April 13, 1965 C. A. CONNELL 3,178,090

TRIANGULAR POURING SPOUT FOR BOXES

Filed Nov. 19, 1962

Fig. 1.

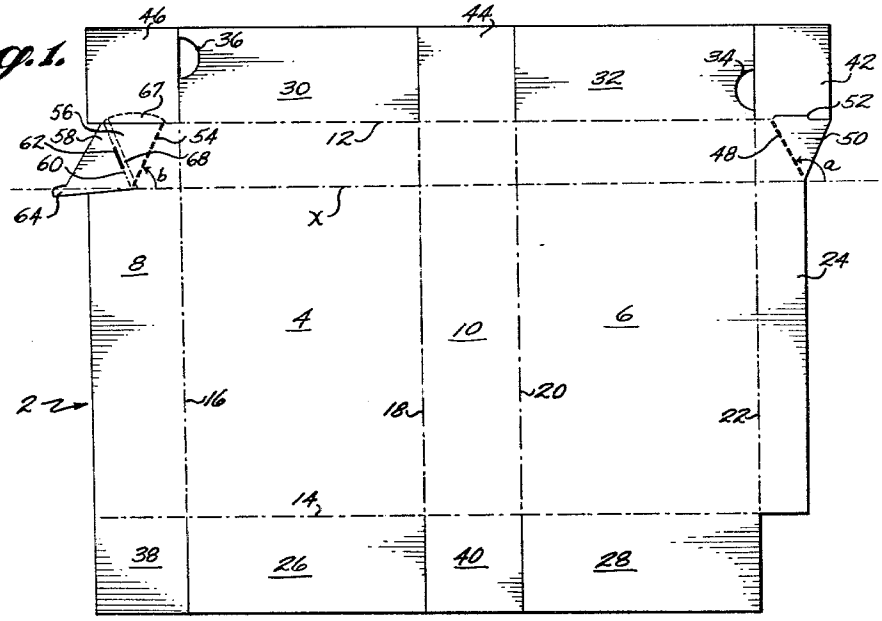


Fig. 2.

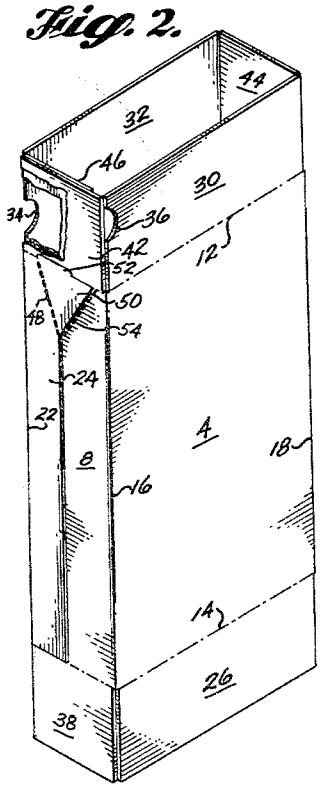


Fig. 3.

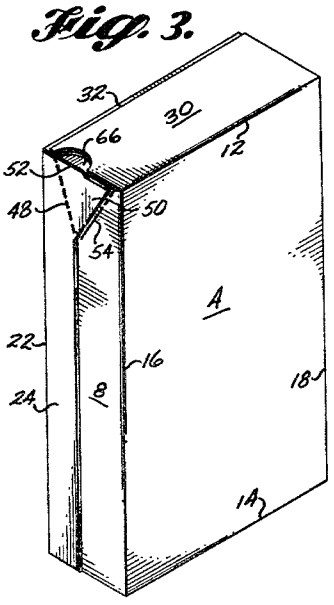
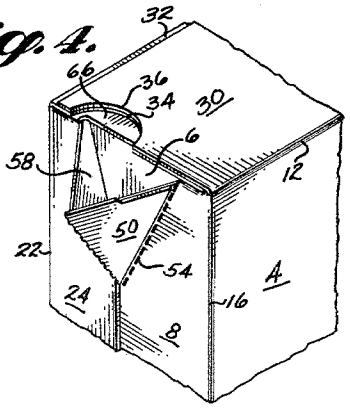


Fig. 4.



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TRIANGULAR POURING SPOUT FOR BOXES

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This invention relates to improved boxes having a novel triangular-type pouring spout.

Heretofore, various types of pouring spouts have been suggested, many of which are triangular. Typical examples of these types are shown in the patents to Cavanagh Patent No. 807,418, Marshall Patent No. 2,349,362 and Metzger Patent No. 3,037,679. These patents show triangular pouring spouts located on a corner of the box. This requires the user to tilt the box on one corner in order for any material to be poured out of the box. This results in unnecessary handling of the box which may be inconvenient, since some of the boxes may be relatively large.

Additionally, some of the corner spouts of the prior art require extensive unfolding and folding at large angles to open and close the spout which results in breakage along the fold lines and complete loss of the pouring spout.

It is a principal object of the present invention to provide an improved box having a triangular pouring spout.

It is another object of the invention to provide a box with a triangular pouring spout in an end wall.

It is an object of the invention to provide a triangular pouring spout for a box that requires a minimum of bending to open and close the same.

These and other objects will become manifestly clear to those skilled in this art taken in conjunction with the detailed description of the improved box wherein:

FIGURE 1 is a plan view of a scored blank of suitable paper material.

FIGURE 2 is a perspective view showing the box at an intermediate stage of assembly with portions thereof cut away to show details of construction.

FIGURE 3 is a perspective view of the completed box.

FIGURE 4 is an enlarged perspective view of a portion of the box showing the pouring spout in the open position.

Referring to the drawings, the scored blank is generally indicated at 2 and can be made of any suitable paperboard material.

The scored blank comprises side walls 4 and 6 and a first end wall 8 and a second end wall 10 defined by vertical score liens 16, 18, 20 and 22, a lower horizontal score line 14 and an upper horizontal score line 12.

Below the lower horizontal score line 14 are bottom side wall closure flaps 26 and 28 and bottom end wall closure flaps 38 and 40. Above the upper horizontal score line 12 are top side wall closure flaps 30 and 32 and top end wall closure flaps 42, 44 and 46.

To the right of the vertical score line 22 is provided a glue flap 24.

The top side wall closure flaps 30 and 32 are each provided with semi-circular notches 36 and 34 respectively, for a purpose to be hereinafter described.

The novel pouring spout comprises three triangular portions indicated at 50, 56 and 58.

The first triangular portion or member 50 is positioned at the upper terminal end of the glue flap 24 and is integrally connected thereto by a weakened section formed by perforations 48 with two sides of member 50 diverging upwardly and outwardly and the base coextensive with score line 12. The connection 48 is positioned on the blank 2 at an obtuse angle *a* measured in a counterclockwise direction from a horizontal axis *x* that extends through the lower corners of triangular members 50 and 56. Formed at the upper end of the first triangular member is a hand tab 52 so that the member 50 can be easily

grasped and torn along the connection formed by perforations 48.

The second triangular portion or member 56 is positioned at the upper terminal end of the first end wall 8 and is integrally connected thereto by a hinge connection formed by perforations 54 to provide a weakened section with two sides of member 56 diverging upwardly and outwardly and the base coextensive with score line 12. The hinge connection 54 is positioned on the blank 2 at an acute angle *b* measured in a counterclockwise direction from the horizontal axis *x*.

The third triangular portion or member 58 is integrally connected to one side of triangular member 56 with two sides thereof diverging downwardly and outwardly. Between the members 56 and 58 is a score line 60 to provide a hinge connection therebetween so that the members 56 and 58 can bend relative to each other. To provide for ease in bending, there is provided a slit 62 in the median portion of the score line 60. The member 58 is also provided with a lock tab 64 on its outer end which functions as a stop to limit the outward extension of the pouring spout when it is in its open position.

Having described the detailed structure of the present invention, the assembly and operation thereof will be set forth.

Prior to assembling the box, a suitable adhesive or glue is put on the under surface of flap 24, triangular member 50 and top end wall closure flap 42. Also, glue is properly placed on flaps 26 and 32.

Then a suitable ink is printed on the entire surface area of the third triangular member 58, as well as a small arced area designated at 67 on the lower end of flap 46 and a small area to the right of the hinge connection 60 designated at 68 so that these portions will not adhere to a glued surface when assembled.

The scored blank 2 shown in FIGURE 1 is then assembled by first bending the blank along the vertical score lines 16, 18, 20 and 22. The glue flap 24 is placed on top of the first end wall 8 with the first triangular member 50 placed on top of and adjacent to the second triangular member 56 as shown in FIGURE 2 so that flap 24 is glued to end wall 8 and the first triangular member 50 is glued to the second triangular member 56. The third triangular members is bent along score line 60 and extends into the box at an angle with respect to the second triangular member 56.

Next, the bottom end wall closure flaps 38 and 40 are bent perpendicular to side walls 4 and 6 and then bottom side wall flaps 26 and 28 are bent inwardly with flap 26 on top of flap 28 so that the bottom end of the box can be glued together and sealed.

The box can now be filled with any suitable pourable material such as salt, rice, flour and the like.

The top end wall closure flaps 42, 46 and 44 are bent down with the flap 42 adjacent to and on top of flap 46. The top side wall closure flaps 30 and 32 are now bent down into place with flap 30 on top of flap 32 so that the top end of the box can be glued together and sealed.

As the flap 30 is placed on top of flap 32, the semi-circular notches 34 and 36 coincide to form a recess 66 as shown in FIGURE 3. It should be noted that the hand tab 52 extends up from triangular member 50 to a level approximately to the top surface of flap 30. With this construction, the user can readily place a finger into recess 66 and grasp the members 50 and 56 and pull the pouring spout open.

In use, the pouring spout is opened by simply grasping the hand tab 52 and the first triangular member 50 readily tears along perforations 48. The second triangular member 56 swings outwardly due to its hinged connection at 54 with the first triangular member 50, since the members 50 and 56 are glued together. As the members 50 and 56 swing out, the third member 58 is pulled out to present a

triangular pouring spout as shown in FIGURE 4. The third triangular member **58** is prevented from being pulled too far out of the box by the lock tab **64** that engages the upper portion of the box at the juncture of the glue flap **24** and the top closure members **30**, **32**, **42** and **46** and functions as an extension stop for the pouring spout.

With this triangular pouring spout construction, the user has a higher degree of control over the amount of material that is poured out of the box and also can easily control the rate at which the material is being poured.

The pouring spout can be readily closed by pushing the members **50** and **56** inwardly which swings the member **56** inwardly. The members **50** and **56** now completely close the pouring spout.

Although specific details of the improved box and novel pouring spout have been set forth above, it will be apparent that many changes and modifications may be made therein without departing from the spirit of the invention. It will therefore be understood that what has been described is intended to be illustrative only, and is not intended o limi he scope of he invenion.
not intended to limit the scope of the invention.

What is claimed is:

1. A blank for a box comprising:
(*a*) upper and lower horizontal score lines;
(*b*) first, second, third and fourth vertical score lines defining side walls, first and second end walls and a glue flap;
(*c*) bottom end wall and bottom side wall closure flaps beneath said lower horizontal score line;
(*d*) top end wall and top side wall closure flaps above said upper horizontal score line;
(*e*) a triangular pouring spout for the box comprising: a first triangular member connected to the upper terminal end of the glue flap with two sides thereof diverging upwardly and outwardly; a second triangular member hingedly connected to the upper terminal end of the first end wall with two sides thereof diverging upwardly and outwardly; and a third triangular member hingedly connected to said second triangular member with two sides thereof diverging downwardly and outwardly;
(*f*) whereby upon assembly of said box the glue flap will be adhered to the first end wall and said first triangular member will be adhered to said second triangular member with the diverging upwardly and outwardly sides of said first and second triangular members being coextensive with respect to each other.

2. A blank for a box as set forth in claim 1 wherein:
(*a*) the outer ends of the top side wall closure flaps are provided with semi-circular notches.

3. A blank for a box as set forth in claim 1 wherein:
(*a*) the first triangular member is provided with a hand tab.

4. A blank for a box as set forth in claim 1 wherein:
(*a*) the connection between the first triangular member and the glue flap is provided with perforations through the blank and the hinge connection between the second triangular member and the first end wall are formed by perforations through the blank.

5. A blank for a box as set forth in claim 1 wherein:
(*a*) the hinge connection between the second and third triangular members is formed by a score line.

6. A blank for a box as set forth in claim 5 wherein:
(*a*) a slit is provided intermediate the ends of the score line.

7. A blank for a box as set forth in claim 1 wherein:
(*a*) the outer end of the third triangular member is provided with a lock tab.

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