May 16, 1950 J. W. SMITH 2,507,683

LABEL ATTACHING MECHANISM FOR WRAPPING MACHINES

Filed March 31, 1947 4 Sheets-Sheet 1

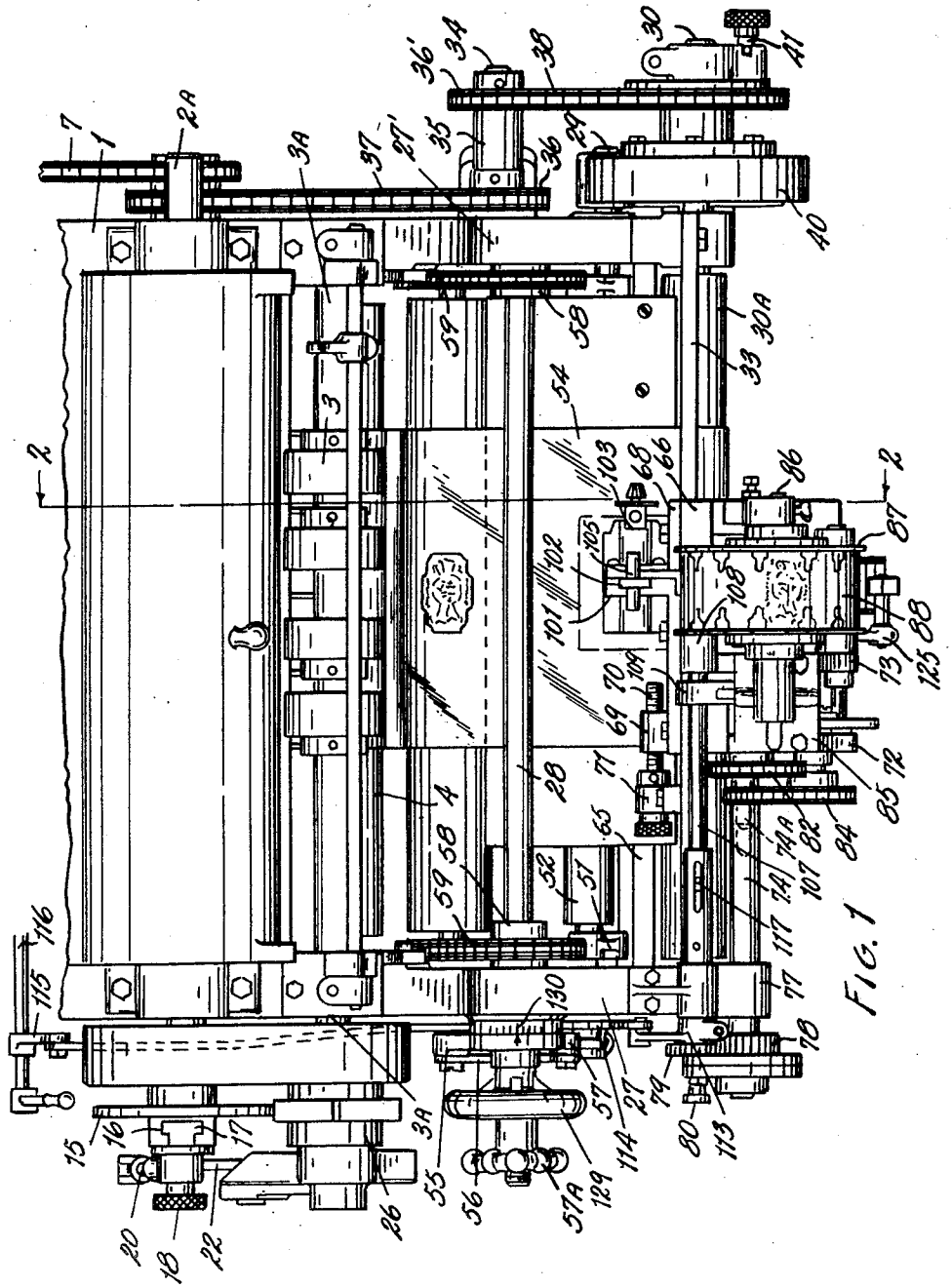

FIG. 1

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LABEL ATTACHING MECHANISM FOR WRAPPING MACHINES

Filed March 31, 1947 4 Sheets-Sheet 2

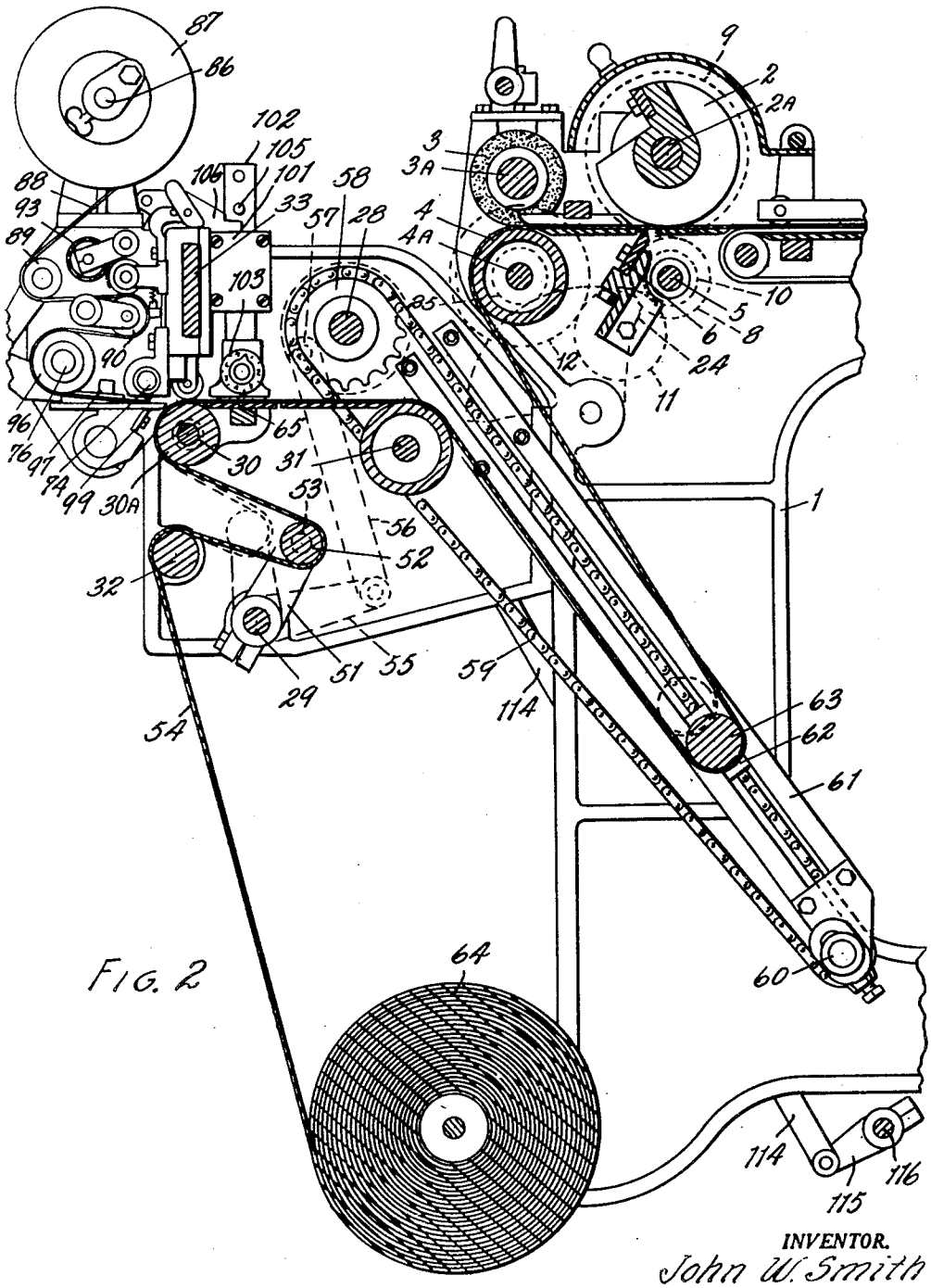

FIG. 2

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LABEL ATTACHING MECHANISM FOR WRAPPING MACHINES

Filed March 31, 1947 4 Sheets-Sheet 3

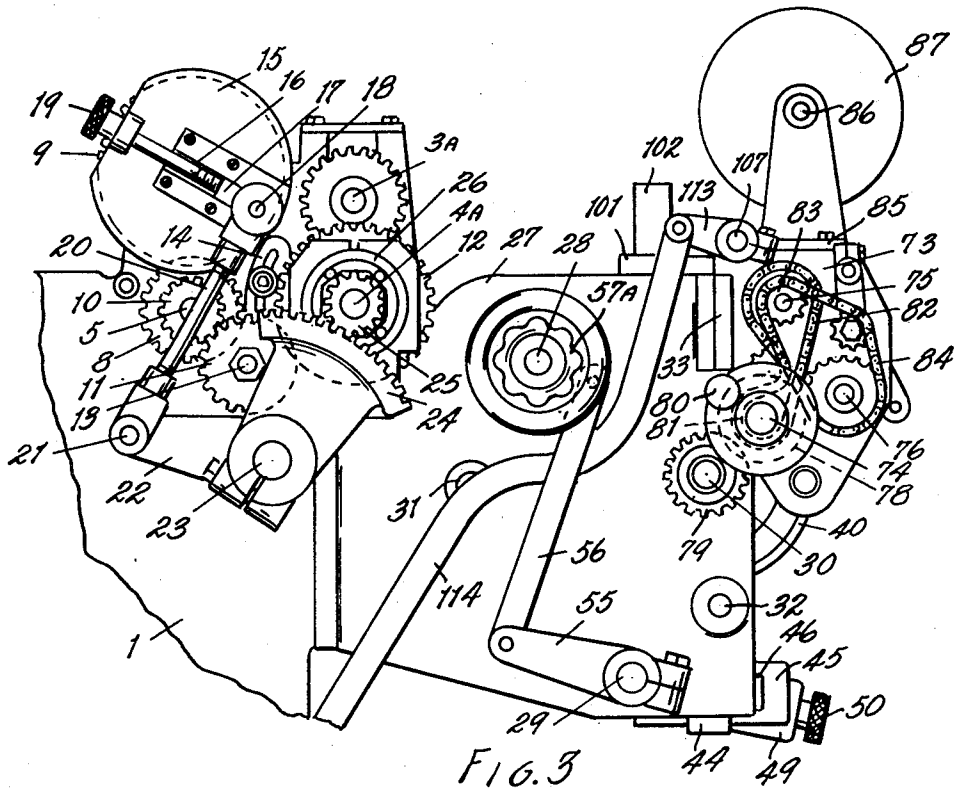

FIG. 3

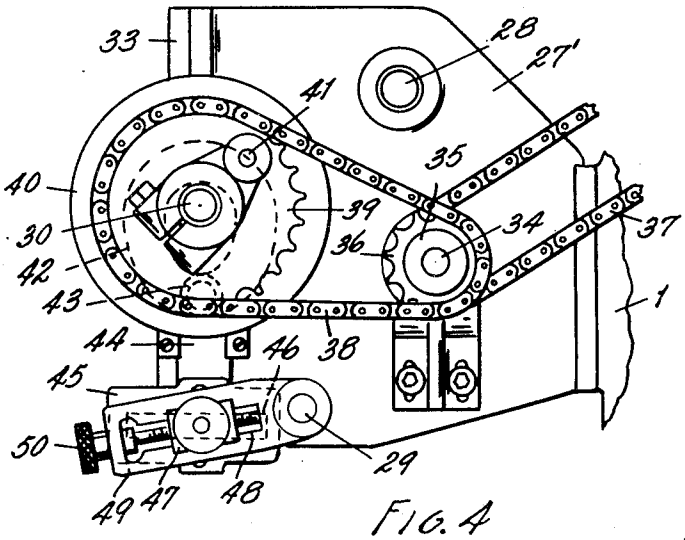

FIG. 4

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LABEL ATTACHING MECHANISM FOR WRAPPING MACHINES

Filed March 31, 1947 4 Sheets-Sheet 4

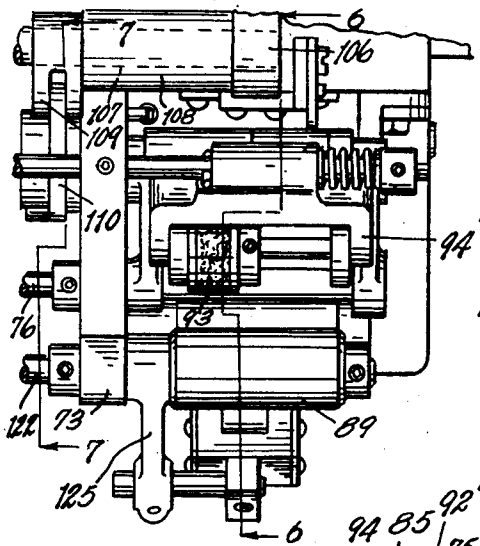

FIG. 5

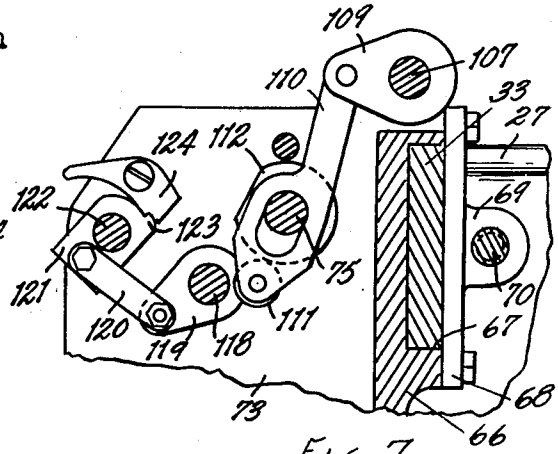

FIG. 7

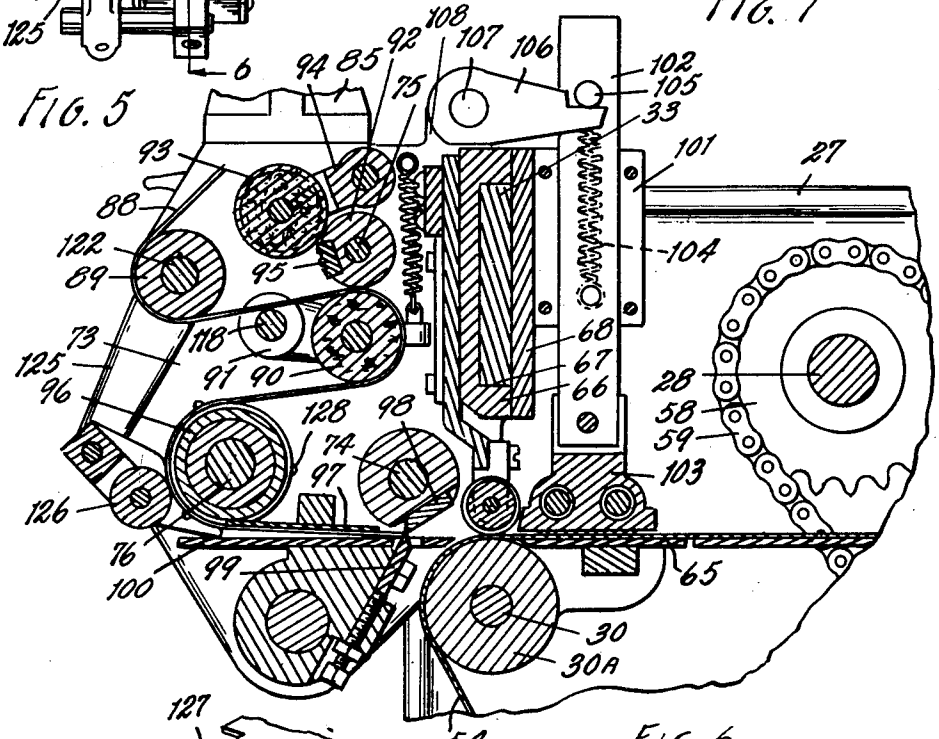

FIG. 6

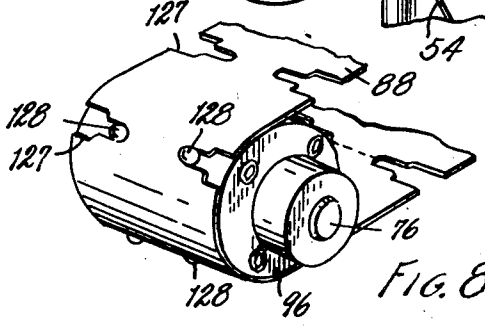

FIG. 8

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Patented May 16, 1950 2,507,683

UNITED STATES PATENT OFFICE

2,507,683

LABEL ATTACHING MECHANISM FOR WRAPPING MACHINES

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Application March 31, 1947, Serial No. 738,391

13 Claims. (Cl. 216—29)

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This invention relates to improvements in a label attaching mechanism for a wrapping machine.

The principal objects of this invention are:

First, to provide an attachment for a web fed article wrapping machine such as a bread or cake wrapping machine which will print and apply labels to proper sections of the web as it is fed into the wrapping machine.

Second, to provide a label attaching mechanism for a wrapping machine which will operate to attach a label to a portion of the web without interrupting the feed of the web to the wrapping machine.

Third, to provide paper feeding mechanism for a wrapping machine having a variable speed feed which will stop portions of the web for attaching labels thereto without interrupting the variable feed of paper into the wrapping machine.

Fourth, to provide an attachment for a wrapping machine having adjustable mechanism for taking up and feeding out slack in a continuous web of wrapping paper on both sides of a label attaching station so that the web will remain stationary during label attaching operations without interrupting the continuous flow and output of the web from the attachment.

Fifth, to provide means for feeding, severing and attaching labels from a continuous roll of labels to a web of wrapping paper in which the attaching mechanism is adjustable laterally and angularly with respect to the web to selectively locate the position of the label with relation to the edges of the web and the position of labels along the length of the web.

Sixth, to provide novel means for feeding a continuous strip of labels to an attaching mechanism which means will maintain the strip of labels in proper registry regardless of varying conditions of tension and elongation in the strip.

Other objects and advantages pertaining to the details and economies of the invention will be apparent from the description to follow and the claims.

The drawings, of which there are four sheets, illustrate a preferred form of my label attaching mechanism as applied to a wrapping machine for baked goods.

Fig. 1 is a fragmentary, plan view of the inlet or feeding end of a wrapping machine having my label attaching mechanism mounted thereon.

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Fig. 2 is a fragmentary, vertical, longitudinal, cross sectional view along the line 2—2 in Fig. 1.

Fig. 3 is a fragmentary, elevational view of the left side of the wrapping machine and label attaching mechanism as viewed in Fig. 1.

Fig. 4 is an enlarged fragmentary, elevational view of the right side of the wrapper feeding mechanism as viewed in Fig. 1.

Fig. 5 is an enlarged, fragmentary, plan view of the label feeding and printing mechanism illustrated in Fig. 1 with the label roll removed.

Fig. 6 is an enlarged, fragmentary, cross sectional view along the broken lines 6—6 in Fig. 5.

Fig. 7 is an enlarged, fragmentary, cross sectional view along the broken line 7—7 in Fig. 5.

Fig. 8 is a fragmentary perspective view of the label feeding roll in operative position relative to the strip of labels.

The wrapping machine on which my label attaching mechanism is mounted consists of suitable side frame members 1, the rear ends of which are provided with bearings for supporting a knife roll 2, pressure roll 3 and feed roll 4. The rolls are mounted respectively on a knife roll shaft 2A, pressure roll shaft 3A and feed roll shaft 4A. A driving shaft 5 positioned underneath the knife roll 2 and adjacent to the stationary knife 6 (see Fig. 2) is arranged to be driven from a suitable power source by the driving chain 7 (see Fig. 1).

As is most clearly illustrated in Fig. 3, the driving shaft 5 is provided on its left end with a gear 8 which is constantly meshing in driving relationship with a gear 9 carried on the end of the knife roll shaft 2A for rotating the knife roll at a uniform speed. The shaft 5 is also provided with a driving pinion 10 in constant driving engagement with an idler gear 11. The idler gear 11 is in constant driving engagement with a feed roll gear 12 arranged to drive the feed roll 4 in the manner which will be more particularly described presently. The idler gear 11 is mounted on a stub shaft 13 which is in turn mounted on a pivoted arm 14 having an arcuate slot therein and arranged to be clamped to the side frame 1 in various positions. By moving the arm 14 the stub shaft 13 is adjustable relative to the feed roll gear 12 for mounting various sizes of idler gears 11 thereon to vary the speed of the feed roll relative to the knife roll and thus vary the length of web fed into the machine between cut-

off cycles of the knife roll. The mechanism thus far described is more or less standard feeding mechanism for wrapping machines.

The knife roll shaft 2A carries on its left end a crank wheel 15 having a radially extending T-slot 16 formed along the outer surface thereof. The slot 16 is arranged to receive a block 17 carrying a crank pin 18. The block is adjustable radially in the slot by manipulation of the screw member 19 (see Fig. 3).

The crank pin 18 forms a pivotal connection for one end of a connecting rod 20, the other end of which is pivotally connected at 21 to a rocker arm 22. The rocker arm 22 is pivotally supported on a stub shaft 23 and is provided with an arcuate gear segment or rack 24 meshing with a pinion 25 rotatable about the feed roll shaft 4A. It should be apparent that when the block 17 carrying the crank pin 18 is located at the center of the crank wheel 15, no movement will be imparted to the rocker arm or gear segment so that the pinion 25 will remain stationary. As the block 17 is moved radially outwardly in the T-slot 16, the connecting rod and rocker arm will be actuated by rotation of the knife roll to impart an oscillating motion to the gear rack 24 and pinion 25.

The pinion 25 and the feed roll driving gear 12 are connected to two inner races of an over-running clutch generally illustrated at 26 and the clutch is provided with a central outer race fixedly secured to the feed roll shaft 4A. Thus when no motion is imparted to the arcuate rack 24, the drive of the feed roll shaft 4A will be through the idler gear 11, driving gear 12 and its associated inner race to the outer race of the clutch 26 and shaft 4A. This drive will be of constant speed and determines the minimum length of web which will be fed through the machine before being severed by the knife roll 2. As oscillating motion is imparted to the arcuate rack 24, the pinion 25 and its associated inner race will oscillate on the shaft 4A and while rotating opposite to the feed roll will be disconnected therefrom by the over-running clutch so as not to interfere with the constant feed through the driving gear 12. As the direction of rotation of the pinion 25 reverses and its rotational speed becomes greater than that of the driving gear 12, the over-running clutch associated with the pinion 25 will pick up and drive the outer race of the clutch 26 at a faster rate of speed than the driving gear 12 and its associated inner race which will then idle behind the outer race and the feed roll shaft 4A.

By means of this mechanism the feed of the web into the wrapping machine may be made to run at a constant minimum speed throughout 180° of the rotation of the driving shaft 5 and to increase to a greater speed during the remaining 180° rotation of the drive shaft. Thus the length of web fed through the feeding rolls between cut-off cycles of the knife roll may be readily varied to determine the length of wrapping sheets furnished to the wrapping machine by merely adjusting the screw 19.

The paper feeding and label attaching mechanism associated with the wrapping machine just described is provided with side frame members 27 which are bolted or otherwise secured to the rear of the side frame members 1 of the wrapping machine. The frame members 27 form supports for transversely extending rockshafts 28 and 29 and roll shafts 30 and 31 (see Fig. 2). A guide roll shaft 32 also extends between the side frame members 27. The rear ends of the side frame members 27 are connected by a cross bar 33 which forms a support for the label feeding mechanism as will be described presently.

The right side frame member 27 as viewed in the drawings is provided with a stub shaft 34 (see Fig. 4) on which is rotatably mounted a sleeve 35 having two sprockets 36 and 36' secured thereto. The inner sprocket 36 is arranged to be driven by a chain 37 from a sprocket on the right end of the drive shaft 5. The outer sprocket 36' is connected by the chain 38 to a sprocket 39 rotatably mounted on the end of the roll shaft 30. The roll shaft 30 carries a cam wheel 40 and a pin type clutch 41 is provided for connecting the sprocket 39 to the cam wheel and roll shaft. The shaft 30 may thus be connected to be driven in timed relationship to the drive shaft 5 and knife shaft 2A.

The cam wheel 40 has a closed circuit cam slot 42 (see Fig. 4) on its inner side which is arranged to actuate a cam roller 43 secured to a vertical slide bar 44 slidable along the right side frame member 27. The slide bar 44 carries a yoke 45 on its lower end having a horizontal slot 46. The slot 46 is engageable with an adjustable crank block 47 adjustably mounted in the slot 48 in the arm 49. A screw member 50 is provided for adjusting the position of the block 47 in the slot 48. The arm 49 is non-rotatably secured to the rockshaft 29 so that vertical motion of the slide bar 44 under the influence of the cam roller 43 will be transmitted through the block 47 into rocking motion of the arm 49 and rockshaft 29. The amplitude of the rocking motion may be easily adjusted by manipulation of the screw 50.

As is most clearly illustrated in Fig. 2 the rockshaft 29 is provided between the side frame members 27 with a pair of arms 51 supporting a swinging shaft 52 between their outer ends. The shaft 52 rotatably supports an intake slack roll 53 which is oscillated between the full line and dotted positions as shown in Fig. 2 to take up and give out a length of the wrapping web 54 as it is pulled in over the guide roller 32.

The left end of the rockshaft 29 is provided with a crank arm 55 (see Fig. 3), the outer end of which is pivotally connected to a connecting rod 56. The upper end of the rod 56 is secured near the perimeter of a crank wheel 57 clamped to the left end of the rockshaft 28. Thus oscillation of the rockshaft 29 will result in simultaneous and opposite oscillation of the rockshaft 28 and the amplitude of oscillation of both shafts may be controlled and adjusted by manipulation of the screw 50.

The rockshaft 28 carries just inside of the side members 27 a pair of sprockets 58 oscillatably supporting a pair of chain loops 59. The lower ends of the chain loops are passed around suitable idler sprockets on stub shafts 60 (see Fig. 2). The stub shafts 60 are supported on the lower ends of the guide bars 61 extending downwardly and forwardly from the side frame member 27. The chain loops 59 are provided with special links 62 forming bearings for an outlet slack roll 63 which is moved upwardly and downwardly by oscillation of the rockshaft 28 and chains 59. The crank wheel 57 may be released from the shaft 28 for adjustment of the chains 59 by loosening the locking hand wheel 57A.

The web of wrapping paper 54 as is shown in Fig. 2 is threaded from a supply roll 64 on the bottom of the wrapping machine frame over the guide roll 32 around the intake slack roll 53 and idler roll 30A from where it passes over a label

attaching support 65 to the idler roll 31. From the idler roll 31 the web is passed around the outlet slack roll 63 to the feed roll 4 of the wrapping machine.

Thus far it should be apparent that as the shafts 5 and 30 are driven, the feed roll 4 will deliver the wrapping web at a variable rate and the rockshafts 28 and 29 will be oscillated at adjustably fixed amplitudes depending upon the adjustment of the screw 56. As the feed shaft 4A is rotated by the driving gear 12 to feed the web at the minimum rate through the cutting rolls, the rockshafts 28 and 29 will be oscillated to raise the slack roll 63 and swing the slack roll 53 forwardly. This motion results in the intake slack roll 53 taking up slack in the web 54 as it is fed from the supply roll 64 and in the slack roll 63 feeding out slack to the feed roll 4. As a result that portion of the web positioned over the label attaching support 65 will remain stationary for attachment of the label as will be described presently. As the rotation of the drive shaft 5 and crank wheel 15 continues bringing the arcuate rack 24 into driving operation to increase the rate of speed of the feed roll 4, the slack shaft 63 will descend taking up slack in the web delivered around the idler roll 31 and the slack shaft 53 will be moved to the rear delivering the web to the roll 30A at a faster rate than the web is being supplied from the roll 64. Thus while the web is held stationary at the label applying station through a portion of each cycle, the feed from a supply roll 64 remains relatively constant, eliminating jerks and strains on the web.

The label applying mechanism is most clearly illustrated in Figs. 5, 6 and 7 and consists of a bracket member 66 having an open slot 67 on its forward side which slidingly fits the cross member 33 extending between the side frame members. A clamp plate 68 is provided on the front of the cross bar 33 for clamping the bracket to the cross bar. The clamp plate 68 is provided with an upstanding bracket 69 (see Figs. 1 and 7) having a tapped hole engageable by a screw 70 to laterally adjust the position of the bracket on the cross bar 33. The shank of the screw 70 is rotatably secured in a bracket 71 secured to the forward side of the cross bar (see Fig. 1). The head of the screw engages one side of bracket 71, while a stop collar applied on the shank engages the other.

The bracket 66 includes rearwardly extending parallel plates 72 and 73 which are bored to form bearings for a label knife shaft 74, printer roll shaft 75 and label feed shaft 76. The knife shaft 74 extends to the left beyond the plate 72 and is journaled in the left side frame 27 as at 77 (see Fig. 1) where it carries a free pinion 78 meshing with a gear 79 secured to the end of the shaft 30. A pin type clutch 80 is provided for connecting the gears 78 and 79 to the label knife shaft. The shaft 74 has a telescopic sectional construction at 74A (see Fig. 1) which permits the label feeding mechanism to be adjusted laterally on the bar 33 without interrupting the drive.

Adjacent to the left side of the rearwardly extending plate 72 the label knife shaft 74 is provided with a sprocket 81 around which is passed a chain 82 for driving the printer roll shaft 75 from the label knife shaft. The printer roll shaft 75 is provided with another sprocket 83 (see Fig. 3) for driving a chain 84 and the label feed shaft 76.

Secured to the tops of the rearwardly extending plates 72 and 73 is a bracket 85 having an upstanding arm carrying a stub shaft 86 on which a reel 87 of blank labels is arranged to be secured. The strip of labels indicated at 88 is led downwardly from the reel 87 around an idler roll 89 and forwardly over an impression roll 90. The impression roll 90 is carried on a shaft which is rockably mounted on an arm 91 spring urged upwardly against the printing roll 92 secured to the printing roll shaft 75. The inking roll 93 is carried on an arm 94 and arranged to ink the type 95 carried on the printer roll for marking each label with a date or any other indicia. From the impression roll 90 the strip of labels is led around a label feed roll 96 secured to the label feed shaft 76 from where the strip of labels is fed under a guide 97 to the knife 98 carried on the label knife shaft 74. A stationary knife 99 cooperative with the rotating knife is mounted on the underside of a support plate 100 extending from the rearwardly extending plate 73.

The clamp plate 68 which clamps the label feed bracket to the cross bar 33 is provided with a forwardly extending arm 101 forming a vertical guide slot for a label attaching bar 102. The bar 102 carries an electrically heated head 103 on the lower end thereof. The head 103 is positioned over the label attaching support 65 and the bar is urged constantly downwardly by a coil spring 104. The upper end of the attaching bar is provided with a pin 105 which is arranged to be engaged and lifted by a dog 106 secured to the rockshaft 107. The rockshaft 107 is journaled in a boss 108 on the top of the plate 73 and is provided with a crank arm 109 (see Fig. 7) connected to a link 110. The link defines a slot positioned around the printer shaft 75 and carries a cam roller 111 engageable with an attaching cam 112 rotatable with the printer shaft 75. Thus as the dater shaft rotates, the depressed portion of the attaching cam is brought into engagement with the roller 111 permitting the link and crank arm to rise and the rockshaft 107 to rotate forwardly lowering the dog 106 and attaching bar 102.

As is most clearly illustrated in Figs. 1 and 3 the rockshaft 107 extends beyond the label feeding mechanism to the side frame member 27 where it is provided with a crank arm 113 connected to a link 114 which extends downwardly to a crank arm 115 secured to a shaft 116. The shaft 116 is arranged to control the rotation of the paper supply roll 64. A sliding telescopic connection 117 is provided in the rockshaft 107 so that the label feeding mechanism may be adjusted laterally without affecting continuous operation of the shaft 107. This connection between the shaft 116 and 107 is provided so that when the machine is stopped and the rotation of the feed roll 64 stopped by actuation of the shaft 116, the link 114 and rockshaft 107 will be actuated automatically to raise the heated attaching head 103 from the web. Thus the heated head cannot be accidentally left in contact with the web when the machine is stopped and thus burn the label and web.

The arm 91 which supports the impression roll is non-rotatably secured to a shaft 118 journaled in the rearwardly extending walls 72 and 73 of the bracket 66. Between the walls 72 and 73 the shaft 118 is provided with a crank arm 119 which is connected by the link 120 to a crank 121 secured to the shaft 122. The shaft 122 is also journaled in the walls 72 and 73 and sup-

ports the idler roll 89 on its right end. The crank arm 121 is provided with an ear 123 (see Fig. 7) engageable with a locking lever 124 by means of which shaft 122 may be locked in a forwardly rotated position which will operate to swing the arm 91 and impression cylinder downwardly out of engagement with the type roll 92 so that the labels may be fed through the label feed mechanism without being printed.

The shaft 122 also carries an arm 125 on its right end, the lower end of which carries a pressure roll 126 cooperative with the feed roll 96 for feeding the strip of labels to the knife roll 74.

A feature of the feed roll 96 not readily apparent from the drawings but still of major importance in the efficiency of the label feed is the fact that the diameter of the feed roll 96 is slightly larger than would apparently be needed to feed a given length of the label strip thereabout. It will be noted that the strip of labels 88 is formed of a series of identical labels separated by notches 127 along the edges of the strip and arranged to be severed between the opposed notches to form individual labels. The feed roll 96 is provided with radially extending pairs of prongs 128 arranged to mesh in the notches 127 to positively feed the label strip to the knife roll. I have found that if the circumference of the feed roll 96 between the pairs of prongs 128 is equal to the corresponding lineal distance between the adjacent pairs of notches 127 on the label strip, the labels will not be fed evenly through the attaching mechanism and the strip will ride up on the feed roll so that the prongs will not register with the notches as would be expected. In order to correct this fault, I have found that by increasing the diameter of the feed roll slightly so that the circumferential distance between pairs of prongs 128 is slightly longer than the lineal distance between the notches of the unstressed strip of labels, the labels will feed smoothly through the feeding mechanism and the prongs will at all times register with the notches 127.

From the foregoing description it should be apparent that the label feed roll 96 and printer shaft 75 are driven in positively timed relationship with the knife roll 74 which is in turn driven in timed relationship with the feed of the web of wrapping paper to the wrapping machine. The label feeding attachment will therefore print and feed a label to the wrapping web in each cycle of the web feeding mechanism so that the label will be positioned under the heated attaching head 103 in proper relationship to the incoming web. The screw member 70 is operative to adjust the label feeding and attaching mechanism laterally of the wrapping web. The position of the labels may be adjusted longitudinally of the web by loosening the locking wheel 57A and turning the shaft 28 independently of the crank wheel 57 to raise or lower the starting position of the slack roll 63. A hand wheel 129 is keyed to the shaft 28 for this purpose and a disc 130 having measuring indicia thereon is also keyed to the shaft (see Fig. 1) to readily indicate the adjusted position of the shaft and the position of the labels longitudinally of the web. If the position of the slack roll 63 is relatively high on the chain loops 59, there will be a relatively short length of web between the label attaching station and the feed roll 4 and the position of the labels will be advanced toward the leading end of the web. Lowering the slack roll 63 retracts the position of the labels. The pin clutch 80 which connects the label knife shaft 74 and label feeding mechanism to the rest of the machine may be operated to delay the feed of the label strip to the web without affecting the relative angular positions of the oscillating shafts 28 and 29 with respect to the feed roll 4 of a wrapping machine. Thus the machine is readily adjustable to feed and attach printed or unprinted labels to the web of the wrapping machine in any desired position.

When the block 17 is adjusted on the crank wheel 15 to vary the amount of web fed into the knife roll 2, a corresponding adjustment will naturally be made in the position of the block 47 which controls the amplitude of oscillation of the rockshafts 28 and 29 and the length of slack handled by them. The relative angular position between the rotational cycle of the feed roll 4 and the oscillating cycle of shafts 28 and 29 may be varied by releasing the pin clutch 41 and rotating the feed roll 4 until the parts are in the desired relative angular relationship.

It should be understood that the physical attachment between the wrapping web and the individual labels is accomplished by employing a web or label or both which have a thermoplastic heat fusible composition or coating which the heated attaching head 103 will bond together. While notched labels are shown, labels with holes or closed slots along their edges could be substituted and still cooperate with the pins 128 on the label feed roll and the term "notched labels" is intended to be interpreted in its broad sense to mean notches or openings engageable by the pins.

I have thus described a highly practical commercial embodiment of my label attaching mechanism so that others may reproduce the same or with such minor modifications as are desired without further description.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In combination with a wrapping machine having a feed roll arranged to feed a length of web into said machine at a minimum rate through a portion of the rotation of said roll and at an adjustably increased rate through the remainder of the rotation of said roll, a label attaching mechanism comprising frame members secured to said wrapping machine and having a pair of idler rolls mounted therebetween, a pair of rockshafts journaled in said side frame members, a pair of arms secured to one of said rockshafts and supporting an incoming slack roll therebetween arranged to take up and give out slack in the web as it is fed to said idler rolls, a third arm on said one rockshaft link connected to a wheel on said other rockshaft for simultaneous oscillation of said rockshafts, sprockets carried by said other rockshaft, depending guide rods secured to said frame members and having idler sprockets at the lower ends thereof, chain loops positioned around said first sprockets and idler sprockets, an outlet slack roll supported between said chain loops for oscillation thereby to take up and give out slack in said web as it is delivered from said idler rolls, a drive shaft for said label attaching mechanism driven in timed relationship to said wrapping machine, a clutch for disconnecting said drive shaft from said wrapping machine, a cam rotatable by said drive shaft, a cam follower actuated by said cam and arranged to oscillate an arm secured to said first

rockshaft, the connection between said arm and cam follower being adjustable radially of said arm, a label feeding roll driven from said drive shaft and arranged to feed a strip of labels to said web between said idler rolls, a label knife roll driven in timed relationship to said label feed roll and arranged to sever individual labels from said strip, and a heated label attaching head positioned over said web between said idler rolls and cam reciprocated in timed relationship with said label knife shaft to attach said labels to said web.

2. In combination with a wrapping machine having a feed roll arranged to feed a length of web into said machine at a minimum rate through a portion of the rotation of said roll and at an adjustably increased rate through the remainder of the rotation of said roll, a label attaching mechanism comprising frame members secured to said wrapping machine and having a pair of idler rolls mounted therebetween, a pair of rockshafts journaled in said side frame members, a pair of arms secured to one of said rockshafts and supporting an incoming slack roll therebetween arranged to take up and give out slack in the web as it is fed to said idler rolls, a third arm on said one rockshaft link connected to a wheel on said other rockshaft for simultaneous oscillation of said rockshafts, sprockets carried by said other rockshaft, depending guide rods secured to said frame members and having idler sprockets at the lower ends thereof, chain loops positioned around said first sprockets and idler sprockets, an outlet slack roll supported between said chain loops for oscillation thereby to take up and give out slack in said web as it is delivered from said idler rolls, a drive shaft for said label attaching mechanism driven in timed relationship to said wrapping machine, a cam rotatable by said drive shaft, a cam follower actuated by said cam and arranged to oscillate an arm secured to said first rockshaft, the connection between said arm and cam follower being adjustable radially of said arm, a label feeding roll driven from said drive shaft and arranged to feed a strip of labels to said web between said idler rolls, a label knife roll driven in timed relationship to said label feed roll and arranged to sever individual labels from said strip, and a heated label attaching head positioned over said web between said idler rolls and cam reciprocated in timed relationship with said label knife shaft to attach said labels to said web.

3. In combination with a wrapping machine having a feed roll arranged to feed a length of web into said machine at a minimum rate through a portion of the rotation of said roll and at an increased rate through the remainder of the rotation of said roll, a label attaching mechanism comprising frame members secured to said wrapping machine and having a pair of idler rolls mounted therebetween, a pair of rockshafts journaled in said side frame members, a pair of arms secured to one of said rockshafts and supporting an incoming slack roll therebetween arranged to take up and give out slack in the web as it is fed to said idler rolls, a third arm on said one rockshaft link connected to a wheel on said other rockshaft for simultaneous oscillation of said rockshafts, sprockets carried by said other rockshaft, depending guide rods secured to said frame members and having idler sprockets at the lower end thereof, chain loops positioned around said first sprockets and idler sprockets, an outlet slack roll supported between said chain loops for oscillation thereby to take up and give out slack in said web as it is delivered from said idler rolls, a drive shaft for said label attaching mechanism driven in timed relationship to said wrapping machine, a cam rotatable by said drive shaft, a cam follower actuated by said cam and arranged to oscillate said first rockshaft, a label feeding roll driven from said drive shaft and arranged to feed a strip of labels to said web between said idler rolls, a label knife roll driven in timed relationship to said label feed roll and arranged to sever individual labels from said strip, and a label attaching head position over said web between said idler rolls and cam reciprocated in timed relationship with said label knife shaft to attach said labels to said web.

4. In combination with a wrapping machine having a feed roll arranged to feed a length of web into said machine at a minimum rate through a portion of the rotation of said roll and at an increased rate through the remainder of the rotation of said roll, a label attaching mechanism comprising frame members secured to said wrapping machine and having a pair of idler rolls mounted therebetween, a pair of rockshafts journaled in said side frame members, a pair of arms secured to one of said rockshafts and supporting an incoming slack roll therebetween arranged to take up and give out slack in the web as it is fed to said idler rolls, a third arm on said one rockshaft link connected to a wheel on said other rockshaft for simultaneous oscillation of said rockshafts, sprockets carried by said other rockshaft, depending guide rods secured to said frame members and having idler sprockets at the lower end thereof, chain loops positioned around said first sprockets and idler sprockets, an outlet slack roll supported between said chain loops for oscillation thereby to take up and give out slack in said web as it is delivered from said idler rolls, a drive shaft for said label attaching mechanism driven in timed relationship to said wrapping machine, a driving member reciprocably connected to said drive shaft and arranged to oscillate said first rockshaft, a label feeding roll driven from said drive shaft and arranged to feed a strip of labels to said web between said idler rolls, a label knife roll driven in timed relationship to said label feed roll and arranged to sever individual labels from said strip, and a label attaching head positioned over said web between said idler rolls and cam reciprocated in timed relationship with said label knife shaft to attach said labels to said web.

5. In combination with a wrapping machine arranged to draw in a continuous strip of wrapping web at a variable rate during each cycle of operation thereof, web feeding mechanism comprising a pair of side frame members secured to said wrapping machine and having an idler roll mounted therebetween, slack shafts oscillatably and rotatably mounted on said side frame members, a cam driven from said wrapping machine, a cam follower driven from said cam, a crank arm adjustably secured to said cam follower and arranged to oscillate said slack shafts, and a clutch interposed between said cam and the driving connection to said wrapping machine to adjust the relative angular oscillated position of said slack shafts with respect to said wrapping machine.

6. In combination with a wrapping machine arranged to draw in a continuous strip of wrapping web at a variable rate during each cycle of operation thereof, web feeding mechanism

comprising a pair of side frame members secured to said wrapping machine and having an idler roll mounted therebetween, slack shafts oscillatably and rotatably mounted on said side frame members and arranged to take up and give out slack in said web on either side of said idler roll whereby said web remains stationary over a label attaching station through a portion of the cycle of operation thereof without interrupting the continuous feed of web to said wrapping machine, a rotating member driven from said wrapping machine, a connecting member oscillatably driven from said rotating member, a crank arm adjustably secured to said connecting member and arranged to oscillate said slack shafts, and a clutch interposed between said rotating member and said wrapping machine to adjust the relative angular oscillated position of said slack shafts with respect to said wrapping machine.

7. Label feeding mechanism for feeding a strip of labels to the web of a wrapping machine comprising a bracket carried by said wrapping machine and adjustable laterally with respect thereto, parallel plates on said bracket, a knife shaft and label feed shaft journaled in said plates and arranged to be driven from said wrapping machine, a support for a spool of labels mounted on said plates, a feed roll carried on said feed shaft, a knife carried on said knife shaft, a label attaching bar reciprocably mounted on said bracket for motion normal to said wrapping web, a heated label attaching head carried by said bar, a cam rotated by one of said shafts, and a cam follower arranged to be actuated by said cam and connected to reciprocate said label attaching bar, said feed roll having radially extending prongs thereon engageable with openings between the labels of said spool of labels, the circumferential distance between said prongs being slightly greater than the length of said labels between said openings.

8. In combination with a wrapping machine arranged to continuously draw in a web of wrapping paper and sever the web into a series of wrapping sheets, label attaching mechanism comprising frame members secured to said machine and having web directing rolls mounted therebetween, part of said rolls being oscillatably mounted and arranged to cause part of said web to be held stationary over a label attaching station throughout a portion of the cycle of said machine, a cross plate supported between said frame members and adjacent to the label attaching station, label feeding and securing means supported upon said cross plate and adjustable laterally therealong, means for oscillating said rolls bodily while permitting rotation thereof, a driving connection for said oscillating means from said wrapping machine, a clutch interposed in said driving connection, another driving connection for driving said label feeding and securing means from said oscillating means, another clutch interposed in said other driving connection, and a knife shaft forming a driven part of said other driving connection arranged to sever individual labels from a continuous strip of labels advanced by said label feeding and securing means prior to the delivery of said labels to the securing portion of said means.

9. In combination with a wrapping machine arranged to continuously draw in a web of wrapping paper and sever the web into a series of wrapping sheets, label attaching mechanism comprising frame members secured to said machine and having web directing rolls mounted therebetween, said rolls being oscillatably arranged to cause part of said web to be held stationary over a label attaching station throughout a portion of the cycle of said machine, a cross member supported between said frame members, label feeding and securing means supported upon said cross member and adjustable laterally therealong, means for oscillating said rolls bodily while permitting rotation thereof, a driving connection for said oscillating means from said wrapping machine, a clutch interposed in said driving connection, another driving connection for driving said label feed and securing means from said oscillating means, and a knife shaft forming a part of said other driving connection arranged to sever individual labels from a continuous strip of labels advanced by said label feeding and securing means prior to the delivery of said labels to the securing portion of said means.

10. In combination with a wrapping machine arranged to continuously draw in a web of wrapping paper and sever the web into a series of wrapping sheets, label attaching mechanism comprising frame members secured to said machine and having web directing rolls mounted therebetween, said rolls being oscillatably arranged to cause part of said web to be held stationary over a label attaching station throughout a portion of the cycle of said machine, a cross member supported between said frame members, label feeding and securing means supported upon said cross member and adjustable laterally therealong, means for oscillating said rolls bodily while permitting rotation thereof, a driving connection for said oscillating means from said wrapping machine, another driving connection for driving said label feed and securing means from said oscillating means, a clutch interposed in said other driving connection, and a knife shaft forming a driven part of said label feeding mechanism arranged to sever individual labels from a continuous strip of labels advanced by said label feeding and securing means prior to the delivery of said labels to the securing portion of said means.

11. In combination with a wrapping machine arranged to continuously draw in a web of wrapping paper and sever the web into a series of wrapping sheets, label attaching mechanism comprising frame members secured to said machine and having web directing rolls mounted therebetween, said rolls being arranged to hold said web stationary throughout a portion of the cycle of said machine, a cross member supported between said frame members and adjacent to the stationary portion of said web, label feeding and attaching mechanism supported upon said cross member and adjustable laterally therealong, a driving connection for driving said feeding rolls from said wrapping machine, a clutch interposed in said driving connection, another driving connection for driving said label feed and attaching mechanism from said rolls, and another clutch interposed in said other driving connection.

12. In a label feed mechanism arranged to feed a continuous strip of labels to a wrapping machine, said strip being notched on the opposite edges thereof and arranged to be severed at said notches to form individual labels, a feed roll for advancing said strip, and pairs of prongs projecting from the surface of said roll and arranged to engage the notches in said strip, the circumferential distance between said pairs of prongs being slightly greater than the lineal distance between said notches in the unstressed condition of said label strip.

13. In a label feed mechanism arranged to feed a continuous strip of labels to a wrapping machine, said strip having an opening between the labels thereof and being arranged to be severed at said opening to form individual labels, a feed roll for advancing said strip, and prongs projecting from the surface of said roll and arranged to engage the opening in said strip, the circumferential distance between said prongs being slightly greater than the lineal distance between said openings in the unstressed condition of said label strip.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
704,449	Edwards	July 8, 1902
889,746	Bechman	June 2, 1908
1,491,077	Beerworth	Apr. 22, 1924
2,244,140	Caldwell	June 3, 1941
2,399,616	Bailey	May 7, 1946