

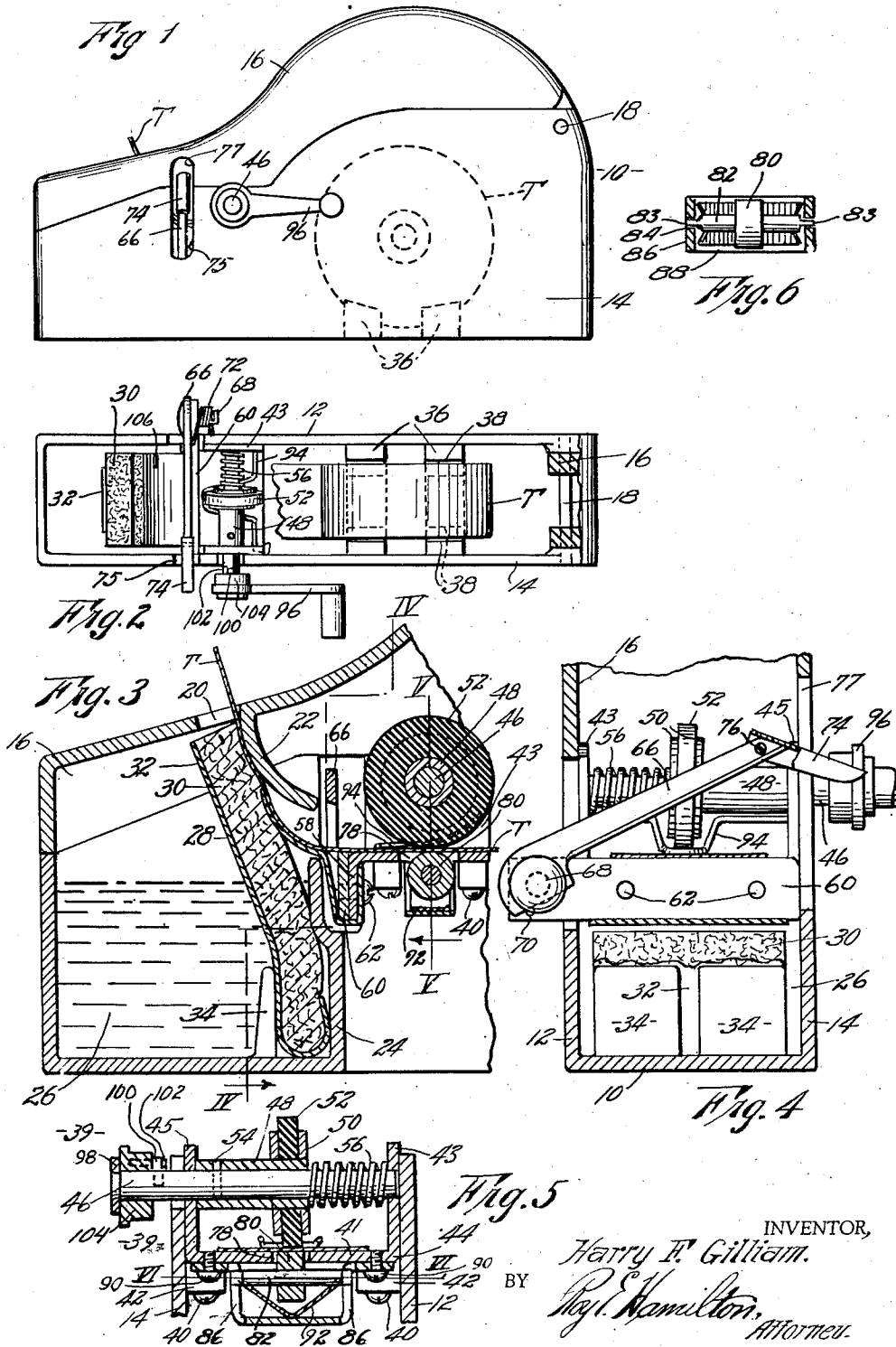
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H. F. GILLIAM

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GUMMED PAPER TAPE MACHINE

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INVENTOR,
Harry F. Gilliam.
BY
Ray. Hamilton.
ATTORNEY.

UNITED STATES PATENT OFFICE

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GUMMED PAPER TAPE MACHINE

Harry F. Gilliam, Kansas City, Mo., assignor to
Wesley R. Starkey, Kansas City, Mo.

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This invention relates to improvements in gummed paper tape machines and has for its principal object the provision of a simple, inexpensive and efficient gummed tape machine.

Another object of the present invention is the provision of a gummed tape machine having a moistener wick provided with a backing spring whereby the tension of the wick against the gummed paper surface may be varied.

A further object of the invention is the provision of a tape machine having a diagonally disposed master feed roller whereby the tape is given a transverse oscillatory movement as it is moved outwardly by said feed rollers.

Another object of the invention is the provision of a tape feeding and cutting unit that is removably mounted in the tape carrying case.

Reference will now be had to the drawings wherein:

Figure 1 is a side elevation of a gummed paper tape machine embodying this invention.

Fig. 2 is a plan view of the tape machine with the cover broken away.

Fig. 3 is an enlarged fragmentary sectional view of the forward end portion of the machine.

Fig. 4 is an irregular sectional view taken on line IV-IV of Fig. 3.

Fig. 5 is a fragmentary sectional view taken on line V-V of Fig. 3.

Fig. 6 is a sectional view taken on line VI-VI of Fig. 5.

Throughout the several views like reference characters refer to similar parts and the numeral 10 designates a case open at the top and having side walls 12 and 14. A cover member 16 hinged at one end of case 10 by means of a pin 18 is adapted to cover the case and is provided adjacent its forward end with a transverse slot 20 through which the tape T is fed. The rear side of slot 20 is formed by an intumed arcuate lip 22 which serves as a guide for the tape as herein-after set forth.

A vertically disposed partition 24 spaced apart from the front end of case 10 serves to form a water compartment 26 into which is immersed a wick 28. This wick 28 comprises a fabric wick member 30 provided with a resilient backing plate 32 which is adapted to be adjusted so as to vary the tension of the upper portion of the wick member 30 against the arcuate lip 22. It will be noted that the lower portion of wick 28 is fitted between partition 24 and the spaced apart vertical disposed lugs 34. When so positioned the water in compartment 26 will be fed to the upper extremity of the fabric wick mem-

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ber 30, so as to contact and moisten the tape T passing therebetween. While the tape material is relatively stiff, yet if the tension exerted by the plate 32 is too great, it will cause the tape to buckle and jamb the machine. It is therefore necessary that the operator adjust the spring member 32 to the exact tension required to properly moisten the gummed surface of tape T without restricting its free movement from the machine.

Referring to Figs. 1 and 2 it will be noted that the tape T is mounted in case 10 on suitable cross bars 36 which are shouldered at 38 to properly center tape T of different widths. With the cover member 16 pivoted at the rear end of the case, it is quite apparent that the cover member may be moved to the raised or open position without interfering with any of the adjustments of the machine and when repositioned by simply lowering the cover, the machine will be in position to operate.

The tape operating mechanism 39 including the tape feed and the cutting shears are assembled into one unit which is easily positioned in the case 10 and attached by means of screws 40 to bosses 42 integral with side walls 12 and 14. This tape operating mechanism comprises a U-shaped frame 44 having a base 41, and vertical end walls 43 and 45 in which is rotatably mounted a horizontally disposed operating shaft 46. This shaft is provided with a sleeve 48 having a hub 50 to receive the master feed roller 52. Sleeve 48 is secured to shaft 46 by pin 54.

By referring to the Figs. 2, 4, and 5 it will be noted that the master feed roller is disposed slightly diagonally to the axis of shaft 46. In other words, the center major plane of the feed roller 52 is not at right angles to the axis of shaft 46 thus giving it a slightly wobbling motion as the shaft 46 is rotated. A compression spring 56 positioned between frame 44 and the sleeve 48 acts as a brake and also serves to maintain the master feed roller 52 substantially in the center of the tape at all times. This special positioning of the feed roller tends to cause a slightly transverse movement of the tape being fed over the moistening wick member 30, thus insuring a better moistening operation.

The base 41 is provided at its forward edge with a downturned lip 58 to which is attached a stationery shear blade 60 by means of screws 62. One end portion of blade 60 extends outwardly through a slot 64 formed in side wall 12. A movable shear blade 66 is pivoted by pin 68 to the outer end portion of the stationery blade.

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A stop pin 70 serves to limit the upward movement of blade 66. A coil spring 72 is so constructed and positioned so as to constantly urge blade 66 against blade 60 to facilitate proper cutting and to always urge blade 66 to open position. A finger 74 hinged to the outer end of blade 66 for limited oscillatory movement relative thereto by means of pivot pin 76 for operating the shear as hereinafter described. It will be noted that finger 74 is U-shaped in cross section and straddles the blade 66 and is free to pivot relative thereto through limited angles. When in the position shown in Fig. 4, finger 74 is secured against further downward movement relative to the blade 66 by the inclined end portion of said blade. When the crank handle 96 is below finger 74 it can raise the finger 74 out of its path of travel without moving the blade 66. Finger 74 extends through slots 75 and 77 formed in case 10 and cover 16 respectively.

The base 41 of frame 44 is slotted at 78 to receive the floating tension roller 80 which is rotatably mounted on a shaft 82 having flattened end portions 83 which slide in slots 84 formed in the side walls 86 of bracket 88 secured by screws 90 to the under side of base 41. A V-shaped tension spring 92 rests on bracket 88 with its outer end portions resting respectively against opposite end portions of shaft 82 whereby the roller 80 is constantly urged toward the master feed roller 52. Shaft 82 can not rotate, but can move vertically in slots 84 to permit proper positioning of rollers with the tape therebetween whereby the tape is fed from the machine.

A tension spring 94 secured at its opposite ends to the end walls 43 and 45 is formed to extend in front of feed roller 52 and rest on tape T to maintain the tape in flat position after it leaves the feed rollers.

An operating crank 96 is mounted on shaft 46 for limited free rotary movement by means of fixed end washer 98 and radially disposed pin 100 carried by the shaft 46. A pin 102 carried by the hub 104 of the crank which serves to engage pin 100 to drive the feed roller 52 to deliver the tape and also permit of a backward movement of the crank to permit the operation of the shears whereby the tape is severed.

When the crank is operated to move the tape from the machine the crank 96 strikes the finger 74 and moves it out of the path of travel of the crank 96, so that as much tape as is desired may be fed from the machine.

When it is desired to sever the tape the operator simply reverses the direction of movement of crank 96 until it strikes finger 74 and moves it downwardly to cause a shearing of the tape. The shear blade is limited in its downward movement after the shearing operation is completed so that the movable blade will be in position to be urged to its raised normal position by the action of spring 72. An arcuate guide member 106 is secured to U-frame 44 to direct the tape from the feed rollers outwardly and upwardly so that it will pass between lip 22 and wick 30.

In the operation of this machine the roll of

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tape is positioned on cross bars 36 in case 10 and the end thereof is passed between rollers 52 and 80. The operator by turning the crank 96 in a clockwise direction will cause the tape to be fed between lip 22 and the moistened wick 30 whereby the tape will be moistened. When the proper length of tape has been fed forwardly beyond the shear blade 60 the operator reverses the rotation of crank 96 to the anti-clockwise direction to engage the finger 74 and force the movable shear blade 66 to the cutting position whereby the tape is severed. As the tape is pulled from the machine the inner end portion thereof is moistened.

The tape within the machine is now definitely separated from the moisture, and will not contact wick 30 until the next feeding operation is made by the operator.

Short or long pieces of tape may be fed from this machine at the option of the operator, and each piece will be freshly moistened from end to end during the current delivery operation and no moistened portion of the tape will be left in the machine.

What I claim as new and desire to cover by Letters Patent is:

1. In a tape dispensing machine and open top case, a cover member adapted to close said case and having a depending lip adjacent a tape delivery slot formed therethrough, a manually operable tape feeding and severing unitary member removably mounted in said case and operable to deliver sections of tape through said delivery slot, and a spring actuated moistening wick adapted to contact and urge tape passing from said feed rollers against the depending lip of said cover member.

2. In a tape dispensing machine an open top case, a hinged cover member adapted to close said case and having an arcuate lip adjacent a tape delivery slot formed therethrough, a manually operable tape feeding and severing unitary member removably mounted in said case and including means operable to selectively deliver predetermined lengths of tape through said delivery slot, and a spring actuated moistening wick adapted to contact and urge tape passing from said feed rollers against the depending lip of said cover member.

HARRY F. GILLIAM.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,726,089	Uttz	Aug. 27, 1929
1,783,679	Shay	Dec. 2, 1930
2,175,959	Goldstein	Oct. 10, 1939
2,348,067	Hoitt	May 2, 1944
2,349,564	Ryan et al.	May 23, 1944
1,250,791	Brownson	Dec. 18, 1917
1,849,759	Hermann	Mar. 15, 1932
2,099,647	Gautier	Nov. 16, 1937