July 29, 1969 D. D. COMPTON ET AL 3,458,109

TUBULAR PROTECTOR AND BLANKS FOR MAKING SAME

Filed Aug. 10, 1967 3 Sheets-Sheet 1

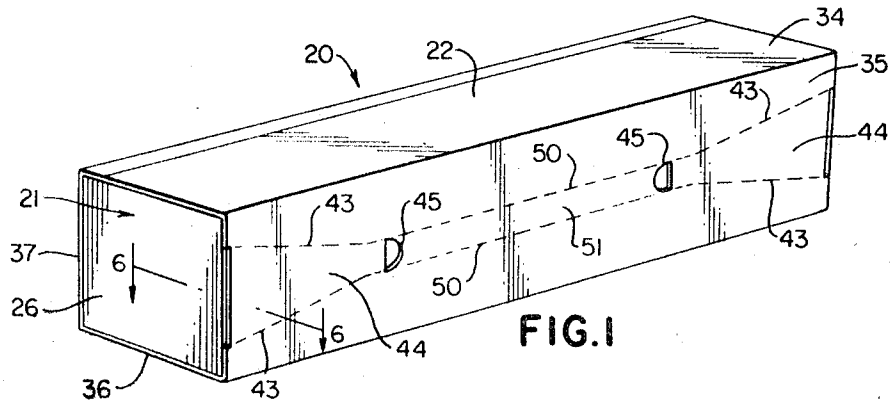


FIG. 1

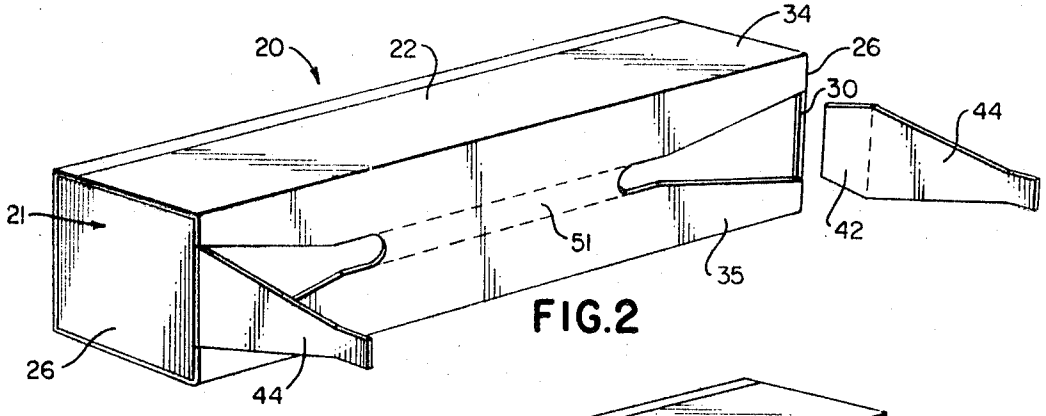


FIG. 2

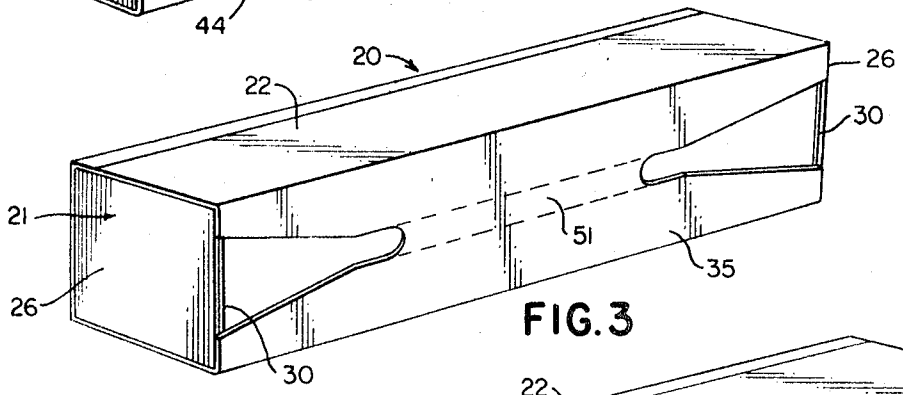


FIG. 3

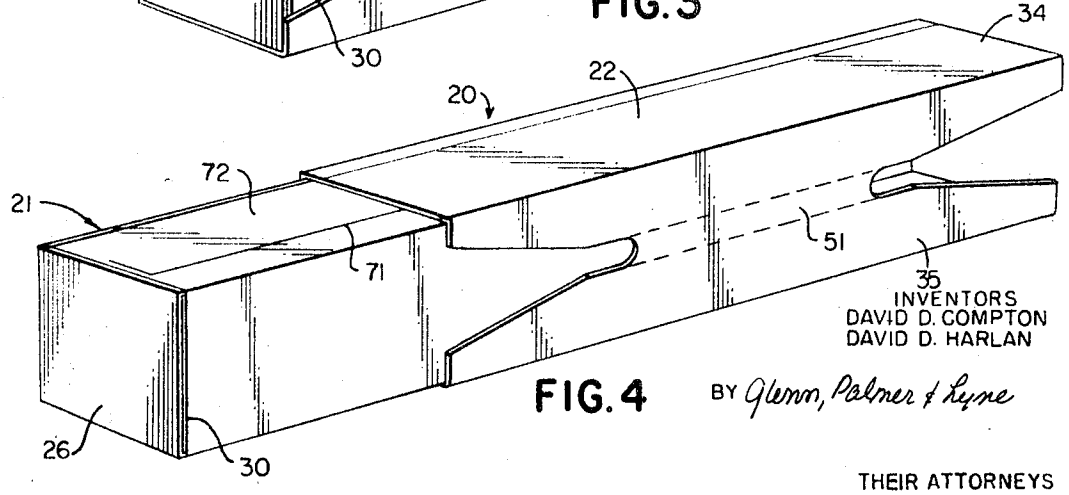


FIG. 4

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TUBULAR PROTECTOR AND BLANKS FOR MAKING SAME

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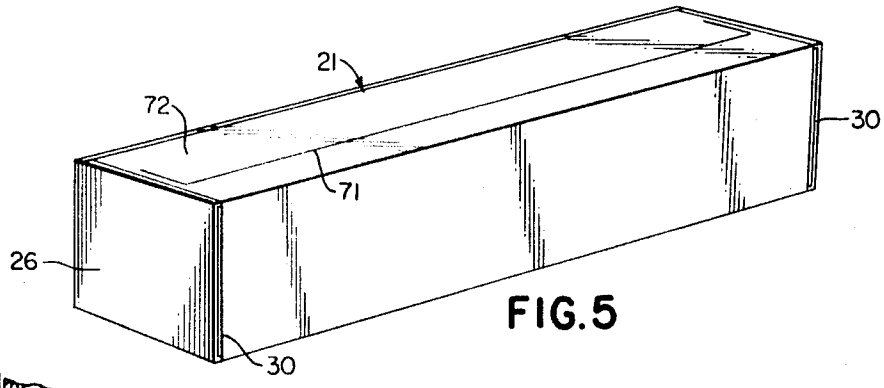


FIG.5

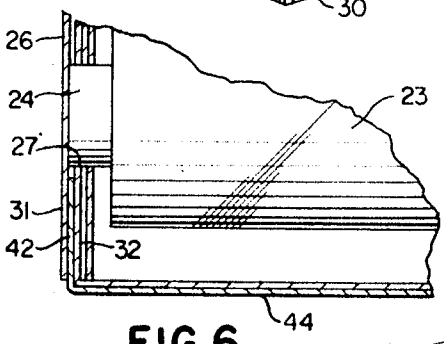


FIG.6

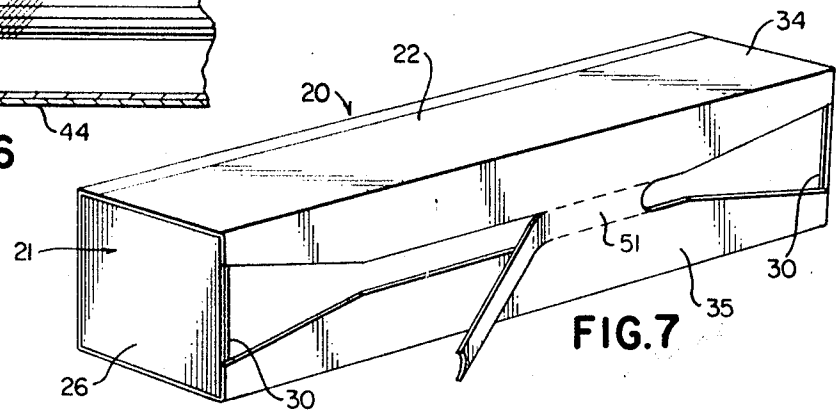


FIG.7

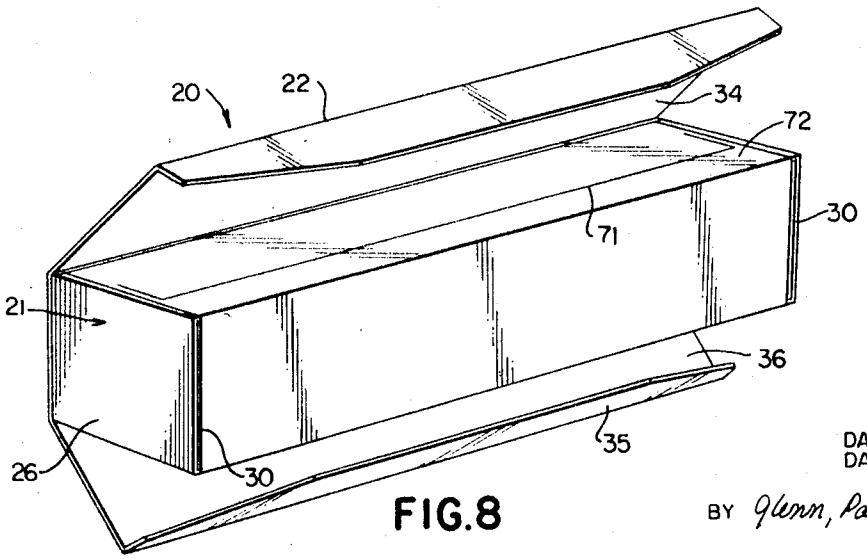


FIG.8

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TUBULAR PROTECTOR AND BLANKS FOR MAKING SAME

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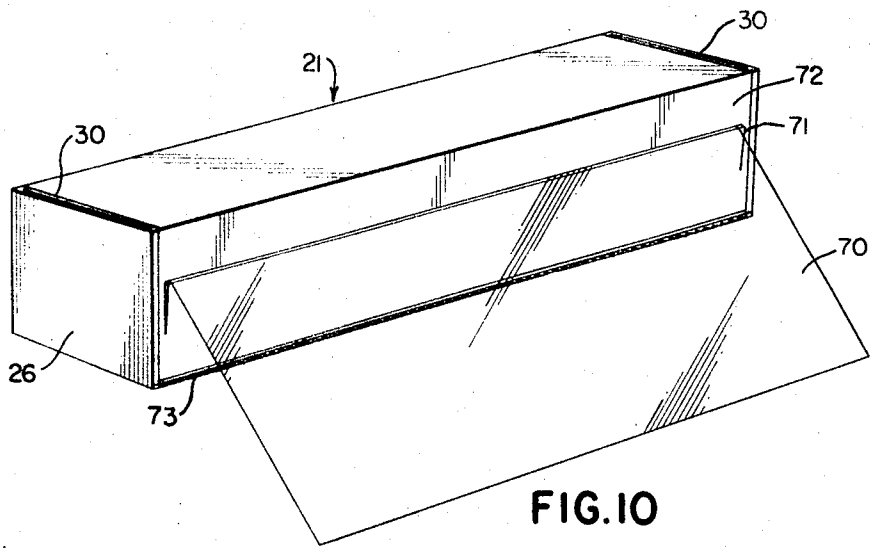


FIG. 10

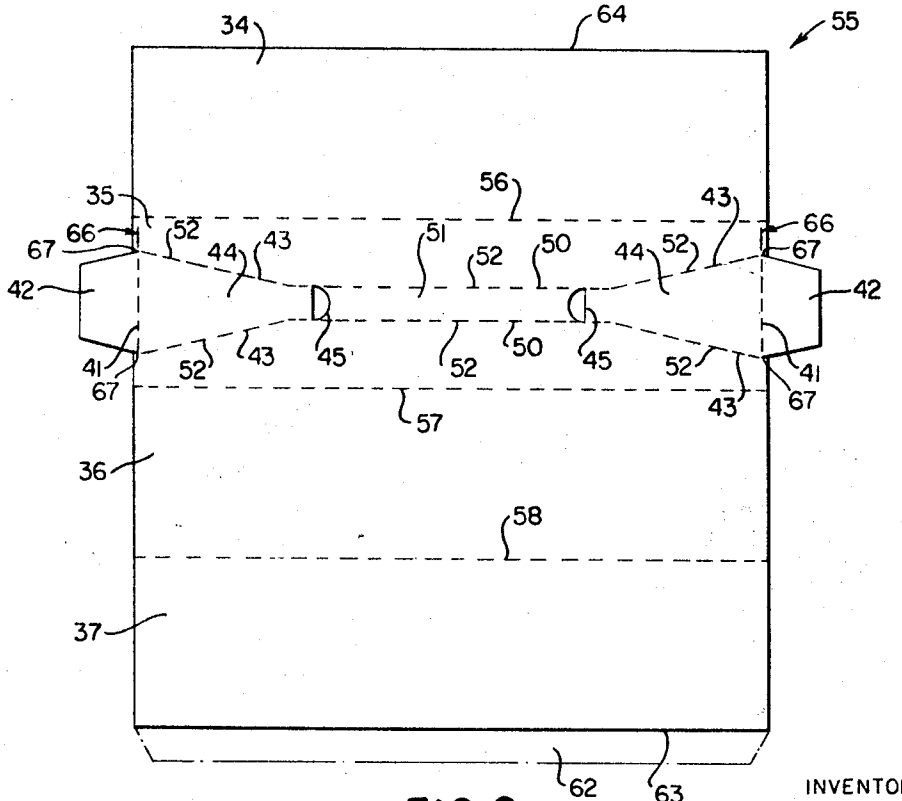


FIG. 9

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TUBULAR PROTECTOR AND BLANKS FOR MAKING SAME

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Int. Cl. B65d 13/06, 5/56, 5/60
U.S. Cl. 229—9 13 Claims

ABSTRACT OF THE DISCLOSURE

This disclosure relates to a tubular protector for protecting a dispensing carton for sheet material provided in roll form to assure that the dispensing carton is not damaged during transportation and handling. The tubular protector has fastening flap means extending from its opposite ends which are adapted to be inserted within transverse slot means provided in the associated dispensing carton being protected to hold the tubular protector in a protecting position. Means is provided to enable easy removal of the fastening flap means from within the transverse slot means and thereby readily remove the dispensing carton from within the tubular protector.

BACKGROUND OF THE INVENTION

Presently, many products are individually overwrapped by sheet material such as plastic sheet material, for example, which is transported, sold, and stored in roll form in an associated dispensing carton for each roll thereof. Particularly in those instances where a comparatively large roll of plastic sheet material is provided there is often considerable damage to the associated dispensing carton during transportation and handling which makes it quite difficult to use such dispensing carton for its intended purpose.

SUMMARY

This invention provides a substantially tubular protector which is easily fastened and held in a protective position around an associated dispensing carton such as a dispensing carton for plastic sheet material, for example, and which provides optimum protection for such dispensing carton during transportation and handling and has integral means provided in such tubular protector to enable easy removal thereof from its associated dispensing carton.

Other details, uses, and advantages of this invention will become apparent as the following description of the embodiment thereof presented in the accompanying drawing proceeds.

BRIEF DESCRIPTION OF THE DRAWING

The accompanying drawing shows a present preferred embodiment of this invention, in which:

FIGURE 1 is a perspective view illustrating an exemplary tubular protector of this invention installed in position over an associated dispensing carton;

FIGURE 2 is a perspective view illustrating the first of a series of three steps used to remove the tubular protector of FIGURE 1 from its associated dispensing carton showing the manner of severing away end tear-out strip means and adjoining fastening flap means comprising such tubular protector;

FIGURE 3 is a perspective view illustrating the second of such series of three steps showing the fastening flap means completely removed from the package construction;

FIGURE 4 is a perspective view illustrating the third step of such series of steps wherein the dispensing carton is axially slid from within the tubular protector;

FIGURE 5 is a perspective view of the dispensing carton of FIGURE 1 with the tubular protector removed;

FIGURE 6 is a sectional view on the line 6—6 of FIGURE 1 showing the manner in which fastening flap means comprising the tubular protector is inserted in position within associated transverse slot means provided in the dispensing carton;

FIGURE 7 is a perspective view of the package construction as presented in FIGURE 3 particularly illustrating the manner of further severing an elongated centrally arranged tear-out strip privided in one of the rectangular wall means of the tubular protector;

FIGURE 8 illustrates the manner of opening the tubular protector after severing the central tear-out strip to enable removal of the dispensing carton;

FIGURE 9 is a plan view of the blank used to make the tubular protector of FIGURE 1; and

FIGURE 10 is a perspective view illustrating the manner of dispensing the plastic sheet material from within the dispensing carton of FIGURE 1 after removal of the tubular protector.

DESCRIPTION OF ILLUSTRATED EMBODIMENT

In the exemplary embodiment of this invention illustrated in FIGURE 1 of the drawing an improved package construction designated generally by the numeral **20** is illustrated. Package construction or package **20** comprises a dispensing carton for sheet material having the general shape of a parallelepiped and designated generally by the numeral **21** which is protected by a substantially tubular protector of this invention designated by the numeral **22**.

Sleeve or tubular protector **22** has a substantially rectangular peripheral outline which corresponds to the associated rectangular outline of the dispensing carton **21**. The tubular protector **22** is adapted to protect the dispensing carton **21** against crushing or other deformation during transportation and handling thereof and assure that the dispensing carton **21** may be effectively used to dispense the roll of sheet material carried therein and provided in roll form. The roll of sheet material designated by the numeral **23** (see FIGURE 6) is rotatably supported in a known manner on a supporting mandrel therefor designated by the numeral **24**.

The dispensing carton **21** has multiple thickness end walls each designated by the same numeral **26** and substantially cylindrical surface means designated by the numeral **27** is provided through inner layers of each multiple thickness end wall **26** in the manner essentially as shown for one wall in FIGURE 6 to thereby support opposite ends of the mandrel **24**. With mandrel **24** thus supported, the sheet material may thus be unrolled from supply roll **23** by pulling the free end thereof as will be described in more detail later in this specification.

Each multiple thickness end wall **26** of carton **21** is defined by a plurality of extension flap means extending from adjoining side wall means and such extension flap means are attached together in any suitable manner so as to define transverse slot means shown as a transverse slot **30** (see particularly FIGURES 2 and 6) for receiving therewithin an associated fastening flap means comprising tubular protector **22** and in a manner as will be subsequently described. Each transverse slot **30** in each end wall **26** comprising dispensing carton **21** presented with this example of the invention is defined by a pair of cooperating surface means designated by the numerals **31** and **32**. Only one end wall **26** of carton **21** is presented in sectional detail in FIGURE 6 and it is to be understood that the opposite end wall is substantially similar and thus will not be shown in detail.

Tubular protector 22 has fastening flap means as previously mentioned and shown in this example of the invention as a pair of fastening flaps each designated by the numeral 42 extending from opposite ends thereof, see particularly FIGURES 2 and 9. Each fastening flap 42 is adapted to be inserted in an associated transverse slot 30 of dispensing carton 21 to hold carton 21 within the protector 22 and between the fastening flaps 42.

Tubular sleeve protector 22 presented in this example of the invention has a plurality of substantially rectangular wall means shown as four rectangular walls designated by the numerals 34, 35, 36, and 37. Walls 34–37 are foldably connected together to form tubular sleeve-like protector 22 which has a rectangular cross-sectional outline, taken perpendicular to the elongated axis of tubular protector 22. The tubular protector 22 is dimensioned so that it fits snugly around the dispensing carton 21.

Tubular protector 22 has a pair of score means each designated by the numeral 41 defining opposite end edge means of one of its rectangular wall means which in this example of the invention is illustrated as rectangular wall 35. Each fastening flap means or fastening flap 42 is provided so that it extends outwardly of each associated score means 41. Each score means 41 enables its associated fastening flap 42 to be easily folded substantially transverse to rectangular wall 35 and within the peripheral outline of tubular protector 22 for insertion within an associated rectangular slot 30 provided in dispensing carton 21.

Tubular protector 22 also has a pair of weakened lines of separation extending inwardly along the tubular protector from opposite ends of each of the score means 41. In this example of the invention the weakened lines of separation are shown as a pair of symmetrically arranged lines extending inwardly along rectangular wall 35 from the opposite end edges of each score means 41 and each designated by the numeral 43.

The weakened lines of separation 43 adjacent each end of wall 35 define an end tear-out strip therebetween which is designated by the numeral 44. Thus, it is seen that an end tear-out strip 44 is provided adjacent each end of tubular protector 22.

Tubular or sleeve protector 22 also has integral grasping means provided for grasping the inner end portion of each end tear-out strip 44 to enable easy severing thereof and quick removal of the associated adjoining fastening flap means 42 from within its associated transverse slot means 30. The grasping means in this exemplary embodiment of the invention comprise opening means such as a pair of openings each designated by the numeral 45 and formed in rectangular wall 35 in spaced apart relation.

Each opening 45 may be of any suitable configuration and in this example of the invention each opening 45 is of semicircular outline. Thus, each end tear-out strip 44 may be easily torn out by inserting a fingernail, or the like, through an associated opening 45, grasping the adjoining surface means of strip 44, and pulling outwardly in the manner shown in FIGURE 2. Upon tearing out each end tear-out strip 44, the adjoining fastening flap 42 is easily removed from within its associated transverse slot 30 of dispensing carton 21.

Tubular protector 22 also has a central pair of spaced apart weakened lines of separation each designated by the same numeral 50. Weakened lines of separation 50 are preferably arranged in parallel relation and extend between the pair of opening means or openings 45 provided in wall 35 of tubular protector 22. The lines of separation 50 arranged between openings 45 define a central tear-out strip in rectangular wall 35 designated by the numeral 51.

As previously mentioned, each pair of lines of separation 43 provided at each end of tubular protector 22 preferably extend from opposite ends of an associated score means 41 in a symmetrical manner toward an associated semi-circular opening 45 and are arranged to coincide with opposite side edge means of such opening 45. The centrally arranged lines of separation 50 are arranged in parallel spaced apart relation as previously mentioned and at each end coincide with the same side edge means of an opening 45 as an adjacent pair of weakened lines of separation 43. Thus, it is seen that in this example of the invention the lines of separation provided in rectangular wall 35 define tear-out strip means which extend substantially longitudinally across the entire length of rectangular wall 35.

The weakened lines of separation 43 and 50 provided in rectangular wall 35 may be formed in any suitable manner. However, in this example of the invention such lines of separation are preferably defined by a plurality of elongated slits arranged end to end and in suitably spaced apart relation. A representative few of the elongated slits have been designated by the same numeral 52.

The preferred manner of fastening the tubular protector 22 in position around carton 21 is to first fold the fastening flaps 42 about their associated score means 41 so that fastening flaps 42 extend substantially transverse, i.e. perpendicular in this example, to rectangular wall 35. The tubular protector 22 is then installed in position so that each of its fastening flaps 42 is inserted within an associated transverse slot 30 of dispensing carton 21. The protector 22 is then suitably fastened in position around the dispensing carton 21 utilizing suitable adhesive means or utilizing adhesive tape means to firmly secure the tubular protector 22 in position with the fastening flaps 42 firmly inserted in position to prevent relative axial movement between protector 22 and carton 21.

Having described the tubular protector 22, its associated dispensing carton 21, and typical techniques which may be employed to install the tubular protector 22 in position around carton 21; the disclosure will now proceed with reference to FIGURES 2–4 of the drawings to present the simplicity with which the dispensing carton 21 may be removed from within its tubular protector 22.

Thus, as seen in FIGURE 2 of the drawings, it is a simple matter to insert a fingernail, or the like, within each opening 45 and pull the associated end tear-out strip 44 in a direction substantially normal to associated rectangular wall 35 and thereby sever each end tear-out strip 44 along the weakened lines of separation 43 arranged defining the side edge means of each end tear-out strip 44. Having thus severed each end tear-out strip 44, the tear-out strip 44 and the adjoining fastening flap 42 may be easily pulled free of the package construction and in particular each fastening flap 42 may be readily removed from within its associated transverse slot 30, see the right hand end of the package construction as viewed in FIGURE 2.

Upon severing or tearing out both end tear-out strips 44, strips 44 and their adjoining fastening flaps 42 are removed to effectively provide a package construction as shown in FIGURE 3 of the drawings. The package construction presented in FIGURE 3 is such that the dispensing carton 21 is now free to be axially moved relative to its tubural protector 22 and one technique for removing the carton 21 from within tubular protector 22, which would enable reuse of protector 22 with some protection to carton 21, is to slide the dispensing carton 21 from within tubular protector 22 in the manner illustrated in FIGURE 4 of the drawings.

However, it may be preferred to remove the dispensing carton 21 from within its tubular protector 22 and discard such protector. In this instance the central tear-out strip 51 is also torn out by grasping either end portion thereof and pulling outwardly substantially transverse to associated rectangular wall 35 in the manner shown in FIGURE 7 to define the resulting package construction shown in FIGURE 8 of the drawings.

Thus, upon tearing out end tear-out strips 44 by tearing along associated weakened lines of separation 43 as well as tearing out the central tear-out strip 51 by severing along the weakened lines of separation 50, carton 21

may be easily removed from within the tubular protector 22 by lifting the carton substantially normal to the axis of the tubular protector 22.

Tubular protector 22 can be formed in any suitable manner and made from any suitable foldable material. It is preferably formed from the blank 55 illustrated in FIGURE 9 of the drawings. Blank 55 is made of cardboard, or the like, and may have a side such as the exterior surface thereof laminated with metallic foil, such as aluminum-containing metallic foil, or the like, suitably colored, embossed, imprinted, or remaining plain, as desired.

Blank 55 is suitably cut and scored and adapted to be assembled together to define the resulting tubular sleeve protector 22 having a substantially rectangular peripheral outline and initially having open ends. Blank 55 comprises a main central portion having a plurality of three parallel spaced apart score lines extending completely thereacross and designated by the numerals 56, 57, and 58 and defining respectively rectangular wall 34 outwardly of score line 56, rectangular wall 35 between score lines 56 and 57, rectangular wall 36 between score lines 57 and 58, and rectangular wall 37 extending outwardly of score line 58.

The presentation of FIGURE 9 also shows, by dotted lines, an extension flap 62 extending outwardly of edge means 63 comprising one side edge of rectangular wall 37. The extension flap 62 is adapted to be folded coplanar with an associated portion of surface means of wall 34 and may be fastened in position in any suitable manner as by adhesive means such as glue, or the like.

However, in one preferred embodiment of this invention the blank 55, which is shown by solid lines in FIGURE 9, is folded in position around an associated dispensing carton 21 in the manner illustrated in FIGURE 1 with side edge 63 of wall 37 placed against side edge 64 of wall 34 and any suitable means such as adhesive tape, or the like, may be used to fasten the blank together and define the resulting tubular protector 22.

The blank 55 illustrated in FIGURE 9 and used to make protector 22 has the various score means, weakened lines of separation, fastening flap means, and opening means provided therein in the manner as previously described in connection with the description of tubular protector 22; therefore, such description will not be repeated. Thus, the previous description of the various portions of tubular protector 22 is fully applicable to corresponding portions of the blank 55 which have been designated with identical reference numerals.

The rectangular walls 34–37 defined in blank 55 are of equal length and fastening flaps 42 extend outwardly beyond opposite ends of wall 35. In addition, it will be noted that each score means 41 is arranged parallel to and inwardly of an associated end edge of wall 35 a predetermined distance as shown at 66 at each end. Wall 35 also has a pair of slits each designated by the numeral 67 extending from opposite ends of each score line 41 to the adjacent outer end edge. Each score line 41 and adjoining slits 67 assure that in the resulting protector 22 made from blank 55 each flap 42 will be accurately received within an associated transverse slot 30 of associated dispensing carton 21. It will be appreciated that the placing of each score line 41 adjacent an associated end of rectangular wall 35 as well as the length of associated slits 67 could be changed to locate the associated fastening flap 42 at any desired position relative to the end or center of the resulting tubular protector and as required by the particular carton 21 associated with each tubular protector 22.

The exemplary dispensing carton 21, over which tubular protector 22 is installed, is shown in FIGURE 10 which illustrates transparent plastic sheet material 70, such as polyvinylchloride, or the like, being pulled out of an associated dispensing opening 71 provided in the front wall 72 of dispensing carton 21. The exemplary dispensing carton 21 is also provided with a cutting means shown as a substantially saw toothed cutting edge 73 adjacent its bottom wall. Thus, the plastic sheet 70 is pulled upwardly out of the dispensing carton 21 and then downwardly against the cutting edge 73 to sever a portion thereof of a predetermined desired length.

In this example of the invention, the tubular protector 22 has been shown as having a substantially rectangular peripheral outline corresponding to the associated outline of carton 21; however, it will be appreciated that a tubular protector in accordance with this invention may be provided which has any desired number of side walls while having open ends or a tubular protector may be of substantially right circular cylindrical configuration. In each instance the particular configuration of the sleeve protector would be made to correspond with the outer peripheral outline of an associated dispensing carton to be protected therewithin.

In this example of the invention, the tubular protector 22 is shown as having a central tear-out strip 51 in wall 35. However, in using protector 22 in the manner illustrated and described in connection with FIGURE 4 of the drawing, it will be appreciated that weakened lines of separation 50 and hence central tear-out strip 51 may be effectively eliminated from protector 22 if desired.

Also, it will be appreciated that the particular tear-out strips shown in wall 35 in the tubular protector 22 of this example may be provided in any of the four walls as desired.

The tubular protector 22 of this invention is of utmost simplicity, is easy to form in an economical manner from a single sheet of material which has a substantially rectangular outline, and may be formed economically by using currently available package forming equipment.

Terms such as "inwardly," "outwardly," "front," "side wall," "ends," and the like, have been used in this disclosure of the invention for ease of description and to correspond to the arrangement of component parts as illustrated in the drawings and such terms should not be considered as limiting the scope of this invention in any way.

Thus, it is seen that an improved tubular protector of simple and economical construction has been provided by this invention.

Further, this invention provides improved blanks for making such a tubular protector, or the like.

What is claimed is:

1. A substantially tubular protector having wall means defining its tubular outline and comprising, a single pair of planar fastening flaps extending from opposite ends of said tubular protector with each fastening flap being folded into a single plane, a pair of score means each comprising an associated end edge of said wall means and defining the base of an associated fastening flap, each of said score means enabling its associated fastening flap to be easily folded substantially transverse and within the tubular outline of said tubular protector for insertion of each fastening flap within an associated transverse slot means provided in an associated carton to be protected to hold said tubular protector in position, a pair of weakened lines of separation extending inwardly along said tubular protector from opposite ends of each of said score means defining an end tear-out strip therebetween, and grasping means for grasping the inner end portion of each end tear-out strip to enable severing thereof and hence quick severing and removal of the associated adjoining fastening flap from within its associated transverse slot means to enable easy removal of said carton from within said tubular protector.

2. A tubular protector as set forth in claim 1 in which said grasping means comprises cut-out opening means in said wall means adjoining each pair of weakened lines of separation, said cut-out opening means enabling easy grasping of each end tear-out strip.

3. A tubular protector as set forth in claim 1 in which said wall means comprises a plurality of substantially rectangular walls connected together to define said tubular outline, with said pair of score means defining opposite end edges of one of said rectangular walls.

4. A tubular protector as set forth in claim 3 in which said grasping means comprises a pair of spaced apart openings in said one rectangular wall each enabling easy grasping of an associated end tear-out strip and further comprising a central pair of spaced apart lines of separation extending between said pair of openings and defining a central tear-out strip in said one rectangular wall, said lines of separation enabling said end and central tear-out strips to be easily torn away to effectively longitudinally sever said one rectangular wall and enable removal of said carton from within said tubular protector by lifting said carton substantially normal to the longitudinal axis of said tubular protector.

5. A tubular protector as set forth in claim 4 in which each pair of lines of separation extending from each of said score means is symmetrically arranged and extends toward its associated opening in a converging manner and said central pair of lines of separation extend in parallel spaced apart relation between said pair of openings.

6. In combination: a dispensing carton for sheet material provided in roll form having a pair of multiple thickness end walls each formed by extension flap means extending from its associated side wall means and attached together to define transverse slot means between immediately adjacent extension flap means of each end wall, and a substantially tubular protector for said carton, said tubular protector having wall means defining its tubular outline and comprising, a single pair of planar fastening flaps extending from opposite ends thereof with each fastening flap being folded into a single plane, a pair of score means each comprising an associated end edge of said wall means and defining the base of an associated fastening flap, each of said score means enabling its associated fastening flap to be easily folded substantially transverse said tubular protector for insertion of each fastening flap means within an associated slot means to hold said tubular protector in position around said carton, a pair of weakened lines of separation extending inwardly along said tubular protector from opposite ends of each of said score means defining an end tear-out strip therebetween, and grasping means for grasping the inner end portion of each end tear-out strip to enable severing thereof and removal of the associated adjoining fastening flap from within its associated transverse slot means to enable easy removal of said carton from within said tubular protector.

7. The combination as set forth in claim 6 in which said wall means comprises a plurality of substantially rectangular walls connected together to define said tubular outline with said pair of score means defining opposite end edges of one of said rectangular walls.

8. The combination as set forth in claim 7 in which said grasping means in said tubular protector comprises opening means defined by cut-out means in said one rectangular wall adjoining each pair of weakened lines of separation, said cut-out opening means enabling easy grasping of each end tear-out strip.

9. The combination as set forth in claim 7 in which said grasping means in said tubular protector comprises a pair of spaced apart openings defined by cut-outs in said one rectangular wall each opening enabling easy grasping of an associated end tear-out strip and said tubular protector further comprises a central pair of spaced apart lines of separation extending between said pair of openings and defining a central tear-out strip in said one rectangular wall, said lines of separation enabling said end and central tear-out strips to be easily torn away to effectively longitudinally sever said one rectangular wall and enable removal of said carton from within said tubular protector by lifting said carton substantially normal to the longitudinal axis of said tubular protector.

10. The combination as set forth in claim 9 in which each pair of lines of separation extends from its associated score means in a symmetrically converging manner and intersects side edge means of its associated opening and said central pair of lines of separation extend in parallel spaced apart relation between said pair of openings.

11. A blank being cut and scored and adapted to be assembled to define a resulting substantially tubular protector, said blank comprising a main central portion and a single pair of fastening flaps extending outwardly of opposite ends of said central portion with each fastening flap being adapted to be folded into a single plane, a pair of parallel spaced apart score means in said central portion each defining opposite end edge means of said central portion and each having an associated one of said fastening flaps extending outwardly thereof, each of said score means enabling its associated fastening flap to be easily folded in said resulting tubular protector to extend substantially transverse and within the tubular outline of said resulting tubular protector for insertion of each flap within an associated transverse slot means provided in an associated carton to be protected to hold said resulting tubular protector in position, a pair of weakened lines of separation extending inwardly along said blank from opposite ends of each of said score means defining an end tear-out strip therebetween, and integral grasping means for grasping the inner end portion of each end tear-out strip, each of said grasping means enabling severing of the associated end tear-out strip and removal of the associated adjoining fastening flap in said resulting tubular protector from within its associated transverse slot means to enable easy removal of said carton from within said resulting tubular protector.

12. A blank as set forth in claim 11 and further comprising, a plurality of parallel spaced apart score lines in said central portion defining a plurality of rectangular walls, said rectangular walls being adapted to be arranged together to define said tubular outline in said resulting tubular protector, and said pair of score means defining opposite end edge means of one of said rectangular walls.

13. A blank as set forth in claim 12 in which said grasping means comprises a pair of spaced apart openings in said one rectangular wall each enabling easy grasping of an associated end tear-out strip and said blank further comprising a central pair of spaced apart lines of separation extending between said pair of openings and defining a central tear-out strip in said one rectangular wall, said lines of separation enabling said end and central tear-out strips to be easily torn away so that in said resulting tubular protector said one rectangular wall may be effectively longitudinally severed to enable lifting said carton from within said resulting tubular protector while lifting substantially normal to the longitudinal axis of said resulting tubular protector.

References Cited

UNITED STATES PATENTS

1,905,992	4/1933	Bogren	229—51 X
1,932,705	10/1933	Menten	229—9 X
2,020,799	11/1935	Randall	229—51
2,121,190	6/1938	Fellowes.	
2,317,040	4/1943	Ethridge	229—9
2,894,674	7/1959	Wagaman	229—51 X
3,144,970	8/1964	Beschmann	206—58 X
3,237,826	3/1966	Ringholz et al.	206—58 X
3,315,874	4/1967	Buttery	229—51
3,326,364	6/1967	Waldrop et al.	229—51

DAVIS T. MOORHEAD, Primary Examiner

U.S. Cl. X.R.

206—58; 229—51