

1,041,475.

C. HOLLY.
BOX.
APPLICATION FILED SEPT. 3, 1910.

Patented Oct. 15, 1912.
2 SHEETS—SHEET 1.

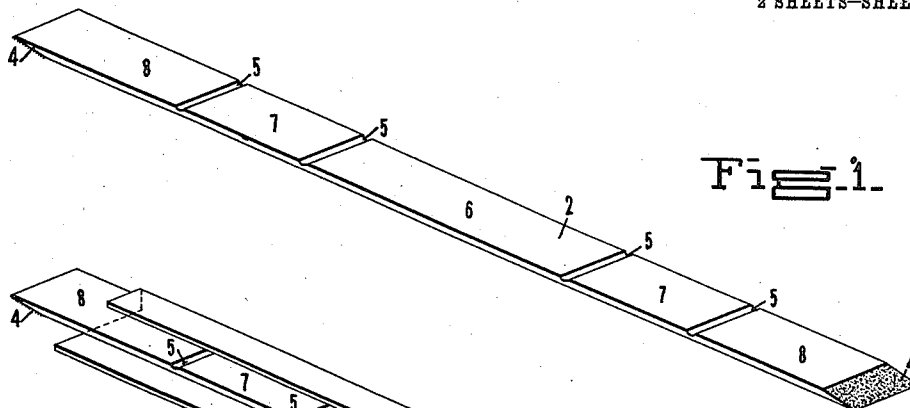


Fig. 1.

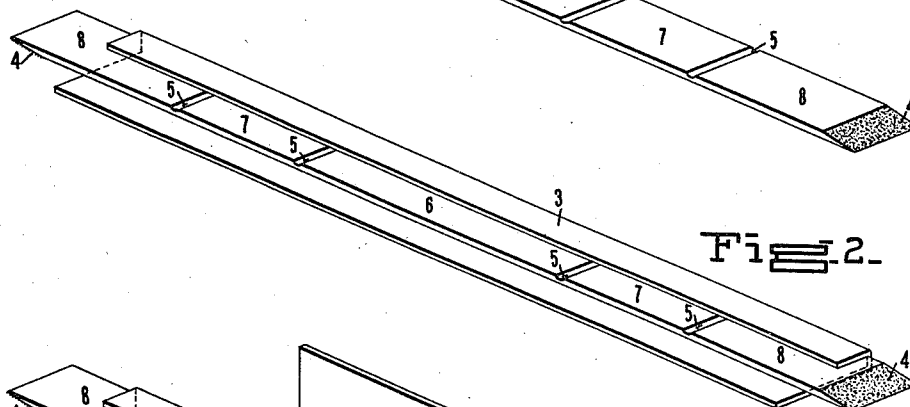


Fig. 2.

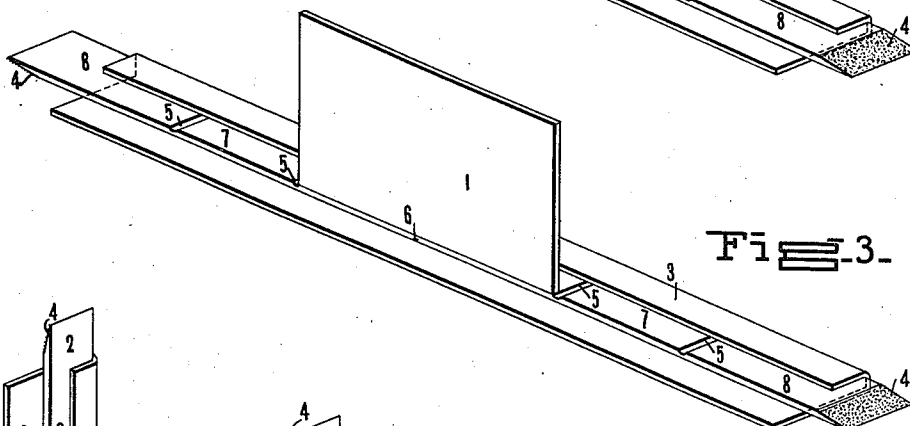
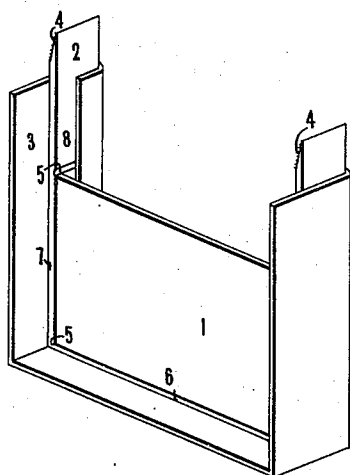


Fig. 3.



WITNESSES: Fig. 4.

Notary Public
Donald Watson

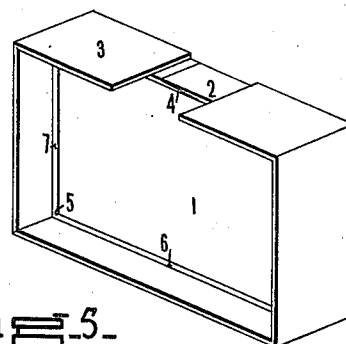


Fig. 5.

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2 SHEETS—SHEET 2.

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Fig. 6.

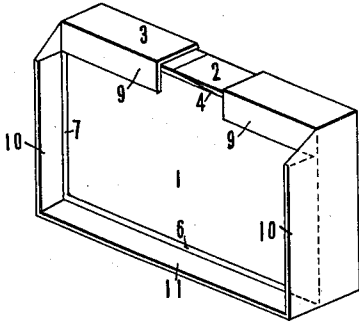


Fig. 7.

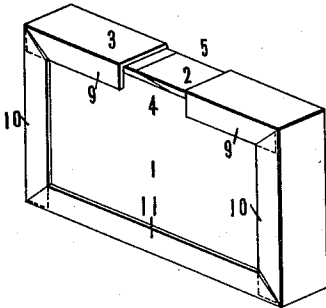
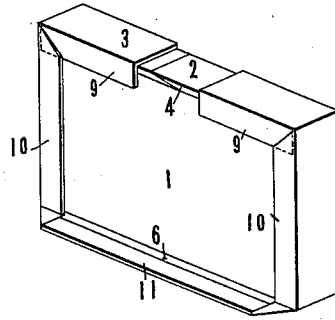


Fig. 8.

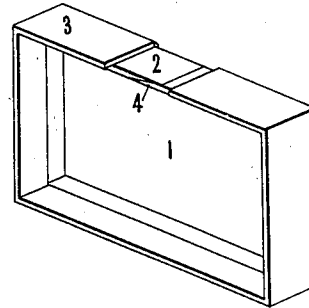


Fig. 9.

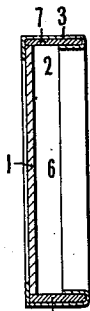


Fig. 10.

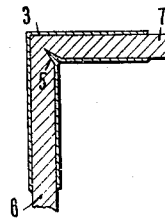


Fig. 11.

WITNESSES:

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INVENTOR

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ATTORNEYS

UNITED STATES PATENT OFFICE.

CARLOS HOLLY, OF LOCKPORT, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO F. N. BURT COMPANY, LIMITED, OF BUFFALO, NEW YORK, A CORPORATION OF NEW YORK.

BOX.

1,041,475.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Original application filed April 24, 1909, Serial No. 492,029. Divided and this application filed September 3, 1910. Serial No. 580,464.

To all whom it may concern:

Be it known that I, CARLOS HOLLY, a citizen of the United States, residing at Lockport, in the county of Niagara and State of New York, have invented certain new and useful Improvements in Boxes, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to boxes, and especially to boxes made of paper or similar material.

One of the objects of the invention is the production of a box of simple construction and one which may be made rapidly and inexpensively.

Another object of the invention is the production of a practical box of prismatic shape in which the corners shall be square and sharp and present a finished appearance both on the inside and the outside of the box.

Another object of the invention is the provision of certain elements of a box of such construction that they may be quickly, accurately and easily assembled to produce the completed article.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts, which will be exemplified in the construction hereinafter set forth, and the scope of the application of each of which will be indicated in the following claims.

The subject matter of this application is disclosed in my prior application, Serial No. 492,029, filed April 24, 1909, entitled Method of and machine for making boxes, and this case is a division of said former application.

In the accompanying drawing, wherein similar reference characters refer to similar parts throughout the several views, Figure 1 is a perspective view of the box flange in blank form; Fig. 2 is a perspective view of the flange with the binder connected thereto, also in blank form; Fig. 3 is a perspective view showing the head in position on the combined blank; Fig. 4 is a perspective view of the combined blank bent part way around the head; Fig. 5 is a perspective view of the combined blank bent completely around the head; Fig. 6 is a perspective view showing

the combined blank bent around the head, with one edge of the binder turned down and pasted against the outside of the head; Fig. 7 is a view similar to Fig. 6, showing three sides of the binder folded down and pasted to the outside of the head; Fig. 8 is a perspective view of the completed box from the outside; Fig. 9 is a perspective view of the completed box from the inside; Fig. 10 is a view of the box in transverse section; Fig. 11 is a sectional view of a corner of the box.

The box embodying the invention is preferably a rectangular box, having a head or body 1, a marginal flange 2, which extends around the edge of the head, and a binder or covering 3 connecting the head and flange. These parts are preferably made of paper of suitable thickness, but if desired other materials may be used.

The marginal flange is produced from a flange strip or blank of rectangular outline (Fig. 1) to conform with the shape of the box when the parts are in assembled position. The ends 4 of the flange are beveled or scarfed on opposite sides, in order that they may be overlapped and produce a joint of the thickness of the flange. Preferably enough material is removed to disclose the unsized body of the strip. Between its ends the flange is provided on one side with grooves or scores 5, in this instance four in number, and spaced to correspond with the corners of the box to be formed. The flange thus consists of a flexible strip having a central section 6, two intermediate sections 7, 7, arranged on opposite sides of its central section, and two end sections 8, 8 arranged at the extremities of the flange. The scores or grooves 5 are arranged between the central and the intermediate sections and between the intermediate and the end sections respectively, and preferably have angularly arranged walls and are of substantial depth, as shown in Fig. 11, in order to receive the folds of the binder, as hereinafter explained.

The grooves or scores 5 are preferably formed by removing the material of the flange to a suitable depth and by any suitable means, such for instance as the device for the purpose described in application for patent, Serial No. 492,029, hereinbefore referred to. By forming the groove in this

manner the flat outer surface of the flange is preserved, resulting in a square corner when the flange is folded.

The scarfed ends of the flange are provided with an adhesive in order to fasten them together, and while any suitable adhesive may be used and may be applied in any manner desired, it is preferred to apply glue on each scarfed surface before they are lapped to form the joint. On the scarfed surface which faces outwardly in the finished box, glue is applied and allowed to become dry, or nearly so. The other scarfed surface, the one which faces inwardly in the finished box, is provided with glue which is allowed to become partly dried or tacky. In this manner the glue on the outwardly facing scarf operates as a sizing therefor and causes the same to become firmly united with the other scarf of the flange strip which is still sufficiently moist or tacky to permit of forming a reliable joint between the scarfed ends.

The binder or covering 3 consists of a strip which is applied lengthwise to the side of the flange strip opposite the grooves or scores and turned at one edge inwardly over one edge of the flange strip and against the inner side of the same, while the other edge of the strip extends beyond the corresponding edge of the flange strip. The flange strip with the binder attached thereto is shown in Fig. 2, the extended portion of the binder being adapted to be folded against the outer side of the bottom of the box. The binder may be of the same length as the flange, but for certain kinds of boxes this is not desirable, and it is preferred to make the binder of less length than the flange so as to leave the scarf joint between the ends of the flange uncovered by the binder, as shown in Fig. 5.

It is obvious that the flange and the binder may be made of any suitable thickness, but the preferred construction embodies a binder of thinner material than the flange, in order that it may readily adapt itself to the contours of the latter.

Many different forms of boxes may be made involving the elements of the invention, but the preferred shape is a square or oblong box having angular corners and flat faces or sides. Accordingly the head or body 1 of the box comprises a flat rectangular strip, the length of the sides of which corresponds with the distance between the grooves 5 respectively, and the box is formed by placing the head on the flange, as shown in Fig. 3, the head abutting the flange and folding the flange with the binder around the edges of the head to inclose the head on all sides, as shown in Figs. 4 and 5. The beveled glued ends of the flange are overlapped, and are secured together by the glue or other suitable paste employed, and

those portions of the binder extending beyond the edge of the flange are folded down against the outside of the head and pasted thereto, as illustrated in Figs. 6, 7 and 8. In its completed form the scorings or grooves of the flange are arranged on the inner sides of the corners of the box, and the sides of each groove are folded toward each other in bending the sections of the flange to form a corner, thereby causing the outer side of the corner to be sharp and square. In bending the sections of the flange to form the corners those portions of the folded upper edge of the binder on the inner side of the flange opposite the corners are deflected into the grooves or scores when bending the flange and binder around the head, thereby forming square, sharp or finished corners on the inner sides of the box, as shown in Figs. 9 and 11, and it will be observed that the space provided by the scores at the corners of the flange permits the corner folds of the binder on the inside of the box to be relatively smoothly disposed, avoiding in a great measure the puckering of the binder at the corners. It will also be noted that when the flange is folded or bent around the head, the corners of the head will occupy a portion of the grooves or scores, projecting into said scores as it were, this being permitted by the fact that the sides of the grooves in the completed article are spaced sufficiently to receive the corner folds of the binder strip.

The method of producing the box will be generally apparent from the above description. The flange 2, while still in the form of a flat strip, is provided with the scores 5 and the scarfed portions 4. The binder 3 before being folded is provided over one surface with glue or other suitable adhesive and is applied to the unscored surface of the flange, so as to project therefrom on each side, and one projecting portion of the binder strip is now folded over and around the edge of the flange and down onto the scored side, as illustrated in Fig. 2. Glue having been applied to the scarfed ends of the flange strip, as previously explained, and the head having been positioned on the central section 6, at the edge opposite the folded binder, the combined binder and flange is folded around the head, whereupon the scarfed ends will overlap and be secured together by the glue, and these portions of the binder facing the scores will fold into the scores and produce a sharp and square corner on the inside of the box. On account of the manner of producing the scores, viz., by removing the material, the outside corners of the box will fold into sharp and flat corners as well. The other projecting portion of the binder is then folded down on the bottom of the head 1; first the rear portions 9 are folded onto the head, then

the side portions 10 and then the front portion 11, as shown in Figs. 6, 7 and 8. The binder being provided with glue the folded portions will adhere to the bottom 1, and the box will thus be complete.

By this method and construction a box is produced which presents a neat appearance without irregularities. The overlapped scarfed portions of the flange result in a firm joint conforming to the contour of the flange and avoiding any bulge at the joint, the finished flange being of equal thickness throughout. The inside and outside of the box present sharp, well defined corners and plane sides, with little or no bunching or puckering of the binder at the corners on the inside, which not only contribute to its finished appearance but to the production of a box conforming to predetermined dimensions.

No claim is made in this application for the method disclosed herein, the method being described and claimed in applicant's application filed February 25, 1911, Serial No. 610,763.

As many changes could be made in the above construction, and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention, which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A box element of the character described comprising in combination an angular strip having a groove on the inside at the corner, and a second strip secured to the first strip and comprising a portion engaging the groove of the first strip.

2. An article of manufacture comprising

in combination an angular strip of paper having material removed on the inside at the corners, and a second strip of flexible material adhesively secured to the outside of the first strip extending over the edge thereof and adhesively secured to the inside thereof, the corners of the second strip being seated in the grooves provided by the removal of the material at the corners on the inside.

3. A box comprising in combination an angular head, a flange strip of relatively thick paper surrounding the head and having material removed on the inside at the corners, and a relatively thin strip of flexible material adhesively secured to the outside of the flange strip extending over the edge thereof and adhesively secured to the inside thereof, the corners of the thin strip being seated in the scores provided by the removal of the material of the flange.

4. A box comprising in combination an angular head, a flange strip of relatively thick paper surrounding the head provided with scarfed adhesively secured end portions providing a continuous flange strip, and having material removed on the inside at the corners, and a strip of cover material adhesively secured to the outside of the flange strip, extending across the edge thereof and adhesively secured to the inside thereof, the corners of the cover strip entering the grooves provided by the removal of the material of the flange.

5. A box comprising, in combination, an angular head, a flange strip around the head and having material removed on the inside at the corners and a strip of flexible material facing the outside of the flange strip extending over the edge and secured to the inside thereof, the corners of the head being seated in the scores provided by the removal of the material of the flange, and the scores providing space adapted to receive the corner folds of the second strip.

In testimony whereof I affix my signature, in the presence of two witnesses.

CARLOS HOLLY.

Witnesses:

DUANE B. TUTTLE,
D. ELWOOD JEFFERY.