilling, dripping, or the like.

It will, of course, be appreciated that the size of the pouring spout 7 will vary in accordance with the size of the container opening in which the same is to fit so that the spout will be effectively sealed and held within the container wall during the pouring operation. It likewise will be appreciated that the shape of the spout 7 may be varied without deviating from the scope of the invention.

It will thus be seen that an efficient pouring spout is provided which may be detachably connected to any suitable container and which is neat in appearance, efficient in operation, and relatively inexpensive to manufacture.

I claim:

A pouring spout adapted to be inserted into an opening in a container wall, including a hollow body, a pair of opposed laterally projecting flanges on said body, a second pair of opposed laterally projecting flanges on said body angularly disposed with respect to said first pair of flanges so that said pairs of flanges do not overlap and are out of interfering relationship with respect to each other, said pairs of flanges being offset with respect to each other substantially the thickness of the wall of said container in which said pouring spout is adapted to be mounted so that said first pair of flanges is engageable with the outer face of the container wall and said second pair of flanges is engageable with the inner face of the container wall so as to secure said spout to said container and seal said opening around the spout, and a cam surface extending arcuately from one of said second pair of flanges so as to permit said pouring spout to be easily inserted in said container opening.

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