C. M. JOHNSON.

FOLDING BOX.

APPLICATION FILED JULY 18, 1914.

1,137,759. Patented May 4, 1915.

Fig. 1

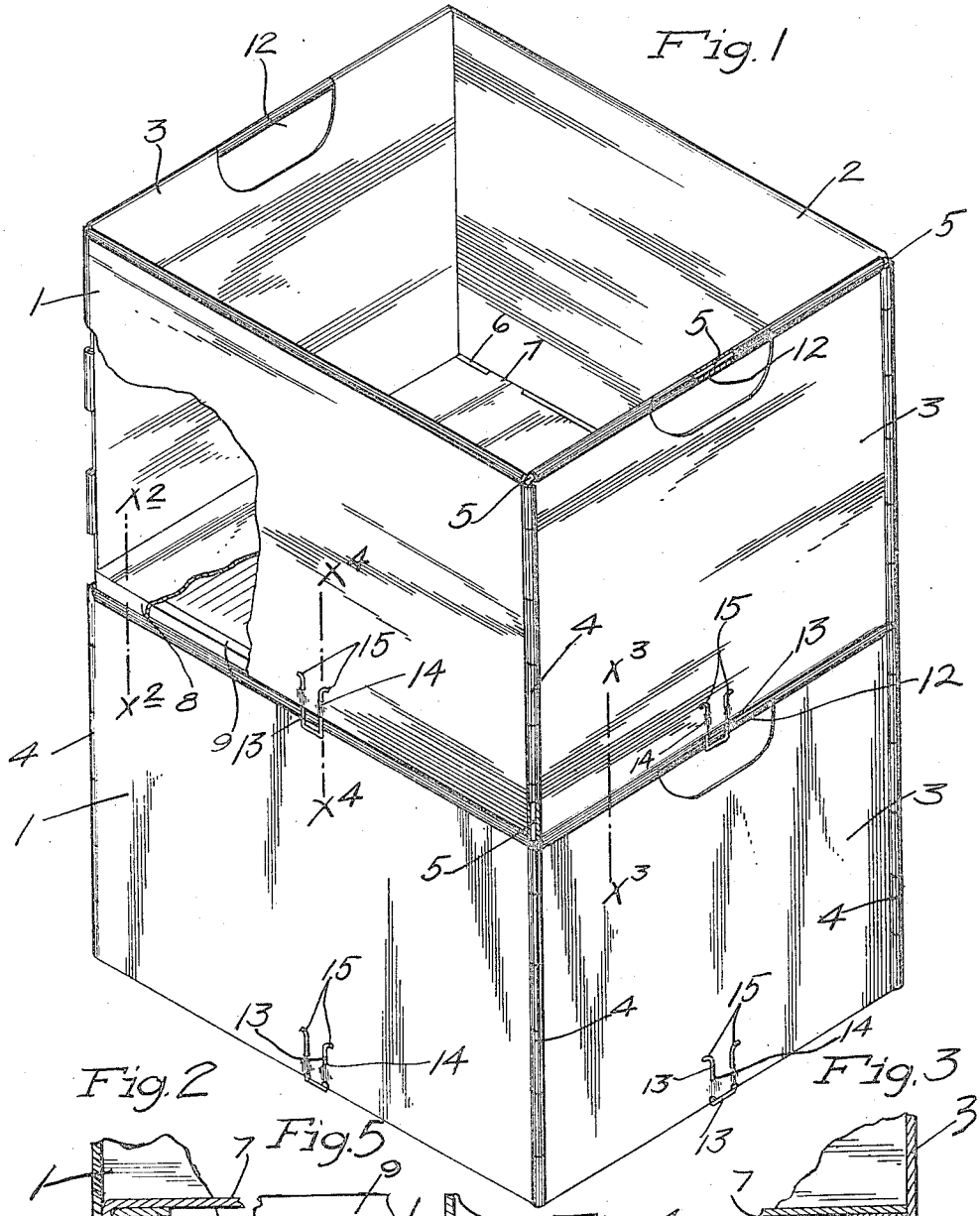

Fig. 2

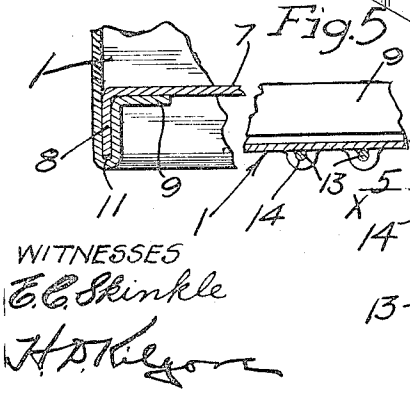

Fig. 5

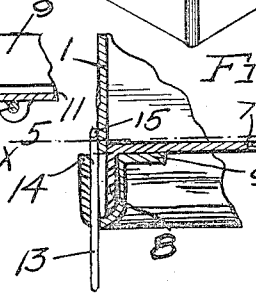

Fig. 4

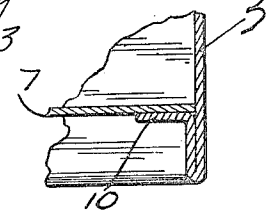

Fig. 3

WITNESSES

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FOLDING BOX.

1,137,759. Specification of Letters Patent. Patented May 4, 1915.

Application filed July 18, 1914. Serial No. 851,688.

To all whom it may concern:

Be it known that I, CHARLIES M. JOHNSON, citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Folding Boxes; and I do hereby 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.

My invention has for its object to provide an improved knock-down or folding box, especially adapted for use in delivering groceries or other articles which are put up in small packages or which are to be delivered in bulk.

To the above end, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a perspective view of two of the improved boxes in stacked arrangement; Fig. 2 is a detail view of the bottom portion of one of the boxes, in section, taken on the line x^2 x^2 of Fig. 1, on an enlarged scale; Fig. 3 is a detail view of the bottom portion of one of the boxes, in section, taken on the line x^3 x^3 of Fig. 1, on an enlarged scale; Fig. 4 is a detail view of the bottom portion of one of the boxes, in section, taken on the line x^4 x^4 of Fig. 1, on an enlarged scale; and Fig. 5 is a detail view, in section, taken on the line x^5 x^5 of Fig. 4, with some parts removed.

The numerals 1 and 2 indicate the front and rear side walls, respectively, and the numeral 3 indicates the end walls of the improved box, which, as shown, is preferably constructed from sheet metal. The vertical edges of the walls of the box are rolled to form the hinge lugs of hinges 4. These hinge lugs are pivotally connected by the prongs of U-shaped rods 5. To the lower edge of the rear wall 2 is hinged at 6 a bottom plate 7, the free longitudinal edge of which is bent downward at right angles to afford a retaining flange 8.

The lower edge of the front wall 1 and the lower edges of the end walls 3 are bent inward upon themselves and thence horizontally inward to afford front and end supporting flanges 9 and 10, respectively. As best shown in Figs. 2 and 4, the supporting flange 9 is spaced inward from the front wall 1 to afford a channel 11 into which the retaining flange 8 projects when the bottom is closed. This retaining flange 8, when interlocked with the channel 11, securely holds the side walls of the box against spreading action in either direction. In forming the supporting flanges 9 and 10, the wearing surface at the lower edge of the box is also materially increased.

The upper edges of the end walls 3 are rolled around the transverse portions of the rods 5 and they are cut away at 12 just below the transverse portions of the rods to afford hand holds. Part of the material cut from the hand holds 12 is rolled around the rods 5 to increase the diameter thereof so as to make the same easier to grasp. The upper edges of the side walls 1 and 2 are also rolled in order to strengthen the same and do away with the sharp edges.

To hold the improved boxes in stacked arrangement the walls thereof are provided, at their lower intermediate portions, with U-shaped retaining clips 13. These retaining clips, as shown, are preferably formed from stiff wire and the prongs thereof are mounted for vertical endwise sliding movement in seats 14, formed by pressing the walls of the box outward. The retaining clips 13 freely slide in the seats 14 and are held in operative positions under the action of gravity. To prevent said clips from dropping out of their seats, the ends thereof are bent laterally to afford stops 15. When the box is placed on a flat support, such as a floor or counter, the clips 13 will be lifted, by the engagement of such support, into inoperative positions. When two or more of the improved boxes are in stacked arrangement the clips on all of the boxes except the bottom one will drop under the action of gravity into positions to engage the upper marginal edge portions of an underlying box and thereby hold said boxes interlocked against sliding movement, one upon the other.

What I claim is:—

1. A box having at its lower edge portion a multiplicity of retaining clips mounted for vertical sliding movement, adapted to

engage an underlying box to hold said boxes in stacked arrangement.

2. A box having at its lower edge portion a multiplicity of retaining clips adapted to engage an underlying box to hold said boxes in stacked arrangement, said clips being mounted to slide into operative positions under the action of gravity and into inoperative positions when engaged by a support on which said box is placed.

3. A box having at its lower edge portion a multiplicity of vertically movable U-shaped retaining clips adapted to engage an underlying box to hold said boxes in stacked arrangement, the prongs of said clips being mounted in seats on said box with freedom for endwise sliding movement.

4. A metallic box having at its lower edge portion a multiplicity of vertically movable U-shaped retaining clips, adapted to engage an underlying box to hold said boxes in stacked arrangement, the prongs of said clips being mounted in seat pressed from the sides of said box with freedom for endwise sliding movement therein.

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

CHARLIES M. JOHNSON.

Witnesses:

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