April 9, 1957 F. A. ANDERSON 2,788,181

TAPE DISPENSER AND CUTTER

Filed Oct. 27, 1955

Fig 1

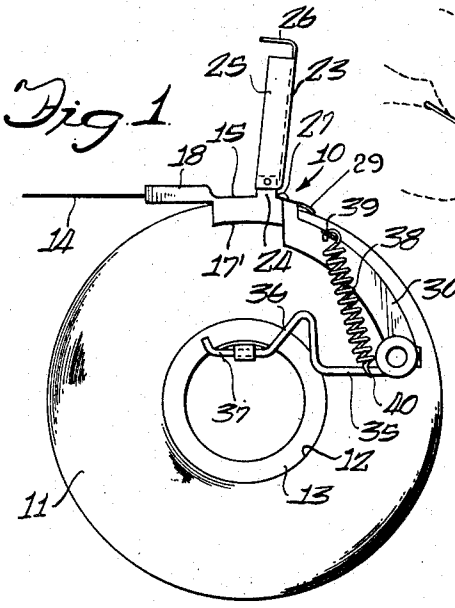


Fig 2

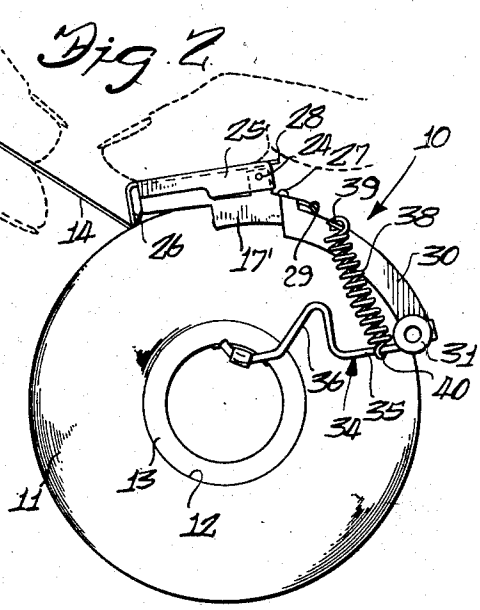


Fig 3

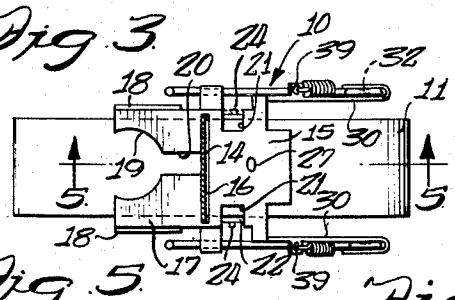


Fig 4

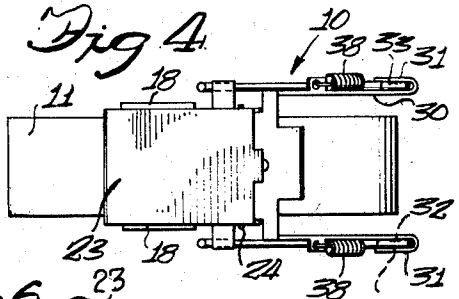


Fig 5

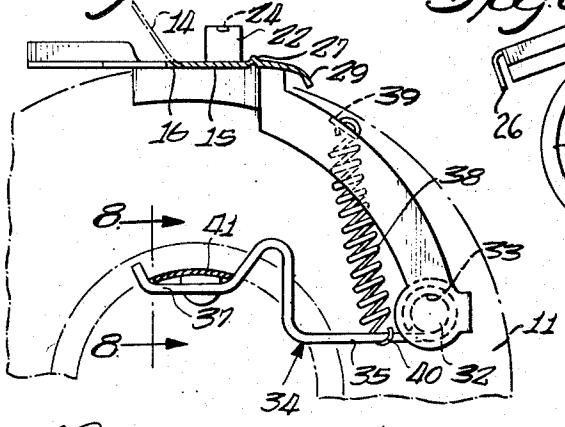


Fig 6

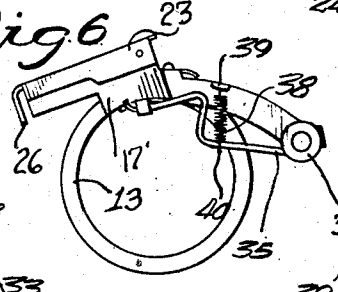


Fig 7

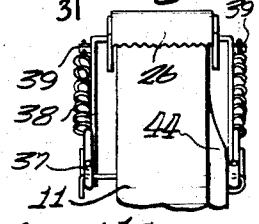
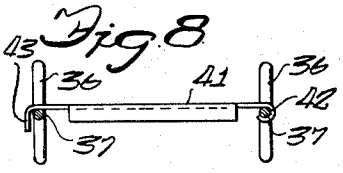


Fig 8



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TAPE DISPENSER AND CUTTER

Frank A. Anderson, Chicago, Ill.

Application October 27, 1955, Serial No. 543,236

12 Claims. (Cl. 242—55.5)

This invention relates to an improvement in tape dispensers, and more particularly, to a dispensing device particularly adaptable for dispensing plastic roll-type of tape. This invention is an improvement over my construction shown and claimed in Patent Number 2,272,628, patented February 10, 1942.

Generally, a prime object of this invention is to provide an improved, simplified, and inexpensive tape dispenser for rolled adhesive tape, whereby a strip of tape may be unwound from a roll and severed in an expeditious manner.

Another object is to provide an improved tape dispenser for roll-type of tape, the dispenser being readily adapted to different diameter rolls and being equally effective when used on a roll of adhesive tape until it is entirely used.

Still another object is to provide a tape dispenser having a minimum number of parts; the dispenser being connected to a roll of tape whereby sections of tape may be readily and easily unwound from the tape and severed; the dispenser having self-adjustment means to adapt the same to the roll as it is being used and as it decreases in diameter.

A still further object is to provide an improved tape dispenser for roll tape, the dispenser being quickly attachable and disconnectible from a roll of tape.

Another object is to provide a tape dispenser having a base portion adaptable to the outer peripheral surface of the tape, whereby during severing of the tape, the operator may rock the dispenser on its base and securely engage a cutting blade with the strip of tape to be severed.

A more specific object is to provide an improved roll-type of tape dispenser adapted to self adjust to changes which may incur in the shape of the tape during its normal use.

Another specific object is to provide an improved tape dispenser that includes improved threading and cutting means, whereby tape to be dispensed from a tape roll can be threaded into a base and subsequently severed with the free end of the tape, readily in position for handling or pulling by the operator.

Another specific object is to provide an improved roll-type of tape dispenser that may easily be rotated around the circumference of the roll, and which may readily self adjust for different size rolls of tape.

These and further objects will become particularly apparent during a reading of the description when examined in connection with the drawings.

In the drawings:

Figure 1 is a side-elevational view of a tape dispenser as applied to a roll of tape;

Figure 2 is a side-elevational view of a tape dispenser and roll of tape showing a cutter in an operating position;

Figure 3 is a plan view of the dispenser and tape, shown in Figure 1, with a cutter member removed;

Figure 4 is a plan view, similar to Figure 3, showing a cutter in cutting position;

Figure 5 is an enlarged sectional view taken substantially along the line 5—5 of Figure 3;

Figure 6 is a side-elevational view of a tape dispenser as applied to a roll which is almost empty of tape;

Figure 7 is a front view of a tape dispenser showing the same applied to a roll of tape that has a bulging side portion; and

Figure 8 is a detail sectional view taken substantially along the line 8—8 of Figure 5.

Referring now particularly to Figures 1 through 4, a tape dispenser is generally designated by the reference character 10. The dispenser 10 is applied to a roll of tape 11 having a central opening, or bore, 12 in which is inserted a spool 13 of conventional construction. An end strip of tape is designated at 14. The dispenser 10 comprises a base, or body, 15 having a transverse slot 16 and a platform, or bed 17. The base 15 includes downwardly turned flanges 17' which serve to firmly support, or straddle, the dispenser on the roll 11. The platform includes upwardly turned flanges 18. The platform also is bifurcated, as indicated at 19, and includes a slot 20 which permits the tape strip, or end, 14 to be easily threaded into the slot 16, as indicated in the above-mentioned patent application.

The base 15 comprises slots, or cut-outs, 21 which remain after ears 22 are cut out, and turned upwardly to provide laterally spaced supports on which a cutter arm 23 is pivotally connected. The ears 22 include integral projections 24 which serve to hinge the cutter arm 23. The cutter arm includes laterally spaced side plates 25 and a cutter blade 26, which is adapted to overhang, or overlie, the platform 17 when the arm 23 is moved into the cutting position shown in Figures 2 and 4. The base 15 includes a projection 27 which, as indicated in Figure 1, maintains the arm 23 in an upright position when a rear portion 28 is snapped by the projection 27 when the arm is pivoted to the upright position. A flap 29 serves to balance the base 15 on the tape periphery, as indicated in Figure 5.

A pair of arcuate arms 30 are integrally connected to the base 15. The arms 30 straddle the sides of the roll 11 and help to laterally support the dispenser thereon. The arms 30 include loop portions 31 which have inwardly pressed projections 32 that engage, or mate, with loops 33 of arms 34 to suitably hinge said arms 34, as indicated, on the arms 30. The arms 30 and 34 extend in jack-knife relation, and each includes a straight arm portion 35, a V-portion 36, and a hook portion 37. A pair of springs 38 are connected to ears 39 integral with the arms 30. The lower ends, or loop portions, 40 of each spring are slidingly connected to the straight portions 35, as best indicated in Figure 5.

As best shown in Figures 1 and 8, a strap, or bearing plate, 41 is hingedly connected at one end, as indicated at 42, to one hook portion 37; and the other end of the strap 41 includes a flange 43 that, in the operating position, is positioned as indicated in Figures 5 and 8.

The operation

The improved tape dispenser is particularly adapted to roll tape, and specifically, to the common form of plastic tape; though, of course, the dispenser may be utilized in connection with all types of tape which are placed in roll form. In use, the dispenser is placed, as indicated, wherein the arms 30 straddle the roll, and lateral stability is provided by the downwardly turned flanges of the base 15. The strap 41 is inserted through the spool 13 so that the flange 43 is placed in the position indicated in Figure 8, whereupon the said strap bears against the inner peripheral surface of the spool. Thus, the body of the dispenser is resiliently supported on the outer periphery of the spool and the springs 38 maintain the dispenser resiliently in position. The end strip 14 is then threaded through the slot 20 and through the slot 16, the said end

then being supported on the bed, or platform, 17. Thus it is a simple matter for the operator to grip the end of the strip of tape for unrolling the same.

In the cutting of the tape, as indicated in Figure 2, the operator presses down with his thumb on the cutter arm 23, whereupon the base 15 is pivoted on the outer peripheral surface of the roll so that the blade 26 is placed into cutting, or pressure, engagement with the tape strip 14, whereupon the operator can very easily tear the end of the strip loose from the roll. Thus, it should be noticed that the blade 26 actually is pressed down in firm and tight engagement with the strip of tape, therefore being easily severed from the roll. When desired, the cutter arm may be positioned, as indicated in Figure 1, wherein the rear portion 28 of the cutter arm is snapped by the projection 27 during hinging movement of the said cutter arm and the said arm is locked in an upright position, as indicated.

By virtue of the novel arrangement of the jack-knife arms 30 and 34, the dispenser is readily adapted to any size roll, whether the roll is full, as indicated in Figures 1 and 2, or is empty, as indicated in Figure 6. As indicated in Figure 6, the arms 30 and 34 are positioned in substantially closed position when the tape roll is almost empty, and it is noted that the spring 38 has its lower loop portion 40 slidingly moved to the position indicated on the arm 35. Thus, the spring loop 40 moves from the position, best shown in Figure 5, to that shown in Figure 6 as the tape roll is used up. This sliding movement of the loop also permits ready self-adjustment of the dispenser to a lesser size roll.

As indicated in Figure 7, the dispenser is readily adapted to a roll of tape which has a bulging, or conical, center portion 44. This bulging of the tape roll into the conical portion is particularly prevalent in plastic tape. Due to changes in the tape, the roll will have a tendency after a certain period to bulge in the center, and naturally, such a bulging action of the tape roll must be accommodated for by the dispenser. In applicant's invention, it is seen that the dispenser readily adapts itself to such a bulging action, since the arms are sufficiently spaced wide apart; and in view of the resiliency of the said arms, such adaptation of the dispenser is readily made. The bearing plate, or strap, 41, as best shown in Figure 5, is shaped to conform to the inner peripheral surface of the spool, and thus will slide readily and easily during the use of the dispenser. When the roll is completely used, it is a simple matter to unhook the plate 41 so that the dispenser can quickly be removed.

Features of the dispenser which has been described above also include the fact that it is readily usable for rewinding a strip of tape that, during unwinding by the operator has resulted in a strip longer than that which is described. For instance during unwinding of the tape strip, the center spool opening is grasped by the thumb and one finger of the operator and during pulling of the strip, the roll rotates with the dispenser moving in a clockwise direction. Supposing now a longer strip of tape, than desired, has been unwound, the operator merely grasps the dispenser with one hand and with the other hand rotates the dispenser on the roll in a counterclockwise direction and the flanges 17' and flap 29 serve to guide and rewind the strip in perfect position on the roll.

The strip 14 is also always supported on the platform 18 where it can easily be grasped by the operator as indicated in Figure 1. This is particularly important since the end strip of plastic tape is exceedingly difficult to lift up from the roll which it adheres to. After severing in this improvement the end strip always lies ready for use on the platform.

As pointed out above the jacknife arrangement of the arms 30 and 34 is important, as well as the novel spring arrangement. In the position of the arms in Figure 1, for a substantially large diameter roll, the spring loop 40 is moved near the hinging connection of the arms and

thus the spring need not be over-extended in the maximum position, which could lead to spring fatigue and short useful life of the spring. Yet a good tension is effected to tightly though resiliently hold the dispenser in engagement with the roll. In the position when the roll is almost empty, as shown in Figure 4, the spring loop has moved in the position adjacent the V-portion, where it still is under sufficient tension to provide the proper support for the dispenser. Thus the springs are adequate for all useful positions of the dispenser relative to different size diameter rolls.

Noting, now particularly Figure 2, the flap 29 also has the definite function of engaging the outer peripheral surface of the tape roll to support the dispenser against excessive tilting movement of the base in an upward direction when the tape strip is pulled outwardly prior to cutting or tearing. In other words it provides the necessary support to resist tilting action of the unit during unwinding of the tape.

It must be particularly noted that relatively few parts comprise this dispenser, and that it can readily be manufactured in an inexpensive manner. The dispenser may be utilized in connection with a variety of diameter size rolls, and can readily be made to adapt itself to various widths in an effective manner. Thus it is readily apparent that the object of the invention has been fully achieved, and it must be understood that changes and modifications may be made without departing from the spirit of the invention or the scope thereof as defined in the appended claims.

What is claimed is:

1. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base including oppositely disposed side elements adapted to straddle opposite sides of a roll, a platform on said base, said base including a transverse slot to receive a strip of tape adjacent said platform, a blade support pivotally supported on said base, said support having a blade at its extremity, said support in a cutting position having said blade disposed outwardly of one end of said platform, said blade support being pivotally moveable to a non-use position whereby a strip of tape supported on said said platform is exposed, means releasably locking said blade support in its non-use position, means supporting said base on said roll comprising a pair of first arcuate arms connected to said base and extending in a direction away from said blade on opposite sides of a roll, a pair of second arms pivotally connected to said first arms, said second arms extending toward said cylindrical opening, each of said second arms having hook-shaped end portions, a bearing member on said second arms, said bearing member extending transversely through said roll opening, means releasably connecting one end of said bearing member to one of said second arms, and a spring element connected to each first arm and slideably connected to each second arm whereby said base is resiliently and pivotally supported on said roll, said base and platform being rockably supported on the outer peripheral surface of a roll whereby said blade may be forced against a strip of tape projecting from said platform and against said roll whereby said strip may be severed.

2. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base including oppositely disposed side elements adapted to straddle opposite sides of a roll, a platform on said base, said base including a transverse slot to receive a strip of tape adjacent said platform, a blade support pivotally supported on said base, said support having a blade at its extremity, said support in a cutting position having said blade disposed outwardly of one end of said platform, said blade support being pivotally movable to a non-use position whereby a strip of tape supported on said platform is exposed, means supporting said base on said roll comprising a pair of first arms connected to said base and extending in a direction away from said blade on op-

posite sides of a roll, a pair of second arms pivotally connected to said first arms, said second arms extending toward said cylindrical opening, each of said second arms having hook-shaped end portions, a bearing member on said second arms, said bearing member extending transversely through said roll opening, means releasably connecting one end of said bearing member to one of said second arms, and a spring element connected to each first arm and slideably connected to each second arm whereby said base is resiliently and pivotally supported on said roll, said base and platform being rockably supported on the outer peripheral surface of a roll whereby said blade may be forced against a strip of tape projecting from said platform and against said roll whereby said strip may be severed.

3. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base including oppositely disposed side elements adapted to straddle opposite sides of a roll, a platform on said base, said base including a transverse slot to receive a strip of tape adjacent said platform, a blade support pivotally supported on said base, said support having a blade at its extremity, said support in a cutting position having said blade disposed outwardly of one end of said platform, said blade support being pivotally movable to a non-use position whereby a strip of tape supported on said platform is exposed, means supporting said base on said roll comprising a pair of first arms connected to said base and extending in a direction away from said blade on opposite sides of a roll, a pair of second arms pivotally connected to said first arms, said second arms extending toward said cylindrical opening, each of said second arms having hook-shaped end portions, a bearing member pivoted on one of said second arms, said bearing member extending transversely through said roll opening, means releasably connecting one end of said bearing member to the other of said second arms, and a spring element connected to each first arm and slideably connected to each second arm whereby said base is resiliently and pivotally supported on said roll, said base and platform being rockably supported on the outer peripheral surface of a roll whereby said blade may be forced against a strip of tape projecting from said platform and against said roll whereby said strip may be severed.

4. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base including oppositely disposed side elements adapted to straddle opposite sides of a roll, a platform on said base, said base including a transverse slot to receive a strip of tape adjacent said platform, a blade support pivotally supported on said base, said support having a blade at its extremity, said support in a cutting position having said blade disposed outwardly of one end of said platform, said blade support being pivotally movable to a non-use position whereby a strip of tape supported on said platform is exposed, means supporting said base on said roll comprising a pair of first arms connected to said base and extending in a direction away from said blade on opposite sides of a roll, a pair of second arms pivotally connected to said first arms, said second arms extending toward said cylindrical opening, a bearing member on said second arms, said bearing member extending transversely through said roll opening, means releasably connecting one end of said bearing member to one of said second arms, and a spring element connected to each first arm and slideably connected to each second arm whereby said base is resiliently and pivotally supported on said roll, said base and platform being rockably supported on the outer peripheral surface of a roll whereby said blade may be forced against a strip of tape projecting from said platform and against said roll whereby said strip may be severed.

5. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base including oppositely disposed side elements adapted to straddle

opposite sides of a roll, a platform on said base, said base including a transverse slot to receive a strip of tape adjacent said platform, a blade support pivotally supported on said base, said support having a blade at its extremity, said support in a cutting position having said blade disposed outwardly of one end of said platform, said blade support being pivotally movable to a non-use position whereby a strip of tape supported on said platform is exposed, means supporting said base on said roll comprising a pair of first arms connected to said base and extending in a direction away from said blade on opposite sides of a roll, a pair of second arms pivotally connected to said first arms, said second arms extending toward said cylindrical opening, a bearing member on said second arms, said bearing member extending transversely through said roll opening, means releasably connecting one end of said bearing member to one of said second arms, and a spring element connected to each first arm and to each second arm whereby said base is resiliently and pivotally supported on said roll, said base and platform being rockably supported on the outer peripheral surface of a roll whereby said blade may be forced against a strip of tape projecting from said platform and against said roll whereby said strip may be severed.

6. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base including oppositely disposed side elements adapted to straddle opposite sides of a roll, a platform on said base, said base including a transverse slot to receive a strip of tape adjacent said platform, a blade support pivotally supported on said base, said support having a blade at its extremity, said support in a cutting position having said blade disposed outwardly of one end of said platform, said blade support being pivotally movable to a non-use position whereby a strip of tape supported on said platform is exposed, means supporting said base on said roll comprising a pair of first arms connected to said base and extending in a direction away from said blade on opposite sides of a roll, a pair of second arms pivotally connected to said first arms, said second arms extending toward said cylindrical opening, a bearing member on said second arms, said bearing member extending transversely through said roll opening, means releasably connecting one end of said bearing member to one of said second arms, and a spring element connected to each first arm and to each second arm whereby said base is resiliently supported on said roll the base also being rockably seated upon the outer peripheral surface of a roll, whereby during rocking of said base said blade may be forced against a strip of tape projecting from said platform and against said roll whereby said strip may be severed.

7. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base adapted to be supported adjacent the outer peripheral surface of the roll, a platform connected to said base, said platform having a transverse slot for receiving a portion adjacent one end of a strip of tape, said platform supporting said strip of tape, a blade support pivotally mounted on said base, said support having a blade at one end horizontally spaced from the pivotal connection of said support, the support being pivotal to an upright, non-use position and being movable to a position overlying said platform whereby the blade engages the strip in front of said platform for severing the same, first arms connected to said base and adapted to straddle a portion of said roll, second arms pivotally connected to said first arms in jack-knife relation, a transverse bearing plate connected to said arms and extending through the opening of the roll, and spring elements connected to said first and second arms for resiliently supporting said base on said roll.

8. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base adapted to be supported adjacent the outer peripheral surface of the roll, a platform connected to said base, said platform having a transverse slot for receiving a portion adjacent

one end of a strip of tape, said platform supporting said strip of tape, a blade support pivotally mounted on said base, said support having a blade at one end horizontally spaced from the pivotal connection of said support, the support being movable to a position overlying said platform whereby the blade engages the strip in front of said platform for severing the same, first arms connected to said base and adapted to straddle a portion of said roll, second arms pivotally connected to said first arms in jack-knife relation, a transverse bearing plate connected to said arms and extending through the opening of the roll, and spring elements connected to said first and second arms for resiliently supporting said base on said roll.

9. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base adapted to be supported adjacent the outer peripheral surface of the roll, a platform connected to said base, said platform having a transverse slot for receiving a portion adjacent one end of a strip of tape, said platform supporting said strip of tape, a blade support pivotally mounted on said base, said support having a blade at one end horizontally spaced from the pivotal connection of said support, the support being movable to a position overlying said platform whereby the blade engages the strip in front of said platform for severing the same, first arms connected to said base, second arms pivotally connected to said first arms in jack-knife relation, a transverse bearing plate connected to said arms and extending through the opening of the roll, and spring elements connected to said first and second arms for resiliently supporting said base on said roll.

10. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base adapted to be supported adjacent the outer peripheral surface of the roll, said base having a transverse slot for receiving a portion adjacent one end of a strip of tape, said base supporting said strip of tape, a blade support pivotally mounted on said base, said support having a blade at one end, the support being movable to a position overlying said base whereby the blade engages the strip in front of said base for severing the same, first arms connected to said base and adapted to straddle a portion of said roll, second arms pivotally connected to said first arms in jack-knife relation, a transverse bearing plate connected to said arms and extending through the opening of the roll, and spring elements connected to said first and second arms for resiliently supporting said base and said bearing plate against said roll.

11. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base adapted to be supported adjacent the outer peripheral surface of the roll, said base having a transverse slot for receiving a portion adjacent one end of a strip of tape, said base supporting said strip of tape, a blade support pivotally mounted on said base, said support having a blade at one end, the support being movable to a position overlying said base whereby the blade engages the strip in front of said base for severing the same, first arms connected to said base, second arms pivotally connected to said first arms, a transverse bearing plate connected to said second arms and extending through the opening of the roll, and spring elements connected to said first and second arms for resiliently supporting said base on said roll.

12. A tape dispenser for a tape roll having a centrally disposed cylindrical opening, comprising: a base adapted to be supported adjacent the outer peripheral surface of the roll, said base having a slot for receiving a portion adjacent one end of a strip of tape, said base supporting said strip of tape, a blade support pivotally mounted on said base, said support having a blade at one end, the support being movable to a position overlying said base whereby the blade engages the strip in front of said base for severing the same, laterally spaced arms pivotally mounted with respect to said base, a transverse bearing member connected to said arms and extending through the opening of the roll, and spring elements having first ends connected to said arms and second ends supported on an extension of said base for resiliently supporting said base on said roll.

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