July 26, 1966 R. V. BURT ETAL 3,262,620

COMBINATION DISPLAY AND DISPENSING PACKAGE FOR A ROLL OF CONTINUOUS SHEETING MATERIAL

Filed Feb. 1, 1965 3 Sheets-Sheet 1

Fig. 1

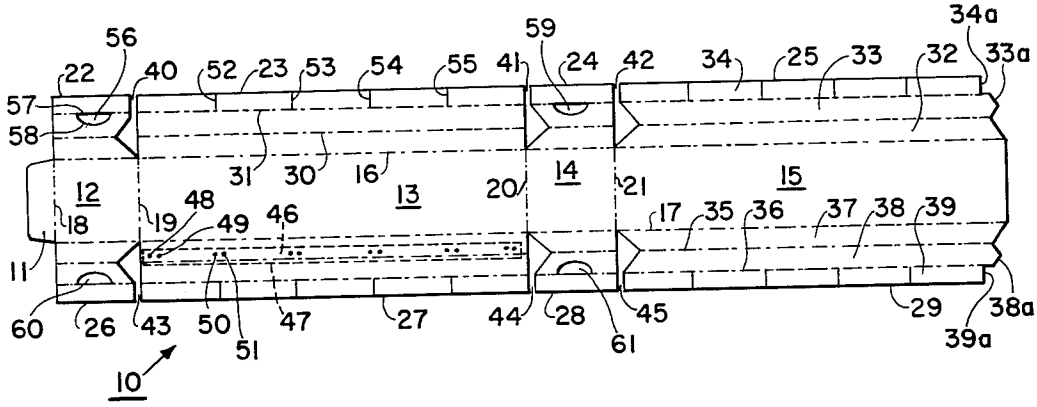


Fig. 2

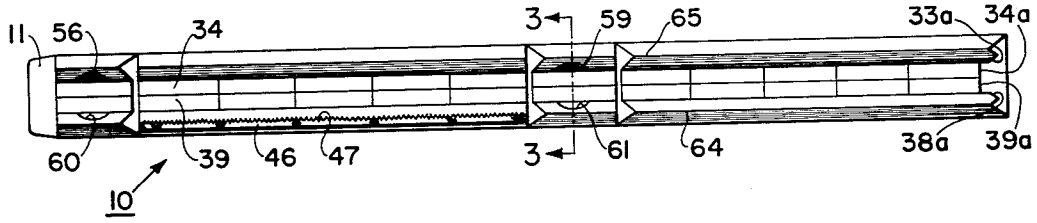
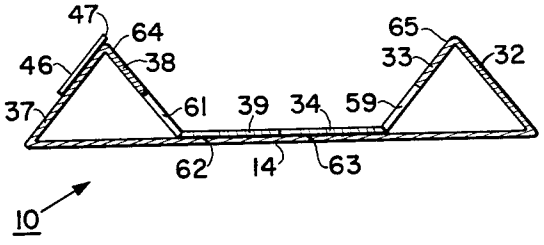


Fig. 3



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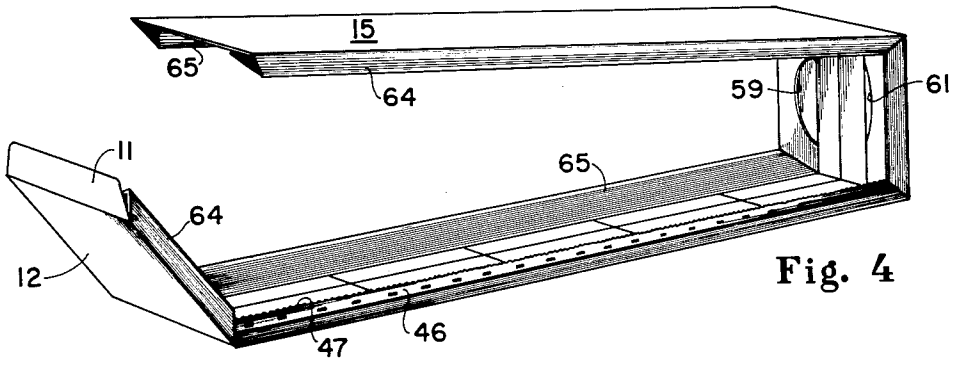


Fig. 4

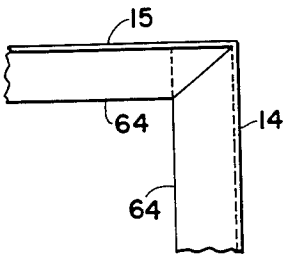


Fig. 5

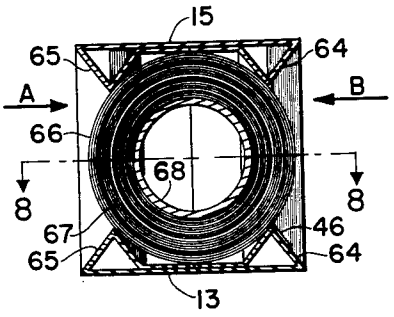
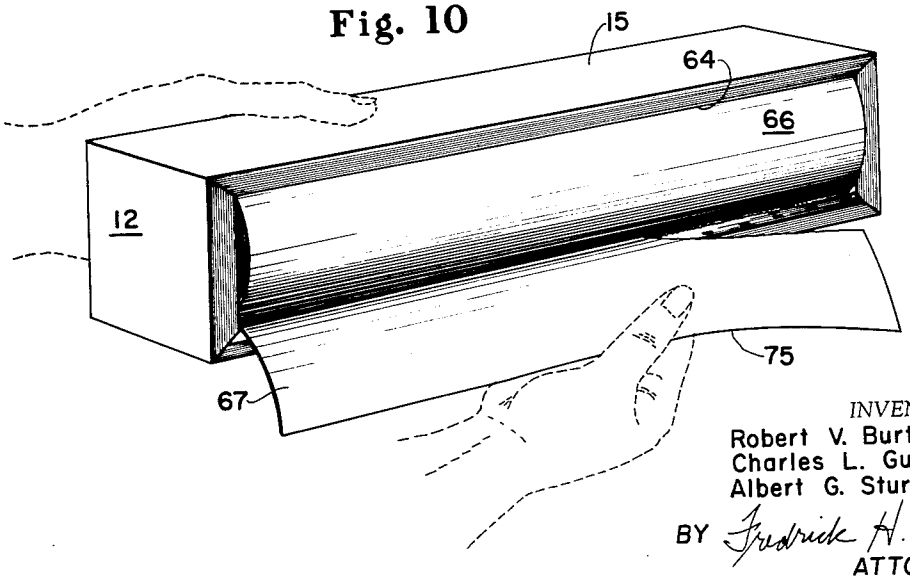


Fig. 7

Fig. 10



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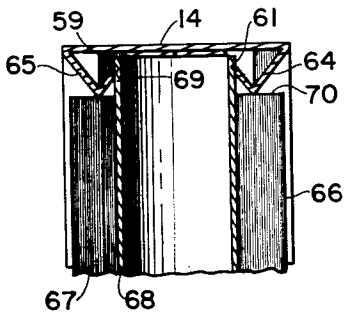


Fig. 8

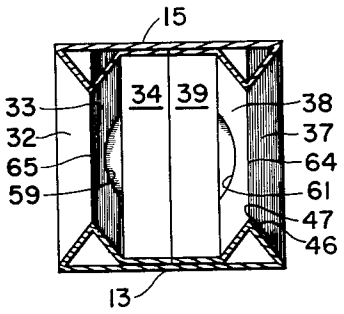


Fig. 6

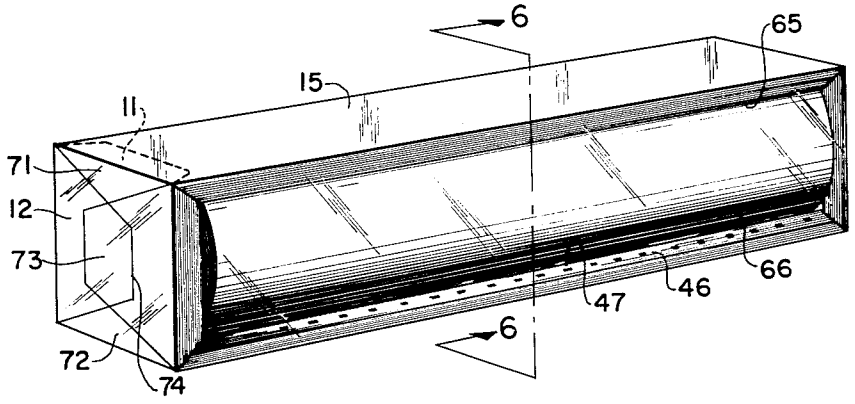


Fig. 9

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COMBINATION DISPLAY AND DISPENSING PACKAGE FOR A ROLL OF CONTINUOUS SHEETING MATERIAL

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Filed Feb. 1, 1965, Ser. No. 429,556
7 Claims. (Cl. 225—41)

This invention relates to a package for a roll of continuous sheeting material. More particularly, the invention relates to a package of this class in which a roll of continuous sheeting material is suitably supported such that it is plainly visible before and during use. The invention also provides an improved form of dispensing package for a continuous sheeting product in roll form.

Dispensing packages of this general type are commonly found in which the roll of continuous sheeting material is completely enclosed. This, of course, makes it entirely impossible for a potential purchaser to see and inspect the product. It also has the detrimental effect of making it difficult, if not impossible, to visually determine the quantity of product remaining on the roll when in use. It is also typical of prior packages of this kind to provide a cutting blade having a serrated cutting edge fastened to a wall of the package. However, the cutting blade is usually attached in such a manner that the user must handle the package with care in order to avoid cutting of his fingers.

It is a principal object of this invention to eliminate these deficiencies by providing an improved package which is rigidly constructed and yet displays the product. The package uses a relatively small amount of paperboard or like material thereby achieving a very economical construction.

Another object of the invention is the provision of a new and improved package structure which is particularly suited for supporting continuous sheeting material in roll form, the structure of the package being such that it can be formed on high speed packaging machinery thus making the package commercially feasible.

Still another object of the invention is the provision of a package of this kind wherein large areas of the product are visible to a potential consumer thus allowing the distinctive and attractive appearance of the product to be inspected at the point of purchase.

A further object of the invention is the provision of a package of the character described which is convenient in use and which readily allows removal and cutting away of a desired length of the continuous sheeting material from the roll.

Yet another object of this invention is the provision of a package of this character which has a serrated cutting edge so located and joined to the package as to prevent accidental cutting of the fingers by the user no matter how the package is manipulated in withdrawing the continuous sheeting product from the roll.

Another object of the invention is the provision of a package of the character described which is constructed to support a roll of continuous sheeting material wound on a core with provision to support the core ends securely in the package to allow free rotation of the core without dislodgment from the package during use.

The nature and substance of the invention can be briefly summarized as comprising a package for a wound supply roll of continuous sheeting material, said package being made from a blank of paperboard or like material which is cut, scored and folded into a frame blank having tubular supports on either side of its four wall-forming panels. An aperture is cut in the tubular supports located in the

end panels of the frame blank structure. The apertures are configured to receive and support the ends of a cylindrical core having the continuous sheeting material wound thereon. A cutting device is attached to one of the tubular support elements on one side wall, preferably so that its cutting edge faces inwardly toward the roll of continuous sheeting material thus protecting the fingers of the user. The frame blank is formed around the roll of continuous sheeting material by placing the extensions of the core at both ends of the roll into the apertures in the tubular supports at the end panels and thereafter joining the ends of the frame blank. The package is preferably further completed by overwrapping the frame with a transparent plastic film, preferably one having heat-shrinkable properties. The overwrapped film is heated and shrunk to add substantially to the rigidity of the completed package. The roll of product within the package has a relatively large portion of its surface exposed through the two open sides of the frame so that it may be readily examined by a potential consumer.

While the specification concludes with claims particularly pointing out and distinctly claiming the subject matter regarded as forming the present invention, it is believed the invention will be better understood from the following description taken in connection with the accompanying drawings in which:

FIGURE 1 is a plan view of the frame blank of this invention in flat form.

FIGURE 2 is a plan view of the frame blank of this invention after the tubular supports have been formed.

FIGURE 3 is a cross section taken on the line 3—3 of FIGURE 2 showing the apertures in the tubular supports at one end panel which are provided to receive one end of the core containing the roll of continuous sheeting material.

FIGURE 4 is a perspective view of the frame blank in partially erected form with the several panels in position to receive the roll of continuous sheeting material.

FIGURE 5 is a fragmentary corner of the frame showing the interlocking construction of the tubular support elements on adjoining wall panels.

FIGURE 6 is a cross section taken on the line 6—6 of FIGURE 9 showing the apertures in the tubular supports at one end panel with the roll of continuous sheeting material and the outer wrapper removed for convenience of illustration.

FIGURE 7 is a view identical to FIGURE 6 with the wound roll of continuous sheeting material in place.

FIGURE 8 is a cross section taken on the line 8—8 of FIGURE 7 showing the manner in which one end of the roll is supported in the apertures formed in the tubular supports.

FIGURE 9 is a perspective view of the finished package containing a wound supply roll of continuous sheeting material wherein the frame has been overwrapped with a heat-shrinkable plastic film which has been heated and shrunk in place.

FIGURE 10 is a perspective view of the finished package with the heat-shrinkable film removed showing one end of the continuous sheeting material withdrawn from the supply roll and partially severed by means of the cutting blade provided in the package structure.

Reference will now be made to the drawings in describing the invention and the manner of making and using same. A frame blank **10** generally configured in the form of an elongated strip is illustrated in flat condition in FIGURE 1. The frame blank **10** is formed by cutting and scoring a suitable packaging material such as cardboard, paperboard, cartonboard, plastic, thin metal or the like. The frame blank **10** is divided successively into a flap **11**, an end panel **12**, a side panel **13**, an end panel **14**, and a side panel **15** by means of spaced horizontal paral-

lel score lines **16** and **17** and vertical parallel transverse score lines **18**, **19**, **20** and **21**. The score lines **16** and **17** run longitudinally from one end of the elongated strip forming the frame blank **10** to the other end thereof. Extending portions **22**, **23**, **24** and **25** project laterally outwardly from the longitudinal score line **16**. Similarly, extending portions **26**, **27**, **28** and **29** extend laterally outwardly from the longitudinal score line **17**.

Each of the extending portions **22**, **23**, **24** and **25** are divided by means of the horizontal score lines **30** and **31** into an inner area **32**, an intermediate area **33** and an outer area **34**. Similarly, the extending portions **26**, **27**, **28** and **29** are divided by means by the horizontal score lines **35** and **36** into an inner area **37**, an intermediate area **38** and an outer area **39**.

Angular relief cut-outs **40**, **41** and **42** are provided between the extending portions **22**, **23**, **24** and **25**. Similarly, angular relief cut-outs **43**, **44** and **45** are provided between the extending portions **26**, **27**, **28** and **29**. It will be noted that the angular relief cut-outs are formed by making a straight cut co-extensive with one of the transverse score lines **19**, **20** or **21** while the adjoining cut is formed by cutting a V-shaped notch extending from the horizontal longitudinal score line **16** or **17** to a point near the score lines **31** or **36** and then cutting straight out parallel to the adjoining straight cut to leave a narrow gap at the outside edge of the cut-out.

A cutting device is provided which may take the form of a blade **46** of plastic or metal having a cutting edge **47**. The blade **46** can be secured to the blank on the outside surface of the inner area **37** of the extending portion **27**. Preferably, the cutting edge **47** is serrated but other types of cutting edges will be satisfactory in practicing the invention. Other forms of cutting devices can also be substituted for the blade **46** such as forming a jagged edge on the frame blank material or providing a cutting edge made of a resinous material applied to the frame blank. The cutting blade **46** is mounted so that the cutting edge **47** extends slightly outwardly of the score line **35**. The blade **46** can be mounted in various ways. One convenient way is illustrated wherein the blade has protrusions punched from its body which are forced through the material of the frame blank **10** and are folded over as shown at **48**, **49**, **50**, **51**, etc.

It will be noted that the extending portions **23**, **25**, **27** and **29** are provided with a series of spaced parallel cuts in their outer areas **34** and **39**. For example, the extending portion **23** has spaced cuts **52**, **53**, **54** and **55** extending inwardly from the edge of the blank to the score line **31**. Similar cuts are provided in the extending portions **25**, **27** and **29** as illustrated. These cuts are desirable and useful when folding and gluing the frame blank into shape as they give the outer areas **34** and **39** greater flexibility thereby making them more readily folded and glued in place with little lapse of time when hot-melt adhesives are used for that purpose.

The extending portion **22** is provided with an aperture **56** formed by making a straight cut **57** and an arcuate cut **58**. The straight cut **57** lies on the score line **31** and the arcuate cut **58** lies in the intermediate area **33**. A substantially identical aperture is cut from the extending portion **24**. The apertures **60** and **61** correspond, respectively, to the apertures **56** and **59** as they are cut from the extending portions **26** and **28**, respectively. In short, it will be noted that the extending portions **22**, **23**, **24** and **25** are geometrically identical when folded over to the extending portions **26**, **27**, **28** and **29**, respectively.

The flat frame blank **10** of FIGURE 1 is folded and formed into the structure shown in FIGURE 2 as the next step in the construction of the package. This is accomplished by folding the extending portions **22**, **23**, **24** and **25** on the score lines **16**, **30** and **31** so that the outer area **34** on each of the extending portions lies in contiguous relationship with its respective panel **12**, **13**, **14** or **15**. The extending portions **26**, **27**, **28** and **29** are similarly folded so that the outer area **39** on each of the extending portions is also contiguous to its respective panel **12**, **13**, **14**, or **15**. When so folded, the frame blank has a cross section as shown in FIGURE 3. The folded and formed frame blank is held in this relationship by the application of adhesive to the areas **62** and **63** (FIGURE 3) along the entire length of the blank.

It will be noted that in folding the frame in the previously described manner, a tubular support **64** is formed along one edge of each of the side and end panels and a second tubular support **65** is similarly formed along the other edge of each of the side and end panels. These tubular supports are spaced apart and are relatively rigid by virtue of their geometric structure and because of the inherent rigidity of the material from which they are made. It will also be noted that the apertures **61** and **59** in the tubular supports **64** and **65**, respectively, at the end panel **14** are in position to receive the projecting core of the supply roll.

Preferably, the tubular supports **64** and **64** are triangular in cross section as shown in FIGURE 3. This gives the frame and the package greater stability and rigidity. However, the frame blank can be cut, scored, and folded so the tubular supports **64** and **65** have other cross sectional shapes, e.g., quadrilateral, arcuate, etc., to achieve similar results.

The folded and formed frame blank of FIGURE 2 is in condition for further folding to receive a roll of continuous sheeting material. This can be initiated by folding the structure into a configuration similar to that shown in FIGURE 4. Before the end flap **11** is tucked in place, however, a supply roll **66** of continuous sheeting material wound on a core is mounted within the frame. The support for one end of the supply roll is best shown in FIGURES 6 and 8. In referring to FIGURE 8, it will be noted that the supply roll **66** has continuous sheeting material **67** wound on a core **68**, the end **69** of which projects beyond the edge **70** of the sheeting material **67**. A similar projection of approximately equal length is provided at the other end of the core **68**. The projection **69** is fitted within the apertures **59** and **61** thereby supporting the roll **66** at one end. Similarly, the other projecting end of the core is fitted into the apertures **56** and **60** when the flap **11** is tucked in place to complete the frame around the roll **66**.

After placing the supply roll **66** in the frame so that the core ends engage the apertures **56–60** and **59–61**, the flap **11** is tucked into the position illustrated by broken lines in FIGURE 9. It will be understood that the flap **11** is tucked between the tubular supports **64** and **65** and the inner surface of the side panel **15**. It will be noted in FIGURES 1 and 2 that the intermediate areas **33** and **38** on the extending portions **25** and **29**, respectively, are cut away at **33***a* and **38***a*, respectively. Similarly, the outer areas **34** and **39** are cut short at **34***a* and **39***a*, respectively. Thus, the right end of the frame blank in FIGURE 2 provides sufficient clearance between the tubular supports **64** and **65** and the panel **15** to receive the flap **11** when tucked into the position of FIGURE 9. The flap **11** is secured by means of an appropriate adhesive. As an alternate construction, the flap **11** can be placed against the outside of the panel **15** and secured by means of an adhesive. It will also be apparent that the flap **11** can extend from either end of the frame blank of FIGURE 1 without detracting from the advantages of the frame structure.

FIGURE 5 illustrates the corner structure of the frame. It will be noted that the angularly relief cut-outs in the frame blank **10** provide a structure wherein the respective tubular supports on adjoining panels interlock and form a bevel corner. This provides a structure whereby the ends of the tubular supports **64** and **65** on one panel fit within the ends of the tubular supports on the adjoining panel. Those of the tubular supports which have squared ends abut the inside surfaces of the ad-

joining panel. An example is illustrated in FIGURE 5 with respect to the corner between the side panel **15** and the end panel **14**. This type of structure provides added rigidity at the corners. It also insures a substantially square corner at each of the four corners of the package.

FIGURE 9 illustrates the frame structure overwrapped with a transparent plastic film material. The film material is preferably of the heat-shrinkable type such as, for example, bi-axially oriented polyvinyl chloride, polyethylene, polypropylene, or the like. It is also possible, of course, to use a non-shrinkable overwrap film such as cellophane, polypropylene, polystyrene, or the like. The overwrap material is cut to size and then wrapped around the frame. It is sealed longitudinally along one side panel whereupon the tucks **71** and **72** are made. The end folds **73** and **74** are then formed and sealed against the package. The other end of the package (not shown) has the ends of the wrapper similarly formed and sealed. When a preferred heat-shrinkable film is used, the finished package is then subjected to sufficient heat to cause the overwrap film to shrink thereby greatly increasing the rigidty of the frame structure. The use of a transparent overwrap film allows inspection of the supply roll **66** of continuous sheet material from the two sides of the open frame.

When a portion of the continuous sheeting material **67** is to be withdrawn and cut from the roll **66**, the outer wrapper is first removed. Then, as shown in FIGURE 10, end **75** of the roll **66** is withdrawn over the cutting blade **46** which is mounted on the tubular support **64**. After a satisfactory length has been withdrawn, the user merely pulls down against the cutting edge **47** to sever a piece from the roll of continuous sheeting material.

In order to prepare for removal of the next portion, the roll **66** is turned so that the free end of the continuous sheeting material is exposed above the cutting blade **46**. This is accomplished by merely grasping the roll **66** from the open sides of the package (arrows A and B in FIGURE 7) and turning the supply roll **66** in the frame until the free end of the continuous sheeting material is exposed.

By referring to FIGURE 7 it will also be noted that the cutting blade **46** is mounted on the tubular support **64** so that the cutting edge **47** faces inwardly. This provides a mounting for the cutting blade **46** which is particularly inaccessible to the hands of the user and greatly diminishes the possibility of accidental injury.

The package heretofore described is useful for supporting and dispensing any of several materials which are particularly adapted for commercial sale in roll form. For example, it can be used in the dispensing of continuous sheet material such as paper products including hand towels, wrapping paper, waxed paper and the like. It can also be used for dispensing plastic film products or metallic foil products. In one application, the inventian was successfully used for displaying and dispensing a roll of detergent impregnated disposable paper dishcloths of the type described and claimed in U.S. Patent 3,121,249 issued to S. B. Affleck et al., on February 18, 1964. In general, however, the invention is useful for dispensing any type of continuous sheet material in roll form as the foregoing specific examples are merely illustrative of a number of potential uses.

While particular embodiments of the invention have been illustrated and described, it will be obvious to those skilled in the art that various changes and modifications can be made without departing from the spirit and scope of the invention and it is intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

What is claimed as new is:

1. A combination display and dispensing package for a supply roll of continuous sheeting material, said package comprising a frame, said frame being formed from a frame blank generally configured in the form of an elongated strip of paperboard material, said frame blank having two spaced parallel score lines running longitudinally from one end of said elongated strip to the other end thereof, a plurality of transverse scores at intervals along the said frame blank, said transverse scores being substantially perpendicular to said parallel longitudinal scores thereby dividing the central portion of the frame blank into four panels including two side panels and two end panels, said side and end panels being alternately spaced along said frame blank, a flap articulated to and extending beyond the panel at one end of said frame blank, an extending beyond the panel at one end of said frame blank, an extending portion projecting laterally outwardly from each of the longitudinal scores which define the edge portions of the said panels, each of said extending portions being at least partially separated by angular relief cut-outs located outwardly of each of said transverse scores, each of said extending portions being folded into a tubular support, said tubular supports being adhered to their adjoining panels so that each of said side and end panles has a pair of spaced, substantially rigid tubular supports in parallel relationship alongside the longitudinal scores forming the upper and lower extremities of said side and end panels, a supply roll of continuous sheeting material wound on a core, the length of said core being greater than the width of said sheet material so that the ends of the core project from each end of said supply roll, an aperture cut in both tubular supports located at each end panel for receiving the projecting ends of said core, said side and end panels being folded into a substantially rectangular frame by folding the said frame blank on said transverse scores so that the said tubular supports face inwardly and the ends of the core of said supply roll are supported in said apertures, a cutting device on the outer surface of the tubular support along one of said side panels, said flap at one end of said frame blank being secured to the panel at the other end of said frame blank to form a frame structure supporting said supply roll of sheet material.

2. A combination display and dispensing package as claimed in claim **1** wherein said cutting device is a blade mounted on the tubular support of one of said side panels with its cutting edge facing inwardly toward said supply roll.

3. A combination display and dispensing package as claimed in claim **1** wherein said frame structure is overwrapped with a flexible and heat-shrinkable plastic film, said film being heated and shrunk on said frame structure to impart greater rigidity to said frame structure.

4. A combination display and dispensing package as claimed in claim **1** wherein said extending portions are divided by two score lines parallel to said score lines running longitudinally from one end of said elongated strip to the other end thereof, said extending portions being folded on said score lines to form tubular supports which are of triangular configuration.

5. A combination display and dispensing package as claimed in claim **4** wherein said flap is tucked inside the frame structure between the inner surface of a wall panel and the tubular support elements of the same wall panel.

6. A combination display and dispensing package as claimed in claim **5** wherein said frame structure is overwrapped with a flexible and heat-shrinkable plastic film, said film being heated and shrunk on said frame structure to impart greater rigidity to said frame structure.

7. A combination display and dispensing package for a supply roll of continuous sheeting material, said package comprising a frame, said frame being formed from a frame blank generally configured in the form of an elongated strip of paperboard material, said frame blank having two spaced parallel score lines running longitudinally from one end of said elongated strip to the other end thereof, a plurality of transverse scores at intervals along the said frame blank, said transverse scores being substantially perpendicular to said parallel longitudinal

scores thereby dividing the central portion of the frame blank into four panels including two side panels and two end panels, said side and end panels being alternately spaced along said frame blank, a flap articulated to and extending beyond the panel at one end of said frame blank, an extending portion projecting laterally outwardly from each of the longitudal scores which define the edge portions of the said panels, each of said extending portions being at least partially separated by angular relief cut-outs located outwardly of each of said transverse scores, each of said extending portions being folded into a tubular support, said tubular supports being adhered to their adjoining panels so that each of said side and end panels has a pair of spaced, substantially rigid tubular supports in parallel relationship alongside the longitudinal scores forming the upper and lower extremities of said side and end panels, a supply roll of continuous sheeting material wound on a core, the length of said core being greater than the width of said sheet material so that the ends of the core project from each end of said supply roll, an aperture cut in both tubular supports located at each

end panel for receiving the projecting ends of said core, said side and end panels being folded into a substantially rectangular frame by folding the said frame blank on said transverse scores so that the said tubular supports face inwardly and the ends of the core of said supply roll are supported in said apertures, said flap at one end of said frame blank being secured to the panel at the other end of said frame blank to form a frame structure supporting said supply roll of sheet material.

References Cited by the Applicant

UNITED STATES PATENTS

1,907,922	5/1933	Willis.
2,755,982	7/1956	Vander Lugt.
3,082,864	3/1963	Silver.
3,108,726	10/1963	Hawk.

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