Sept. 16, 1969 R. C. J. PALSON ET AL 3,466,963

TAPE DISPENSER

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FIG. 1

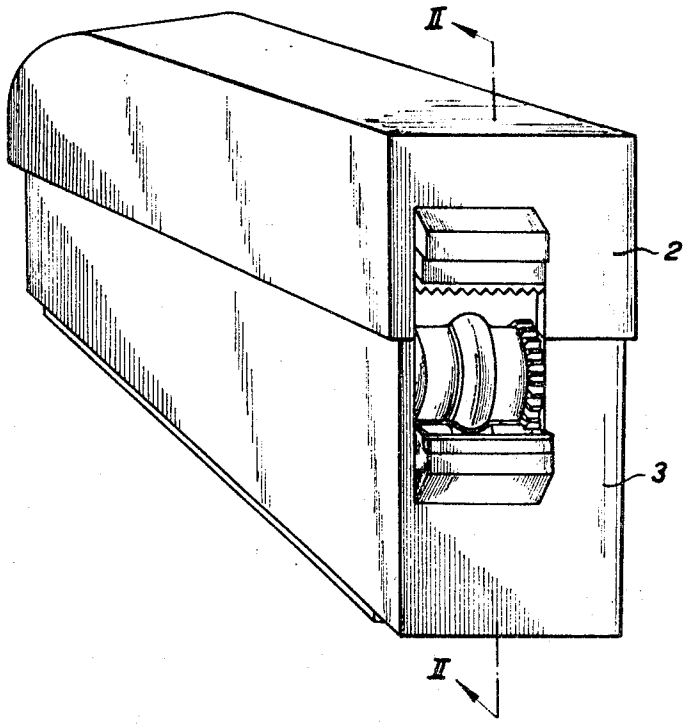
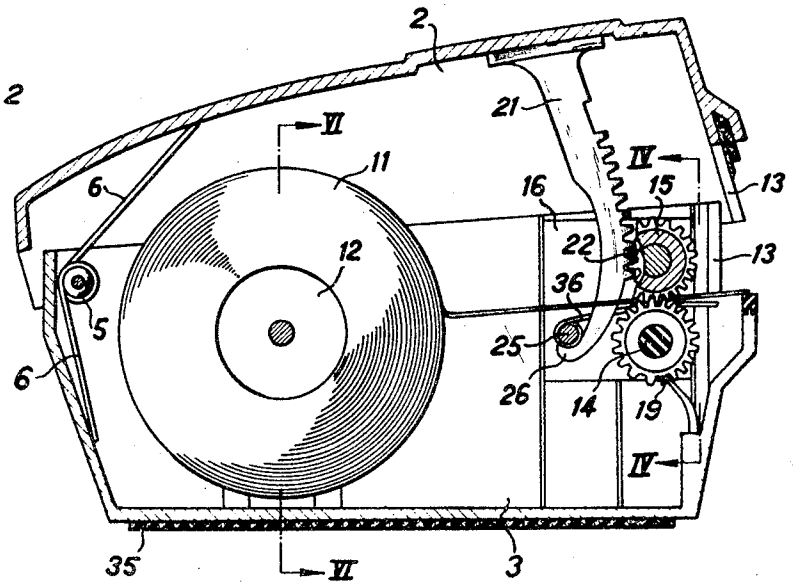


FIG. 2



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TAPE DISPENSER

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FIG. 3

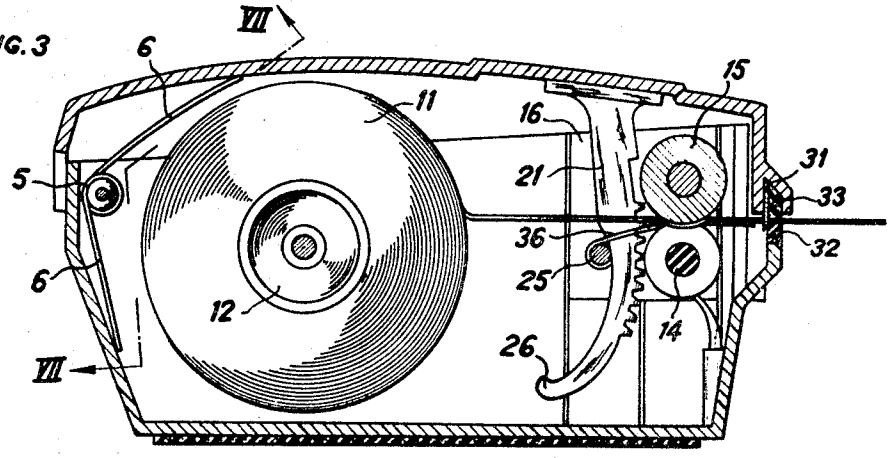


FIG. 4

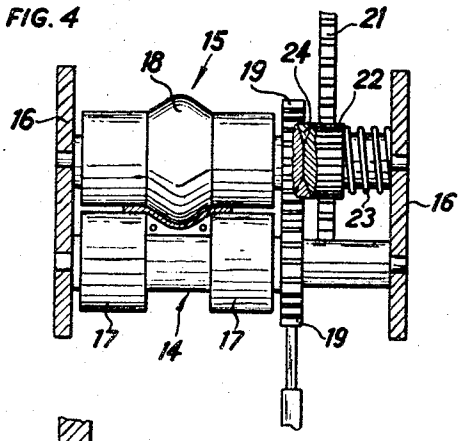


FIG. 6

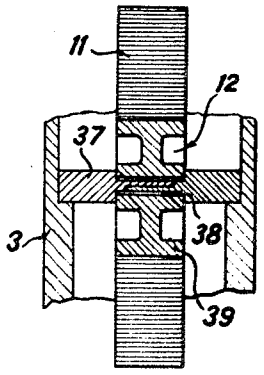


FIG. 5

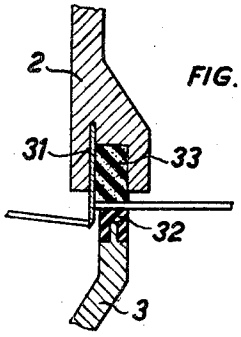


FIG. 8

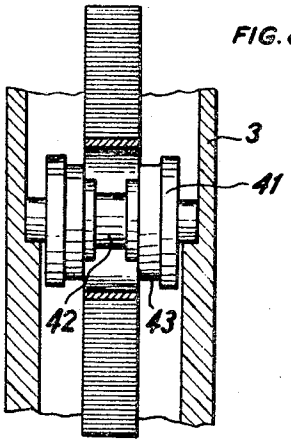
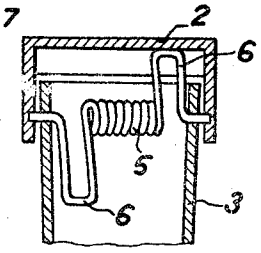


FIG. 7



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TAPE DISPENSER

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FIG. 10

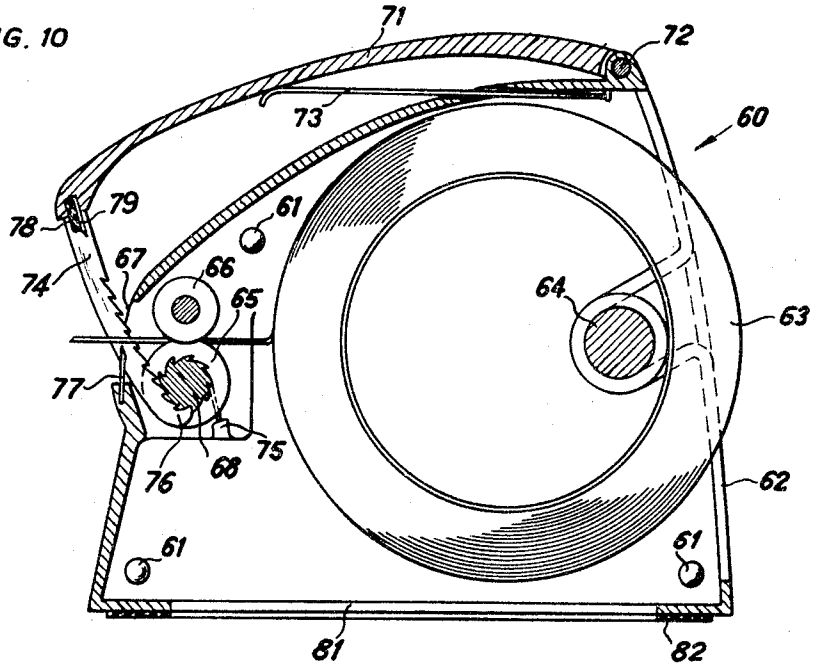


FIG. 11

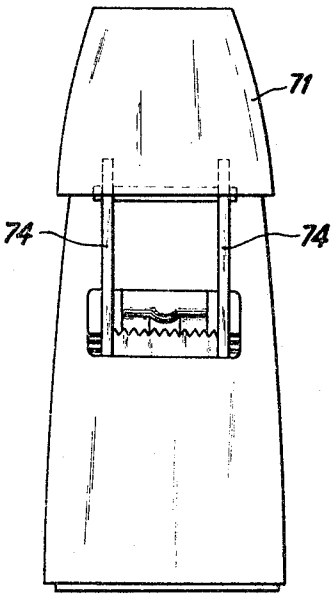
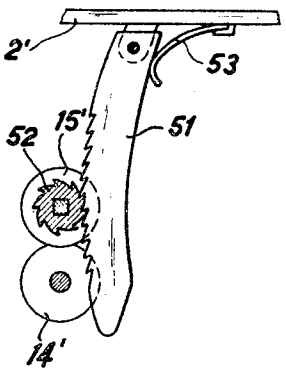


FIG 9.



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Patented Sept. 16, 1969

3,466,963

TAPE DISPENSER

Richard C. J. Palson, Medfield, and James E. Hawes, Milton, Mass., assignors to Milton Industries Incorporated, Milton, Mass., a corporation of Massachusetts

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Int. Cl. B26d 5/20, 7/06
U.S. Cl. 83—226 8 Claims

ABSTRACT OF THE DISCLOSURE

Adhesive tape is pulled from a roll by spaced discs formed of a high-release plastic material, preferably silicone rubber, the tape being held against and transversely deflected between the discs by a cooperating cylindrical member. Cutter means are provided to automatically sever the dispensed length of tape.

The invention relates to a dispenser for pressure sensitive adhesive tape, such as cellophane tape, masking tape, or medical adhesive tape.

In mechanically dispensing pressure sensitive adhesive tapes, the dispensing mechanism must exert sufficient force on the end of the tape to pull it from its roll, and then must release the tape. These two requirements conflict. A mechanism which will grip the tape with sufficient force to pull it from its roll usually won't readily release the tape, or if it readily releases the tape, it won't pull the tape off of the roll. Nevertheless, dispensing mechanisms have been devised. One type includes two sets of discs. The first set engages the adhesive surface of the tape and pulls the tape from the roll as the discs turn. The second set of discs usually is interleaved with the first set, and cams the tape away from the first set yet turns fast enough to slip past the adhesive, thereby releasing and dispensing a length of tape. Another type includes a cylinder which pulls the tape from the roll. The cylinder has a circumferential groove into which the tape is depressed to place a longitudinal crease in the tape. This crease supposedly gives the tape enough longitudinal rigidity to naturally lift from the cylinder as the cylinder turns, rather than following it around. A third type of dispensing mechanism never touches the pressure sensitive adhesive of the tape, but includes an adhesive coated member which contacts the smooth side of the tape and pulls it from the roll, then turns sharply to separate from the free length of tape.

The problems in each of these dispensing mechanisms are serious. In the first, because the second set of discs slip past the adhesive side of the tape, they tend to stretch the adhesive coating and impart a reverse curl to the tape as it's being dispensed, and the dispensed length tends to curl up in a ball. In the second, the tape more often than not tends to wrap around the grooved cylinder, particularly if the tape isn't properly aligned with the groove. In the third, the adhesive of the dispensing member naturally ages, collects dust, and eventually loses enough of its adhesive to just slip past the tape.

Probably the ideal tape dispensing mechanism would use a material or member to which the tape adhered firmly enough to be pulled from the roll, but weakly enough to naturally or easily separate therefrom. In other words, this ideal dispensing mechanism should exert enough frictional force on the tape to pull the tape from its roll, but should not exhibit sufficient contact adhesion in a direction perpendicular to the tape to impair its separation from the dispensing mechanism. As already noted, these two requirements conflict. In all known dispensing mechanisms, if the frictional adhesion is great enough to pull the tape from the roll, there is too much contact

adhesion for the tape to be easily released; or if there is little enough contact adhesion to easily release the tape, there is not enough frictional adhesion to pull the tape from the roll.

Such an ideal dispensing mechanism has been discovered. It employs a high-release plastic material commonly known as silicone rubber. A relatively small diameter cylinder of silicone rubber will adhere sufficiently to the pressure sensitvie adhesive surface of a piece of tape to pull it from its roll, and yet it will easily release the free end of the tape. In other words, silicone rubber possesses the remarkable property of not readily slipping relative to the adhesive surface of the tape, but readily separating from the tape. Other silicone surfaces exhibit similar properties.

The present invention employs this discovery in a simple and reliable tape dispenser. The dispenser includes a housing in which a roll of tape may be mounted, a high release plastic material dispensing member, preferably a cylinder of silicone rubber, mounted in the housing and contacts the free end of the tape projecting from the roll of tape, means to hold the tape against the silicone member, and means for driving or turning the silicone member to pull the tape from the roll and eject a free length of tape. Preferably the means for driving the silicone rubber cylinder includes a pinion member mounted on the axle of the silicone rubber cylinder, a member pivotally attached to the housing, a rack in driving engagement with the pinion and attached to the pivoting member to extend along an arc defined by the pivot, and a pawl or other means to limit rotation of the silicone rubber cylinder to a dispensing direction only. Preferably the dispenser also includes a mechanism for cutting the dispensed length of tape from the roll, the cutting mechanism including a cutter blade mounted on either the housing or the member pivotally attached to the housing, and a resilient bar mounted to bear on or adjacent the cutter blade when the member pivotally attached to the housing is completely depressed and the rack has completed its travel along the pinion.

The invention will be further described in connection with the accompanying drawings, in which:

FIGURE 1 is a perspective view of one embodiment of the invention;

FIGURE 2 is a vertical cross-sectional view taken generally along lines II—II of FIG. 1 showing the tape dispenser in its normal position ready to dispense tape;

FIGURE 3 is a vertical cross-sectional view similar to FIG. 2 showing the condition of the tape dispenser upon completing a dispensing operation;

FIGURE 4 is an enlarged vertical cross-sectional view taken generally along lines IV—IV of FIG. 2 showing the construction of the tape dispensing mechanism;

FIGURE 5 is an enlarged fragmentary vertical cross-sectional view of the tape cutting mechanism;

FIGURE 6 is an enlarged vertical cross-sectional view taken generally along lines VI—VI of FIG. 2 and showing the spindle carrying the roll of tape;

FIGURE 7 is a vertical cross-sectional view taken generally along lines VII—VII of FIG. 3 showing the combined hinge and spring mechanism;

FIGURE 8 is a view similar to FIG. 6 showing a modified spindle structure for carrying a roll of tape;

FIGURE 9 is an enlarged fragmentary vertical sectional view of a modified tape dispensing mechanism;

FIGURE 10 is a vertical sectional view similar to FIG. 2 of another embodiment of the invention; and

FIGURE 11 is a front plan view of the embodiment of the tape dispenser shown in FIG. 10.

In one embodiment of the invention, best shown in the first few figures of the drawing, the tape dispenser

mechanism is enclosed in a housing **1** consisting of two telescoping pan-shaped members, a top **2** and a base **3**. These members, or portions of the housing, may be cast or molded from any appropriate material, plastic or metal. The top and base are hinged toegther at one end, preferably by the end portions of a coil spring **5**, as best shown in FIG. 7. The center portion of the spring includes two extensions **6** which engage the inner walls of the top and base, and force them apart. A roll of pressure sensitive adhesive tape **11**, such as cellophane tape, is received within the housing upon a snug fitting spindle **12**, which is mounted for rotation at one end of the housing.

The free end length of the tape projects between two rollers mounted at the other end of the housing and out a window formed by a pair of aligned notches **13** in the top and base. Since it is customary for the adhesive surface of the tape to face down, the lower of the two rollers is the drive roller **14**. It is formed of or coated with a high-release plastic material, preferably being formed of silicone rubber. Preferably the silicone rubber drive roller is formed from Silistic 589 RVT silicone rubber manufactured by the Dow Corning Corp. of Midland, Mich., although most any similar polysiloxane of similar density will function satisfactorily. The upper roller **15** merely presses the tape lightly to the drive roller, and may be formed from most any resilient material, such as a foamed plastic or polyurethene rubber, preferably one exhibiting a high coefficient of friction against the tape. The rollers are mounted on axles, the ends of which are received in openings preferably formed in an opposed set of side plates **16** supported in channels formed in the side walls of the base of the housing. The plates preferably are made from a durable, low friction material, like nylon, Delrin, or Teflon.

In experimenting with this type of dispensing mechanism it has been found desirable to assemble the drive roller using two spaced silicone rubber discs, rather than a solid silicone rubber cylinder. A solid cylinder could be used, but its diameter should be small (e.g. ¼") to insure separation of the adhesive tape from the roller. For reasons not directly pertinent to this invention, it is preferred to use a larger roller, one on the order of ¾ inch in diameter. Since the adhesive tape in some instances may tend to stick somewhat to a roller of this diameter, particularly if the drive roller is rapidly rotated after laying idle for some time, the two spaced silicone rubber discs **17** are preferred to a solid drive roller. These discs are spaced somewhat on their axle (e.g. ¼") to provide a channel between them. The upper roller **15** includes a central projecting ridge **18** which is aligned with the channel in the drive roller. As adhesive tape passes between these two rollers, its central area is pressed into the channel by the ridge **18** and given a lateral bend, which produces a longitudinal crease in the dispensed length of tape. By being so formed, the dispensed length of tape acquires sufficient structural rigidity to readily part from the silicone drive discs and project directly forward without curling either up or down. In fact, approximately 16 to 18 inches of ½" wide cellophane tape may be dispensed straight out by this arrangement before the weight of the free length of tape finally causes it to bow down.

The rollers need not be geared together. If they are not geared together, then the surface of the upper roller must engage the drive roller rather firmly to be rotated as the tape is dispensed. Should the mechanism lay idle for long, this firm pressure of the top roller on the bottom roller tends to set the adhesive of the tape on the silicone rubber drive roller. This urges the tape to follow the drive roller on the next dispensing operation, particularly if the drive roller is suddenly and quickly rotated. If the upper roller doesn't rotate with the drive roller, the friction it exerts as it slides along the top of the tape during a dispensing operation is sufficient to impair the dispensing operation. If, however, the two rollers are rotated in synchronism, then the upper roller need exert only a light pressure on the tape to hold the tape to the silicone rubber roller and insure that the tape is properly dispensed, even if the mechanism has not been used for a long time. For this reason, it is preferred to synchronize rotation of the two rollers, and gears **19** are provided for this pupose.

There are innumerable mechanisms by which the two rollers can be turned. A rack and pinion mechanism is preferred for the following reason. Preferably the completed tape dispenser will be fairly light, to reduce transportation costs. Therefore it will not have enough inertia to resist any force but a downward one. A rack and pinion drive is ideally suited for changing a downward motion of the top into rotation of the rollers.

A rack **21** is fixed to the top in such a position as to engage a pinion **22** mounted for rotation about the axle of the upper roller. The pinion is pressed against the gear **19** by a spring **23** (shown in FIG. 4), and cooperating ratchet teeth **24** are provided on the touching faces of the pinion and gear to turn the gear only in a direction to dispense tape, and permit the pinion to slip relative to the gear after a dispensing stroke when the rack is rising with the top as it returns to its normal position. A wire pin **25** extends between the side plates **16** and bears on the back face of the rack, to hold it against the pinion. The rack is slightly curved so that its front and back faces are equidistant along their respective lengths from the pivot point of the top, as defined by the hinge pin **5**. Thus as the top is pressed down on the base, the rack will slide past the wire pin and remain in engagement with the pinion. The upward travel of the top is limited by a tooth **26** projecting from the lower end of the rack. To open the housing, the top may be pulled upward to force the tooth **26** past the wire pin, and then opened until the rear edge of the top bears on the rear wall of the base. In this position the entire dispensing mechanism is exposed for loading or adjustment.

Most adhesive tape holders require the use of two hands to obtain a length of tape, yet usually only one hand is free to obtain the tape. The other hand is holding the article to be taped. For a light-weight tape dispenser, as contemplated by this invention, severing the dispensed length of tape would normally require two hands—one to hold the tape dispenser and one to hold and sever the dispensed length of tape. However, it is by far preferable to require the use of only one hand to obtain a length of tape. Accordingly, the present light-weight tape dispenser also includes an automatic tape cutting mechanism.

The tape cutting mechanism, as best shown in FIG. 5, includes a cutter blade **31** received in a slot formed along the transverse edge of the notch in the top, and a bar **32** fixed by pins to the transverse edge of the notch in the base. As the top is completing its telescoping descent about the base during a dispensing operation, the cutter blade passes closely behind the bar, and first presses the tape to the bar and then punctures and passes through the tape, cutting the projecting portion of the tape free from the roll. The uppermost tooth or two on the rack should be removed so that the tape is not advanced, but is held fairly taut between the roll and bar **32** during the cutting operation. A resilient pad **33** extends along the outer surface of the cutter blade and engages the bar to press the tape to the bar and to limit the downward travel of the top. If it is desired to hold the severed length of tape sticking straight out, the bar should be shaped to approximate the transverse bow imparted to the tape during the dispensing operation. A generally flat bar, as shown, will permit the dispensed length of tape to flatten and curl back somewhat (this is apparently due to the stretch given the adhesive layer on the tape as the tape is being pulled from the roll) but for short lengths this backward curl is tolerable. As the cutter blade rises after cutting the tape, the new end of tape will ride along the back of the blade and be lifted well above the severed length and

into a position to clear the bar **32** and the severed length of tape during the next dispensing operation. The bar may be formed of silicone rubber so that the severed length of tape may be pulled from it easily without moving the light-weight tape dispenser. Alternatively, the bar may be replaced by a narrow ridge or a knurled surface, to limit the adhesion of the severed length of tape and to allow the tape to be easily removed from the tape dispenser using only one hand.

Other features of the dispenser include a resilient pad **35** adhered to the bottom of the base, to cushion the dispenser and to prevent the dispenser from sliding along its supporting surface, particularly when a dispensed length of tape is being lifted from the bar **32**. Preferably the lower surface of the pad includes a number of indentations which act as suction cups when downward pressure is exerted on the dispenser, to hold the dispenser steady on the supporting surface. A wire finger **36** may be fixed about the wire pin **24** and positioned within the channel between the two silicone rubber drive discs of the drive roller, to insure that the free end of the tape extending beyond the rollers will never be deflected by the drive roller to catch on bar **32**, even if the dispenser has not been used for quite some time. To prevent the sides of the top from rubbing against the walls of the base during a dispensing operation, discs of felt or a similar material may be adhered to the outside top front area of the walls of the base.

To load the tape dispenser, a roll of tape only need be centered of the spindle **12**, and the free end of tape touched to either drive roller, most easily to the upper roller **15**. The rollers may be turned by hand, or the top pressed down on the base to turn the rollers, and a tab of tape will be ejected from the bite between the drive rollers. This tab is led out of the window at the front of the case and the mechanism is ready for operation. To operate it, one need merely press down on the top, telescoping it over the base and causing the rack and pinion mechanism is turn roller **15** through the ratchet drive, and roller **15** to turn the drive roller **14**. As these rollers turn, a length of tape is ejected through the window defined by notches **13**.

During this dispensing operation, if there is any wobble of the roll **11** of tape as it turns, or if it slides on the spindle **12**, tape will tend to be fed off center to the drive roller, which impairs the operation of the dispenser. For this reason a snug fitting spindle should be provided, and the axle ends of the spindle should be prevented from walking up the sides of the recess receiving them, as by an overhang or by the arrangement shown in FIG. 6. In FIG. 6, the spindle **12** includes a pin **37** received in an axial channel **38** in the freely rotating spindle member **39**. The pin is held by friction between the walls of the base **3** on a set of interior ridges which define the correct position of the spindle. By this arrangement the spindle member rotates about the pin but the pin is held steady, minimizing any tendency for the axle of the spindle to walk up either side wall of the base and skew the roll of tape.

If only one length of tape is desired, the tape may be pressed down about the base until the cutter blade severs the tape, as previously described. If more than one length is desired, the top may be released before the cutter blade engages the tape, and repeatedly pressed down in this manner until the length of tape desired extends from the dispenser, after which the top is pressed down completely to cut the desired length. When the top is released, the arms **6** of the coil spring **5** bear against the top and the base to force the two apart and return the dispenser to its normal position.

While the dispenser is designed to eject cellophane tape coated on one side with a pressure sensitive adhesive, it will also handle many other similar tapes, such as masking tape, electrical tape, and medical or surgical bandaging tape. If the upper roller has a silicone coating, or preferably is formed from silicone rubber too, then tapes coated on both sides with a pressure sensitive adhesive also may be dispensed. In short, the dispenser functions properly with almost any adhesive coated tape. It is easy to load, light-weight and simple to operate with one hand—actually one finger—to dispense and cut almost any desired length of tape.

Since the spindle **12** must fit tightly on roller **11** to limit any tendency for the roll to wobble, the spindle will only accept tape wrapped on a single size core. It also is somewhat limited in tape widths. However, various tapes come on different size cores, and in various widths. A spindle construction which will accept more than one size core and width tape is shown in FIG. 8. In this construction, a spindle **41** includes circumferential steps of increasing diameter, the steps forming channels ranging in width from a small diameter central channel **42** to a larger diameter peripheral channel **43**. Each channel will accept a different width tape and core, normally ⅜", ½" and ¾" widths. The maximum diameter of this spindle is on the order of ¾". Thus any larger diameter core will fit over the spindle, and most all pressure sensitive tapes are sold on larger diameter cores than this. During the dispensing operation, the roll of tape is pulled forward toward the dispensing mechanism, and by this force the roll will be held snugly in the channel of the spindle corresponding to the width of the core and tape, and thus in a single defined position. To limit skewing of the spindle and tape, the top portion of the forward wall forming the channel receiving the axle of the spindle may overhang the axle, to prevent it from walking up the wall.

The dispensing mechanism may be simplified somewhat, as shown in FIG. 9, by incorporating the ratchet mechanism in the rack and pinion. In this construction of the dispensing mechanism, the rack **51** is pivotally attached to the top portion **2** of the housing, and includes a set of generally triangular teeth extending along its front edge portion. These teeth mesh with a similar set of teeth about a pinion gear **52** fixed to the axle of the upper roller **15'**. The sets of teeth are shaped so that during a dispensing operation, as the rack moves down past the pinion, the teeth interlock to turn the upper roller, but when the top is released, the upward movement of the top causes the contacting faces of the teeth to cam and pivot the rack away from the pinion gear. A leaf spring **53** is mounted on the top and bears against the back of the rack to urge it against the pinion. A pawl (not shown) may be fixed to the base and bear on the pinion to prevent counter-rotation of the rollers during the return stroke of the rack. Cooperating detents (not shown) on the top and base of the housing are provided to limit the upward movement of the top, yet to permit the housing to be opened. As shown in this construction, the upper roller **15'** may be resilient enough to deflect about the drive roller **14'** and contact it with sufficient frictional force to be positively rotated with the drive roller, thereby performing the function of gears **19**.

The tape dispenser illustrated in the first few figures of the drawing has some inherent limitations. For example, because of the size of the housing it will not accept a roll of tape on much more than a 1½" or 2" core, yet one of the most common core diameter sizes is 3". Also, since the housing completely covers the roll of tape, it is not possible to see how much tape is left on the core other than by opening the housing. Furthermore, it is not possible to cut a length of tape other than by depressing the top, and this will dispense some more tape.

A construction of tape dispenser which overcomes these disadvantages is shown in FIGS. 10 and 11. It includes a hollow pyramidal housing **60**, which may be formed from any appropriate material, such as plastic or metal, preferably in two half sections which are fixed together by screws **61** or the like. The housing has an opening **62** in which a roll of tape **63** is received about a spindle **64**, similar in construction to the spindle **41**. The outer end portion of the tape extends between a silicone rubber

drive roller **65** and a resilient upper roller **66**, and out a window **67** formed in the housing. The construction and operation of the rollers are similar to the mechanism shown in FIG. 9, except that here the pinion is formed by the axle **68** receiving the drive roller and the leaf spring is replaced by the natural resiliency of the rack structure.

A lever **71** is pivotally attached to the top of the housing by a pin **72**, and is held in a raised position by a leaf spring **73** received in the housing. The front end of the lever receives two racks **74**. These racks extend through the window and engage the pinion axle **68** of the drive roller. By depressing the lever, the racks force the pinion axle to rotate thereby rotating the drive discs and dispensing a length of tape. On the return stroke the racks flex somewhat and are cammed outwardly by the teeth of the pinion to slide past the pinion axle. A pawl **75** is fixed to the housing and bears on the pinion axle to limit its rotation to a dispensing direction. The outer end portion **76** of each rack is hooked inwardly to bear on the pinion axle and limit the upward travel of the racks and lever.

A lower cutter blade **77** is received in a slot formed in the lower edge of the window, and extends to a position slightly below the path of the tape being dispensed and in line with the travel of the lower front portion of the lever. Should it be desired to automatically cut the dispensed length of tape, the lever is completely depressed. This causes a resilient bar **78**, preferably formed of polyurethene because of its durability, which is received in a groove in the lever extending between the two racks, to press the tape onto the teeth of the lower cutter blade. An upper cutter blade **79**, mounted in the slot behind the resilient bar **78**, then passes through the length of tape held taut between the lower cutter blade **77** and the drive roller **65**, thereby severing the length of tape beyond the cutter bar from the roll. The tape adheres to the teeth of the lower cutter blade until manually picked off. It will tend to droop somewhat, but this only counteracts any tendency for it to curl up and into the path of the next length of tape to be dispensed. The ejected tape may be severed manually simply by pulling it down on the lower cutter bar in a conventional fashion. To simplify loading the tape dispenser, a window **81** may be provided in the bottom of the housing so that the free end of the tape may be manually guided between the rollers. A resilient pad **82**, similar in construction and function to pad **35**, may be adhered to the bottom of the housing.

While specific embodiments of the invention have been described, since structural modifications and equivalents will be apparent to those skilled in this art, the scope of the invention is not defined by the specific structures shown but rather by the following claims.

I claim:

1. A pressure sensitive adhesive tape dispenser including a housing, means in the housing for mounting a roll of adhesive tape with one end projecting free, an axle, a plurality of cylindrical high-release plastic surfaced discs mounted on the axle spaced from one another, means holding the axle within the housing in a position to contact the adhesive surface of the free end of the tape on the roll, means to hold the tape against the plastic surfaced discs including a member deflecting a transverse portion of the tape into the space between the discs, and means for driving the plastic surfaced discs to pull tape from the roll and to dispense a free length of tape including a pinion connected to turn the axle and plastic surfaced discs, a member pivotally attached to the housing, a rack attached to the pivoting member and extending in engagement with the pinion along an arc defined by the pivot of the pivotal member, and means to limit rotation of the plastic surfaced discs to a dispensing direction only.

2. A pressure sensitive adhesive tape dispenser as set forth in claim **1** in which said means to hold the tape against the plastic surfaced member includes a second cylindrical member bearing against the plastic surfaced member and having a projecting circumferential ridge for deflecting a transverse portion of the tape into the space between the two discs, an axle on which the second cylindrical member is mounted, cooperating driving gears received on the axles supporting the two cylindrical members, the gear on the axle of the plastic surfaced member bearing against the pinion, ratchet means on the bearing faces of the gear and pinion for permitting the pinion to drive the gear and plastic surfaced member in one direction only, and means holding the rack against the pinion.

3. A pressure sensitive adhesive tape dispenser as set forth in claim **1** in which the means for mounting a roll of tape includes a spindle formed with step portions which comprise concentric circumferential channels of different widths for receiving cores of different width rolls of tape.

4. A pressure sensitive adhesive tape dispenser as set forth in claim **1** or **2** in which the housing includes a top portion and a base portion, the top portion comprising said pivotal member and being pivotally attached to the base member, and means for automatically cutting a dispensed length of tape when the top portion is telescoped onto the base portion.

5. A pressure sensitive adhesive tape dispenser as set forth in claim **4** in which the means for automatically cutting a dispensed length of tape includes a lip on the base portion of the housing extending in front of the plastic surfaced member and terminating beneath the path of the dispensed length of tape, a cutter bar extending downwardly from the top portion of the housing and positioned to pass between the lip and plastic surfaced member, and a resilient pad mounted on the top portion in front of the cutter bar to bear on the lip when the top portion is telescoped onto the base portion, whereby when the top portion is depressed to dispense a length of tape the resilient pad may press the dispensed length of tape onto the lip so that the tape is held between the lip and the plastic surfaced member as the cutter bar passes through the tape to cut the dispensed length of tape from the roll.

6. A pressure sensitive adhesive tape dispenser as set forth in claim **5** in which the top portion of the lip on which the tape rests is formed of a high-release plastic material.

7. A pressure sensitive adhesive tape dispenser as set forth in claim **1** in which the pivotal member is a lever, and including at least one rack attached to the lever and extending past the axle of the plastic surfaced discs, the axle and the rack both including outwardly extending ratchet teeth which engage one another to drive the axle when the lever is depressed, the corresponding teeth on the rack and pawl comprising said means for limiting rotation of the plastic surfaced discs to a dispensing direction only.

8. A pressure sensitive adhesive tape dispenser as set forth in claim **7** including a lower cutter bar mounted beneath the path of travel of the length of tape dispensed by the plastic surfaced discs, a resilient member mounted on the lever in a position to bear on the lower cutter bar when the rack is depressed, and an upper cutter bar mounted on the lever behind the resilient member to pass through the length of tape between the lower cutter bar and the plastic surfaced discs when the lever is depressed and the resilient member bears on the lower cutter bar.

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FRANK T. YOST, Primary Examiner

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