Aug. 20, 1957 M. W. KUCHENBECKER 2,803,339

DISPENSING PACKAGE

Filed March 8, 1954 2 Sheets-Sheet 1

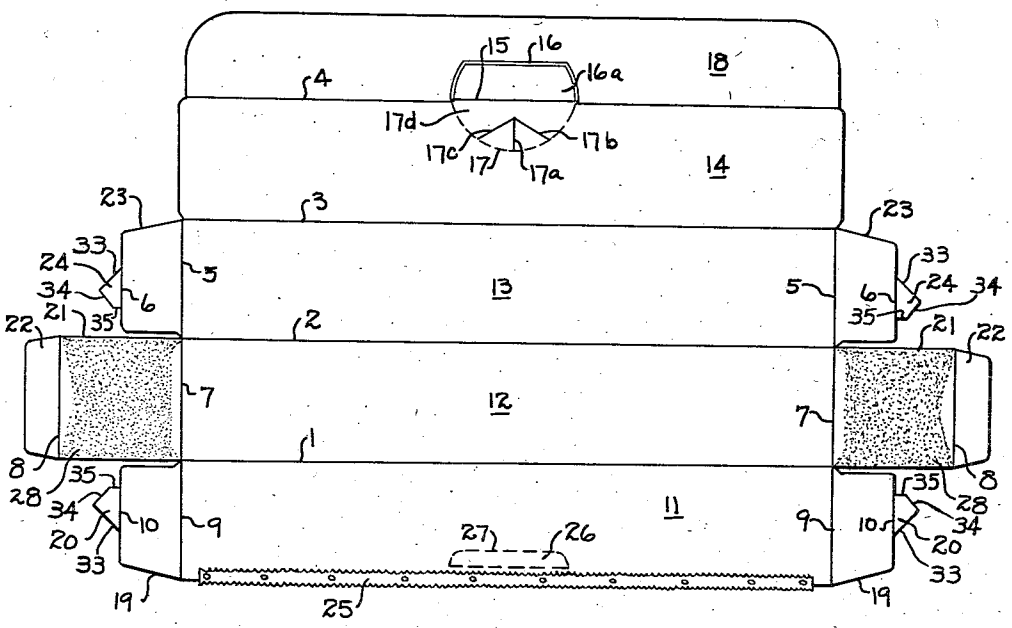


Fig. 1

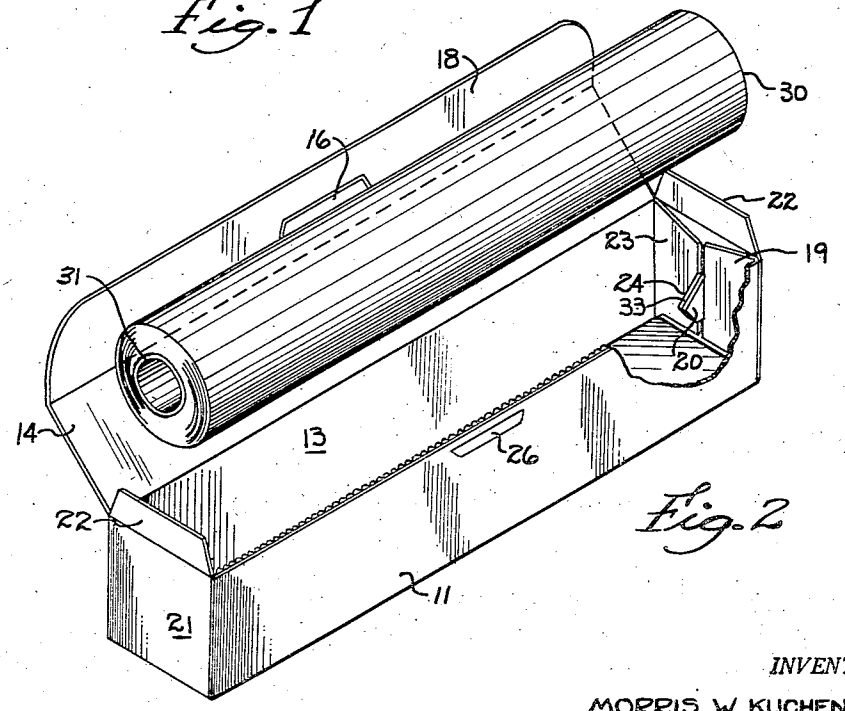


Fig. 2

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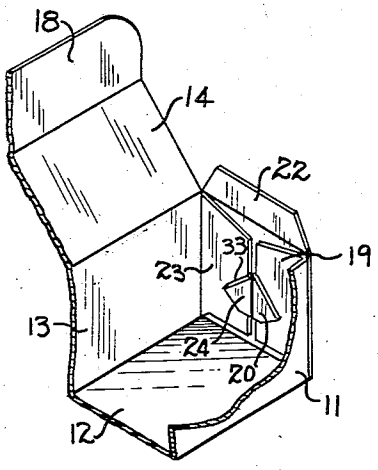


Fig. 3

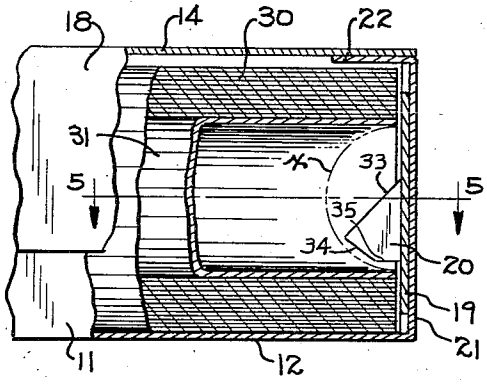


Fig. 4

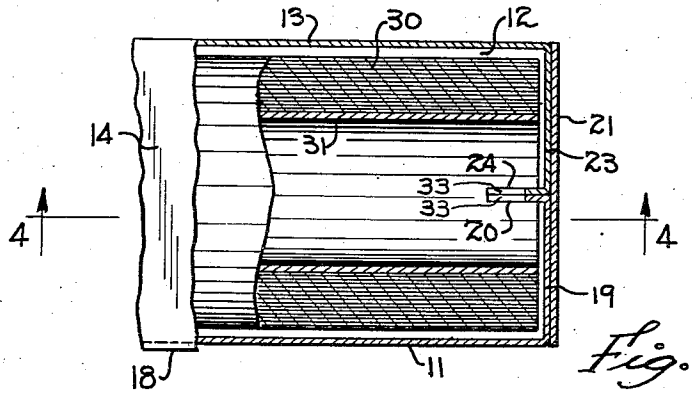


Fig. 5

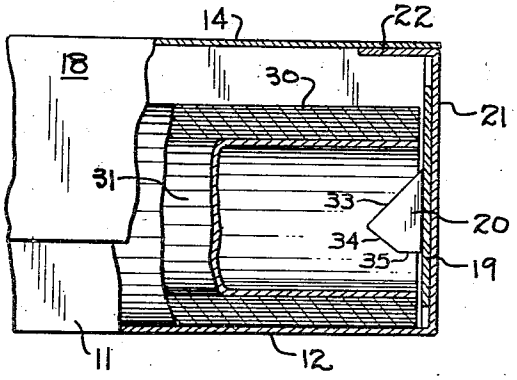


Fig. 6

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DISPENSING PACKAGE

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Application March 8, 1954, Serial No. 414,646

3 Claims. (Cl. 206—58)

This invention relates to a dispensing package and carton for a roll of sheet material for dispensing lengths of such sheet material, such as waxed paper, which may be torn off in pieces of desired length.

An object of the present invention is to provide a dispensing package adapted to retain a single roll of paper or other material whereby the roll of material is retained in the carton properly aligned during rotation and dispensing a length of sheet material from the package, and is also prevented from accidental displacement from the carton in the event the carton is handled roughly when opened or accidentally inverted when opened.

Another object of the invention is to provide a dispensing carton formed from a single blank of material scored and folded into box-like form and having a pair of opposed inwardly directed end flaps at the end walls for retaining the roll in the carton.

The above, other and further objects of the invention will be apparent from the following description and accompanying drawings, wherein:

Figure 1 is a plan view of a paperboard blank for making the dispensing carton,

Figure 2 is a perspective view of the carton made from the blank shown in Figure 1 and a roll of sheet material about to be positioned in the carton,

Figure 3 is a fragmental perspective view of one end of the carton before the roll is placed therein,

Figure 4 is a fragmental vertical medial sectional view of one end of the completed package containing the roll taken on line 4—4 of Figure 5,

Figure 5 is a fragmental horizontal medial sectional view of one end of the completed package containing the roll taken on line 5—5 of Figure 4, and

Figure 6 is a sectional view similar to Figure 4, but with a major portion of the contained sheet material dispensed from the roll.

Referring to the drawings, the carton is made from a single paperboard blank, shown in Figure 1, suitably cut and scored along lines 1 to 10 inclusive to provide a front wall 11, a bottom wall 12, a rear wall 13, a cover 14 hinged along score line 3 to rear wall 13, and an auxiliary cover flap 18 hinged to the cover 14 along score line 4. Front wall 11 is provided with end flaps 19 at each end thereof hinged thereto along score lines 9. Tab portions 20 are hinged to each of the end flaps 19 along score lines 10. A serrated metal cutting blade 25 is suitably affixed to the upper edge portion of front wall 11. A continuous cut score line 27 is provided in the outer exposed portion of front wall 11 to form a weakened area 26 which is adapted to be adhered to an overlapping portion of the cover flap 18. When the cover flap is pulled open the portion 26 will adhere thereto so as to permit the detachment of the cover flap 18 from the front wall 11. The bottom wall 12 is provided with end flaps 21 hinged thereto at either end along score lines 7. Auxiliary flap portions 22 are hinged to each of the end flaps 21 along score lines 8. Rear wall 13 is provided

with end flaps 23 hinged thereto at each end thereof along score lines 5. Tab portions 24 are hinged to each of the end flaps 23 along score lines 6. The tab portions 20 and 24 are preferably of the same area and contour and their free edges are of any desired shape suitable for the purpose of retaining the roll in the carton. However, preferably the tab portions present an angled upper edge 33 to facilitate positioning the roll of sheet material 30 (Figure 2) within the carton, and a horizontal (in carton-erected position) lower edge 35 for retaining the roll in the carton. These tab portions 20 and 24 are adapted to be positioned in mating or face-to-face extended relation so as to form retaining means for retaining the ends of the roll of sheet material 30 shown in Figure 2. The sheet material is perfectly wound on an inner paper core 31.

The cover panel 14 and the auxiliary cover panel 18 are provided with a perforation line 17 and a cut line 16, respectively, to form a removable tab portion 17*d* and 16*a*, respectively. The removable tab portion 16*a* is hinged to tab portion 17*d* along score line 15 which is slightly offset from the score line 4 along which the auxiliary cover panel 18 is hinged to the cover panel 14. The removable tab portion 17*d* is provided with a cut line 17*a* which extends inwardly of the tab portion 17*d* as shown in Figure 1 and from which two diverging score lines 17*b* and 17*c* extend to the perforation line 17 so as to provide a finger depressing portion to facilitate grasping the portion 17*d* when it is desired to remove same from the cover 14 when the package is to be used. The portion 16*a* is adapted to be adhered to the removable area 26 and the front wall 11 of the carton so that when the tab portion 16*a* is lifted it will remove with it the removable portion 26 and thereby release the cover so that the package can be readily opened.

In forming the container from the blank shown in Figure 1, the front wall 11 and rear wall 13 are folded along their hinge lines at right angles to the bottom wall 12. Adhesive 28 is applied to the areas of flaps 21 indicated in Figure 1. End flaps 19 and 23 are positioned at right angles to their respective hinged walls, and tabs 20 and 24 are inwardly folded perpendicularly to flaps 19 and 23, respectively, so as to bring the tab portions 20 and 24 into face-to-face relation in the manner shown in Figures 2 and 5. End flaps 21 are then folded upwardly and brought into adhesive engagement with the outer surfaces of the end flaps 19 and 23 so as to form the receptacle portion of the carton as shown in Figure 2. When this occurs the tab portions 20 and 24 will extend inwardly of the carton as a result of the resiliency of the hinge lines 6 and 10 although the tab portions are not adhered to each other but are merely in free face-to-face contact. The dimensions of the end flaps 23 and 19 are such that when they are folded into the position shown in Figure 2 to form the ends of the carton, the respective hinge lines 6 and 10 will be aligned approximately with the medial portion of the ends of the receptacle portion so that the extending tabs 20 and 24 will also extend inwardly of the receptacle portion of the container in a vertically extending medial plane of the receptacle portion of the box as shown in Figures 2 and 5.

The carton so formed is now ready to receive a roll of sheet material 30, as illustrated in Figure 2. Referring also to Figures 4 and 5, it will be seen that upper edges 33 of tabs 20 and 24 are angled sharply down, and that the width of the carton as shown in Figure 5 is somewhat greater than the diameter of the roll of sheet material. These features of construction are provided so that the weight of the roll of sheet material 30 bearing against edges 33 may provide a sidewise force to swing pairs of tabs 20—24 to one side or the other flat

against either flaps **19** or **23** to permit the roll to fully enter the carton as shown in Figure 4, tabs **20** and **24** respectively pivoting on their hinge lines **10** and **6**. In the rare (substantially theoretical) instance where the roll as dropped into the carton would strike edges **33** at "dead center," so that there would be no initial inclination of tabs **20—24** to pivot to one side or the other to permit entrance of the roll, the roll will immediately fall to one side or the other of the carton, against either front wall **11** or rear wall **13**, whereupon an opposite sidewise force will be exerted against tabs **20—24** to press them in the direction of that force and permit complete entrance of the roll into the carton. Thereafter the natural resilience of the carton material causes the tabs to spring back into roll-retaining position as shown in Figures 4 and 5.

In particular cases where the roll is of insufficient weight to force tabs **20—24** to one side or the other, or where it would for other reasons be expedient to do so, the tabs **20** and **24** might be folded back by any suitable means such as mechanical blades or fingers temporarily positioned in the ends of the carton to fold the tabs back to the position shown in Figure 3; the blades or fingers being removed upon dropping of the roll into the carton, whereupon the tabs would automatically spring back into extending face-to-face position as shown in Figures 4 and 5.

With particular reference to Figure 4, semi-circular dotted line *x* outlines half of the internal circular boundary of core **31**, and the entirety of tabs **20** and **24** lies within that outline. This is necessary so that the tabs after being bent flat against flaps **19** and/or **23** to permit entry of the roll will still be of size small enough to permit their entry within the core as shown in Figures 4 and 5. Thus, although edge **33** preferably is biased to permit deflection of tabs **20** and **24** by mere weight of the roll, and lower edge **35** of tabs **20** and **24** is horizontal as seen in Figure 4 to provide positive retention of the roll within the carton, the outer limits of these edges should be joined by cut edge **34** in such location that tabs **20** and **24** in their entirety lie within semicircle *x*.

From Figure 4, it will further be seen that the full roll of sheet material **30** is permitted to ride freely within the carton in so far as contact with tabs **20—24** is concerned. This contact will occur only in the event pull is exerted upon the sheet material in dispensing it from the carton to give rise to a force sufficient to lift the roll from the bottom **12** of the carton; or in the event the carton is inadvertently or otherwise inverted with the cover **14** open so that the roll would fall out of the carton except for such contact. In either of these events, the lower portion of the core **31** will contact horizontal edge **35** of tabs **20—24**, resulting in firm retention of the roll within the carton. It will be clear that this results from the fact that edges **35** are spaced from the lines of scores **1** and **2** respectively (Figure 1) and above bottom wall **12** (Figure 4) a distance at least equal to the difference between the inside radius of core **31** and the initial outside radius of roll **30**.

With additional reference to Figure 5, it will also be noted that the upper limit of cut edges **33** is sufficiently below the upper limit of core **31** so that as sheet material **30** is dispensed from the roll there will still be no tendency of the core **31** to ride upon edges **33**. This obviously is due to the fact that the uppermost portion (Figure 4) of tabs **20** are spaced from bottom wall **12** and from the lines of scores **1** and **2** respectively (Figure 1) by a distance less than the sum of the inside and outside radii of core **31**. Of course, to the extent that the carton is of length greater than the length of the roll, the literally uppermost portions of the tabs may be spaced above the bottom wall by a greater distance, and it is obivous that in such event the limitation is that the edges **33** of the tabs at the points at which they are

intersected by the ends of a line parallel to the bottom wall and of length equal to the length of the core must be spaced above the bottom wall by a distance no greater than the sum of the inside and outside radii of the core. Thus, the tabs **20** and **24** preferably are so proportioned that they do not interfere with the rotation of the roll during dispensing of the sheet material, except in those instances where it is necessary in order to assure retention of the roll in its position within the carton. Tabs **20—24** lies substantially in a plane perpendicular to and situated medially of the end and bottom walls of the carton.

Since in an attitude wherein the roll is attempting to escape the carton the edges **35** will be contacting core **31** at the lower "trough" thereof, the very force tending to remove the roll from the carton will insure the continued contact of edges **35** within this trough, and therefore insure the proper position of tabs **20—24** for positive engagement with the core **31** and consequent retention of the roll. Thus, a very considerable force, sufficient to mutilate tabs **20—24** or the roll, is necessary in order to remove the roll from the carton, unless some means is previously inserted between the ends of the roll and the ends of the carton to first deflect tabs **20—24** from their position within the end of core **31**.

While the invention has been described herein rather precisely as to detail, it is to be understood that the invention is not to be limited by the description, since changes might readily be made in the arrangement and proportion of parts and equivalents might be substituted, without departing from the spirit and scope of the invention. The only limits intended are those set forth in the appended claims.

This application is a continuation-in-part of my prior application, Serial No. 363,451, filed June 23, 1953, for "Dispensing Package," which prior application has now become abandoned.

I claim:

1. A dispensing package comprising a carton containing a roll of sheet material wound on a hollow core, said carton being formed from a single paperboard blank suitably cut and scored to provide front, bottom and rear walls, a cover hinged to the rear wall, end flaps connected to each end edge of the front, bottom and rear walls, and roll-retaining tabs hinged to these flaps which are connected to the front and rear walls, said tabs being connected to the edge of those flaps opposite the edge at which the flaps are connected to the front and rear walls, said tabs extending inwardly of the package and lying within the adjacent end portions of the hollow core, said tabs being of dimension and area to be contained within a semi-circle of diameter equal to the inside diameter of the core and of dimension perpendicular to the bottom wall of the carton substantially less than the internal diameter of the core and positioned to be free from contact with the core, the upper portion of said tabs presenting an inclined edge extending downwardly inwardly of the carton, said tab edges at their points of intersection with the ends of a line parallel to said bottom wall and of length equal to length of said core being spaced above said bottom wall by a distance less than the sum of the inside and outside radii of the core, and the lower portions of said tabs presenting a straight edge substantially parallel to the bottom wall and spaced thereabove by a distance at least equal to the difference between the inside radius of the core and the outside radius of the roll.

2. A dispensing package comprising a carton containing a roll of sheet material wound on a hollow core, said carton comprising a receptacle for receiving and retaining said roll of sheet material and being formed from a single paperboard blank suitably cut and scored to provide front, rear, bottom and end walls, a cover, and roll-retaining tabs at the ends of the receptacle hingedly connected to the adjacent end walls and ex-

tending resiliently inwardly of said receptacle and extending within the adjacent end portion of the hollow core, said tabs being of dimension and area to be contained within a semi-circle of diameter equal to the inside diameter of said core and lying in a plane substantially perpendicular to and situated medially of said end and bottom walls, the upper portion of each tab presenting an inclined edge extending downwardly inwardly of the carton and the lower portion of each tab presenting an edge which with relation to the end wall of the receptacle therebelow extends at an angle whose maximum is 90°, the lowermost portion of each of said tabs being spaced above said bottom wall by a distance at least equal to the difference between the inside radius of the core and the outside radius of the roll.

3. A package according to claim 2 further characterized by the fact that said downwardly inwardly extending edges of said tabs at their point of intersection by the ends of a line parallel to said bottom wall and of length equal to the length of the core are spaced above said bottom wall by a distance less than the sum of the inside and outside radii of the core.

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