March 5, 1963 C. CASTELLI 3,079,827

TAPE DISPENSER

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Fig. 1.

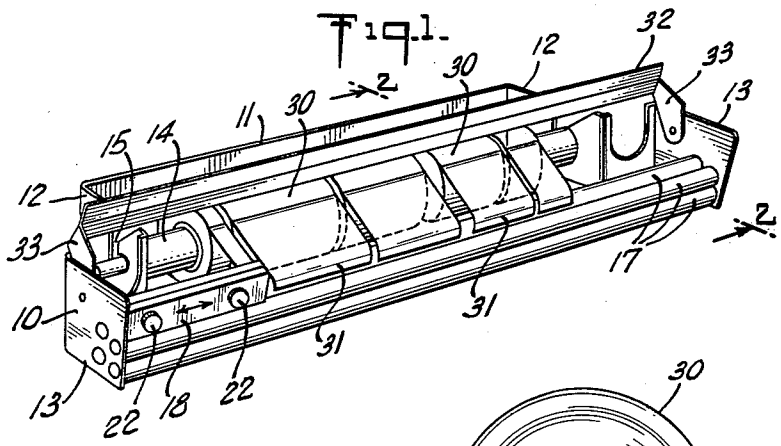


Fig. 2.

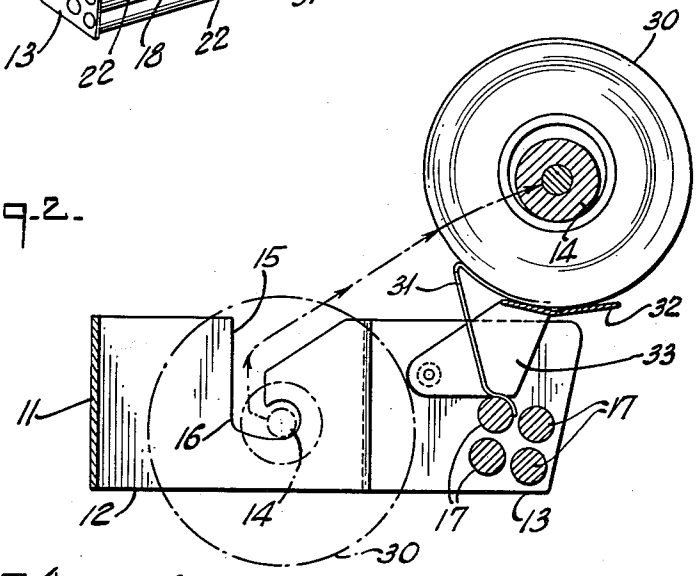


Fig. 4.

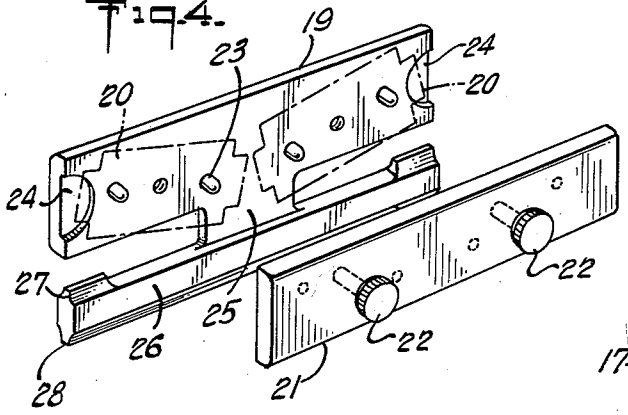
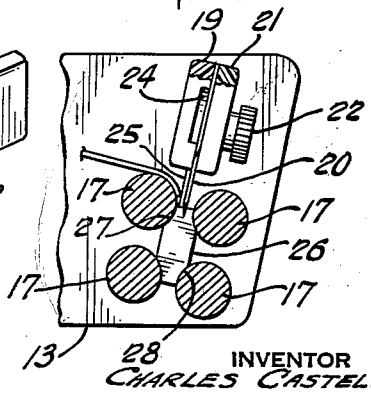


Fig. 3.



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Fig. 5.

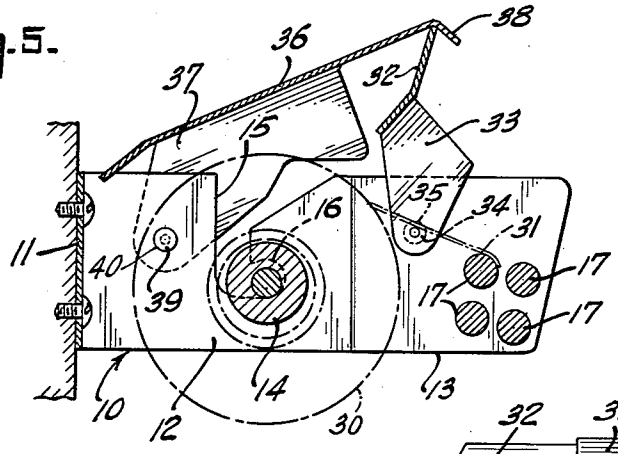


Fig. 7.

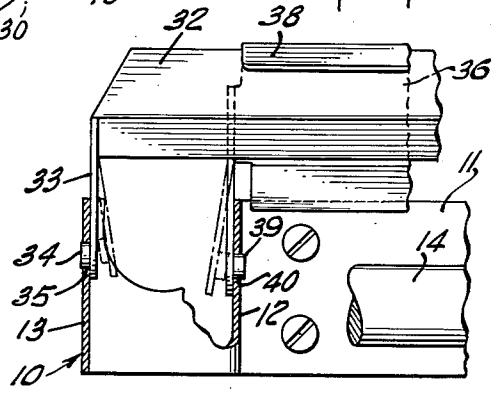


Fig. 6.

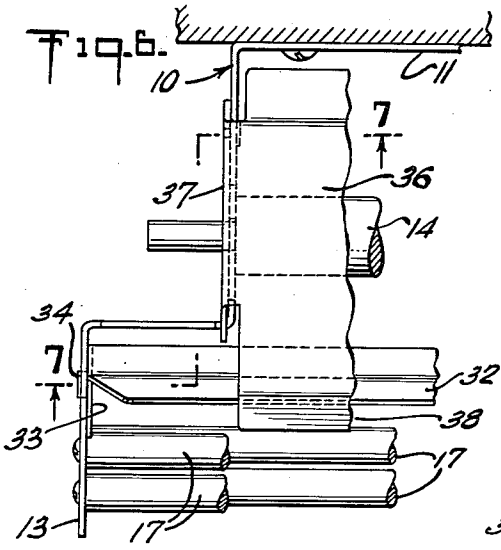


Fig. 9.

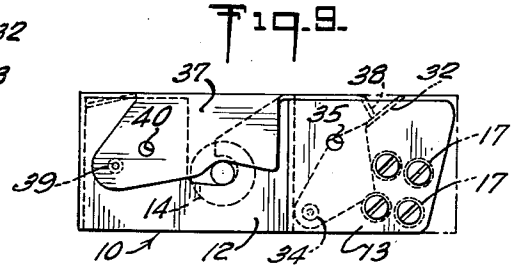
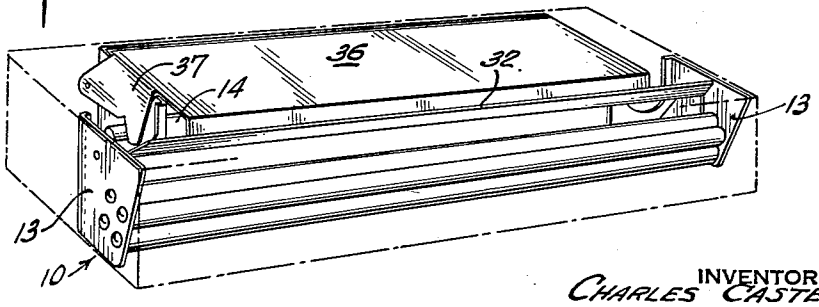


Fig. 8.



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TAPE DISPENSER

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Filed Nov. 5, 1958, Ser. No. 772,069
6 Claims. (Cl. 83—614)

The present invention is drawn to a tape dispenser and more particularly to a tape dispensing and cutting device for use with surgical adhesive tapes.

In my co-pending application Serial No. 731,658, filed April 29, 1958, a tape dispensing and cutting mechanism is described of the type wherein the adhesive tape is unrolled to the length desired and then secured, by means of the adhesive thereon, to a cutter guide. The tape is then severed by passing the cutter along the guide past the tape so held. The severed end of the tape remains attached to the guide where it is easily grasped when another length of tape is needed.

With cutting devices of this type where an end of the tape is held after being severed, some difficulty is encountered when replacing a used roll with a fresh one. Since the severed ends of the tape are all held by the tape guide, these ends must either be removed from the tape guide in order to remove the roll-supporting spindle with the tape rolls from the cutter assembly, or one must work within the narrow confines of the dispenser to replace the used roll. This is somewhat difficult since as soon as the roll-supporting spindle is removed the rolls of tape fall out of alignment and, with their attached ends, are difficult to again place on the roll-supporting spindle along with the new roll.

It is an object of the present invention to provide roll aligning and supporting means so that rolls can quickly and easily be replaced. It is a further object of the present invention to provide means whereby the rolls can be quickly and easily replaced without the necessity of detaching the secured ends of tape. It is a still further object of the present invention to provide a tape cutting device similar to that of co-pending application Serial No. 731,658 containing a roll supporting and aligning member for easily changing rolls, which tape cutting mechanism is readily knocked down for packaging and which makes a compact package in its knocked-down condition. Other objects and advantages of this invention will become apparent from the following description taken in connection with the accompanying drawings wherein are set forth by way of illustration and example certain embodiments of this invention.

Referring to the drawings,

FIG. 1 is a perspective view of a tape dispenser with the roll aligner and support in the raised position;

FIG. 2 is a section taken along line 2—2 of FIG. 1 showing the tape holder and aligner in its lowered position with the tape rolls supported thereon prior to removal of the roll spindle;

FIG. 3 is a cross section through the cutting blade holder;

FIG. 4 is a perspective view of the blade holder showing the cover removed;

FIG. 5 is a cross-sectional view of the tape dispenser and cutter showing a modification in which a cover is used;

FIG. 6 is a fragmental top plan view of one end of the tape holder of FIG. 5;

FIG. 7 is a sectional view taken along line 7—7 of FIG. 6;

FIG. 8 is a perspective view of the tape cutter with cover showing the knocked-down arrangement of parts for packaging; and

FIG. 9 is a left-hand elevation of the knocked-down tape cutter with the parts assembled for packaging.

The roll holding and aligning mechanism of the present invention is shown in connection with a tape dispenser and cutter of the type described in the heretofore mentioned co-pending application Serial No. 731,658, although its use is not limited thereto.

In the embodiment illustrated, the bracket which supports a removable spindle on which tape rolls are carried is also provided with four closely spaced parallel rods on which the cutting blade holder is adapted to ride. These rods are placed forward with respect to the roll tape support so that the unrolled tape may be secured adhesive side down to the uppermost of these rods and the cutter assembly slid across the same for severing. The rods have sufficient spring so that the same may be slightly sprung apart for receiving the base of the cutting knife carrier. The bracket, together with the assembled parts, make a complete tape dispensing and cutting device. The device may be readily mounted on the wall, on a hospital cart or in a container by securing the back of the bracket to a vertical surface which acts as a support for the tape dispenser and cutter.

Referring more specifically to the drawings, the bracket 10 which is U-shaped has a straight back 11 which is preferably provided with holes, not shown, for securing the bracket to a vertical support and with perpendicularly extending sides. The sides have two right angle bends to provide sections 12 and further spaced sections 13. The sections 12 are adapted to hold the tape supporting spindle 14 and are provided with notches 15 in which the ends of the spindle are inserted. It will be noted that the notches 15 are curved back toward the front of the bracket as at 16 to help maintain the supporting rod 14 in place when tape is unwound.

Four closely spaced parallel rods 17 extend between the end sections 13 of the bracket and are secured thereto. The upper two rods act as a cutting surface, the tape being secured to these rods by its adhesive coating while being cut. A cutter carriage 18 is adapted to be held by and ride on the four rods.

The cutter carriage 18 has a blade-carrying section 19 on which the cutter blades 20 are placed and a cover 21 for securing the blades in position. The cutter blades 20, which may be any conventional razor blades of the perforated type, are placed over projections 23 which position the blades in a slanting position with respect to any tape laid across the cutting surface formed by the two upper rods 17. The blades are held in this position by cover 21 which is secured to the blade-carrying section 19 by screws 22. Indentations 24 are provided on the inner surface at both ends of the blade-carrying section 19 to make removal of the blades easier. When it is desired to remove a blade, the blade can readily be removed by insertion of the fingernail or other object into the indentation 24, below the blade. The blade is then lifted off of the projections 23.

The cutter carriage is provided with a neck 25 which is adapted to fit between the upper two rods 17 and slide therebetween. The neck 26 connects the blade-carrying section 19 and an elongated slide section 26 which is somewhat thicker than the neck 25 and is adapted to fit in the space between the four rods 17. The longitudinally extending slide section 26 has its upper edge 27 and its lower edge 28 beveled to fit respectively between the upper and lower pair of rods 17. These beveled edges 27 and 28 preferably have arcuate surfaces to better fit the rounded contour of the rods with which they come in contact.

In preparing the cutter for use, razor blades 20 are

inserted over projections 23 and the cover member 21 then placed on top of the blade-holding section 19 so that the projections 23 enter indentations 27 in the cover. The blade-holding section 19 and cover 21 are then firmly secured together by means of the screws 22. The assembled cutter is placed in position on the carrying rods 17 by inserting slide section 25 between the upper two parallel rods 17 near the center thereof, the rods 17 having sufficient spring to permit this insertion. When in place, the slide section 27 is restrained within the space between the four rods 17 but free to slide easily from one end to the other.

The tape cutting and dispensing device may be placed in a cabinet, suitably designed container or simply secured to the wall or to the end of a hospital cart. When a strip adhesive tape is to be used, it is unrolled from one of the rolls 30 to the desired length, secured to the topmost of the two rods 17 by the adhesive contained on the tape and then severed by simply moving the cutting member 18 across the tape. The severed piece of tape is removed and the severed end 31, which is still connected to the tape roll, is left secured to the innermost of the top rods 17, as clearly shown in FIG. 1. When a roll of tape is used up, it is necessary to remove the spindle 14 and place a new roll on the spindle after removing the core of the used roll. Since the tape ends 31 associated with the remaining tape rolls are attached to the rods 17, it is apparent that without further modification of the tape cutter and dispenser some difficulty would be involved in inserting the new roll.

In order to simplify the removal of used rolls of tape and their replacement with new rolls and also to aid in the initial filling of the tape dispenser and cutter, a roll support 32 is provided. This roll support 32 serves to hold the tape rolls in an aligned position while the spindle 14 is inserted or withdrawn. The roll support 32, when in roll supporting position, is forward of the spindle holding notches 15 and above rods 17. With the roll support 32 in this position, the spindle 14 with its rolls 30 can readily be removed from the notches 15 and placed on the roll support 32 without the necessity of detaching the held ends 31 of tape or further unrolling of adhesive tape from the rolls 30. Once the spindle 14 with the rolls thereon has been placed on roll support 32, the spindle 14 can be removed and the used roll replaced without disturbing the position of the remaining rolls. It is then only necessary to reinsert the spindle 14 through the rolls while still supported in aligned position by support 32 and then lift the spindle with its contained rolls back into the notches 15. In this manner, used rolls can readily be removed and replaced with new rolls with a minimum of effort and time.

The roll support 23 is provided with a pair of downwardly extending spring tabs 33 which are secured to bracket end 13 by means of projections 34. These are carried near the ends of the tabs and pass through holes 35 provided in the brackets. The holes 35 are placed back of the cutter guide rods 17 so the roll support 32 can be pivoted out of the way when cutter 18 is being used. The roll support 32, in its raised position, is best illustrated in FIG. 1. By swinging back the roll support 23 in this manner, cutter 18 is readily accessible. There is also ready access to the tape ends for unwinding further sections of tape.

If the tape dispensing and cutting device is not to be placed in a cabinet or container, it is desirable to protect the tape rolls from dust and possible spilling of medication by the provision of a cover 36. The cover provided has two downwardly projecting sides 37 and a downwardly extending flange 38 extending across the front of the cover. Near the back and lower part of the sides 37 are projections 39, which are adapted to enter holes 40 in section 12 of the bracket for pivotly

mounting the cover. The flange 38 acts to hold the roll support 32 in raised position when the dispenser is in use for dispensing and cutting tape. In such case, the raised roll support acts together with the cover to protect the rolls of tape contained.

When it is desired to replace a roll of tape, the cover 36 is pivoted back to completely expose the tape rolls 30 and the roll holder pivoted forward in the manner heretofore described, the side tabs 33 resting on rod 17 to support the roll holder 32 in its forward position.

The tape cutter and dispenser, together with cover 36 and roll support 32, are designed in the modification illustrated so as to be readily disassembled into a compact rectangular package. The knocked-down dispenser with parts assembled for packing is illustrated in FIGS. 8 and 9. When the dispenser and cutter assembly are prepared for packaging, the spring tabs 33 of roll holder 32 are flexed inwardly to remove the projections 34 from the holes 35 and the roll holder 32 then slid down between the legs 13 into the position shown in FIG. 9. The sides 37 of the cover 36 are then flexed out to remove the projections 39 from holes 40, and the cover moved down to where it rests flat on the top of bracket sections 12. The cover sides have indentations 41 which fit over the ends of spindle 14, holding the spindle in notches 15. In this position, the cover 36 helps to hold both the spindle 14 and the roll holder 32 in their knocked-down packaged state. The whole assembly has a clean-cut rectangular appearance, all parts being compactly maintained inside the bracket 10.

A particular embodiment of the invention has been used to illustrate the same. The invention, however, is not limited to this specific embodiment, variations and modifications well within the spirit and scope of the invention being apparent on reading the specification.

Having thus described my invention, I claim:

1. In an adhesive tape dispensing and cutting device, a removable spindle for supporting rolls of tape, means for supporting said spindle at each end thereof in a tape dispensing position, said means having notches for containing said spindle ends when said spindle is in tape dispensing position, said notches being open at the top to permit dropping of said spindle ends into said notches when placing said spindle in tape dispensing position and to permit removal of said spindle from said notches by lifting said spindle upwardly out of said notches, said notches being so shaped as to maintain said spindle in said notches during unrolling and withdrawal of tape sections for cutting, a tape holder extending substantially parallel to said spindle when supported in said tape dispensing position for holding unrolled tape while the same is being cut and a pivotly mounted longitudinally extending roll support adapted to hold and align tape rolls while being placed on said spindle, said roll support when in roll supporting position being above said tape holder and spaced with respect to said spindle when supported by said spindle supporting means in tape dispensing position and spaced with respect to said tape holder so that both ends of said spindle can be removed from said spindle supporting means and said spindle with rolls of tape thereon moved from its tape dispensing position and placed onto said roll support without requiring further unrolling of tape or removal of severed tape ends from said tape holder.

2. In an adhesive tape dispensing device a spindle for supporting rolls of tape, means for supporting said spindle at each end thereof in tape dispensing position, said means having notches for containing said spindle ends when said spindle is in tape dispensing position, said notches being open at the top to permit dropping of said spindle ends into said notches when placing said spindle in tape dispensing position and to permit removal of said spindle from said notches by lifting said spindle upwardly out of said notches, said notches being so shaped as to maintain said spindle in said notches during unrolling and with-

drawal of tape sections for cutting, a longitudinally extending cutter guide spaced forward of said spindle when in its tape dispensing position, a portion of said cutter guide being adapted to have unwound tape adhesively secured thereto while said tape is being cut, cutting means movable on said cutter guide for cutting said unwound tape while so held and a longitudinally extending roll support positioned above said cutter guide for supporting and aligning tape rolls while the same are being placed on said spindle, said roll support when in roll supporting position being spaced with respect to said spindle when supported by said spindle supporting means in tape dispensing position and spaced with respect to said cutter guide so that both ends of said spindle can be removed from said spindle supporting means and said spindle with rolls of tape thereon can be moved from its tape dispensing position and placed onto said tape support without the further unrolling of tape or removal of severed tape ends from said cutter guide, and said roll support being pivotly mounted so that it can be moved out of the way when said cutting means is moved along said cutter guide for cutting said tape.

3. In a tape dispensing and cutting device for dispensing strips of pressure-sensitive adhesive tape from rolls, a removable spindle for supporting said rolls in tape dispensing position, a support for said movable spindle for supporting said spindle in tape dispensing position, a cutter guide spaced from said spindle when in tape dispensing position and extending substantially parallel therewith, a tape cutter adapted to move on said cutter guide for cutting unrolled strips of tape, a longitudinally extending roll support extending substantially parallel with said cutter guide and pivotly mounted between said removable spindle and said cutter guide, said roll support being movable into a position above said cutter guide when supporting said rolls during alignment of the same for placing on said spindle and movable from said cutter guide while said tape is being dispensed and a pair of spaced notches in said support for removably supporting said spindle when said spindle is in tape dispensing position, said notches being open at the top so that said spindle can be dropped into said notches when placing said spindle in tape dispensing position and can be lifted from said notches when removing said spindle with rolls still thereon to said roll support when said roll support is in roll supporting position, said spindle with rolls thereon being movable to said roll support without unwinding the tape and without moving tape ends secured to said cutter guide and said notches being so shaped as to maintain said spindle in said notches during unwinding and withdrawing of tape sections for cutting while said spindle is in tape dispensing position.

4. In a tape dispensing and cutting device for dispensing strips of pressure-sensitive adhesive tape from rolls, a bracket having a pair of opposed legs, a spindle for supporting said rolls in a tape dispensing position, notches in said legs for removably supporting the ends of said spindle, a cutter guide extending between the ends of said legs spaced from and substantially parallel to said spindle, a movable cutter on said cutter guide, a cover member having downwardly extending sides, said cover being pivotly mounted on said bracket, a roll support having downwardly extending side tabs pivotly mounted on said bracket between said spindle and said cutter guide, said roll support being movable from a roll supporting position to a raised position, and means on said cover for holding said roll support in a raised position, said notches being open at the top so that said spindle can be dropped into said notches when placing said spindle in tape dispensing position and can be lifted from said notches when moving said spindle with tape roll still thereon to said roll support when said roll support is in roll supporting position, said spindle with rolls thereon being movable to said roll support without unrolling the tape and without removing tape ends secured to said cutter guide and said notches being so shaped as to maintain said spindle in said notches during unrolling and withdrawing of tape sections for cutting while said spindle is in tape dispensing position.

5. In a tape dispensing and cutting device for dispensing strips of pressure-sensitive adhesive tape from rolls, a bracket having a pair of opposed legs, a spindle for supporting said rolls in a tape dispensing position, notches in said legs for removably supporting the ends of said spindle, a cutter guide extending between the ends of said legs spaced from and substantially parallel to said spindle, a movable cutter on said cutter guide, a cover member having downwardly extending spring sides and a downwardly extending forward flange, means for pivotly and removably mounting said spring sides on the bracket legs behind said notches, a roll support having downwardly extending spring side tabs pivotly and removably mounted on said bracket legs between said spindle and said cutter guide, said roll support being movable from a roll supporting position to a raised position, said downwardly extending forward flange on said cover overlapping said roll support when said roll support is in a raised position to cooperate with said roll support in protecting and covering said tape rolls, said roll support in its raised position acting to support said cover and said cover acting to maintain said roll support in its raised position, said notches being open at the top so that said spindle can be dropped into said notches when placing said spindle in tape dispensing position and can be lifted from said notches when moving said spindle with tape roll still thereon to said roll support when said roll support is in roll supporting position, said spindle with rolls thereon being movable to said roll support without unrolling the tape and without removing tape ends secured to said cutter guide and said notches being so shaped as to maintain said spindle in said notches during unrolling and withdrawing of tape sections for cutting while said spindle is in tape dispensing position.

6. In a tape dispensing and cutting device for dispensing strips of pressure-sensitive adhesive tape from rolls, a bracket having a pair of opposed legs, a spindle for supporting said rolls in a tape dispensing position, notches in said legs for removably supporting the ends of said spindle, a cutter guide extending between the ends of said legs spaced from and substantially parallel to said spindle when said spindle is in roll dispensing position, a movable cutter on said cutter guide, a cover member having downwardly extending spring sides and a downwardly extending forward flange, means for pivotly and removably mounting said spring sides on the bracket legs behind said notches, a roll support having downwardly extending spring side tabs pivotly and removably mounted on said bracket legs between said spindle and said cutter guide, said roll support being movable from a roll supporting position to a raised position, said downwardly extending forward flange on said cover overlapping said roll support when said roll support is in a raised position to cooperate with said roll support in protecting and covering said tape rolls, said roll support in its raised position acting to support said cover and said cover acting to maintain said roll support in its raised position, said cover and said roll holder adapted to be removed from their pivoted positions on said bracket when said tape dispenser is prepared for packing and said cover having a flat portion and said cover sides having indentations on their lower edges so that when prepared for packing the flat portion of said cover rests on top of said bracket legs while the indentations in said cover sides fit over said spindle ends to maintain said ends within said notches, said roll holder falling within the space between said legs to provide a substantially rectangular package, said notches being open at the top so that said spindle can be

dropped into said notches when placing said spindle in tape dispensing position and can be lifted from said notches when moving said spindle with tape roll still thereon to said roll support when said roll support is in roll supporting position, said spindle with rolls thereon being movable to said roll support without unrolling the tape and without removing tape ends secured to said cutter guide and said notches being so shaped as to maintain said spindle in said notches during unrolling and withdrawing of tape sections for cutting while said spindle is in tape dispensing position.

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