

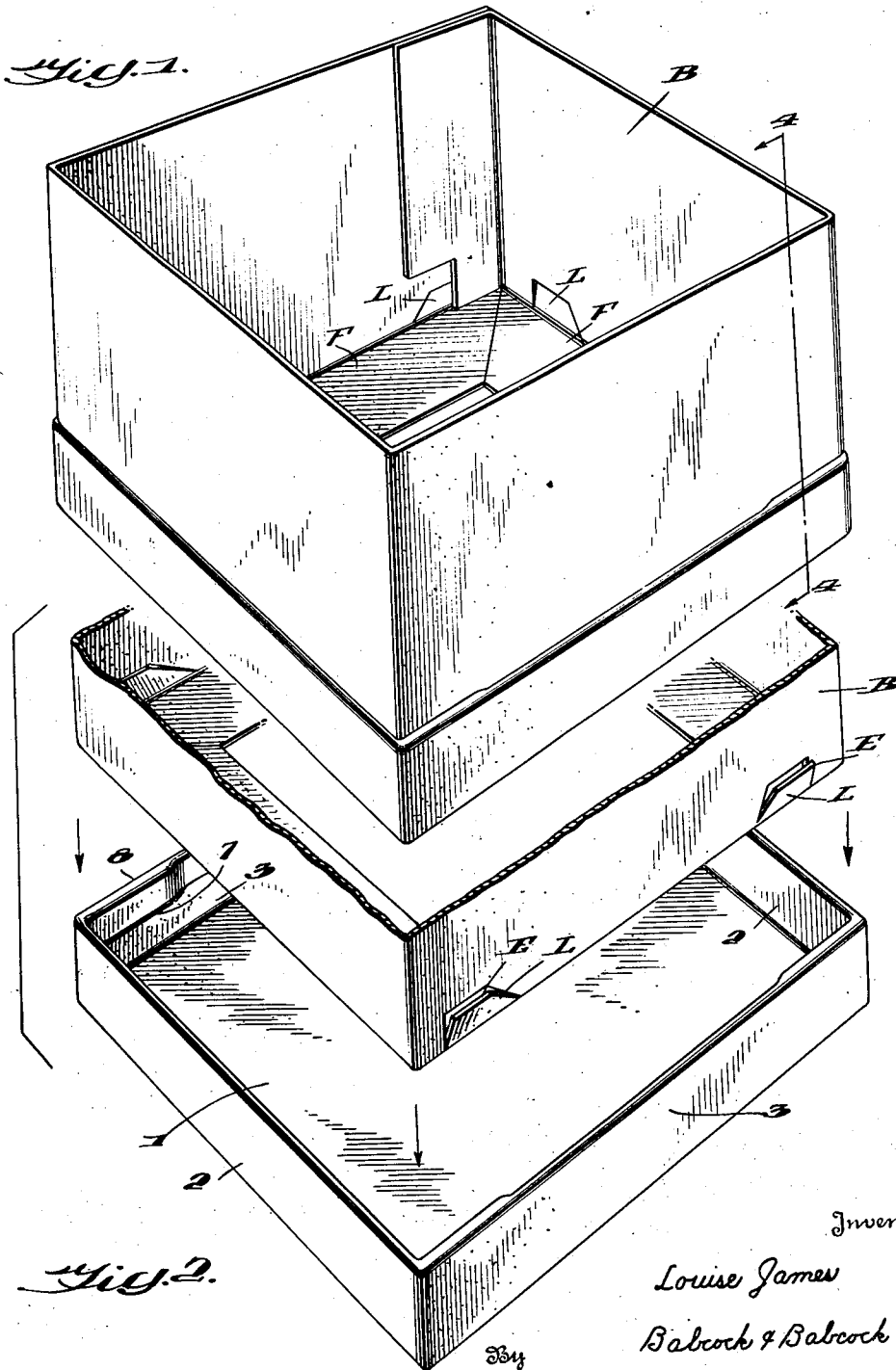
March 7, 1950

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BOX END CLOSURE

2,499,647

Filed Oct. 7, 1946

2 Sheets-Sheet 1



UNITED STATES PATENT OFFICE

2,499,647

BOX END CLOSURE

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Application October 7, 1946, Serial No. 701,806

1 Claim. (Cl. 229—45)

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This invention relates to card board, fiber board or other sheet material box end closures embodying corner fastening and locking constructions, and to the blanks from which such end closures are formed. Same constitutes an improvement over constructions of the type exemplified by the disclosures of the Joseph G. Huye Patents 1,683,192 and 2,025,589, which are of common ownership herewith.

In such end closure constructions it has heretofore been known to secure the adjacent ends of the upwardly folded flange or lip sections together by providing adjacent lateral ends thereof with interlocking portions, including flaps which present locking edges to cooperate with locking tongues carried by the box body. However such interlocking constructions, while highly efficient and desirable in many fields, are not well adapted for use as gift boxes, or boxes of a similar nature required to have a decorative, pleasing appearance, inasmuch as the interlocking portions of the flange sections aforementioned present an exteriorly rough or broken appearance.

Also it has been known to secure the adjacent ends of the various adjoining flange or lip sections together to form corners simply by pasting or adhesively securing strips of paper around and across the juncture thereof, or in other conventional manner, and to form the flange sections with interiorly presented apertures or windows presenting locking edges for cooperation with the locking means of the box body. In such constructions, in order to provide an exteriorly smooth unbroken appearance, it has been necessary not only to utilize supplementary masking or covering material for concealing said windows from exterior view, but to provide masking material of sufficient strength to withstand the outward pressure exerted by the locking tongues of the box and which will not show the impression of either the windows or the locking tongues therethrough. Obviously such constructions are arranged so that the flange corner connections embody distinct structural features from the locking means or windows.

The present invention has been conceived with the foregoing in mind, and accordingly has for its primary object to provide an end closure construction and blank for forming same, in which a strong and efficient locking means is embodied in the flange corner construction in such manner as to achieve a smooth unbroken exterior flange surface especially adapted for use in gift boxes.

Further objects are: to provide such a construction of end closure wherein same may be

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economically and quickly formed primarily from a single integral blank of polygonal fiber board, card board or other usual sheet material having only small sections removed therefrom; to provide such a construction wherein the flange corners and locking means embodied therein may be strongly retained in assembled position by a common fastening means adhesively secured thereto; and to provide such a construction wherein the cutting and punching of apertures and subsequent exterior concealment thereof, as required in prior art constructions, is eliminated, while the same ends sought by such constructions are more economically attained.

The foregoing objects and advantages are attained by the preferred embodiment of the invention illustrated in the accompanying drawings, in which:

Figure 1 represents a perspective view of a box body having the end closure of the preferred embodiment of the invention applied thereto;

Figure 2, a perspective "exploded" view showing the box end closure of the invention as same is about to be applied to the box body, the latter being shown fragmentarily;

Figure 3, a fragmentary detail perspective view of one corner of my improved end closure construction as it appears prior to the application of the paper binding strip or covering;

Figure 4, a section on the line 4—4 of Figure 1, looking in the direction of the arrows, showing the coaction between the lap members of the end closure and the locking tongues of the box body;

Figure 5, a plan view of the preferred form of blank from which the preferred form of end closure may be assembled; and,

Figure 6, a plan view of a modified form of blank from which an end closure according to the present invention may be alternatively formed and assembled.

Referring now in detail to the accompanying drawings, the reference character B therein designates a usual form of cardboard or fiber board box body which in the present instance is of rectangular cross section in a plane parallel to its end openings, though for the purposes of the invention same could be of any polygonal cross section. The box top or upper end closure, which may be of any usual construction, constitutes no part of the present invention and is omitted from the drawings for this reason, as well as for the purpose of permitting a clear view of the box interior in Figure 1.

At its lower end the box body B is formed with a series of inwardly folded flanges F and a series

of locking tongues or flaps L associated with the flanges F in such manner as to be urged resiliently outwardly by the inward folding of the flanges F, all to the end that the upwardly presented locking edges E of said flaps or tongues may yield inwardly during the application of an end closure or cover thereover, to move resiliently outwardly from the planes of their respective box sides into operative association with the cooperating locking means of the end closure when same is fully applied. The foregoing construction, which is similar to that disclosed in the aforesaid Huye Patent 2,025,589, is briefly referred to herein merely in order to promote a quick and intelligent understanding of the present invention.

The preferred embodiment of end closure is formed and assembled from a flat blank of sheet material such as fiber board, cardboard or other material commonly employed in the art. The blank may be similar to that illustrated in Figure 5, comprising a flat web 1 of a polygonal shape (in the present instance rectangular) corresponding to that of the box body B. Relatively foldable flange sections 2 and 3 are integrally connected along fold or score lines 4 to each of the respective linear marginal edges of the web 1.

In the construction illustrated in Figure 5, integral lap members 5 project laterally from both ends of alternate flange sections 2 parallel to the fold lines 4 of their respective flange sections and into linear alignment with the respectively adjacent flange sections 3. These lap members 5 are foldable relative to their respective flange sections 2 along transverse score lines 6, and have locking edges 7 laterally outwardly offset from the adjacent linear marginal edges 4 of the web 1 adjoining their respective flange sections 2.

In the slightly modified form of blank illustrated in Figure 6, the construction and arrangement is generally similar to that of the preferred form above described except that the lap members 5', instead of being applied to both ends of alternate flange sections as in Figure 5, are applied to and project laterally from corresponding ends of each of the flange sections 2' and 3', the corresponding opposite lateral ends of said sections 2' and 3' having no lap member attached thereto.

In forming the end closure from a blank such as is illustrated in Figure 5, the flange sections 2 are folded upwardly along the score lines 4 to lie in planes normal to that of the web 1, and the lap members 5 of each said flange section 2 are folded inwardly along their respective score lines 6 to extend substantially at right angles to the planes of their respective flange sections 2, with the various locking edges 7 of said members 5 disposed parallel to and spaced from the web 1. The flange sections 3 are then folded upwardly along their fold or score lines 4 at right angles to the web 1 and into flush engagement with the lap members 5. As thus arranged, the lap members 5 at corresponding ends of the flange sections 2 will lie flush against the inner faces of said respective flange sections 3, and it will be noted that the upper lateral edges of the various lap members 5 will be parallel and contiguous to the corresponding edge portions of their respective adjacent flange sections 3, as shown in Figure 3. The lap members 5 and flange sections 3 are then fixedly secured together in this assembled position.

While various means may be provided for securing the lap members 5 to the flange sections

3 in this assembled position to form a continuous perimetrical flange or lip around the web 1, the preferred securing means illustrated and described herein offers several advantageous and novel features.

Such preferred securing or fastening means, as shown in Figure 4, consists simply of a strip or strips of suitable flexible fabric or paper 8, extending across the relatively contiguous upper lateral edges of each said lap member 5 and its adjacent flange section 3 and adhesively secured to the respective interior and exterior faces or surfaces thereof. The paper strip may be similar to and applied in the same manner as the paper strip usually employed to cover the exterior of the flange formed by the several flange sections 2 and 3 and to conceal the corner joints thereof. It will be noted however that, as shown in Figure 4, said paper strip 8 does not cover the locking edges 7 of the lap members 5, as this might impair their function.

The modified form of blank shown in Figure 6 may be assembled similarly by folding the various lap members or tabs 5' upwardly, then folding the various flange sections 2' upwardly, so that each lap member 5' will lie flush against the inner face of its relatively adjacent flange section 2', 3'. As thus folded, the lap members 5' may be fixedly secured to their respective flange sections 2 and 3 in the manner aforementioned. The resulting box end closure will be substantially the same as that formed from the preferred type of blank, except that each flange section 2' and 3' will have a lap member secured against its inner face at one end thereof, whereas in the preferred form alternate flange sections 3 have the lap members 5 secured thereto at both ends.

In either form, regardless of the location of the lap members 5 or 5', it will be understood that the locking tongues or flaps L of the box body, will be correspondingly placed to properly coact therewith, it being sufficient however that any two oppositely disposed lap members 5 or 5' cooperate with the tongues L. Because of this, it will be noted that an end closure formed from the modified blank of Figure 6 would have two of its oppositely disposed members 5' properly located to coact with two of the tongues L of the box body B shown in Figures 1 and 2, while the remaining tongues L and lap members 5' will be inoperative.

In applying the end closure of the invention to a box body B, the end closure may be placed or supported on a flat surface in the position shown in Figure 2, with its flange projecting upwardly. The box body B may then be inserted downwardly therinto, as indicated by the arrows in Figure 2, care being taken to maintain the flange sections 3 and the locking or lap members 5 thereof in proper position beneath the locking tongues L. As the lower end of the box body B is received within the flange or lip of the end closure, the locking tongues L will be pressed inwardly to lie in substantially the same plane as their respective side panels of the box body B. However when the box body B is completely received within the flange formed by the various sections 2 and 3, the locking edges E of the tongues L will have moved downwardly past the cooperating locking edges of the respective lap members 5, hence will move resiliently outwardly into the operative position shown in Figure 4 wherein the locking edge E of each tongue L will be disposed beneath and in the plane of its cooperating lap member 5 to engage the locking edge 7 thereof

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and prevent withdrawal of the box body B from the end closure of the invention.

The lap members 5' of the modification herein described will cooperate with the locking tongues E in the same manner as above described.

While the end closure of the invention has been described herein as applied to the lower end of a box body B, to form a bottom therefore, it is obviously not limited to such use, but may be applied or embodied in the box top if desired.

It will be seen from the foregoing that I have provided an advantageous and economical form of end closure wherein locking means are embodied in the flange corner construction to strengthen said corner construction as well as to simplify the manufacture of the end closure. Also it will be apparent that the paper strip 8 serves as a common fastening means for the flange corners and locking means embodied therein, and additionally may serve in usual manner to cover the flange exterior and conceal the unsightly flange section ends at the various corners. This results in a box end closure of improved appearance. It will further be apparent that the necessity of cutting, punching and subsequently concealing windows or apertures in the end closure flange, as in various prior constructions, has been eliminated.

I claim:

A locking end closure for application to a box body of polygonal cross section having locking tongues associated therewith comprising, a laterally extending flat web of polygonal shape to extend across the end opening of such a box body, upwardly folded flange sections integrally connected to said web along the respective linear

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marginal edges thereof, integral lap members projecting laterally from some of said flange sections and folded laterally inwardly relatively thereto to lie flush against the laterally inner faces of their respective adjacent flange sections, said lap members having laterally extending lower locking edges presented towards and spaced from said web to permit movement of the locking tongues of the box body to operative position therebeneath, the upper lateral edges of said lap members being parallel and contiguous to the corresponding edge portions of their respective adjacent flange sections, and means fixedly securing said lap members to said respective adjacent flange sections to form a continuous perimetrical flange around said web adapted to receive the side walls of a box body adjacent the end thereof, said means comprising flexible fabric extending across the said relatively contiguous upper lateral edges of each said lap member and its adjacent flange section, and adhesively secured to the respective interior and exterior faces thereof.

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