SELF-ATTACHING POURING SPOUT FOR RECEPCTACLES

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This invention relates to improvements in pouring spouts and more particularly to means formed as an integral part thereof for rendering the pouring spout self-attachable to boxes, cartons, containers, and the like and principally such as are used for breakfast foods, granulated sugar, salt, and similar granular or powder products.

The invention relates especially to improvements in the type of pouring spout shown and described in my U. S. Patent No. 2,910,892 dated August 13, 1935, wherein I show a metallic pouring spout adapted to be attached around the edges of a cut-away corner of the package.

It is one of the principal objects of the present invention to provide a pouring spout of this character which is provided with means for automatically cutting or punching an aperture in the box or carton with which it is to be used and also to provide means for removably securing the pouring spout to the carton in such a manner that it may be readily removed from a used or emptied carton and applied to a new one.

A further object of the invention is the provision of said means for forming the aperture and providing said means with a closure plate to seal the aperture but so formed that when moved into an open position it forms a pouring spout.

A still further object as illustrated in the modified form of the invention is the provision of an immovable pouring spout arranged in fixed relation to the cutting or aperture-forming means. This form of the invention is adaptable for use on packages, boxes, or cartons for handling commercial products such as certain kinds of powder or granular chemicals or other granular products wherein the sanitary advantages of a closed or sealed pouring spout are of no importance.

These and other objects will appear as my invention is more fully hereinafter described in the following specification, illustrated in the accompanying drawing, and finally pointed out in the appended claims.

In the drawing:

Figure 1 is a fragmentary perspective view of one corner of a cardboard box or carton showing my invention operatively attached thereto.

Figure 2 is a sectional side elevation taken along the line 2—2 of Figure 3.

Figure 3 is a rear elevation of Figure 1 showing the locking means in a locked position in full and dotted lines, and in an unlocked position in broken lines.

Figure 4 is a slightly reduced bottom plan view of the invention.

Figure 5 is a perspective view of a modified form of the invention wherein the pouring spout is made immovable with respect to the aperture and is maintained in an open position with respect thereto.

Figure 6 is a further modification of the invention.

Figure 7 is an end elevation of Figure 6 looking in the direction of the arrow therein.

Referring now more particularly to the drawing:

In Figure 1, reference numeral 1 indicates generally one corner of a cardboard box or carton as above referred to and having a top wall 2, side walls 3, and an end wall 4.

Reference numeral 5 indicates a supporting plate adapted to bear against a wall of the carton to which the device is applied. The plate 5 is formed with an aperture 6 and adjacent the lower edge thereof is formed a hinge 8 to swingably support a pouring spout, generally indicated at 3, which consists of a bottom wall 10 and two side walls 11 and 12. The upper ends of each side wall are turned downwardly on themselves as at 13 (see Figure 2) to form limit-stops adapted to strike against the rear surface of the plate 5 in the full open position of the pouring spout. The lower portion of the plate 5 is formed into a channel 14 to slidably embrace a locking-clamp generally indicated at 15 and which comprises an elongated metal plate 16 folded over on itself at its upper end as at 17 (see Figures 2 and 3) and turned outwardly at its lower end as at 18 to provide convenient gripping means.

To the rear wall of the plate 5 I secure by any suitable means a pair of cutting blades 19 and 20 whose entire outer edges are sharpened to a knife edge and preferably pointed, as shown. Interconnecting the cutting blades and arranged transversely thereof is a shelf 21 which serves the dual purpose of maintaining the cutting blades in rigid parallel relation and also provides a shelf or support for the cut-out portion 22 of the carton to maintain it in an elevated position so as not to interfere with the free flow of the contents of the carton out through the pouring spout when in an open position.

After the device has been forced through the wall of a carton, the aperture cut, and the portion 22 moved upwardly by the shelf 21, I then move the locking-clamp down into its full line position as shown in Figure 3, whereat the folded-over portion 17 firmly engages the wall of the
This modified form of the invention is applied to a carton, box, package, or the like, in a manner similar to the application of the other forms of the invention. The cutting blades 36 and 37 are thrust through the wall of the carton until the supporting plate 31 bears securely thereagainst. The blade 36 cuts the top edge of the aperture while the two side blades 37 cut the side edges thereof. The three sided flap, thus formed, is then bent downwardly by the inward movement of the shelf 33 and held beneath it in an out-of-the-way position so that it does not interfere with the free flow of the contents of the carton out through the pouring aperture or spout. In the other forms of the invention the cut-out flap is swung upwardly to rest on top of the shelves 21 and 30 while in the modified form thus described and shown in Figure 6 the flap is forced beneath the shelf 33.

By applying the locking clamp 15 to any of the forms of the invention illustrated I am enabled to interpose a seal or gasket 39 between the supporting plate and the wall of the carton as illustrated in Figure 1. The gasket is securely compressed against the wall of the carton by the locking clamp and thus renders the edges of the aperture leak-proof.

While I have shown a particular form of embodiment of my invention I am aware that many minor changes therein will readily suggest themselves to others skilled in the art without departing from the spirit and scope of the invention. Having thus described the invention, what I claim as new and desire to protect by Letters Patent is:

A pouring spout for cartons comprising, a supporting plate, an aperture formed in the supporting plate, a pouring spout hingedly attached to the supporting plate adjacent one edge of the aperture therein and adapted in one position to serve as a closure for the aperture and in another to control dispensing action, cutting means carried by and extending rearwardly from the supporting plate to form an aperture in a carton when thrust through a wall thereof, said aperture in the carton wall being defined by three cut sides to form a tab, means fixedly secured to the cutting means for maintaining the tab in an elevated position with respect to the aperture in the wall of the carton, means for locking the supporting plate to the carton wall, said locking means comprising an inverted U shaped clamp slidably attached to the supporting plate and adapted to engage the aperture wall of the carton.

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