No. 695,204. Patented Mar. 11, 1902.

C. H. GOODNOW.

PAPER BOX.

(Application filed Dec. 16, 1901.)

(No Model.)

Fig. 1.

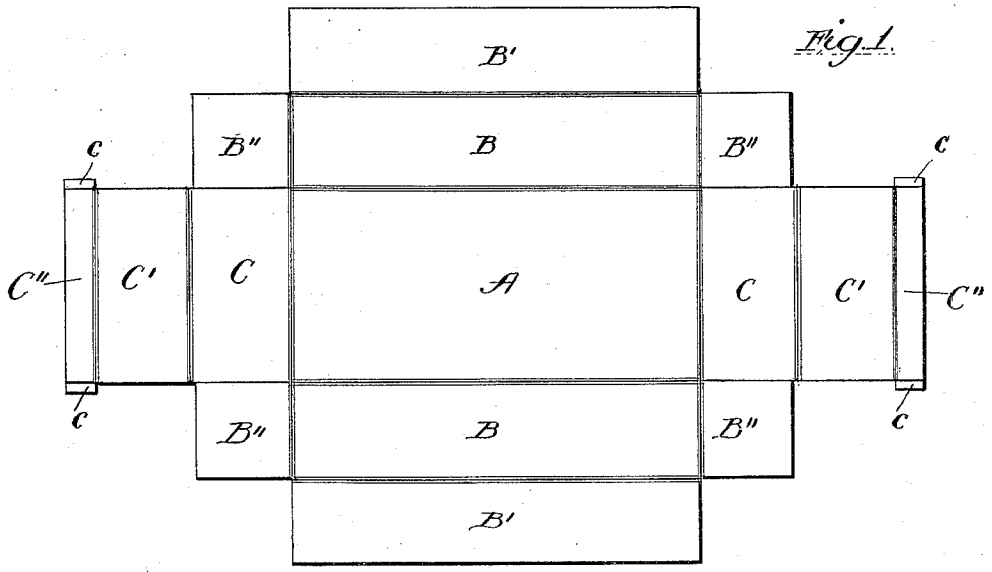


Fig. 2.

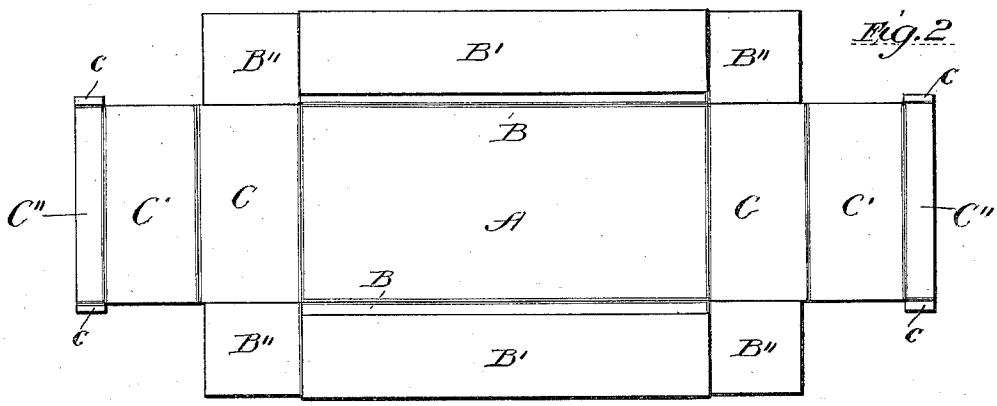


Fig. 3.

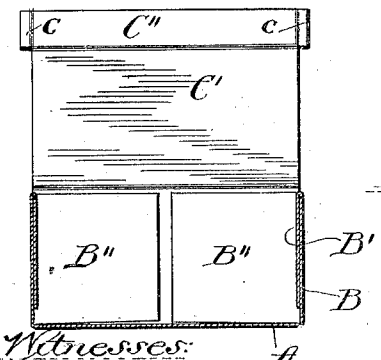


Fig. 4.

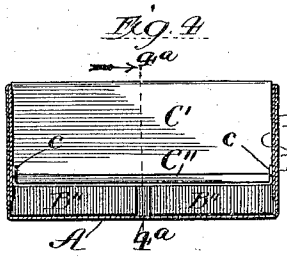


Fig. 5.

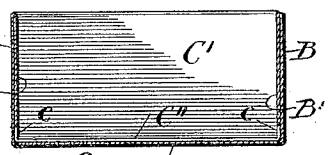


Fig. 6.

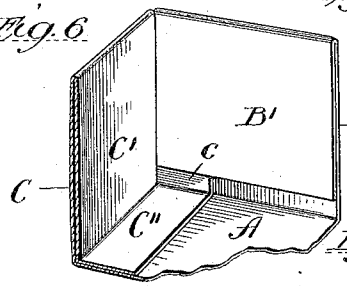
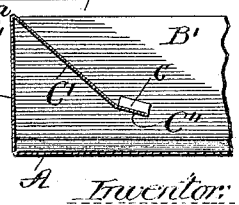


Fig. 4a.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 695,204, dated March 11, 1902.

Application filed December 16, 1901. Serial No. 86,157. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. GOODNOW, a citizen of the United States, residing at Chicago, in the State of Illinois, have invented certain new and useful Improvements in Paper Boxes, of which the following is a description, reference being had to the accompanying drawings, forming a part of this specification.

My invention consists in an improvement upon a well-known form of paper box, and its nature and novelty will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a box-blank embodying my invention; Fig. 2, a similar view with the inner side walls of the blank folded over upon and pasted to the outer side walls; Fig. 3, an inside end view of the box in partially-folded form; Fig. 4, a corresponding view of an additional stage in the folding of the box; Fig. 4^a, a vertical section on the line 4^a 4^a of Fig. 4; Fig. 5, a view similar to Fig. 4 with the box in complete form, and Fig. 6 an inside perspective view of one of the corners of the box.

The same letters of reference are used to indicate corresponding parts in the several views.

The blank of Fig. 1, from which my improved box is folded, comprises a rectangular bottom A, side walls B B, end walls C C, side-wall extensions B′ and B″, end wall extensions C′ C′, and supplemental end extensions C″ C″. This form of blank is substantially old, and in folding it into box form the side-wall extensions B′ B′ are first bent over inward upon the side walls B B and pasted to the latter, as in Fig. 2, to stiffen them and form double side walls for the box. The side walls B B are then bent up to vertical position, their end extensions B″ B″ bent inward across the ends of the box, the end walls C C then bent upward to vertical position against the side extensions B″ B″, as in Fig. 3, and the end-wall extensions C′ C′ then bent over the side-wall extensions B″ B″ and downward inside of the box against the inner sides of said extensions B″ to confine the latter between the end walls C and said end wall extensions C′, and thereby lock the side walls of the box and their end extensions B″ in place in vertical position. When the end wall extensions C′ are bent downward inside the box against the side-wall extensions B″, the supplemental extensions C″ of the end walls are pressed flat upon the bottom of the box at right angles to the inside end walls or extensions C′, Fig. 6, and serve to prevent the latter from springing upward and releasing the confined extensions B″ of the side walls, this being the intended function and purpose of said supplemental extensions C″.

As before stated, boxes substantially the same as this are old and well known; but they have not been entirely satisfactory, for the reason that the means provided for securing the ends of the box in folded form (the supplemental extensions C″) were not sufficiently positive in action to efficiently serve that purpose and often permitted the inner walls or extensions C′ to spring upward and release the side walls. To overcome this difficulty, it has sometimes been the practice to extend one of the supplemental extensions C″ the full length of the box, so as to overlie the entire bottom thereof; but this not only materially increased the cost of the box, but was not entirely efficient for the purpose intended, for the reason that the parts at the opposite end of the box, adjacent the free end of such long extension or inside bottom, were no more securely locked than before. My invention provides efficient means for positively locking the parts at both ends of the box in place and adds practically nothing to the cost of the box or to the labor of folding the blank into box form, and it consists in providing the supplemental extensions C″ with short locking extensions *c* at their opposite ends, which extensions *c* when the blank is folded into box form in the manner described catch under the lower edges of the inner side walls B′, as in Fig. 6, and positively lock the inner end walls or extensions C′ in place against the confined side-wall extensions B″. Fig. 3 shows the parts at one

end of the box in position for one end-wall extension C′ to be bent downward inside the box. As it is pressed downward inside the box the locking extensions *c c* bear against the inner surfaces of the side walls and are bent upward or backward at right angles to the extensions C′ and C″, as shown in Figs. 4 and 4ª, and as the inner end wall or extension C′ is pressed on downward and outward to vertical position against the end of the box the supplemental extension C″ strikes the bottom of the box and is bent at right angles to the inner end wall or extension C′ and brought flat against the bottom of the box, and as it reaches this position the locking extensions *c c* at its opposite ends are brought into vertical position and spring outward against the outer side walls B B of the box, immediately beneath the lower edges of the inner side walls B′ B′, as shown in Figs. 5 and 6. The inner side walls B′ of the box are made of somewhat less width than the outer side walls B, so that when folded upon and pasted to the outer side walls there is a space left between their lower edges and the bottom of the box, and the height of the locking extensions *c c* is made to correspond to the width of this space, so that when the parts are pressed into the final position said extensions will fit snugly in the space between the bottom of the box and the lower edges of the inner side walls B′, as shown in Figs. 5 and 6, and by the engagement of their upper edges with the lower edges of the inner side walls B′ serve to positively and securely lock the parts in position.

It will be understood that so far as the operation of my invention is concerned it is not absolutely essential that the box be provided with inner side walls extending its full length, since only the portions of these side walls adjacent the ends of the box coöperate with the locking extensions *c*, constituting the basis of my invention, and any other suitable abutments upon the inner surfaces of the side walls of the box would coöperate with the locking extensions *c* for the purpose described; but inasmuch as boxes of this character are usually provided with double side walls for the purpose of stiffening and strengthening the sides of the box and giving them a better finish, and inasmuch as in folding the box the locking extensions *c* ride over the surfaces of such inner side walls at some distance from the ends of the box, as in Figs. 4 and 4ª, and the presence of the side walls therefore furnishes a smooth guideway for the passage of said extensions and facilitates their engagement with the abutments formed by the lower edges of the side walls at the extreme ends of the box when the locking extensions reach their final position, it is a distinct advantage to employ such inner side walls in connection with my invention, as well as for the general purposes of a box of this character.

Having thus fully described my invention, I claim—

1. In a folding box of the character described, comprising a bottom A, side walls B having the end extensions B″, end walls C having the extensions C′ adapted to be bent downward into the ends of the box to confine the side extensions B″, and provided with the supplemental extensions C″ adapted to rest against the bottom of the box—the locking extensions *c c* projecting from the opposite ends of said supplemental extensions C″ and adapted to catch under suitable abutments provided upon the side walls of the box and positively lock the parts in position; substantially as described.

2. In a folding paper box of the character described—that is to say, comprising a bottom A, outer side walls B provided with end extensions B″ and with the side extensions B′ folded inward against the side walls B and constituting inner side walls for the box, said extensions or inner side walls B′ being of less width than the outer side walls B so as to leave a space between their lower edges and the bottom of the box, the end walls C having the extensions C′ adapted to fold inward over the said extensions B″ and downward inside the box to confine said extensions B″, and provided with the supplemental extensions C″ adapted to rest upon the bottom of the box—the locking extensions *c c* projecting from the opposite ends of the supplemental extensions C″ and adapted as the end-wall extensions C′ and C″ are pressed downward inside the end of the box to ride over the inner side walls B′ and to catch under the lower edges thereof as the parts reach final position and positively lock the parts in such position; substantially as described.

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