L. C. PALMER.

BOX.

APPLICATION FILED APR. 14, 1914.

1,163,684.

Patented Dec. 14, 1915.

Fig. 1.

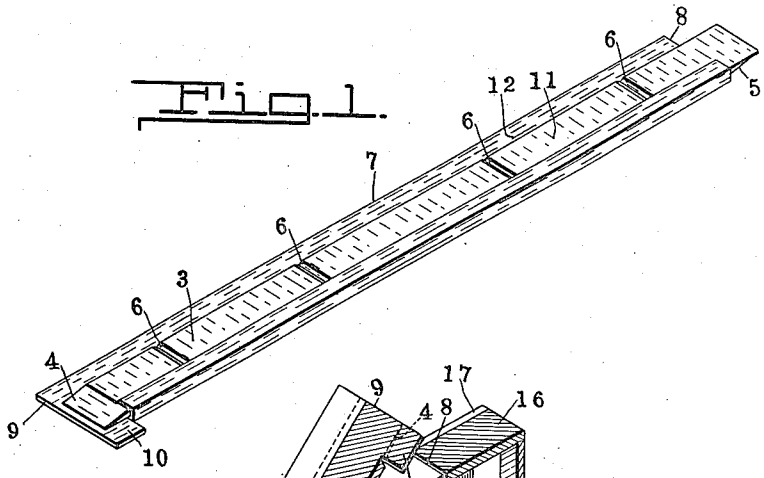


Fig. 2.

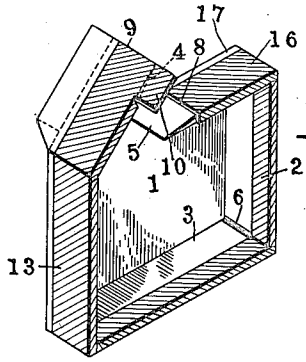
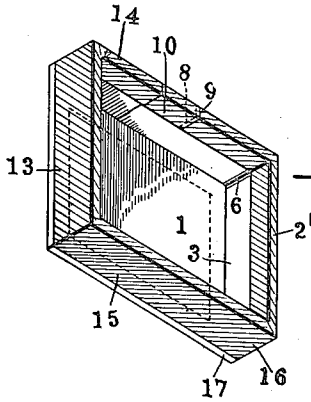


Fig. 3.



WITNESSES:

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BOX.

1,163,684. Specification of Letters Patent. Patented Dec. 14, 1915.

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To all whom it may concern:

Be it known that I, LYNDON C. PALMER, a citizen of the United States, residing at Buffalo, in the county of Erie 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 paper articles, and with respect to its more specific features to such articles when embodied in or forming a part of a small paper box, such as a cigarette box.

One of the objects of the invention is the provision of a practical paper box of simple construction which will remain in predetermined shape.

Another object of the invention is the provision of a strong and durable paper box of a relatively ornamental character.

Other objects will be in part obvious and in part pointed out hereinafter.

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 which will be indicated in the following claim.

In the accompanying drawing, wherein is disclosed one embodiment of the invention, Figure 1 is a perspective view of a composite blank which is shaped to be folded into a box flange and assembled with a head; Fig. 2 shows the composite blank partially folded around a head; and Fig. 3 shows a completed box.

Similar reference characters refer to similar parts throughout the different views of the drawing.

Paper boxes ordinarily comprise a head and a flange surrounding the head, the head and the body portion of the flange being made of substantially thick or heavy paper stock, the flange being covered by a thinner paper stock of an ornamental character, said stock being turned over the outer edges of the flange and also over the inner edges thereof against the head of the box, the covering paper being adhesively secured to the flange and to the outside of the head and serving to retain the head in its position relative to the flange. It is found that the sides of the flange in the common form of paper box become distorted or warped, so that shortly after their manufacture the boxes do not present the symmetrical nice appearance of their original design. Furthermore, when two of said boxes are placed together, the one forming a container and the other a top therefor, as exemplified in the ordinary stiff paper cigarette box, a gap or opening will result by reason of the warping or distortion of the flanges of the top and of the container respectively, and the fine contents of the package may escape through such gap.

One of the important objects of the present invention is to obviate the defects just noted.

Referring now more particularly to the drawing, the numeral 1 represents a head of a box, which head is preferably composed of relatively thick paper stock, and is rectangular in cross section. The head 1 is surrounded by a flange denominated generally by the numeral 2. This flange is formed of a relatively heavy or thick integral paper strip or blank 3 of generally rectangular form, and preferably having beveled end portions 4 and 5, which beveled portions are adapted to be superposed so that the endless flange formed by bending the blank 3 and superposing the beveled portions will present a uniform thickness throughout, suitable adhesive such as glue being interposed between the beveled portions in order to securely connect the same. The blank 3 is grooved preferably at the several lines indicated by the numerals 6, these lines corresponding with the angles or corners of the box to be formed, and the grooves being designed to lie upon the inside of such corners. These grooves are formed by removing the material of the blank 3 at the lines 6, a suitable emery wheel being employed for the purpose

if desired, and the grooves are preferably of V-shape or arc-shaped in cross section so that when the blank is bent at the grooved portion a sharp and square corner results. Another integral strip or blank 7 suitable for connecting the flange blank 3 to the head 1 is employed, and preferably is of relatively thin flexible paper having a smooth or ornamental outside surface so as to give the box a nice appearance. Suitable adhesive is applied to the plain face of the strip 7 and the strips or blanks 3 and 7 are superposed with the interposition of the adhesive, one end 8 of the strip 7 terminating at the inner edge of the bevel 5 and the other end 9 extending slightly beyond the adjacent end of the strip 3.

The strip 7 is slit opposite the inner edge of the bevel 4, and before the composite blank as illustrated in Fig. 1 is folded around the head of the box, a longitudinal portion of the strip 7 is folded over one edge of the strip 3 and adhesively secured thereto, as clearly shown in Fig. 1, said longitudinal folded portion lying over portions of the grooves, as is clearly shown. The composite blank is then folded around the head 1 as exemplified in Fig. 2, the beveled portions 4 and 5 are superposed and adhesively joined and then the tongue 10 is folded across the edge of the superposed beveled portions and against the inner face of the adjacent flange side and adhesively secured thereto, as illustrated in Fig. 3. The trailing portion of the strip 7 is then folded across the bottom edge of the flange and against the outside of the head 1, to which latter these folded parts of the strip 7 will adhere, thus completing the box. The blanks or strips 3 and 7 are so arranged in the composite blank that the grain of one strip extends at an angle to or across the grain of the other strip, as clearly shown in Fig. 1, wherein the grain of the body blank is shown by the broken lines 11 and the grain of the cover blank by the broken lines 12. Preferably the grooves 6 extend in a direction parallel with the grain of the body strip 3. By thus constructing the composite blank the resultant flange or box element will be composed of superposed paper strips, the grain of one strip crossing that of the other, and the grain of the cover strip will lie in the direction of the circumference of the box and of the line of tension resulting when the composite blank is bent or folded around the box head, so that the tendency to tear apart the fibers of the cover strip at the corners of the box is resisted to a greater extent than would be the case if the grain of the paper ran transversely of said line of tension. Furthermore, the grooving of the body strip in the general direction of or parallel to the grain of the body strip avoids a cut across the grain of the body strip, and thus the tensile strength in line with the grain of the body strip is retained. Again a more uniform groove may be formed in the body strip, and formation is made easier, as the resistance to the formation of the groove is not so great in the line of the grain as transversely thereto. But further and more important, by the crosswise disposition of the grain of the respective strips it will result that the box element or flange when in folded condition as embodied in a box, will substantially preserve the shape predetermined therefor, in the present embodiment as a flat plain box side, which will not become distorted or warped to any substantial extent. The grooves will be disposed on the inside of the flange at the corners thereof, and the corners of the head 1 lie in said grooves.

It will be observed that when in box form the flange provides an angular box element, and that an intermediate side of the flange, as for instance 13, will have adjacent sides 14 and 15 extending at angles to the intermediate side, the side 13 being thus supported in a substantial manner at its ends.

The blanks 3 and 7 above referred to are preferably cut from the ends of proper webs, and the cover web is made in two colors as indicated in the resultant flange portions at 16 and 17, respectively, each color extending continuously longitudinally of the web, the webs presenting the two colors widthwise. In the present embodiment the multicolored section 7 is so arranged relative to the section 3 that a narrow strip appears around the flange adjacent the bottom thereof, this strip being of a different color from that of the upper portion.

Thus by the above described construction are accomplished, among others, the objects hereinbefore stated.

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 drawing shall be interpreted as illustrative and not in a limiting sense. It is also to be understood that the language used in the following claim 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:

A box comprising an angular head and flange, said flange comprising an integral folded paper body strip and an integral

folded paper cover strip thinner than the body strip, superposed on and adhesively secured to said body strip, the grain of the cover strip extending circumferentially of the box, and the grain of the body strip extending at an angle to the grain of the cover strip, the body flange strip having grooves on the inside at the angles in line with the grain of the body strip, the cover strip being outside the body strip and with its grain extending transversely of said grooves.

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

LYNDON C. PALMER.

Witnesses:
HAROLD C. COPPINS,
RALPH E. WOOD.