J. G. REBER, DEC'D.

O. S. REBER, ADMINISTRATRIX.

FOLDING BOX.

APPLICATION FILED MAR. 19, 1906.

1,046,017. Patented Dec. 3, 1912.

2 SHEETS—SHEET 1.

Fig 1.

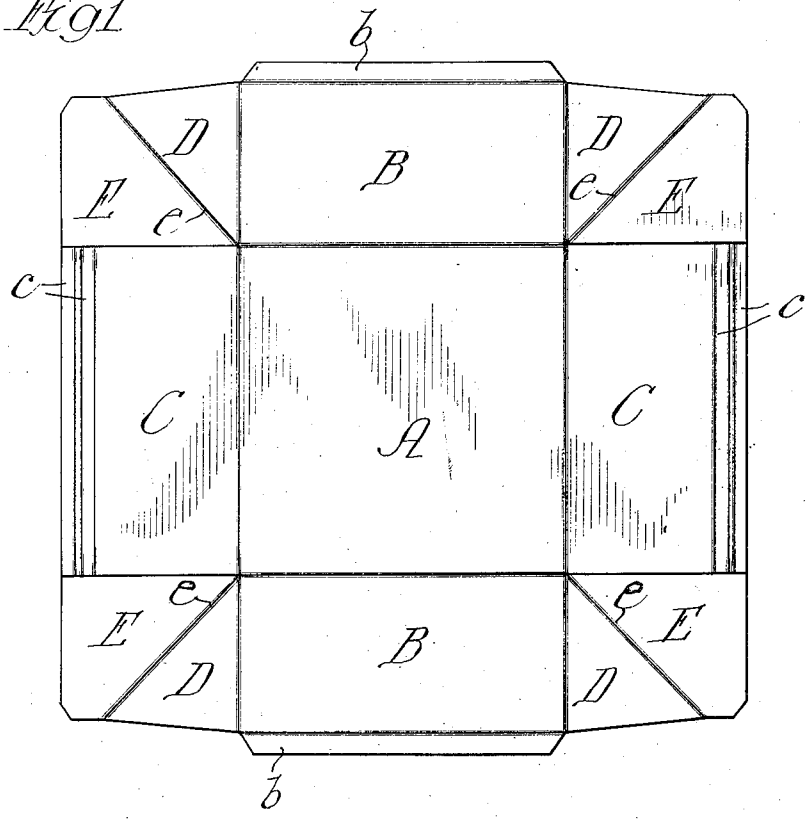


Fig 2.

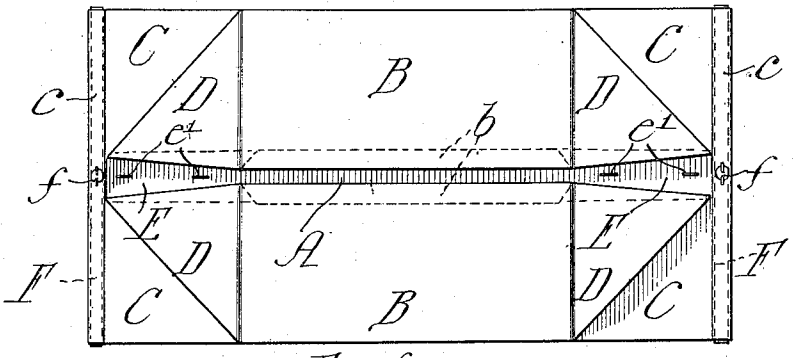
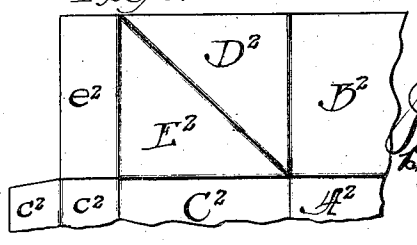


Fig 6.



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Inventor:
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His Attys

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2 SHEETS—SHEET 2.

Fig. 3.

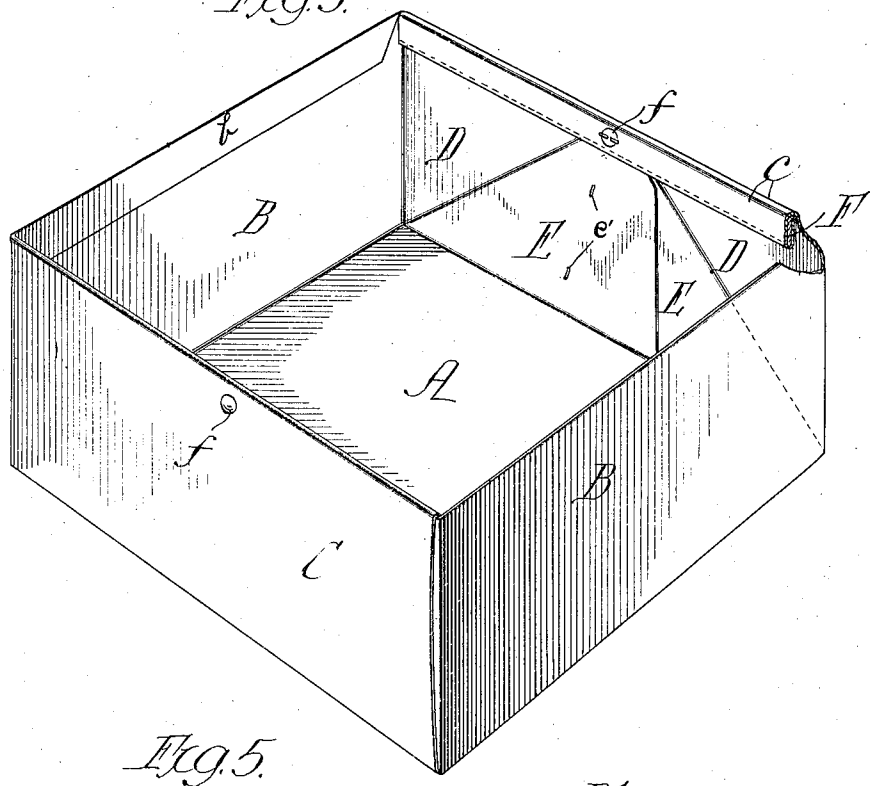


Fig. 5.

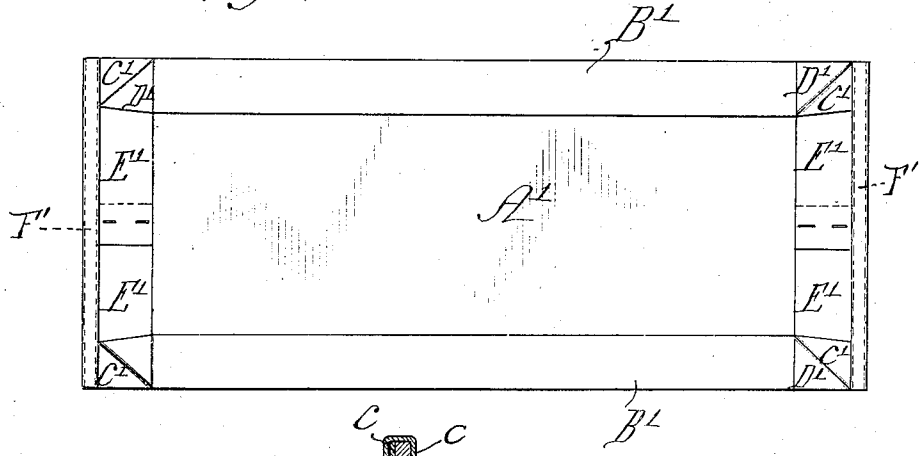
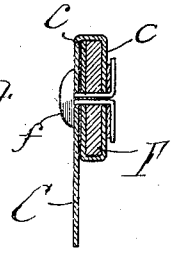


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN G. REBER, OF CHICAGO, ILLINOIS; OLIVE S. REBER, ADMINISTRATRIX OF SAID JOHN G. REBER, DECEASED, ASSIGNOR TO THE SEFTON MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF INDIANA.

FOLDING BOX.

1,046,017. Specification of Letters Patent. Patented Dec. 3, 1912.

Application filed March 19, 1906. Serial No. 306,854.

To all whom it may concern.

Be it known that I, JOHN G. REBER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Folding Boxes, of which the following is a specification.

My invention relates to folding boxes and the object thereof is to provide a simple and efficient box of this character which possesses many features of advantage and utility which will be made apparent from the description hereinafter given.

My invention is particularly useful in connection with hat and suit boxes and for convenience in illustration and description of my invention, I have chosen to illustrate and describe the same as embodied in boxes of this specific character, although my invention may be employed in boxes of other types and character.

In the drawing Figure 1 is a plan view of a blank from which a hat box embodying my invention is formed; Fig. 2 a plan view of the hat box in its flat or collapsed form; Fig. 3 a perspective of the hat box set up ready for use; Fig. 4 an enlarged section of a top edge of one of the sides of the box; Fig. 5 is a view similar to that of Fig. 2, but illustrating my invention as applied to a suit box, and Fig. 6 a detail view of a modified form of construction.

Referring to the hat box form of embodiment of my invention as illustrated in Figs. 1 to 4, the box as therein shown is made from a blank comprising, as shown in Fig. 1 a bottom A and the sides B, B and C, C which are hinged to the bottom. The sides B, B are provided at their free ends with corner folds D and E, of which the corner folds D are hinged to the sides B, while the corner folds E are hinged to the corner folds D on an oblique score line *e*.

The outer edges of the sides C, C of the box are provided with two narrow extensions or flaps *c*, *c* which, when folded over as shown in Figs. 2, 3 and 4, inclose within them thin strips F of flexible material, such as thin strips of wood or wood veneer. In practice, these so called extensions *c*, *c* are formed by simply folding the ends of the sides C, C over the said strips and then doubling the same over again upon the body of the sides C, C, after which the extensions and the strips are secured to the body of the sides in suitable manner, as by means of the fastening staples *f*. These strips are flexible and are such as to afford a torsional strain or pressure when twisted in the manner and for the purpose hereinafter explained.

The blank is assembled at the factory in such manner as to form a flat or collapsed structure such as required for shipment and also as to be ready for instant setting up by the consumer or user. To this end, the corner folds D and E are folded inwardly, the corresponding corner folds E of the opposite sides B being, in the present instance, overlapped and then secured in suitable manner to the body of the ends C, as by means of staples e^1, although the same may be glued or otherwise secured thereto. In addition, the ends of the usual strings or tape (not shown) may be passed through both pairs of the corner folds E. When these extensions are thus folded and secured to the sides C, C the parts of the blank occupy the relative positions illustrated in Fig. 2, wherein the inner faces of the sides B, B are shown as lying flat upon the bottom A, while the inner faces of the corner folds D and E are brought together. In practice and by preference, the height of the corner folds E is such that the inner or lower edge of the infolded extensions *c* will rest upon or be flush with the top edges of said corner folds E, as clearly indicated in Fig. 2.

The box is shipped to the consumer in the collapsed form illustrated in Fig. 2 and when the user desires to set up the box, he takes hold of the upper edges of the sides C, C at their middle line at the point where the staples *f* are located and simply folds said sides C, C upwardly and inwardly, with the result that the sides B, B and the four corner folds D automatically fold outwardly and upwardly into the box form illustrated in Fig. 3. At this stage in the setting up of the box or rather just before the sides C, C are brought to vertical position, the user twists each end of the strips F, together with their extensions, in an upward direction, so as to clear the upper edges of the corner folds D, which are cut on an incline from their junction with the corner folds E to the

corners of the box. After the strips, together with the extensions by which they are inclosed are thus passed over the edges of the corner folds D, such strips are released and permitted to return to their normal position with a considerable pressure or snap, owing to the torsional resistance thereof, with the result that the box is locked and securely held in its assembled or set-up condition, by reason of the provision of said strips, besides which the box as to the upper edges of the sides C, C is thereby materially strengthened. The box may be knocked down or collapsed by reversing the operation, that is by simply twisting the ends of the strips as already described and then moving the sides C, C outwardly and downwardly after the strips have cleared the top edges of the corner folds D. By preference, the sides B, B are provided with extensions b on their outer edges which are folded inwardly and secured to the inner faces of such sides for the purpose of strengthening the upper edges of these sides. It will be understood that any desired construction of lid may be employed in connection with my form of box.

As hereinbefore stated, my invention may be applied to boxes other than hat boxes and for the purpose of illustrating this fact I have shown my invention as embodied in a suit box. Such a box is illustrated in the flat or collapsed form in Fig. 5 of the drawings and the parts thereof corresponding to the similar parts in hat box construction are similarly lettered but primed. The suit box, as shown in Fig. 5, is of the same general construction as the hat box with the exception of the necessary changes in the proportions of the different parts thereof. The method of setting up the suit box is the same as that of the hat box, for, as will be understood from an examination of Fig. 5, the bringing of the ends C^1, C^1 of the box toward each other results in the automatic upward and outward folding of the sides B^1, B^1, after which the ends of the strips F^1 which are located in the flaps or extensions c^2 of the sides C^1, C^1 are twisted in the manner already explained for the purpose of engaging over the upper edges of the corner folds D^1 and E^1.

According to the constructions hereinbefore described, the flexible strip F was attached only to the flaps or extensions c, but if desired such strips may also be arranged to be connected with an extension of one of the corner folds or in other words an extension of the corner folds may be arranged to fold up with the strip and the extensions of the said walls, such as the walls C of the box illustrated in Fig. 1. I have illustrated such a modification in Fig. 6 of the drawings, showing one corner of a modified form of box, in which B^2 illustrates a side wall, C^2 an adjacent side wall, A^2 the bottom, and D^2 and E^2 the corner folds, both of which are hinged to the side walls, that is the corner fold D^2 is hinged to its side wall B^2 and the corner fold E^2 to its side wall C^2. The side wall C^2 is provided with the two extensions c^2, while the corner fold E^2 is provided with one extension e^2. According to this construction, the side wall B^2, together with the corner folds D^2 and E^2 and the extension e^2 are folded over upon the bottom A^2, side wall C^2 and the extensions c^2, after which a strip F is laid upon the innermost extension c^2 and also upon the extensions e^2, whereupon the outermost one of the extensions c^2 is folded over upon the strip. Thus, according to this modified form of construction, one of the corner folds is held or anchored with the strip in the side wall which bears such a strip and moreover, both of the corner folds are hinged to their respective side walls, whereas in Fig. 1 only the corner fold D is hinged to a side wall, the corner fold E being separate from its adjacent side walls. The method of setting up the box and locking the corner folds in set-up position is the same in respect to this modified form of box as in respect to the forms illustrated in Figs. 1 to 5, the ends of the flexible strip being turned up or twisted in the same manner as hereinbefore described.

I claim:

1. A folding box comprising a bottom, four walls connected therewith, corner folds connected with two opposite walls and foldable inwardly, and flexible resilient strips made of different material from the box and having a torsional resistance and secured intermediate their length to the upper portions of the other two opposite walls, the ends of such strips being arranged to be twisted and sprung over the corner folds: substantially as described.

2. A folding box comprising a bottom, four walls connected therewith, corner folds connected with two opposite walls and foldable inwardly, the other two walls having end extensions, and flexible resilient strips having a torsional resistance over which such extensions are folded and secured thereto and to their walls intermediate the length of such extensions and strips, the ends of such strips being arranged to be twisted and sprung over the corner folds; substantially as described.

3. A folding box comprising a bottom, four walls connected therewith, corner folds connected with two opposite walls and foldable inwardly, the corner folds connected directly with the walls having their edges inclined upwardly from their outer corners to their inner corners at the corners of the box when set up, and flexible resilient strips secured at their middle to the upper portions of the other two walls and free at

their ends so as to be sprung over said inclined edges of the corner folds; substantially as described.

4. A folding box comprising a bottom, walls connected therewith, pairs of corner folds, the members of each pair being hinged to each other and one member being hinged to one of the side walls and the other member being folded inwardly and secured to the inner side of the adjacent or end wall and secured to the latter, two similar extensions, *c*, *c*, at tne upper edges of the end walls and flexible strips having a torsional resistance and arranged within said extensions and covered thereby, said strips and extensions being arranged to be sprung over the upper edges of the corner folds; substantially as described.

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Witnesses:
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