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E. S. RICHARDSON
GUMMED TAPE DISPENSER

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2 Sheets-Sheet 1

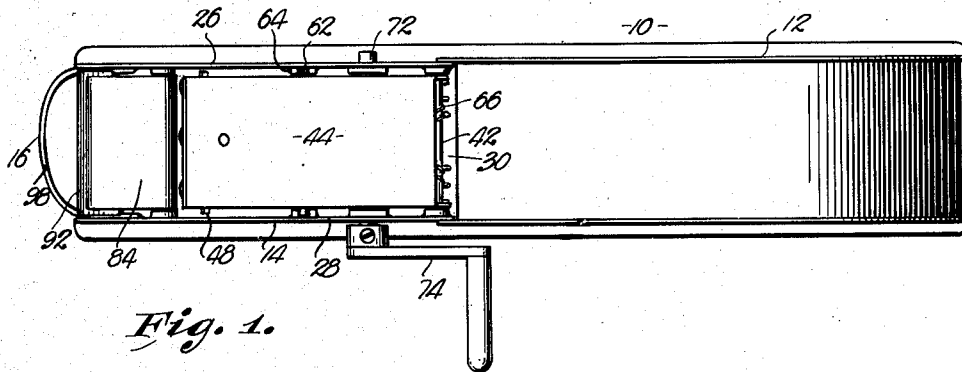


Fig. 1.

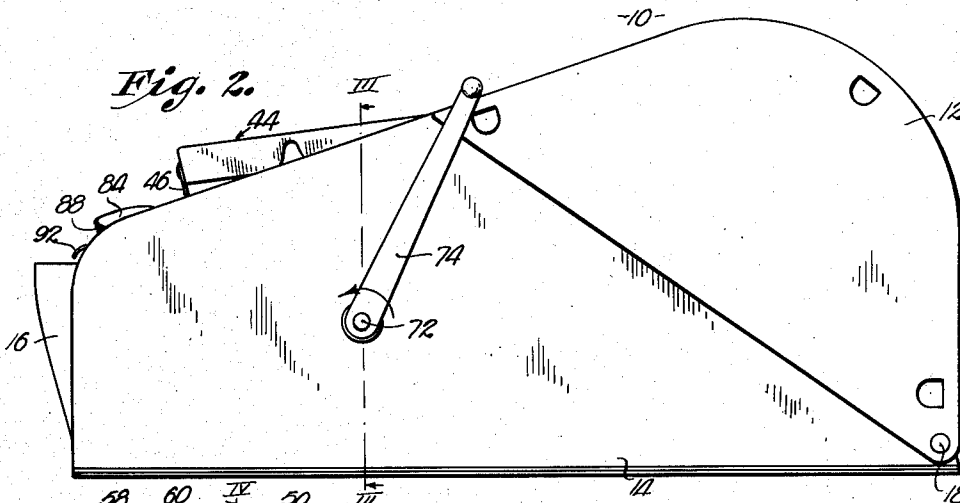


Fig. 2.

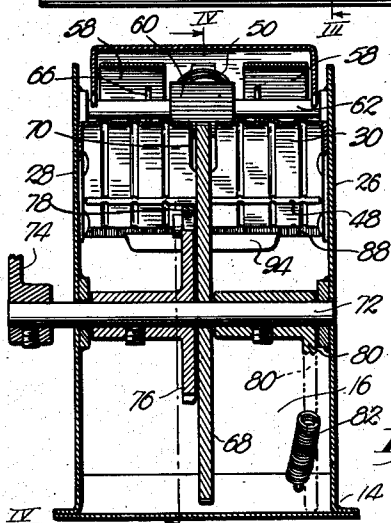


Fig. 3.

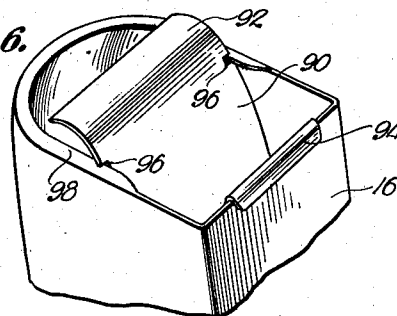


Fig. 6.

INVENTOR.
Eugene S. Richardson
BY *Eugene S. Richardson*
ATTORNEY.

Aug. 22, 1950

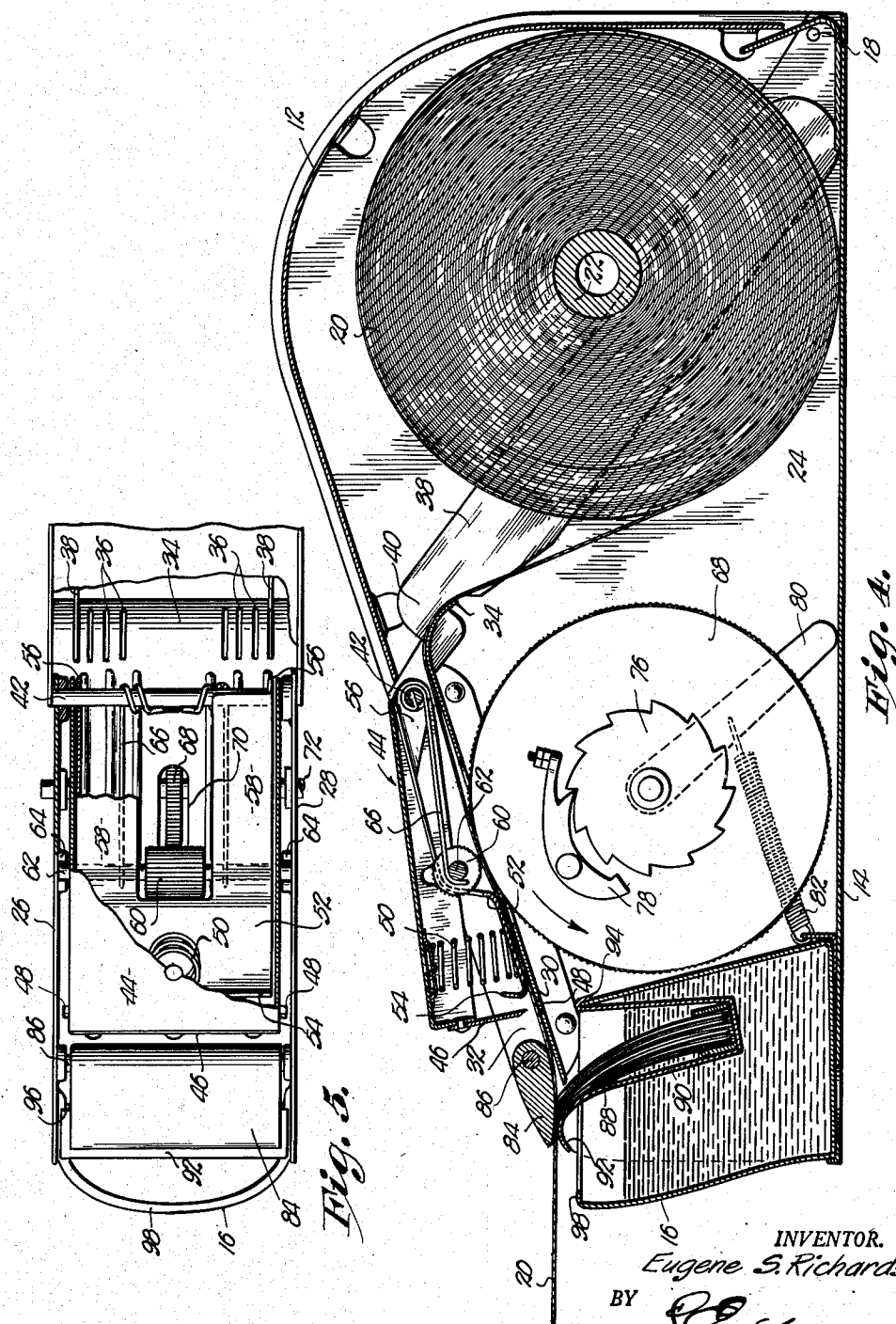
E. S. RICHARDSON

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GUMMED TAPE DISPENSER

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2 Sheets-Sheet 2



INVENTOR.
Eugene S. Richardson

BY

Paul Henry
ATTORNEY.

UNITED STATES PATENT OFFICE

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GUMMED TAPE DISPENSER

Eugene S. Richardson, Kansas City, Mo.

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5 Claims. (Cl. 164-43)

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This invention relates to manually manipulable equipment for dispensing gummed tape, and has for its primary aim the provision of a table-type appliance of such character having unique feeding and severing elements associated with simple, rugged and durable parts for holding the roll of tape as lengths thereof are withdrawn.

One of the important aims of the instant invention is to provide a gummed tape dispenser having especially designed severing mechanism, the nature whereof insures a gripping of the tape adjacent to the lines of transverse severance as the knife structure, forming one of the severing elements, is actuated.

Another important object of this invention is to provide a cutter dispenser of the aforementioned character that receives a roll of gummed tape in the magazine thereof, without the necessity of manually adjusting any part other than the swinging cover of the compartment, which compartment is provided with side plates shiftable with ease and dispatch when tapes of different widths are to be used in the machine.

Other objects of the instant invention include the provision of an especially formed throat through which the tape passes and in which the straight length of tape is confined while the severing action occurs; the inclusion of a swingable knife assembly that constitutes a part of the complete housing for the elements in the throat; the provision of an apron pivotally mounted within the throat and movable for rendering the floor of the throat accessible when it becomes necessary to clean the same; and the provision of feeding mechanism a part whereof is in the aforesaid throat of the machine and adapted to be swung about a common center with the aforesaid apron and said knife structure when the threading action becomes necessary or it is desirable to gain access to the surfaces which contact the gummed side of the tape.

Still further aims of the invention will become apparent to one skilled in the art, as the specification, referring to the accompanying drawings, is comprehended.

In the drawings:

Fig. 1 is a top plan view of a gummed tape dispenser made in accordance with the present invention.

Fig. 2 is a side elevational view thereof.

Fig. 3 is a vertical transverse sectional view taken on line III-III of Fig. 2.

Fig. 4 is a longitudinal sectional view taken on line IV-IV of Fig. 3.

Fig. 5 is a fragmentary plan view with parts

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broken away to reveal the relation between the elements at the throat of the machine; and

Fig. 6 is a fragmentary perspective view illustrating a portion of the moistening well, entirely removed from association with the remaining part of the dispenser.

The body of the machine is broadly designated by the numeral 10 and is preferably formed of sheet metal to present a swingable cover 12, a main frame 14, and a removable well 16.

Cover 12 is pivoted about transverse pintle 18 and its lower edge extends upwardly and forwardly from pin 18 and along a similarly inclined edge of frame 14 for the purpose of rendering it easy to interchange rolls of gummed tape 20. This gummed tape 20 is usually manufactured and presented to the trade in the form illustrated in Fig. 4. It is rolled upon a core 22 and remains in a compact, wound condition as sections of the tape are stripped therefrom.

Compartment 24 is formed within the rear part of frame 12 between the vertical parallel spaced apart side walls 26 and 28 of frame 14. These side walls cooperate with the hood-like cover 12 in establishing compartment 24, and a forwardly and downwardly inclined transverse floor 30 presents a floor between walls 26 and 28 to establish a throat 32. The rear marginal end of floor 30 is curved as at 34 and slotted as at 36 to receive adjustable plates 38, to the end that compartment 24 may be varied in effective width. These plates 38 have their free ends resting upon the bottom of frame 14 as illustrated in Fig. 4, while their upper and forward ends are contoured to present a head 40, offset in two directions to allow quick removal yet to lock the same in place when inserted in slots 36.

When cover 12 is open, these plates may have their lower ends lifted to free head 40 from within the slots—thus, compartment 24 may be varied in width to accommodate a roll 20 so long as the width of the roll is less than the distance between walls 26 and 28. In fact, a roll 20 may be inserted in compartment 24 without the use of plates 38 when its width so demands.

A transverse shaft 42 is journaled in suitable bearings supported by walls 26 and 28. This shaft carries a knife structure, broadly designated by the numeral 44, upon the forward end whereof is a cutter 46, the sharpened edge whereof passes through slot 48 in floor 30 when knife structure 44 is forced down by the operator. This knife structure is a tray-like body to establish a housing for the underlying elements. The flat surface at the top is expansive in area and may be struck

by the operator when a severing action is to occur.

Knife structure 44 is maintained in a set position by spring 50, one end whereof is clamped to the underside of knife structure 44 while the lower free end rests upon apron 52, as illustrated in Fig. 4. A portion of this apron 52 frictionally engages the upper surface of tape 20 as it passes along throat 32. A lip 54 integral with apron 52 and at its forward end, not only insures that spring 50 will remain against the upper surface of apron 52, but presents a grip when the apron is to be lifted about its connection with shaft 42. This connection is established by perforated ears 56.

The rear portion of apron 52 is bifurcated to form two legs 58 and to insure clearance for a knurled roller 60, rotatably mounted upon shaft 62. This shaft is journaled in slotted bearings 64 rigid to the inner face of walls 26 and 28. A spring 66 curled about shaft 42 and having ends resting upon shaft 62, yieldably maintains roller 60 against a wheel 68, a portion whereof extends upwardly to engage with the underside of tape 20 through an opening 70 in floor 30 of throat 32.

This wheel 68 is freely mounted upon shaft 72 journaled in bearings on walls 26 and 28, as depicted in Fig. 3. An operating lever or crank 74 mounted upon shaft 72 allows the operator to turn this shaft in the direction of the arrow shown in Fig. 2. A lost motion connection, which insures driving wheel 68 in the direction of the arrow shown in Fig. 4, is a part of the mechanism.

Ratchet 76 secured to shaft 72 is engaged by dog 78 when crank 74 is moved as above described. A stop and return arm 80 mounted on shaft 72 has a spring 82 secured thereto and when the free end of arm 80 strikes the underside of floor 30, or any other stop provided in the path of travel of this arm, the length of tape 20 which is fed is determined. Upon release of crank 74, arm 80 will move back under the influence of spring 82 to the condition illustrated in Fig. 4 while dog 78 freely rides over the teeth in ratchet 76. When such action occurs, the serrated edge of wheel 68 is engaging the underside of tape 20 while the serrated edge of roller 60 is in engagement with the upper face of tape 20—thus, a grip at the center of tape 20 is established to feed a length thereof through throat 32 and across the moistening apparatus now to be described.

A pressure applicator 84 pivotally mounted between the two side walls 26 and 28 by a transverse pin 86, overlies the outwardly projected bristles of a brush 88. This brush is mounted in a carrier 90 which has an arcuate lip 92 lying beneath pressure applicator 84. When tape 20 is drawn across the moist ends of bristles 88, applicator 84 will exert enough pressure to insure moistening the adhesive thereon.

Well 16 removably supports carrier 90 and is uniquely formed to cooperate with the upper edges of well 16. This carrier 90 is substantially U-shaped with the lip 92 on the free end of one of its legs. The free end of the other leg is provided with a hook or rebent portion 94 and opposed notches 96 adjacent lip 92 receive an inverted flange 98 on the top of well 16 when the holder is forced into the well a distance to allow such relation. When the holder is moved into the well, the legs are compressed or forced together and the inherent resiliency snaps lip 92 outwardly away from hook 94 to a position shown

in Fig. 6, whereupon the brush may be dropped into the carrier to assume the tape-moistening position with its base at the bight of carrier 90. Removal of the carrier and brush is accomplished merely by squeezing together the free ends of the legs of carrier 90 to disengage notches 96 and flange 98, whereupon the carrier and brush may be lifted as a unit from well 16.

The operation of the machine has been made clear during the course of the specification, and it will be understood by those skilled in the art and with such equipment, that as a straight length of tape 20 is moved from the roll thereof, apron 52 will smooth the same against floor 30 of throat 32. The weight of the apron and knife structure 44 will so serve and pressure applicator 84 will guarantee an even moistening action because of its treatment of the tape above the ends of bristles 88. When the tape is ready for severing, the operator forces knife structure 44 downwardly by striking the upper face of the tray-like body, whereupon spring 50 is compressed against apron 52. This movement not only forces blade 46 through opening 48 to cut tape 20, but exerts a pressure upon apron 52 to hold tape 20 tightly against the floor 30 of the throat. Cutter 46 of the knife structure has its edge contoured to enter the tape at its center, to avoid any tendency to move the tape laterally within throat 32 and to preclude any effect which may pull the tape into opening 48.

If the floor of throat 32 becomes coated with adhesive from tape 20, and such is the case of machines of this character, it may be washed or cleaned by lifting knife structure 44, apron 52 and roller 60 upwardly around the axis of shaft 42. When such is done, the floor of throat 32 is fully exposed as is the knurled edge of wheel 68 projecting through opening 70. The parts may be quickly and conveniently washed, and since well 16 is removable forwardly upon the application of an upward and outward force, all of the component elements of the machine are readily accessible.

Obviously, tape handling equipment having appearances, form and modes of operation different from those above specified may be made without departing from the spirit of the invention or scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a gummed tape dispenser, a body having a compartment at one end thereof, for the roll of gummed tape; an open top throat extending from the compartment; feeding structure for the tape engaging the portion of the tape within the throat; a knife structure including a cutter mounted on the body for severing movement across the path of travel of the tape in the throat; an apron adapted to engage the tape as it traverses the throat; and a spring disposed between the knife structure and the apron adapted to yieldably hold the knife structure in a position above the tape and to exert pressure upon the apron by its weight to smooth the tape as it is fed and to arrest movement of the tape as the cutter of the knife structure is forced through the tape to sever the same.

2. In a gummed tape dispenser, a body having a compartment at one end thereof, for the roll of gummed tape; an open top throat extending from the compartment; feeding structure for the tape engaging the portion of the tape within the throat; a knife structure including a cutter

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mounted on the body for severing movement across the path of travel of the tape in the throat; an apron adapted to engage the tape as it traverses the throat; and a spring disposed between the knife structure and the apron adapted to yieldably hold the knife structure in a position above the tape and to exert pressure upon the apron by its weight to smooth the tape as it is fed and to arrest movement of the tape as the knife is forced through the tape to sever the same, said knife and the apron being pivotally mounted on the body at one end of the said throat, the cutter of the knife structure being at the opposite end of the throat.

3. In a gummed tape dispenser, a body having a compartment at one end thereof, for the roll of gummed tape; an open top throat extending from the compartment; feeding structure for the tape engaging the portion of the tape within the throat; a knife structure including a cutter mounted on the body for severing movement across the path of travel of the tape in the throat; an apron adapted to engage the tape as it traverses the throat; and a spring disposed between the knife structure and the apron adapted to yieldably hold the knife structure in a position above the tape and to exert pressure upon the apron by its weight to smooth the tape as it is fed and to arrest movement of the tape as the cutter of the knife structure is forced through the tape to sever the same, said knife structure being formed to create a cover for the throat and a housing for the apron.

4. In a gummed tape dispenser, a body having a compartment at one end thereof, for the roll of gummed tape; an open top throat extending from the compartment; feeding structure for the tape engaging the portion of the tape within the throat; a knife structure including a cutter mounted on the body for severing movement across the path of travel of the tape in the throat; an apron adapted to engage the tape as it traverses the throat; and a spring disposed between the knife structure and the apron adapted to yieldably hold the knife structure in a position above the tape and to exert pressure upon the apron by its weight to smooth the tape as it is fed and to arrest movement of the tape as the cutter of the knife structure is forced through the tape to sever the same, said knife structure and the apron being pivotally mounted on the body at one end of the said throat, the cutter of the knife structure being at the opposite end of the throat, said apron having an upturned lip at its forward free end to serve as a grip

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when the apron is to be lifted to make accessible the tape within the throat on the floor of the throat.

5. In a gummed tape dispenser, a body having a compartment at one end thereof, for the roll of gummed tape; an open top throat extending from the compartment; feeding structure for the tape engaging the portion of the tape within the throat; a knife structure including a cutter mounted on the body for severing movement across the path of travel of the tape in the throat; an apron adapted to engage the tape as it traverses the throat; and a spring disposed between the knife structure and the apron adapted to yieldably hold the knife structure in a position above the tape and to exert pressure upon the apron by its weight to smooth the tape as it is fed and to arrest movement of the tape as the cutter of the knife structure is forced through the tape to sever the same, said feeding structure including a roller disposed within the throat, said knife structure, said apron, and the said roller all being mounted on pins carried by the body extending across the throat at one end thereof, the cutter of the knife structure being at the opposite end of the throat and adjacent to the front end of the device.

EUGENE S. RICHARDSON.

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