

Sept. 21 , 1926.

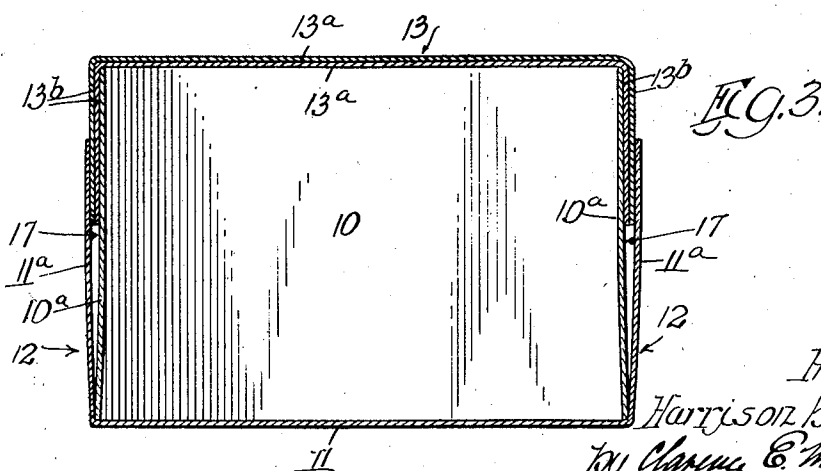
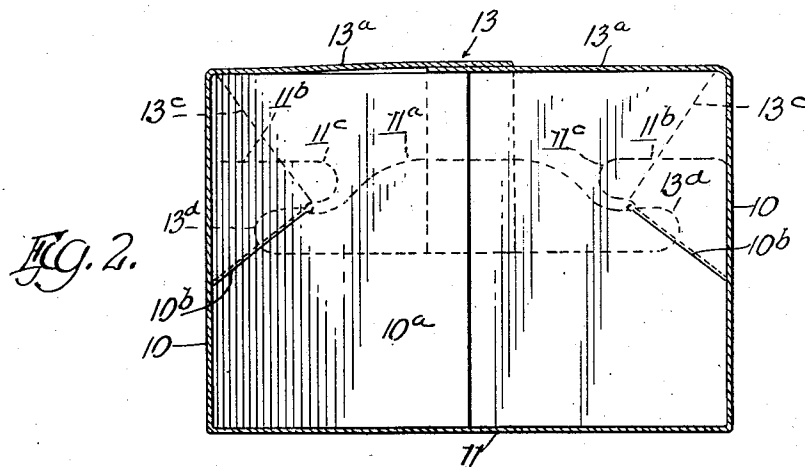
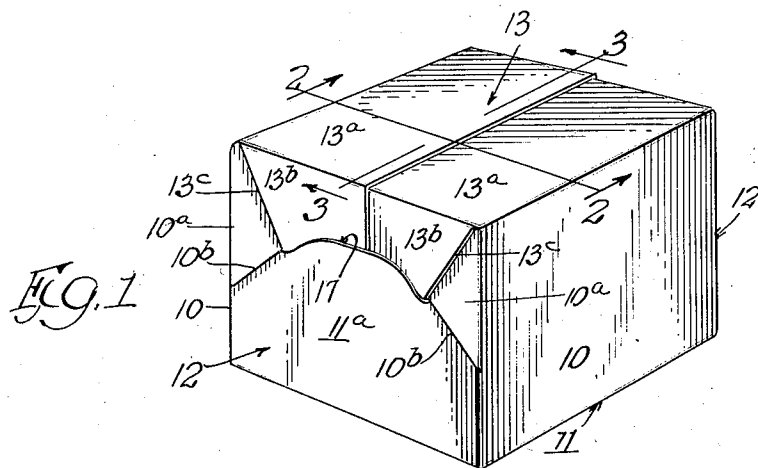
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H. B. WALTER

BOX

Filed Jan. 20. 1923

3 Sheets-Sheet 1



Inventor
Harrison B. Walter
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Sept. 21, 1926.

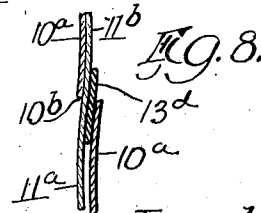
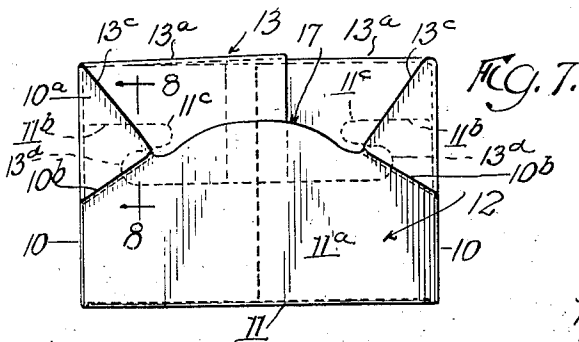
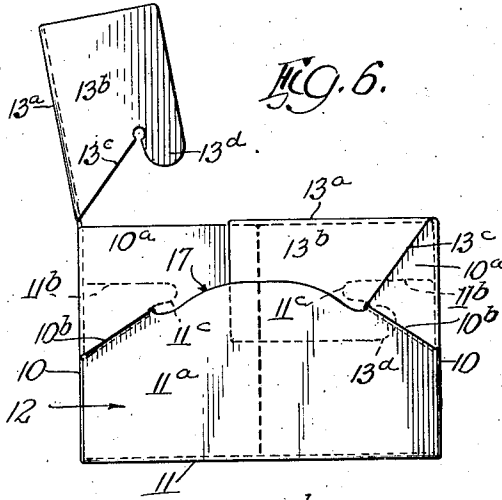
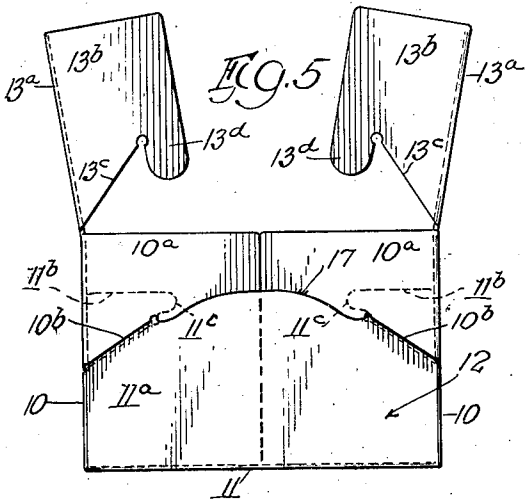
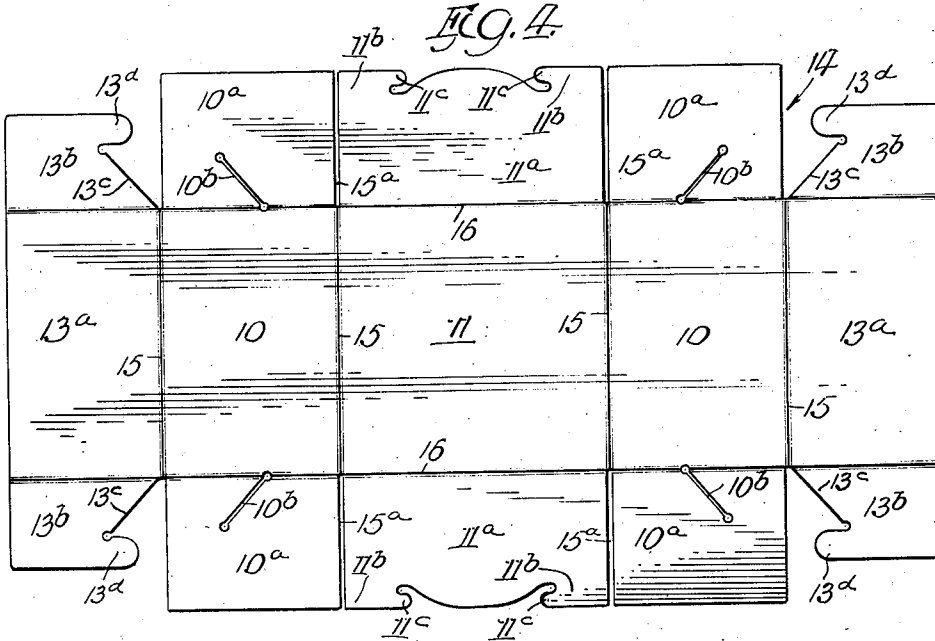
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BOX

Filed Jan. 20, 1923

3 Sheets-Sheet 2



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Sept. 21, 1926.

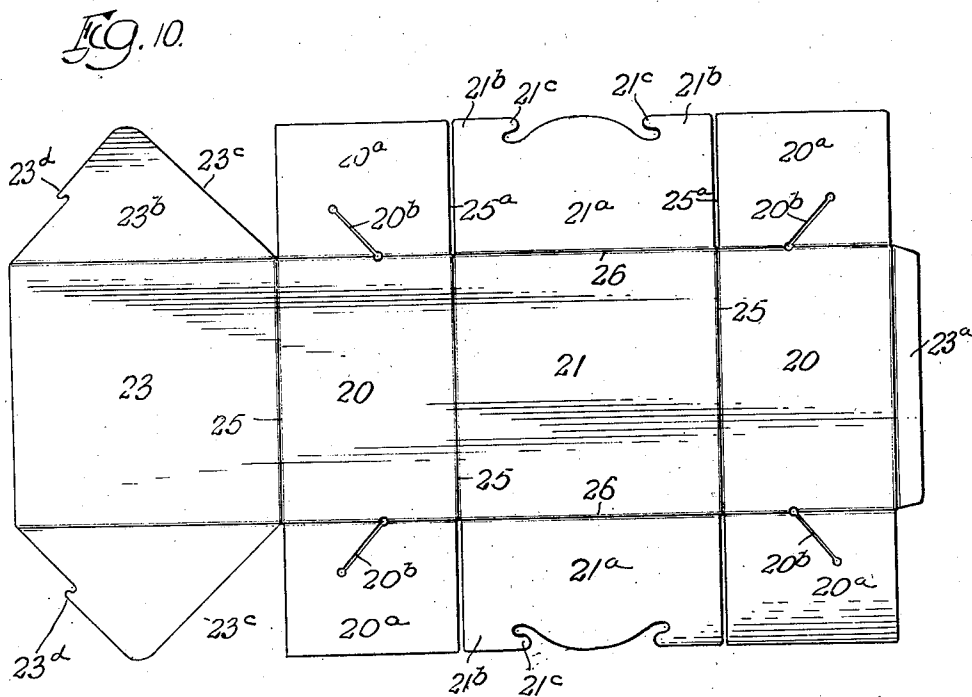
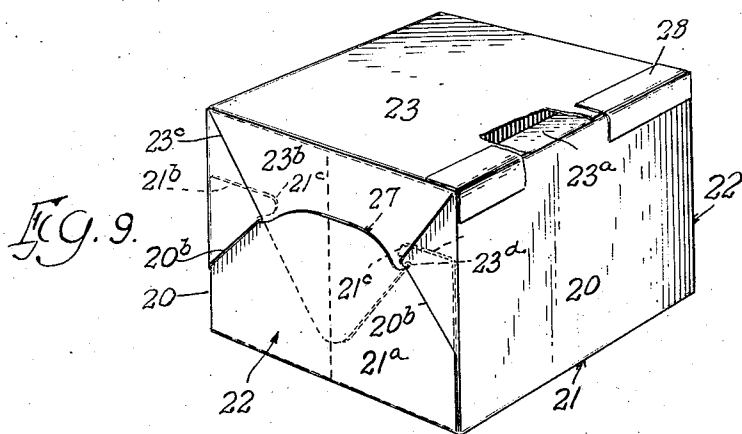
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BOX

Filed Jan. 20, 1923

3 Sheets-Sheet 3



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Att'y.

UNITED STATES PATENT OFFICE.

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BOX.

Application filed January 20, 1923. Serial No. 613,813.

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

The invention relates in general to a box made from a single blank cut and creased to fold into box form. The box of the present application involves certain novel and distinctive improvements in the locking means or devices, whereby it may be quickly set up in box form ready for packing, without riveting or stapling, or other joining or attaching means, and may be closed with the closure member or members secured against displacement through the ordinary jars, blows or falls which occur in shipping or handling. The improved box thus presents an ideal shipping case for parcel post, since, although its parts are securely locked and closed without the necessity for the use of sealing means of any kind, the closure, should the postal regulations require it, may be opened for inspection and again closed without damaging the locking and holding members of the box.

The advantages of the improved box will appear more fully as I proceed with my specification.

In the drawings:—

Fig. 1 represents a perspective view of the improved box as it appears when set up and closed.

Fig. 2 is a view representing on a somewhat enlarged scale a transverse section through the box in a plane indicated by the line 2—2 of Fig. 1.

Fig. 3 is a view representing a longitudinal section of the box in a plane indicated by the line 3—3 of Fig. 1.

Fig. 4 is a plan view of the blank from which the box is made.

Figs. 5, 6 and 7 represent end views of the box—Fig. 5, when set up with its closure in open position; Fig. 6, in one stage of the process of closure; and Fig. 7, when the box is closed.

Fig. 8 is a detail vertical section taken on the line 8—8 of Fig. 7.

Fig. 9 is a perspective view of a modified form of box embodying my invention.

Fig. 10 is a top plan view of the blank from which the box shown in Fig. 9 is made.

Referring now to that embodiment of the

invention illustrated in Figs. 1 to 8:—The box comprises sides 10, 10; a bottom 11; ends 12, 12; and a top closure 13, which, in the views referred to, consists of two parts 13^a, 13^a, each hinged to one of the sides and wider than one-half the width of the box, so that the two may fold down in overlapped relation to close the box.

The parts of the box constituting a tubular body, namely, the sides 10, bottom 11 and top closure 13, are laid out side by side on the blank 14 (shown in Fig. 4 with corresponding box and blank parts indicated by the same numerals) with the bottom 11 in the middle, the sides 10, 10, at each side thereof, and the closure, in this case made in two parts, 13^a, 13^a at the end or ends of the blank.

The ends of the box are closed by extensions at the ends of the several parts 11, 10, 11 and 13^a, 13^a, which form the tubular body of the box. 11^a indicates the end extensions of the bottom part 11 of the box; 10^a, 10^a, the end extensions of the side parts of the box; and 13^b, 13^b, the end extensions of the top closure flaps of the box. The blank 14 is creased along parallel, spaced, transverse lines 15 to define the width of the several parts of the box,—said lines being prolonged by means of cuts 15^a to separate the end extensions of the said parts—and is creased along longitudinally extending parallel lines 16 which define the length of the box.

The end extensions 10^a of the sides of the box are preferably made of a length approaching one-half the width of the bottom section 11 of the box, but may be made shorter if desired. Each of the end extensions 10^a of the sides of the box is provided with an inclined slot 10^b, which begins at the crease line 16 at a point at or near the longitudinal median line of the extension and is inclined towards the end of the blank and away from said crease line 16. The angle of the inclination of said slot, as shown, is approximately 45°.

Each end extension 11^a of the bottom part 11 of the box is provided at each side with a relatively projecting tongue 11^b. As shown, each tongue has a laterally extending hook 11^c, the hooks of the two tongues of an end extension projecting towards the middle of the extension or toward each other. As shown, and preferably, the end extension 11^a

intermediate the tongues 11^b is of the same length as it is at the location of the tongues, although this is not essential.

The extensions 13^b of the closure flaps 13^a are cut away to provide on each extension an inclined side 13^c adjacent the hinge line or crease 15 and with a laterally projecting tongue 13^d which overhangs said inclined edge 13^c.

In cutting the blank the several slots and tongues and the end extensions of the body forming parts of the blank are so designed and correlated, that the blank may be folded and the several tongues engaged in their associated slots as follows:—When the box is set up and the end extensions 10^a, 10^a of the sides 10 have been folded at right angles to said sides, each tongue 11^b of a bottom extension 11^a is inserted through a slot 10^b in the proximate side extension 10^a with the hooks 11^c of said tongues engaged and locked in the slot, as shown in Fig. 5. The hook securely locks the tongue in the slot by reason of the fact that the horizontal projection of the slot 10^b, when the blank is in box form, is less than the width of the tongue 11^b with its hook 11^c, as clearly shown. The tongues with their hooks are inserted in the respective slots by slightly bending the tongues transversely, which permits the hook to be first passed through the slot, whereupon the main body of the tongue will readily follow. When the bottom end extensions 11^a are flattened out against the proximate side end extensions 10^a, with tongues and hooks 11^b, 11^c engaged in the slots 10^b, it is apparent that the bottom end extensions will be securely locked to the two side end extensions: and it will be further apparent that a pocket or space 17 will be provided at the top end of each extension 11^a, between the end 11^a and the extension 10^a, said pocket extending between the proximate ends of the slots 10^b.

After the box is packed, the one closure flap 13^a is folded down upon the top of the box and each end extension 13^b is inserted into the pocket 17, its laterally extending hook 13^d being engaged into an associated slot 10^b back of the tongue 11^b, as shown in Figs. 6 and 8. The other flap 13^a is then folded down to overlap the first named flap and its end extension 13^b is inserted into the pocket 17 with its hook 13^d engaged in the other slot 10^b. This manifestly securely locks the closure flaps in closed relation.

In Figs. 9 and 10 are illustrated a somewhat modified form of the box and of a blank for making the same. In this case, 21 indicates the bottom part of the box; and 20, 20, the sides of the box. The top closure in this case, consists of a single part or flap 23 at one end of the blank, which is of a width to entirely cover the top of the box.

Each of the parts of the box constituting

its tubular body are provided with extensions as before,—namely, end extensions 21^a, 21^a for the bottom part 21; end extensions 20^a, 20^a for each of the side parts 20; and end extensions 23^b, 23^b for the single top closure part 23. In addition, there is provided at the end of the blank opposite to that having the top closure flap 23, a short flap 23^a, which is adapted to be folded under the main top closure flap and to provide a support for its free end.

The parts of the blank are defined by crease lines 25 and 26 as before and the end extensions are separated by cuts or slots 25^a.

21^b, indicates the relatively projecting tongues at the sides of the end extensions of the bottom, and 21^c, the laterally projecting hook on said tongues. 20^b indicates the inclined slots in the end extensions 20^a of the side parts 20.

The end extensions of the top closure part 23 have inclined sides 23^c and on one of said sides is provided in the case of each extension, a single laterally projecting tongue 23^d which overhangs the associated inclined edge 23^c.

The box is in this case set up as before with the tongues and hooks 21^b, 21^c of the end extensions of the bottom engaged in the slots 20^b of the end extensions of the sides. This locks the parts into the form of an open top box, ready for packing. After packing or when the box is to be closed, the short flap 23^a being first folded downwardly into horizontal position, the single closure part 23 is folded down to close the box, the end extensions 23^b at the same time being inserted in the pockets 27 at the ends of the box, and the single tongue 23^d on each end extension being engaged in an associated slot 20^b back of the tongue 21^b engaged therein.

A sealing strip 28 connecting the free end of the closure flap 23 with the adjacent side wall of the box may be used if desired.

It will be manifest that in a construction of the kind, the top closure flap will be securely locked in place and yet that its extensions and the tongue 23^d carried thereby, may be disengaged when desired without destroying or rendering inoperative the locking devices of the box, when the closure is again locked in position.

While in describing the invention I have referred to many 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 claim.

I claim as my invention:

A box made from fibre or paper board, having sides, a bottom, and a top closure, the said parts being provided with end extensions to form the ends of the box, the end extensions of the bottom being folded

against the end extensions of the sides, said end extensions of the sides having angularly disposed slots therein and said end extensions of the bottom having laterally spaced, hooked tongues adapted to be inserted in said slots, the projection of each of said slots on the line of fold of the associated end extensions of the bottom being less in length than the projected width of the associated hooked tongue on said line, said extensions of the sides and bottom providing, when locked together, pockets located below the top of the box, and the end extensions of the top closure being adapted to be inserted into said pockets, each end extension of the top closure having a laterally extending tongue which is adapted for hooked engagement back of the hook on the tongue of the end extension of the bottom to lock said closure flaps in closed position.

In testimony that I claim the foregoing as my invention, I affix my signature this 18th day of January, A. D. 1923.

HARRISON B. WALTER.