July 11, 1967 L. M. TIMMS 3,330,470

PACKING UNIT

Filed Aug. 16, 1965 2 Sheets-Sheet 1

Fig. 1

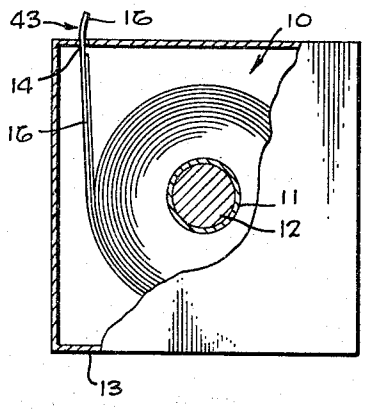


Fig. 2

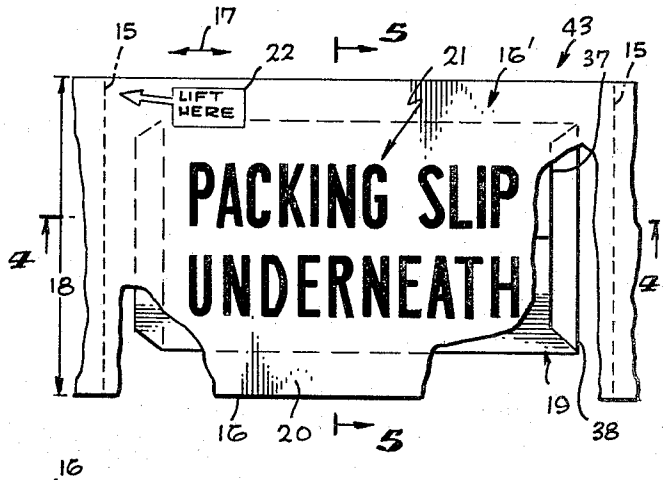


Fig. 3

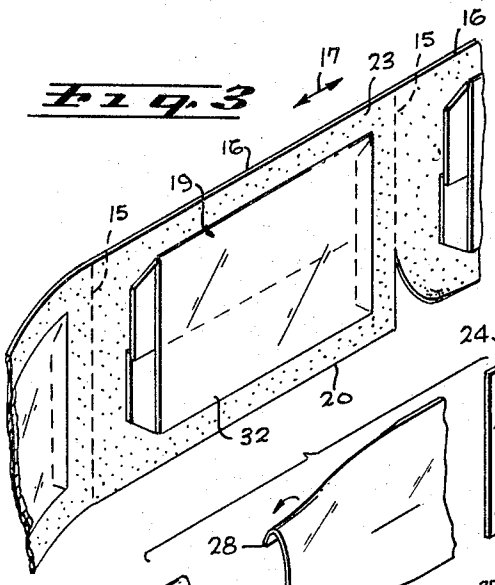


Fig. 4

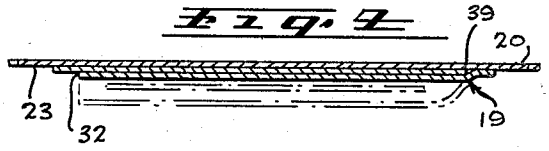


Fig. 8

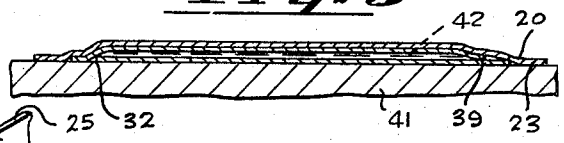


Fig. 6

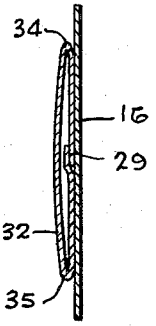


Fig. 5

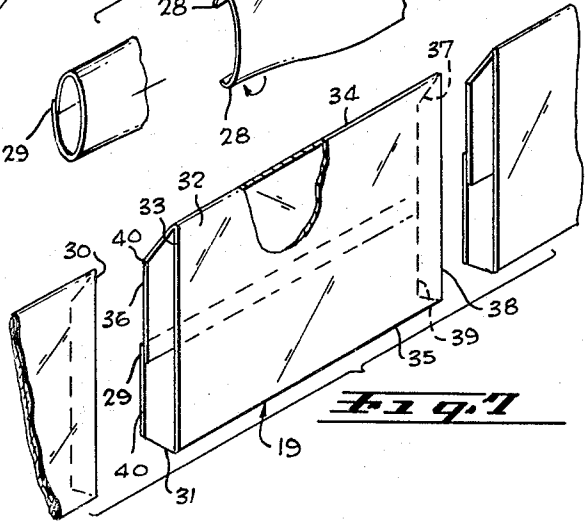


Fig. 7

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PACKING UNIT

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Fig. 9

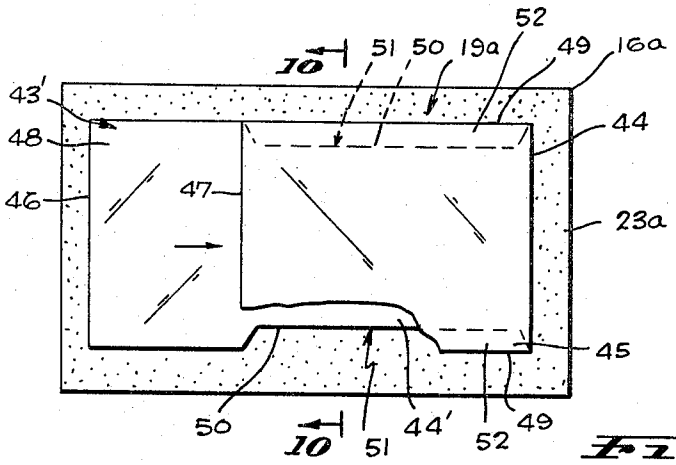


Fig. 10

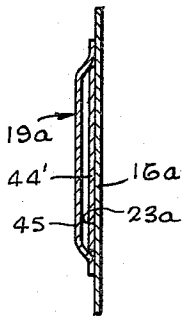


Fig. 11

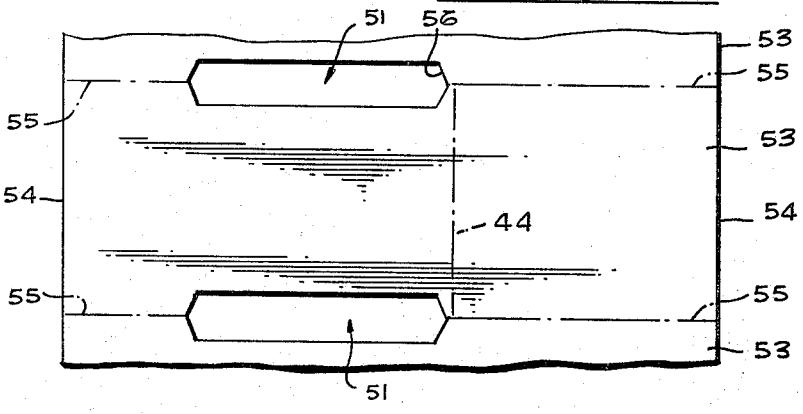


Fig. 12

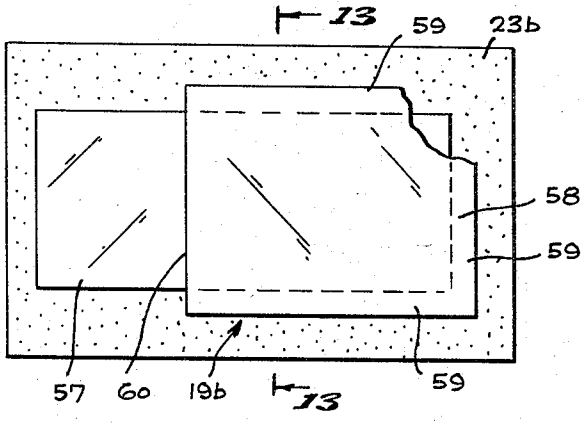
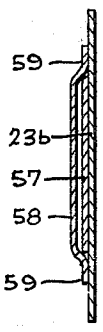


Fig. 13



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United States Patent Office 3,330,470 Patented July 11, 1967

3,330,470

PACKING UNIT

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Filed Aug. 16, 1965, Ser. No. 479,735
8 Claims. (Cl. 229—74)

This invention relates to preassembled adhesive units for use in preparing an item for shipment, and adapted for attachment to a shipping container, or directly to an article to be shipped, for the purpose of attaching a packing slip or other item to the product. Certain features of the packing unit whose structure and method of formation are covered by the present application have been disclosed and claimed in my copending application Ser. No. 306,031, filed Sept. 3, 1963, now Patent No. 3,250,385, on "Roll of Shipping Unit for Holding Packing Slip or the Like."

In the above identified application, I have shown a packing unit which includes a carrier sheet of paper or the like, having an adhesive coating on its inner surface, and also carrying on that inner surface a thin pocket formed of sheet material. This pocket is adapted to receive a packing slip or other item which is to accompany the product being shipped. The adhesive on the carrier sheet is exposed at locations outwardly beyond the pocket, and preferably completely encircling the pocket, to adhere to a container or other article about the pocket in a manner holding the contents of the pocket to the article in protected relation during shipment. In accordance with the invention of my prior application, a series of adhesive packing units of this type are preferably provided in roll form, with the adhesive desirably being a waterproof pressure sensitive adhesive capable of protecting the contents of the pocket against moisture in transit, and adapted for ease and versatility of application.

Until the development of the invention covered by the present application, it had been my experience that the cost of my packing units could be reduced by forming the inner pockets as essentially conventional paper bags. However, one difficulty encountered in the use of such bags resulted from the manner in which they are closed at their lower ends, by folding their lower end portions to a doubled and thickened condition and then gluing them in that condition. This thickened end portion of the bag undesirably increases the thickness of the overall packing unit at that location, with the result that when a long series of the preassembled unts are wound in roll form, the many thickened portions of the individual bags may increase the difficulty of attaining a proper overall roll configuration. Also, the thickened portions of the bags render the bags more difficult to properly feed to the adhesive carrying sheets during manufacture of the preassembled packing units, and are in various other respects undesirable.

A major object of the present invention is to provide a packing unit of the discussed general type, but in which the inner pocket has an improved structure and method of formation and mounting which enable the pocket to be formed from very inexpensive sheet material, such as paper, and which completely eliminate the necessity for closing the lower end of the bag or pocket with a locally thickened doubled end portion as is present in conventional paper bags. The invention further has the highly desirable advantage of considerably reducing the cost of the inner pocket structure, to an amount even less than that entailed in using ordinary paper bags.

To attain both of these results, I so form the present packing units as to eliminate the necessity for completing the manufacture of the pocket or bag prior to its application to the adhesive carrying sheet. More specifically, the bag is so formed and applied that movement of the pocket

forming material into contact with the adhesive on the back of the main carrier sheet serves not only to retain the pocket on the sheet, but also to accomplish the added purpose of actually completing formation and partial closure of the pocket itself. Until such application of the pocket to the adhesive of the carrier sheet, the pocket may be incomplete in its manufacture, with edge portions of the sheet material which forms the pocket being still free for relative shifting movement, but being adapted to be automatically retained in fixed relative position by the adhesive of the carrier sheet. In one form of the invention, which is the presently preferred form, the adhesive acts to form the final closure of a paper bag type pocket at the location at which the lower end of the bag is normally doubled over to the above discussed thickened condition, but does so without such doubling and without an increase in thickness at that point. For this purpose, the pocket may be formed of two superimposed layers of sheet material, with one of those layers projecting beyond the other in a manner such that its edge portion will contact the adhesive and be retained by the adhesive in a position closing that edge of the pocket. In other forms of the invention, two opposite side edges of the pocket may be closed by contact with the adhesive in this manner, or three edges of the pocket may be similarly closed.

A series of the discussed pockets may be formed in extremely simple manner by a method in which an elongated strip of paper or other sheet material has its edges progressively turned laterally inwardly toward one another, to a doubled condition in which the sheet forms essentially a tube. Short portions of this tube may then be cut off to form individual pockets, and be applied to carrier sheets in a manner such that the inturned edges are retained in fixed positions by the adhesive of the carrier sheet, and also one end edge of the pocket is held closed by that adhesive, so that no adhesive is required other than that of the carrier sheet itself.

The above and other features and objects of the invention will be better understood from the following detailed description of the typical embodiments illustrated in the accompanying drawings in which:

FIG. 1 is a somewhat diagrammatic view representing a roll of packing units constructed in accordance with the invention;

FIG. 2 is an enlarged representation, partially broken away, of the outer side of one of the packing slip units of FIG. 1;

FIG. 3 shows fragmentarily the reverse or inner side of a series of the packing slip units;

FIGS. 4 and 5 are sections taken on lines 4—4 and 5—5 respectively of FIG. 2;

FIG. 6 is a diagrammatic view illustrating the manner in which a tube of paper or the like may be formed for use in manufacturing the inner pockets of the unit of FIGS. 2 through 5;

FIG. 7 shows the manner in which the tube of FIG. 6 is cut off to form a series of such pockets;

FIG. 8 is a view similar to FIG. 4, but showing the packing unit as it appears when applied to a carton to be shipped;

FIG. 9 is a view showing the back or adhesive side of another form of packing unit embodying the invention, and having a changed type of inner pocket;

FIG. 10 is a section taken on line 10—10 of FIG. 9;

FIG. 11 shows a strip of paper from which a series of the pockets of FIG. 9 may be formed;

FIG. 12 is a view to FIG. 9, but showing still another form of the invention; and

FIG. 13 is a section taken on line 13—13 of FIG. 12.

Referring first to FIG. 1, I have shown at 10 a roll of packing slip units embodying the invention, and wound about a cylindrical cardboard core 11, which may typical-

ly be mounted rotatably on a shaft **12** carried by and within a dispensing container **13**. The individual packing slip units are adapted to be pulled successively from container **13** through a dispensing slot **14** in one of its walls, and to be successively torn from the remainder of the roll along perforated areas **15** (FIGS. 2 and 3), for individual application to articles to be shipped.

The roll **10** includes an elongated strip of sheet material **16**, which is elongated to an extended length in the direction indicated at **17** in FIGS. 2 and 3, and is wound longitudinally in that direction about core **11**, to form many superimposed layers of this strip **16** on the roll **10**. The width **18** of strips **16**, transversely of its length **17**, may be uniform along the entire length of the strip. Perforation lines or tear lines **15** may be formed on strip **16** transversely of its length, and at uniformly spaced locations along the entire length of the strip, so that the strip may be torn apart to form a series of rectangular individual carrier sheets **16'** for application to individual articles or cartons to be shipped. Strip **16** and its carrier sheet portions **16'** may be formed of any appropriate flexible sheet material, waterproof kraft type paper being the presently preferred material for this use.

Each carrier sheet **16'** carries at its inner side (the side visible in FIG. 3) an individual pocket **19** for receiving a packing slip or the like. At its opposite or outer side **20** (the side visible in FIG. 2), each carrier sheet **16'** is desirably provided with markings **21** for indicating to a recipient of the article to which the packing unit is attached the contents of pocket **19**. In those instances in which a packing slip is to be positioned within pocket **19**, the markings **21** may constitute printed words indicating the presence of the packing slip, such as the phrase "Packing Slip Underneath." There may also be printed on outer surface **20** of the carrier sheet **16'** markings at **22** indicating that sheet **16'** may be pulled at least partially off of the article by stripping the sheet at a particular corner or other location.

The inner surface of strip **16** and its carrier sheet portions **16'** may be coated continuously over their entire area, and along the entire length of the strip **16**, with an adhesive substance **23** (FIG. 3), capable of adhering to cardboard, wood, or any other material from which a carton or article to be shipped may be formed. In the rolled form of FIG. 1 the adhesive **23** may be located on the radially inner surface of each layer of strip **16**, with the exposed portions of that adhesive which are located about pocket **19** being in contact with the outer surface **20** of an adjacent layer of strip **16**, to releasably hold each layer in its rolled condition. Surface **20** is treated to give it the characteristics of a release surface, to which adhesive **23** will adhere sufficiently to retain the assembly in the FIG. 1 roll form, but from which the adhesive is easily unwound without damage to surface **23**, and without separation of the adhesive from the inner surface of strip **16** to which that adhesive has been initially applied. For this purpose, the outer printed surface **20** of strip **16** may be coated, continuously across its entire area, with a silicone or other known release agent.

For best results and maximum facility in handling the present packing slip units, it is preferred that adhesive **23** be a waterproof pressure sensitive type of adhesive, which without the use of a solvent is permanently tacky and adapted to adhere to release surface **20** and to an article or carton being shipped upon contact therewith, or upon the application of light finger pressure against sheet **16'**. As an example, a suitable latex base waterproof pressure sensitive adhesive may be employed, preferably consisting of crude natural rubber and/or synthetic rubber combined with suitable resins for increasing the natural tackiness of the elastomer, and typically also including other additives such as plasticizers, fillers and the like in proportions giving to the ultimate combination the desired permanently and aggressively tacky characteristics.

Pocket **19** is formed of any appropriate sheet material, which for the purpose of minimizing cost may be an appropriate kraft paper such as that conventionally used in making paper bags. In the form of the invention shown in FIGS. 1 through 7, this pocket is formed in the manner brought out in FIGS. 6 and 7. As seen in the right-hand portion of FIG. 6, a series of pockets **19** may be made from an initially flat sheet of paper **24**, having parallel opposite side edges **25** and **26**, which sheet may during manufacture of the pockets progressively advance in the leftward direction indicated by arrow **27** in FIG. 6, parallel to edges **25** and **26**. As strip **24** advances to the left, the edges **25** and **26** are progressively folded inwardly toward one another, as indicated at **28**, and ultimately to the slightly overlapping condition represented at **29**, so that the sheet of paper assumes the form essentially of an elongated tube of paper. This tube is flattened out and then cut at longitudinally spaced locations **30** (FIG. 7), to divide the tube into a series of individual pockets **19** applicable to the various carrier sheet portions **16'** of strip **16** of FIG. 2.

To discuss in greater detail the manner in which the tube is cut into the individual pockets, it is noted in FIG. 7 that, at a leading end **31** of each pocket, the outer layer **32** of that pocket is cut off transversely to form an edge **33** which is perpendicular to the parallel side folds **34** and **35** of the pocket. The inturned portions of the paper sheet, whose edges overlap at **29**, are cut off in a different manner, to project longitudinally beyond edge **33**, and form together a typically trapezoidal projecting tab **36**. The formation of this tab **36** at one end of each of the pockets **19** acts to simultaneously form at the opposite end of the next successive pocket a correspondingly shaped and typically trapezoidal cutaway **37** in the two inturned overlapping portions of the sheet material which form pocket **19**. The transverse edge **28** which is formed on the outer layer of the pocket at the second end, by the same cut which forms edge **33** of the next successive pocket, extends transversely of edges **34** and **35**, and projects substantially beyond the transverse edge **39** of cutaway **37**.

After each of the pockets **19** has been formed to the condition illustrated in FIG. 7, and without gluing the edges at **29** or any other portions of the pocket **19** together, the pocket is placed into contact with the adhesive coating **23** of an associated one of the carrier sheet portions **16'** of strip **16**, with the two inturned overlapping portions **40** of the pocket contacting the adhesive. These portions adhere to the adhesive, and are held permanently in fixed positions by the adhesive, in a manner forming an effective closure at the location of the overlapping edges **29**. Thus, any necessity for pregluing edges **29** together, as is required in conventional bag forming processes, has been eliminated. Similarly, one end of the pocket is effectively closed by engagement of the exposed end portion of outer layer **32** of the pocket forming material with adhesive **23**. More particularly, this layer contacts the adhesive between the edges **38** and **39** of FIG. 7, and over the entire area of cutaway **37**, to close that end of the pocket. The other end of the pocket remains open for reception of a packing slip or other item during its insertion into the pocket.

As will be apparent from the figures, pocket **19** is essentially rectangular in shape, and of a size to occupy the major portion of the adhesive surface **23**, but leaving a portion of the adhesive exposed for contact with an article to be shipped, this exposed portion of the adhesive extending about the periphery of pocket **19**, and preferably completely and continuously encircling that pocket to form a waterproof seal thereabout.

In using the packing slip units of FIGS. 1 through 8, assume that a carton **41** has been packed (FIG. 8), and that a packing slip **42** is to be attached to the carton to indicate its contents. The first step is to pull strip **16**

of FIG. 1 outwardly through opening **14** of the dispenser container **13** far enough to expose the next successive perforation line **15**, following which the end one of the packing units **43**, including one of the carrier sheets **16'** and its attached pocket **19**, is torn off at the perforated line. Next, the packing slip **42** is inserted into pocket **19** of that unit, with tab **36** serving as a non-adhesive surface along which the packing slip may be slid into the pocket. The entire unit is then placed against the outer surface of carton **41**, so that the adhesive **23** contacts the carton entirely about the periphery of the pocket. The adhesive then forms a waterproof protective layer at the outer side of and about the packing slip, protecting it against water damage in transit. When the carton reaches its destination, the recipient may strip carrier sheet **16'** off of the carton, at least partially, to expose the open end of pocket **19** for removal of the packing slip.

FIGS. 9 and 10 illustrate another form of pocket **19*a***, which may be substituted for pocket **19** of FIGS. 1 through 8. This pocket **19*a*** may be formed of a single piece of paper or other sheet material **43'**, forming a first layer **44'** of the pocket adjacent and contacting adhesive material **23*a***, and with the sheet material **43** being doubled or folded back at **44** to form also a second or upper layer **45** of the pocket superimposed on the first layer. The first layer may extend from fold line **44** to a parallel edge **46**, while the outer layer **45** may extend from fold line **44** only to a transverse edge **47**, to provide at **48** a tab similar to and serving the purpose of tab **36** of FIG. 7. Outer layer or sheet **45** may have two parallel opposite side edges **49**, which project beyond the adjacent edges **50** of bottom layer **44**. To allow for this relation of the edge portions of the two layers, the bottom layer **44'** may be cut away at **51**. In assembling the unit, layer **44'** is placed in direct contact with and continuously adheres to the central portion of the adhesive coating **23*a***, while outer layer **45** of the pocket contacts and adheres to the adhesive only along two narrow areas **52**, extending along the opposite sides of layer **44'**, and defined by the areas of the two typically trapezoidal cutaways **51** in the lower layer. Thus, a pocket is provided which is closed at three sides, and open only at the location of edge **47**.

FIG. 11 shows the manner in which the blanks **53** for forming pockets **19*a*** of FIG. 9 may be cut easily and with little waste from an elongated strip of paper, whose length extends in an up and down direction as viewed in FIG. 11. This strip of paper may have two opposite side edges **54**, and may be cut transversely of these edges along lines represented at **55**, with cutaways being formed at **56**, to provide a series of the blanks whose fold lines **44** are located as illustrated in FIG. 11.

The carrier sheet **16*a*** may be formed the same as sheet **16'** of FIG. 1, and the unit of FIGS. 9 and 10 may in other respects be the same as that described in FIGS. 1 through 8, and be utilized in the same manner for shipping purposes.

FIGS. 12 and 13 show still another form of the invention, which may be identical with that of FIG. 1 except as to the formation of pocket **19*b*** from two separate rectangular pieces of paper or other sheet material **57** and **58**. The lower sheet **57** contacts adhesive **23*b***, while the upper layer or sheet **58** overlies a portion of sheet **57**, but has three edge portions **59** projecting beyond three edges of sheet **57**, to contact and be retained by the adhesive. In this way, the overlapping edges **59** of sheet **58** are held in positions maintaining those three edges of the pocket closed, while the interior of the pocket is accessible through the fourth edge **60** of sheet **58**. The use of this form of the invention is the same as has been discussed in connection with the other form.

I claim:

1. A preassembled packing unit comprising a carrier sheet of flexible material to be secured to an article to be shipped and having inner and outer surfaces, a coating of adhesive on said inner surface of said carrier sheet, and a thin pocket formed of sheet material and adapted to receive an item which is to accompany said article, said pocket being secured to said inner surface of said carrier sheet by said adhesive prior to insertion of an item in said pocket and prior to adhesive attachment of said carrier sheet and said pocket as a unit to said article, said pocket including a first layer of sheet material adhered to said adhesive and a second layer superimposed on said first layer at a side thereof facing away from said carrier sheet for reception of said item between the first and second layers, said first layer of sheet material having an edge portion extending along one edge of said pocket, said second layer having an edge portion extending along said one edge of the pocket and projecting beyond said edge portion of the first layer and adhered to said adhesive therebeyond in a relation maintaining said pocket closed along said one edge thereof, said carrier sheet having portions projecting outwardly beyond the periphery of said pocket and carrying said adhesive at locations exposed for contact with said article to secure the carrier sheet and pocket to the article.

2. A preassembled packing unit comprising a carrier sheet of flexible material to be secured to an article to be shipped and having inner and outer surfaces, a coating of adhesive on said inner surface of said carrier sheet, and a thin pocket formed of sheet material and adapted to receive an item which is to accompany said article, said pocket being secured to said inner surface of said carrier sheet by said adhesive prior to insertion of an item in said pocket and prior to adhesive attachment of said carrier sheet and said pocket as a unit to said article, said pocket including a first layer of sheet material adhered to said adhesive and a second layer superimposed on said first layer at a side thereof facing away from said carrier sheet for reception of said item between the first and second layers, said first layer of sheet material having two edge portions extending along opposite side edges of said pocket, said second layer having opposite edge portions projecting laterally beyond said two edge portions respectively of the first layer and adhered to said adhesive, said carrier sheet having portions projecting outwardly beyond the periphery of said pocket and beyond said edge portions of the second layer and carrying said adhesive at locations exposed for contact with said article to secure the carrier sheet and pocket to the article.

3. A packing unit as recited in claim **2**, in which said first and second layers are portions of a single sheet of material which is doubled back along a third edge of the pocket.

4. A packing unit as recited in claim **2**, in which said first and second layers are two separately formed sheets and said second layer has a third edge portion extending beyond a third edge of said first layer and adhered to said adhesive.

5. A preassembled packing unit comprising a carrier sheet of flexible material to be secured to an article to be shipped and having inner and outer surfaces, a coating of adhesive on said inner surface of said carrier sheet, and a thin pocket formed of sheet material and adapted to receive an item which is to accompany said article, said pocket being secured to said inner surface of said carrier sheet by said adhesive prior to insertion of an item in said pocket and prior to adhesive attachment of said carrier sheet and said pocket as a unit to said article, said pocket including a single sheet of material which is turned inwardly along at least one side edge thereof to form an essentially tubular pocket having a first layer adjacent said adhesive and a second layer superimposed on the first layer at a side thereof facing away from the carrier sheet for reception of said item between the layers, said second layer having an end edge extending beyond an adjacent end edge of the first layer and adhered to said adhesive to close the tubular pocket at that end, said car-

rier sheet having portions projecting outwardly beyond the periphery of said pocket and carrying said adhesive at locations exposed for contact with said article to secure the carrier sheet and pocket to the article.

6. A preassembled packing unit comprising a carrier sheet of flexible material to be secured to an article to be shipped and having inner and outer surfaces, a coating of adhesive on said inner surface of said carrier sheet, and a thin pocket formed of sheet material and adapted to receive an item which is to accompany said article, said pocket being secured to said inner surface of said carrier sheet by said adhesive prior to insertion of an item in said pocket and prior to adhesive attachment of said carrier sheet and said pocket as a unit to said article, said pocket including a single sheet of material which is turned inwardly along two opposite side edges thereof to form an essentially tubular pocket having a first layer adjacent and adhered to said adhesive and consisting of two inturned edges of the sheet, and a second layer superimposed on said first layer at a side thereof facing away from said carrier sheet for reception of said item between the layers, said second layer having an end edge extending generally transversely of said inturned edges at a first end of the pocket and extending beyond an adjacent end edge of the first layer and adhered to said adhesive to close the tubular pocket at that end, said first layer having an end tab at the opposite end of the pocket projecting beyond a corresponding end of said second layer, said carrier sheet having portions projecting outwardly beyond the periphery of said pocket and completely surrounding said pocket and carrying said adhesive entirely about the pocket exposed for contact with said article to secure the carrier sheet and pocket to the article.

7. A packing unit as recited in claim 6, in which said single sheet of material forming the pocket has a cutaway at said first end of the pocket shaped in correspondence with said tab at the opposite end.

8. A preassembled packing unit comprising a carrier sheet of flexible material to be secured to an article to be shipped and having inner and outer surfaces, a coating of adhesive on said inner surface of said carrier sheet, and a thin pocket formed of sheet material and adapted to receive an item which is to accompany said article, said pocket being secured to said inner surface of said carrier sheet by said adhesive prior to insertion of an item in said pocket and prior to adhesive attachment of said carrier sheet and said pocket as a unit to said article, said pocket including a single sheet of material which is turned inwardly along two opposite side edges thereof to form an essentially tubular pocket having a first layer adjacent and adhered to said adhesive and consisting of two inturned edges of the sheet, and a second layer superimposed on said first layer at a side thereof facing away from said carrier sheet for reception of said item between the layers, said two inturned edges of the sheet being retained by said adhesive in fixed relative positions and against relative shifting movement, and being free of other direct attachment together for retaining them against relative displacement, said carrier sheet having portions projecting outwardly beyond the periphery of said pocket and carrying said adhesive at locations exposed for contact with said article to secure the carrier sheet and pocket to the article.

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