

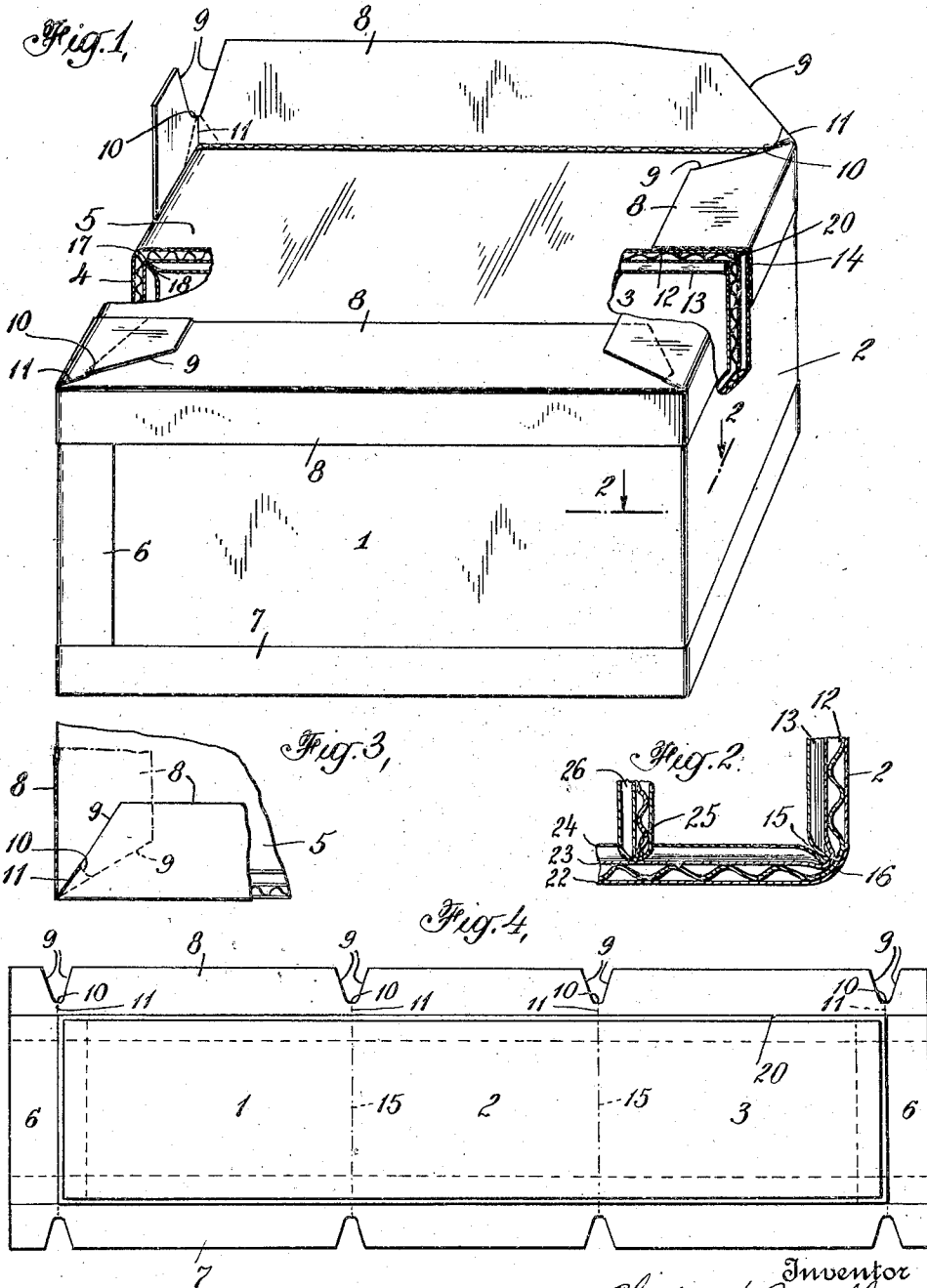
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CORRUGATED PAPER BOARD SHIPPING CONTAINER AND BLANK THEREFOR

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CORRUGATED-PAPER-BOARD SHIPPING CONTAINER AND BLANK THEREFOR.

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To all whom it may concern:

Be it known that I, CHARLES H. CROWELL, a citizen of the United States, and resident of the borough of Brooklyn, county of Kings, city and State of New York, have made a certain new and useful Invention Relating to Corrugated-Paper-Board Shipping Containers and Blanks Therefor, of which the following is a specification, taken in connection with the accompanying drawing.

This invention relates especially to shipping containers made up of cross corrugated paper board in which the corrugations in one layer of the board may be substantially perpendicular or transverse to those of the adjacent attached layer. In this way the stiffness and bending strength of the paper board is rendered substantially uniform in all directions and the material is greatly improved for use in shipping containers. Such cross corrugated paper board may be manufactured in any suitable way, the corrugated paper spacing or lining material being preferably glued or attached to the flat liner material in connection with air currents, which are blown or sucked through the channels of the lining material during this operation. Such paper board may be made up in large strips or sheets and may be cut into pieces of the desired size for the container blanks which may advantageously be in the form of three side straight strip blanks, each of which preferably has the inner corrugations running substantially parallel with the length of the blank, and provided with transverse folding creases between the three connected sides or sections of the blank. This makes an extremely strong and reliable corner construction between the folded sides when the blanks are formed into containers, and still greater strength may be secured by giving the blanks stepped edges, so that the two blanks more securely interlock at these portions which may be glued or sealed together in any suitable way.

In the somewhat diagrammatic drawing showing an illustrative form of container and blank,

Fig. 1 is a perspective view of an illustrative container.

Fig. 2 is an enlarged transverse section thereof, taken substantially along the line 2-2 of Fig. 1.

Fig. 3 is a detail top view; and

Fig. 4 is a plan view of one of the container blanks.

While it is not of course necessary, it is desirable to form three side straight strip blanks of this cross corrugated paper board, and of course, the size and proportions of the blanks are varied to suit the particular size and character of container desired. As shown in Fig. 1 one of these blanks comprises the connected sides 1, 2 and 3 of the container, while the other blank comprises the connected sides 4 and 5 and also the corresponding bottom section. As is shown in Fig. 2 the inner corrugated paper lining material 13 has its corrugations running substantially lengthwise of the blank, while the transversely extending outer corrugations 12 give still further strength to the material and render its bending strength substantially uniform as well as greatly increasing its cushioning action against blows and impacts. These two corrugated paper lining sheets are of course, adhesively secured between the sheets of linear material such as 22, 23 and 24 which may with advantage be made of relatively strong tough paper stock comprising considerable kraft pulp where maximum strength is desired. Before the container blanks are assembled, transverse folding creases such as 15 are preferably formed in the inner face of the blank at the places where the corner folds for formed, and where this creasing bends in the inner longitudinal corrugated paper lining 13, the subsequent folding produces a strong and reliable corner construction such as is shown in Fig. 2. The inner liner sheet 24 is bent or carried outward when the material is folded while the outer liner sheet 22 draws in toward this inner fold at about the point 16, so that in most cases the different sheets of paper stock are forced fairly close together and held definitely in position. The edges of this blank may be stepped or rabbeted as at 20, and the cooperating blank comprising the transversely arranged corrugated paper lining material 12, 13 may have an interlocking similarly stepped edge or portion 14, which can be very effectively formed by a high speed coarse emery wheel. Similarly formed intermediate rounded or other grooves such as 25 in Fig. 2 may be formed in the box

blanks to receive attached or removable inner partitions 26 in some cases.

These blanks may of course, be made up and shipped in flat condition and then assembled into the complete shipping containers at the place where they are to be used, and the edges of the blanks may of course be glued or otherwise secured in any way as for instance, by the use of gum tape if desired. In many cases it is however, desirable to have the gummed cloth or paper tape preliminarily attached to one of the cooperating blanks when it is manufactured, and Fig. 4 shows such a construction in which gummed cloth or preferably paper tape strips 7, 8 are glued or secured to the longitudinal edges of the blank while relatively short end strips 6 may be pasted at the blank ends. Where the gum tape strips are secured to the blank at the factory under good conditions and supervision, a relatively narrow edge of the gum tape may be originally attached to the blank and a considerably wider portion or strip left projecting from the blank edges for subsequent attachment to the cooperating parts of the container. In some cases also it is quite desirable to have these projecting sealing strips formed with corner folding notches such as 9 substantially in line with the folding creases in the blank, and these folding notches preferably have sides extending toward the end of the corner crease while the adjacent bottom of the notch 10 has considerable width and is preferably formed with rounded lower corners to minimize tearing. As is seen in Figs. 1 and 3 this makes it possible to have the sealing tape lie relatively flat and strongly adherent, the slight doubled strip 11 minimizing initial tearing at this point, while the close contact of the inner edges where the folding notches 9 are cut, prevents loosening for this reason. It is of course understood that the corners of the container are not in all cases exactly square and sharp, and for this reason the exposed corners of the blank may in some cases be slightly rounded off so as not to project beyond the somewhat rounded corners of the cooperating blank when folded in such position as indicated in Fig. 2. These containers are well adapted for shipping fruit and other perishable material, and relatively small packages such as several dozen apples or oranges may be shipped in such containers and effectively sealed during transit, which in many cases decidedly promotes the keeping qualities of the fruit.

This invention has been described in connection with a number of illustrative embodiments, forms, portions, parts, materials, arrangements and methods of manufacture and use, to the details of which disclosure the invention is not of course to be limited,

since what is claimed as new and what is desired to be secured by Letters Patent is set forth in the appended claims.

I claim—

1. The corrugated paper board shipping container, formed of two three-side straight strip blanks of cross corrugated paper board having the corrugations on the inner side of the blanks substantially longitudinal thereof and formed with transverse folding creases, said blanks being formed with stepped edges to enable the cooperating edges of the blanks to interlock in the container, and sealing tape permanently pasted to one of said blanks when said blank is made to provide a projecting sealing strip to be secured to the cooperating blank.

2. The corrugated paper board shipping container, formed of two three-side straight strip blanks of cross corrugated paper board having the corrugations on the inner side of the blanks substantially longitudinal thereof and formed with transverse folding creases, and sealing tape pasted to one of said blanks to provide a projecting sealing strip to be secured to the cooperating blank.

3. The corrugated paper board shipping container, comprising blanks including a straight strip blank of cross corrugated paper board having the corrugations on the inner side of the blank substantially longitudinal thereof and formed with transverse folding creases, said blank being formed with stepped edges to enable the edges of the cooperating blank to interlock in the container, and sealing tape permanently pasted to one of said blanks to provide a projecting sealing strip to be secured to the cooperating blank.

4. The corrugated paper board shipping container, comprising blanks including a straight strip blank of corrugated paper board having the corrugations adjacent the inner side of said blank substantially longitudinal thereof and formed with transverse folding creases, said blank being formed with stepped edges to enable the edges of the cooperating blank to interlock in the container, and sealing tape to be secured to the cooperating blank.

5. The corrugated paper board shipping container, formed of cross corrugated paper board blanks having the corrugations on the inner side of the blanks substantially transverse to the folding creases between adjacent sides, said blanks being formed with stepped edges to enable the cooperating edges of the blanks to interlock in the container, and sealing tape permanently pasted to some of the edges of said blanks when made to provide a projecting sealing strip to be secured to the cooperating blank edges.

6. The multiple-side straight strip container blank, formed of cross corrugated paper board in which the corrugations on

the inner side of the blank are substantially longitudinal thereof and formed with transverse folding creases, and strips of gummed sealing tape adhesively secured to the edges of said blank and projecting therefrom to form gummed tape sealing strips, and corner folding notches formed in said sealing strips adjacent the ends of said folding creases in the blank.

10 7. The three-side straight strip container blank, formed of cross corrugated paper board in which the corrugations on the inner side of the blank are substantially longitudinal thereof and formed with transverse folding creases, and strips of gummed sealing tape adhesively secured to the longitudinal edges of said blank and projecting therefrom to form gummed tape sealing strips and provided with corner folding notches.

20 8. The three-side straight strip container blank, formed of cross corrugated paper board in which the corrugations on the inner side of the blank are substantially longitudinal thereof and formed with transverse folding creases, and strips of sealing tape secured to the longitudinal edges of

said blank and projecting therefrom to form sealing strips and provided with corner folding notches.

9. The multiple-side container blank, 30 formed of cross corrugated paper board in which the corrugations on the inner side of the blank extend across the folding creases between adjacent side sections of the blank, and strips of gummed sealing tape adhesively secured to the longitudinal edges of said blank and projecting therefrom to form gummed tape sealing strips, and corner folding notches having substantially rounded ends formed in said sealing strips adjacent 40 the ends of said folding creases in the blank.

10. The multiple-side container blank, formed of cross corrugated paper board in which the corrugations on the inner side of the blank extend across the folding creases 45 between adjacent side sections of the blank, and strips of gummed sealing tape adhesively secured to edges of said blank and projecting therefrom to form gummed tape sealing strips.

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