

Jan. 17, 1928.

H. B. WALTER

1,656,307

COLLAPSIBLE BOX

Filed Dec. 12, 1924

2 Sheets-Sheet 1

Fig. 1

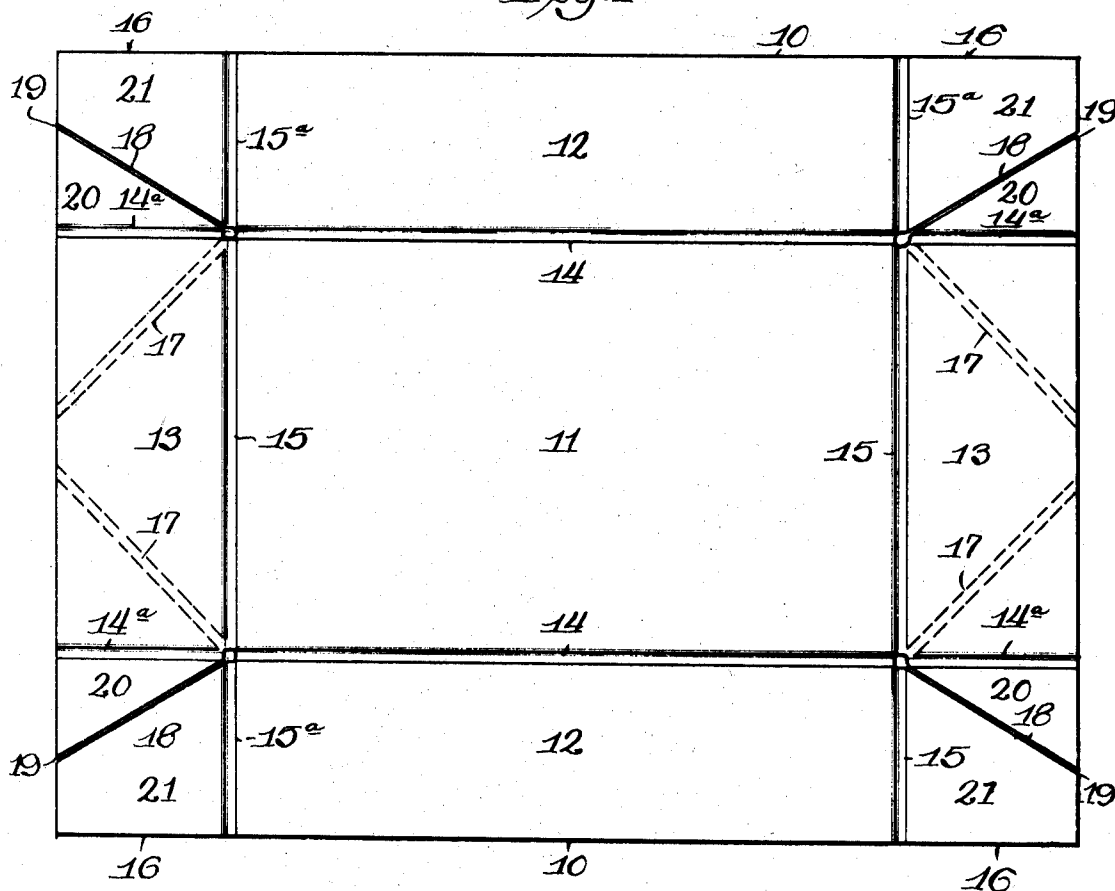
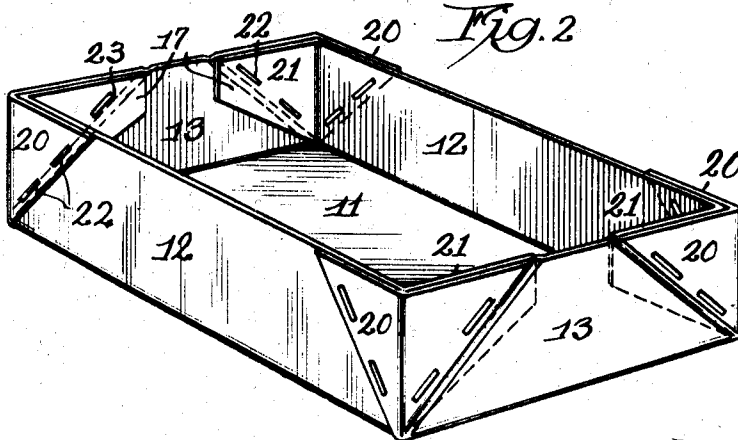


Fig. 2



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2 Sheets-Sheet 2

Fig. 3

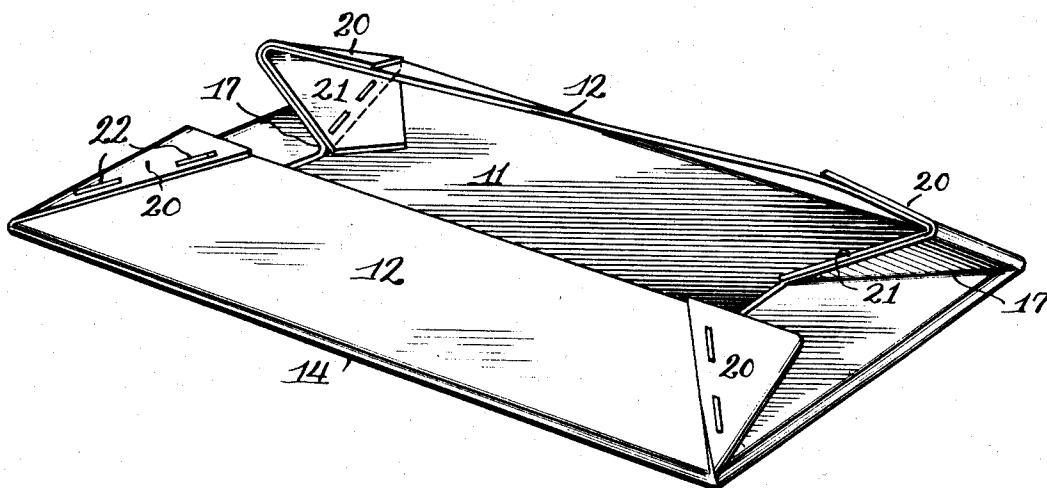
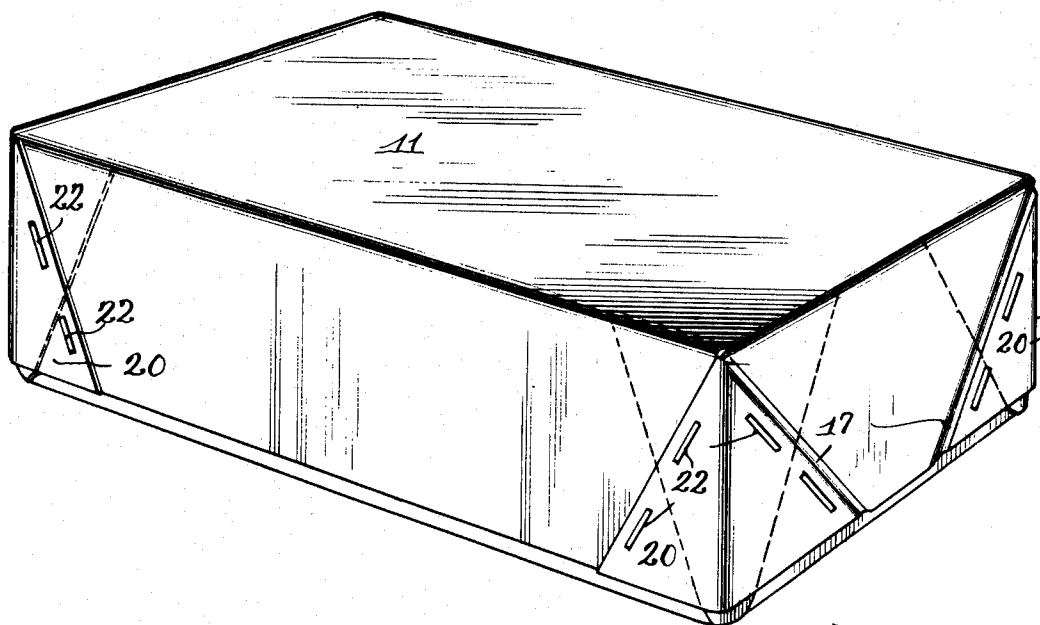


Fig. 4



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UNITED STATES PATENT OFFICE.

HARRISON B. WALTER, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO CONTAINER CORPORATION OF AMERICA, OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE.

COLLAPSIBLE BOX.

Application filed December 12, 1924. Serial No. 755,363.

This invention relates to improvements in collapsible boxes made of fibre or paper board and consists of the matters hereinafter described and more particularly pointed out in the appended claims.

The invention relates to that type of collapsible box (commonly known as a suit box) which comprises two sections,—a body section and a cover section adapted to embrace and close upon the body section. Each section is made from a single blank cut and creased so that it may be set up in box form with the connecting parts stapled or riveted together at the factory. Suitable creases are provided in the end or short side walls of the box to permit them to be folded down upon the bottom wall of the box with the longer side walls folded down upon the said end walls. Boxes of the kind as at present constructed, necessarily present a flexibility and lack of rigidity in the end walls when set up, on account of the aforesaid creases, which permit the box sections to be collapsed for shipping.

The object of the present invention is to produce a box of the kind, in which the end walls are so reinforced and braced in the neighborhood of the creases, that, notwithstanding the box may be readily collapsed as heretofore, said end walls present the same rigidity against outward strain as they would if the creases were not present.

Another object of the invention is to produce a box of the kind possessing the improved feature above described, with the same economy of material and the same simplicity of setting up and finishing as maintains in the prior boxes without such feature.

The advantages of the invention will appear more clearly as I proceed with my specification.

In the drawings:—

Figure 1 is a plan view of a blank suitably cut and creased to form one section of my improved box. It will be understood that the blanks for the two box sections are identical, except that the blank for the cover section is of slightly larger dimensions in order that it may fit over and embrace the body section.

Figure 2 is a perspective view of the finished box section as it appears when set up

with the parts connecting the sides and ends stapled or riveted together.

Figure 3 is a view representing the box section as it appears when the sides and ends are collapsed for shipment.

Figure 4 is a perspective view of the box including both the body section and the cover section when packed and closed.

Referring now to that embodiment of the invention illustrated in the drawings:—10 indicates a blank of fibre or paper board properly cut and creased to form one of the box sections of the improved box. Said blank has a main part 11, which constitutes the bottom wall or top wall of the box depending upon which box section the blank is designed for. 12, 12 indicate the parts of the blank which are to constitute the longer or side walls of the box section; and 13, 13 indicate the parts of the blank which are to constitute the shorter or end walls of the section. The bottom wall part 11, the side wall parts 12, and the end wall parts 13 are defined by parallel, laterally spaced, longitudinal crease lines 14, 14 and by parallel, longitudinally spaced, transverse crease lines 15, 15. The several crease lines 14 and 15 are preferably formed on the top or obverse face of the blank so as to provide for the folding of the side parts 12 and of the end parts 13 upwardly into positions at right angles to the main part 11 of the blank. The crease lines 14 and 15 are prolonged beyond the limits of the main blank part 11 to the edges of the blank as indicated at 14^a and 15^a. Said prolongations 14^a, 15^a, together with the adjacent edges of the blank, define square corner pieces 16 in the four corners of the blank. 17, 17 indicate crease lines in the end wall parts 13 of the blank. Said crease lines are preferably formed on the reverse or bottom side of the blank and begin at the several corners of the main part 11 of the blank and run toward the median line of the blank at an angle of 45 degrees,—terminating in the edges of the end parts 13, 13.

Each corner piece 16 is cut into two unequal parts on a line 18 beginning at the corner of the main blank part 11 and running to a point 19 in the end edge of the blank. Said point 19 is spaced from the corner of the corner piece a short distance as illustrated, so that the corner piece is divided

into a comparatively narrow triangular piece 20 which is integral with an end part 13 of the blank and a wider rhomboidal piece 21, which is integral with a side part 12.

5 The box section is set up by folding the side parts 12, 12 and the end parts 13, 13 into upright or right angular position with reference to the main blank part 11, with the rhomboidal pieces 21 engaged against
10 the inner faces of the end parts 13 and with the triangular pieces 20 engaged against the outer faces of the side parts 12, as illustrated in Figure 2. The triangular pieces 20 are secured to the respective side parts 12
15 by means of staples or rivets located adjacent the edge of the said triangular pieces as indicated at 22. The rhomboidal pieces 21 are secured to the end pieces 13 by staples 23 placed in a line parallel to but
20 above the crease lines 17.

It will be noted that a part of each piece 21 (attached to a part 13) extends below the proximate crease line 17 in said end wall. Thus, when the box is set up and stapled, as
25 illustrated in Figure 2, the said part will act as a brace to prevent a flexing of the end wall along the crease line 17 in a direction to bend said end wall outwardly, as when subjected to strain from the inside of the
30 box. On the other hand, the said part will in no way interfere with that flexing of the end wall required to fold said end wall downwardly toward the bottom wall part 11, since the line of the staples 23 is above the
35 crease line 17. Thus the box section may manifestly be readily collapsed as illustrated in Figure 3.

It will be apparent to those familiar with the art that the improved feature of construction hereinbefore described, is brought
40 about without the use of any more material than in the manufacture of boxes of the kind heretofore made, since the only change required in making the blank for the new
45 box is to make the cut dividing the corner

pieces into a narrow triangular piece and a wider rhomboidal piece, whereas, in the earlier boxes these corner pieces were divided into equal triangular parts.

While in describing my invention I have 50 referred to certain details of construction and arrangement of parts, it is to be understood that the invention is in no way limited thereto except as may be pointed out in the appended claims. 55

I claim as my invention:

1. A collapsible box section comprising a main wall part and two side and two end wall parts, the end wall parts being provided with creases to permit them to collapse, with 60 the side wall parts, upon the main wall part, the end wall parts having narrow end pieces each attached to the outside face of the proximate end of a side wall part, and the side wall parts having wider end pieces each 65 attached to the inner face of the proximate end of an end wall part, said wider pieces overlapping the aforesaid creases and being free of attachment below said creases.

2. A collapsible box section comprising a 70 main wall part and two side and two end wall parts, the end wall parts being provided with creases to permit them to collapse, with the side wall parts, upon the main wall part, the end wall parts having 75 narrow triangular end pieces, each attached to the outside face of the proximate end of a side wall part, and the side wall parts having wider, rhomboidal end pieces, each attached to the inner face of the proximate 80 end of an end wall part, said rhomboidal pieces overlapping the aforesaid creases and being attached to the end wall parts above said creases, but being free of attachment 85 below said creases.

In testimony that I claim the foregoing as my invention, I affix my signature this 4th day of December, 1924.

HARRISON B. WALTER.