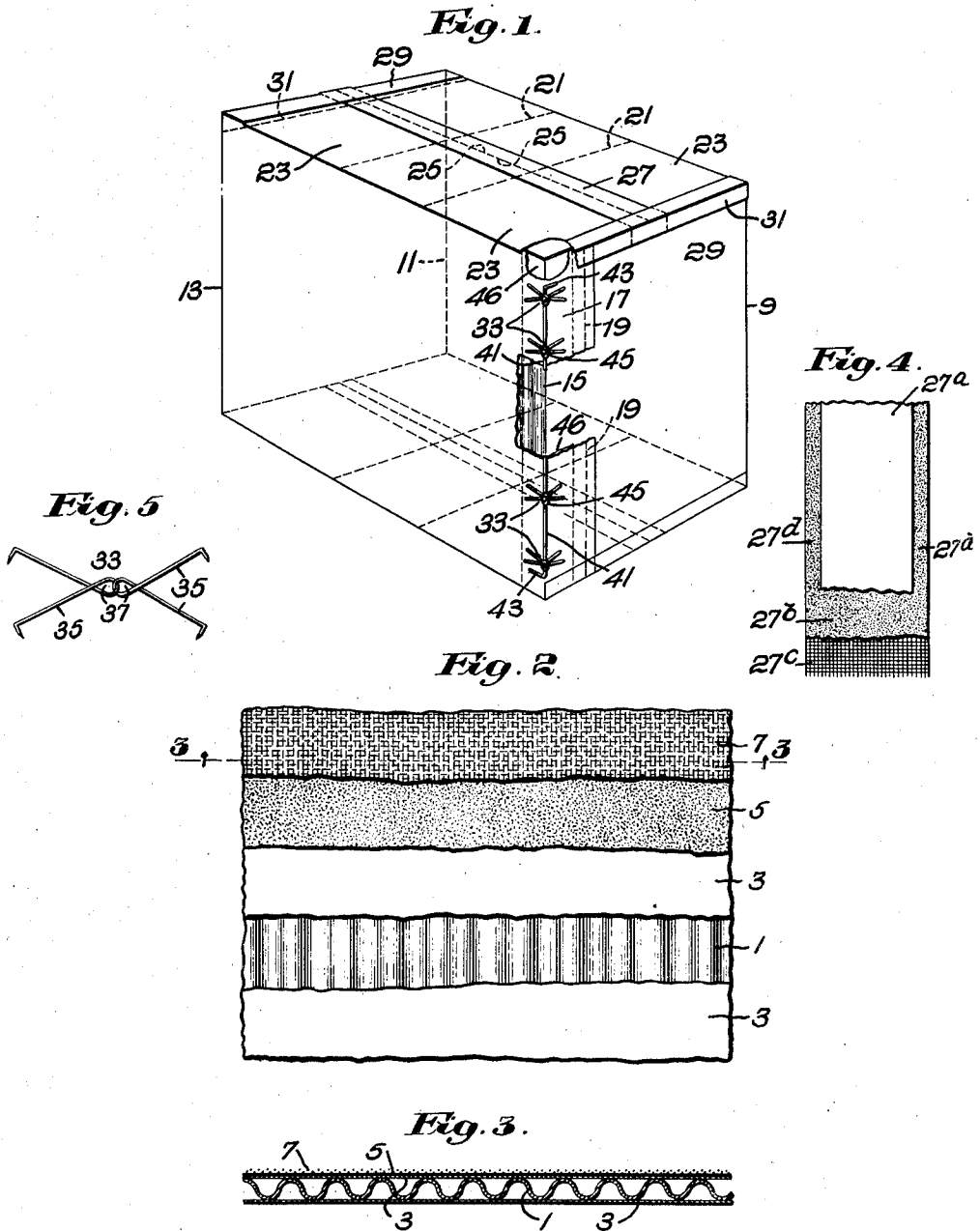


E. H. ANGIER.
 CARTON.
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1,025,444.

Patented May 7, 1912.



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UNITED STATES PATENT OFFICE.

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CARTON.

1,025,444.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD H. ANGIER, a citizen of the United States, and a resident of Quincy, in the county of Norfolk and State of Massachusetts, have invented an Improvement in Cartons, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention is an improvement in cartons or containers, and among other objects provides a carton which is waterproof.

The character of the invention may be best understood by reference to the following description of an illustrative embodiment thereof shown in the accompanying drawing, wherein:

Figure 1 is a perspective view of an illustrative carton embodying the invention, parts of said carton being broken away to disclose construction thereof; Fig. 2 shows a composite sheet from which the carton is made; Fig. 3 is a section taken on lines 3—3 of Fig. 2; Fig. 4 on an enlarged scale is a detail of a sealing strip shown in Fig. 1, and Fig. 5 is an enlarged view of a staple shown in Fig. 1.

Referring to the drawings, the illustrative carton shown therein as embodying the invention may be made of a composite sheet having features characteristic of a sheet disclosed in my co-pending application, Serial No. 607,897.

The sheet shown herein (Figs. 2 and 3) includes a main layer 1 of corrugated paper or other equivalent material constituting the body of the sheet.

To stiffen the sheet and prevent the corrugations from flattening, sheet-like layers 3, 3 of paper or other suitable material are secured to the ridges at the opposite sides of the corrugated layer 1 by glue or other suitable adhesive.

It is important, particularly where cartons are exposed to the weather, to render the sheet waterproof, for if the corrugated paper layer becomes wet it will soften and the corrugations thereof will tend to flatten and no longer be effective as stiffening members.

The sheet employed herein is rendered waterproof by coating one of the layers 3 with a layer 5 of asphalt or other suitable waterproof material. Asphalt is desirable

because its inherent flexibility prevents its cracking or permitting the ingress of water to the layers back of it.

To prevent the asphalt waterproof coating from being scraped from the layer to which it is applied, and to provide a strong, durable wear-resisting external surface for the sheet, a layer 7 of textile fabric or other suitable material, preferably woven, is applied to the waterproof layer 5. As shown herein, the layer 7 is of commercial burlap.

The fibers or threads of the fabric preferably are embedded somewhat in and project above the face of the waterproof material to provide a clean non-adhesive fabric surface effectively protecting the waterproof layer.

Having described the composite sheet, I will now describe the structure of a carton made of said sheet having more particular reference to Figs. 1, 4 and 5 in the drawing.

A sheet of proper size is selected and bent to form the vertical corners 9, 11 and 13 of the carton.

An important feature of the invention relates to the formation of the corner at the juncture of the ends of the sheet. To render this corner waterproof, preferably the paper, waterproof and textile layers are together extended beyond the corrugated layer and inner paper layer, to provide a marginal strip 17 overlapping the end of the box. This marginal strip is secured to said end by an adhesive which is preferably waterproof.

To prevent the exposed edge of the marginal strip from being cut or torn and to provide a seal at said edge, the burlap and waterproof layer may be extended somewhat beyond the edge 19 of the paper sheet layer. This makes a strong, finished, tight seam at the edge of said marginal strip.

Opposite ends of the box have inner flaps 21 and outer flaps 23, the latter being folded to overlie and cover the former. To prevent any ingress of moisture at the juncture of the meeting edges 25 of the flaps 23, a ribbon-like sealing strip 27 (Fig. 4) is provided. This strip may be composed of a paper layer, 27^a, a waterproof layer 27^b and a protective burlap outer layer 27^c and is secured to said flaps preferably by a waterproof adhesive. This ribbon strip may be somewhat longer than the flaps to which it is applied to provide ends which may be

bent over and secured in adhesive engagement with the adjacent sides of the box. Preferably the waterproof and burlap layers 27^b, 27^c of this sealing strip is extended beyond the paper layer as at 27^a (Fig. 4) in order to provide a more finished, secure and waterproof seal at the edges of said strips.

To render the corners 29 waterproof, ribbon strips 31 of material similar to the strip 27 may be bent on medial lines extending in the directions of their lengths and be secured to the sides adjacent said corners 29 by an adhesive which is preferably waterproof.

The opposite end of the carton may be provided with sealing strips similar to those just described.

To strengthen the various corners and more particularly to strengthen the corner 15 which marks the juncture of the ends of the sheet a series of reinforcements or staples 33 (Fig. 5) are provided. It is desirable to have a staple which is hinged at the corner 15, since, for convenience in packing, the boxes are shipped by the manufacturer to the user in collapsed form, the boxes being set up by the users when it is desired to use the same. Said staples as shown may be made of wire and preferably will be made of two parts 35 hinged together. Each part comprises a pair of pronged links which are bent to present eyes 37, said eyes being interlinked to form a hinge at the corner of the box.

In some instances it may be desired to further strengthen this corner by a wire rod 41 extending along said corner and having end prongs 43 which may impale into the carton to position the said rod. This rod will protect the corner of the box from being cut into or worn by said staples. To contribute to the accurate positioning of the staples in some instances the rod may be formed at intervals with loops 45 which may receive said staples.

To further strengthen the corner 15 of the box, a reinforcing ribbon strip 46 of burlap or other suitable material may be secured by waterproof or other suitable adhesive to the inner sides of the box adjacent their meeting ends. This strip will receive the prongs of the staples and will cooperate with the outer fabric sheet to prevent any possibility of the staples tearing through the sides of the box. The sealing strips 29 and 31 preferably would be applied to one end of the box after it is set up for use and to the opposite end of the box after the contents have been placed therein.

Having described one embodiment of the invention without limiting the same thereto, what I claim as new and desire to secure by Letters Patent is:

1. A carton of composite sheet material

comprising a corrugated layer, a waterproof layer and a textile fabric layer; said sheet forming the sides of the carton and presenting meeting ends, the waterproof and fabric layers of one of said ends being extended beyond the corrugated layer of said end and forming a margin overlapping the other end of said sheet and in adhesive engagement therewith.

2. A carton of composite sheet material comprising a corrugated layer, a paper layer, a waterproof layer and a textile fabric layer; said sheet forming the sides of the carton and presenting meeting ends, the paper, waterproof and fabric layers of one end being extended beyond the corrugated layer of said end and forming a margin overlapping the other end of said sheet and in adhesive engagement therewith, said waterproof and textile fabric layers being extended beyond the edge of the paper layer and in direct adhesive engagement with the side of said carton.

3. A carton of sheet material having sides, and meeting end flaps, and a waterproof sealing strip composed of a paper layer, a waterproof layer and a fabric layer for adhesive engagement with and to seal said flaps.

4. A carton comprising sides and end flaps; and sealing strips, each comprising paper, waterproof and fabric layers, for adhesive sealing engagement with the corners of the carton at the juncture of the edges of said sides with the edges of said flaps.

5. A collapsible carton having sides presenting meeting ends and hinged staples for securing said ends together.

6. A carton of composite sheet material comprising a corrugated layer, a waterproof layer and a textile fabric layer, said sheet forming the sides of the carton and presenting meeting ends and hinged staples having prongs entered through said layers to secure said ends together and permitting the collapsing, or setting up of the box.

7. A carton comprising a sheet forming the sides of a carton and presenting meeting ends and hinged staples distributed at intervals along the corner formed by said meeting ends to secure the latter together; each of said staples comprising parts having prongs impaled to the sides of said box and interlinked eyes located at the corner formed by said meeting ends.

8. A carton comprising sides presenting meeting ends forming a corner of the carton, staples distributed at intervals along said corner to secure said ends together, and a wear-resisting wire extending along said corner and secured to said carton for preventing injury to said carton by said staples.

9. A carton comprising a sheet forming the sides of the carton and presenting meeting ends, staples having impaling points for

securing said ends together and a corner protecting wire having loops connected to said staples.

5 10. A carton comprising a sheet forming the sides of the carton and presenting meeting ends, a reinforcing strip common to said ends and secured to the same, and staples for securing said ends together and having prongs projecting through said reinforcing strip.

10 11. A carton comprising a composite sheet including an outer fabric layer and a corrugated layer, said sheet forming the sides of the carton and presenting meeting ends, a reinforcing strip of fabric secured to the inner faces of said meeting ends, and staples for securing said ends together, said staples extending through said outer fabric layer and said reinforcing strip.

12. A carton of composite sheet material 20 comprising a corrugated layer and textile fabric outer layer, said sheet forming the sides of the carton and presenting meeting ends, the fabric layer of one of said ends being extended beyond the corrugated layer of 25 said end and forming a margin overlapping the other end of said sheet and in adhesive engagement therewith, and a reinforcing strip common to said ends and in adhesive engagement with the inner faces thereof. 30

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

EDWARD H. ANGIER.

Witnesses:

MAY H. LOWRY,
ROBERT H. KAMMLER.