

Sept. 17, 1935.

F. J. PETERSON

2,014,695

FOLDING BOX

Filed Feb. 5, 1935

2 Sheets-Sheet 1

Fig. 1.

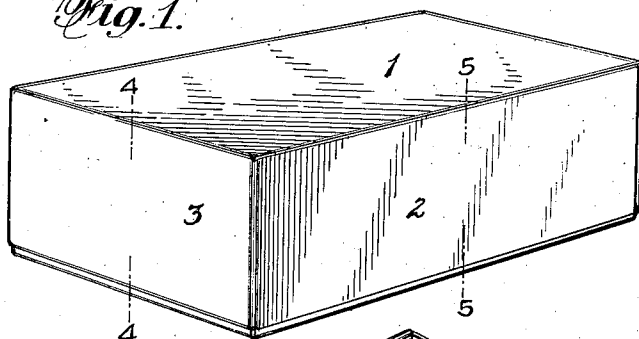


Fig. 2.

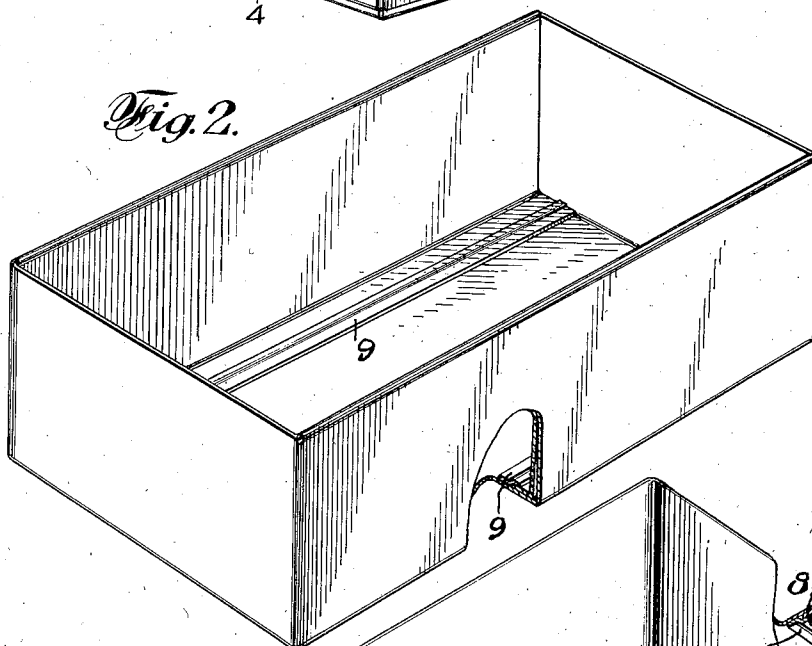
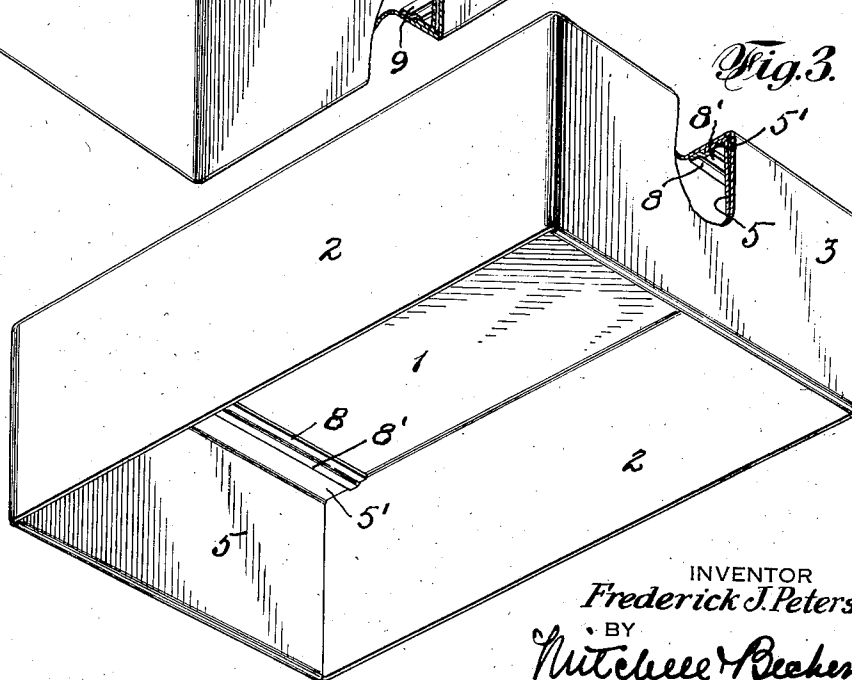


Fig. 3.



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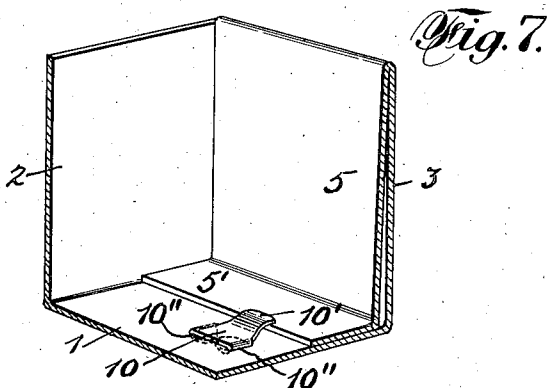
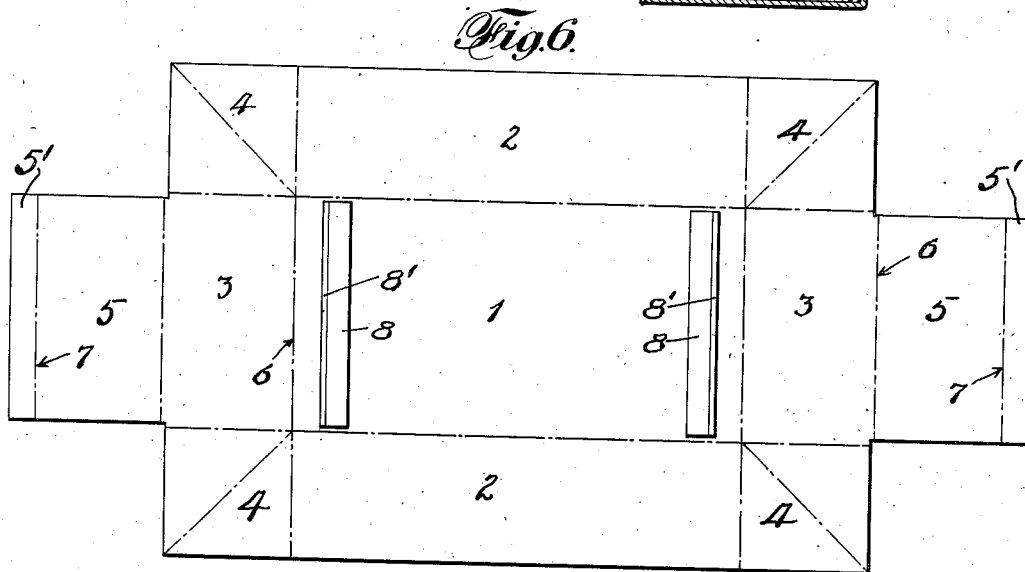
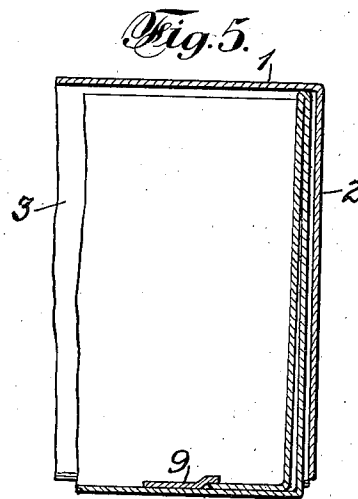
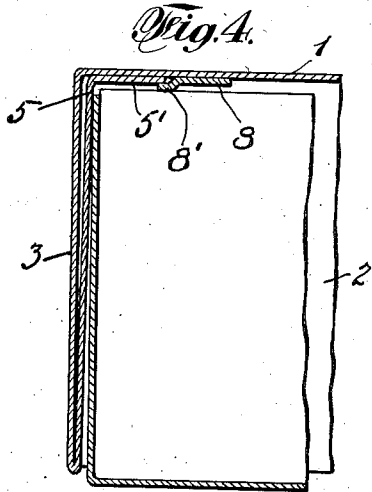
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2 Sheets-Sheet 2



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2,014,695

FOLDING BOX

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Application February 5, 1935, Serial No. 5,019

2 Claims. (Cl. 229—34)

This invention relates to folding paper boxes and resides mainly in an improved locking means whereby the respective box sections, when folded into operative form, are each so effectively interlocked that they cannot be accidentally opened up or unfolded when being handled, as, for example, in the case of a shoe box when being pulled from a shelf. In such a case the tug on the end of the box frequently applies such a heavy strain thereto that unless the end folds are securely locked the end of the box is liable to open up. The construction is also such that, in the preferred form, the box assembly as an entirety is greatly strengthened against collapse.

In the drawings—

Fig. 1 is a perspective view of the entire box assembly;

Fig. 2 is an enlarged perspective view of the inside of the box body section;

Fig. 3 is a similar view of the box cover section;

Fig. 4 is an enlarged sectional view on line 4—4 of Fig. 1;

Fig. 5 is a sectional view taken on line 5—5 of Fig. 1;

Fig. 6 is a plan view of the blank for the cover section;

Fig. 7 illustrates a fragmentary perspective view of a modification.

Inasmuch as the interlocking means shown in the drawings is the same for both the cover section and the body section of the box, a detailed description of said means as applied to the cover section will suffice. As indicated in Fig. 6, it will be seen that the blank may be scored in any well known manner on all lines where bends or folds are to occur to facilitate bending or buckling the same, as required. 1 represents that portion of the blank that is to constitute the bottom of the cover section. 2—2 are opposed portions of the blank that are to be bent up to form the sides of the cover section. 3—3 are opposed portions of said blank that are to be bent up to form the outer end walls of the cover section. 4—4 represent intervening corner portions designed to be buckled inwardly. 5—5 are flaps on the opposed portions 3—3 that are bent inwardly to form the inner end walls of said cover section. 6—6 are score lines that may be provided between the end portions 3—3 and the flaps 5—5 to facilitate bending the flaps inwardly. 7—7 are score lines which run parallel to and near the end edges of the flaps 5—5, the portions of said flaps outside of said lines forming terminal locking lips 5'—5'. 8—8 represent locking means preferably in the form of strips glued or otherwise fastened to the

inside of the bottom portion 1 near to but spaced from the end portions 3—3. The edges 8'—8' of these strips that face the adjacent end portions are raised or bent up relatively to the bottom 1 to form pockets or recesses thereunder, to receive therein the edges of the locking lips 5'—5', when the blank is folded to form the cover section. The edge 8' of each strip 8 is spaced away from the base of the adjacent wall 3 sufficiently to permit the locking lip 5' to clear said edge 8' when the flap 5 is pressed back against said wall 3. When the side and end portions of the blank are bent up, the buckled in corner portions are folded back against the inside of the opposed end walls 3—3. The flaps 5—5 are then folded inwardly to overstand said folded in corner portions. As these flaps 5—5 are folded inwardly and downwardly, the locking lips 5'—5' will encounter the bottom portion 1, bend inwardly, and slide over the locking strips 8—8. Upon merely releasing 20 the folding pressure on the flaps 5—5, the natural spring of the same will cause the edges of the locking lips 5'—5' to be automatically projected into the pockets underneath the edges 8'—8' from which they cannot be accidentally 25 dislodged by any amount of severe handling in the intended use of the box.

In the body section of the box, the flaps are on the sides thereof instead of on the ends. It is unnecessary to describe in detail the construction 30 of the means for locking these side flaps of the body section since such means shown corresponds to the means already described. It is important that whereas the locking strips 8—8 for the cover section run transversely of the box, the locking 35 strips for the body section run longitudinally thereof. These strips for the body section are indicated at 9—9. The cover section is of course sufficiently larger than the body section so that it may be telescoped therewith in the usual manner. By this arrangement the entire box assembly, as shown in Fig. 1, is powerfully reinforced at both ends and sides by three thicknesses of stock, plus the stiffening effect of the strips 8—8 and 9—9, and will therefore withstand very rough 45 usage without danger of collapse.

In Fig. 7, I have shown a modification in which 10 represents the body of a metallic clip having a raised lip 10' to form a recess or pocket under the same. 10''—10'' are spurs on the body of the clip which may be punched through the cardboard and clinched on the underside to hold the clips in place. Such clips may be substituted instead of the strips 8—8 or 9—9 to provide the undercut locking pockets for the edges 55

of the locking lips. Here again it is essential that the raised edge of the lip 10' shall be spaced away from the wall 3 sufficiently to permit the locking lip 5' to be automatically engaged under the lip 10' by the mere act of folding in the flap 5 and then releasing the folding pressure.

I am well aware that some changes and modifications may be made in the constructions described without avoiding the invention or the scope of the following claims.

I claim:

1. A folding box section comprising a bottom portion, opposed side portions, opposed end portions, intervening corner portions folded back against the inner walls of two of said opposed portions, flaps on the latter portions folded inwardly to overstand said folded-back corner portions, locking lips at the ends of said flaps, and means secured to the bottom portion and providing undercut pockets to receive the edges of said locking lips, said means being spaced

sufficiently from the adjacent outer wall to allow the locking lips to clear the same and automatically project into said pockets as pressure on the flaps carrying said locking lips is released.

2. A folding box section comprising a bottom portion, opposed side portions, opposed end portions, intervening corner portions folded back against the inner walls of two of said opposed portions, flaps on the latter portions folded inwardly to overstand said folded-back corner portions, locking lips at the ends of said flaps, and strips secured to the inside of the bottom portion substantially parallel to said flaps and shaped to form undercut pockets spaced away from the adjacent walls of said box section sufficiently to permit the edges of said locking lips to pass over and clear the edges of said strips as the flaps are pressed back toward the adjacent outer walls and to automatically project into said pockets when pressure on said flaps is released.

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