May 27, 1958 W. A. KLEIN ET AL 2,836,292

BOX FOR DISPENSING SHEET WRAPPING MATERIAL

Filed April 10, 1957 3 Sheets-Sheet 1

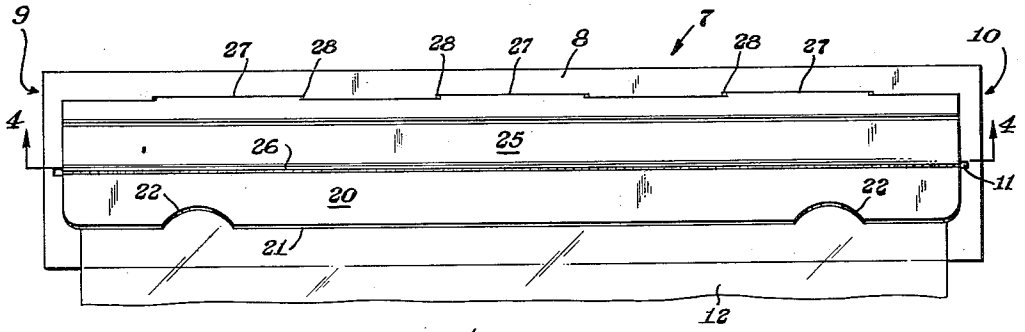


Fig. 1

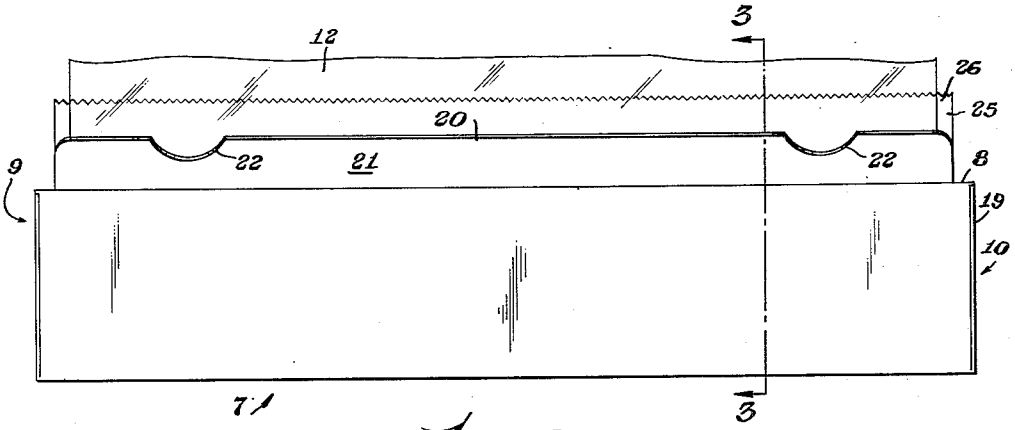


Fig. 2

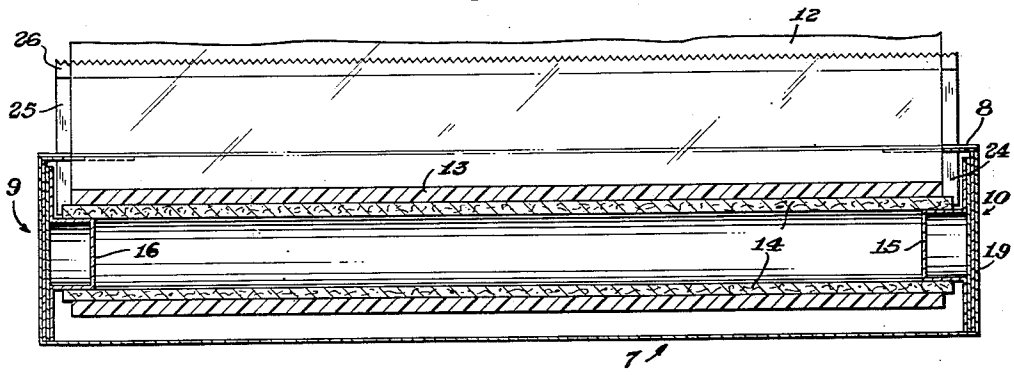


Fig. 4

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BOX FOR DISPENSING SHEET WRAPPING MATERIAL

Filed April 10, 1957 3 Sheets-Sheet 2

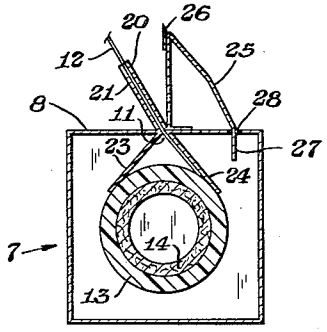


Fig. 3

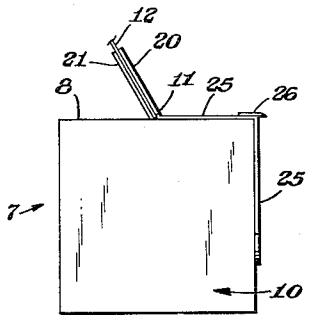


Fig. 6

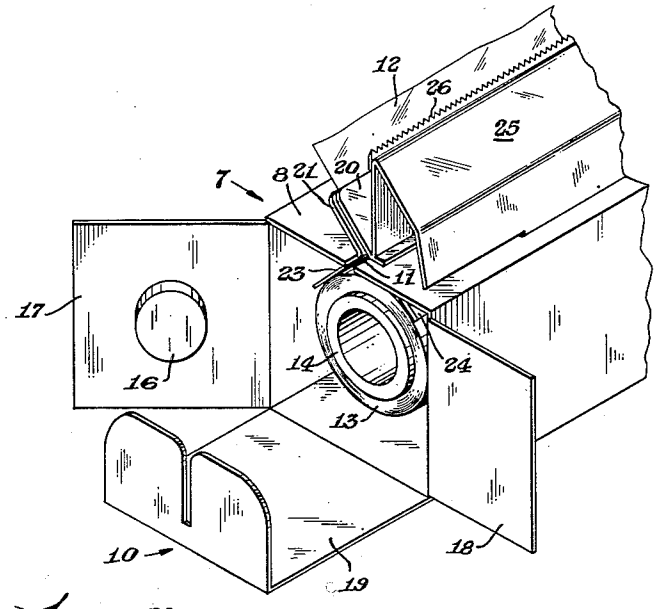


Fig. 5

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BOX FOR DISPENSING SHEET WRAPPING MATERIAL

Filed April 10, 1957 3 Sheets-Sheet 3

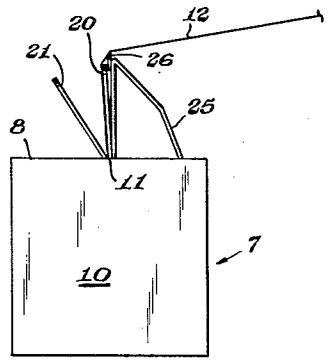


Fig. 7

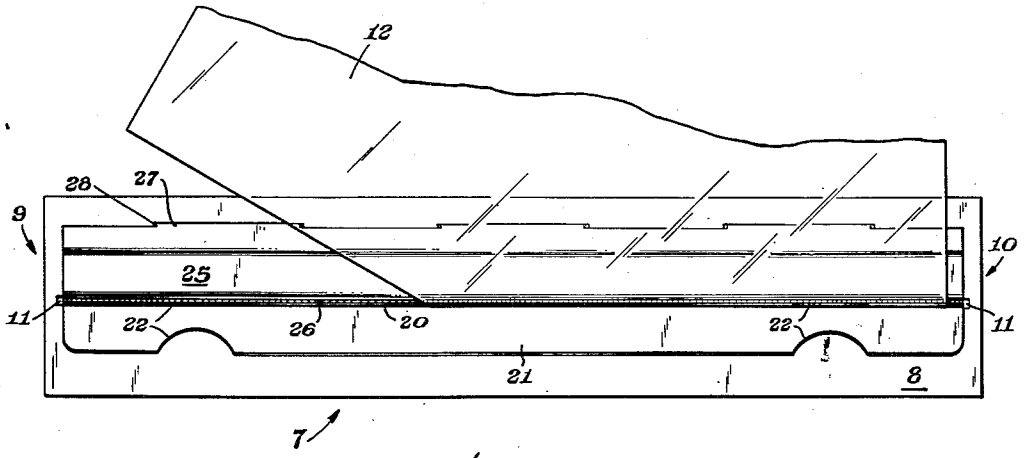


Fig. 8

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2,836,292

BOX FOR DISPENSING SHEET WRAPPING MATERIAL

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Application April 10, 1957, Serial No. 652,054

7 Claims. (Cl. 206—58)

This invention relates to an improved and exceptionally utile box or container for packaging supply rolls of plastic film and the like or similar sheet wrapping materials (including such metallic and paper based wrapping stock as metal foil and waxed paper) which box is adapted to efficiently and effectively dispense the sheet wrapping material therefrom. In particular, the invention relates to a box for containing and dispensing very large, giant sized capacity rolls of sheet wrapping material, especially plastic wrapping film, for domestic and commercial consumption.

It has become quite popular and of increasing attractiveness to manufacturers, merchandisers and consumers alike to package plastic wrapping film and other sheet wrapping materials in very large, individually boxed supply packages that contain sufficient amounts of the wrapping material for the satisfaction of considerable demands. For example, in contrast to the usual 25 to 50 or so feet rolls that were formerly provided as a matter of course for most domestic and many commercial users, it has become a more widespread and desirable practice to furnish the sheet wrapping material in supply rolls having lengths of at least 250 feet. Frequently, as a matter of fact, 500 feet or longer supply packages are found to be much in demand in the form of individually boxed units.

The satisfactory dispensing from supply packages of many sheet wrapping materials, particularly plastic wrapping film, has been the source of many difficulties and vexatious problems. Most plastic films, for example, especially the varieties that are best suited for wrapping purposes, have a great tendency to cling to the supply package (such as the peripheral surface of the roll) from which they are being dispensed. In addition, they oftentimes have an unhappy propensity to recoil, feed back or otherwise revert to the supply package, even after their free or loose end has been separated therefrom for withdrawal of a desired length from the supply package. It may sometimes be no easy task to maintain the loose or free end of the sheet wrapping material, particularly when it is a plastic wrapping film, in accessible, partially exposed disposition in or on the supply package to facilitate its being readily available for easy withdrawal therefrom. Such problems are not minimized or alleviated by virtue of the provision of the sheet wrapping material in a very large capacity wound supply roll.

Besides this, when large supply packages are involved, they are generally found to be too bulky and heavy for convenient manipulation and handling when it is desired to withdraw lengths of the sheet wrapping therefrom. The very size of the box oftentimes prohibits its being picked up in one hand to permit grasping of the loose end of film or other wrapping for withdrawal with the other in the familiar manner that is conveniently employed with smaller sized containers. The problems which arise in connection with this for the giant sized, individually boxed, wound supply rolls are very real and serious indeed. They are oftentimes amplified by

the fact that the user may be inclined to or desirous of grasping or withdrawing the wrapping material from the large supply package without actually lifting or otherwise contacting the box. This may be the case when it is wished to employ both hands for uniform withdrawal of the sheet wrapping material and for its better control after being withdrawn and severed from the supply package, as well as for more efficacious accomplishment of the immediate wrapping task being performed.

As a consequence, besides the difficulty in maintaining the loose or unwinding end of the sheet wrapping material in easily accessible disposition, it may be quite difficult and troublesome to properly and satisfactorily sever the sheet material from a very large capacity and individually boxed supply roll after it has been withdrawn therefrom in a suitable length. Since the large box does not lend itself to ready lifting or convenient manipulation, it is not always easy to pull or urge the withdrawn length of sheet wrapping material at an optimum angle for its efficient slitting or severance against the cutting edge that is conventionally provided on the container, usually along one of the outer edges thereof. Furthermore, especially when the user is inclined or required to employ both hands for and during withdrawal, the box may tend to slip and be pulled along the surface on which it is rested during the efforts to withdraw the desired length of wrapping and to sever the withdrawn length from the supply.

To illustrate this point, most sheet wrapping materials, especially plastic wrapping film, are generally best cut when they are urged or pulled upon while being substantially bent over the usual cutting edge employed for their severance. Oftentimes, the more nearly the sheet is made to be bent at a right angle or actually at an acute angle across the cutting edge during its severance, the better and more efficient is the resulting cutting action. Now, when a sheet is withdrawn from the upper side of a supply package as may be contained in the usual square cross-sectional box that has a cutting means along one of its edges and which is resting flatly on a supporting surface, it is practically impossible (without releasing the original grip and regrasping the sheet close to the outlet) to bend the withdrawn sheet at an efficient cutting angle across the cutting edge, especially when a substantial length of the sheet is withdrawn for severance from the supply package. This is so, regardless of the particular direction in which the cutting edge is disposed or faced, since the surface usually prevents bending the sheet across the cutting edge at an optimum angle for best results which, generally, is an acute angle or one that is not much greater than a right angle. And, even if the supply package is placed near the edge of a supporting surface in order to facilitate bending the withdrawn sheet at better cutting angles across the cutting edge, there is great danger and likelihood of the box being pulled over the edge and off the surface during withdrawal or severance of the sheet. Such an occurrence cannot, of course, be tolerated.

It would be advantageous and it is among the major objects of the present invention to provide an improved and practically effective dispensing box that would be well adapted to maintain the loose end of a wound supply package of sheet wrapping material contained therein in easily accessible disposition while affording optimum cutting performance and severing action on withdrawn lengths of sheet material from the supply. While by no means restricted in its utility thereto, the dispensing boxes that may be provided in accordance with the invention are particularly adapted for utilization with wound rolls of plastic wrapping films, especially when they are contained in very large capacity or giant sized supply packages.

According to the present invention, the above-men-

tioned and related advantageous results may be secured and the described difficulties and problems readily overcome in an improved dispenser box for wound supply rolls (preferably large capacity packages, especially of plastic wrapping film, that are wrapped on supporting cores) which comprises an elongate, preferably substantially square cross-sectioned container formed by a plurality of side walls and a pair of enclosing end walls between which said side walls extend longitudinally to accommodate the width of a hollow, wound supply roll of sheet wrapping material contained therein; roll supporting means integral with said end walls, preferably of hub-like design or of the insertable mandrel type, that are adapted to be inserted within the ends of a wound supply roll in said container and to conform at least approximately to the inner hollow space in the open ends of said roll for supporting and maintaining said roll therein; means in one of said side walls, preferably the uppermost side wall, for forming an elongate, linear, slit-like outlet for said sheet wrapping material when it is contained in said container; said outlet extending longitudinally in the direction of the width of said supply roll-accommodating length of said container; a contiguous pair of bendable, lip-like flaps, formed by means tending to urge one against the other, extending upwardly from said side wall along said outlet, one of said flaps being positioned on each side of and adjacent to said outlet, said flaps being adapted to frictionally engage and grasp said sheet wrapping material when it is emerging through said outlet; said flaps being advantageously formed, preferably with a spaced pair of matching cutouts in each flap, to permit engagement of said sheet wrapping material when it is contained and grasped therebetween; and a cutting means mounted on said box in spaced, parallel relationship with said outlet, positioned over said outlet at a greater distance therefrom than the height of said flaps and being situated in a plane that extends between said outlet and said cutting means which is substantially at a right angle to the side wall in which said outlet is formed. Advantageously, at least one and preferably both of the end walls of the container are formed and provided as openable flaps upon each one of which at each end of the box is mounted the insertable roll supporting means for insertion within the end of the supply roll to maintain it in unwindable, dispensing position when the box is closed. It is also of advantage for the cutting means to be mounted on a longitudinal extending, accordion-folded flap or creased strip that is adapted to be triangularly secured and positioned on the outlet-containing side of the box in order to assemble it for dispensing and cutting utilization, which flap for mounting the cutting means is further adapted to be folded out of the way over the side of the box when not in use.

Further features, advantages and objects of the present invention are apparent in the following description and specification, taken in connection with the accompanying drawing in which one suitable embodiment of the invention is illustrated, wherein;

Figure 1 is a plan view of a box according to the invention;

Figure 2 is a front elevation;

Figure 3 is a sectional end view taken along the line 3—3 in Figure 2;

Figure 4 is a front elevation in section taken along the line 4—4 in Figure 1;

Figure 5, a fragmentary perspective view, shows one end of the box open;

Figure 6 is an end view of the box with the cutting means support disassembled and folded over the side of the container; and

Figures 7 and 8, end and plan views, respectively, illustrate the sheet cutting action of the container during a dispensing operation.

There is shown in the drawing a dispensing box, indicated generally by the reference numeral **7**, that is in accordance with the present invention. It is usually preferable for the box **7** to be in the form of a generally rectangular or square cross-sectioned, roll-accommodating container that is fabricated from cardboard, paperboard, fiberboard or like material of construction. If greater permanence is desired, however, all or portions of the box may also be fabricated of wood, metal or plastic materials. The upper or dispensing side wall **8** between the opposite end walls, indicated generally by the reference numerals **9** and **10**, respectively, is formed to have a preferably (though not necessarily) central, elongate, linear, slit-like cleft or outlet **11** for the sheet material **12** that is withdrawn from the supply roll **13** wound on the supporting core **14** which is maintained within the container. As shown, the outlet **11** extends for the entire length of the box **7**.

The wound supply roll of sheet wrapping material is supported and maintained in unwindable disposition in the container by and upon a pair of mandrels or end inserts **15**, **16** one of which is adapted to fit in each end of the supporting core **14** upon which the sheet material **12** is packaged. As is particularly shown in Figures 4, the mandrels **15**, **16** are integrally secured to and mounted upon the end walls **9** and **10**, respectively, of the box **7**. More particularly, and with great benefit, as is illustrated in detail in Figure 5, each of the mandrels or roll supporting inserts is positioned integral with and upon one of the openable flaps in a tuck flap end closing arrangement that forms and provides at least one, and preferably both, of the end walls in the container. Thus, the mandrel **16** is shown as an integral part of the openable flap **17**, which, together with the cooperating flap **18** and the tuck flap **19** at the end of the container, can be closed to form the end wall **10** while simultaneously inserting the mandrel into the open end of the hollow core **14** on which the roll of sheet wrapping material **13** is wound. Most advantageously, the mandrels **15** may be fabricated by stamping out flat metal sheets which can be affixed to the end wall or flap thereof by any desired means including adhesives, rivets, staples and the like or, beneficially, by forming flap perforating tines, prongs or points on the opposite side of the metal sheet from the formed mandrel to permit their speedy assembly to or with the end wall or flap thereof in the box. Of course, the mandrels may also be constructed of solid metal or wood or of hollow or solid plastic sections or of other desired materials and in any preferred form for the intended purpose. Likewise, they need not be hublike in shape, but can be any suitable variety of insertable construction that is adapted to maintain and support the roll, such as circularly disposed rods or pyramidal and other polygonal hollow or solid shapes that may have continuous or discontinuous core-engaging surfaces.

A contiguous exterior pair of bendable lip-like flaps **20** and **21** (that advantageously may be creased or foldable at their base juncture with the upper side **8** of the box **7** in order to permit their bending or flip-flopping sort of functionality) are positioned one on each side of the outlet **11**. The flaps **20**, **21** are best formed with suitable cut-out portions or indentures **22** to facilitate ready grasping of the portion of the sheet material **12** that is extending between and located within the flaps, when it is desired to withdraw the sheet material from the box. The contiguous, lip-like pair of flaps **20**, **21** are formed by any suitable means so as to tend to urge one against the other over the outlet **11**. When made of cardboard or the like, the flaps **20**, **21** may, as has been indicated, be easily made to be satisfactorily foldable by creasing or bending them upwardly from the upper side wall **8** of the box **7** along a line on the side wall parallel with the outlet **11**. Of course, various resilient means may also be incorporated in or on the box to urge the foldable flaps **20**, **21** one against the other. It is generally best for the height of the flaps **20**, **21** to be such that when they are completely vertically extended from the upper

side 8 of the box 7 they reach about or almost to the cutting means 26 that is positioned above the level of the outlet 11 in a plane therewith that is at least substantially normal to the upper side 8 of the box 7.

As is apparent, the contiguous flaps 20, 21 which usually lie at angle to the upper side 8 of the box 7 intermediate the side and the normal plane thereto between the outlet and the cutting means 26, are adapted to frictionally engage and grasp the sheet wrapping material 12 that is contained therebetween. This tends to prevent the recoil or feed back of the sheet 12 to the supply roll 13 after a withdrawn portion of the sheet has been severed from the supply package. In addition, the flaps avert the possibility of the sheet wrapping material from lying flat and in relatively inaccessible disposition on any of the surfaces of the box. This may be a particular problem with some types of sheet wrapping stock, particularly certain types of plastic wrapping films, which often tend to cling tenaciously to many surfaces over which they are disposed. If desired, and as is particularly indicated in Figure 5, additional means may advantageously be included within box 7 to assist in the frictional snubbing and braking of the supply roll that is contained in the package. Thus, an interior pair of divergent, resiliently hinged flap elements 23, 24 may depend within the box, one from each side of the outlet 11, to extend over and flatly contact the supply roll 13 of the sheet material 12. As shown, the flap elements may be formed integral with the upper side 8 of the container while being positioned parallel with and near the edges of the outlet 11. The interior flap elements 23, 24 may be similar to those which have been disclosed by Walter A. Klein in the copending application for United States Letters Patent for a "Container for Dispensing Sheet Material" having Serial No. 600,455, now U. S. Patent No. 2,799,393, which was filed on or about July 27, 1956. In this connection, many other of the interior and constructional features of boxes in accordance with the present invention may also be similar to those in the container that has been disclosed in the referred-to copending application.

The cutting strip 26 may be of any desired material and it may have a serrate or straight cutting edge, as may be preferred.

An advantageous means for vertically positioning the cutting means 26 on the assembled box over the outlet 11 consists of a foldable flap 25 secured centrally on the upper side 8 of the box 7 near the outlet 11 which is adapted to be supported in a triangular or easel-like manner on the upper side 8 by means of tabs 27 adapted to be inserted in accommodating slots 28 in the upper side 8 of the box in order to maintain the cutting means 26 at a level above the outlet 11 and in a plane therewith that is at a right angle to the upper side 8 when the flap 25 is assembled and the box is ready for dispensing the sheet material. As shown, the cutting means 26 is positioned along the uppermost folded edge of the flap 25 that is formed by the accordion-fold creases provided therein when the flap is assembled. The flap 25 is best arranged to lie flatly on the upper side 8 of the box 7 and fall over its vertical side wall when it is not in use, as is shown in Figure 6 of the drawing.

As is apparent, the container arrangement of boxes in accordance with the present invention prevents recoil (or inadvertent withdrawal without positive tractile effort) of the withdrawn sheet material to insure that an extending portion of the sheet will remain in an accessible exposed condition between the foldable sheet engaging flaps 20, 21 after a desired length has been withdrawn and severed from the roll. In addition, and of great significance, the sheet material may be withdrawn and severed from the supply package at the most efficient right or acute cutting angle that is possible. As has been indicated, the sheet material may be withdrawn by the user to a desired length and bent sharply over the elevated cutting edge in order to sever it from the supply roll (as demonstrated in Figure 8) without changing the original sheet grasping position of the hands or manipulating the box for this purpose. During this operation, as is also illustrated in Figure 7 of the drawing, the lip-like flap 20 is bent against the cutter 26 on the foldable flap 25. As a matter of fact (although not so illustrated), both of the flaps 20 and 21 may bend with the sheet and move towards the cutter during the cutting operation. In this connection, boxes in accordance with the present invention obtain the optimum cutting or tearing action that is possible for the sheet material withdrawn from the package over the cutting means associated with the container due to the positive snubbing and nipping effect exerted by the foldable flaps on the length of sheet material emerging therethrough, especially when either or both of them are bent over with the sheet so as to positively nip it while it is being cut.

Dispensing boxes in accordance with the present invention may be employed with particular advantage for plastic wrapping films such as those which are comprised of copolymers of vinylidene chloride and vinyl chloride which may frequently be generically characterized as being Sarans and which enjoy great favor as a wrapping material for domestic and other uses, especially when they are being provided in giant size, very large capacity supply rolls.

What is claimed is:

1. A dispensing box for packaging a hollow wound supply roll of sheet wrapping material which comprises a plurality of side walls and a pair of enclosing end walls between which said side walls extend longitudinally to accommodate the width of said supply of sheet wrapping material that is adapted to be contained therein; roll supporting means integral with said end walls that conform at least approximately to the interior of said hollow wound supply roll and that are adapted to be inserted within the ends of the roll when it is contained in said container in order to maintain and position the supply roll therein; means in one of said side walls forming an elongate, linear, slit-like outlet for said sheet wrapping material when it is contained in said container, said outlet extending longitudinally in said side wall in the direction of the width of said sheet wrapping material when it is contained in said container and parallel to the width-accommodating length of said container; a contiguous pair of bendable, lip-like flaps, formed by means tending to urge one against the other, extending upwardly from said side wall along said outlet, one of said flaps being positioned on each side of and adjacent to said outlet, said flaps being adapted to frictionally engage and grasp said sheet wrapping material when it is emerging through said outlet; and a cutting means mounted by means on said box in spaced, parallel relationship with said outlet positioned over said outlet at a greater distance therefrom than the height of said flaps and being situated in a plane that extends between said outlet and said cutting means which is substantially at a right angle to the side wall in which said outlet is formed.

2. The box of claim 1, wherein at least one of said end walls is formed by means of openable flaps upon one of which flaps is mounted the insertable roll supporting means.

3. A box as in claim 2, wherein both of said end walls are formed by said openable flaps.

4. The box of claim 1, wherein the means for mounting said cutting means thereon is a foldable, accordion-creased flap extending longitudinally from along the outlet from said outlet containing side wall, said cutting means being provided along the foldable edge of which that is adapted to extend furthest from said wall when said flap is assembled, said foldable flap being adapted to be elevated from and secured in easel-like fashion upon said outlet-containing side of said box to position said cutting means in said right angled plane and being further

adapted to be folded over and rested flat against the side walls of said box when not in use.

5. A box as in claim 4, wherein said outlet is centrally positioned in the uppermost side wall of said box and wherein the height of said contiguous flaps extending upwardly therefrom is almost equal to the distance between the outlet and said cutting means, at least one of said flaps being adapted to move towards said cutting means with said sheet wrapping material when it is being dispensed and severed from said supply package.

6. The box of claim 1 and including, in addition thereto, a spaced pair of matching cutouts in each of said contiguous flaps to permit engagement of said sheet material when it is contained and grasped therebetween.

7. The box of claim 1 in combination with a wound supply roll of plastic wrapping film packaged therein.

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