July 16, 1935. S. BERGSTEIN 2,008,168

WRAPPED CARTONS AND CONTAINERS

Filed April 18, 1933 2 Sheets-Sheet 1

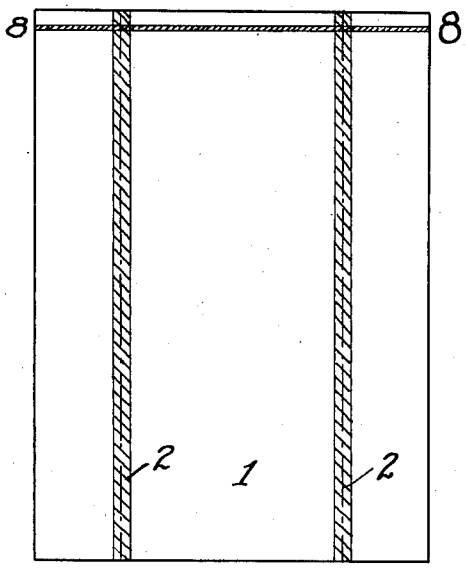


Fig. 1.

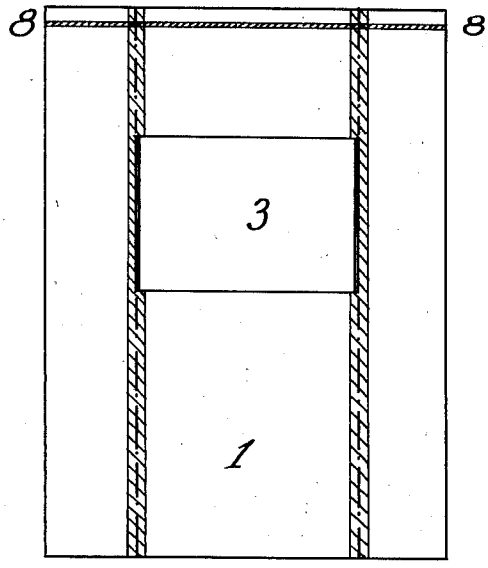


Fig. 2.

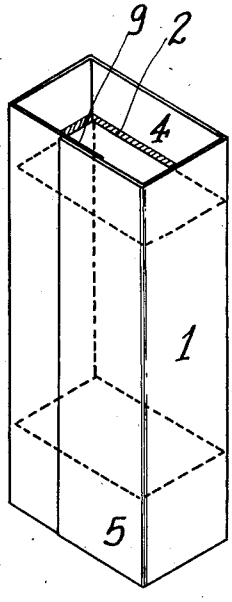


Fig. 3.

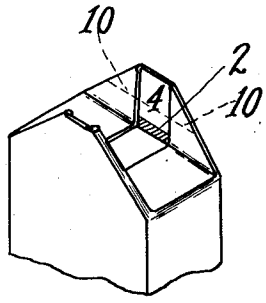


Fig. 4.

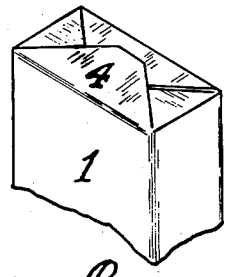


Fig. 5.

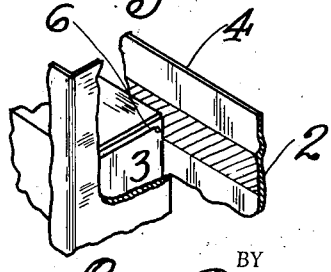


Fig. 6.

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WRAPPED CARTONS AND CONTAINERS

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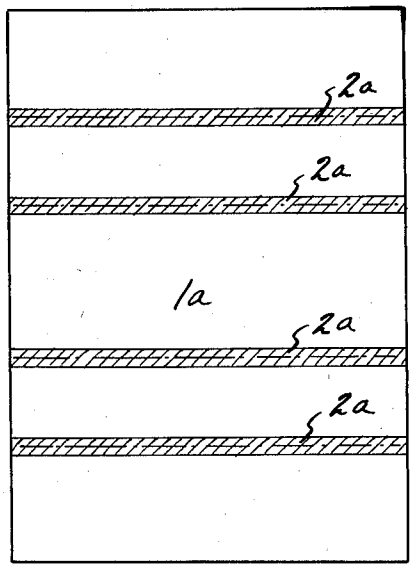


Fig. 7.

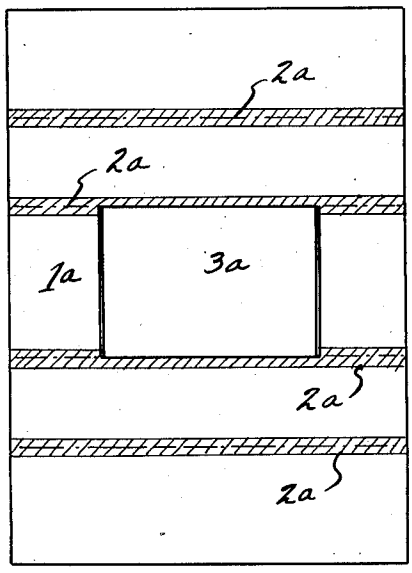


Fig. 8.

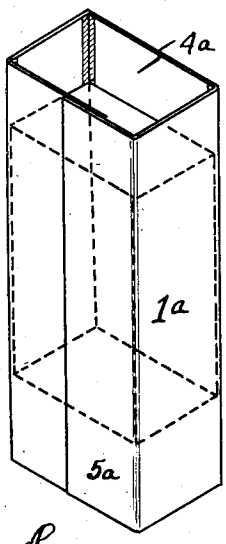


Fig. 10.

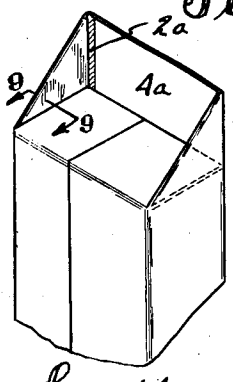


Fig. 11.

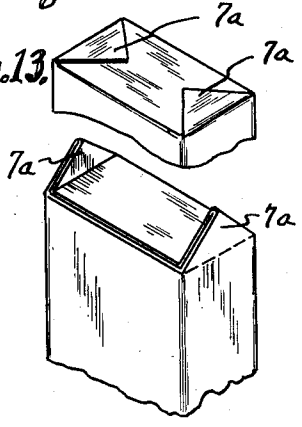


Fig. 12.

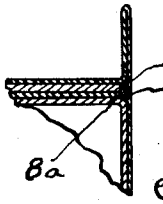


Fig. 9.

Fig. 13.

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UNITED STATES PATENT OFFICE

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WRAPPED CARTONS AND CONTAINERS

Samuel Bergstein, Cincinnati, Ohio

Application April 18, 1933, Serial No. 666,700

6 Claims. (Cl. 229—87)

My invention relates to containers having an outer wrapper secured to the outer surface of the container. There are two types of wrapped containers which are called generally tight-wrapped packages and loose-wrapped packages. The tight wrapped packages have the wrappers adhesively secured to the container so as to make a sift-proof, air tight package. The loose-wrapped packages merely have the outer wrapper folded around the carton, with overlapping ends of the wrapper secured together, but with the wrapper itself not necessarily secured to the walls of the carton.

In the art it has been customary in making tight-wrapped packages to apply adhesive to the inner surface of an outer wrapper, and to then wrap and fold the outer wrapper around the container to be tight wrapped. There are two types of wrapping machines for accomplishing this purpose. The first type of machine is where the wrapper is fed into position to be wrapped and folded around the package lengthwise of the wrapper, and the second is where the wrapper is fed widthwise of the wrapper.

It is the object of my invention to provide a method for applying a thin surface coating to the inner surface of an outer wrapper, when the packages are tight-wrapped, and to further apply thicker coatings in stripes or beads which, when the wrapper is wrapped and folded around the container, will fill in particularly the crevices between the closure flaps at their exposed side edges and corners, and which may also be arranged on the wrapper to fill in any space or crevice at the corners of the package, whether the machines are of the longitudinal or the lateral feed type. Another object of my invention is the provision of a novel, hermetically sealed, tight-wrapped package, in which thicker bands or stripes of adhesive are so placed as to fill in any spaces between the wrapper and the container.

In wrapping tight-wrapped packages, pressure is applied to the wrapper to force it into surface contact with the walls of the container. The pressure is usually applied by means of rollers, or brushes, and any indentations or spacing between the outer wrapper and the container is likely to develop a weakness in the seal of the package where the spacing or recesses occur.

Cartons often have angularly indented fold lines at the corners, and an outer wrapper will not necessarily secure itself in these indentations, so that in providing filling in beads at the various positions where indentations occur, I form a much tighter, uniform bond throughout between the container and the wrapper. The tighter bond prevents looseness at the corners, which frequently causes the corners to pierce the wrappers.

In most containers where the side flaps at each end overlap when the flaps are sealed there is an unevenness and crevices are formed which it is my purpose to fill in.

In loose wrapped cartons it is my object to provide an additional stripe of adhesive to fill in the crevices at the corners and exposed edges of the closure flaps.

In my application, Ser. No. 664,949, filed April 7, 1933, I have disclosed a method of filling in the crevices between the plies of the side sealing flaps at the ends of containers by applying an excess of adhesive in a bead by means of a timed glue wheel. My present invention has the same objects, only I accomplish them in a different manner.

The above objects and other objects to which reference will be made in the ensuing description, I accomplish by carrying out the various steps illustrated in the drawings.

Referring to the drawings:—

Figure 1 is a plan view of an outer wrapper which has been fed lengthwise of the wrapper and to which longitudinally extending bands of thicker stripes of adhesive have been applied.

Fig. 2 is a plan view of an outer wrapper with a container positioned thereon in the usual position, in which the wrapper is folded about the container.

Fig. 3 is a perspective view of the container with the wrapper folded in a rectangular formation about it.

Fig. 4 is a perspective view showing the wrapper with the end portions folded in flush against the top wall of the container.

Fig. 5 is a perspective view of the container after the side portions of the outer wrapper are folded down into overlapping position and sealed in place.

Fig. 6 is a fragmentary view of the type of carton shown in Fig. 3, with a portion of the extension 4 of the wrapper torn away and folded back.

Fig. 7 is a plan view of a blank which has passed through the adhesive applying rolls widthwise of the sheet, and has had bands or stripes of thicker coatings of adhesive placed thereon in suitable position to fill in the crevices between the wrapper and the container.

Fig. 8 is a plan view of the wrapper with the carton placed thereon laterally of the sheet.

Fig. 9 is a partial section on the line 9—9 of Fig. 11.

Fig. 10 is a perspective view of the wrapper shown in Fig. 8 folded into a rectangular formation about the carton.

Fig. 11 is a perspective view showing one of the sides of the extension of the wrapper above the top wall of the container folded over on top of the top of the container.

Fig. 12 is a perspective view showing the other side extension of the wrapper folded down.

Fig. 13 is a perspective view showing the triangular side portions of the wrapper folded down.

In Figs. 1 to 6, a method of applying the thick stripes of adhesive to the label or wrapper in a machine which feeds the label lengthwise is indicated. As the wrapper 1 passes through or into contact with the glue-applying mechanism, a thin coating is deposited over its entire surface, and by means of indentations in the glue-applying roll, thick stripes of adhesive are positioned lengthwise of the wrapper, as indicated by the areas marked 2.

In folding the tight wrapper about the carton, the carton 3 is applied to the wrapper, or the wrapper applied to the carton in the position indicated in Fig. 2. The side walls of the wrapper are then folded about the carton, with extensions 4 at the top and 5 at the bottom. I have not done other than illustrate my method for a manual operation, and it will be understood that in automatic machinery the position of the carton is usually on its side, and not on its end, as illustrated in Fig. 3.

In Fig. 4 the end extensions are folded down against the top surface of the carton, and in Fig. 5 the extensions at the sides of the carton are folded down and sealed.

Referring to Fig. 6, it will be observed that a portion of the extension 4 is torn back and folded out parallel with the side of the container, and this indicates how the thick bands 2 of adhesive extend along and fill in the crevices which I have illustrated at 6 in Fig. 6. This method prevents any space being formed between the wrapper and the walls of the container, and prevents leakage both by forming a firmer adhesion between the wrapper and container, and by filling in the crevices which expose the corners of the container so that they are likely to pierce perforations or holes in the outer wrapper.

In Figs. 7 and 8 I have shown a wrapper 1*a* having bands 2*a* of thicker adhesive, which may be applied either by passing the wrapper widthwise through adhesive applying rolls having annularly recessed portions which pick up a thicker coating of adhesive and so deposit it in bands extending across the wrapper, or by having a timed glue wheel, having indentations extending lengthwise across the roll which are filled with a thicker coating of adhesive, and so deposit the adhesive in the bands or stripes 2*a* as indicated. In Fig. 8 a carton 3*a* is indicated in the position in which the wrapper 1*a* might be folded around and secured as a tight wrapper to the carton, with the lengthwise direction of the carton parallel with the width of the outer wrapper.

During the passage of the wrapper through the glue applying mechanism, a thin coating of adhesive is deposited over the entire surface of the wrapper, the thicker bands being only in the positions indicated at 2*a*. The wrapper is formed in a rectangular formation about the carton, and the stripes of the thicker coating of adhesive extend up along the corners of the carton, the wrapper having extensions 4*a* and 5*a* extending out from the ends of the carton as indicated in Fig. 10 with these beads of adhesive in their corners.

The first fold, in order to have the thick bands of adhesive fill in the crevices 6*a*, between the closure flaps of the carton, will be as indicated in Fig. 11, in which position the band of adhesive which extends along the inner corners of the outer wrapper are forced down along the end edges of the folded-in flaps of the carton, filling the crevices 8*a*, as indicated in Fig. 9.

Referring to Fig. 11, the second side flap having the bands of adhesive extending from the corners of the top flap of the carton up to the uppermost edge of the wrapper is then folded in and the carton assumes the appearance shown in Fig. 12, and the band 2*a* seen in Fig. 11 will be pressed down and will adhere to the first infolded portion of the wrapper. The triangular ears 7*a* formed by the above folding are then folded down and assume the position indicated in Fig. 13.

The adhesive bands 2*a* will be pressed down to fill in the crevices 8*a* between the closure flaps of the carton.

The method of operation indicated in Figs. 7 to 13 is not as practical as the method shown in Figs. 1 to 6, and it is illustrated merely to indicate various modifications of the invention, in which thick bands of adhesive are applied to the inner surfaces of outer wrappers to improve the structural strength of a tight-wrapped carton and to increase its air-proofness and hermetic sealing qualities.

In making loose wrapped packages (referring to Figs. 1–4), in addition to the adhesive stripes 2—2, a band of adhesive is applied along one edge of the wrapper. This can be done by means of a groove in the glue wheel, which may be timed to apply the adhesive to one edge of the wrapper as indicated at 8—8. In this case the glue wheel is so set that substantially no glue adheres to the entire surface of the wrapper. Another way is to have the stripes applied by pads extending from the glue wheel. Referring to Fig. 3, the wrapper will have the overlapping ends 9 secured together by the band 8—8 of adhesive.

During the sealing, adhesive is applied to the folded extensions 4 as indicated at 10—10, and as in the tight-wrapped packages, the bands 2—2 of adhesive, will fill in the crevices 6 between the closure flaps of the carton.

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

1. A method of wrapping cartons having crevices left upon closing, which consists in applying relatively thick beads of adhesive directly to an outer wrapper across the inner surface of said outer wrapper, coincidentally with the application thereto of a thinner film of adhesive to seal the wrapper about the carton, and then applying the wrapper to the carton so that the beads overlie the portions of the carton where the crevices are formed.

2. A tight-wrapped container having closure flaps leaving crevices, and having an outer wrapper secured to the walls of the container by relatively thin layers of adhesive, and with thicker portions of adhesive in such quantity as to fill the crevices, directly between the wrapper and the closure flaps of the container.

3. The method of wrapping a paper board carton having interlapping sealed together flaps at at least one end, having crevices along the edges of the flaps and at the corners of junction of the flaps with side walls of the carton, said meth-

od consisting in taking a relatively thin wrapper of size and shape whereby it is suitable to enclose the carton when wrapped therearound with certain areas extending along said flap edges and across said corners, applying directly to said wrapper, within said areas of said wrapper, beads of adhesive sealing medium restricted substantially to said areas and in such quantities in said areas as will, when the wrapper is wrapped around the carton as aforesaid, fill in said crevices, to seal the crevices and support said areas of the thin wrapper thereat, and then wrapping said wrapper around said carton as aforesaid, and suitably securing said wrapper in its wrapped condition.

4. A method of wrapping a paper board carton having interlapping sealed together flaps at at least one end, having crevices along the edges of the flaps and at the corners of junction of the flaps with side walls of the carton, said method consisting in taking a relatively thin wrapper of size and shape whereby it is suitable to enclose the carton when wrapped therearound with certain restricted areas extending along said flap edges and across said corners, applying a relatively thin coating of adhesive to major areas of said wrapper other than said restricted areas, applying directly to said wrapper, within said restricted areas of said wrapper, beads of adhesive sealing medium thicker than said coating and confined substantially to said restricted areas, said beads being so much thicker than said coating that, when the wrapper is wrapped around the carton as aforesaid, the sealing medium in said beads will fill in said crevices, to seal the crevices and support said restricted areas of the thin wrapper thereat, wrapping said wrapper around said carton as aforesaid, whereby the wrapper adheres to the carton in its major areas.

5. A container comprising a paper board carton having folded interlapping sealed together flaps at at least one end, along which and at the corners of which crevices are left incident to the folding, a relatively thin wrapper secured around said carton, and sealing medium directly on restricted areas of said wrapper between said areas and edges of the flaps and corners of junction of the flaps with side walls of the carton, said sealing medium being in such quantities as to extend into said crevices along said edges and at said corners, sealing said crevices and supporting said areas of the thin wrapper thereat.

6. A container comprising a paper board carton having folded interlapping sealed-together flaps at at least one end, along which and at the corners of which crevices are left incident to the folding, a relatively thin wrapper wrapped around said carton and having at least major portions of its area secured to corresponding major portions of the areas of the carton by a relatively thin layer of adhesive, and relatively thick portions of sealing medium directly on said wrapper between said wrapper and the edges of the flaps and corners of junction of flaps with side walls of the carton, said sealing medium being in such quantities as to extend into said crevices along said corners, sealing said crevices and supporting said areas of the thin wrapper thereat.

SAMUEL BERGSTEIN.