March 20, 1962 J. M. BAKER 3,025,956

ROLL FILM DISPENSER CARTON

Filed April 21, 1959 4 Sheets-Sheet 1

Fig. 1.

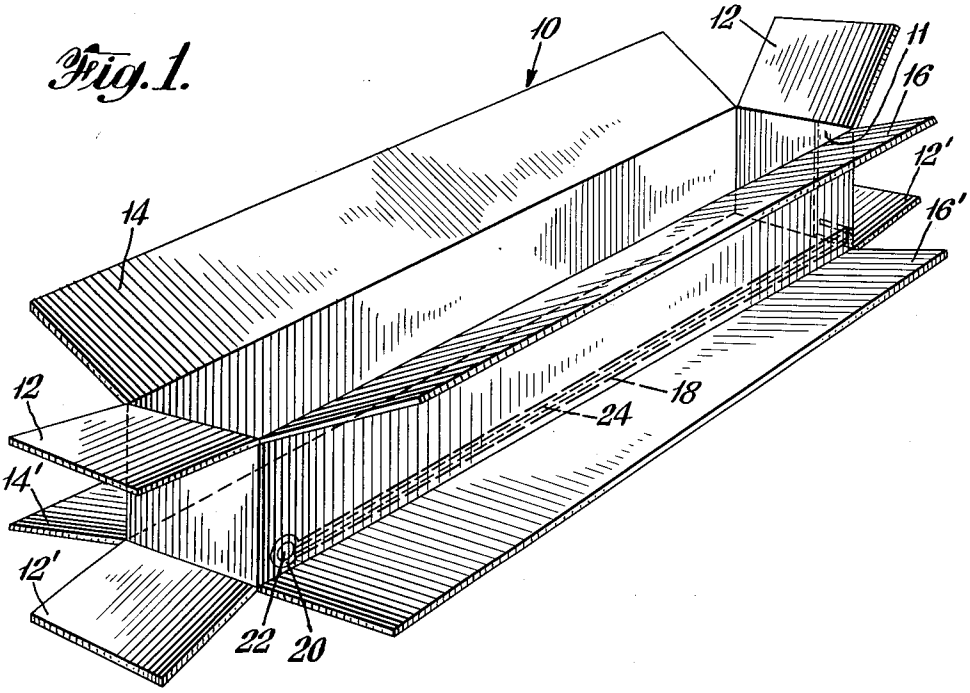
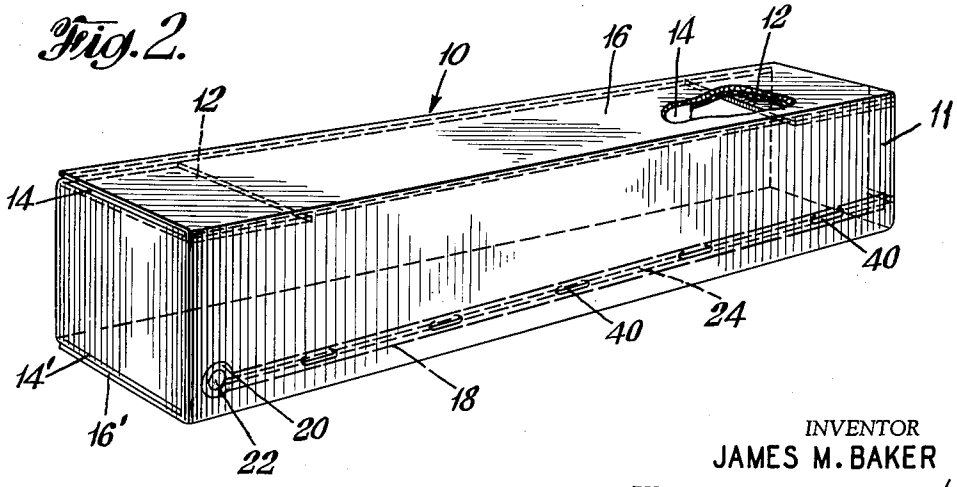


Fig. 2.



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ROLL FILM DISPENSER CARTON

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Fig. 3.

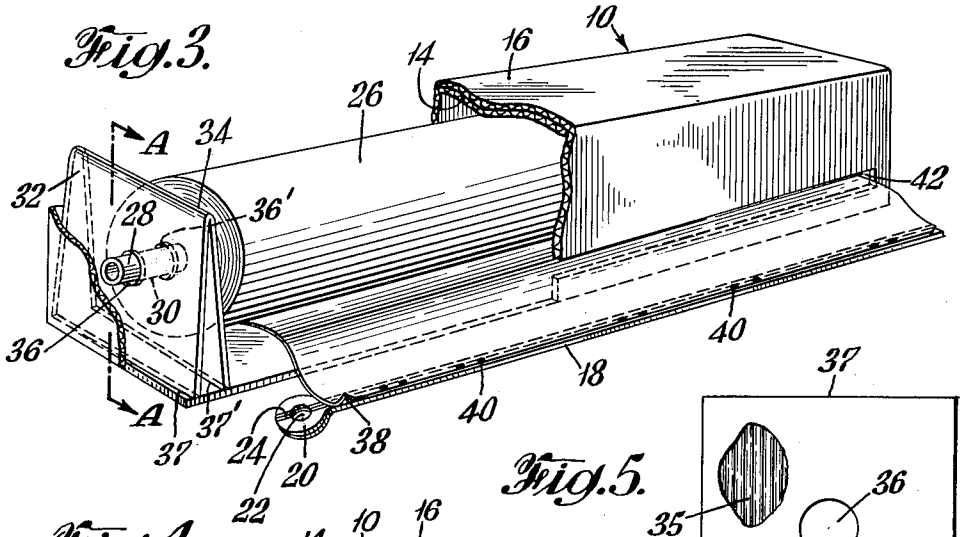


Fig. 4.

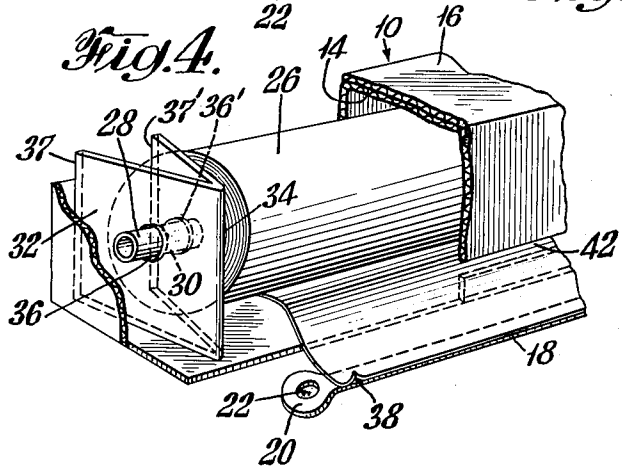


Fig. 5.

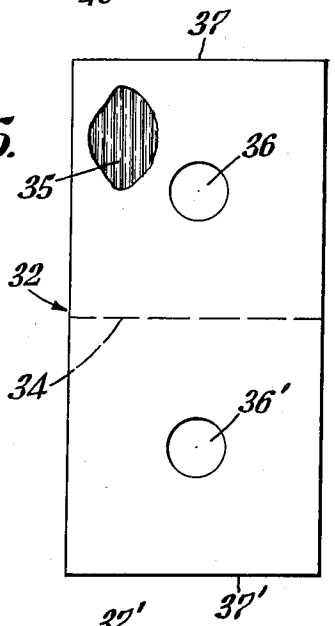


Fig. 6.

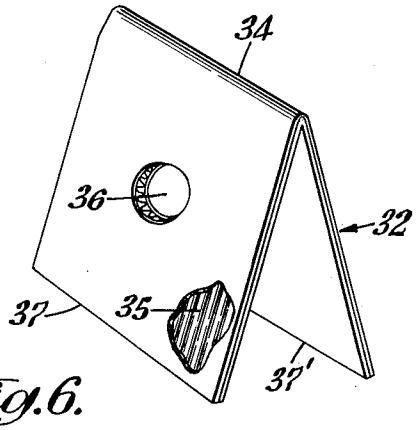
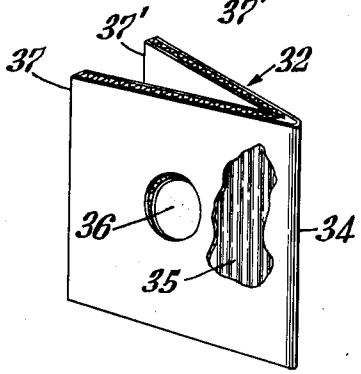


Fig. 7.



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ROLL FILM DISPENSER CARTON

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Fig. 8.

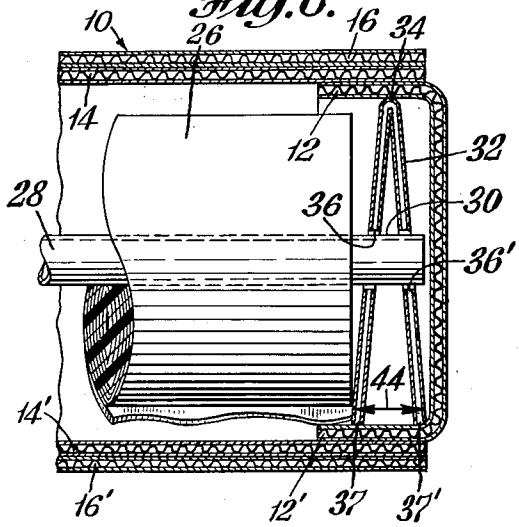


Fig. 9.

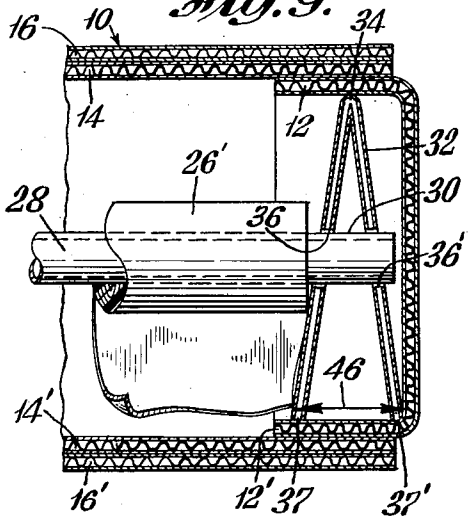
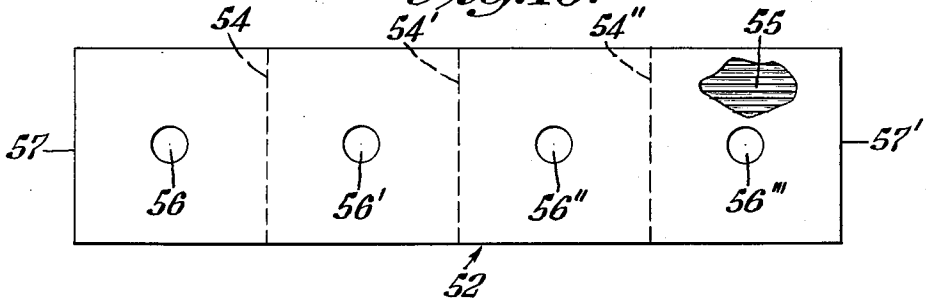


Fig. 10.



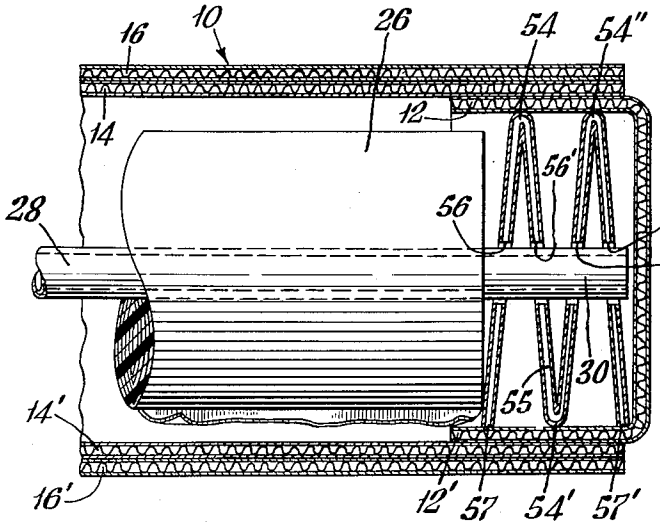


Fig. 11.

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Fig. 12.

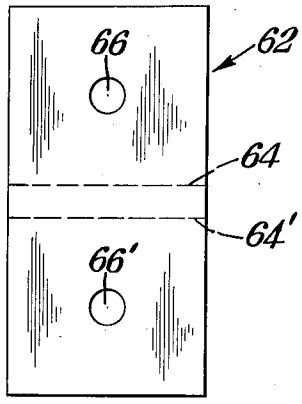


Fig. 13.

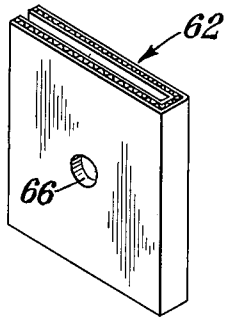
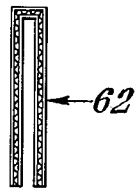


Fig. 14.



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United States Patent Office 3,025,956 Patented Mar. 20, 1962

3,025,956

ROLL FILM DISPENSER CARTON

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Filed Apr. 21, 1959, Ser. No. 807,836
11 Claims. (Cl. 206—58)

This invention relates to an improved carton for shipping and dispensing rolls of film. More particularly, it relates to such a carton having improved roll support means and opening means incorporated therein.

Plastic films and sheeting of polyethylene, polyvinyl chloride, vinylidene chloride, and the like are sold through distributors and at retail through outlets such as hardware, lumber and building supply stores. This material, used for agricultural, building construction and general household needs, is put up in varying lengths, for example 100 feet, in the form of rolls wound on paperboard or wood cores.

Such rolls of film are conventionally packaged in corrugated paperboard cartons or alternately in multi-ply gusseted paper pouch packages. When rolls packaged in such a manner are received by a consignee who must remove short lengths of film from the rolls, the package must be opened and the roll placed on a suitable dispensing rack which rotatably supports the core and allows the roll to turn as the film is rolled off. Alternatively, a carton may be opened and the leading edge of the film grasped and the film unwound while the roll is constrained within the carton. In such a system the film at the bottom of the roll where it rests in the carton must overcome the friction caused by the weight of the roll on the film as the roll is unwound when a pull is exerted on the leading edge of the film. When such a system is used for small light weight rolls of film, the carton must be affixed to a supporting surface or restrained by one hand, thus limiting the length of film unwound at one motion, to an arm's length. The friction caused by weight of the roll resting on the carton bottom can easily cause the film to stretch or tear when heavier rolls are thus handled. While it is desirable to be able to dispense heavy rolls of film directly from the shipping carton, presently available cartons having means for rotatably supporting such rolls of film are too expensive to be used for large scale marketing operations. Even with such roll supporting means the presently available cartons must be opened from the top to provide access to the roll.

It is accordingly an object of this invention to provide a shipping carton for rolls of film having means for rotatably supporting the roll therein.

It is a further object to provide such a support means which is simple and inexpensive to manufacture.

It is another object to provide such a carton having an easy-open means incorporated therein.

It is another object to provide such a carton wherein the easy-open means coacts with the leading edge of the film roll to remove the film from the carton.

It is another object to provide such a carton which is easily loaded with a presassembled roll of film and means for rotatbaly supporting the roll.

It is a still further object to provide such cartons which may be stacked on top of each other while at the same time the contents of each are accessible without necessitating additional moving or opening any of the cartons.

Other objects and advantages will be apparent from the description and drawings in which:

FIGURE 1 is a perspective view of the dispenser carton partly opened up from the knocked-down condition as received from the carton manufacturer.

FIGURE 2 is a perspective view of the dispenser carton assembled for shipment.

FIGURE 3 is a perspective view (partially cut away) of the carton and contents showing an easy-open means attached to the leading edge of a roll of film rotatably supported within the carton.

FIGURE 4 is a perspective view (partially cut away) of the carton illustrating an alternative position for the supporting means shown in FIG. 3.

FIGURE 5 is a plan view of a corrugated paper blank for forming into an end support means.

FIGURE 6 is a perspective of an end support means made from the blank illustrated in FIGURE 5.

FIGURE 7 is a perspective of an end support means wherein the fold is perpendicular to the corrugation.

FIGURE 8 is an elevational cross section of a portion of the carton taken along line A—A of FIGURE 3, with the contents shown as a full roll.

FIGURE 9 is an elevational cross section of a portion of the carton taken along line A—A of FIGURE 3, with the contents shown as a partially depleted roll.

FIGURE 10 is a plan view of an alternate type of corrugated paper blank for forming an end support means.

FIGURE 11 is an elevational cross section of a portion of the carton taken along line A—A of FIGURE 3, with a support means formed from the blank illustrated in FIGURE 10.

FIGURE 12 is a plan view of still another type of corrugated paper blank for forming into an end support means.

FIGURE 13 is a perspective of a U-shaped support means formed from the corrugated paper blank of FIGURE 12.

FIGURE 14 is an elevational cross section of the U-shaped blank of FIGURE 13.

According to the present invention, there is provided a shipping package which comprises a roll of sheet material wound on a suitable core, said core or equivalent cylindrical means axially projecting from said roll at each end thereof, a shipping carton in the form of a rectangular box disposed about said roll having a top, bottom, sides and ends. Journal means are located within said carton and at either end of the roll of sheet material for engaging the cylindrical means projecting from either end of the roll and rotatably supporting the roll thereby. An easy-open tab means is located on the front of the carton for gaining access to the roll of sheet material within the carton. The leading edge of the sheet material is secured to the tab means so that the sheet material is automatically threaded through the opening made by removing the easy-open tab. Thus the leading edge of the sheet material is positively positioned for ready withdrawal by the tab means; as distinguished from presently available cartons wherein the leading edge is randomly disposed around the roll and must be aligned with and guided through the carton opening.

The means within the carton for rotatably supporting the roll of sheet material is characterized by its simplicity and effectiveness. The easy-open tab with its integral film withdrawal means located in the front of the carton makes it possible to stack the cartons on top of each other without in any way affecting the availability of film from any of the cartons. This method of packaging has also been found to afford effective protection during shipment of the contents, and provide protection of the contents after opening.

The invention will now be described in detail with reference to the drawings wherein like reference numbers designate like parts. In FIGURES 1 and 2, the reference numeral 10 designates a corrugated shipping container such as a yellow board full overlay carton. Such a carton is conventionally formed from a blank wherein the two sides and ends form a continuous panel scored for folding and four end flaps 12, 12' and four overlays

14, 14', 16, 16' extending on either side of the end and side portions of the panel. The form of the carton shown in FIG. 1 is constructed by folding along the scored lines in the panel and fastening the two ends of the panel together as by taping or stapling a suitable tab as shown at 11. The carton of FIG. 1 is made up for shipping by folding at top and bottom, flaps 12, 12' and gluing thereto first overlay 14, 14' and second overlay 16, 16'. The front panel of carton 10 is provided with a perforated tear-out strip 18, full cut ring 20 and punched out thumb hole 22.

Referring now to FIGURES 3 and 4, the roll of film 26 is prepared for shipment as by winding a length of film such as 100' onto paper core 28, the core being longer than the width of interfolded film such as about 3" longer and equally extended beyond the roll ends as indicated at 30. The cylindrical core extensions 30 may either be integral with the core 28 or be formed by separate members as wooden or paperboard cylinders adapted to fit tightly within the core. Tear-out strip 18 is integral with the front panel of the carton and is reinforced internally of the carton by a "tear tape," such as stranded glued string tape 24 extending across the front of the interior of the carton.

Referring now to FIGURE 5 a blank for forming the support pad 32 of FIG. 6 is shown. The blank is preferably constructed of corrugated paperboard scored at 34 and center punched to form circular holes or journals 36, 36'. As shown in FIG. 6, the blank of FIG. 5 is folded by doubling transverse to corrugated ribs 35 on score mark 34 to form roll support pad 32.

Referring now to FIGURE 7, support pad 32 can be center scored 34 parallel to corrugations 35 and folded as by doubling on score mark 34 and positioned as shown in FIG. 4 to offset crushing of the carton top panel and thus preventing edges 37, 37' from bending in a manner to adversely affect easy unwinding of roll 26. It is evident from these two embodiments of the pad 32 that the direction of the corrugation folds should be perpendicular to the bottom of the carton to afford maximum support of both the roll in the carton and the top of the carton.

Referring now to FIGURES 3, 4 and 8, one support pad 32 is shown inserted over the cylindrical extension 30 of core 28 on which roll 26 is wound.

In making up the shipping package, the top flaps 12, 14, 16 of the carton 10 are stapled together and bottom flaps 12', 14', 16' are left open. The complete assembly of roll 26, core 28 and two support pads 32 is placed in carton 10 with edge 34, of the support pads adjacent the carton top and spread as shown at 44 in FIGS. 3 and 8 to laterally engage and cushion the edge of roll 26 from end wall of carton 10. The leading edge of the outermost wrap 38 of sheet material in partially unrolled and stapled to the interior of the carton front wall along a line central to the perforations bounding tear-out strip 18, with metal staples 40 appropriately spaced such as 5" apart. Closure of the carton is then completed by stapling together bottom flaps 12', 14' and 16' for shipment.

Protection of the carton during shipment and inactive storage is preferably provided for the printed wall surfaces and for reinforcement of the carton wall containing the perforated dispenser slot by enveloping the carton in a rectangular corrugated paperboard sleeve not shown in the drawing.

After removal of the sleeve, the consignee, of the package may open the carton for dispensing usage by using thumb hole 22 and ring 20 to tear out strip 18 along its perforations, simultaneously pulling out leading edge 38 of the web stapled thereto. The void in the carton front wall made by removal of tear-out strip 18 thereafter serves as a slot 42 for dispensing web from the roll contained within the closed carton.

A 100 foot length of extruded tubular polyethylene film of 0.004 inch thickness and a lay flat width of 12 feet and slit along one of the lay flat edges, when longitudinally double folded to form a 36" wide web of 8 layers of film web and centrally wound on a 39" long hollow paper core, weighs about 25 pounds. Using the new carton and supported centrally therein by core 28 inserted in holes 36, 36' of pads 32, roll 26 may be readily and freely unwound by pulling web leading edge 38. Overtravel of the unwinding roll is reduced by the friction of both end pad surfaces engaging the end of the wound roll as shown in FIGS. 8 and 9 due to the resilience of the folded end pads.

With a full roll as shown in FIGURE 8, the pad is spread a distance 44 between pad edges 37, 37'. As the roll is depleted, the pad edges 37, 37' spread owing to resiliency of the corrugated ribs at fold 34. Referring now to FIGURE 9, the ends of a partially depleted roll 26' engage pads 32 spread a distance 46 between surfaces, thereby controlling overtravel of the unwinding roll.

Referring now to FIGURES 10 and 11 another embodiment of the invention is shown. Support pad 52 is made for heavier rolls such as for about 75 pounds of polyethylene. The pad is made of a corrugated paperboard panel quarter-scored at 54, 54', 54" and with four circular holes 56, 56', 56", 56"' central to the width and spaced respectively from one end ⅛—¼—¼—¼ of the length. It is preferably folded in zig-zap manner transverse to corrugated ribs 55 on score marks 54, 54', 54" and assembled in the carton on roll core extension 30 as shown in FIGURE 11. This form of the pad also possesses considerable resilience in a direction perpendicular thereto due to the folding.

FIGURES 12, 13 and 14 show plan, perspective and cross section views respectively of an alternative embodiment of the support pad. In this embodiment the blank 62 is folded 90° along scored lines 64 and 64' to form a U-shaped support pad. Circular holes 66, 66' are likewise provided in this embodiment to rotatably support the core extension 30. This form of the pad also has the same tendency to unfold or straighten out as the zig-zag fold of the other embodiments previously disclosed. In this embodiment the folds 64, 64' may be either parallel or transverse to the corrugations, the only requirement being that the support pad be placed in the box so that said corrugations are perpendicular to the bottom.

The terms film and sheet material as used herein are intended to be synonymous. The expressions are meant to include plastic films as described previously or other types of sheet material such as paper, cloth or metal foil which could equally well be shipped in and dispensed from such a carton.

The package thus disclosed is sufficiently rugged to contain and adequately protect rolls of sheet material during shipment and storage. The package has the easy-open feature which comprises the tear-out strip with means for automatically pulling out the leading edge of the roll of film from within the package.

The package serves as a dispenser by virtue of the means within the carton for rotatably supporting the roll and the slot formed by the tear-out strip. Thus seperate dispensing racks or reels are unnecessary and the roll of sheet material is protected from dust and punctures. This is especially advantageous with thin plastic films which scratch, abrade or puncture easily or may gather dust by electrostatic attraction or may be discolored by prolonged exposure to light. The leading edge of film depends from the dispensing slot for display and ready identification of contents. The dispensing slot may be so positioned near the bottom of the front panel that it does not obscure pertinent instructions or advertising on the front panel of the carton. A plurality of cartons (of various film sizes or specifications) may be vertically stacked, thus permitting easy withdrawal of film from any one carton without moving any of the others.

The carton construction provides a straight edge guide for cutting off a desired length of withdrawn film.

In addition to the above advantages the carton is inexpensive to fabricate in that it doesn't require complicated or expensive roll support means such as wood or highly compressed paperboard members thus making the carton especially economical for large scale shipments.

While the invention has been described with reference to certain preferred embodiments, it is to be understood that certain modifications or changes could be made by a person skilled in the art without departing from the spirit and scope of the invention.

What is claimed is:

1. In a dispensing package for rolled sheet material comprising a roll of said sheet material wound on core extensions axially extending from each end of said roll, a rectangular carton disposed about said roll, means within the carton and at each end of said roll for axially engaging the core extensions and frictionally engaging the peripheral ends of the wound roll of sheet material thereby rotatably supporting said roll within the box and controlling overtravel of said roll upon unwinding, said means comprising a folded, corrugated paperboard panel of such a size as to fit snugly within the end of the carton, said folded panel having circular openings punched through the center thereof to journal therein a core extension, said folded panel being adapted to be placed in the carton in such a direction so that the corrugations are perpendicular to the top and bottom of the carton, a perforated tear-strip on one side of said box with the leading edge of the sheet material affixed thereto whereby removal of the tear-strip opens a slot in the carton and simultaneously draws the leading stage of the sheet material out through the slot so formed.

2. A shipping package as set forth in claim 1 wherein the perforated tear-strip is provided with an integral finger ring having a punched out finger hole therein.

3. A shipping package as set forth in claim 1 wherein a strip of reinforcing tape is affixed to the tear strip on the interior of the carton.

4. A shipping package as set forth in claim 1 wherein the leading edge of the roll of sheet material is secured to the tear-strip by stapling.

5. A roll film dispensing carton having a front panel, a back panel, a top panel and a bottom panel with support means located inside the carton at each end thereof, each of said support means comprising a folded corrugated paperboard panel having circular openings punched through the center thereof for rotatably supporting a cylindrical member to be located in said carton and which are resilient and expendable along the axis of the carton, such that said panel frictionally engages a peripheral end of the wound roll of film to centrally position said roll within the carton and for preventing overtravel of said roll upon unwinding said folded panel being adapted to

be placed in the carton in such a direction so that the corrugations are perpendicular to the top and bottom of the carton and a perforated tear-strip located on the front panel of the carton and extending substantially the full length of said front, the tear-strip having a punched out finger hole attached thereto.

6. A support pad for rotatably supporting a roll of film in a shipping carton which comprises a folded, corrugated paperboard panel of such a size as to fit snugly within the end of the carton, said folded panel having circular openings punched through the center thereof to journal therein cylindrical members axially extending from each end of the roll, said folded panel further being resilient along the axis of the carton and in continuous frictional contact with the periphery of the roll of film for preventing overtravel of said roll upon unwinding, and moreover said folded panel being adapted to be placed in the carton in such a direction so that the corrugations are perpendicular to the top and bottom for maximum vertical rigidity.

7. A support pad as set forth in claim 6 wherein the panel is folded parallel to the corrugations.

8. A support pad as set forth in claim 6 wherein the panel is folded in a direction transverse to the direction of corrugation.

9. A support pad as set forth in claim 6 wherein the panel is folded once along a scored center line.

10. A support pad as set forth in claim 6 wherein the panel is folded twice at a 90° angle at points equidistant from each end to form a pad of U-shaped cross section.

11. A support pad for rotatably supporting a roll of film in a shipping carton which comprises a corrugated paperboard panel successively quarter-folded in a zig-zag manner and of such a size as to fit snugly within the end of the carton, said quarter-folded panel having circular openings punched therethrough to journal therein cylindrical members axially extending from each end of the roll, said quarter-folded panel further being resilient along the axis of the carton and adapted to be placed in the carton in such a direction so that the corrugations are perpendicular to the top and bottom for maximum vertical rigidity.

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