J. W. WEISS.

COLLAPSIBLE CARTON.

APPLICATION FILED MAY 31, 1913.

1,104,234.

Patented July 21, 1914.

Fig. 1.

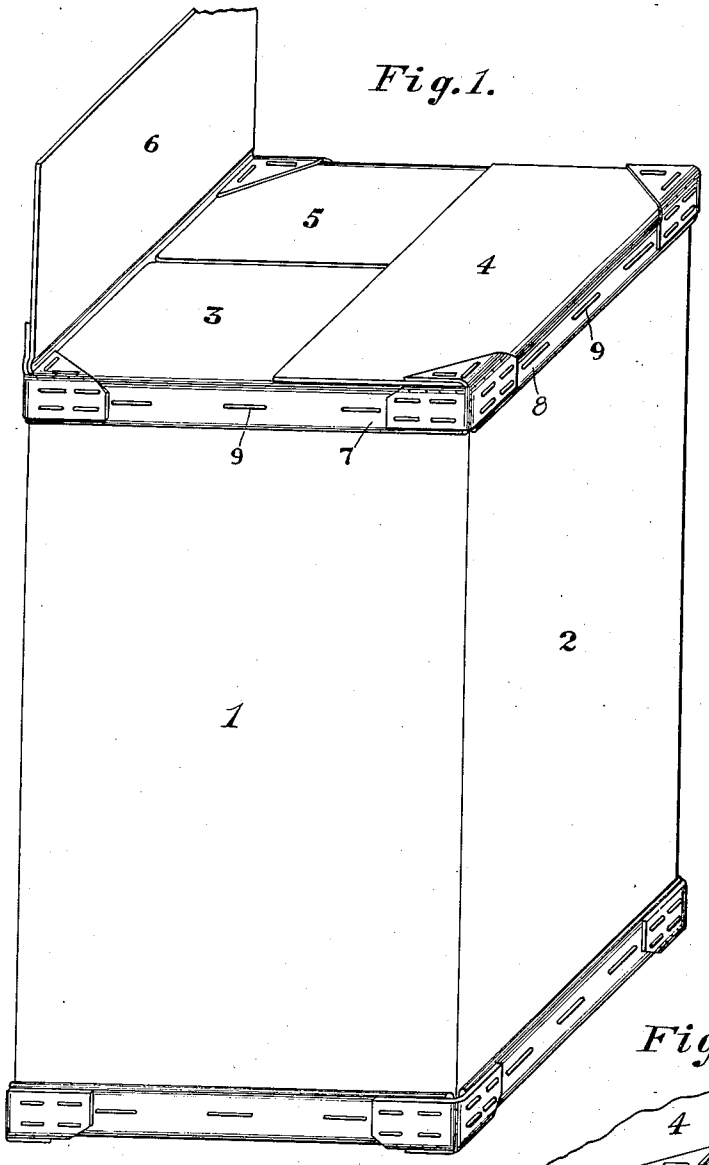


Fig. 2.

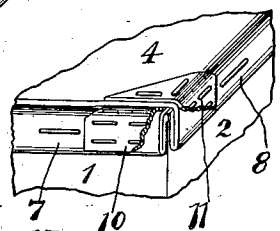


Fig. 3.

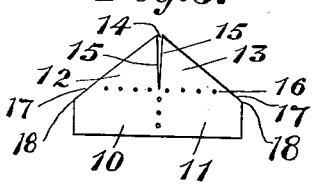
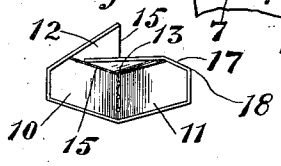


Fig. 4.



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COLLAPSIBLE CARTON.

1,104,234. Specification of Letters Patent. Patented July 21, 1914.

Application filed May 31, 1913. Serial No. 770,920.

To all whom it may concern:

Be it known that I, JOSEPH W. WEISS, a citizen of the United States, and a resident of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Collapsible Cartons, of which the following is a specification.

This invention relates to collapsible cartons and has special reference to means for reinforcing the same to increase their resistance to wear and mutilation due to rough handling during shipment and other conditions of use of cartons of this character.

In my co-pending application, Serial Number 726,003, I have disclosed a carton having the end edges thereof reinforced by strengthening folds formed of the body of the material and provided with corner pieces within the folds.

The object of the present invention is to provide a strengthening corner piece which may be permanently attached to the exterior of the carton and which opens up and is collapsed together with the body of the carton.

With this in view I have provided an improved construction the novel features of which will be fully set forth in the detailed description and particularly pointed out in the appended claims.

In the accompanying drawing illustrating this invention, Figure 1 is a perspective view illustrating a carton with my improved strengthening corner pieces attached thereto. Fig. 2 is a fragmental detail perspective view illustrating the corner piece partly cut away for the purpose of showing the meeting edges of the folds which it covers and reinforces. Fig. 3 is a detail view illustrating the corner piece flat previous to being attached to the carton. Fig. 4 is a perspective view of the corner piece partly folded in the general position it assumes when the box is set up.

The carton consists essentially of the vertical walls 1 and 2 and the end flaps 3, 4, 5 and 6. The material at the junction of the walls and flaps is folded over to form strengthening ridges 7 and 8 suitably attached to the walls as by staples 9. All of this construction is described in detail in my co-pending application above referred to.

I will now proceed to describe a novel form of strengthening corner piece and its novel attachment to the corners of the carton whereby this corner piece may be collapsed together with the rest of the box, but when set up it affords a stiff reinforce.

Referring particularly to Figs. 3 and 4, the corner piece is preferably stamped out of some stiff, tough material as fiber board, leather, stiff fabric or light sheet metal, and consists of two substantially rectangular side walls 10 and 11 and two preferably triangular meeting top flaps or wings 12 and 13. A slit 14 divides the flaps 12 and 13 and allows the same to be bent over so as to overlap one another as indicated in Fig. 4. The side walls 10 and 11 are attached in any suitable manner as by riveting, stapling, pasting or sewing to the side walls 1 and 2 of the box onto the ridges 7 and 8, and the flaps 12 and 13 are also similarly attached to the flaps 3 and 4.

When the box is set up the side walls 1 and 2 are bent relatively to each other so as to assume the proper angle, and the corner pieces bend correspondingly along the junction of their walls 10 and 11. The flap 3 is then turned over carrying with it flap 12 of the corner piece, and the flap 4 is folded over to flap 3 carrying with it the flap 13 of the corner piece. When thus assembled the edge 15 of the corner piece flap abuts against the interior of the junction of the flap 4 and the side wall of the carton, and thus constitutes a bracing member resisting compression. The other corner pieces are similarly attached and assembled, likewise resisting compression and thus together strengthen the box as a whole and maintain it rigid. The bridging of the corner pieces over the meeting edges of the ridges 7 and 8 protects the raw ends of the latter and tends to reinforce the portion of the ends of the box which are weakest. Moreover, the disposition of the wear resisting material about the corners tends to protect the same from abrasion and cutting and thus further prolongs the life of the box.

If desired, the lines of bending of the corner pieces may be provided with perforations 16, particularly when the corner pieces are formed of sheet metal and thus the assembling of the box is facilitated, inasmuch as the metal pieces will readily bend along the perforated lines. These perforations, however, do not materially detract from the strengthening and wear resisting qualities of the corner pieces.

The line of bending between the side walls and the triangular flaps of the corner piece

is preferably located slightly above the vertical edges of the side walls, thus leaving an inclined portion 17 for passing over the edges of the box and avoiding the location of the projecting corners 18 at these edges.

It will thus be seen that I have provided a collapsible carton, in which both the ends and corners are strengthened with a simple inexpensive construction which is very easily and quickly set up and collapsed. The corner pieces are permanently attached to the side and flaps of the carton and still can be collapsed flat, and when the carton is set up they afford a stiff reinforce to maintain the shape of the carton as well as to protect the corners from wear and mutilation.

I have illustrated my improved strengthening corner piece as applied to a collapsible box or carton having reinforcing folds such as disclosed and claimed in my prior application, Ser. No. 726,003. When used with such carton, the corner piece in addition to strengthening the corner also protects the raw meeting edges of the folds. However, it may be understood that this corner piece may be used with advantage in connection with an ordinary collapsible slotted carton, as it will be seen that in any case, it will stiffen the box against compression and will bear the brunt of the wear which occurs on the corners.

Having thus described my invention, I claim:

1. A collapsible carton comprising side walls and end flaps and corner pieces attached to said walls and flaps, each corner piece comprising two side walls secured to the meeting side walls of the carton and two top flaps secured respectively to the adjacent flaps of the carton, said top flaps adapted to overlap each other, the inner flap forming a strengthening brace resisting compression.

2. A collapsible carton comprising side walls and end flaps, reinforcing folds at the junction of said walls and flaps and corner pieces having side walls attached to the meeting folds, and top flaps secured to the adjacent flaps of the carton, said flaps of the corner piece being superimposed when the carton is assembled, the inner of the superimposed flaps contacting the junction of the side wall and flap of the carton and serving as a bracing member resisting compression.

3. A collapsible carton comprising side walls and end flaps, reinforcing ridges adjacent to the junction of the walls and flaps and reinforcing corner pieces for the carton, said corner pieces comprising side walls attached to the ridges and top flaps secured to the adjacent flaps of the carton, said top flaps of the corner pieces being disposed in superimposed relation when the carton is assembled, one of the flaps of the carton being between said flaps of the corner piece, the inner of the latter flaps contacting the edge of the carton at the interior thereof, and serving as a bracing member resisting compression.

4. A collapsible carton comprising side walls and end flaps, reinforcing ridges adjacent to the junction of the walls and flaps and reinforcing corner pieces for the carton, said corner pieces comprising side walls attached to the ridges and top flaps secured to the adjacent flaps of the carton, said top flaps of the corner pieces being disposed in superimposed relation when the carton is assembled, one of the flaps of the carton being between said flaps of the corner piece, the inner of the latter flaps contacting the edge of the carton at the interior thereof, and serving as a bracing member resisting compression, said corner pieces being weakened along the lines corresponding to the edges of the carton so as to readily bend thereon.

5. A collapsible carton comprising side walls and end flaps, reinforcing ridges adjacent to the junction of the walls and flaps and reinforcing corner pieces for the carton, said corner pieces comprising side walls attached to the ridges and top flaps secured to the adjacent flaps of the carton, the lines of bending between the side walls and top flaps of the corner piece being above the vertical edges of the walls, said top flaps of the corner pieces being disposed in superimposed relation when the carton is assembled, one of the flaps of the carton being between said flaps of the corner piece, the inner of the latter flaps contacting the edge of the carton at the interior thereof, and serving as a bracing member resisting compression, said corner pieces having perforations along the lines of bending.

6. A collapsible carton comprising side walls and end flaps and corner pieces attached to said walls and flaps, each corner piece comprising two side walls secured to the meeting side walls of the carton and two substantially triangular top flaps secured respectively to the adjacent flaps of the carton, said top flaps adapted to overlap each other, the inner flap forming a strengthening brace resisting compression.

7. A collapsible carton comprising side walls and end flaps and corner pieces attached to said walls and flaps, each corner piece comprising two side walls secured to the meeting side walls of the carton and two substantially triangular top flaps secured respectively to the adjacent flaps of the carton, a portion of the inclined edge of the triangular flaps extending over the edge of the carton, said triangular flaps adapted to overlap each other, the inner flap forming a strengthening brace resisting compression.

8. A collapsible carton comprising sides and end flaps forming closures for the ends of the carton and corner pieces attached to said sides and flaps, each corner piece comprising two side walls secured to the meeting sides of the carton, and a top wing secured to one of the adjacent flaps of the carton, said wing and its corresponding flap overlying the flaps of the contiguous sides and adapted to form together with the side walls of the corner piece a substantially tetrahedral shaped strengthening member for the corners of the carton.

Signed at New York city, in the county of New York, and State of New York, this 29th day of May, A. D. 1913.

JOSEPH W. WEISS.

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