June 25, 1968 J. T. AULD ET AL 3,390,041

TAPE APPLYING DEVICE

Filed April 27, 1964 3 Sheets-Sheet 1

FIG. 1

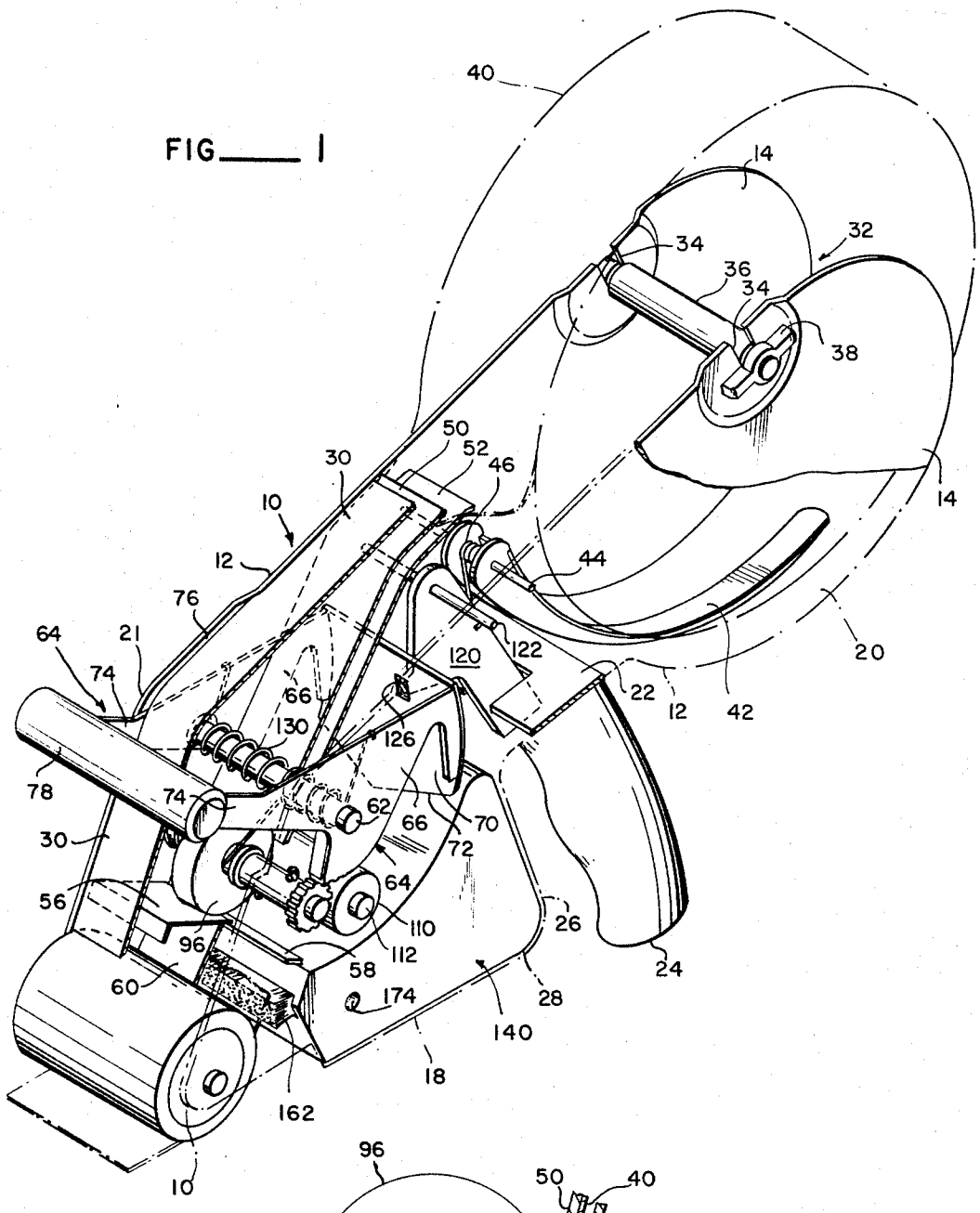
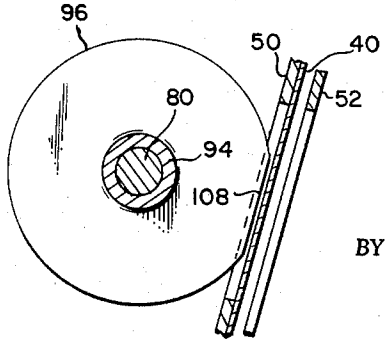


FIG. 4



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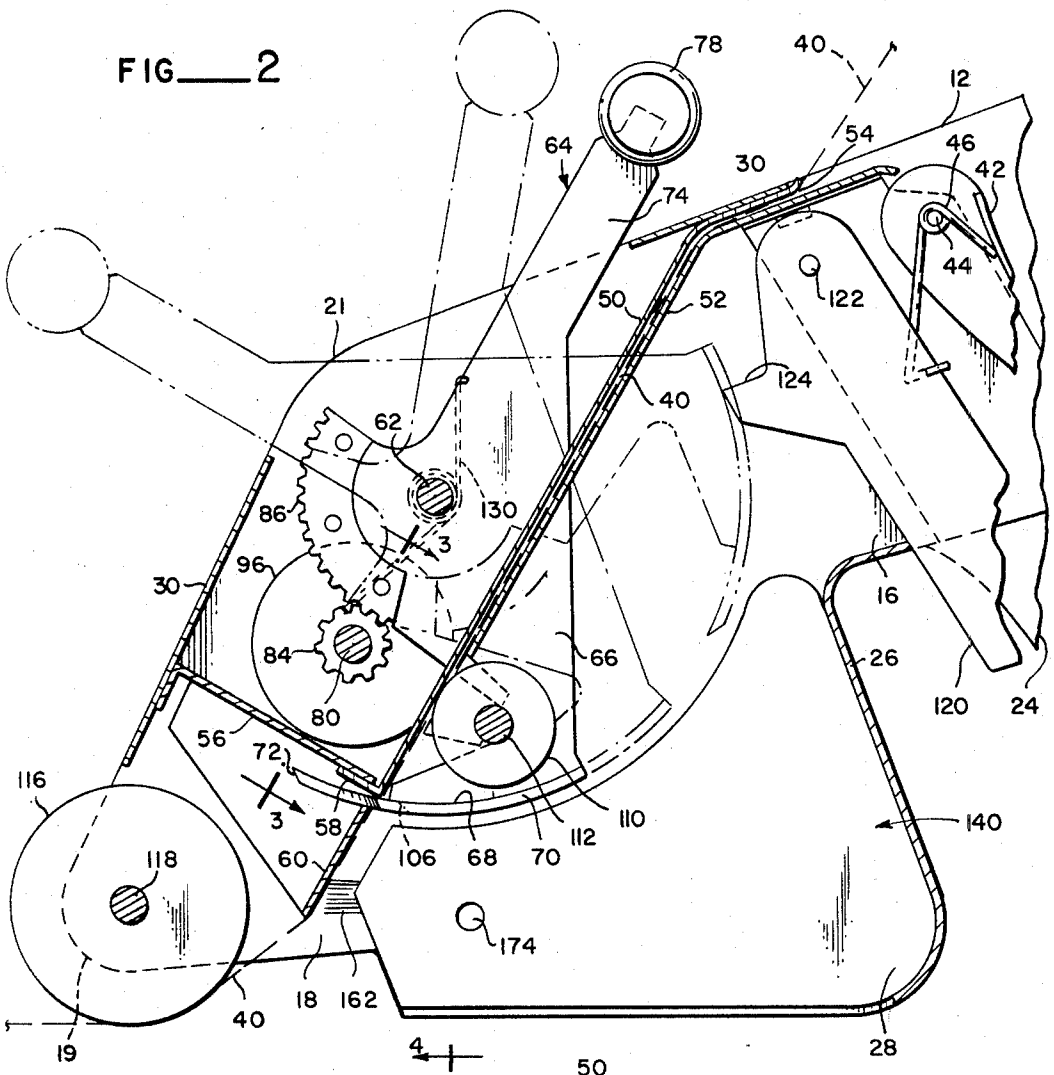
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TAPE APPLYING DEVICE

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FIG. 2



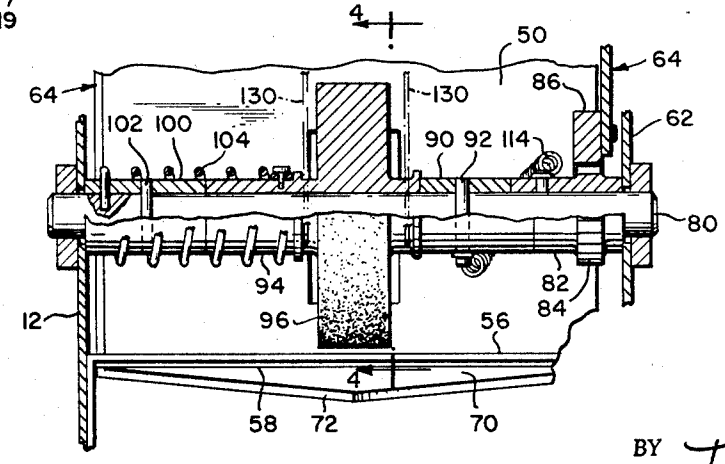


FIG. 3

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TAPE APPLYING DEVICE

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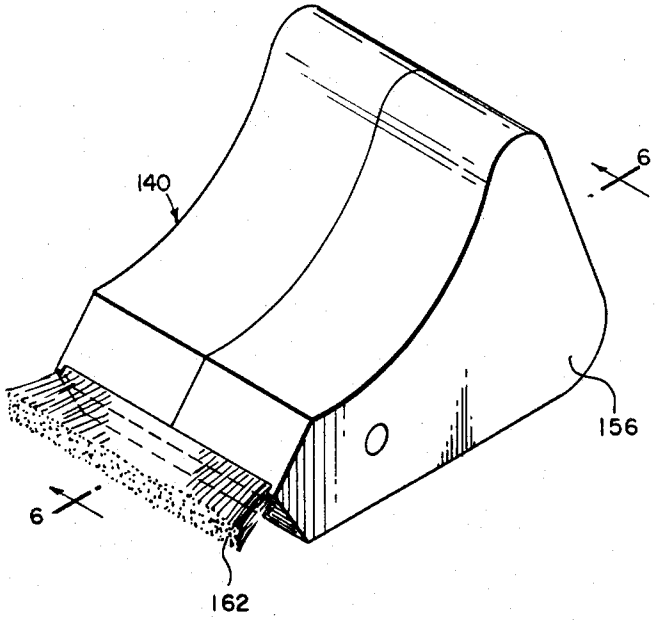


FIG. 5

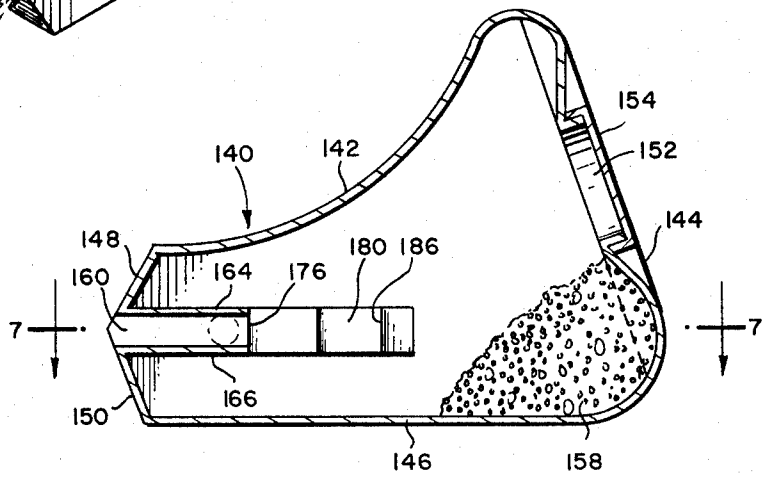


FIG. 6

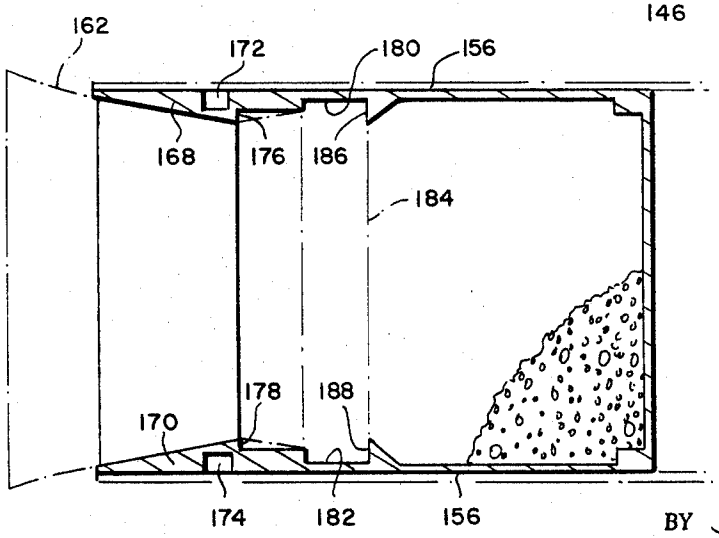


FIG. 7

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United States Patent Office 3,390,041 Patented June 25, 1968

3,390,041

TAPE APPLYING DEVICE

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4 Claims. (Cl. 156—526)

ABSTRACT OF THE DISCLOSURE

A manual tape applying mechanism for gummed paper tape. The device has means for supporting a roll of tape from which the tape passes to a guide channel in the body of the machine. At the lower end of the channel are feed rollers which when rotated advance the end of the tape past cutting means and thence past wetting means and then under a pressure applicator roller. A caulking and clutch arrangement actuates the feed rollers and removes the cutting means from the path of the tape as it passes from the feed rollers to the wetter. The cutting means is released from a spring biased position by a finger trigger and passes through the tape to sever the moistened tape from the dry tape above.

This invention relates to the general art of tape applying devices and more particularly to machines for holding rolls of gummed paper tape, dispensing and wetting the tape, and applying the wetted tape to containers, packages, boxes, and the like. The invention includes a novel wetting or moistening means, and in addition, includes means for dispensing the tape to any desired length and for cutting the tape automatically in a manner related to applicants' copending application Ser. No. 106,687, filed May 1, 1961, now Patent No. 3,131,109.

It is quite generally recognized by those skilled in the art that water-moistened, gummed paper tape is the most economical means of sealing a package. Other tapes such as pressure sensitive types are very convenient to use, but are more costly and excessively difficult to unroll. The inconvenience of the pressure sensitive tapes and their higher cost have precluded their use in large scale sealing and binding of packages, boxes, etc. In addition to the problem encountered with pressure sensitive tapes, numerous paper tape applying devices have been from time to time introduced to the market. Generally, however, it has been found that any number of problems, disadvantages, defects, and inconveniences inhere in such devices. Among those disadvantages which have not been solved, is that of incorporating a moistening feature in the tape applying device that will not leak, and in addition not overwet, or underwet the gummed paper tape as it is dispensed. Some previously known devices have placed the cutter on the wrong side of the wetter thus leaving a portion of one end of the tape unmoistened if the device is not used within a short period of time. Furthermore, some previously known devices have been badly balanced so that a good deal of effort was required by the operator in using them. They have been generally unreliable, costly, complicated, and subject to constant repairs and adjustments.

The present invention overcomes the difficulties and drawbacks of hitherto known tape applying devices, by providing a housing in which a large roll of paper tape may be mounted to the rear of the housing and to the rear of the handle grip with the operating elements located forwardly of the grip. In this way, weight is distributed evenly so that a minimum amount of strain and stress is placed on the operator's arm. A channel is provided in the housing so that the tape can be threaded and guided between feed rolls past a cutter and then a wetter and finally under a pressure roll by which the wetted tape

is pressed on to the surface to which it is applied. A spring-loaded operating mechanism is provided to start each new strip of tape out of the device. The operating mechanism is such that by simple, relatively effortless movement by the user the cutter blade is withdrawn from the path of the tape, the tape is forced down the channel past the stationary cutter blade, past the wetter and under the pressure applying roller. When it is desired to cut the tape, the operator merely pulls a trigger or unlatching lever with the finger and the movable blade snaps forward to co-act with the stationary blade to sever the tape above the wetter.

Accordingly, it is a principal object of this invention to provide a gummed paper tape applying device which is simple in design, rugged and dependable in construction, and economical in cost.

Another object of this invention is to provide a tape wetting and dispensing device which will dispense tape to a desired surface without leaving either end of the piece of tape dry.

Another object of this invention is to provide a spring-loaded tape advancing and cutting feature which is very easily and conveniently moved into operating position and also easily released.

Another object of this invention is to provide a gummed paper tape applying device which is balanced and designed so that a minimum amount of effort by the operator is required in its use.

Still another object of this invention is to provide a water-tight wetting means which, regardless of the position in which the taping apparatus is at rest, will not allow water to escape from the wetter.

Yet another object of this invention is to provide a gummed paper tape applying device which can receive rolls of tape of various diameters and widths.

A further object of this invention is to provide a paper tape applying device which is easily threaded with a new roll of tape and in which the wetting mechanism is easily removed, filled, and reinserted in the apparatus.

These and other objects and advantages and features will become subsequently apparent in the details of construction and operation as more fully here and after described and claimed. Reference will be had to the accompanying drawings, forming a part of this disclosure, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view with some portions cut away showing most of the details of construction of this device;

FIGURE 2 is a partial, side elevational view in cross-section showing generally the three positions of the feeding and spring-loaded tape cutting mechanism;

FIGURE 3 is a partial cross sectional view taken along the line 3—3 of FIGURE 2 showing details of the positive drive and spring clutch mechanism associated with the feeding and cutting mechanism;

FIGURE 4 is a cross sectional view of the feed wheel and main shaft of the drive mechanism taken along the line 4—4 of FIGURE 3;

FIGURE 5 is a perspective view of the wetter and its general configuration as it would appear in a completely assembled stage;

FIGURE 6 is a cross sectional view of the wetter taken along the line 6—6 of FIGURE 5 and showing, generally, the internal construction of the wetter from a side elevational viewpoint; and

FIGURE 7 is a cross section view in plan taken along the line 7—7 of FIGURE 6 and further showing details of the internal construction of the wetter.

Referring now to the drawings, it will be seen that the housing, generally designated by the number **10**, has flat, spaced apart side walls **12** of identical configuration which

side walls 12 have the rear or tape containing section 14, the reduced center section 16 and an enlarged forward section 18. Housing 10 is covered at selected places between the side walls 12. Thus, beginning near the rear of the tape roll holding section 14 will be found the rear bottom wall 20 generally conforming to the curved configuration of the lower edges of said rear section 14. Likewise, the reduced center section 16 will include a center bottom wall 22. A hand grip 24 attaches to the intermediate or center bottom wall 22. A forward, bottom wall 26 extends from center bottom wall 22 and terminates just below the curvature of the wetter receiving portion at point 28 as seen in FIGURES 1 and 2. The rear section 14 of the housing 10 is open from the top so that a roll of tape can be conveniently mounted therein and easily rotated. At a point beginning substantially above the intermediate section 16 is upper wall 30 which extends generally downwardly over the rounded upper end 21 of the housing and which terminates sufficiently above the extreme front curved portion 19 so that ample space is provided for the installation of a pressure roller.

The rear portion of the housing between rear sections 14 of the side walls define a tape magazine or receiving space designated by the number 32. The upper edges of the magazine wall will have slots 34 for receiving the tape roller 36. Roller 36 will be designed so that when a fresh roll of tape is loaded into the magazine a wingnut 38 or other conventional tightening means may be used to hold the tape roller 36 firmly in position in the slots. In order to prevent a roll of tape shown in dash dot lines by the number 40 from over-running on roller 36 an arcuately shaped brake arm 42 is pivotally installed forwardly of the magazine. Said brake arm can be seen to engage the tape roll from beneath. A brake arm shaft 44 extends between the side walls 12 near center section 16 and has mounted thereon said brake arm 42; note that the brake arm 42 where it is pivotally mounted on shaft 44 has a compression spring 46 which biases said brake arm against the tape roll.

At a point forwardly of the tape magazine 32 and generally just above the triggering mechanism, to be described more fully here and after, is to be found the beginning of the tape channel defined by upper guide member 50 and lower guide member 52. Note that the upper guide member 50 terminates at its upper end approximately at the same point at which the upper wall number 30 terminates. From the upper end said upper guide member 50 extends at a relatively sharp angle downwardly between the front wall sections 18 and terminates approximately in the same horizontal plane as the lower end of outer top wall 30. Note also that the guide members 50 and 52 are spaced generally rearwardly and below the top wall 30 to provide a space or cavity for the drive mechanism to be described more fully hereinafter. The lower guide member 52 as can be seen is spaced only a slight distance from the upper guide member 50 in such a way that a narrow channel 54 extending between the side walls is defined between the tape guide members. The lower guide member 52 extends slightly more to the rear of the upper guide member 50. Thus, tape 40 may be brought into the guide space or channel 54 defined between the guide members and easily threaded into and through the machine.

The lower guide member 52 terminates at its lower end above the lower end of the upper guide member 50. Additional strengthening structure is provided between the side plates 12 and specifically between the forward sections 18 in the form of a stationary blade supporting member 56. The stationary blade support member 56 extends from a point near the lower end of upper wall 30 generally rearwardly to upper guide member 50 at the lower terminus thereof. A stationary blade 58 is attached to the rear edge of member 56 at its junction with upper guide member 50. A secondary guide member 60 is spaced below blade 58 between the side walls 18 and in effect acts as an extension to upper guide member 50. Suitable clearance is provided between the stationary blade 58 and the upper edge of secondary guide member 60 so that the movable blade may move through such clearance and coact with the stationary blade for cutting the tape.

All of the side walls, top and bottom walls, guide members and other supporting and rigidizing frame members so far described are preferably made of a light gauge sheet material which is thin enough in the aggregate to form a light housing but which in the aggregate is also strong enough to make the housing a substantially rigid and durable structure. The movable blade for cutting the tape is pivotally mounted on a shaft 62 which is located roughly half the distance between the top and bottom ends of the upper guide member 50. Said shaft 62 is in spaced relation to said guide member 50 and in proximate position to the upper forward curved portion 21 of the side walls 12. Near each end of the shaft and within the confines of the side walls 12 are the spaced apart latching arms 64 which are pivotally received on said shaft 62. The latch arms 64 are generally irregularly shaped. The inner or blade supporting portion 66 which extends between shaft 62 and the moving blade is curved to receive the arcuately shaped blade 70. The blade 70, as can be seen by reference to FIGURES 1 and 3, is shaped generally to conform to the radius of curvature of the blade shaft 62. The blade 70, for purposes of illustration, is shown to have a pointed cutting edge 72 for coacting with the stationary blade 58 in order to sever the tape. Blade 70 is secured to and between the latch arm 64 for pivotal movement with said latch arms around the shaft 62. Latch arms 64 also have outer or handle support portions 74 on the other side of shaft 62, both of which protrude outwardly generally from shaft 62 and outside housing 10. Latch arms 64 are accommodated in slots 76 located just inside the side walls 12 but between said sidewalls and the top wall 30 of the housing. The handle 78 is mounted on and extends between the outer ends of the handle support portions 74.

Spring-loading of the latch mechanism is accomplished by a simple spring-loaded positive drive mechanism generally located in the space between guide member 50 and top wall 30. A clutch shaft 80 is located generally below and slightly forward of the latch shaft 62 and like shaft 62 extends between the side walls 12 of the housing. It will be seen by reference to FIGURE 3 that shaft 80 has mounted at one end thereof a drive sleeve 82 which is pivotally mounted or received on shaft 80. Said sleeve 82 occupies less than one quarter of said shaft 80 and has integrally or rigidly formed thereon a simple sprocket or gear wheel 84. One latch arm 64 has an arcuate pinion rack 86 concentrically mounted with respect to shaft 62 and securely attached to the latch arm 64. Said arcuate pinion rack 86 meshes with gear 84 on sleeve 82.

A second sleeve 90 is nonrotatively secured to shaft 80 by pin 92 and this drive shaft sleeve 90 occupies roughly one-fifth of the length of shaft 80. At the other end of the shaft is a clutch spring anchoring sleeve 100, also nonrotatively received on shaft 80 by securing it to said shaft as by a pin 102. Occupying the remaining space between sleeve 100 and sleeve 90 both of which are keyed to shaft 80 is a wheel sleeve 94. Wheel sleeve 94 is rotatively received on shaft 80 and has the feed wheel 96. It will be seen that the feed wheel 96 is positioned generally midway between the side walls 12 of the housing. Feed wheel 96 is a considerably larger diameter than the sleeve 94 on which it is rigidly mounted or with which it is intregally formed. A one-way clutch spring 104 is fixed with respect to sleeve 100 and is anchored to the freely rotating sleeve 94. At such time as the latch handle 78 is pushed to its loaded position thus rotating gear 84 and shaft 80, sleeve 100 will turn to tighten the spring clutch 104 on sleeve 94. Thus the sleeve 94 is gripped by spring 104 and the feed wheel 96 is rotated. It will be appreciated that sleeve 82 on which gear 84 is mounted

has an offset end which meshes with an off-set end on sleeve **90**. In effect, what happens is that sleeve **82** will rotate approximately 60 to 70 degrees before sleeve **82** engages sleeve **90**. In this way, which in effect is providing lost motion, the latching mechanism moves blade **70** rearwardly out of the path of tape that will move down channel **54**. A point **106** shown in FIGURE 2 indicates the approximate position to which blade **70** is withdrawn at the time that sleeves **82** and **90** engage each other. Rotation of sleeve **90** now engaged by sleeve **82** now turns shaft **80** which rotates sleeve **100** to tighten the spring clutch **104** and thus pick up or cause to rotate the sleeve **94** and feed wheel **96**.

It will be seen by reference to the FIGURE 4 that feed wheel **96** has a flat side **108** to permit the tape **40** to pass freely and unobstructedly along the channel formed by the upper guides **50** and **52**. As the latching mechanism is shoved forward to a loaded position, and as explained in the previous paragraph, lost motion allows the movable blade **70** to be withdrawn from the path of tape. As soon as the lost motion is taken up, feed wheel **96** will begin to rotate to pick up the tape and force it down the channel. Feed wheel **96** works in conjunction or coaction with a freely turning resilient, idler roller **110** mounted on shaft **112** so that said roller **110** provides a frictional backup means for the feed roller **96**. It will be noticed that a tension spring **114** is provided between sleeve **82** and sleeve **90** so that when the latching mechanism is in its unloaded position spring **114** rotates said sleeve **82** and **90** with respect to each other to reverse the lost motion step mentioned above. Feed wheel **96** for the purposes of providing a good frictional surface to engage the tape is either knurled or roughened so that a good gripping surface for the tape is obtained.

It will be understood that during the loading operation for the latching mechanism and because of the lost motion feature, feed wheel **96** does not begin to rotate until blade **70** is free of the tape track or channel. As the wheel is rotated by the clutch spring **104**, however, said wheel will turn approximately 360° to run the strip of tape down far enough to be engaged by the pressure roller **116** rotatively mounted at the extreme front lower end of the housing on shaft **118**. When feed wheel **96** has traversed a full 360°, it again presents its flat side **108** to the tape so that the tape can run freely to be pulled by the pressure roller **116**.

When the latching mechanism is cocked to its loaded position, it is held by a trigger **120** pivotally mounted near and just below the entrance to the tape channel between shaft **44** of the brake lever **42** and cocked position of blade **70**. Trigger **120** is pivotally mounted on shaft **122** and can be seen to extend through an opening in intermediate lower wall **22** to extend down below said intermediate wall along the upper front portion of handle grip **24**. Trigger catch **124** is designed to coact with opening **126** generally in the center of blade **70** to hold the latching mechanism in the cocked or loaded position. Release of the blade **70** from its loaded position is accomplished by simply applying finger pressure to trigger **120** to remove catch **124** from opening **126**. Spring pressure for returning or snapping blade **70** back down to the released or unloaded position is achieved by mounting coil spring **130** on shaft **62**. Spring **130** will be in the form of a helical tension spring as well understood by those skilled in the art. As a practical matter and in the preferred embodiment, two springs **130** are provided on said shaft **62**. The wall end of each of the springs **30** is attached to the latch arms **64**. Near the center of the shaft **62** the ends of springs **130** are straightened and extend down to the hub or sleeve portions **94** on each side of the feed wheel **96**. Pressure applied by springs **130** prevents free rotation of sleeve **94** and feed wheel **96** and thus said springs act as a brake.

An important feature of this invention is provided in the wetter generally shown in FIGURES 5, 6, and 7, and which as can be seen, fits into the lower portion of housing section **18** at the front end of this tape applying device. The wetter, generally designated by the number **140**, has made a marked contribution to the success of this device in overcoming the disadvantages of prior known devices through its ability to eliminate leakage of water when the tape applying device is not in use and which might be put down in practically any position. The wetter in side configuration has an arcuate upper portion **142**, a sloping back side **144**, and generally horizontal bottom side **146** and forwardly slanting surfaces **148** and **150** defining a horizontally disposed V-shaped nose section. A filling hole **152** with stopper or cap **154** is shown to be at the rear of the wetter. As a practical matter, it is better to position the fill opening on one of the side walls **156** of the wetter. One of the unique features of the wetter is its ability to retain free water in the event the wetter is over-filled. The entire interior of the wetter is taken up with sponge material **158** only a portion of which is shown for the purposes of clarifying the body structure of said wetter.

The wetter is designed for quick removal and installation or change within the main machine. An opening **160** is provided in the wetter generally midway between the forward wall portions **148** and **150** by spacing the outer ends of wall portions. Opening **160** extends between side walls **156** and deep enough to allow a brush **162** to be conveniently installed in the wetter. Rearwardly extending water retaining baffles **164** and **166** are provided on walls **148** and **150** respectively to hold free standing water in the event the wetter is placed in such a position that free standing water may gather at the nose end. It can be seen that the retaining baffles **164** and **166** are spaced apart and generally parallel to each other and that they extend from side wall to side wall of the wetter. In the event that the wetter is placed on either of its sides **156**, further water retaining baffle structures are provided generally in line with the fill opening. The side walls beginning at the nose end between baffles **164** and **166** will extend rearwardly at a slight angle towards the wetter center line to form brush retaining wall portions **168** and **170**. The wall portions **168** and **170** which increase in thickness from front to rear as shown in FIGURE 7 also are provided with outside depressions **172** and **174** into which spring-loaded detents in side walls **12** are adapted to snap and retain the wetter in place. Wall portions **168** and **170** end at a point generally commensurate with the inner ends of baffles **164** and **166**. There said walls extend outwardly to define shoulders **176** and **178**. Brush **162** will follow the contour of wall portions **168** and **170** inwardly then begin again at the shoulders **176** and **178** to curve outwardly. Recesses **180** and **182** are located on the inside of walls **156** and provide an anchoring space for the brush base or bristle mounting means **184**. Rear shoulders **186** and **188** provide a back support for the brush base and also comprise additional water retaining or baffling structure to prevent free standing water from flowing out of the wetter in the event the wetter is placed on either one of its sides **156**.

The importance of the wetter in this invention can not be overemphasized. Design of the wetter has been the subject of much developmental work in order to eliminate the ever-present leakage problem in most tape applying devices. The extent of the water retaining structure on the side walls **156** and at the sides of the opening of the wetter has been shown to be reasonably shallow. It must be appreciated that the depth of this retaining wetter structure, particularly as shown in FIGURE 7, is merely illustrative and therefore non-limiting. Again it must be remembered that the entire interior of the wetter is made of sponge or sponge-type material. The capacity of the wetter is such as to allow its use for a prolonged period of time and yet the brush **162** absorbs water from the sponge only as needed on the tape. Also, the baffling struc-

ture associated with the brush opening, including the water retaining walls, is joined in a water-proof manner.

The foregoing is considered as illustrative only of the principles of this invention. Since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described. Accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

What is claimed is:

1. A gummed paper tape applying device, comprising: (a) a lightweight housing of spaced-apart side walls interconnected by frame structure, said housing having a rear tape roll receiving section, a reduced intermediate section including a handgrip on the underside thereof, and a forward section; (b) a tape channel defined by slightly spaced apart guide members extending generally from the top of said intermediate section downwardly and forwardly through said forward section and terminating above the lower side of said forward section, said channel separating said forward section into a front compartment and back compartment; (c) a tape propelling mechanism mounted in said front compartment and including a pivotally mounted, latching arm having inner and outer ends, said inner end extending past a side of said channel and into said back compartment and having mounted thereon a movable tape cutting blade, said outer end extending out of said housing and having a handle mounted thereon, said propelling mechanism also including a tape propelling wheel mounted on shaft means which in turn has gear means coactingly driven by pinion means on said latching arm, said inner end of said latching arms being resiliently biased to force said cutting blade across the path of tape in said channel; (d) a pressure roller pivotally mounted at the bottom front end of said forward section; (e) a trigger means for holding said blade out of the path of tape in said channel and releasing said blade when said tape is to be cut; (f) a stationary blade mounted near the lower end of said channel for coacting with said movable blade; and (g) a tape wetter means removably located in the lower part of said second compartment below said movable blade for applying moisture to said tape between said pressure roller and said movable and stationary blades.

2. A gummed paper tape applying device, comprising: (a) a lightweight housing of spaced-apart side walls interconnected by frame structure, said housing having a rear tape roll receiving section, a reduced intermediate section including a handgrip on the underside thereof, and a forward section; (b) a tape channel defined by slightly spaced apart guide members extending generally from the top of said intermediate section downwardly and forwardly through said forward section and terminating above the lower side of said forward section, said channel separating said forward section into a front compartment and back compartment; (c) a tape propelling mechanism mounted in said front compartment and including a pair of pivotally mounted, spaced-apart, latching arms having inner and outer ends, said inner ends extending past the sides of said channel and into said back compartment and having mounted therebetween a movable tape cutting blade, said outer ends extending out of said housing and having a handle mounted therebetween, said propelling mechanism also including a tape propelling wheel mounted on shaft means which in turn has gear means coactingly driven by pivot means on said latching arms, said inner ends of said latching arms being resiliently biased to force said cutting blade across the path of tape in said channel; (d) a pressure roller pivotally mounted at the bottom front end of said forward section; (e) a trigger means for holding said blade out of the path of tape in said channel and releasing said blade when said tape is to be cut; (f) a stationary blade mounted near the lower end of said channel for coacting with said movable blade; (g) and a tape wetter means removably located in the lower part of said second compartment below said movable blade for applying moisture to said tape between said pressure roller and said movable and stationary blades.

3. A gummed paper tape applying device, comprising: (a) a lightweight housing of spaced-apart side walls interconnected by frame structure, said housing having a rear tape roll receiving section, a reduced intermediate section including a handgrip on the underside thereof, and a forward section; (b) a tape channel defined by a pair of slightly spaced apart guide members extending generally from the top of said intermediate section downwardly and forwardly through said forward section and terminating above the lower side of said forward section, said channel separating said forward section into a front compartment and back compartment; (c) a tape propelling mechanism mounted in said front compartment and including a pair of pivotally mounted, spaced-apart, latching arms having inner and outer ends, said inner ends extending past the sides of said channel and into said back compartment and having mounted therebetween a movable tape cutting blade, said outer ends extending out of said housing and having a handle mounted therebetween, said propelling mechanism also including a tape propelling wheel mounted on shaft means which in turn has gear means coactingly driven by pinion means on one of said latching arms, said inner ends of said latching arms being resiliently biased to force said cutting blade across the path of tape in said channel; (d) a pressure roller pivotally mounted at the bottom front end of said forward section; (e) a trigger means for releasably holding said blade out of the path of tape in said channel and releasing said blade when said tape is to be cut; (f) a stationary blade mounted near the lower end of said channel for coacting with said movable blade; (g) a resilient roller means rotatably mounted in said second compartment for coacting engagement with said propelling wheel; and (h) a tape wetter means removably located in the lower part of said second compartment below said movable blade for applying moisture to said tape between said pressure roller and said movable and stationary blades.

4. A gummed paper tape applying device, comprising: (a) a lightweight housing of spaced-apart side walls interconnected by frame structure, said housing having a rear tape roll receiving section, a reduced intermediate section including a handgrip on the underside thereof, and a forward section, (b) a tape channel defined by spaced-apart guide members extending from the top of said intermediate section downwardly through said forward section and separating said forward section into a front compartment and back compartment, (c) a tape propelling mechanism mounted in said front compartment and including latching arms having inner and outer ends, said inner ends being resiliently biased and extending into said back compartment and having mounted therebetween a movable blade, said outer ends extending out of said housing and having a handle, said propelling mechanism also including a tape propelling wheel mounted on shaft means which in turn has gear means coactingly driven by pinion means on at least one of said latching arms, (d) a pressure roller rotatably mounted at the bottom front end of said forward section, (e) a trigger means for releasably holding said blade out of the path of tape in said channel, (f) a stationary blade mounted near the lower end of said channel for coacting with said movable blade, and (g) a tape wetter means removably located in the lower part of said second compartment below said movable blade for applying moisture to said tape.

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DOUGLAS J. DRUMMOND, *Primary Examiner.*