May 9, 1939. F. H. BRITE 2,157,735

TAPING MACHINE

Filed March 16, 1937 3 Sheets-Sheet 1

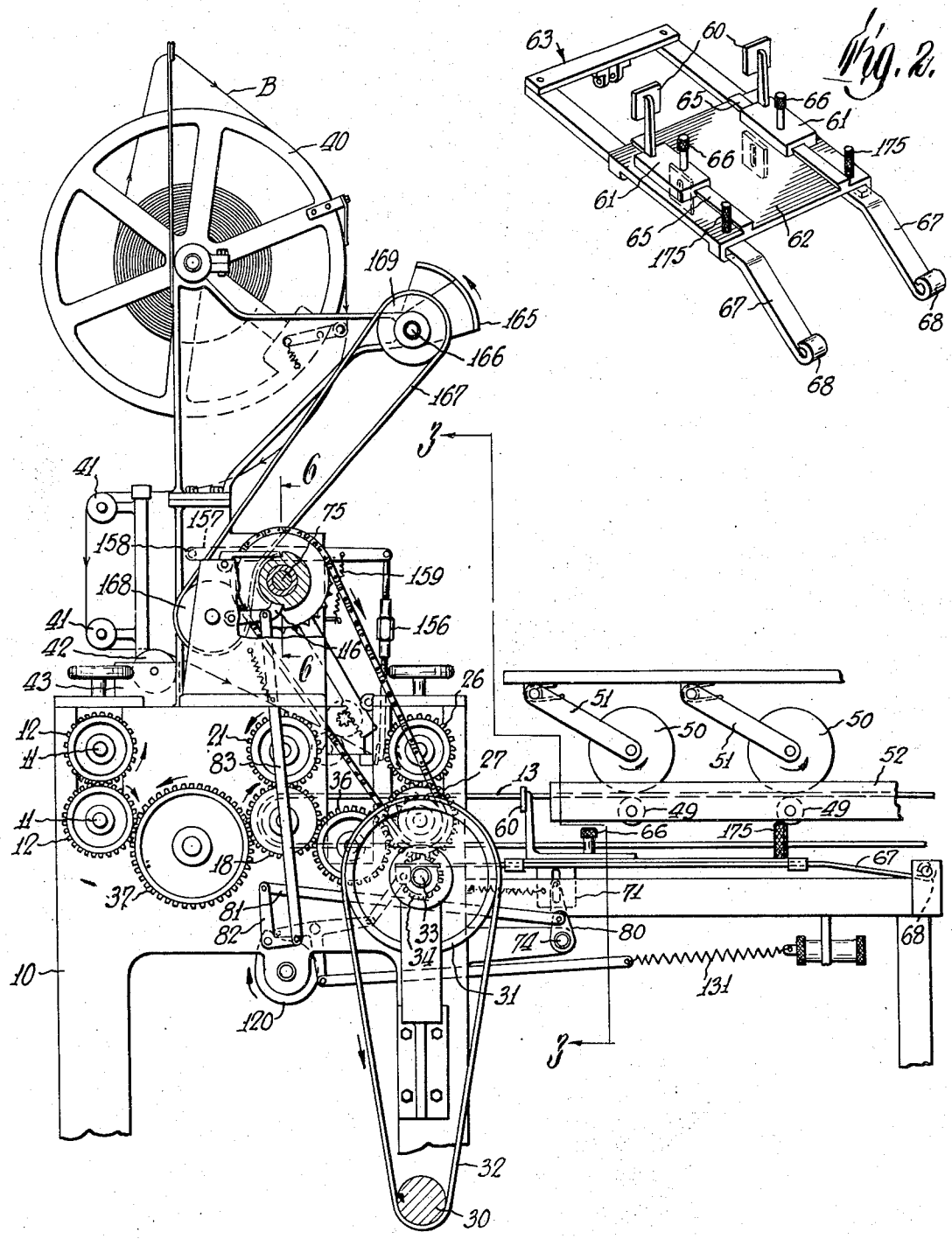


Fig. 1.

Fig. 2.

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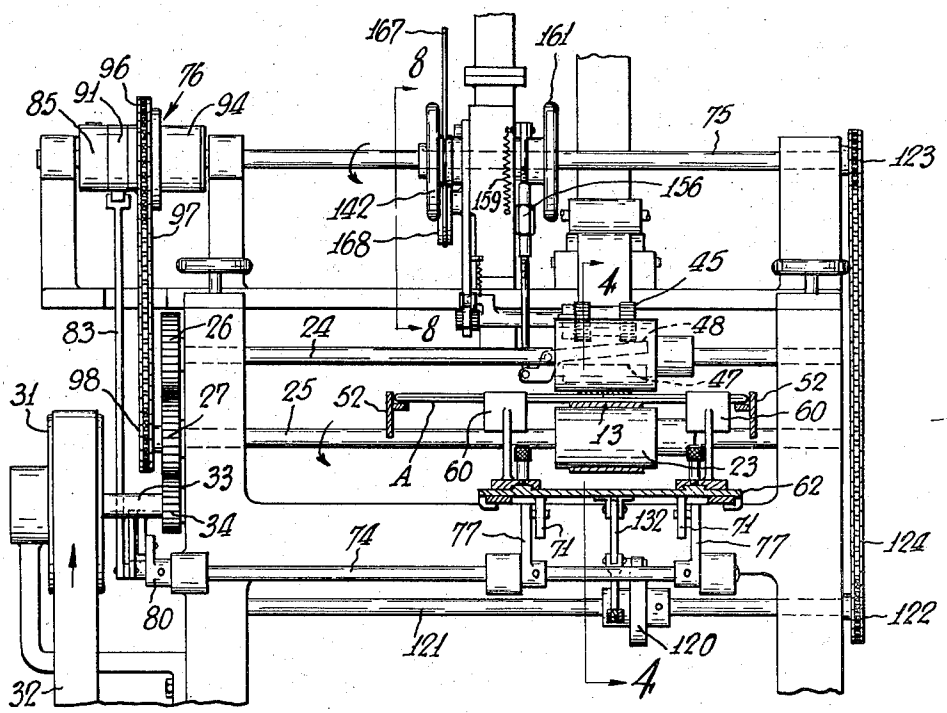


Fig. 3.

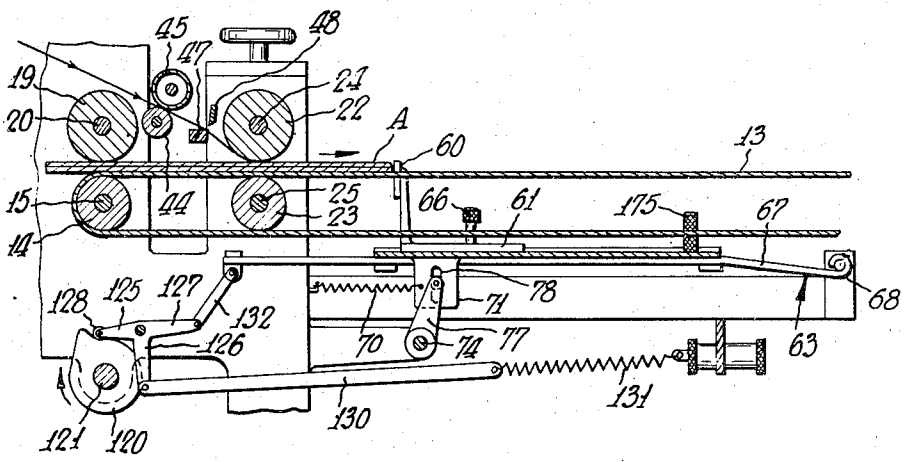


Fig. 4.

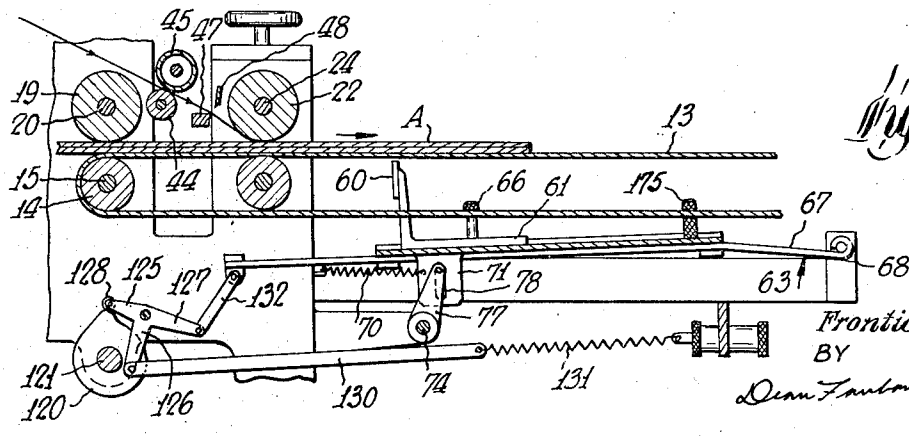


Fig. 5.

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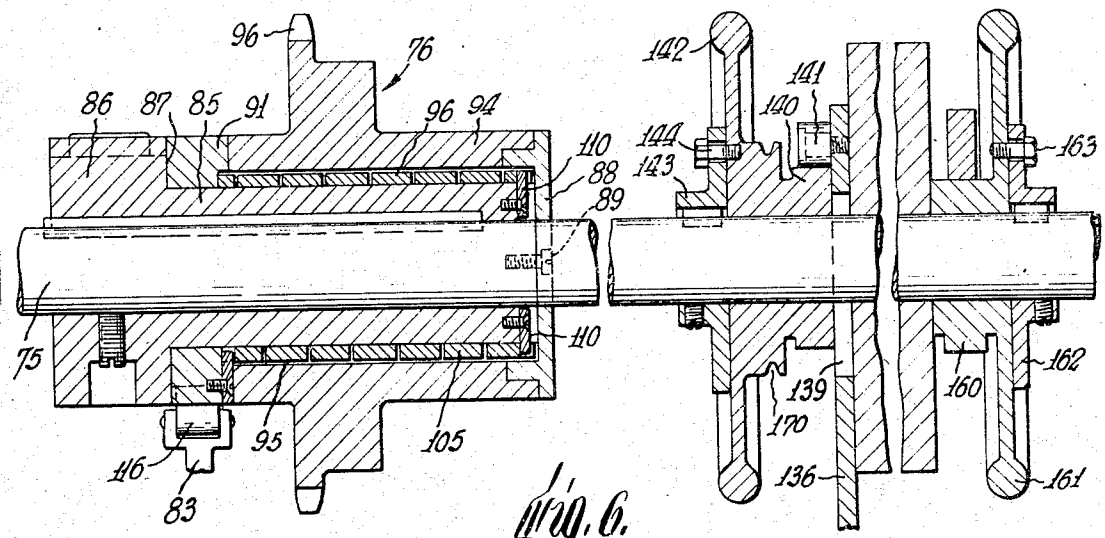


Fig. 6.

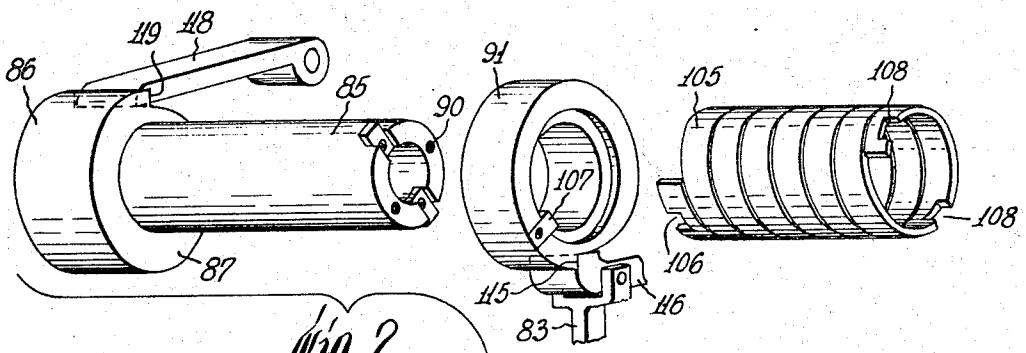


Fig. 7.

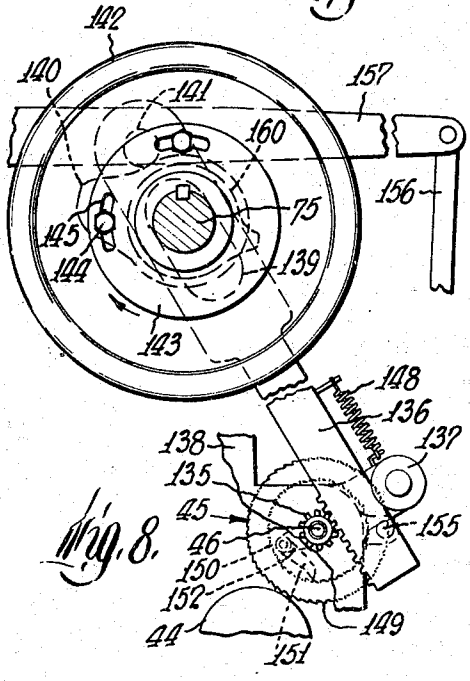


Fig. 8.

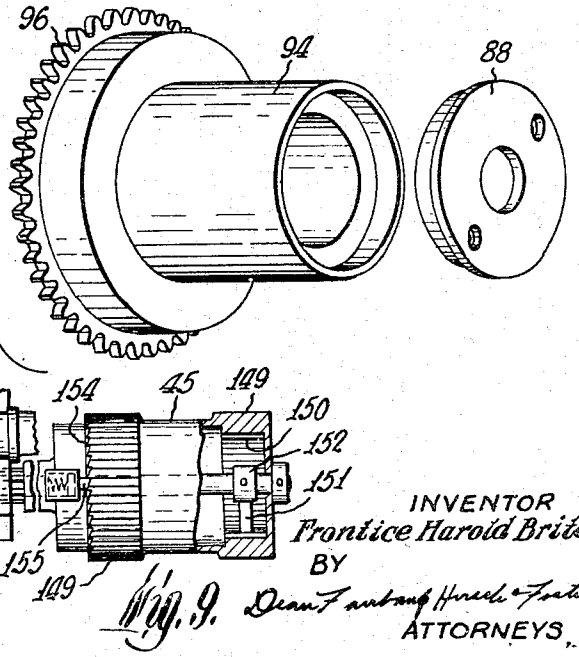


Fig. 9.

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TAPING MACHINE

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Application March 16, 1937, Serial No. 131,158

16 Claims. (Cl. 93—56)

The present invention relates to a machine for cutting and affixing strips of adhesive tape to the seams of folded box blanks, to unite the opposite edges thereof between its end closure flaps.

In one type of machine heretofore employed, the folded blanks are fed from a hopper to the taping mechanism operated in synchronism with the feed. In pushing successive folded blanks from the bottom of the pile, one portion of the blank is liable to slip in respect to the other so that the edges do not properly abut at the seam to be taped, and therefore the ends of the taped box are not in the same plane.

In another type of machine commonly employed, the folded blanks are fed by hand and relative movement of the abutting edges is prevented, but it is necessary to pull the tape by hand and apply the end to the seam at the proper point.

The main object of my invention is to provide a taping mechanism which will automatically apply the tape in the proper place and cut it off at the proper point, as the folded blanks are fed by hand, and held in proper folded condition until they enter the feed rolls of the machine and the tape is applied. By automatically starting the tape applying mechanism by the action of the blank itself, in entering the machine the blanks may be fed at any desired rate, or with any desired gap or interval between successive blanks, and the tape will be automatically applied in the proper position and cut off at the proper length for each successive blank. The mechanism is such that by proper adjustment in respect to the size or proportion of the blank one end of each section of the tape will come at the base of the end closure flaps at one end, and the blank feeding will stop and the tape be cut off so that the other end of the tape comes at the proper position in respect to the closure flaps at the other end of the blank.

As a feature of the present invention there is provided means actuated by the successive blanks, as they are fed through the machine, for effecting the corresponding successive operations of the tape feeding mechanism and the tape cutting mechanism. Thus the operations of these mechanisms are so controlled that a separate strip of tape is fed, cut off, and applied to each box blank irrespective of the frequency of the blank feeding operation.

As another feature of the present invention there is provided a control member from which the tape feeding mechanism and the tape cutting mechanism are operated, a transmission between the drive of the machine and said control member including a clutch, and a trigger or target device actuated by the advancing box blanks for effecting the engagement or disengagement of said clutch.

Other objects, features, and advantages of the invention will be apparent from the following description, and from an inspection of the accompanying drawings in which:

Fig. 1 is a side elevation partly in section of a machine embodying the present invention,

Fig. 2 is a perspective view of the target mechanism for the machine,

Fig. 3 is a section taken on line 3—3 of Fig. 1,

Figs. 4 and 5 are sections taken on line 4—4 of Fig. 3, but showing respectively different positions of the target mechanism,

Fig. 6 is an enlarged section taken on line 6—6 of Fig. 1,

Fig. 7 is a perspective showing the clutch elements of Fig. 6 in separated position,

Fig. 8 is a section taken on line 8—8 of Fig. 3, and

Fig. 9 is a side elevation partly in section, of a portion of the tape feeding mechanism shown in Fig. 8.

The machine in the specific form illustrated has a frame structure 10, on which is supported the mechanism for feeding a series of folded box blanks A therethrough in succession. This blank feeding mechanism may be of any usual construction, and in the specific form shown includes a pair of feed rollers on a pair of shafts 11, at the rear end of the machine, and connected by a pair of intermeshing gears 12. Beyond these feed rollers is a blank advancing conveyor belt 13 passing at one end over a pulley 14 cooperating with a roller 19 on the opposite side of the top run of the conveyor belt 13. The pulley and roller are mounted on shafts 15 and 20, which are connected by meshing gears 18 and 21. Another pair of blank feed rollers 22 and 23 are mounted beyond the pulley 14 on shafts 24 and 25 connected by intermeshing gears 26 and 27. The feed roller 22 is disposed in position to press on the upper surface of the blank A to hold it in feeding contact with the belt while the roller 23 is disposed between the two runs of the conveyor belt 13 and supports the top run as shown in Figs. 4 and 5.

For driving the various parts of the blank feeding mechanism in unison, there is provided any suitable form of drive. As shown I employ a pulley 30, which drives through a belt 32, a pulley 31 on a shaft 33 having a gear 34 meshing with the gear 27 which transmits power to the gear 18 through an idler 36, and said gear 18 in turn transmits power to one of the gears 12 through an idler gear 37.

The train of gears so far described is such that all of the blank contacting parts of the blank feeding mechanism are moved at the same peripheral speed.

Also supported on the frame structure 10 of the machine is a tape supply reel 40, from which the

tape B is delivered over a pair of idler rollers 41, and a fountain roller 42 immersed in a tank 43, to apply moisture to the gummed side of the tape. The tape then passes between a pair of tape feeding rollers 44 and 45, through a cutting device which includes a fixed block 47 and a movable knife 48, and then underneath the roller 22 where it is applied along the seam between the opposite edges of the folded box blank A.

One or more pressure rollers 50 are provided for applying an additional pressure on the tape after it leaves the tape applying roll 22 to assure the proper adhesion of the cut tape section on to the blank. These rollers 50 ride over the top side of the upper run of the conveyor belt 13, and cooperate with rollers 49 on the underside of said belt run. Each roller 50 is mounted on one end of a pair of inclined arms 51, the other end being pivotally supported on the frame structure of the machine, so that the full weight of these rollers plus the pressure of springs, if desired, is applied to the box blanks. The box blanks, while passing underneath the pressure rollers 50, are guided against lateral movement by guide members 52.

As an important feature of the present invention, there is provided in the path of movement of the advancing box blank A, beyond the tape applying roller 22, a target mechanism, which is tripped by each box blank, and which causes the rotation of the tape advancing roll 45 in tape feeding direction and the operation of the cutting member 48. This mechanism (see Fig. 2) includes a pair of targets 60 disposed on opposite sides of the conveyor belt 13 and having bases 61 mounted on a carriage 62, which in turn is mounted for sliding movement over a carriage supporting member 63. These target bases 61 have dovetail slidable connections with a pair of guide ribs 65 on the carriage 62, so that the targets 60 may be adjusted to selected position lengthwise of said carriage, and fixed in position by means of set screws 66.

The targets are positioned in respect to the length of the end closure flaps of the blank, and not in accordance with the total length of the blank, or the length of the box portion. The targets are so set that the tape feeding mechanism will come into operation at the proper time and deliver the advanced end of the tape to the blank at the fold line along the base of the end closure flaps.

The carriage supporting member 63 comprises a pair of spaced bars 67 with hinge connections 68 to the frame structure of the machine. The carriage 62 has inturned flanges at the sides thereof to engage beneath said bars 67 so that said carriage is retained against transverse movement with respect thereto.

The targets 60 are normally held in predetermined position with respect to the tape applying roller 22 by means of a pair of springs 70 connecting the frame structure of the machine, to a pair of flanges 71 depending from the under side of the carriage 62.

Each box blank A will advance until its forward end engages the targets 60, as shown in Fig. 4. The continued movement of the box blank causes the targets 60 and the carriage 62 to be advanced against the action of the springs 70. This actuation of the targets 60 causes the rotation of a control shaft 75 which in turn causes the rotation of the tape feeding roll 45 in feeding direction, and the actuation of the movable knife 48 in tape cutting position.

The control shaft 75 is connected to the drive through a clutch 76 which is intermittently operated by the targets 60. The operating mechanism between the targets 60 and the clutch 76 includes a rock shaft 74 supported on the frame of the machine, and to which are affixed a pair of spaced crank arms 77, the outer ends of which carry crank pins disposed in elongated slots 78 in the flanges 71. Also fixed to the shaft 74 at one end thereof is a crank arm 80, pivotally connected to one end of a link 81. The other end of this link 81 is pivotally connected to one arm of a bell crank 82, the other arm of which is pivotally connected to the lower end of a substantially vertical link 83. The upper end of this link 83 is adapted to operate the clutch 76 by which the shaft 75 is intermittently connected to the drive.

The clutch 76 includes a comparatively long bushing 85 keyed to the shaft 75 and provided with an enlarged portion 86 presenting an axially facing shoulder 87 adjacent to one end, and a plate 88 fixed thereto at the other end by any suitable means, such as the screws 89 in threaded holes 90. Mounted for rotation on the bushing 85 and abutting the shoulder 87 is a collar 91, and supported between this collar 91 and the plate 88 is a continuously rotating sleeve clutch member 94, defining an annular space 95, around the bushing 85. For continuously rotating the clutch member 94, said latter member has a sprocket 96 driven through a sprocket chain 97 from a sprocket 98 fixed to one end of the shaft 25 on which the roller 23 is supported.

Encircling the bushing 85 in the annular space 95, is a coil spring 105 made of ribbon stock and provided at one end with a notch 106 adapted to engage a lug 107 fixed to the collar 91, and a pair of diametrical extending notches 108 at the other end engaging a pair of lugs 110 affixed to the outer end of the bushing 85.

The coil spring 105 has an inherent tendency to unwind and radially expand into contact with the clutch member 94, but is restrained from such expansion while the collar 91 and the bushing 85 engaging the ends of the spring are held against such unwinding. In order to normally hold this collar 91 against such rotation the outer periphery of said collar is helical in shape, to present a shoulder 115 which is engaged by a detent lever 116 pivotally supported on the frame structure of the machine and to the link 83 by which it is operated.

The bushing 85 is normally held against rotation by a pivoted arm 118 engaging a shoulder 119 formed on the enlarged portion 86 of the bushing.

Upon the actuation of the targets 60 by the advancing end of a box blank as already described, the link 83 will be moved downwardly and will pull the detent lever 116 out of engagement with the shoulder 115 on the collar 91. The collar 91 will then be free to rotate in a counterclockwise direction as viewed in Fig. 7, under the unwinding influence of the coil spring 105, so that the spring will expand radially into driving engagement with the clutch member 94. Since the sprocket 96 is rotating in a counterclockwise direction (Fig. 7) this engagement will cause the rotation of the bushing 85 in a counterclockwise direction and the corresponding rotation of the control shaft 75 therewith. This control shaft 75 rotates for one revolution and is then stopped by the return upward movement of the link 83.

In order to effect the return upward movement

of the link 83 there is provided a cam 120 on a shaft 121 rotated from the control shaft 75 through a sprocket chain 124 passing over a pair of sprockets 122 and 123. Pivotally connected to the frame structure of the machine is a T-shaped lever having three arms 125, 126, and 127. The lever arm 125 carries at its outer end a cam roller 128 engaging the cam 120 and held in engagement therewith by a link 130 pivotally connecting the lever arm 126 to a spring 131, fixed to the frame structure. The rear end of the carriage supporting member 63 is connected to the lever arm 127 by a link 132. Thus as soon as the control shaft 75 starts rotating it causes a corresponding rotation of the cam 120, and when the high portion of said cam engages the cam roller 128 the carriage supporting member 63 is swung down about its pivotal connection 68 from the position shown in Fig. 4 until the targets 60 are below the lower surface of the box blank A. These targets 60 under action of the springs 70 will then return to the left into the position shown in Fig. 5. This return movement of the targets 60 will cause the corresponding upward movement of the link 83 so that the collar 91 will be stopped when its shoulder 115 reaches the detent lever 116. The stopping of the collar 91 will be cushioned by the coil spring 105.

For actuating the tape feed roll 45 in response to the rotation of the control shaft 75, a pinion 135 is fixed to the shaft 46 and meshes with one side of a rack bar 136, the other side of which rides in engagement with a freely rotatable flanged roller 137 supported on a bracket 138 fixed to the frame structure of the machine. This rack bar 136 is provided at one end with an elongated slot 139 through which the control shaft 75 extends, and is reciprocated by the rotation of the control shaft 75 through a cam 140 fixed to said shaft 75 and engaging a cam roller 141 rotatively supported on the upper end of the rack bar 136. A spring 148 connected to the bracket 138 holds the roller against said cam 140. This cam 140 is mounted for circumferential adjustment with respect to the shaft 75, and for that purpose has a hand wheel 142 fixed to a flange plate 143, by bolts 144 passing through elongated slots 145 in said flange member, said latter member being keyed to the control shaft 75 for rotation therewith. In operating the machine the cam 140 is adjusted in accordance with the length of the body of the blank plus the end of the closure flaps at the front end. Thus the cam will cause the operation of the cutter at the proper time so that the end of the cut-off section will come at the fold-line along the base of the closure flaps at the rear end of the blank.

In order to effect the rotation of the tape feed roll 45 and deliver the end of the tape to the blank, to permit the pulling of the tape by the blank at a rate faster than the drive of the feed roll and to prevent the rotation of said roll in the opposite direction upon the return movement of the rack bar 136, this feed roll is in the form of a hollow drum (Fig. 9) having a pair of spaced serrated tape feeding portions 149 and provided in the inner surface thereof, at one end with ratchet teeth 150, cooperating with a pawl 151 pivotally connected to one end of an arm 152 fixed to the shaft 46. This shaft 46 extends centrally through said drum and supports said drum for relative rotation with respect thereto.

Upon an upward movement of the rack bar 136, the shaft 46 will be rotated in a counterclockwise direction as viewed in Fig. 8 and the feed roll 45 will be correspondingly rotated in tape feeding direction by the interengagement of the pawl 151 and the ratchet teeth 150. Thus the roll feeds the end of the tape to the blank so that roller 22 applies it to the blank. The blank then pulls the tape at the speed of the blank and the roll 45 overruns due to the rachet teeth 150 and pawl 151. Upon the return downward movement of the rack bar 136 the pawl 151 will ride idly over the ratchet teeth 150 and the feed roll 45 may continue its rotation with the tape but is prevented from a reverse rotation by a series of ratchet teeth 154 on one end, engaging a spring pressed detent 155.

In order to effect the operation of the movable knife 48 at a predetermined phase in the rotation of the control shaft 75, said knife is pivotally mounted on the frame structure intermediate its ends (Fig. 3) and is pivotally connected at one end to the lower end of a substantially vertically extending link 156, the length of which may be adjusted by a turnbuckle. The other end of this link is pivotally connected to a substantially horizontal lever arm 157 pivotally supported at 158 to the frame structure. The knife 48 is normally urged toward open position with respect to the fixed cutting block 47, by a spring 159, and moved to cutting position against the action of said spring by a cam 160 engaging the under side of said lever and fixed to the control shaft 75. This cam 160 can be rotatably adjusted with respect to the control shaft 75, and for that purpose has a hand wheel 161 connected to a flange plate 162 by bolts 163, passing through elongated slots in said plate, said plate being keyed to the control shaft 75 for rotation therewith. By adjusting the targets 60 with respect to the carriage 62 and by adjusting the angular position of the cam 160 with respect to the control shaft 75, the tape lengths may be selectively varied.

In order to intermittently rotate the tape supply reel 40 and reduce the tension which would otherwise be exerted by the roll 45, or the pull of the blank with the end of the tape attached thereto, there is provided a feed member 165 mounted for rotation on a shaft 166 driven from the control shaft 75 through a rope 167 passing over rope pulleys 168 and 169, the latter pulley being fixed to the shaft 166. This rope 167 has a driving engagement with pulley 168 which may be a part of the cam 140 and the hand wheel 142. Thus the feed member 165 is rotated in unison with the shaft 75, and is so positioned with respect to the knife that as soon as the feeding of the tape onto the blank is interrupted by the knife, said feed member will be out of contact with the outer periphery of the tape supply reel 40 and will remain out of engagement until the next blank is fed to the machine.

In order to effect the operation of the tape feeding and tape cutting mechanisms when no blanks are being delivered through the machine, all that is necessary is to manually move the carriage 62 forwardly of the machine. In order to conveniently effect this manual operation, the carriage 62 has threaded thereon a pair of upwardly extending handles 175. This manual operation may be desirable for instance, for the purpose of trimming off the front end of the tape preliminary to the normal operation of the machine.

Although the operation of the machine will be apparent from the foregoing description this operation may be summarized as follows:

The box blanks A are folded and held with the edges in proper registering position while being fed by hand or otherwise in succession in spaced relationship to the feed rolls, and as the front end of each blank trips the targets 60 the clutch 76 is engaged and the shaft 75 is rotated to cause the actuation of the tape feeding roll 45 and the delivery of the end of the tape onto the blank at the proper point. The blank then pulls the tape. At a predetermined phase in the operation the knife 48 is actuated to cut a predetermined tape length. The tape as it is delivered through the cutting mechanism is applied to the seam of the folded box blank between the closure flaps thereof.

The target is so positioned that the front end of the tape engages the blank at the end of the slot in the front edge of the blank and the cam 140 is so positioned that the knife cuts the tape at such a point that the end registers with the end of the slots in the rear edge of the blank.

Upon the return movement of the targets into the position shown in Fig. 5, the clutch 76 is disengaged and the stop shoulder 119 on the bushing 85 coming in contact with the lever 118 is stopped from further rotation, thereby interrupting the rotation of the shaft 75. This control shaft 75 remains stationary until the front end of the next succeeding blank trips the targets 60 again.

By means of my invention blanks may be fed at any desired rate, and of any desired size or proportion and held in proper folded position while being delivered to the feed rolls. As soon as the feed rolls grip the blank they prevent any relative slipping or movement of the abutting edges and the tape of the proper length is applied in the proper position on the blank. By means of my invention the objections heretofore noted in regard to the usual types of taping machines are overcome.

Although I have illustrated a mechanical means in the form of targets for starting the tape feeding mechanism in operation when the blank reaches a predetermined point in the machine, it will be obvious that a wide variety of other mechanisms might be employed for this purpose. For instance, an electric eye might be employed in place of the targets, and a solenoid employed for actuating the pawl 116, or other means for releasing and starting the tape feeding mechanism.

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

1. A machine for applying a tape to the abutting edges of a folded box blank between its end closure flaps, including means for advancing a box blank through the machine, a feed roll for advancing the end of a tape, means for adhesively applying the end of the tape to said blank, means permitting free rotation of said roll by the pull on the tape exerted by the moving blank, a cutter for said tape, a rotatable member, means for actuating first said roll and then said cutter during each revolution of said member, a target in the path of advancing movement of the blank, means for initiating rotation of said member upon movement of said target, and means for stopping rotation of said member after each rotation.

2. A machine for applying a tape to the abutting edges of a folded box blank between its end closure flaps, including means for advancing the box blank through the machine, means for feeding a tape, means for applying the end of the tape to the blank whereby the blank continues the feeding movement of the tape, a tape cutter, a target in the path of advancing movement of the blank, and means controlled by said target to actuate first said feeding means and then said cutter.

3. A machine for applying a tape to the abutting edges of a folded box blank between its end closure flaps, including means for advancing the box blank through the machine, means for feeding a tape toward the advancing blank, means for adhesively applying the end of the tape to the blank whereby the tape is pulled along by the blank, a tape cutter, a target in the path of advancing movement of the blank, a clutch for driving said tape feeding means and said cutter, means controlled by said target for effecting engagement of said clutch, and means for disengaging said clutch after a single rotation.

4. A machine for applying a tape to the abutting edges of a folded box blank between its end closure flaps, including means for advancing the blank through the machine, a roller for feeding the end of a tape, means for adhesively applying the end of the tape to the blank, means for positively rotating said roller in a tape feeding direction while permitting it to overrun in said direction by the pulling action of the blank on said tape, a target in the path of advancing movement of said blank, and means controlled by said target for initiating the positive rotation of said roller.

5. A machine for applying a tape to the abutting edges of a folded box blank between its end closure flaps, including means for advancing the blank through the machine, a roller for feeding the end of a tape, means for adhesively applying the end of the tape to the blank, means for positively rotating said roller in a tape feeding direction while permitting it to overrun in said direction by the pulling action of the blank on said tape, a tape cutter, target means in the path of advancing movement of the blank, and power means controlled by said target for initiating the positive rotating of said roller and the operating of said cutter.

6. A machine for applying a tape to the abutting edges of a folding box blank between its end closure flaps including a drive, means operated from said drive for advancing a box blank through the machine, means for feeding tape towards the advancing blank in position to be applied thereto, a transmission between said drive and said tape feeding means including a clutch, and a target slidable in the direction of movement of the blank by the forward end of the advancing blank for effecting the engagement of said clutch.

7. A machine for applying a tape to the abutting edges of a folding box blank between its end closure flaps including means for advancing a box blank through the machine, means for feeding a tape towards the advancing blank in position to be applied thereto, a target disposed in the path of movement of said advancing blanks, and adapted to be slidably advanced by the forward end of said advancing blank, means for actuating said tape feeding means upon the movement of said target, and means for moving said target out of the path of movement of the advancing blank after said target has been moved a predetermined distance by the forward end of said advancing blank.

8. A machine for applying a tape to the abutting edges of a folding box blank between its end

closure flaps including means for advancing a box blank through the machine, means for feeding tape towards the advancing blank in position to be applied thereto, means for cutting the tape, and means for actuating said cutting means upon impulse imparted by the movement of the advancing blank.

9. A machine for applying a tape to the abutting edges of a folding box blank between its end closure flaps including means for successively advancing a series of box blanks through the machine, means for feeding tape in the same general direction as said advancing blanks and in position to be applied thereto, means for cutting said tape in predetermined lengths, a control shaft, a transmission between said control shaft and said tape feeding means, a second transmission between said control shaft and said cutting means, and means actuated by the movement of the advancing blanks for rotating said shaft at intervals.

10. A machine of the class described including means for advancing a box blank through the machine, means for feeding tape towards the advancing blank in position to be applied thereto, means for cutting the tape, a control shaft, a transmission between said control shaft and said tape feeding means and including a cam fixed to said control shaft, a second transmission between said control shaft and said cutting means and including a second cam adjustably mounted on said shaft, and target means operated by the advancing blank for effecting the rotation of said control shaft, to effect the actuation of said tape feeding means and said cutting means.

11. A machine of the class described including a drive, means operated from said drive for advancing a box blank through the machine, means for feeding tape towards the advancing blank in position to be applied thereto, means for cutting said tape in predetermined lengths, a control shaft, a transmission between the drive and said control shaft including a clutch on said control shaft, a pair of transmissions between said control shaft on the one hand and said tape feeding means and said cutting means respectively on the other, a target actuated by the forward end of the advancing blank, and means between said target and said clutch for effecting the engagement of said clutch upon the actuation of said target, whereby said control shaft is rotated.

12. A machine of the class described including a frame structure, a drive, means operated from said drive for advancing a box blank through the machine, means for feeding tape towards the advancing blank in position to be applied thereto, cutting means for said tape, a slidable carriage, a target carried by said carriage and extending in the path of movement of the advancing blank, a member pivotally mounted on said frame structure for slidably supporting said carriage, a transmission between said drive and said tape feeding means including a clutch, means for effecting the engagement of said clutch upon the slidable movement of said carriage, and means for swinging said supporting member about its pivotal support, when said carriage has been moved a predetermined distance to move said target out of the path of movement of the advancing blank.

13. A machine of the class described including a drive, means operated from said drive for advancing a box blank through the machine, means for feeding a tape towards said blank in position to be applied thereto, a transmission between said drive and said tape feeding means including a shaft and a clutch thereon, said clutch including a bushing fixed to said shaft, a continuously rotating clutch sleeve member encircling said bushing and forming an annular space therewith, a coil spring in said annular space and fixed at one end to said bushing, and means for holding the other end of the said spring rotatively stressed and against rotation, and means actuated by the advancing blanks for releasing said spring holding means to permit said spring to expand radially into driving engagement with said clutch sleeve member, whereby said shaft is rotated.

14. A machine of the class described including a drive, means operated from said drive for advancing a blank through the machine, means for feeding a tape towards said advancing blank in position to be applied thereto, a transmission between said drive and said tape feeding means including a shaft, and a clutch on said shaft, said clutch including a bushing fixed to said shaft, a rotatable collar supported on said bushing, a continuously rotating clutch sleeve member encircling said bushing and forming an annular space therewith, and a coil spring in said annular space fixed at one end to said bushing and at the other end to said collar, a stop member engaging said collar and holding it against rotation to hold said spring in wound condition, and means actuated by the advancing blank for moving said stop member out of engagement with said collar to permit the unwinding of said spring, and its corresponding radial expansion into driving contact with said clutch sleeve member, whereby said shaft is rotated.

15. A machine of the class described including a drive, means operated from said drive for advancing a box blank through said machine, means for feeding a tape towards said advancing blank in position to be applied thereto, means for cutting the tape into predetermined lengths, a control shaft, a transmission between said drive and said control shaft including a clutch on said control shaft, a pair of cams fixed to said control shaft, a pair of transmissions between said cams on the one hand, and said tape feeding means and said tape cutting means on the other hand respectively, a target disposed in the path of movement of the advancing blank and adapted to be tripped by the forward end of said blank, and means for effecting the engagement of said clutch upon the tripping of said target by the advancing blank.

16. A machine for applying a tape to the abutting edges of a folded box blank between its end closure flaps including a pair of blank feeding rollers adapted to engage opposite sides of an advancing blank, means for feeding tape towards said rollers in position to be applied to the advancing blank between said rollers and including a pair of tape feeding rollers disposed on opposite sides of the advancing tape and means for positively rotating one of said tape feeding rollers in a tape feeding direction while permitting said latter roller to overrun in said direction by the pulling action of the blank feeding rollers on said tape, and means actuated by the advancing blank for actuating said tape feeding means.

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