

Nov. 2, 1943.

A. P. KRUEGER ET AL

2,333,108

TAPE-SERVING MECHANISM

Filed May 2, 1940

3 Sheets-Sheet 1

Fig. 1.

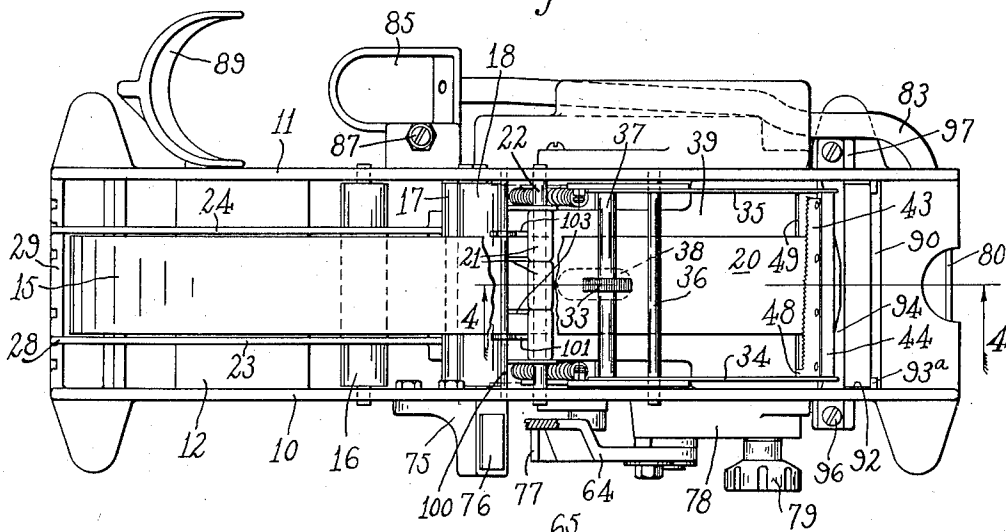


Fig. 2.

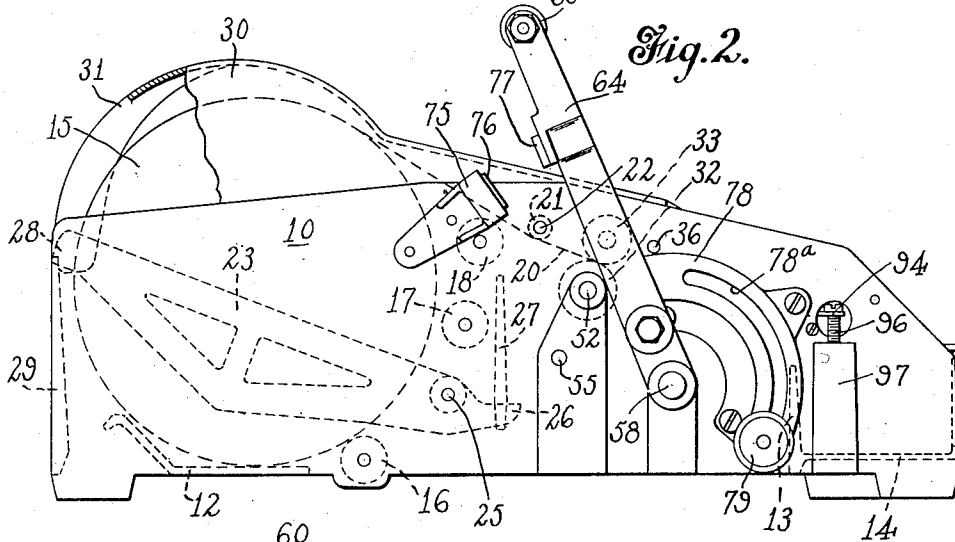
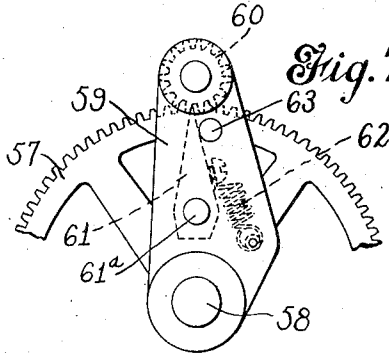


Fig. 7.



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Fig. 3.

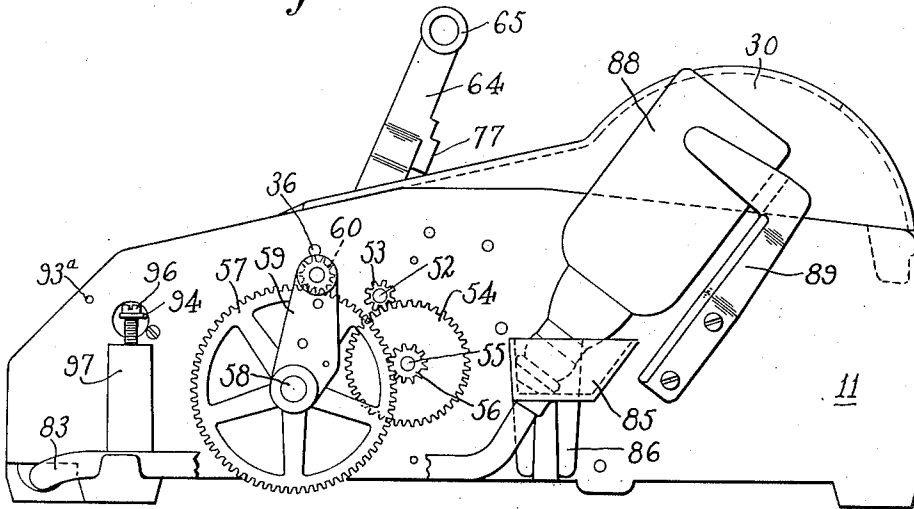


Fig. 8.

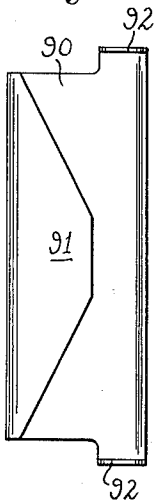


Fig. 9.



Fig. 10.

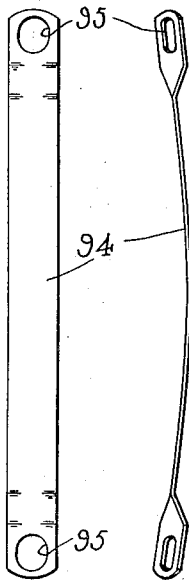


Fig. 11.

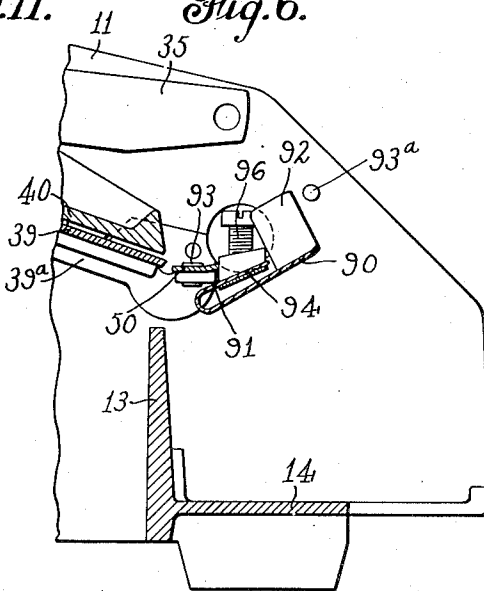


Fig. 6.

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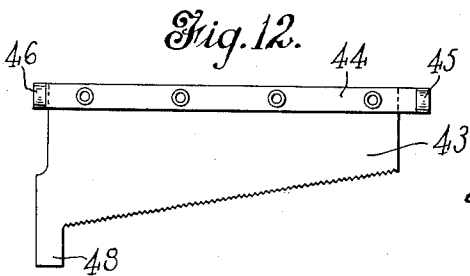
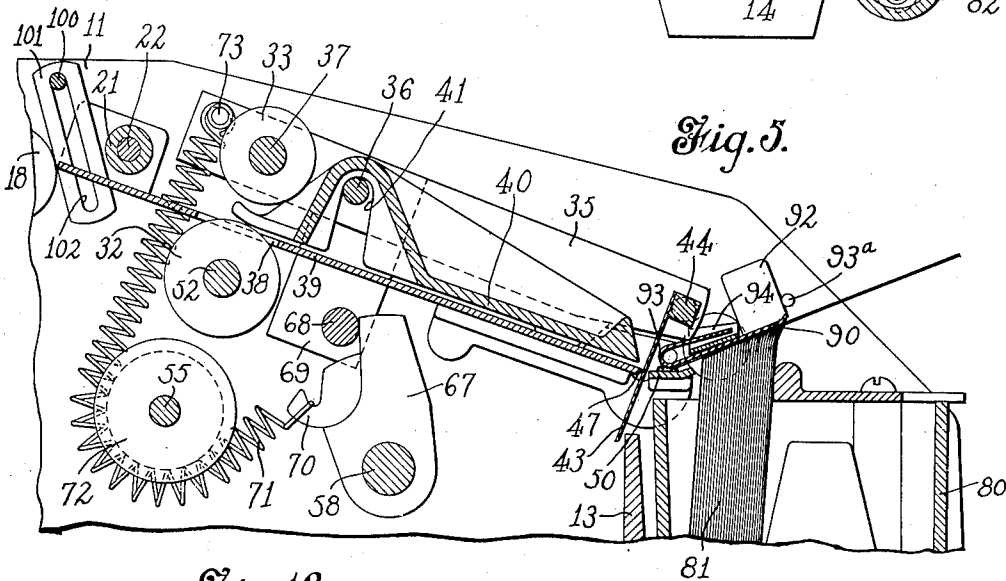
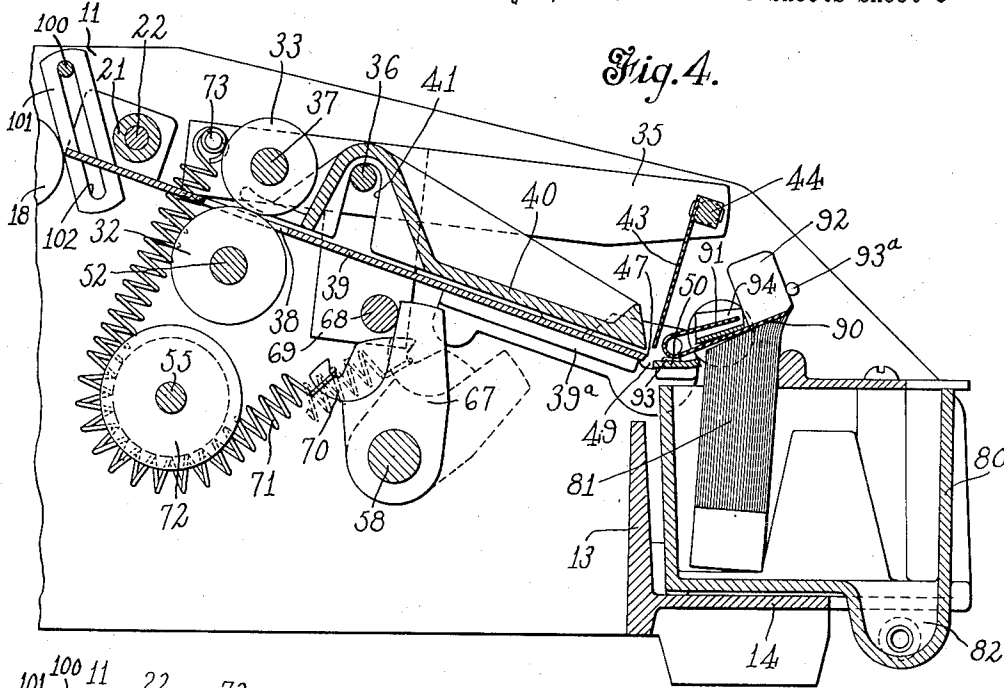
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TAPE-SERVING MECHANISM

Filed May 2, 1940

3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

2,333,108

TAPE-SERVING MECHANISM

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Application May 2, 1940, Serial No. 332,948

15 Claims. (Cl. 164—43)

This invention relates to tape-serving machines, and more particularly to a device designed to deliver a strip of gummed tape for sealing packages, parcels, boxes or the like. Such tape is commonly made of paper, and is furnished in rolls, the tape being gummed upon one surface, which may be wound in such direction that the gummed surface is either on the inner side or the outer side of the strip when in the roll.

As the tape is in a continuous strip, it is advantageous to provide a device which will not only deliver the strip of tape with the gummed side properly moistened for adhering to the package or parcel, but also to provide for the cutting off of a length of the strip to save the operator the necessity of tearing it or cutting it manually. Moreover, it is desirable that the cutting-off operation be performed in a substantially automatic manner by the machine; that is, that the cutting-off operation will be performed by the device when it is operating in the usual manner to deliver the strip of tape from the machine, and without any additional operations which must be performed specifically for the cutting off of the strip.

It is also desirable in a machine of this character to arrange for a variation in the length of the strip of tape delivered, so that the machine may be set to deliver strips of various lengths, as may be required according to the use to which the device is put. It is also desirable to provide a serving machine of this character with tape-feeding means so arranged that the parts will be automatically placed in a feeding position at the end of each operation, and the feed begin immediately upon the initiation of a subsequent operation. It is, of course, also necessary that the feed be stopped during the operation of the cut-off mechanism, and that the tape feed be a positive one in order that the operator may rely upon a given length of tape being fed out upon each stroke of the operating lever or handle.

One object of the invention is the provision of a tape-serving machine having mechanism for cutting off a length of tape after delivery of the same from the machine, and so constructed that it may be economically manufactured and at the same time be positive and efficient in operation.

Another object of the invention is the provision of a device of the character described having a roll-holding device for supporting the roll of tape, which may be adjusted for tape of various widths.

A still further object of the invention is the provision of mechanism for cutting off a strip of tape of improved form and operation.

Still another object of the invention is the pro-

vision of a tape-serving device of the character described such that the tape will be fed forward positively at each stroke of the operating lever, but will be halted at the end of such stroke before the cutting operation takes place.

Still another object of the invention is the provision of a tap-serving machine of the character described, which will at the end of each operation be normally placed in position to feed the tape forward at once upon the initiation of a subsequent operation.

A further object of the invention is the provision of means for effecting operation of the cut-off mechanism upon the back stroke of the operating handle, the mechanism being so arranged that the handle by its momentum is carried in a rearward direction beyond its normal position of rest, and automatically brought back to the normal position of rest after the cutting stroke, in which position the device is set to immediately begin the feeding of an additional strip to tape upon a subsequent actuation of the operating lever.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a top plan view of a tape-serving device embodying our invention, the cover of the device being removed to expose the interior parts;

Fig. 2 is a side elevational view of the device;

Fig. 3 is a view similar to Fig. 2 but showing the opposite side of the device;

Fig. 4 is a partial longitudinal sectional view on line 4—4 of Fig. 1;

Fig. 5 is a view similar to Fig. 4 but showing the parts in another position;

Fig. 6 is a sectional view of the forward portion of the machine showing the manner of dismounting the pressure plate for the purpose of cleaning the machine;

Fig. 7 is an enlarged detail view of the operating gearing;

Fig. 8 is a detail plan view of the pressure plate;

Fig. 9 is a side elevational view of this plate;

Figs. 10 and 11 are respectively plan and front elevational views of the pressure plate spring; and Fig. 12 is a detail view of the cut-off knife.

To illustrate a preferred embodiment of our invention we have shown in the drawings a tape-serving device comprising a supporting frame which may be a casting having upstanding side members 10 and 11, these members being joined by transverse webs 12, 13 and 14. The web 12 acts as the lower portion of the tape-holding

cradle or basket at the rear of the machine, and as shown in Figs. 1 and 2, a roll of tape 15 is supported in this basket.

Rotatably mounted between the side members or side walls 10 and 11 are rollers 16, 17 and 18, the former serving as a rest or support for the lower portion of the roll 15, and the latter two serving to limit the forward movement of this roll when the tape is drawn therefrom. In Fig. 2, for example, the strip of tape being drawn from the roll is shown at 20 as being delivered from the upper portion of the roll 15, which would be the case if the gummed surface of the tape was at its inner surface. If the tape is so rolled that the gummed surface is outside, it is placed in a reverse position in the tape basket, so that the strip comes from the lower side instead of from the upper side of the roll, and is in this case guided over the roller 18. As also shown in Fig. 2, the tape is guided below a roller or series of rollers 21 rotatably mounted upon a shaft 22 secured in the side walls 10 and 11.

It is desirable to have the roll of tape 15 confined against lateral movement when in the machine, and in order to do this and also provide for the use of tapes of various widths, we provide a pair of lateral supports 23 and 24 which are slidably mounted on a rod 25. The upper edges of the toe portions 26 of these members are adapted to engage in slots in the lower edge of the transverse web 27, while the lower edges of the heel portions 28 of these members are adapted to engage in slots in the transverse web 29 at the rear of the machine. It will be seen that by raising the heel portions of the members 23 and 24 these members are rotated about the rod 25, and both heel and toe portions disengaged from the slots in the web members 27 and 29. They are then free to be shifted along the rod 25, and re-engaged with other slots in the web members 27 and 29 to hold them in a position of nearer or more remote spacing. It will be understood that as many of the slots or notches as are considered desirable may be provided in the web members 27 and 29, so that any necessary adjustment of the lateral supporting plates or members 23 and 24 may be effected, and thus rolls of any desired width be accommodated and properly centered between the side walls 10 and 11.

The rear portion or roll-containing portion of the device may be closed by means of a cover 30 so shaped as to give the tape roll 15 sufficient freedom, and this cover will preferably have an opening 31 at the rear end of the device, the purpose of which will be explained hereinafter.

The tape 20 after leaving the lower surface of the roller 21 is adapted to be passed between a pair of feed rollers 32 and 33. The roller 32 is positively driven, as will be hereinafter explained, while the roller 33 is rotatably mounted in a knife frame comprising side members 34 and 35, which frame is pivoted upon the transverse member 36. The arms 34 and 35 of the pivoted knife frame are connected at their rear ends by the transverse rod 37, and the roller 33 is rotatably mounted upon this rod. It may here be mentioned that as the knife frame pivots about the pivot shaft 36, the roller 33 may be brought into or out of contact with the roller 32, these rollers contacting with each other when no tape lies between them through an opening 38 in the tape-supporting plate or table 39.

This tape-supporting table may be supported

in any desired way between the side walls 10 and 11. As shown, the rear end of the table is hung upon the rod 22 and supported at its front end by brackets 39^a. Above the table 39 is a cooperating cover plate 40 provided with a slot 41 by means of which it may be slipped over and supported by the pivot shaft 36 of the knife frame, and the cover plate 40 provides a horizontal guide slot between its lower surface and the table 39, through which the tape passes in flat condition.

The cut-off knife, designated by the numeral 43, is shown particularly in Figs. 4, 5 and 12, and as shown is secured to one face of an elongated member 44, this member having circular end portions 45 and 46 received in openings in the forward ends of the arms 34 and 35 of the knife frame. These arms are resilient so that they may be spread apart to receive the ends of the member 44, or to permit the ends to be disengaged therefrom so that the knife may be readily attached to and detached from its pivoted frame. It will also be apparent from an inspection of Figs. 4 and 5 that the member 44 is pivotally attached to the arms 34 and 35, and that the knife blade is secured to this member at a point eccentric to this pivotal axis. Therefore, pressure of the knife upon the strip, as occurs when a length of the strip is being severed, will tend to rotate the knife and member 44 about its pivotal axis in the arms 34 and 35. This rotation, so far as is permitted, will be in a clockwise direction, and will, therefore, tend to maintain the knife blade during its cutting operation against the forward edge 47 of the plate 39, which edge acts as a shear plate in conjunction with the knife blade to sever the strip.

As shown in Fig. 12, the cutting edge of the knife 43 is inclined to the horizontal, so that it engages the paper strip at successive points across the width thereof, thus lessening the resistance as compared to that which would be encountered if the entire strip were severed at the same instant. Moreover, the cutting edge is serrated so that there will be no tendency of the knife to move the strip of paper transversely during the cutting operation. At one edge the blade is provided with a depending tongue or lip 48, which lip is at all times during the operation of the machine guided within the slot 49 between the cutting edge 47 and an edge of a guide plate 50, through which slot the knife moves in the cutting operation. This guide lip insures that the knife will never strike one edge or the other of the slot 49, and thus fail to operate.

The positively driven feed roller 32 is secured upon a shaft 52 rotatably mounted in the side walls 10 and 11, and having one end projecting from the side wall 11 to carry a pinion 53 meshing with a gear 54 rotatably mounted upon a shaft 55, and having secured thereto a pinion 56, which pinion is in mesh with a driving gear 57 rotatably mounted upon a transverse shaft 58. The gear 57 is driven from the transverse shaft 58 by means of a crank arm 59 secured to this shaft and rotatably carrying at its outer end a pinion 60 which is held against rotation in one direction by means of a pawl or finger 61 pivotally mounted at 61^a upon the arm 59, and urged by a spring 62 against a pin 63 on this arm. This structure is shown more particularly in Fig. 7, and it will be seen that as long as the pawl 61 is held against the pin 63 its outer end engages the teeth of the pinion 60, and will prevent this pinion from rotating. Thus this pawl or finger 61 will prevent the pinion 60 from rotating in a

counter-clockwise direction, as shown in Fig. 7, but will permit the pinion to rotate in a clockwise direction, as in such case the finger 61 will be moved away from the pin 63, and thus will be moved to position to disengage the teeth of the pinion. The teeth of the pinion 60, being engaged with those of the gear 57, will move idly over the latter when the crank arm 59 is rotated by the shaft 58 in a clockwise direction, as shown in Fig. 7, as this will tend to rotate the pinion in a clockwise direction. However, when the crank arm 59 is moved in the opposite direction, this would tend to rotate the pinion 60 in a counter-clockwise direction, which would be resisted by the finger 61, as the latter would rest against the pin 63, and the gear 57 would thus be locked to the pinion 60 and would be rotated with the crank arm 59. The shaft 58 projects from the opposite side of the machine, as shown in Fig. 2, and upon its projecting end is secured the operating lever 64, having a handle 65 to be engaged by the operator.

From the foregoing description it will be apparent that when the lever 64 is moved in a counter-clockwise direction, as shown, for example, in Fig. 3, this will effect rotation of the gear 57, and the train of speed increasing gearing which connects this gear with the pinion 53 to drive the latter in a counter-clockwise direction, as shown in this figure, and thus deliver a strip of tape from the forward or left-hand end of the machine, as shown in Fig. 3.

Secured to the shaft 58 adjacent the side walls 10 and 11, as shown in Figs. 4 and 5, are a pair of arms 67, one adjacent each side wall, the upper ends of which engage a rod 68 connecting members 69 depending from the arms 34 and 35 of the knife frame. Upon each of the arms 67 is a hook 70, to which is secured one end of a coil spring 71, which springs pass about sheaves 72 on shaft 55, and have their other ends secured to pins 73 on the arms 34 and 35. It will thus be apparent that the pull of the tension springs 71 on the pins 73 will tend to rock the arms 34 and 35 about the pivot shaft 36 to the position shown in Fig. 4, where the feed rollers 32 and 33 are in engagement with each other in feeding position. It will also be apparent that the pull of the other end of the spring upon the arm 67 will, through the engagement of this arm with the rod 68, tend to rock the knife-carrying frame in the other direction, or tend to move the knife downwardly to the position shown in Fig. 5. However, it will be observed that the leverage of the power exerted by the spring on the pin 73 is greater than that at the other end of the spring, and the knife frame will, when the device is at rest, remain in the position shown in Fig. 4.

During an operative stroke of the lever 64, the shaft 58 will be moved in a clockwise direction, as shown in Figs. 4 and 5. This movement will move the arm 67 away from the rod 68, and also place further tension upon the spring 71 so that the roller 33 will be urged more strongly against the roller 32. As the lever is moved further in a clockwise direction, the spring 71 will be further tensioned until, when the lever is released, this spring will cause it to fly back in a counter-clockwise direction until it strikes the stop 75 (Fig. 2). This stop may be provided with a buffer pad 76, and a similar pad 77 may be provided on the lever to lessen the noise and shock of the contact of these two members. It will be understood that this return movement of the

lever 64 under the impulse of the spring 71 will carry the lever beyond its normal position, shown in Fig. 4, to the position shown in Fig. 5, and the arm 67, contacting with the rod 68, will cause a downward operative stroke of the knife-carrying frame to sever the strip of paper which has been delivered from the machine. After the parts reach the position shown in Fig. 5, under their momentum induced by action of the spring 71, they will then return to the position shown in Figs. 2 and 4, in which the feed rollers 32 and 33 are in contact ready for a subsequent feeding operation. It will be observed from Fig. 5 that these rollers are drawn out of contact upon descent of the knife blade 43, and the upper roller 33 is carried by the knife frame.

Secured upon the side wall 10 is a member 78 of quadrantal shape, having a slot 78^a therein. Within this slot may be adjustably positioned a stop member 79, whereby the forward throw of the lever 64 may be limited. By positioning the member 79 at various places along the slot 78^a, the forward throw of the lever may be controlled to deliver the desired length of tape from the machine.

Supported upon the web 14 at the forward end of the machine, as shown particularly in Fig. 4, is a receptacle 80 within which is positioned a moistening element such as the brush 81. The receptacle 80 is provided with a sump 82 from which a hose 83 (Figs. 1 and 3) leads to a shallow pan 85 adjustably mounted on the side wall 11 in guides 86. The height of this receptacle is controlled in a usual manner by means of the screw 87, so that the level of the liquid in the receptacle 80 may be varied. A water container such as a bottle 88 may be supported by the cradle 89 secured upon the wall 11, the lower open end of the bottle being received within the vessel 85. This arrangement will maintain a fixed level of liquid in the receptacle for a given height adjustment of the vessel 85 so that the moistening element 81 will always be properly moistened.

A pressure plate 90 is provided above the tip of the brush 81, the strip of tape 20 as it passes from the machine being passed between the brush and this pressure plate to be properly moistened by the former. This pressure plate is of the form shown in Figs. 8 and 9. One end 91 is bent over upon the plate proper, while at the sides are up-standing ears 92 at substantially right angles to the surface of the plate. As shown more especially in Fig. 4, the doubled edge of the plate is adapted to rest upon rivets 93 upstanding from the guide plate 50, so that there is always room between the guide plate and the pressure plate for the strip of tape. The other edge of the pressure plate is held in position by contact of the ears 92 against inwardly projecting pins 93^a on the side walls 10 and 11. The plate is forced downwardly against the tips of the bristles of the brush by a flat bowed spring 94, shown in Figs. 10 and 11, this spring having somewhat elongated openings 95 adjacent its ends whereby it is mounted upon screws 96 threadably adjustable in lugs 97 on the side walls of the frame. As shown in Fig. 3, the spring contacts the head of the screws, and by lowering the screws in the lugs the pressure of the spring on the pressure plate may be increased.

From inspection of Figs. 4 and 5, it will be apparent that the lower run of the pressure plate is not exactly parallel to the upper surface of the brush, but that the forward edge of the

plate rests upon the ends of the bristles, while the rear edge of the plate is supported upon the rivets 93. Thus the forward edge of the brush is subject to greater pressure from the pressure plate than the rear edge, and as a result the rear edge of the brush will contain more water than the forward edge. This arrangement has the advantage that the rear edge of the brush will deliver a considerable quantity of water upon the lower gummed edge of the tape, which when it passes forwardly over the forward edge of the brush will be effectively spread out over the surface of the tape so that the latter will be properly moistened. In other words, the rear edge of the brush serves to apply the greater part of moisture to the tape, while the forward edge of the brush serves to spread the moisture over the surface.

It will be understood that while the pressure plate will normally be held in position between the forward edge of the spring 94 and the pins 93^a, it may be readily moved from the position shown in Figs. 4 and 5 to the position shown in Fig. 6, where the guide plate 50 will be exposed for purposes of cleaning. To effect this result, the forward portion of the pressure plate is moved upwardly until the lower edges of the ears 92 clear the pins 93^a. The plate may then be moved forwardly with relation to the spring, which is allowed considerable freedom between the parts 90 and 91 of the pressure plate, until the rear edge or right portion thereof clears the front edge of the guide plate 50. At this time the rear edge of the pressure plate may then be moved downwardly to a level below the guide plate 50, as shown in Fig. 6, the spring 94 at this time also being moved downwardly and its ends sliding upon the screws 96. The guide plate 50 is then exposed so that it may be cleaned, and at the same time the pressure plate and associated parts have merely been moved to another position without complete detachment from the machine, so that there is no likelihood of these parts becoming lost.

The operation of the device may now be briefly described. With the parts in position shown in Figs. 1, 2 and 4, and the forward end of the tape threaded between the rollers 32 and 33, the operator grasps the handle 65 and pulls the lever 64 forwardly until he has delivered the desired length of tape or until the motion of the lever is arrested by the stop 79. This causes the tape to travel between the plate 39 and the cover plate 40 over the slot between the shearing edge 49 and the guide plate 50, and between the pressure plate 90 and upper edge of the brush 81, whereby the lower surface of the tape is properly moistened.

The handle is then released, and the spring 71, which has been tensioned by the rotation of the arm 67, urges the lever 64 rearwardly with considerable momentum, so that the lever strikes against the buffer 76 of the stop 75. This is the position of the parts shown in Fig. 5 in which the arm 67 has contacted the rod 68 and swung the knife frame about its pivot 36 so as to sever the tape. It will be noted that at this time the feed roller 32 is raised out of contact with the roller 33, and it may also be stated that there is sufficient friction between the parts so that when the forward movement of the lever 64 is arrested, there will be no further substantial movement of the feed rollers 32 and 33 due to momentum of the parts.

There may be a further unrolling of the tape

20 from the roll 15 due to the momentum of this roll, and the fact that it lies loosely within the supporting cradle, and in such case the excess of the material lying between the roll and the feed rollers 32 and 33 will "explode" rearwardly through the opening 31 in the cover, and will not tend to double up between the roll and the feed rollers so as to clog or jam the feed upon a subsequent operation.

After the severing of the tape, as shown in Fig. 5, the spring 71 will bring the parts back to the position shown in Fig. 4, where the knife is in raised position and the rollers 32 and 33 are in contact for a further operation. The provision of the roller 33 and knife upon the same swinging frame always insures that there will be no feeding of the tape forwardly unless the knife is in position to allow such feed.

Although the supporting members 23 and 24 may be adjusted to closely support the roll 15 and hold it in proper position, it may be that the strip of tape in unwinding from the roll will wander or tend to travel to one side under certain conditions. As shown in Figs. 1, 4 and 5, a rod 100 extends transversely across the machine and is supported in the side wall members 10 and 11. A pair of guides 101 are loosely supported on this food. These guides are merely flat elongated members having an elongated closed slot 102 formed therein, which slot receives the rod 100 so that the guide members are loosely supported on the rod and depend freely therefrom to have their lower ends received in one or another of a series of slots 103 formed in the rear end of the table 39 and preferably opening through the rear edge of this table.

These slots 103 will preferably register with slots in the transverse web 29 at the rear of the machine, which slots receive the rear ends of the members 23 and 24, and it will be obvious that when the guide members 101 hang from the rod 100, as shown in Figs. 4 and 5, with their lower ends received in the slots 103, they will be held against lateral movement on the rod 100 by these slots in positions closely adjacent the edges of the tape, and will guide the tape in its movement through the machine. As also shown in Figs. 4 and 5, the members 101 are kept in position longitudinally of the machine by the rollers 18 and 21. When it is desired to adjust the guides 101 to a different position, they are merely grasped by the fingers and raised upwardly until the lower ends clear the slots 103, when they may be moved to position to be received in the adjacent slots, or may be moved to a position adjacent the side members 10 and 11 for a roll of tape of extreme width, in which case their use will be unnecessary. It will also be seen that whether these guides are in use or are inoperative, they are at all times suspended upon the rod 100, and therefore are not subject to being misplaced.

While we have shown and described a preferred embodiment of our invention, it will be understood that it is not to be limited to all of the details shown, but is capable of modification and variation within the spirit of the invention and within the scope of the appended claims.

What we claim is:

1. In a tape-serving machine, a frame having tape severing means thereon, including a knife frame pivoted on an axis extending transversely of said first-named frame, a knife pivotally carried by the knife frame, a shear plate with which said knife cooperates in shearing relation to sever the tape, the plane of said knife being eccentric

to the axis of its pivot on the knife frame and passing to the side of said axis nearest to said shear plate, whereby pressure upon the cutting edge of the knife urges the blade toward said shear plate.

2. In a tape-serving machine, a frame having tape-feeding means thereon, a knife frame pivoted on an axis extending transversely of said first-named frame, a knife pivotally carried by the knife frame, and means restraining the movement of the knife about its pivot in the knife frame, said knife frame comprising a pair of spaced resilient arms upon which the knife is carried, and said arms being separable due to their resilience to permit detachment of the knife therefrom.

3. A tape-serving mechanism comprising a frame, tape feeding means on said frame, said means being movable into and out of feeding engagement with the tape, a lever for actuating said feeding means, said feeding means being out of feeding engagement with the tape throughout the first portion of the range of movement permitted said lever in tape feeding direction and operative to feed tape throughout the remaining portion of said range, means normally maintaining said lever in position in which said feeding means is operative, a spring to effect a return stroke of said lever after an operative stroke thereof, and said spring returning said lever to the end of its return stroke at which point said feeding means is inoperative, a severing knife mounted on the frame, and means actuated by said lever toward the end of its return stroke, and when said feed means are not in tape feeding engagement for effecting a cutting stroke of said knife.

4. A tape-serving machine comprising a frame, tape-feeding means on said frame comprising a pair of feed rollers, means for driving one of said rollers including a shaft, knife-carrying means pivoted on the frame, and a severing knife carried by said means, the second of said feed rollers being mounted on said knife-carrying means whereby it is swung into and out of contact with the first roller upon movement of said knife-carrying means about its pivot, means to effect an operative movement of said shaft, a spring to effect a return movement of said shaft, said spring having one end acting upon the shaft and the other end connected to said knife-carrying frame whereby the latter will be moved to inoperative position when the spring is tensioned.

5. A tape-serving machine comprising a frame, tape-feeding means on said frame comprising a pair of feed rollers, means for driving one of said rollers including a shaft, knife-carrying means pivoted on the frame, and a severing knife carried by said means, the second of said feed rollers being mounted on said knife-carrying means whereby it is swung into and out of contact with the first roller upon movement of said knife-carrying means about its pivot, means to effect an operative movement of said shaft, a spring to effect a return movement of said shaft, said spring having one end acting upon the shaft and the other end connected to said knife-carrying frame whereby said knife is normally held in inoperative position.

6. A tape-serving machine comprising a frame, tape-feeding means on said frame comprising a pair of feed rollers, means for driving one of said rollers including a shaft, knife-carrying means pivoted on the frame, and a severing knife carried by said means, the second of said feed rollers being mounted on said knife-carrying means

whereby it is swung into and out of contact with the first roller upon movement of said knife-carrying means about its pivot, means to effect an operative movement of said shaft, a spring to effect a return movement of said shaft, said spring having one end acting upon the shaft and the other end connected to said knife-carrying frame, and additional means connecting said shaft with said knife-carrying frame whereby movement of said shaft beyond a predetermined point will effect operative movement of said knife.

7. A tape-serving machine comprising a frame, tape-feeding means on said frame comprising a pair of feed rollers, means for driving one of said rollers including a shaft, knife-carrying means pivoted on the frame, and a severing knife carried by said means, the second of said feed rollers being mounted on said knife-carrying means whereby it is swung into and out of contact with the first roller upon movement of said knife-carrying means about its pivot, means to effect an operative movement of said shaft, a spring to effect a return movement of said shaft, said spring having one end acting upon the shaft and the other end connected to said knife-carrying frame, and additional means connecting said shaft with said knife-carrying frame whereby movement of said shaft beyond a predetermined point will effect operative movement of said knife and move said feed rollers out of engagement.

8. A tape-serving machine comprising a frame, tape-feeding means on said frame comprising a pair of cooperating rollers, a knife frame pivoted on the first-named frame, and a knife carried at the forward end thereof, one of said feed rollers being carried adjacent the rear end of said knife frame, means for driving the other of said feed rollers including an oscillatable shaft, an arm secured to this shaft, a spring connected to this arm and to the knife frame whereby said spring normally holds the knife in inoperative position and the shaft in a position to begin a feeding movement.

9. A tape-serving machine comprising a frame, tape-feeding means on said frame comprising a pair of cooperating rollers, a knife frame pivoted on the first-named frame, and a knife carried at the forward end thereof, one of said feed rollers being carried adjacent the rear end of said knife frame, means for driving the other of said feed rollers including an oscillatable shaft, an arm secured to this shaft, a spring connected to this arm and to the knife frame whereby said spring normally holds the knife in inoperative position and the shaft in position to begin a feeding movement, a member depending from said knife frame, and means on said shaft adapted to engage said member to effect an operative movement of the knife frame when said shaft is moved rearwardly beyond its normal position.

10. A tape-serving machine comprising a frame, tape-feeding means on said frame comprising a pair of cooperating rollers, a knife frame pivoted on the first-named frame, and a knife carried at the forward end thereof, one of said feed rollers being carried adjacent the rear end of said knife frame, means for driving the other of said feed rollers including an oscillatable shaft, an arm secured to this shaft, a spring connected to this arm and to the knife frame whereby said spring normally holds the knife in inoperative position and the shaft in position to begin a feeding movement, a member depending from said knife frame, and means on said shaft adapted to engage said member to effect an operative move-

ment of the knife frame when said shaft is moved rearwardly beyond its normal position, said spring being tensioned by a forward movement of said shaft, and moving the latter in a return movement beyond its normal position upon release of said shaft after an operative stroke thereof.

11. In a tape serving machine a frame having tape feeding means thereon comprising a pair of cooperating feed rollers, a knife frame pivoted to said first mentioned frame and a knife in said knife frame, means for driving one of said rollers including a reciprocating feed handle, one of said rollers being mounted on the knife frame and movable in and out of contact with the other of said rollers upon movement of the knife frame about its pivot, means to effect an operative movement of said feed handle, a spring to effect a return movement of said feed handle, said spring on the return stroke acting to move the knife frame about its pivot to break the contact of the said rollers and effect operation of the knife.

12. In a tape serving machine, a frame, a secondary frame pivoted thereon intermediate its ends, and a reciprocating feed handle, one end of said secondary frame carrying a tape severing knife and the other end of said secondary frame carrying a feeding element, a spring acting on both ends of said secondary frame and normally holding said tape feeding element in tape feeding relation, said spring being tensioned by a feeding stroke of said handle and returning said handle to a position beyond its initial tape feeding position at which position of said handle said feeding element is out of tape feeding relation and said knife is in cutting relation.

13. In a tape serving machine, a frame, a rocking beam pivoted on said frame having a knife mounted thereon on one side of said pivot and a tape feeding element mounted thereon on the other side of said pivot, and a spring acting on said rocking beam on both sides of said pivot.

14. In a tape serving machine, a frame, tape feeding means mounted thereon, a throat forming a tape path and a knife adapted to sever tape by crossing said tape path, a rocking beam mounted on said frame, said knife being mounted thereon adjacent one end thereof and a tape feeding element mounted thereon adjacent the other end thereof, a spring acting on said beam at either side of said pivot positioned to render said tape feeding element inoperative when said knife is in said tape path and operative when said knife is not in said tape path.

15. In a tape serving machine, a frame, a rocking beam pivoted on said frame having a knife mounted thereon on one side of said pivot and a tape feeding element mounted thereon on the other side of said pivot, a reciprocating feed handle for effecting the operation of said tape feeding element and a spring acting on the beam on either side of said pivot, said spring, on the feed stroke of said handle, holding said feeding element end of said beam in position wherein said tape feeding element is operative and releasing said feeding element end of said beam on the non feed stroke of said handle to permit said knife to sever the tape.

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