April 4, 1939. R. E. LOWEY 2,153,334

BASKET

Filed March 5, 1938 2 Sheets-Sheet 1

Fig. 1

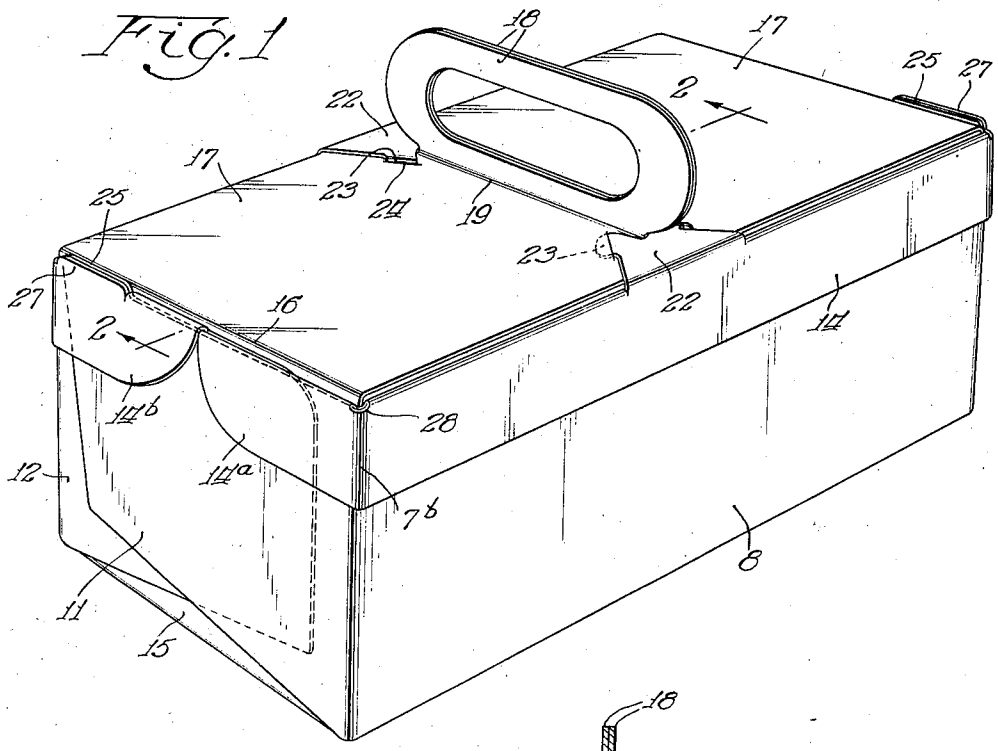
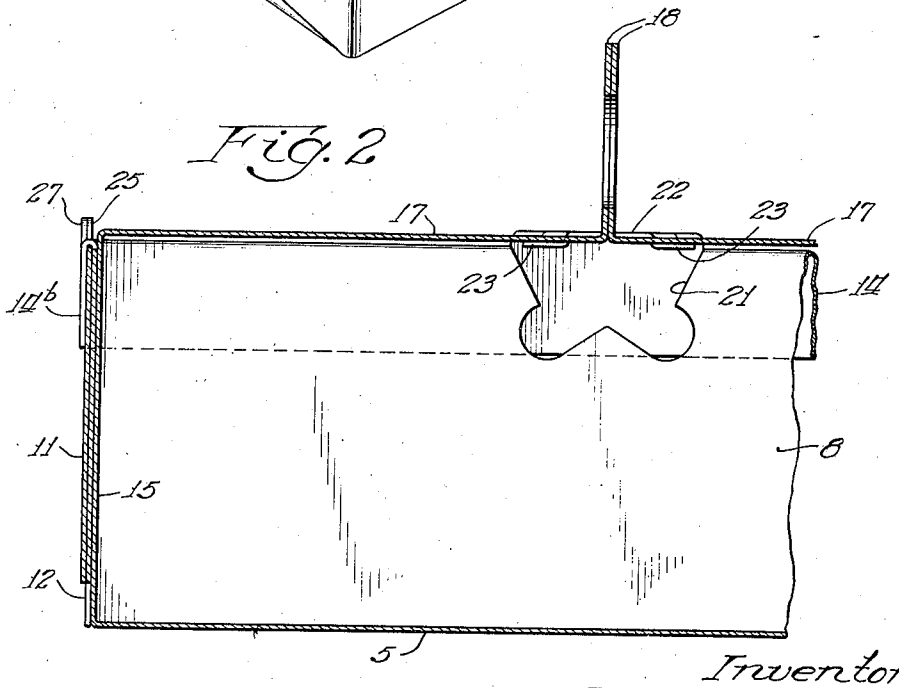


Fig. 2



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Fig. 3

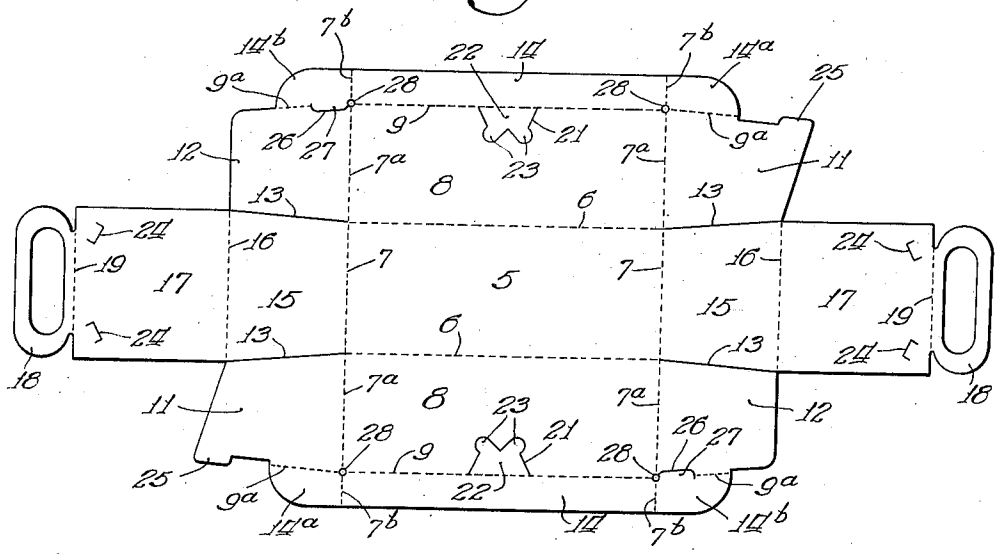
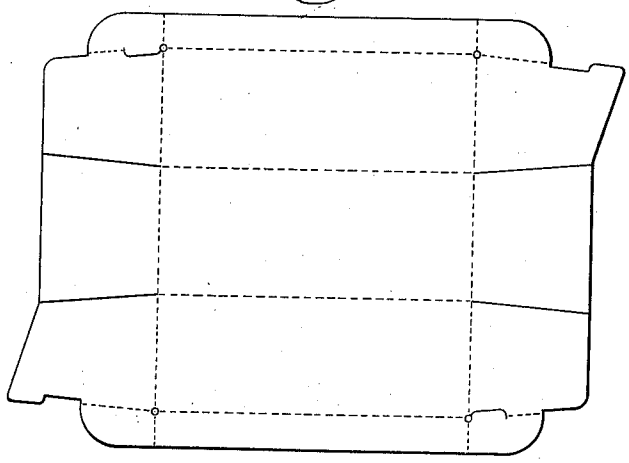


Fig. 4



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Patented Apr. 4, 1939

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UNITED STATES PATENT OFFICE

2,153,334

BASKET

Roy E. Lowey, Evanston, Ill., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Application March 5, 1938, Serial No. 194,061

16 Claims. (Cl. 229—36)

The invention relates to boxes, baskets and the like composed of paper-board, fibre board and similar materials, peculiarly adapted for packing, shipping and merchandizing, fruits, vegetables and other commodities, and, more particularly, to a relatively inexpensive and simple construction whereby the box or basket or the like may be quickly and cheaply manufactured, and easily and speedily set up for use, and which, when set up or formed, and in use will be strong and sturdy.

One of the primary objects of the invention is to provide a box, basket or the like which may be manufactured from a single sheet or piece of material with a minimum of wastage and cutting and with a maximum of strength.

Another important object is to provide an interlocking arrangement between side or end walls which will effectively resist stresses and strains arising from the amount or character of the commodity load or from handling or from other causes. In this connection it may be mentioned that the preferred construction is such that stresses and strains imposed in certain directions (those directions from which stresses and strains usually develop in devices of the character mentioned) tends to increase rather than to decrease the effectiveness of the interlock between the parts.

Still other important objects are to provide a combined closure and handle for a box or basket of the general character mentioned, to provide a single, economical and effective means whereby the closure may be firmly secured for merchandizing purposes as well as for transportation, to utilize a normally concealed portion of the box or basket in the provision of the securing means for the closure or cover, and to combine the several features in such manner as will produce the significant ends to be attained.

Many other objects as well as the advantages and uses of the invention, as well as the numerous variations and modifications to which it is susceptible and in which it may be embodied will be or should become apparent to those skilled in the art as the description and claims unfold and after viewing the drawings in which:

Fig. 1 is a perspective view of a box or basket constructed in accordance with one of the preferred forms of the invention.

Fig. 2 is a fragmentary section taken in a plane perpendicular to the bottom of the box or basket of Fig. 1 and substantially along the line 2—2 thereof.

Fig. 3 is a developed or plan view of the cut and scored blank from which the box or basket of Figs. 1 and 2 may be constructed; and

Fig. 4 is a developed or plan view of a modified type of box or basket blank which differs from the blank of Fig. 3 only in that portions adapted to form a cover or closure and handles have been omitted.

In the interest of simplification of description the box or basket will be described first by reference to the formation of the blank of Fig. 3 and thereafter to the manipulation of the several parts of the blank into the final article. The purposes and functions of the parts will be mentioned in the course of this detailed description.

The sheet of material of which the blank is to be composed is cut to a shape such as that illustrated in Fig. 3 from which it will be noted that the blank is generally rectangular and is similar although not symmetric on each side of its longitudinal, its transverse and its diagonal axes. The lengths and widths of the parts, of course, are proportioned and dimensioned to suit the size and shape of the container to be fashioned, as will be understood. The various cuts and scoring may be done at the same time that the blank is struck or may be performed prior thereto or thereafter as may be preferred.

The cutting and scoring provide: A bottom wall section or panel 5 defined by score lines 6, 6 and 7, 7; side wall sections or panels 8 defined by a score line 6, by a score line 9 and by continuations 7^a of the score lines 7; end wall closures or flaps 11 and 12 defined by a score line 7^a, by a score line 9^a constituting a continuation of a score line 9 and by free edges including an edge 13 cut free from an adjacent part; marginal cuff portions 14, 14^a and 14^b extending along the outer edge of each side wall 8 and portions of flaps 11 and 12 and which are scored transversely as shown at 7^b; end wall sections or panels 15 defined by score lines 7 and 16 and cut edges 13; cover, lid or top closure panels 17 which are attached to and extend outwardly, tongue like, from panels 15 at score lines 16; and handle members 18 which are attached to the panels 17 but segregated therefrom by score lines 19. Each of the side wall panels may be cut along the full lines designated 21 to provide a flap 22 having a pair of locking tabs 23 adapted to be received in U-shaped slots or slits 24 appropriately formed and disposed in the cover panels 17 adjacent to the ends of the handles 18, and each end flap 11 is provided with a projection or tab 25 adapted to be disposed through a U-shaped slit or slot 26 cut through

one of the end flaps 12 substantially along the score line 9a thereof.

In order to increase the effectiveness of the end lock at each end of the container, as will later become more apparent, each end closure flap 11 adjacent to and between the projection or tab 25 and the cuff part 14a, is notched out to a depth, from a continuation of score line 9a, equal to approximately the thickness of the material from which the container is being made. It will also be noted that the U-shape of each cut 26 provides a lip or projection 27 the use and purpose of which will later appear. At the intersection of each group of score lines 7a, 7b, 9 and 9a a small hole 28 may be punched through the material to relieve the strain thereat when the material is double folded at these places as will also later appear.

The blank may be folded into box or basket shape in various ways. However, it has been found preferable first to raise the side panels 8 by bending the sheet along score lines 6, then to raise end panels 15 and top panels 17 by bending those portions along score lines 7, then to bend the cuff or marginal portions 14, 14a and 14b outwardly and downwardly, and then to bend the end flaps 12 and 11 (in the order named), at each end, and on score lines 7a, 7b, toward and over one another and over the outside face of the adjacent end panel 15. Now by slightly distorting each end flap 11 the projection or locking tab 25 thereof may be moved beneath the cuff 14b of the underlying flap 12 and between the outer face of flap 12 and the inner face of cuff 14b, and the projection or tab 25 is projected through the slot or slit 26 into the position illustrated in Figs. 1 and 2. Proper proportioning of the lengths and positions of the parts including the projections 25 and slots 26 and the ends of the cuffs 14a and 14b will bring the cuff ends into close abutment when the adjacent end of projection 25 is engaged with the adjacent end of slot 26, thereby tending to assist in locking the end flaps together. Of course, it is not necessary, although it is preferable, to have the ends of cuffs 14a and 14b fall into abutting relationship.

When the cuffs 14b are folded outwardly and downwardly, the action causes the lips 27 to rise and stand above the top edge or perimeter of the box end wall and, as the design preferably is such that the projections 25 stand an equal distance above the top edge of the box, the lips 27 provide protection against accidental disengagement of the projections 25 from slots 26. The free cut edges 13 of end panels 15 are designed to abut the inner surfaces of the side wall panels when the projections 25 are properly engaged in slots 26 so that movements of the side walls toward one another will not break or disturb the end wall flap locks. Within reasonable limits pressure tending to move the end or side walls from one another will tend to tighten rather than loosen the end locks.

The construction so far described leaves the box or basket with its top or cover panels 17 and handles 18 projecting upwardly in which position (if the boxes have downwardly and inwardly tapering walls as in the forms illustrated) a number of boxes may be nested together for shipment or other purpose, and in which position the box may be filled with the commodity it is to receive. After filling or when a sale occurs, the top panels 17 are folded down along score lines 16, the handles 18 are folded upwardly along score lines 19 and the tabs 23 on flaps 22 are directed through the appropriate slots 24, as will be understood.

As above mentioned in the brief description, the modified form illustrated in Fig. 4 is identical in construction and arrangement with the form of Figs. 1, 2, and 3 except for the omission of the top panels and handles. The blank of Fig. 4 is formed into shape after the manner of that of Fig. 3 and functions in a similar way. Consequently it does not seem necessary to describe this modified form in detail.

It will be noted that each of the box forms illustrated has upwardly and outwardly flaring side walls but this is not essential. Utilizing the features of the invention the box or basket may have all four walls flared outwardly or directed inwardly (reading from bottom to top) or the side or the end walls may be directed or converged inwardly at their top edges. Furthermore, as respects the type of Fig. 4, the cuffs 14, 14a and 14b may be turned inwardly instead of outwardly of the box and interlocked with one another with the upper edge of the end panel disposed beneath and held by the cuffs or by one of them as will be apparent. Various other arrangements and types of construction will be found readily discernible when the invention is fully appreciated.

The forms and constructions illustrated and described do not circumscribe the invention and therefore are not to be taken as limiting of the invention spirit or of the scope of the appended claims.

I claim:

1. In a receptacle formed from a single blank of sheet material and including a plurality of upwardly extending walls, a flap on each of a pair of spaced walls, one flap overlapping the other on the outside face thereof, said flaps providing a wall intermediate of and joining said spaced walls, the inner of said flaps having an integral downwardly folded portion at its upper edge and extending over a part of the outer face of the inner flap, there being a slit through said material substantially along the fold line of said portion, and a locking tab on the upper edge of the outer flap disposed through said slit when said flaps are in face-to-face array.

2. In a receptacle of the character described, a locking connection between spaced walls comprising, a pair of substantially parallel flaps disposed in overlapped relation to one another, one of said flaps being integral at one end with one of said spaced walls and the other flap being integral at one end with the other of said spaced walls, one of said walls along one edge and at least a portion of its attached flap along its corresponding edge having a return-folded marginal part providing a continuous double thickness therealong, there being a slit along and through a part of the fold line of the fold on the one flap, and a projection on the corresponding edge of the other flap disposed between said one flap and the return-folded marginal portion thereof and extending through said slit.

3. In a receptacle of the character described, a locking connection between spaced walls comprising, a pair of substantially parallel flaps disposed in overlapped relation to one another, one of said flaps being integral at one end with one of said spaced walls and the other flap being integral at one end with the other of said spaced walls, each of said walls along one edge and at least a portion of each of the attached flaps along its

corresponding edge having a return-folded marginal part providing a continuous double thickness therealong, there being a slit along and through a part of the fold line of the fold on one flap, and a projection on the corresponding edge of the other flap disposed between said one flap and the return-folded marginal portion thereof and extending through said slit.

4. In a receptacle of the character described, a locking connection between spaced walls comprising, a pair of substantially parallel flaps disposed in overlapped relation to one another, one of said flaps being integral at one end with one of said spaced walls and the other flap being integral at one end with the other of said spaced walls, each of said flaps being disposed at an angle less than a straight angle to its attached wall to provide corners, each of said walls along one edge and at least a portion of each of the attached flaps along its corresponding edge having a return-folded marginal part providing a continuous double thickness therealong and about its corner, there being a slit along and through a part of the fold line of the fold on the one flap, and a projection on the corresponding edge of the other flap disposed between said one flap and the return-folded marginal portion thereof and extending through said slit.

5. In a receptacle of the character described, a locking connection between spaced side walls thereof comprising, a pair of substantially parallel flaps disposed in overlapped relation to one another, at each end of the container, one of said flaps at each end of the container being integral at one end with one of said spaced walls and the other flap at each end of the container being integral at one end with the other of said spaced walls, each of said walls along its upper edge and at least a portion of one of the attached flaps at each end of the container along its corresponding edge having a return-folded marginal part providing a continuous double thickness therealong, there being a slit along and through a part of the fold line of the fold on each flap, and a projection on the corresponding edge of the other flap at each end of the container disposed between said one flap and the return-folded marginal portion thereof and extending through said slit.

6. In a receptacle formed from a single sheet of material, a bottom wall, side walls and end walls, said side walls being directed upwardly from said bottom wall, one of said end walls being formed by a flap extending upwardly from one end of the bottom wall and by a flap attached to each of the corresponding side wall ends, one of said side walls along its upper edge and along at least a portion of its attached flap at the upper edges thereof having a downwardly folded marginal part providing a continuous double thickness therealong, there being a slit along and through a part of the fold at the fold line of said one flap, and an upwardly directed projection on the other side wall flap and disposed between the first said side wall flap and its downwardly folded portion and extending through said slit.

7. In a receptacle formed from a single sheet of material, a bottom wall, side walls and end walls, said side walls being directed upwardly from said bottom wall, one of said end walls being formed by a flap extending upwardly from one end of the bottom wall and by a flap attached to each of the corresponding side wall ends, one of said side walls along its upper edge and along at least a portion of its attached flap at the upper edges thereof having a downwardly folded marginal part providing a continuous double thickness therealong, there being a slit along and through a part of the fold at the fold line of said one flap, and an upwardly directed projection on the other side wall flap and disposed between the first said side wall flap and its downwardly folded portion and extending through said slit, said slit being so formed as to provide an upstanding lip projecting above the fold edge, said lip being substantially coextensive in height with said upwardly directed projection when the latter is disposed through said slit.

8. In a receptacle of the character described formed from a single sheet of material, a bottom wall, opposite side walls and opposite end walls, said side walls being integral with and directed upwardly from said bottom wall and having downwardly folded marginal portions providing cuffs along their upper edges, each of said end walls including a flap integral with and extending upwardly from an end of the bottom wall substantially to evenness with the upper edges of the side walls and thence extending by an extension over the top of the receptacle toward the opposite flap extension, the adjacent ends of said extensions being bent upwardly and providing a handle thereat.

9. In a receptacle of the character described formed from a single sheet of material, a bottom wall, opposite side walls and opposite end walls, said side walls being integral with and directed upwardly from said bottom wall and having downwardly folded marginal portions providing cuffs along their upper edges, each of said end walls including a flap integral with and extending upwardly from an end of the bottom wall substantially to evenness with the upper edges of the side walls and thence extending by an extension over the top of the receptacle toward the opposite flap extension, the adjacent ends of said extensions being bent upwardly and providing a handle thereat, and locking tabs struck from the receptacle side walls adjacent to the top edges thereof and to the position of said handle for locking engagement with each of said extensions, each of said extensions having a slit therethrough for reception of said locking tabs.

10. In a receptacle formed from a single sheet of material, a bottom wall, opposite side walls and opposite end walls, said side walls being integral with and directed upwardly from said bottom wall, each of said end walls being formed by a flap integral with and extending upwardly from the bottom wall and by a pair of flaps of which one is attached to and integral with each side wall and lapping one another and said upwardly extending flap, each of said side walls along its upper edge and at least a portion of the upper edge of one side wall end flap at each end of the receptacle having a downwardly folded marginal part providing a continuous cuff therealong, there being a slit through a portion of the upper marginal edge of said cuff-equipped side wall end flaps at each end of the receptacle, said slit extending substantially parallel to the upper marginal edge of the cuff and being wholly above the lower edge of the cuff, and an upwardly directed projection on the other side wall flap at each end of the receptacle and projecting upwardly through the slit and between the cuff and flap of the other flap at that end of the receptacle.

11. In a receptacle formed from a single sheet

of material, a bottom wall, opposite side walls and opposite end walls, said side walls being integral with and directed upwardly from said bottom wall, each of said end walls being formed by a flap integral with and extending upwardly from the bottom wall and by a pair of flaps of which one is attached to and integral with each side wall and lapping one another and said upwardly extending flap, each of said side walls along its upper edge and at least a portion of the upper edge of one side wall end flap at each end of the receptacle having a downwardly folded marginal part providing a continuous cuff therealong, there being a slit through a portion of the upper marginal edge of said cuff-equipped side wall end flaps at each end of the receptacle, said slit extending substantially parallel to the upper marginal edge of the cuff and being wholly above the lower edge of the cuff, and an upwardly directed projection on the other side wall flap at each end of the receptacle and projecting upwardly through the slit and between the cuff and flap of the other flap at that end of the receptacle, said slit being so formed as to provide an upstanding lip projecting above the upper marginal edge of the cuff, said lip being of sufficient height to protect the projection from accidental displacement from said slit.

12. In a receptacle formed from a single sheet of material, a bottom wall, opposite side walls and opposite end walls, said side walls being integral with and directed upwardly from said bottom wall, each of said end walls being formed by a flap integral with and extending upwardly from the bottom wall and by a pair of flaps of which one is attached to and integral with each side wall and lapping one another and said upwardly extending flap, each of said side walls along its upper edge and at least a portion of the upper edge of one side wall end flap at each end of the receptacle having a downwardly folded marginal part providing a continuous cuff therealong, there being a slit through a portion of the upper marginal edge of said cuff-equipped side wall end flaps at each end of the receptacle, said slit extending substantially parallel to the upper marginal edge of the cuff and being wholly above the lower edge of the cuff, and an upwardly directed projection on the other side wall flap at each end of the receptacle and projecting upwardly through the slit and between the cuff and flap of the other flap at that end of thc receptacle, one of said bottom wall flaps being extended from the upper margin of its end wall and over the top of the receptacle toward the opposite end thereof.

13. In a receptacle formed from a single sheet of material, a bottom wall, opposite side walls and opposite end walls, said side walls being integral with and directed upwardly from said bottom wall, each of said end walls being formed by a flap integral with and extending upwardly from the bottom wall and by a pair of flaps of which one is attached to and integral with each side wall and lapping one another and said upwardly extending flap, each of said side walls along its upper edge and at least a portion of the upper edge of one side wall end flap at each end of the receptacle having a downwardly folded marginal part providing a continuous cuff therealong, there being a slit through a portion of the upper marginal edge of said cuff-equipped side wall end flaps at each end of the receptacle, said slit extending substantially parallel to the upper marginal edge of the cuff and being wholly above the lower edge of the cuff, and an upwardly directed projection on the other side wall flap at each end of the receptable and projecting upwardly through the slit and between the cuff and flap of the other flap at that end of the receptacle, each of said bottom wall flaps being extended from the upper margins of the end walls and over the top of the receptacle toward the opposite end wall thereof.

14. In a receptacle formed from a single sheet of material, a bottom wall, opposite side walls and opposite end walls, said side walls being integral with and directed upwardly from said bottom wall, each of said end walls being formed by a flap integral with and extending upwardly from the bottom wall and by a pair of flaps of which one is attached to and integral with each side wall and lapping one another and said upwardly extending flap, each of said side walls along its upper edge and at least a portion of the upper edge of one side wall end flap at each end of the receptacle having a downwardly folded marginal part providing a continuous cuff therealong, there being a slit through a portion of the upper marginal edge of said cuff-equipped side wall end flaps at each end of the receptacle, said slit extending substantially parallel to the upper marginal edge of the cuff and being wholly above the lower edge of the cuff, and an upwardly directed projection on the other side wall flap at each end of the receptacle and projecting upwardly through the slit and between the cuff and flap of the other flap at that end of the receptacle, and handle means integral with the said bottom wall flaps.

15. In a receptacle formed from a single sheet of material, a bottom wall, opposite side walls and opposite end walls, said side walls being integral with and directed upwardly from said bottom wall, each of said end walls being formed by a flap integral with and extending upwardly from the bottom wall and by a pair of flaps of which one is attached to and integral with each side wall and lapping one another and said upwardly extending flap, each of said side walls along its upper edge and at least a portion of the upper edge of one side wall end flap at each end of the receptacle having a downwardly folded marginal part providing a continuous cuff therealong, there being a slit through a portion of the upper marginal edge of said cuff-equipped side wall end flaps at each end of the receptacle, said slit extending substantially parallel to the upper marginal edge of the cuff and being wholly above the lower edge of the cuff, and an upwardly directed projection on the other side wall flap at each end of the receptacle and projecting upwardly through the slit and between the cuff and flap of the other flap at that end of the receptacle, each of said bottom wall flaps being extended from the upper margins of the end walls and over the top of the receptacle toward one another, and handle means integral with the said bottom wall flap extensions and disposed substantially centrally of the receptacle top between the ends thereof.

16. In a receptacle formed from a single sheet of material, a bottom wall, opposite side walls and opposite end walls, said side walls being integral with and directed upwardly from said bottom wall, each of said end walls being formed by a flap integral with and extending upwardly from the bottom wall and by a pair of flaps of which one is attached to and integral with each side wall and lapping one another and said upwardly extending flap, each of said side walls along its upper edge and at least a portion of the upper

edge of one side wall end flap at each end of the receptacle having a downwardly folded marginal part providing a continuous cuff therealong, there being a slit through a portion of the upper marginal edge of said cuff-equipped side wall end flaps at each end of the receptacle, said slit extending substantially parallel to the upper marginal edge of the cuff and being wholly above the lower edge of the cuff, and an upwardly directed projection on the other side wall flap at each end of the receptacle and projecting upwardly through the slit and between the cuff and flap of the other flap at that end of the receptacle, each of said bottom wall flaps being extended from the upper margins of the end walls and over the top of the receptacle toward one another, handle means integral with the said bottom wall flap extensions and disposed substantially centrally of the receptacle top and between the ends thereof, and locking tabs struck from the receptacle side walls adjacent to said downwardly folded marginal portions and to the top edges thereof for locking engagement with said extensions over the top of the receptacle, said extensions having slits therethrough for reception of said locking tabs.

ROY E. LOWEY.