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BOX FLAP HOLDER

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My invention relates to fastening means and more particularly to a new and improved box flap holder.

An object of my invention is to provide a reusable box flap holder for holding the top flaps of a corrugated box or similar container in an open position against the sides of the box.

Another object of my invention is to provide a box flap holder for holding the top flaps of a box in open position against the sides of the box from the outside of the box without projecting above or into the box opening, and, therefore, presenting no obstruction whatsoever to the filling or emptying of the box.

Another object of my invention is to provide a box flap holder which can be used on boxes of all sizes and which can be employed without any danger of damaging the contents of the box.

Still another object of my invention is to provide such a box flap holder which comprises a single rigid member which is extremely durable in use.

Other objects, features and advantages of my invention will be apparent from the following detailed description taken in conjunction with the accompanying drawings wherein several preferred embodiments have been selected to exemplify the principles of the invention.

In the drawings:

FIG. 1 is a plan view of my novel box flap holder.

FIG. 2 is a side view of the box flap holder of FIG. 1.

FIG. 3 is a plan view of a modified form of my novel box flap holder.

FIG. 4 is a side view of the box flap holder of FIG. 3.

FIG. 5 is a perspective view of the box flap holder of FIG. 1 attached to the top flaps of a box.

FIG. 6 is a sectional view taken along line 6--6 of FIG. 5.

Referring now more particularly to the drawings wherein like numerals refer to like parts throughout the several views, a preferred form of my novel box flap holder is shown generally at 10 in FIGS. 1, 2 and 3. The holder 10 comprises a flat, rigid member having a pair of integral arms 11 and 12 having substantially straight inner edges 13 and 14, respectively, disposed at 90° to each other.

Arms 11 and 12 have points 15 and 16 formed at the ends thereof, respectively, and extending inwardly at 90° to the edges 13 and 14, respectively. Each of points 15 and 16 has an inner tapered edge 17 and an outer tapered edge 18. The edges 13, 14, 17 and 18 are all substantially flat and are disposed at 90° to the plane of the flat holder 10.

In the particular holder 10 shown for exemplification, the edges 17 and 18 of point 15 are disposed at an angle of about 115° with respect to straight edge 13 of arm 11 and corresponding edges 17 and 18 of point 16 are similarly disposed at an angle of 115° with respect to straight edge 14 of arm 12. This disposition of edges 18 allows the points 15 and 16 to easily pierce the flaps of conventional corrugated boxes and other similar paperboard containers when the holder 10 is pressed against the flaps, as best seen in FIG. 6. The holder 10 is maintained in its flap holding position by inserting 17 of the points 15 and 16. It is recognized that the angle at which edges 17 and 18 are disposed with respect to the respective arms, may vary somewhat depending upon various factors such as the material, size and weight of the holder and the type of box or container on which it will be used. I have found that for most situations the angle can vary from about 110--120° for the easiest insertion into the flaps, the firmest holding action and the easiest removal therefrom. However, it is recognized that under certain circumstances this angle could be made somewhat larger or smaller for best results.

As shown in FIG. 1, holder 10 has a hole 19 there-through for receiving a key chain, string, or other retaining means. Thus, persons such as inventory takers, inspectors and others may carry one or more of the holders on a keychain for ready availability.

A modified form of my invention is shown in FIGS. 3 and 4. This modified holder 20 is the same as holder 10 except that, as shown in FIG. 4, it is somewhat thicker and the top and bottom edges 23 and 24, respectively, of its points 21 and 22 are tapered to a point.

Both holders 10 and 20 can be made of any suitably rigid material, such as steel, aluminum, other metals, plastic, and the like; however, the weaker the strength of the material used, the thicker the holder will have to be to obtain the required strength and rigidity. Thus, with the thicker holders such as 20, it is desirable to taper the top and bottom edges 23 and 24 of the points as shown in FIG. 4 to facilitate ease of insertion of the points into the flaps of a box.

To use either form of my box flap holder to hold the top flaps of a container or corrugated box, such as 30 shown in FIG. 5, place the adjacent top flaps such as 31 and 32 in full open position against the outside of sides 33 and 34 of the box, respectively.

While holding the top flaps 31 and 32 in such a full open position, push the box flap holder into the top flaps 31 and 32 at the corner of the box where the flaps 31 and 32 meet. One of the points of the box flap holder is pressed into one top flap and the other point pierces the adjacent top flap. The inner edges 17 of the points maintain the holder on the flaps and the 90° angle formed by the arms 11 and 12 of the box flap holder fits the 90° angle of the flaps which are now held firmly in full open position to facilitate the easy filling or emptying of the box.

The remaining two top flaps of the box may be similarly held by another holder, thus, it will be noted that only two holders are required for holding the four top flaps of a box in full open position as may be desired for displaying merchandise in the box, as well as to facilitate the filling and emptying of the box.

As best seen in FIG. 6, the points 15 and 16 of the holder need not protrude through the top flaps 31 and 32 to hold them securely and, therefore, if the box is to be reclosed there will not be any holes in the outside surface of the top flaps or in the sides of the box.

The box flap holder can be pressed into the flaps at any distance from the top of the box; however, firmer holding is obtained as a result of better leverage by placing the holder on the lower portion of the open flaps.

It is apparent that my box flap holder is of extremely simple and low cost construction and will be very durable
in use, since it has no parts to become loose or out of adjustment or any parts which will wear out or break due to bending fatigue as may be the case with known box flap holders which are flexed or bent during insertion and which can easily be permanently deformed from their normal configuration if the box flap is excessively rigid or if the box flap is unintentionally lifted while the holder is attached.

It is understood that my invention is not confined to the particular construction and arrangement of parts hereinafter illustrated and described, but embraces all such modified forms thereof as may come within the scope of the following claims.

I claim:

1. A box flap holder comprising a substantially rigid member having a pair of arms disposed at substantially right angles to each other, said arms having inwardly directed points thereon adapted to pierce adjacent top flaps of a box for holding same in an open position against the sides of the box, said arms and said points lying in substantially a common plane.

2. A box flap holder as specified in claim 1 wherein said points have tapered inner edges disposed at about 110°-120° to the arm on which each is located.

3. A box flap holder as specified in claim 1 wherein said member has a hole therethrough for receiving retaining means thereof.

4. A box flap holder comprising a substantially flat rigid member having a pair of arms disposed at substantially right angles to each other, said arms having inwardly directed points thereon adapted to pierce adjacent top flaps of a box for holding same in an open position against the sides of the box, said points having inner tapered edges lying in planes at substantially right angles to the plane of said flat member said arms and said points lying in substantially a common plane.

5. A box flap holder as specified in claim 4 wherein said inner edges are disposed at about 115° to the arm on which each is located.

6. A box flap holder comprising a substantially flat, rigid member having a pair of arms disposed at substantially right angles to each other, each of said arms having an inwardly directed point thereon adapted to pierce adjacent top flaps of a box for holding same in an open position against the sides of the box, each of said points having an outer and an inner tapered edge lying in planes disposed at substantially right angles to the plane of said flat member, said edges forming an angle of about 115° with the arm on which they are located said arms and said points lying in substantially a common plane.

7. A box flap holder comprising a substantially flat, rigid member having a pair of arms having substantially straight inner edges disposed at right angles to each other, each of said arms having a point at the end thereof extending inwardly at a right angle to said edge, each of said points having an outer and an inner tapered edge lying in planes disposed at substantially right angles to the plane of said flat member, said inner edges forming an angle of about 115° with the straight edge of the arm on which they are located said arms and said points lying in substantially a common plane.

8. A box flap holder as specified in claim 7 wherein said outer edge of each point forms an angle of about 115° with the straight edge of the arm on which it is positioned.

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