C. H. STEMPEL.

FOLDING RECEPTACLE.

APPLICATION FILED SEPT. 16, 1915.

1,174,364.

Patented Mar. 7, 1916.

2 SHEETS—SHEET 1.

FIG. 1.

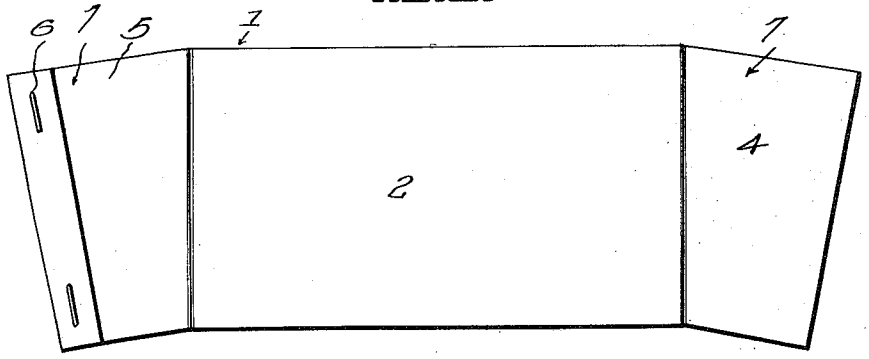


FIG. 2.

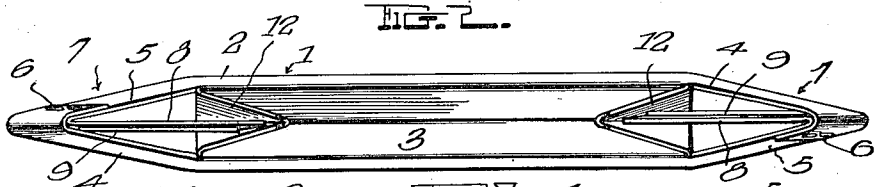


FIG. 3.

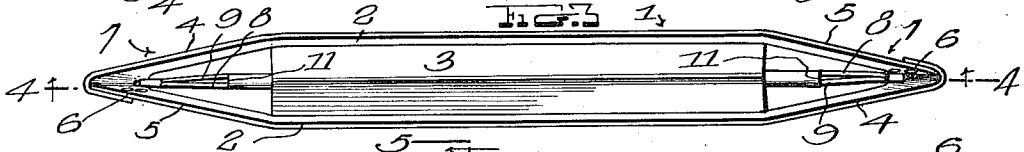


FIG. 4.

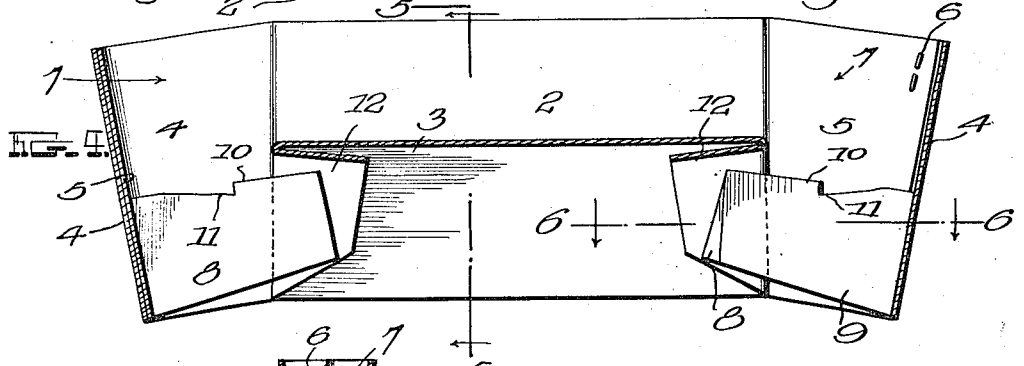


FIG. 5.

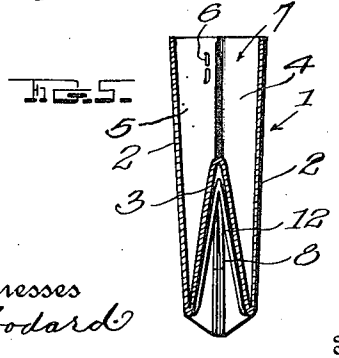
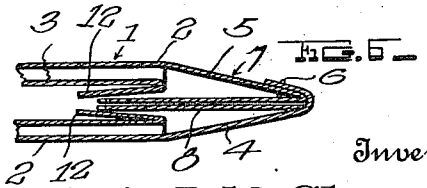


FIG. 6.



Witnesses

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2 SHEETS—SHEET 2.

FIG. 7.

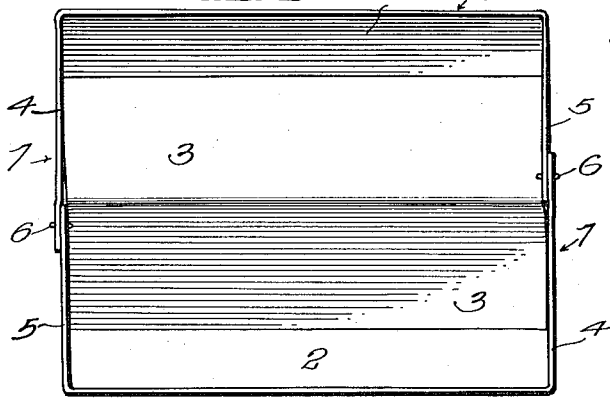


FIG. 9.

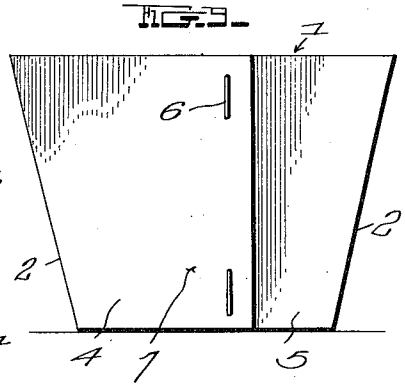


FIG. 8.

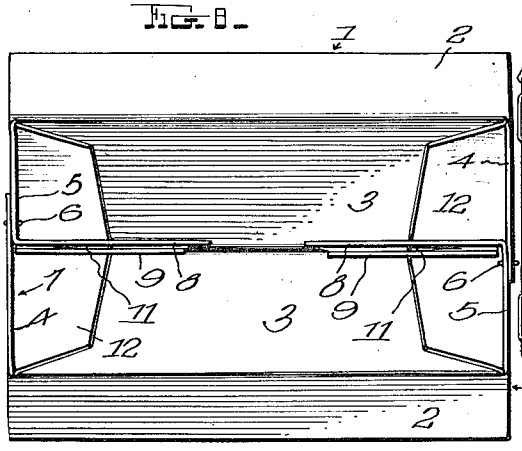


FIG. 10.

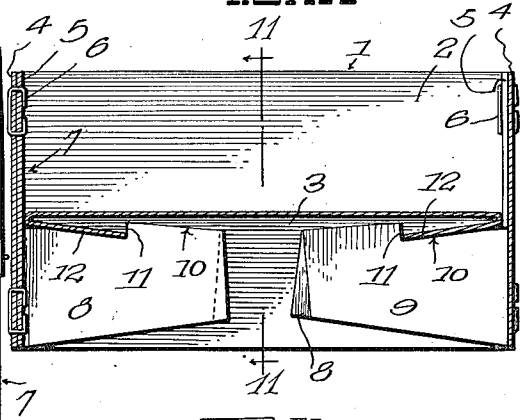


FIG. 12.

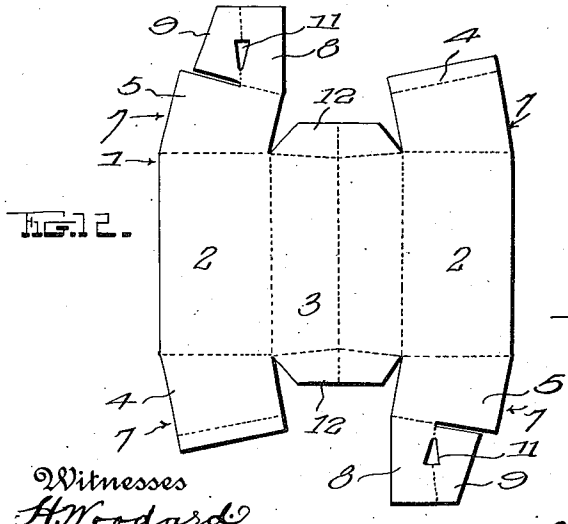
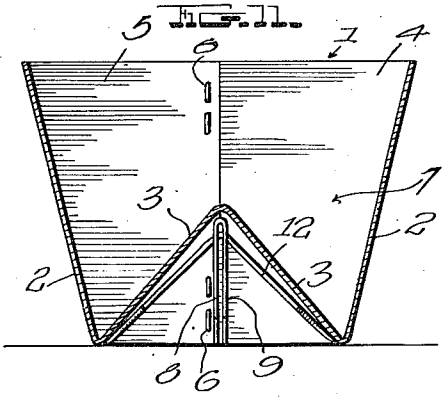


FIG. 11.



Witnesses

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FOLDING RECEPTACLE.

1,174,364. Specification of Letters Patent. Patented Mar. 7, 1916.

Application filed September 16, 1915. Serial No. 51,024.

To all whom it may concern:

Be it known that I, CARL H. STEMPEL, a citizen of the United States, residing at Fort Madison, in the county of Lee and State of Iowa, have invented certain new and useful Improvements in Folding Receptacles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in collapsible receptacles, and the primary object of this invention is to provide an improved device of this character, preferably of rectangular shape, and of such size and construction that the same may be easily folded and assembled again.

Another object of this invention is to provide a receptacle which is especially adapted for use in shipping fruit, small vegetables, etc., as the same may be collapsed when not in use, occupies a very small space, and may be easily returned to the shipper.

A further object of this invention is to provide a collapsible box of this character whereby upon the same being assembled, it will automatically lock itself in open position, and will be retained in said position against any accidental disengagement.

Still another object of this invention is to provide a device of this character which is simple and durable in construction, inexpensive to manufacture, and one which will be very efficient in operation.

With these and numerous other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts which will be herein referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings: Figure 1 is a side elevation of a folding receptacle constructed in accordance with my invention; Figs. 2 and 3 are respectively bottom and top plan views of the receptacle in folded position; Fig. 4 is a central vertical longitudinal section as viewed on the plane designated by the line 4—4 of Fig. 3; Figs. 5 and 6 are respectively a vertical transverse and a horizontal longitudinal section taken on the planes indicated respectively by the lines 5—5 and 6—6 of Fig. 4; Fig. 7 is a top plan view of the receptacle in unfolded position; Fig. 8 is a bottom plan view thereof positioned as shown in Fig. 7; Fig. 9 is an end elevation; Fig. 10 is a central longitudinal section of the receptacle in the position shown in Figs. 7, 8 and 9; Fig. 11 is a vertical transverse section taken on the plane of the line 11—11 of Fig. 10; and Fig. 12 is a plan view of the blank from which the article is constructed.

In describing my invention I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views, and in which the numeral 1 designates my collapsible box as an entirety, the said box comprising a pair of side walls 2 which are hingedly connected at their bottom by an inverted V-shaped hinged bottom 3, that projects upwardly into the space between the said walls. This inverted V-shaped bottom 3 is normally positioned projecting upwardly in the receptacle when the side walls 2 of the same are spaced apart, and owing to the hinged construction of the bottom, when the two sections of the same are brought together, it will consequently draw the side walls 2 of the receptacle in close proximity to one another. The opposite ends of the side walls 2 of this receptacle have projecting laterally therefrom and inwardly toward one another, extensions 4 and 5. These extensions 4 and 5 are adapted to have their ends secured together, as shown at 6. This connection between the two side walls forms end walls which will hereinafter be designated by the numeral 7 for the receptacle, said end walls being formed, as hereinbefore stated, in sections, and hinged to one another at a point in alinement with the apex of the V-shaped bottom 3. These sectional end walls 7 of the receptacle are adapted to move outwardly, and owing to the fact that the same are connected together, the outward movement will consequently draw the side walls 2 toward one another and fold the receptacle. When the end walls 7 of this receptacle are moved outwardly to their fullest extent, this device will assume the position shown in Figs. 2, 3 and 4 of the drawings, and it will be noticed that the V-shaped bottom of the same will be folded inwardly, having its two sections brought together which will consequently bring the side walls of the device together, the same being positioned in the same plane as the extensions at either end. This operation will fold the receptacle in a flat compact body that renders the same very easy to

pack for shipping purposes. This receptacle 1 is provided with a locking device to hold the same in open position which comprises substantially, tabs that coact with flanges, said tabs projecting from the end walls of the receptacle and engaging flanges spaced beneath the V-shaped bottom. The tabs which are designated by the numeral 8, project inwardly from the inner lower portion of the end walls 7, and in vertical alinement with the apex of the inverted V-shaped bottom 3. These tabs 8 have correspondingly shaped flaps 9 hingedly connected therewith at their upper edge and extending downwardly on opposite sides of the same. The upper edges 10 of the tabs and flaps are notched as shown at 11 for a purpose to be hereinafter more fully described.

The ends of the inverted V-shaped bottom 3 of the receptacle 1, have projecting therefrom and extending rearwardly and downwardly, flanges 12 which are positioned beneath the end portions of the said bottom, and are adapted to engage the tabs that project from the end walls 7 of the receptacle. These flanges 12 are normally positioned inwardly and have a tendency to extend slightly downward, owing to the fact that the ends of the V-shaped bottom, to which they are hinged, and of which they are an integral part, are sloped inwardly from their outer edges to the apex of the V, as clearly shown in Figs. 8, 10 and 12 of the drawings. Owing to this arrangement, when the V-shaped bottom is opened outwardly, the flanges 12 will consequently have their outer edges thrown downwardly and will exert a constant downward pressure against the upper edges 10 of the flaps 8 with which they are engaged. This constant downward pressure will, when the notches 11 in said upper edges are positioned below the edges of the flanges, cause the said edges to drop into the notches and to be firmly and securely held therein, which will automatically lock the tabs against any withdrawal from the bottom of the receptacle. By this construction, as hereinbefore particularly described, when this receptacle is folded flat as shown in Figs. 2 and 3 of the drawings and it is desired to assemble the same, or open it for use, it is only necessary to move the end sections 7 of the same inwardly, whereby the tabs and flaps 8 and 9 will be moved inwardly into engagement with the flanges 12 of the V-shaped bottom 3, and when the end sections 7 are brought up against the ends of the said bottom and are positioned at right angles to the side walls 2, the flanges 12 will, owing to the downward pressure that is exerted upon the same, be positioned in the notches 11 in the upper edge 10 of the said tabs and flaps. This will form an automatic locking means that will hold this receptacle in open position, and will secure the same against any casual disengagement. When it is desired to return this receptacle to its flat position for any purpose, it is only necessary to lift the tabs and flaps from out of engagement with the flanges, whereby upon compressing the side walls 2 or pulling outwardly on the end walls 7, the said receptacle will return to its flat condition.

The flaps 9 are positioned on the tabs 8 to form a reinforcing means for the same and to make the engagement of the same with the flanges additionally firm and secure. These tabs and flaps also form a reinforcing means for the bottom of the receptacle as well as an automatic lock for the same. This device will be found very efficient in use, as it is easily and simply assembled, and when so assembled forms a receptacle in which berries, etc., may be readily displayed or shipped. Owing to the manner in which this device may be folded, it will be found especially adaptable for use, as the same, when the material has been removed therefrom, may be flattened out, and when in said position forms a small and compact device that may be readily shipped with a number of others. Attention is especially called in this device to the manner in which the flanges 12 are hingedly connected at the ends of the V-shaped bottom 3, as owing to this position the same will have a constant tendency to move downwardly, upon the opening of the V-shaped bottom, which is necessary to automatically lock and hold this device as described.

From the foregoing description of my improved device, the manner of applying the same to use and the operation thereof will be readily understood, and it will be seen that I have provided a simple, inexpensive and efficient means for carrying out the objects of this invention.

I claim:

1. A receptacle comprising side walls hingedly connected by an inverted V-shaped bottom, sectional hinged end walls movable outward, flat vertically disposed tabs projecting inwardly from the angle of said end walls and beneath the inverted V-shaped bottom and in vertical alinement with the apex of the same, inwardly projecting flanges on the ends of said bottom, and coacting means between said tabs and flanges to lock the end walls when in open position.

2. A receptacle comprising side walls hingedly connected by an inverted V-shaped bottom, sectional hinged end walls movable outward, tabs projecting inwardly from said end walls beneath the inverted V-shaped bottom and having notches in their upper edge, and inwardly and downwardly projecting flanges on the ends of said bottom adapted to automatically engage the said

notches and to be retained in said engagement to lock the receptacle in open position.

3. A receptacle comprising side walls hingedly connected by an inverted upwardly projecting V-shaped bottom, sectional hinged end walls connecting the ends of said side walls and movable outward, said end walls each having a tab projecting inwardly from its lower portion in vertical alinement with the apex of the inverted V-shaped bottom and positioned below the same, correspondingly shaped flanges on said tabs, the upper edge of said tabs and flaps being notched, and flanges on either end of said inverted V-shaped bottom projecting inwardly and downwardly and held under a constant downward pressure when the receptacle is open, and adapted for engagement with said notches to prevent the same from moving outward, whereby the receptacle will be held in open position.

4. A one piece receptacle comprising a bottom hinged on a line extending centrally from one end to the other, foldable sides connected to the outer edges of said bottom, the ends of said bottom sloping inwardly from their outer edges to the center, flanges hingedly connected to said ends, slightly inclined diverging foldable end portions projecting from the ends of said sides, two of said ends at diagonally opposite points having foldable extensions thereon, the remaining two diagonally positioned ends having projecting tabs foldably connected with a portion of these outer edges adjacent the inner edges, laterally projecting portions on said tabs, said laterally projecting portions of the tabs being foldable upon the same, and notches in the edges formed thereby.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CARL H. STEMPEL.

Witnesses:
R. J. HOPKIRK,
H. W. DODD.