June 23, 1970 L. D. VAN ANTWERPEN 3,516,538

CUSHIONING AND PACKAGING STRIP

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Fig. 1

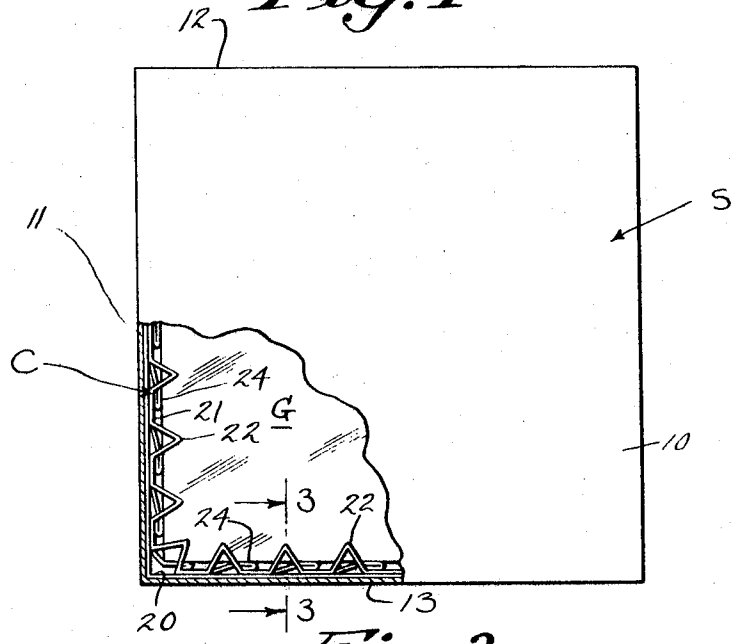


Fig. 2

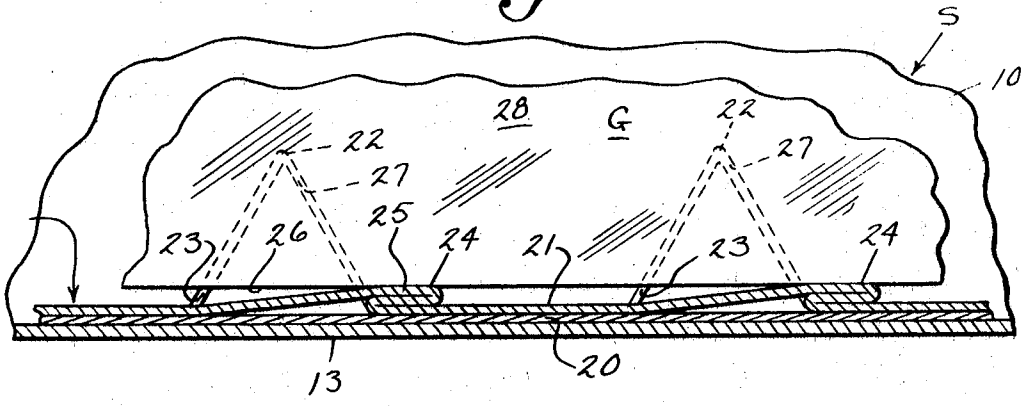
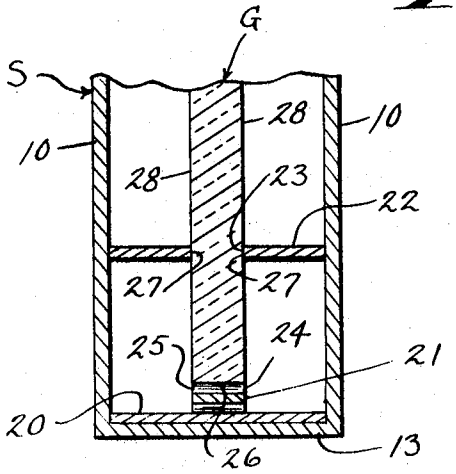


Fig. 3



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Fig. 4

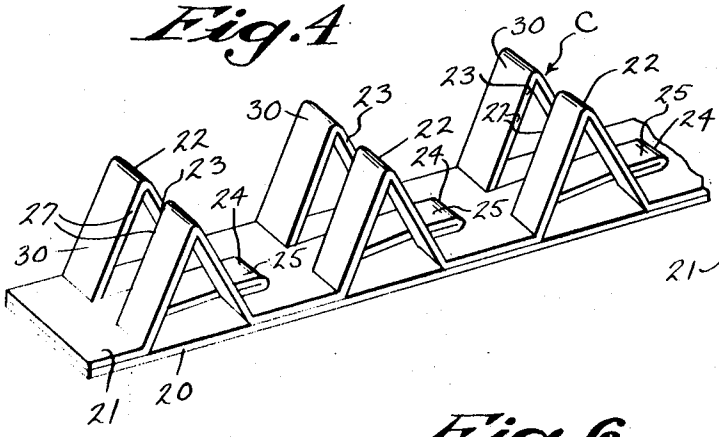


Fig. 5

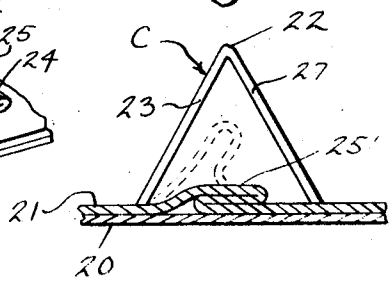


Fig. 6

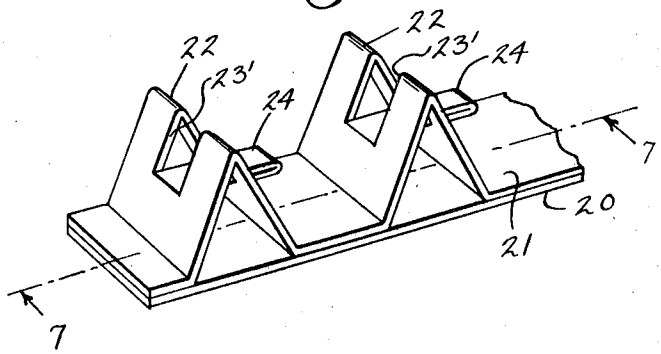
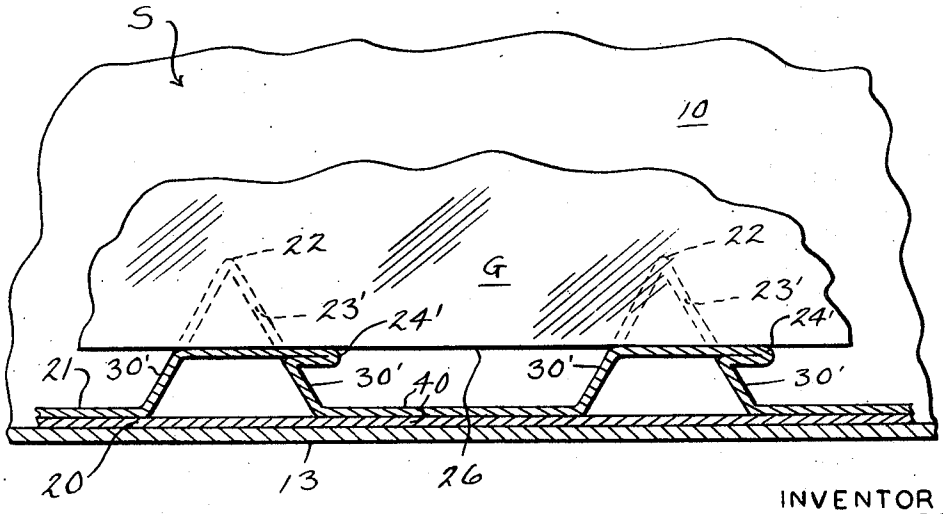


Fig. 7



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Fig. 8

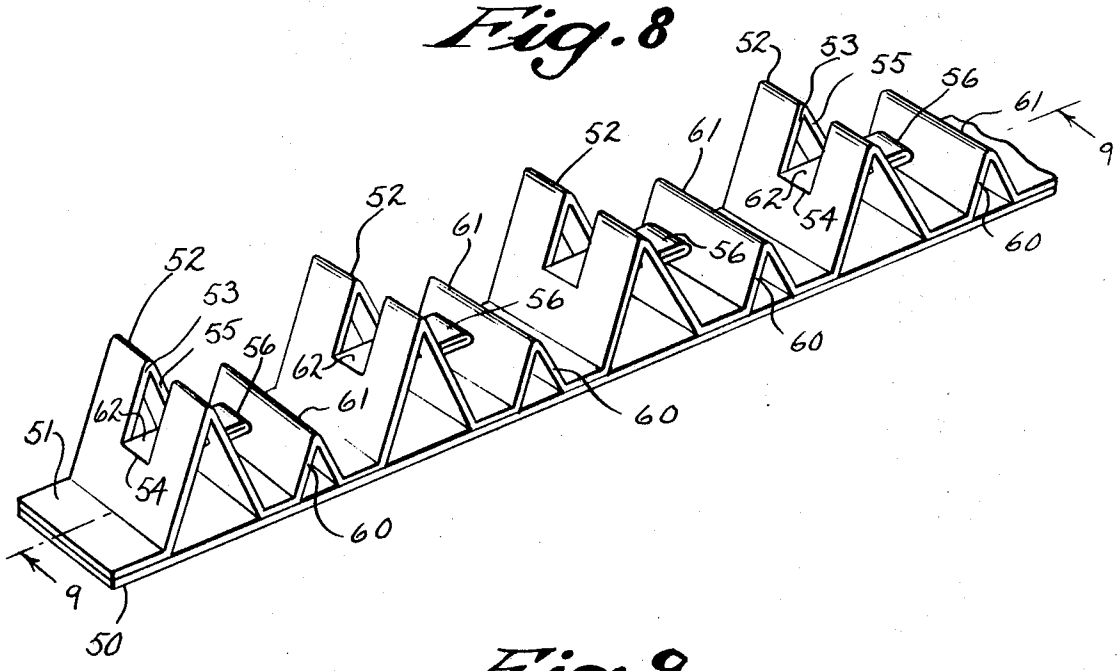
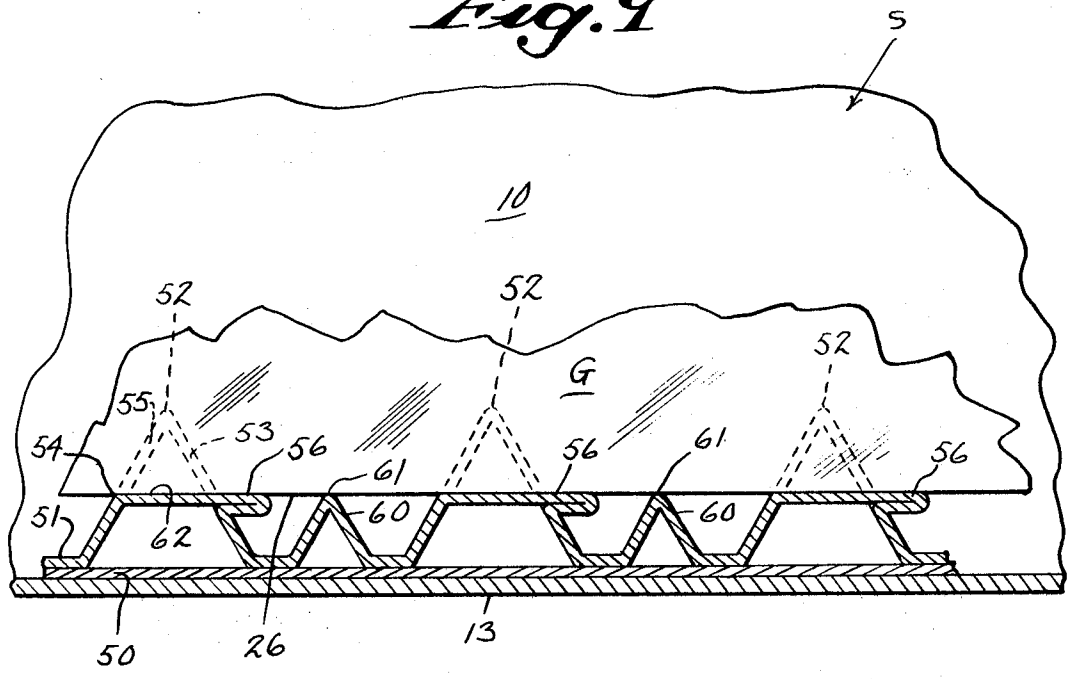


Fig. 9



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United States Patent Office 3,516,538 Patented June 23, 1970

3,516,538

CUSHIONING AND PACKAGING STRIP

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Int. Cl. B65d 85/00
U.S. Cl. 206—62 1 Claim

ABSTRACT OF THE DISCLOSURE

A two-ply packaging and cushioning strip for effectively cushioning articles such as glass during shipment, having an elongated flat base ply and an inner ply formed with spaced peaks. The peaks intermediate their ends having parallel slits defining an intermediate independent tongue member folded down for cushioning purposes and means between said peaks for further cushioning and supporting the glass, the peripheral edge of the glass being received within the slots of the peaks formed by the slits.

This invention appertains to cushioning and packaging strips of the type utilized around the peripheral edge of fragile articles, such as glass, during the shipping and storing thereof to prevent injury thereto.

Examples of prior cushioning and packaging strips are shown in the Cortright Pat. 2,741,362 issued Apr. 10, 1956 and prior Van Antwerpen Pats. 2,504,473 issued Apr. 18, 1950 (FIGS. 21 to 31); 2,603,349 issued July 15, 1952; 2,776,745 issued Jan. 8, 1957; 3,101,166 issued Aug. 20, 1963 and others.

These prior strips are of an elongated nature and generally are formed from a three-ply construction to include an outer flat base ply, an inner ply and an intermediate ply. The inner and intermediate plies are provided with a series of equidistantly spaced transversely extending cushioning peaks with the peaks of the inner ply slotted and overlying the nested cushioning peaks of the intermediate ply. The slots of the inner ply are treated for receiving the edge of the article, i.e., glass, and for holding the glass against shifting and to permit the peripheral edge of the glass to rest on the cushioning peaks of the intermediate ply. The forming of the intermediate and inner plies requires automatic machinery utilizing forming blocks and means for bringing the plies together in an exact fashion and it would be advantageous in certain instances to eliminate the intermediate ply and thus provide a two-ply strip which would be more economical to make and obviously require less material and lighter machinery.

It is, therefore, a prime object of my present invention to provide a two-ply packaging and cushioning strip which will effectively cushion articles such as glass against shifting and breaking down during shipment.

Another important object of the invention is to provide a two-ply cushioning strip wherein the inner ply is provided with spaced cushioning peaks slotted to receive the peripheral edge of the glass and wherein novel tongues are provided to cushion the peripheral edge of the glass while shipping.

Still another object of my present invention is to provide a two-ply cushioning strip wherein the cushioning tongues are spaced from the base ply.

A salient feature of the present invention lies in providing two-ply cushioning strips having equidistantly spaced peaks slotted to receive and hold the edges of glass against shifting and providing a novel fold for cushioning tongues to cushion the peripheral edge against breaking when jarred.

Still another object of the present invention is to provide a novel cushioning and packaging strip which is economical to manufacture, simple in its construction, reliable in its operation and which will effectively protect articles during shipment.

With these and other objects in view, and to the end of attaining any other advantage hereinafter appearing this invention consists in the novel construction, arrangement and combination of parts, hereinafter described, pointed out in the claim and illustrated in the accompanying drawings, in which:

FIG. 1 is a side elevational view of a shipping carton for glass, certain parts being broken away and in section to illustrate the use of the novel cushioning and packaging strip;

FIG. 2 is an enlarged fragmentary longitudinal section through a cushioning strip made in accordance with the present invention, shown about the peripheral edge of the glass;

FIG. 3 is an enlarged transverse section through the carton and cushioning strip, the section being represented by the line 3—3 of FIG. 1, looking in the direction of the arrows;

FIG. 4 is a perspective top plan view of the form of the invention shown in FIGS. 1 to 3 of the drawings;

FIG. 5 is a fragmentary longitudinal section of a modified way of folding a cushioning tongue;

FIG. 6 is a perspective view in top plan of another form of the invention;

FIG. 7 is a longitudinal section through the packaging strip shown in FIG. 6 of the drawings, the section being represented by the line 7—7 of FIG. 6, looking in the direction of the arrows and also showing how the peripheral edge of the glass and the like is supported and effectively cushioned;

FIG. 8 is a perspective view in top plan of still another preferred form of the invention; and

FIG. 9 is a fragmentary longitudinal section similar to FIG. 7 of the drawings but illustrating that form of the invention shown in FIG. 8.

Referring now to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter C generally indicates one type of my novel packaging and cushioning strip and the same is shown associated with a shipping carton S of any conventional type to provide side walls **10**, end wall **11**, top wall **12** and bottom wall **13** of a size and configuration to receive and effectively support fragile articles such as glass G. The cushioning and packaging strip is placed as shown about the peripheral edge of the glass, and for purposes of illustration and understanding, attention is directed primarily to FIGS. 2 and 4, wherein it can be seen that the strip includes a flat base ply **20** and an inner ply **21**, which is formed with spaced peaks **22**. These peaks **22** intermediate their ends are provided with parallel slits **23** and these slits define an intermediate independent tongue member **24** which when folded down as shown in FIGS. 1, 2 and 4, provides a three-ply thickness **25**, upon which the peripheral edge **26** of the glass G rests. The parallel slits **23** are generally of a slightly greater width than the width of the peripheral edge of the glass so that when the glass is received within the slot formed by the slits it will rest upon the tongue **24** as mentioned, and the side walls **27** defining the slot will bear upon the sides **28** of the glass and prevent the glass from shifting laterally in the carton and the triple thickness at **25** will effectively cushion the edge of the glass. If desired the tongue may be folded so that the triple thickness lies entirely within the confines of the walls of the peaks **22** and as shown in FIG. 5 of the drawings, wall **30** may be creased and folded at the point **31** (note dotted lines FIG. 5) and the tongue then folded to its

full line position FIG. 5, to provide the three-ply points **25'** and effectively cushion the peripheral edge of the glass G.

Attention is now directed to FIGS. 6 and 7 of the drawings, wherein I have illustrated a preferred, modified form of the invention. In this form, I again provide a flat base ply **20** and the inner ply **21** formed with the aforementioned spaced cushioning peaks **22**. In this form of the invention, however, parallel slits **23'** terminate intermediate the ends of the walls **30'** of the peaks and thus the tongue **24'** is spaced substantially from the base ply **20** as shown more clearly in FIG. 7 of the drawings, and the peripheral edge **26** of glass G is supported above and spaced from the lower portions **40** of plies **20** and **21**. Thus, it can be seen that for articles of not too great weight a two-ply cushioning and packaging strip will be most effective, and the elimination of the intermediate formed plies results in not only a lighter and more economical strip but eliminates the use of costly forming machinery for the intermediate ply. It should also be noted that in the forms illustrated in FIGS. 1 to 7, inclusive, the peaks need not actually be equidistantly spaced, and the equal space is primarily due to the ease of manufacture and uniformity of the product. Further, the tongue could be eliminated particularly in that form illustrated in FIGS. 6 and 7 of the drawings, although preferably the tongue material is utilized.

In utilizing a three-ply packaging and cushioning strip a very real advantage lies in the fact that the intermediate ply provides a reinforcing peak which lies within the peak of the outer strip and upon which the peripheral edge of the article rests. This prevents the tearing of the material about the slots **23** and **23'** and further in the form of the invention illustrated in FIGS. 1 to 5 inclusive, prolonged weight upon the plies **25'** might effect the cushioning and resilient qualities. Therefore, in FIGS. 8 and 9 of the drawings, I have illustrated a preferred two-ply construction which actually meets all of the advantages and requirements of a three-ply construction and will support articles of the same weight while nevertheless entirely eliminating the intermediate ply.

This form, as in the previous forms includes a flat base ply **50** and an outer ply **51**. This ply is formed with relatively large spaced peaks **52** formed with the usual parallel slits **53** terminating well above the base ply **50** at a point **54** to provide the aforementioned slot **55** and forwardly extending or projecting tongue **56**. Intermediate adjacent pairs of the large peaks **52** are smaller peaks **60** as shown. The upper end terminations **61** of which are in alignment with the upper surface **62** of the tongues **56**. While it is advantageous to provide the intermediate smaller peaks **60** between the larger peaks **52**, it should be noted that if desired the location of the intermediate peaks may alternate. Nevertheless, in the preferred form the peaks are located as shown in FIGS. 8 and 9 of the drawings. The glass G is again placed so that its peripheral edge **26** not only engages the surface **62** of tongues **56** but also rests upon the upper end **61** of the intermediate peaks **60**. Thus, the intermediate peaks **60** serve the same purpose as the peaks of the aforementioned intermediate strip of the three-ply construction. The difference is that the peaks lie outside of the larger peaks and are formed from the same strip of material, i.e., the outer ply **51**. In this modified form (FIGS. 8 and 9), the packaging and cushioning strip can be used interchangeably with the three-ply construction in almost all instances.

While I have shown and described certain specific embodiments of the invention, it will be understood that these embodiments are merely for the purpose of illustration and description, that various other forms may be devised and that changes may be made in the proportion and minor details of construction, without departing from the spirit of the invention.

What is claimed as new is:

1. A wrap-around packaging and cushioning strip for protecting the peripheral edges of fragile articles such as glass comprising, an outer base ply, an inner ply secured thereto, said inner ply having a plurality of spaced transversely extending cushioning peaks, said peaks each being provided with aligned parallel slits with the material between said slits providing a longitudinally extending tongue one end of which is folded upon itself to provide a laminated cushioning means between the glass edge and said base ply, said tongue in its longitudinally extended position defining with said slits a slot in each cushioning peak of a size and configuration to receive the peripheral edge of a glass to prevent lateral shifting thereof, said aligned parallel slits terminating well above said base ply and said longitudinally extending tongue being substantially parallel to and spaced well above said base ply, and a series of smaller intermediate peaks positioned between said adjacent cushioning peaks, the upper end termination of said smaller intermediate peaks lying in the same longitudinal plane with the upper surface of said longitudinally extending tongues.

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WILLIAM T. DIXON, JR., Primary Examiner

U.S. Cl. X.R.

229—14