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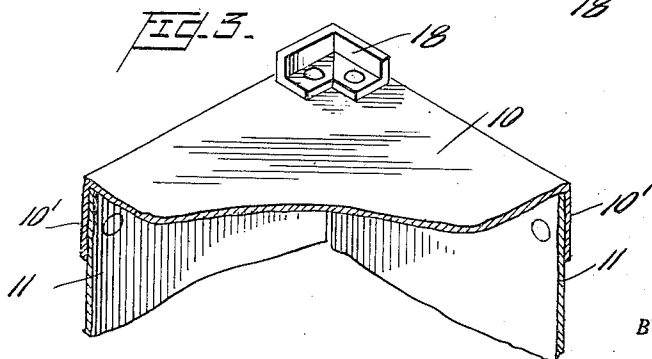
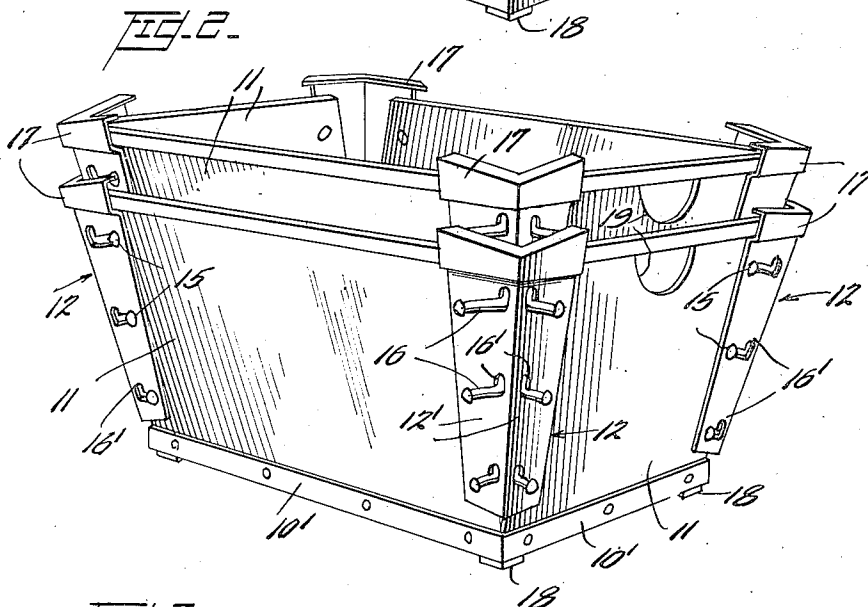
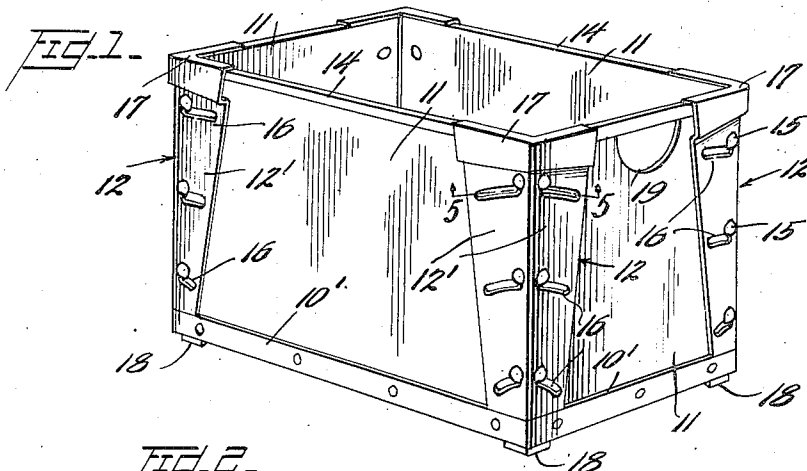
B. A. WABSHAW

2,462,693

SHIPPING BOX

Filed Sept. 19, 1947

3 Sheets-Sheet 1



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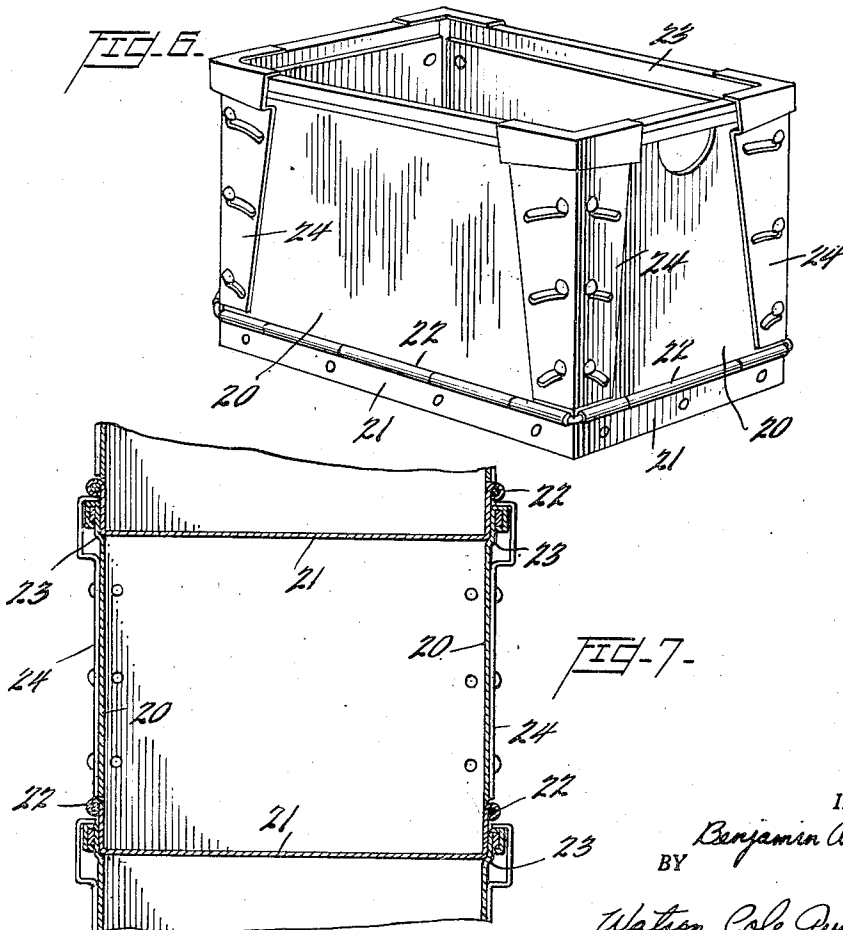
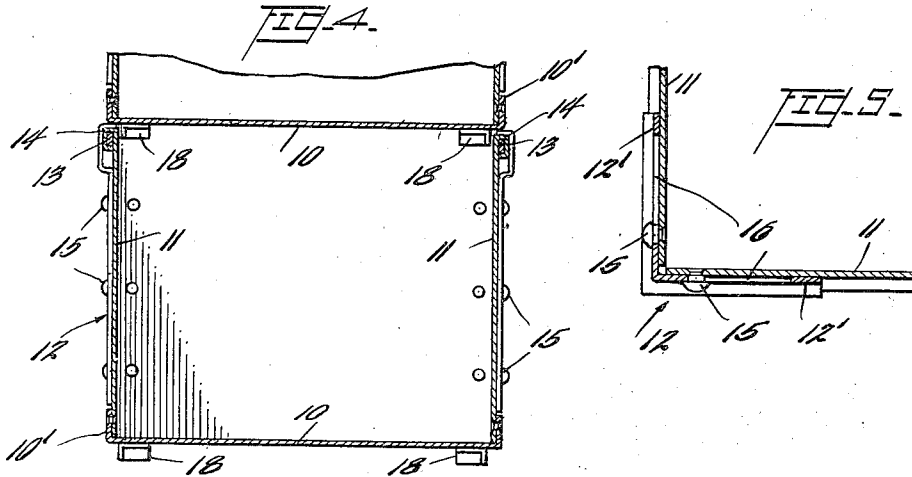
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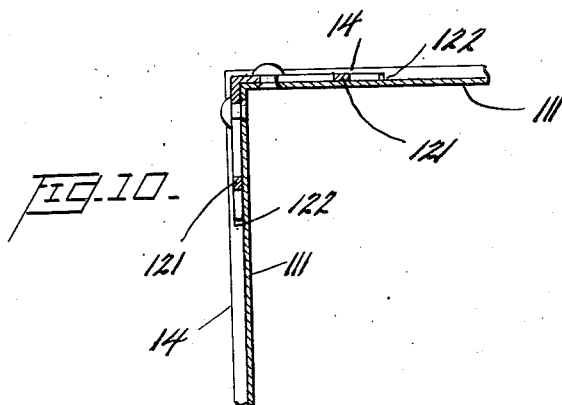
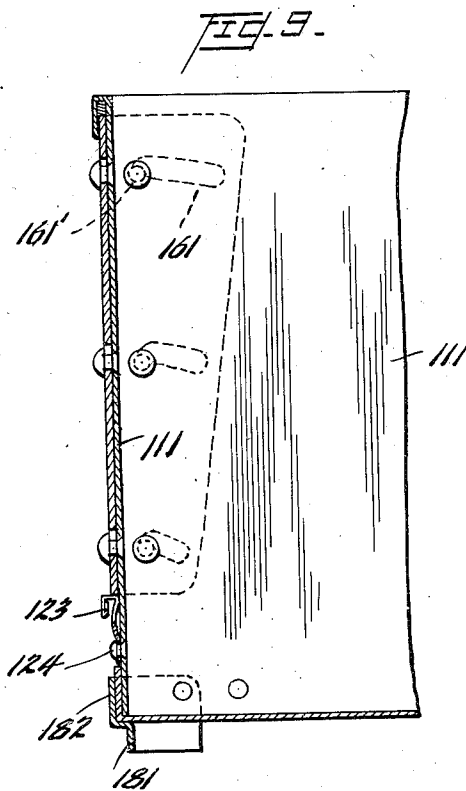
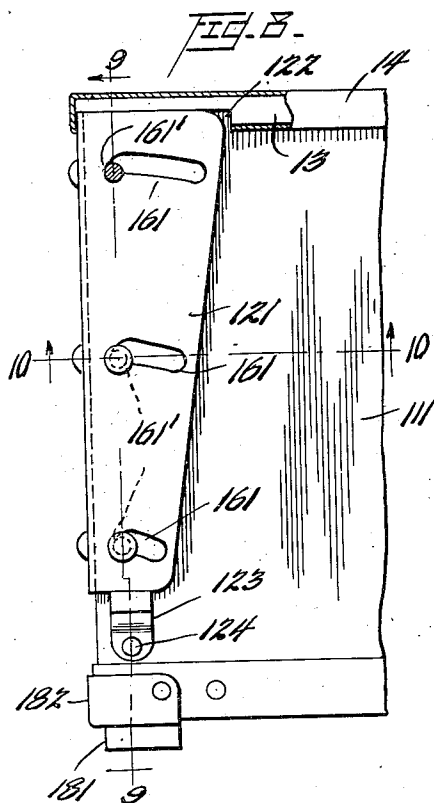
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SHIPPING BOX

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3 Sheets-Sheet 3



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SHIPPING BOX

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7 Claims. (Cl. 220—97)

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This invention relates to shipping containers and more particularly to open top containers adapted for shipping relatively fragile material in route delivery trucks, the empty containers being picked up as the filled containers are delivered. By way of example, but without limitation, the containers of the present invention are adapted to overcome a serious difficulty prevailing in the bakery trade.

Thus, it is the prevailing custom for bakers to distribute their wrapped loaves to retailers in rectangular containers, the loaves standing on end, and such containers being stacked one on another in motor trucks or vans. Two type of containers are in general use for this purpose, namely, rigid, non-foldable rectangular boxes having open tops, and collapsible cartons of paperboard or the like. In either case it is the custom for the route delivery man to pick up the empty containers from the previous day's delivery when he delivers the current fresh supply.

In the case of rigid containers of metal or wood, it is necessary to leave a working space or corridor within the cargo space of the truck or van when the latter leaves the bakery, for the reason that the empty containers occupy as much space as filled ones, and the working space within the truck never becomes greater during a trip. This means that the truck must leave the bakery without the full load which it might otherwise carry.

In an attempt to overcome this disadvantage, containers having sloping sides, for nesting purposes, have been employed but such containers are unsatisfactory for the reason that they do not stack well when filled, and also because the lower ends of the loaves are wedged together, spoiling the appearance of the loaves.

In the case of collapsible cartons, the truck may be fully loaded at the start, since the empty cartons picked up may be collapsed and stored in a small space, the working space in the truck thus being steadily increased as the filled cartons are delivered. However, such collapsible cartons are relatively expensive and fragile, and since they can be relied on to make only about ten return trips on the average, the cost of this method of bread delivery is excessive.

The general object of the present invention is to provide a container of metal or other durable material, such as plywood or fiber composition, which will stack properly when filled and will not deform its contents, but which when empty may be adjusted in such a way that a plurality

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of containers may be nested together so as to occupy little space, thus permitting the delivery truck to be fully loaded at the outset, while providing increasing working space within the truck as successive deliveries are made.

More specifically, it is an object of my invention to provide a rectangular open top container having swingable sides which may be secured in vertical position when the container is to be filled, and which may be swung outwardly to an inclined position, to permit nesting, when the container is empty. The sidewalls may be of flexible material such as sheet metal or fiber composition which may be rigidly secured to the bottom member and may be flexed about an axis substantially coincident with the line of connection therewith, or they may be of rigid material, such as wood, and hinged to the bottom member.

A further object is the provision of a container of the type described, in which the separate walls are provided with means, adjacent their vertical edges, for adjustably engaging the adjacent corner members, which may be manipulated to lock the sides in vertical position or to permit them to swing outwardly, as the case may be.

Other and further objects, features and advantages will be apparent from the description which follows, read in connection with the accompanying drawings in which

Figure 1 is a perspective view of a container constructed according to the invention;

Figure 2 is a perspective view of two such containers in nested relation;

Figure 3 is a fragmentary perspective of an inverted container showing the stacking lug;

Figure 4 is a vertical section through two containers in stacked relation;

Figure 5 is a horizontal section on line 5—5 of Figure 1;

Figure 6 is a perspective view of a modified form of the invention;

Figure 7 is a vertical section through a plurality of the containers of Figure 6, in stacked relation;

Figure 8 is a partial side elevation of a further modification of the invention;

Figure 9 is a vertical section on line 9—9 of Figure 8; and

Figure 10 is a horizontal section on line 10—10 of Figure 8.

In order to facilitate an understanding of the invention, reference is made to the embodiments thereof shown in the accompanying drawings and detailed descriptive language is employed.

It will nevertheless be understood that no limita-

tion of the invention is thereby intended and that various changes and alterations are contemplated such as would ordinarily occur to one skilled in the art to which the invention relates.

Referring now to the device illustrated in Figures 1 to 5, it is seen that the container there illustrated comprises a rectangular bottom member 10, four walls 11, and four corner members 12. The bottom 10 may suitably be of metal, fiber or other material. If of metal or fiber, it is preferably formed with an upstanding flange 10' to which the walls 11 may be welded, rivetted, or otherwise secured at their lower edges, but if the bottom 10 is of wood, for example, the metal or fiber walls 11 will be preferably nailed or screwed thereto. In any event, the inner surfaces of bottom and walls must be smooth and free of projections which might injure the goods to be transported. Due to their inherent flexibility, the separate walls 11 may be swung outwardly from the vertical, about axes substantially coincident with the upper edge of the bottom 10. The upper edges of the sides 11 are preferably reinforced by stiffening strip members 13 (Figure 4), the material of the walls being turned over the strips 13 to form beaded upper edges 14.

Each wall 11 is provided, adjacent each of its vertical edges, with two or more projections 15 for sliding engagement with slots 16, formed in the adjacent corner members 12. The projections 15 may suitably, but not necessarily, take the form of rivets having external heads of a diameter exceeding the width of the slots 16. The corner members 12 may be sheet metal, fiber, or other suitable material, and the slots 16 are preferably curved about a center approximately coincident with the adjacent corner of the bottom member 10. The corner members comprise, respectively, two wings 12' set at right angles, each provided with the slots 16, and are connected to the container proper only through the projections 15, engaging the slots 16, so that the walls 11 are adjustable relative to the corners 12 and thus relative to each other. The slots 16 are preferably formed with generally vertical branches or portions 16' at their inner ends (Figure 2) for engaging the projections 15 when the walls are in their closed or vertical position (Figure 1) and thus locking them in such position. By moving each corner member 12 upwardly to the position shown in Figure 2, the projections 15 are freed from the slot portions 16' and are permitted to move along the slots 16 to their outer ends, thus allowing walls 11 to swing outwardly, and permitting the empty containers to be nested as shown. Each corner member 12 is formed with its upper portion 17 offset outwardly so as to clear the beads 14 of the upper wall edges upon vertical movements of the corners 12.

The bottom 10 is provided at each corner with a short downwardly extending leg or lug 18, of right-angular shape and spaced slightly inwardly from the corner (Figures 1, 3 and 4) to fit inside the upper edge of a next lower container to prevent lateral displacements when the filled containers are stacked as in Figure 4. Preferably a pair of opposite walls are provided with hand holes 19 adjacent their upper edges to facilitate handling.

The container of Figures 6 and 7 is made similar to that just described except that the walls 20 are hinged to the bottom 21 by external hinges 22, in which case the walls need not flex and may be made of rigid material such as wood or heavy gauge sheet metal. In such cases it is convenient

to employ the hinges 22 as stop members to rest upon the upper edges of a lower container for stacking purposes, the upper edges of the walls 20 being slightly offset outwardly as at 23 to permit the bottom 21 of the upper container to enter therebetween. As before, the walls may be swung outwardly, to permit nesting, or locked in vertical position, by manipulation of the slotted corner members 24.

Figures 8-10 illustrate a further modification in which the corner members 121 are moved upwardly to lock the walls 111 in vertical position, and downwardly to free them for movement into inclined position for nesting. In this arrangement the corner members are formed without the upper offset portions 17, which makes for a neater appearance, the upper edges of the corner members 121 extending into slots 122 formed in the adjacent lower edges of the beads 14 when the corner members are raised, thus reinforcing the connections between the side walls when in vertical position. The slots 161 are formed with downturned inner ends 161' instead of the upturned portions 16' of Figures 1, 2 and 6.

The corner members 121 are held in upward position by spring clips 123, secured to walls 14 by rivets 124, the clips 123 being manually sprung outwardly when it is desired to lower the corner members to permit the walls to swing to inclined position. In the embodiment illustrated in Figures 8-10, the stacking lugs 181 are formed integral with bottom corner reinforcing members 182.

The containers of the present invention, while more costly than collapsible paperboard containers, may be used for many years rather than a few trips, while at the same time they provide the space-saving feature of the paperboard containers. Thus they present great advantages over all types of containers now in use for similar purposes.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A shipping container comprising a rectangular bottom, four separate walls each connected at its lower edge to said bottom and swingable outwardly from the vertical about an axis substantially coincident with the connection between said wall and said bottom, and means connecting adjacent edges of said walls to form a box structure, said last means comprising four corner members each engaging two walls and adjustable relative thereto for selectively securing said walls in vertical or inclined position, each said corner member comprising two wings set at right angles and covering the interstice between said adjacent edges.

2. A shipping container comprising a rectangular bottom, four separate walls each connected at its lower edge to said bottom and swingable outwardly from the vertical about an axis substantially coincident with the connection between said wall and said bottom, and means connecting adjacent edges of said walls to form a box structure, said last means comprising four corner members each engaging two walls and adjustable relative thereto for selectively securing said walls in vertical or inclined position, each said corner member comprising two wings set at right angles and each provided with a plurality of generally horizontal slots, and said walls being provided with projections adjacent their edges for slidably engaging said slots.

3. A device according to claim 2, including

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means carried on said projections for engaging the outer surfaces of said wings to prevent disengagement of said projections and slots.

4. A device according to claim 2, said slots being formed with generally vertically extending portions adapted upon vertical movement of said corner members to engage said projections and lock said walls against swinging. **8**

5. A device according to claim 4, the generally horizontal portions of said slots being curved about a center substantially coincident with the adjacent corner of said bottom. **10**

6. A device according to claim 4, said generally vertical portions of said slots extending upwardly from the inner ends of said generally horizontal portions. **15**

7. A device according to claim 4, said generally

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vertical portions of said slots extending downwardly from the inner ends of said generally horizontal portions.

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