

UNITED STATES PATENT OFFICE.

ALBERT JOHNSON, OF VERONA, NEBRASKA.

COLLAPSIBLE CRATE.

No. 802,988.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed January 31, 1905. Serial No. 243,518.

To all whom it may concern:

Be it known that I, ALBERT JOHNSON, a citizen of the United States, residing at Verona, in the county of Clay and State of Nebraska, have invented certain new and useful Improvements in Collapsible Crates, of which the following is a specification.

This invention relates to that type of crates, boxes, or like receptacles particularly designed for transporting food products or similar articles and adapted to be "knocked down" or collapsed when not filled in order to economize space and facilitate handling thereof.

The invention includes primarily a novel assemblance of the parts of the receptacle whereby the same may be quickly collapsed or set up by the user.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a crate or box constructed in accordance with the invention, the lid being shown open. Fig. 2 is a transverse sectional view of the box set up. Fig. 3 is a longitudinal sectional view of the invention, the crate being collapsed. Fig. 4 is a detail perspective view of one of the catches used on the crate.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

In general structure the crate is of the form similar to many now in use and comprises the bottom 1, the sides 2, the ends 3, and the top or cover 4. The bottom 1 is provided upon its upper side and at its longitudinal edge portions with strips 5, one of said strips being wider than the other. One of the sides 2 is hinged to one of the strips 5, the other being likewise attached to the other strip. The cover 4 is hinged to that side of the crate which is hingedly attached to the wider of the strips 5. The side 2 opposite that carrying the cover 4 is made in sections, the upper portion of said side forming a pivot-section 6,

adapted to be folded against the side, to rest therebeneath when such side is collapsed, so as to be thrown against the bottom 1 of the device, as shown most clearly in Fig. 4 of the drawings. When the crate is collapsed, the cover 4 folds under the side 2, to which it is attached, said cover and the adjacent side carrying the same resting above the opposite side 2, which falls directly upon the bottom 1. The ends 3 of the receptacle are peculiarly mounted thereon, having slidable and pivotal connection with the structure. Extending from the under side of the bottom 1 and arranged lengthwise thereof are disposed spaced sills 7, in which are formed sets of slots 8, these slots being arranged in pairs, one pair in a plane above the other. The pairs of slots 8 extend from the ends of the sills 7 and in the structure illustrated terminate some distance beyond a point intermediate of the said ends of the sills. Transverse rods 9 have the ends thereof seated in corresponding sets of slots 8, and the ends 3 are mounted upon the rods 9 aforesaid, one rod being provided for each end. The sills 7 project some distance from the ends of the receptacle, so that the ends 3 may be thrown upwardly after having been projected out from the end portions of the receptacle by slidable movement thereof. The ends 3 are attached to the rods 9 by means of plates 10, which are fastened to the outer sides of the ends and project some distance beyond the lower extremity of the parts 3. When the structure is collapsed, the ends 3 are thrown downwardly by pivotal movement of the same and then forced by slidable movement beneath the bottom 1 in a plane substantially parallel with the latter, one of the ends 3 being in a plane lower than the other, because of the disposition of the sets of slots 8, this being necessary in order that the ends may overlap one another if the length of these parts together is greater than the length of the crate. Each of the ends 3 is provided upon its inner side with catches consisting of a slotted plate 11 and a T-bolt 12. Lugs project out from the plates 11 of the catches, and the T-bolts are mounted in the lugs for slidable movement. The heads of the bolts 12, which are of T form, as above mentioned, are adapted to be forced through elongated openings 13 in the sides 2, and by turning the bolts 12 the heads thereof will positively engage the sides and rigidly sustain the structure with the parts set up properly relative to each other. A spring 14 is mounted upon

each of the bolts 12 of the catches and is interposed between one of the lugs projected therefrom and a finger-piece 15, adjustable in the length of the bolt, said part 15 admitting of increased or decreased tension of the spring to take up for any looseness of the catches incident to continued use thereof. A partition 16 may be disposed between the sides 2 of the receptacle, and this partition 16 is provided with lugs 17 upon the lower edge portion thereof, which enter openings or recesses in the bottom 1. Suitable engaging members 18 at the upper portion of the partition 16 overlap the sides 2, so as to positively position the partition.

As before premised, one of the ends 3 is disposed in a plane above the other when said ends have been forced beneath the bottom 1 and the uppermost of the ends 3 is held in its uppermost position by means of supporting-strips 19, applied to the inner sides of the sills 7 near one end of the latter. To prevent the other of the ends 3 from falling downwardly from between the sills 7, it is preferred to provide end cleats 20, which engage opposite end portions of the sills 7, being arranged transversely thereof.

It is preferred that the sides and bottom be strengthened by strap-irons, which are formed with the hinged members by which the parts are secured together, and the strap-iron members are provided with elongated openings 13, through which the T-bolts of the catches pass when the sides of the box are set up and the device in use.

Having thus described the invention, what is claimed as new is—

1. In a collapsible crate, the combination of a bottom, spaced sills attached to the bottom upon the under side thereof and projecting beyond the extremities of the bottom, the sills having sets of slots longitudinally thereof arranged in different horizontal planes, sides,

rods slidable in the sets of slots of the sills, and ends connected with the rods and arranged for slidable and pivotal movement.

2. In a collapsible crate, the combination of a bottom, sills attached to the bottom upon the under side thereof, ends slidably and pivotally movable upon said sills beneath the bottom, and sides adapted to fold down upon the upper side of the bottom.

3. In a collapsible crate, the combination of a bottom, sides, spaced sills attached to the bottom upon the under side thereof, ends having slidable and pivotal connection with the sills, and means for preventing downward movement of the ends when arranged beneath the bottom.

4. In a crate, the combination of a bottom, sides, spaced sills secured to the under side of the bottom, and ends having slidable and pivotal connection with the spaced sills whereby said ends may be disposed beneath the bottom in collapsing the box.

5. In a crate, the combination of a bottom, sides, spaced sills secured to the under side of the bottom, ends having slidable and pivotal connection with the spaced sills whereby said ends may be disposed beneath the bottom in collapsing the box, and means carried by the sills for preventing downward displacement of the ends when the crate is collapsed.

6. In a crate, the combination of a bottom, sides, spaced sills projected from the under side of the bottom and provided with sets of slots longitudinally thereof, ends, rods slidable in the slots of the sills and connected with respective ends, and transverse cleats applied to the sills at the ends thereof.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT JOHNSON. [L. S.]

Witnesses:

JOHN MURTEY,
E. J. CARLSON.