Dec. 31, 1929. A. O. LONG 1,741,196

FOLDING CARTON

Filed Dec. 24, 1927

Fig. 1.

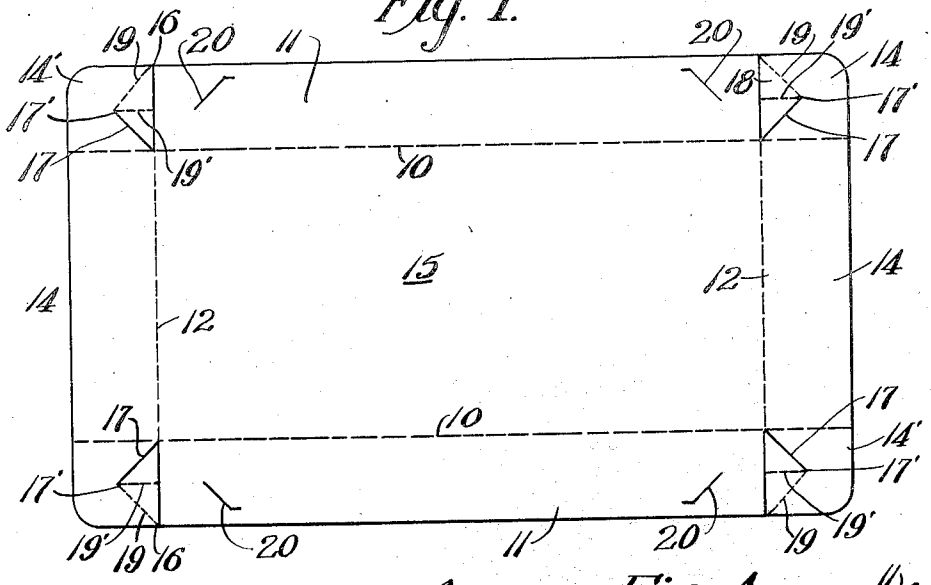


Fig. 3.

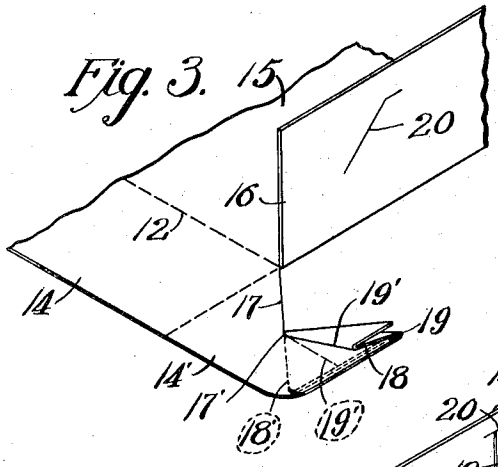


Fig. 4.

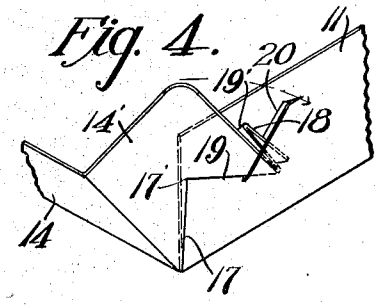
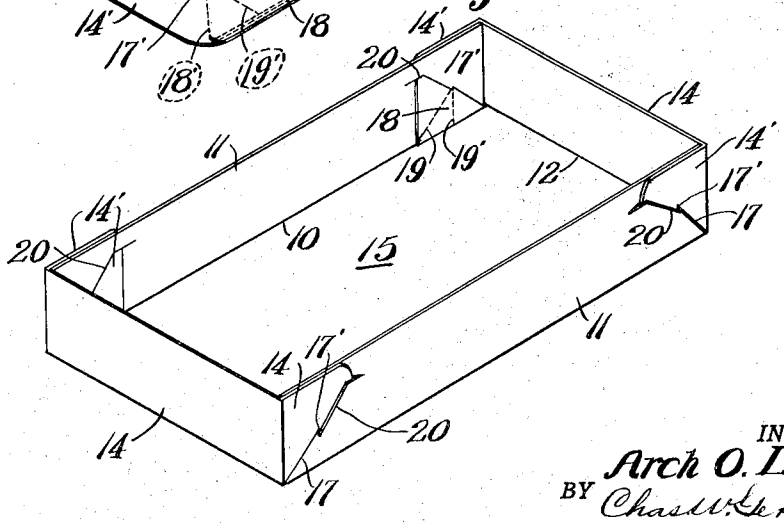


Fig. 2.



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Patented Dec. 31, 1929 1,741,196

UNITED STATES PATENT OFFICE

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FOLDING CARTON

Application filed December 24, 1927. Serial No. 242,326.

The present invention relates to foldable paper or cardboard boxes or cartons, and aims to provide an efficient and improved corner structure for boxes of this character.

Accordingly, I have devised an improved construction adapted to be embodied in blanks of sheet material, whereby a novel, practical and economical corner structure is produced which permits quick operation in folding the parts into box-shape, and results in a neat and securely locked relation of the parts of the blank at each corner of the box.

With these general objects in view the invention will now be described by reference to the accompanying drawing illustrating one form of construction which I have devised for embodying the proposed improvements, after which the novel features and combinations will be defined in the appended claim.

In the drawing:—

Figure 1 is a plan view showing a box or carton blank embodying the present features of improvement;

Figure 2 is a perspective view showing the blank folded into box or carton form; and

Figures 3 and 4 are detail perspective views, on an enlarged scale, illustrating successive steps in the operation of assembling the corner structure.

Referring now to the drawing in detail, my invention is therein illustrated in connection with a box blank or pattern adapted to be made up from sheet material such as paper, card-board or the like, and scored as indicated at 10 to permit folding to form the sides 11, and at 12 for forming the ends 14, the portion 15 bounded by the scoring 10—12 defining either the bottom or cover portion of the box, the upper and lower parts of which are of course duplicates excepting that the cover is made slightly larger than the bottom in order to telescope over the latter.

At each corner of the blank the end 14 is formed with an extension or wing 14′ projecting a distance equal to the width of the side 11 and adapted to be folded along the same line 10. In the cutting of the blank, each wing is separated from the corresponding side 11 by a cut 16 in line with the fold or score line 12, and at the same time a diagonal slit 17 is produced in each wing from the corner or intersection of the lines 10—12 and extending to approximately the center of the wing as indicated at 17′. This forms a locking tab 18 which is adapted to be folded, first along a score line 19 extending from the point 17′ to the outer end of the cut 16, and then along a second score line 19′ extending from said point 17′ to the cut 16 and at right angles thereto.

In the cutting of the blank each side 11 is formed with a slit 20 near each end, of slightly angular outline as illustrated to facilitate spreading of the edges of the slit for the insertion of the folded locking tab 18, the length of the slit being just sufficient to allow insertion of the tab, after it has been folded, into locking position. The principal dimension of each slit 20 follows a line intersecting the adjacent corner, and terminates at a distance from said corner equal to the length of the cut 17; this insures the rigid locking of the corner structure by engagement of the point 17′ or closed end of the cut or slit 17 with the adjacent end of the slit 20, after which the locking tab is opened and pressed back flat against the inside of the box to complete the corner assembly, as illustrated in Figure 2.

The method of folding and assembling the corner structure is illustrated in Figures 3 and 4. The locking tab is first folded along the score line 19 as indicated by the dotted line position in Figure 3, and then the tab is folded a second time along the score line 19′ as represented by the full lines in said view. After the corresponding sides and ends 11 and 14 are folded along the lines 10 and 12, respectively, the wing 14′ is folded to lap over the end portion of the adjacent side 11, and the folded tab 18 is inserted through the slit 20 in the manner illustrated in Figure 4, where the dotted arrow-line represents the path of the outer corner of the wing 14′ during this inserting movement, which is completed on engagement of the point 17′, which acts as a retaining shoulder at the base of the locking tab, with the lower end of the slit 20, after which the tab 18 is folded back in the

opposite direction into flat position against the inner face of the side and with one edge of the tab in snug frictional binding engagement with the inside bottom face of the box, as clearly illustrated in Figure 3. This produces a strong and rigid locking connection between the side and end portions at each corner, as the snug engagement of the points 17′ with the ends of the slits 20 allows no loose play, and the parts can become disengaged only with difficulty. It will be noted that in the completed box, each locking tab 18 not only engages snugly against the bottom of the box on its interior, but extends entirely into the adjacent corner, so that in each completed corner structure the locking tab forms in effect a strong supporting truss for supporting and bracing the overlapping portions of the sides and ends at that corner of the box. It will also be noted that the angle of slit outline 20 is such as to allow free passage of the tabs when inserting the same and yet not so sharp an angle as to form an ear or tab which would be likely to sag outward and catch on other objects.

A simple and inexpensive construction is thus produced, the blanks for which may be stamped economically from the sheet material with a minimum of waste, and, as above explained, the blanks may be folded conveniently and quickly into box form, ready for use.

While I have illustrated and described what I now regard as the preferred form of embodiment of my invention, I desire to reserve the right to make all such changes or modifications as may fairly fall within the scope of the following claim.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

A box corner construction comprising a blank formed with folding side and end portions one of which is formed with a slit and the other with a wing extension provided with a folding locking tab formed by a slit extending from the center of said wing extension to the box corner, said tab portion being provided with a score line extending from the center of said extension to the outer corner of the tab and a second score line extending from said wing center at substantially right angles to the inner edge of the tab, thereby facilitating folding of the tab and insertion of the same through said first slit in assembling the corner structure, the center point of said wing extension having retaining engagement with one end of said first slit as the tab is again opened on the inside of the box.

In witness whereof I hereunto affix my signature.

ARCH O. LONG.