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2,698,124

SHIPPING AND SERVICE CONTAINER

Filed May 29, 1951

2 Sheets-Sheet 1

FIG. 1

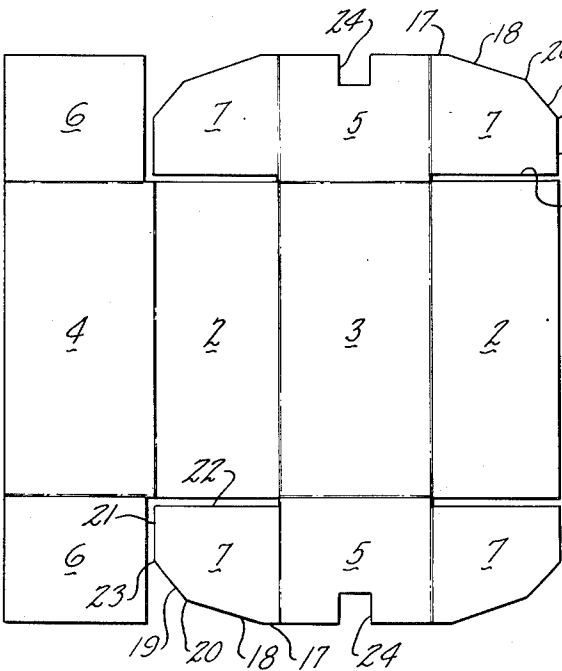


FIG. 2

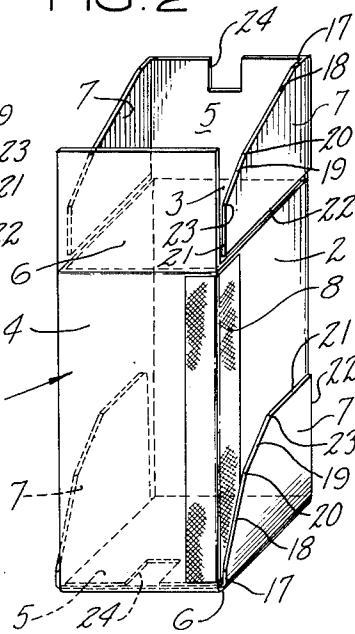


FIG. 3

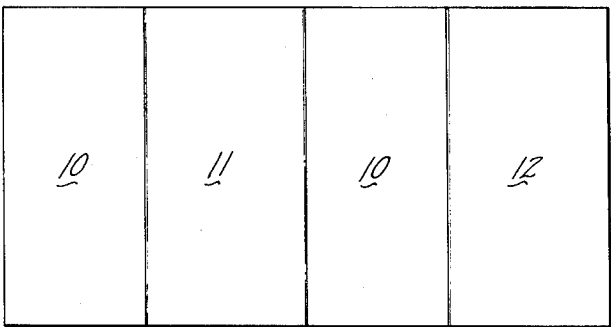
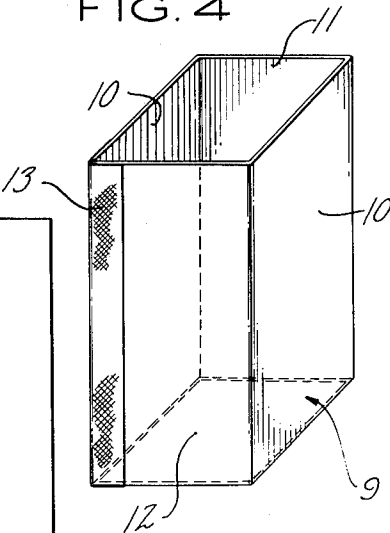


FIG. 4



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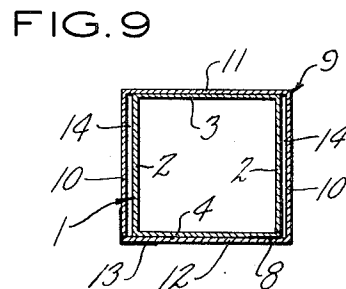
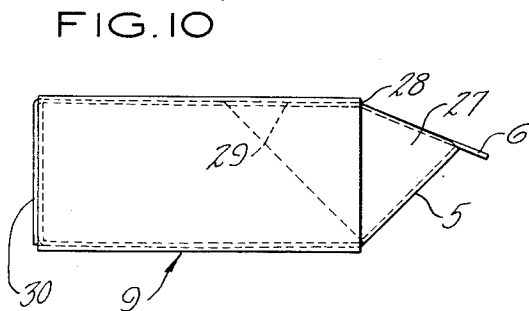
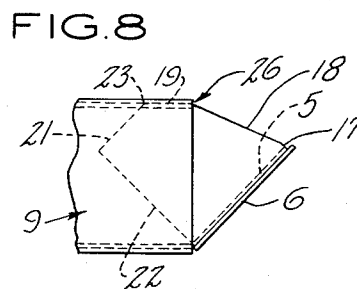
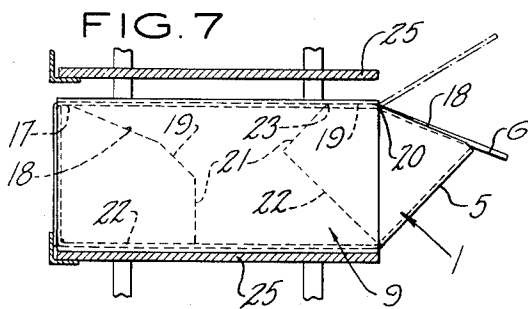
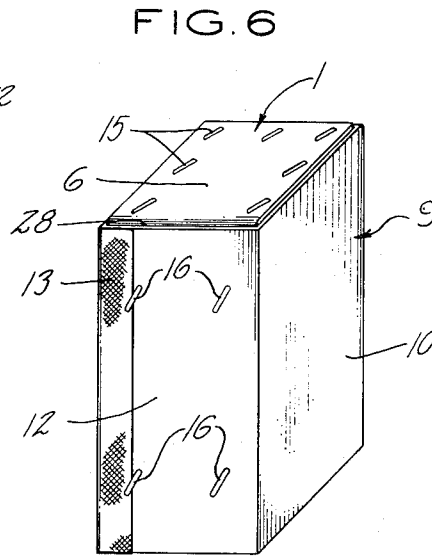
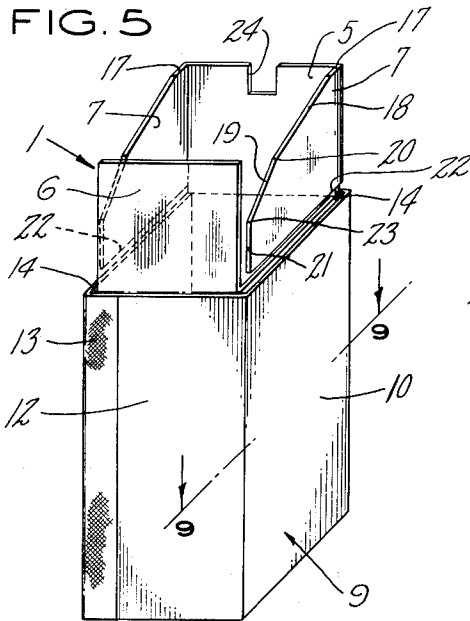
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SHIPPING AND SERVICE CONTAINER

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1 Claim. (Cl. 229—7)

This invention relates to an improved shipping container, for small metal parts such as screws, bolts, nuts and the like, or small metal assemblies.

It is an object of the invention to provide a construction which may be made out of corrugated cardboard or the like and yet will have sufficient strength and rigidity to withstand shipment when filled with thirty pounds or more of small metal parts.

A further object is to provide a container construction which will not only meet shipping requirements but which when received by the user of the contents may, by the simple act of opening, be converted into a service container or stockroom unit, with a substantial saving in stockroom equipment, and the labor involved in handling, storing, ordering, distribution, inventorying and record keeping.

A further object is to provide a structure having the above advantages and yet constructed from simple blanks using a minimum of material, time and labor.

Other and further advantages residing in the details of construction and arrangement of parts will be made apparent in the following specification and claim.

In the drawings,

Fig. 1 shows the cut and scored blank from which the inner member of the container is formed;

Fig. 2 is a generally isometric view of the inner member formed from the blank of Fig. 1, one end being open and the other closed;

Fig. 3 shows the cut and scored blank from which the outer member of the container is formed;

Fig. 4 is a generally isometric view of the outer member formed from the blank of Fig. 3;

Fig. 5 is a generally isometric view of the inner and outer members in assembled position one end being open;

Fig. 6 is a similar view of the container of Fig. 5 with the parts secured in closed position;

Fig. 7 is a side elevational view showing the opened container in position for use as a service or stockroom bin;

Fig. 8 is a fragmentary view similar to Fig. 7, but illustrating a different mode of opening the container;

Fig. 9 is a sectional view substantially on line 9—9 of Fig. 5; and

Fig. 10 is a view similar to Fig. 7 but showing a modification.

Referring to Fig. 1 of the drawings, the blank from which the inner member, generally indicated at 1, is formed includes side wall forming panels 2 and opposed wall forming panels 3 and 4. The panels 3 and 4 are provided respectively with inner and outer end closure forming flaps 5 and 6. As shown the inner closure flaps 5 are provided with side flaps 7. The blank of Fig. 1 is provided with suitably scored fold lines as shown so that it is adapted to be folded to bring the parts into the relationship shown in Fig. 2, the free longitudinal edges of panel 4 and the remote panel 2 being permanently connected by a strong paper or cloth tape 8 cemented or otherwise secured in place, or by other suitable means.

Referring to Fig. 3, the blank from which the outer member, generally indicated at 9, is formed includes side wall forming panels 10, and opposed wall forming panels 11 and 12. The blank of Fig. 3 is provided with suitable score lines as shown so that it is adapted to be folded into tubular form as shown in Fig. 4, the free longitudinal edges of panel 12 and remote panel 10 being permanently secured together by a strong paper

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or cloth tape 13 cemented or otherwise secured in place, or by other suitable means.

With the parts of the inner member in the position shown in Fig. 2—that is with the flaps at the upper end open and the lower bottom inner closure flap 5 folded over the end with the side flaps 7 folded against the outer faces of the side walls 2 and the bottom outer closure 6 folded over the folded inner flap 5—the outer member 9 is telescoped over the inner member as shown in Fig. 5.

As shown in Figs. 5 and 9 the transverse dimensions of the several wall panels are such that the opposed walls 3 and 11 and 4 and 12 of the inner and outer members respectively are in tight engagement while the side walls 2 and 10 of the members are spaced from each other, as indicated at 14, a distance to snugly receive the side flaps 7.

With the parts in the position of Fig. 5, the container may be filled through the open end after which the side flaps 7 are inserted in the openings 14, inner closure flap 5 swung downwardly to closed position and outer closure flap 6 folded down over flap 5, as shown in Fig. 6. As shown in the latter figure, the closure flaps (at both ends) are secured together with staples 15 and the walls 12 and 11 of the outer member 1 are secured to the underlying walls of the inner member 2 by staples 16.

Each side flap 7 is formed with a relatively short edge portion 17 adjacent the hinge connection of the flap to closure member 5 which edge extends at right angles to the hinge. Successive inclined edge portions 18 and 19 intersect at a locking point 20, and an edge portion 21 at right angles to the lower edge 22 of the flap intersects the edge portion 21 to form a locking point 23. The dimensions of the flaps are made such that when the parts are in the position of Fig. 5 the radial distances of the lock points from the hinge connection of closure member 5 with the wall 3 are sufficiently greater than the length of opening 14, in which the flap is inserted, that some force is required to force the lock points along the opposing wall of the outer tubular member 9 when the flaps are entered in, or withdrawn from, the openings 14 in closing or opening the container.

When the receptacle is closed, as best shown at the closed end in Fig. 7, the edges 17 and 22 proximately engage the inner faces of the opposing walls of the tubular member giving rigidity to the closed end of the receptacle during shipment and handling.

When the filled receptacle is received by the user of the contents the staples 15 at one end of the package are withdrawn, thus freeing the end closure members and flaps 7. The outer closure member is then swung outwardly and the inner end closure member 5 is then swung outwardly clear of lock point 20 as shown at the right hand end in Fig. 7, member 5 being provided with a finger opening 24 to facilitate the latter operation. In the partially open position of Fig. 7, the edge 19 engages the opposing wall of the tubular outer member and, with lock point 23, holds the inner closure against full withdrawal. The so-partially opened container with its contents may then be placed, with others, on the shelf of a storage rack, such as is indicated at 25 in Fig. 7, to serve as a service or stock bin, replacing the conventional metal bin and avoiding the labor and expense of transferring the contents from the container. As is evident from Fig. 7, the outer closure member 6 forms a hinged lid for the "bin" protecting the contents from dust and the like. If the lid feature is not desired it is not necessary to withdraw the staples 15 or other fastening means in opening the container since the container may be opened by merely cutting the hinge fold of the outer closure member, as at 26 Figs. 6 and 8, permitting the inner closure member to be swung out as described, the severed member 6 remaining stapled to member 5 as indicated in Fig. 8.

A modified construction is shown in Fig. 10 in which the inner closure flap 5 is provided with side flaps 27 similar to the flaps 7 previously described except that they are provided with a single lock point 28 and a retaining edge 29 of such length that withdrawal beyond the lock point 28 is impossible. In this form the opposite end is provided with a closure arrangement such as

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previously described or with conventional rectangular closure flaps 30. In this form the flaps 27 are folded against the sides of the inner member in the manner indicated at the bottom of Fig. 2 before the outer member 9, which is unchanged in form, is telescoped in place, the container being then loaded through the opposite end, the closure members of which are then closed and both ends stapled as described.

The first form described has the advantage that it may be opened at either end for bin forming purposes. Whereas the second form must be opened at the end provided with the closure structure 5—6—27 for bin use, it has the advantage that it cannot be accidentally opened beyond the lock point 28.

In either form a strong structure is provided fully adequate for the transportation of screws, bolts, nuts and similar articles.

While for heavy duty use, staples are the preferred means for securing the inner and outer members together and for securing the end closures, for lighter constructions the parts may be secured by gummed tape or other means.

By the construction of the present invention the container presents smooth inner walls presenting no edges or flaps which might catch and hold small articles. The flaps 7 or 27 never come in contact with the goods within the container, and are completely enclosed between the walls of the inner and outer member, which walls provide guide-ways which prevent sidewise swinging of the flaps. The parts fit tightly and snugly together in an arrangement which strengthens and reinforces the container while serving their purpose of converting the container into a service bin by the simple act of opening one end of the container.

If desired, the opened container may be inverted (as compared with the position of Figs. 7 and 8) so as to discharge onto an assembly bench.

Preferably the members are constructed of a good quality corrugated cardboard, but any suitable material may be used. While only one outer sleeve member 9 is shown, it will be understood that when added strength is desired a second sleeve may be telescoped over the first one or may be inserted within the inner member.

What is claimed is:

A shipping and serving container for shipping and serving nuts, bolts and small metal parts in bulk, which comprises, an open ended inner rectangular tubular member formed of corrugated cardboard, said member having closure flaps at each end, said closure flaps consisting of inner and outer flaps respectively integrally hinged along one edge to adjacent ends of opposed walls of said inner

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member and each having dimensions substantially equal to the dimensions of the open ends of the inner member, said inner and outer flaps being folded, the outer over the inner and at right angles to the walls of the inner member, to close the adjacent end opening of the inner member, each inner flap being provided with side flaps respectively integrally hinged to the opposite free edges of the inner flap and folded against the outer face of the adjacent side wall of the inner member, the length of the side flaps being substantially equal to the width of the adjacent side wall of the inner member, and an outer tubular member, having a length substantially equal to that of the inner member snugly telescoped over said inner member with said side flaps positioned between the adjacent walls of the outer and inner members and separated from the contents of the container by the adjacent wall of the inner member, the edges of the side flaps adjacent the hinges of the inner flap extending at right angles thereto and engaging the opposing inner wall of the outer tubular member substantially throughout the length of said side flap, the opposite edges of said side flaps having a relatively short first portion extending at right angles to the hinge of the outer flap and engaging the opposing wall of the outer tubular member, and having second and third portions extending respectively from the inner end of said first portion and the inner end of the flap and intersecting at a point radially spaced from the hinge of the inner flap a distance slightly greater than the length of the inner flap to resist, but permit, outward swinging of the inner flap, said second portion engaging the opposing wall of the outer tubular member along the entire length of said portion, when the inner flap is swung outwardly, to restrain outward swinging movement of the inner flap and the side flaps beyond said point, the so-partially opened inner flap with the exposed portion of adjacent side flaps forming a bin type opening for the container, the adjacent outer flap forming a hinged lid for said bin opening.

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