Nov. 7, 1939. V. LOBASSO 2,179,264

LABEL AFFIXING MACHINE

Filed June 14, 1939 5 Sheets-Sheet 1

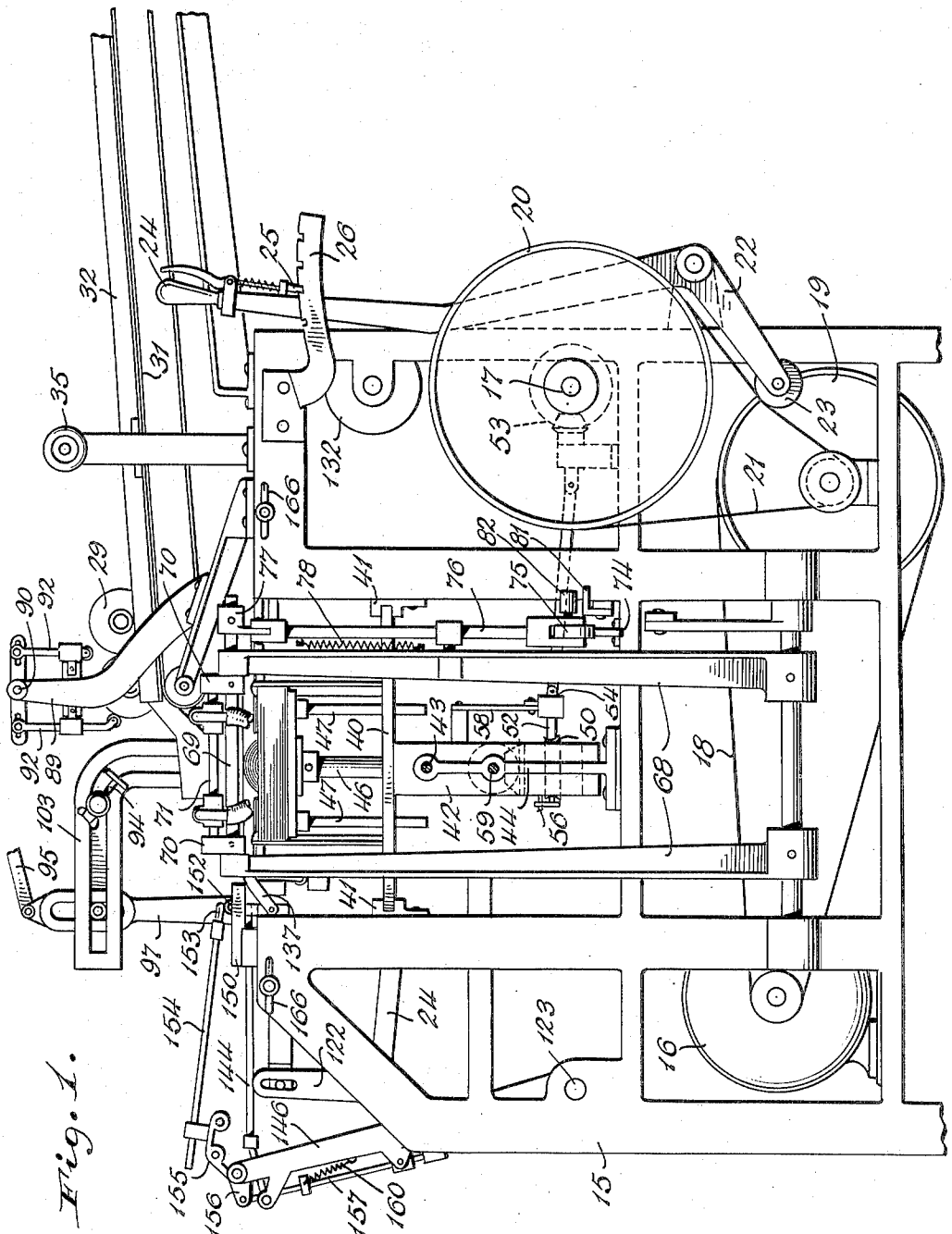


Fig. 1.

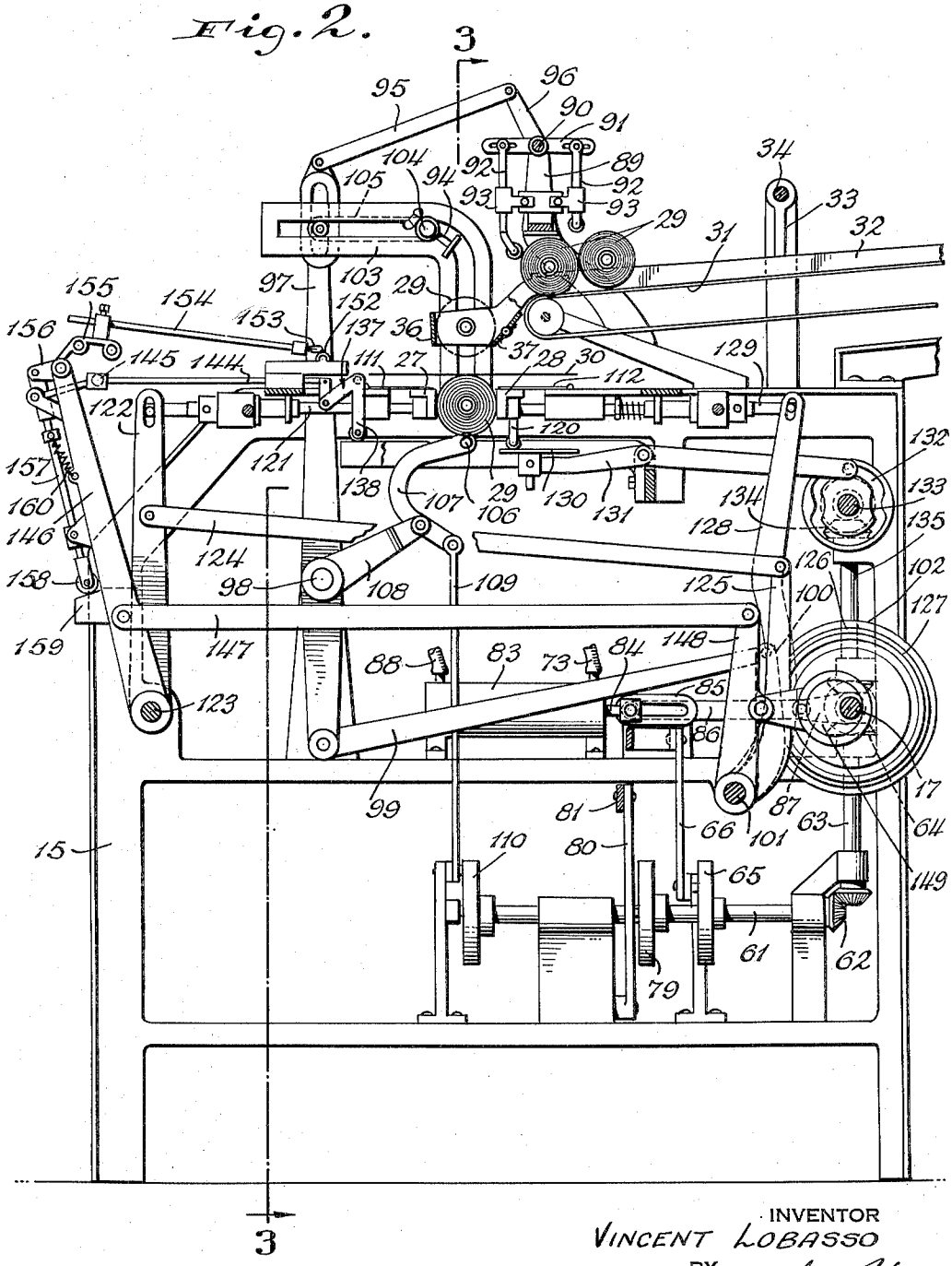
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Nov. 7, 1939. V. LOBASSO 2,179,264

LABEL AFFIXING MACHINE

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Fig. 2.



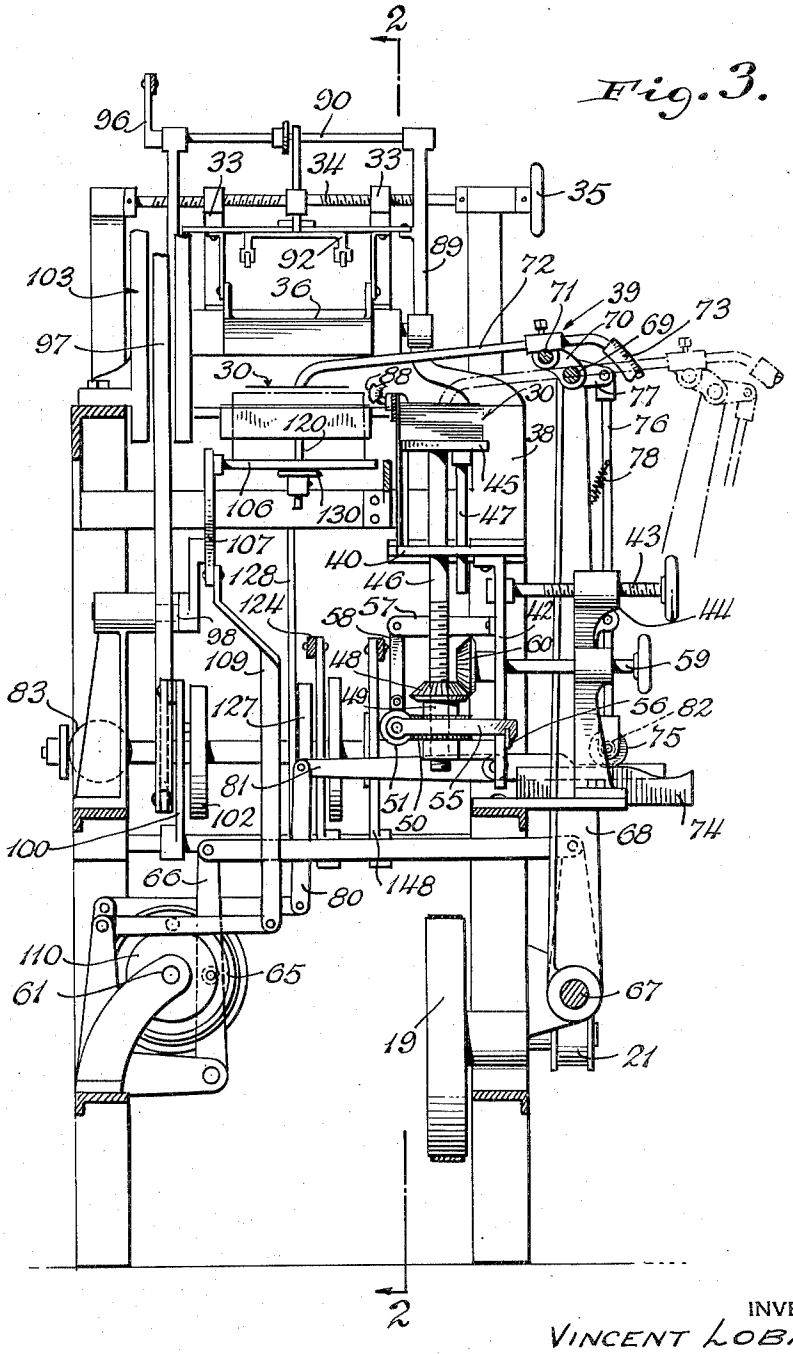
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LABEL AFFIXING MACHINE

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Fig. 3.



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Fig. 4.

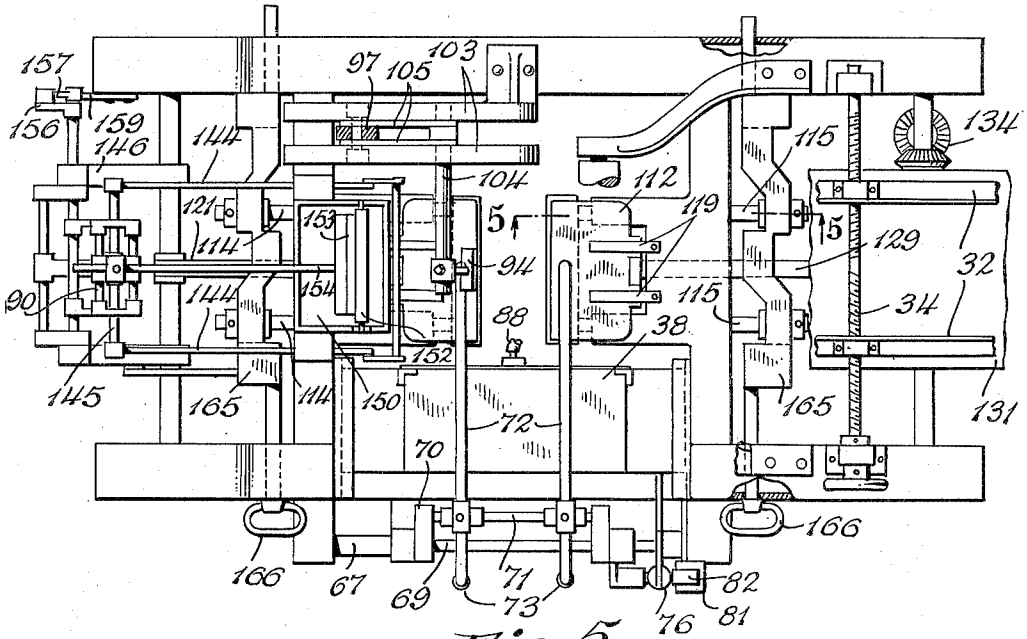


Fig. 5.

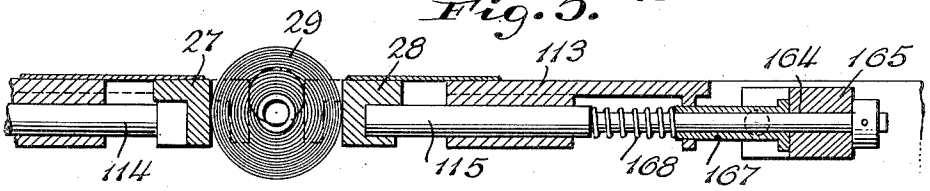


Fig. 10.

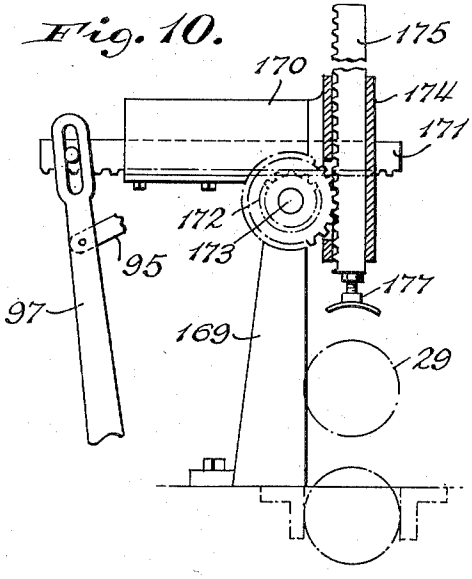
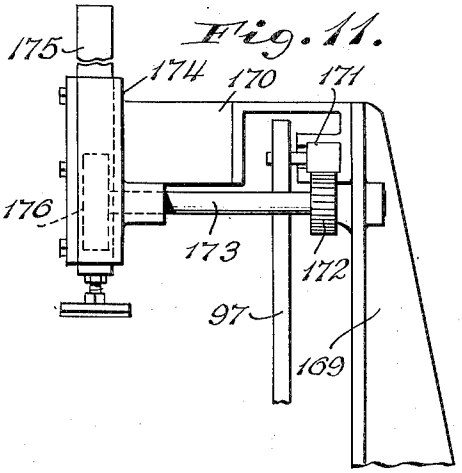


Fig. 11.



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Fig. 6.

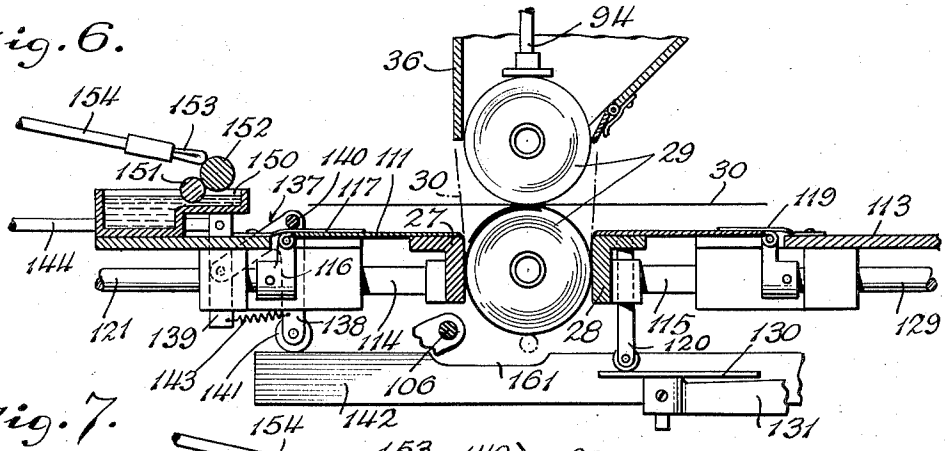


Fig. 7.

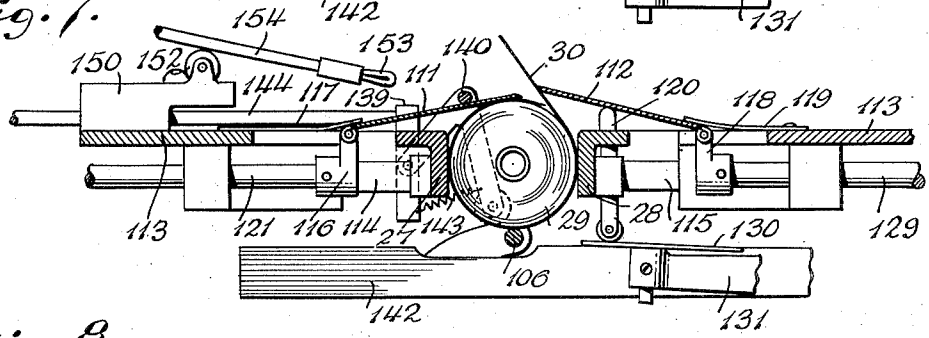


Fig. 8.

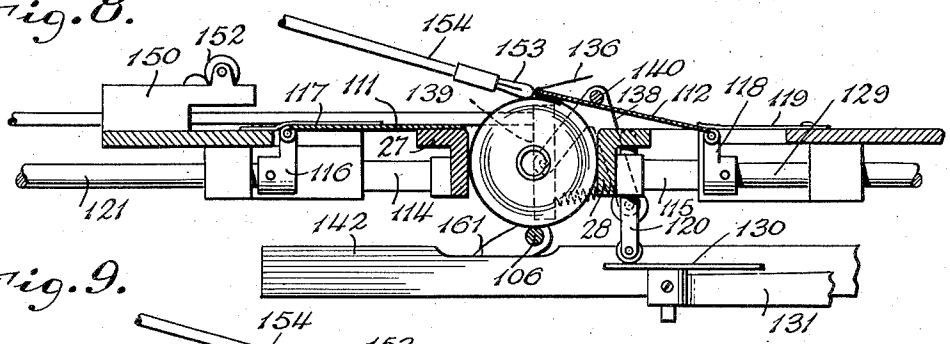
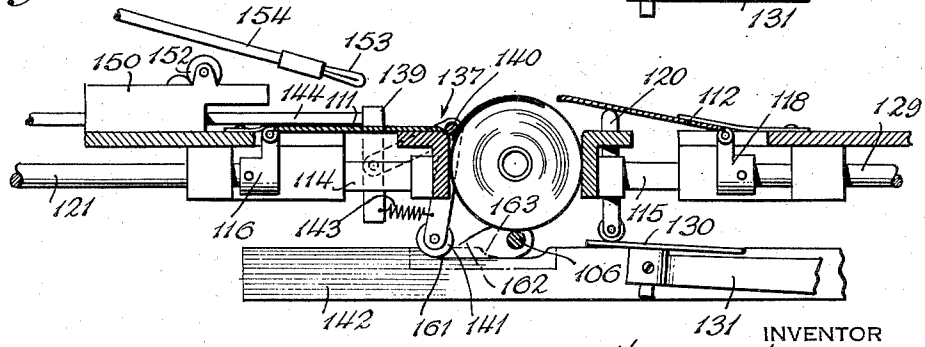


Fig. 9.



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Patented Nov. 7, 1939 2,179,264

UNITED STATES PATENT OFFICE

2,179,264

LABEL AFFIXING MACHINE

Vincent Lobasso, New York, N. Y.

Application June 14, 1939, Serial No. 279,097

13 Claims. (Cl. 216—55)

This invention relates to improvements in label affixing machines and has particular reference to a machine for applying labels to cylindrical articles such as thread cops or spools.

An object of the invention is to provide an improved machine of practical construction wherein a label is extended about an article by the use of two elements which cooperate to overlap the ends of the label and one of which has in association therewith a folding device that forms a flap at one of said ends and, after the application of an adhesive to one end of the label, folds said flap upon the other end of the label to secure said ends together.

The above and other objects will appear more clearly from the following detailed description when taken in connection with the accompanying drawings which illustrate preferred embodiments of the inventive idea.

In the drawings:

Figure 1 is a front elevation of the machine constructed in accordance with the invention.

Figure 2 is a sectional view taken substantially on the line 2—2 of Figure 3.

Figure 3 is a similar view taken substantially on the line 3—3 of Figure 2.

Figure 4 is a top plan view.

Figure 5 is a longitudinal section showing details of construction of the means for holding an article in position while a label is being affixed thereto.

Figures 6 to 9 are longitudinal sectional views illustrating successive steps in the sequence of operations involved in the affixing of the label to an article.

Figure 10 is a side elevation, partly in section, of a modified form of mechanism for feeding an article into label affixing position, and

Figure 11 is an end elevation thereof.

Briefly, the invention is designed for the purpose of affixing a label circumferentially about the body of a cylindrical article, such as thread a cop or spool, by overlapping the ends of the label and applying an adhesive to one of said ends before they are overlapped so that the same will be secured about the article in its completed form. In carrying this purpose into effect, each article is fed into a label affixing position and the movement to said position is utilized to partially extend a label about the article. Upon reaching said position, cooperating means are provided for extending the ends, one after the other, about the article and into overlapping relation with respect to each other. After the first end has been engaged with the article and the second end is in the act of being extended in overlapping relation to the first end, a folding device operates in conjunction with one of said cooperating elements to form a flap at the extremity of said second end, whereupon an adhesive is applied to the first named end. Thereafter said folding device operates to turn down or extend said flap over the first named end and the area to which the adhesive has been applied so that the two ends of the label will be secured together. When this has been accomplished and, before the article to which a label has been affixed is discharged from the machine, another label is placed in position over said article preparatory to being partially extended around the next succeeding article to be labeled. This latter article is then forced into its labeling position and, in so doing, ejects the first mentioned article from said position.

Referring more particularly to the drawings, the machine is shown as comprising a frame generally indicated by the numeral 15 and this frame supports in the lower portion thereof (Figure 1) a prime mover 16, such as an electric motor, which supplies the power for driving various parts of the machine. A main drive shaft 17 for operating said parts is connected to the prime mover 16 through the medium of a belt 18 extending from the shaft of said prime mover around a pulley 19. Another pulley 20 on the shaft 17 is connected to the pulley 19 by the endless belt 21 and associated with the latter is a belt tightener in the form of a lever 22 pivoted on the frame 15 and having an idler 23 at one end engaged with said belt and a handle 24 at its other end for operating the lever, there being a spring pressed dog 25 on said handle which is engageable with a rack 26 carried by the frame to hold the belt tightener in various adjusted positions. In the upper portion of the frame 15, two cooperating guides 27 and 28 are adjustably mounted to accommodate therebetween different sized articles and said guides constitute the label affixing position for the articles 29 to which labels are to be applied. In Figures 1 and 6, an article which has already had a label affixed thereto, is shown in position between the two guides 27 and 28, and a label 30, which is to be affixed to the next succeeding article, has been placed in position above the labeled article 29 preparatory to the next operation of the machine. In Figure 2, the dotted line indication above the article 29 is the initial position that the next succeeding article to be operated upon assumes after it has been released from an end-

less conveyor 31, while the dotted line position of the label 30 in Figure 6 indicates the position that said label assumes as said next succeeding article is forced downwardly to its label affixing position and, in so doing, ejects the previously labeled article from said position. The conveyor 31 may be intermittently operated or continuously driven from any suitable source (not shown) and has associated therewith two opposed side rails 32 which engage the ends of the article 29 to maintain the same in alignment on the conveyer. These rails 32 are adjustable toward and away from each other to accommodate articles of different lengths and, for this purpose, the rails are provided with uprights 33 which are connected by an oppositely screw threaded shaft 34 having a wheel 35 (Figure 3) at one end by means of which the shaft may be manipulated to secure proper adjustment of the rails. At the end of the conveyor 31 adjacent the label affixing position there is supported a hopper 36 into which the articles 29 are individually discharged from the conveyor 31 and temporarily held, as indicated in dotted lines in Figure 2. The hopper 36 includes a spring pressed plate 37 which engages the article 29 whether it be of a large or small diameter, and said plate yields to downward pressure upon the article to permit it to pass from the hopper when the article is forced to its label affixing position. Before this occurs, however, a label 30 is transferred from a magazine 38 (Figure 3) to its position resting upon the previously labeled article as shown in Figures 2 and 6. This transfer of the label is accomplished through the medium of a suction mechanism generally indicated by the numeral 39 which moves back and forth between the full and dotted line positions of Figure 3 to deposit a label in the affixing position and then returns to pick up another label from the magazine 38 for the next operation. The magazine 38 comprises a frame which may be shifted back and forth relative to the label affixing position so that the suction transfer mechanism will properly operate to pick up a label from the magazine and transfer it to the proper position relative to the article to which it is to be applied, whether said article is to be of a large or small size. For this purpose, said magazine frame comprises a base plate 40 slidably mounted in guides 41 (Figure 1) mounted on the frame of the machine and depending from said base plate 40 is an arm 42 to which is connected one end of a screw threaded shaft 43 journalled in a stationary bearing member 44 supported upon the frame of the machine. By turning the shaft 43 in the desired direction the magazine 38, together with its entire assembly shiftable back and forth relative to the label affixing position. The labels 30 are supported within the magazine 38 by means of a table 45 carried by a vertically adjustable shaft 46 which, as will later appear, is constantly driven to gradually raise the table as the labels are transferred therefrom. In order to prevent turning of the table 45, the same has depending therefrom the two guides 47 which extend downwardly through the base plate 40. The lower screw threaded end of the shaft 46 extends through a beveled gear 48 with which is integrally formed a nut 49 internally threaded to engage the threads of said shaft. Said nut carries a worm gear 50 with which is engaged a worm 51 to drive said gear. The drive of said gear is continuous during the operation of the machine and is accomplished through a shaft 52 connected at one end to the gear 51 and its other end through a beveled gear 53 to the main drive shaft 17, there being a universal joint connection 54 in said shaft which permits movement of the worm 51 relative to its gear 50. Normally the worm 51 is held in engagement with the gear 50 by means of a latch 55 having engagement with a detent 56 carried by the depending arm 42 of the plate 40. However, the portion of the shaft 52 which carries the worm 51 is mounted for movement toward and away from the gear 50 by means of a bracket 57 carried by the arm 42 and having the link 58 depending therefrom and connected to the worm 51 for a swinging movement relative to the gear 50 when it is desired to disconnect said gearing. When placing a new supply of labels in the magazine, the table 45 is first lowered to a position on top of the plate 40 so that a stack of labels may be placed in the magazine. The table 45 is lowered manually through a shaft 59 mounted in the bearing member 44 and having at its inner end a beveled gear 60 which meshes with the gear 48 so that the nut 49 may be turned to lower the shaft 46. It is at this time that the worm 51 is disengaged from the gear 50. After the supply of labels has been placed in the magazine and the machine is ready for operation, the gearing 50, 51 is reengaged and as the worm 51 is driven, a rotation will be imparted to the shaft 46 and through its screw threads said shaft will move slowly upward to elevate the table 45 as the supply of labels is being used.

The mechanism for transferring, by suction, each individual label from the magazine 38 to its position beneath an article to which said label is to be affixed will now be described. The operation of this mechanism is controlled from the cam shaft 61 mounted in the lower portion of the machine frame and connected through beveled gearing 62 to a vertical shaft 63 which is driven through similar gearing 64 from the main drive shaft 17. Said shaft 61 carries a cam 65 which is connected through linkage 66 to a rock shaft 67 to which is secured the two vertically extending arms 68 which constitute the oscillatory frame of the transfer mechanism. The upper ends of said arms are joined by a rocking cross rod 69 to which is secured the links 70 which are, in turn, connected by the bar 71. Fixed on this bar are two suction tubes 72 connected by a common hose 73 which is joined to a source of air supply presently to be described. When the suction tubes have been moved to the full line position of Figure 3 to deposit a label in position, the suction in the hose 73 is momentarily discontinued so as to release the label, whereupon the cam 64 operates to oscillate the frame 68 to the dotted line position of Figure 3. During this movement, the tubes 72 are raised slightly so as to disengage from the deposited label and as said tubes reach their pick-up position relative to the labels in the magazine, said tubes are lowered into contact with the uppermost label. The raising of the tubes 72 from engagement with the deposited label is accomplished through the medium of a stationary cam 74 mounted upon the frame of the machine and engaged by a roller 75 secured to the lowered end of a vertically extended connecting link 76 the upper end of which is joined to the rod 69 by the link 77. A spring 78 has one end connected to the link 76 and its other end to the adjacent arm 68 and normally exerts a downward pull upon said link to maintain the roller 75 in en-

gagement with the cam 74. Therefore, it will be apparent that as the oscillating frame 68 begins its movement toward the dotted line position thereof the link 76 will be pulled downwardly due to the formation of the cam 74, and the rod 69 will be rocked to slightly elevate the free ends of the suction tubes 72. Then, at the end of the movement of the oscillating frame, when it is desired to lower the tubes into engagement with the top label 30 in the magazine, the link 76 is forced upwardly in the following manner. A cam 79 mounted on the shaft 61 is joined through linkage 80 to a rocking lever 81 arranged alongside of the roller 75. A second smaller roller 82 extends laterally from the bearing of the roller 75 and directly above the adjacent end of the lever 81. Thus, as the roller 75 approaches the low point of the stationary cam 74, the roller 82 will contact the lever 81, and at this instant, the cam 79 will operate to raise the end of the lever 81 in contact with said roller 82 with the result that the connecting link 76 will rock the rod 69 to lower the free ends of the suction tubes 72 into contact with the uppermost label in the magazine. At this point a suction is created in the tubes 72 which will cause the tubes to pick up the top label and carry the same to the depositing position as the frame 68 moves through its return movement. The suction for the tubes 72 is created by a reciprocating pump 83 of any desired construction. This pump is mounted on a portion of the machine frame and its piston rod 84 is guided in a slotted bracket 85 secured to the frame. The outer end of said rod is connected, by a link 86 to a crank 87 on the main shaft 17 so that continuous reciprocation is imparted to the pump. At one end of the pump cylinder the same has the other end of the hose 73 connected thereto. Another hose 88 is connected to the other end of the pump cylinder and extended upwardly to a convenient point on the label magazine 38 so that during a certain interval, namely, at the time when a label is being removed from the stack in the magazine and the piston of the pump is moved to the left as viewed in Figure 2, air will be forced through the hose 88 and at its upper end blown onto the uppermost labels in the magazine stack so as to loosen said labels one from the other while the uppermost label is being removed by the tubes 72. The suction necessary for this removal occurs during the movement of the piston from right to left and as the tubes 72 approach the depositing position shown in full lines in Figure 3, the piston starts its return movement, whereupon the suction in the hose 73 ceases and the label is thus allowed to fall upon the article then between the guides or holding jaws 27, 28.

As the label transfer mechanism starts its return movement to pick up another label, an escapement mechanism associated with the conveyor 31 becomes effective to release the end article 29 on said conveyor and permits it to drop into the hopper 36. This escapement mechanism, as best shown in Figures 2 and 3, comprises two uprights 89 which extend upwardly from the frame of the machine above the conveyor and joining these uprights is a rock shaft 90 which has secured thereto, intermediate its end, a rocker arm 91. Supported from the ends of the rocker arm 91 are two pairs of article engaging members 92 slidably mounted in adjustable guides 93 and alternately movable in opposite directions as the arm 91 is rocked to first release the end article 29 on the conveyor and engage the next adjacent article to prevent it from rolling from the conveyor. When the article 29 is released it rolls into the hopper 36 and momentarily assumes the dotted line position shown in Figure 2, said article remaining in this position until a plunger 94, the operation of which will presently be described, is lowered to force said article downwardly to the position of Figure 6 where it contacts the label and from which position the downward movement is continued to eject the already labeled article 29 from between the guides 27, 28, the article to be labeled then assuming the position of the last named article and the label 30 which has been previously positioned between the two articles then assuming the dotted line position shown in Figure 6 where it is extended partially around the article then in position to have the label affixed thereto.

The escapement mechanism is controlled through the medium of a link 95 connected at one end to a crank arm 96 on the end of the rock shaft 90 and at its other end, to the upper end of the rocking lever 97 pivoted on the machine frame at 98. The lower end of the lever 97 has one end of the link 99 connected thereto the other end of which is joined to a rocker arm 100 supported on the shaft 101. A cam 102 on the shaft 17 controls the movement of the arm 100 so that, at the proper moment, the lever 97 is rocked about its pivot to actuate the article escapement mechanism through the movement imparted to the link 95. During the complete sequence of operations the cam 102 makes one revolution, and in so doing, the escapement mechanism is operated first to release the end article on the conveyor and then operated so as to again assume the position of Figure 2 to permit the succeeding article on the conveyor to assume the same position as the article which had been released.

Through the medium of the lever 97, the plunger 94 is operated concurrently with the escapement mechanism and timed so that said plunger will engage the article 29, after it has been deposited in the hopper 36, and then act to force the same downwardly from said hopper, this being the position of the parts shown in Figure 6. One form of the plunger mechanism comprises an angular, slotted guide frame 103 mounted upon the frame of the machine and consisting of two spaced plates (see Figure 4). The plunger 94 is carried at one end of a rod 104 the other of which extends through the slot in the frame 103. This rod is connected, by links 105 to the upper slotted end of the lever 97 which moves between the two plates of the frame 103. Thus as said lever is oscillated by the cam 102 the plunger 94 will be actuated to engage the article in the hopper 36 and force the same downwardly. During this downward movement and just before the upper article 29 contacts the lower article which has been labeled by a previous operation, it is necessary to release the latter article from its supported position between the guides 27 and 28, so that said lower article may be ejected from the machine by the downward pressure of the upper article which is being lowered from the hopper 36 by the plunger 94. The article which has been previously labeled is supported between the guides 27, 28 by a supporting rod 106 positioned beneath said article and carried by a curved rocking arm 107 pivotally mounted on a bracket 108 secured to the machine frame. The lower end of the arm 107 is connected by a link

109, to a cam 110 mounted on the shaft 61 and the operation of this cam is so timed that the support 106 is swung from its operative position beneath the lower article 29 just prior to the moment of contact of the upper article with the label 30 resting upon said lower article. With the support 106 out of the way, the downward pressure of the plunger causes the upper article to force the labeled article from between the guides 27, 28 and the upper article then assumes the position shown in Figure 7. In so doing, the label 30 is extended partially about the article now being labeled by engagement of the label with the edges of the said guides. Before reaching the position of Figure 7 the support 106 is returned to its operative position so as to maintain the article between the guides 27 and 28 while the labeling operation is completed.

The next step in the operation is to progressively extend the two ends of the label completely about the article in overlapping relation. This operation is accomplished through the instrumentality of two reciprocating blades 111, 112. The blade 111 operates slightly in advance of the blade 112 so as to extend one end of the label 30 around the article before the other end is so extended. The mechanism for accomplishing this result may be described as follows. In a stationary part 113 of the main frame of the machine there are mounted two pairs of longitudinally adjustable rods 114 and 115 connected, respectively, to the guides 27 and 28. Between the rods 114 there is slidably mounted a collar 116 to which is pivoted the blade 111. Leaf springs 117 secured to the frame part 113 engages the blade 111 to normally maintain the same in the horizontal position of Fig. 6. However, when the collar 116 is moved to the position of Fig. 7, the free edge of the blade 111 will engage the adjacent end of the label 30 and will ride upwardly on the portion of the article 29 projecting above the guide 27, and will thus extend said end of the label about the article, as shown in Fig. 7. For similarly operating the blade 112, there is slidably mounted between the rods 115, a collar 118 to which said blade is pivoted and which is engaged by leaf springs 119. In order to insure that the end of the label 30 engaged by the blade 112 will overlap the other end of the label, there is associated with said blade a vertically movable lifting rod 120 engageable with the underside of the blade to raise the same to the position of Figure 7 against the tension of the spring 119 as said blade is moved toward the article 29. In this manner the two ends of the label will be caused to assume the position shown in Figure 7 up to this point in the operation.

To effect the advance and withdrawal of the blade 111 the collar 116 thereof is carried by a connecting rod 121 which is joined at its other end to a rocking arm 122 pivoted at 123 on the machine frame. A link 124 connects said arm to another rocking arm 125 mounted upon the shaft 101. A cam 126 on the main shaft 17 operates to rock the arm 125 and thus, through the connections just described, reciprocates the collar 116 of the blade 111. For similarly operating the blade 112 and its collar 118, a cam 127 on the shaft 17 rocks an arm 128 on the shaft 101. The upper end of this arm 128 is connected to one end of the rod 129 to which the collar 118 is secured so that the blade 112 will be reciprocated in cooperation with the blade 111 to obtain the result previously mentioned and shown in Figure 7.

As the blade 112 is advanced to perform the operation of Figure 7, the lifting rod is actuated by a plate 130 adjustably mounted upon one end of a rocking arm 131 the other end of which is engaged by a cam 132 mounted upon a shaft 133. This shaft is rotated through gearing 134 that is, in turn, driven by a vertical shaft 135 operated from the main shaft 17. The arm 131 is rocked twice during one complete operation, the first time being to lift the blade 112 to the position of Figure 7, and the second time to again raise the blade from the position of Figure 8 to that of Figure 9 as said blade is retracted at the end of the label affixing operation. The lifting plate 130 is adjustably mounted on the arm 131 by turning the same about a vertical axis, and this adjustment is provided so that the lifting rod 120 will be properly engaged and operated when articles of different diameters are being labeled. Thus, as shown in Figure 2, a larger article is being labeled but should a smaller article be held between the guides or jaws 27, 28, which are adjustable toward each other as will appear later, the plate 130 would be given a half turn so that the lifting rod 120 would still be engaged by said plate when said rod is moved to the left by an adjustment of the guides 27, 28 toward each other to accommodate a smaller article.

After the parts have assumed the position of Figure 7 the next step in the operation of affixing the label is to fold the end of the latter engaged by the blade 112 so as to temporarily form a flap 136 (Figure 8). For this purpose, said blade 112 operates in conjunction with a folding device generally indicated by the numeral 137. This device comprises two angular frame members 138 one end of which is pivotally connected to a sliding block 139 and said members are joined intermediate their ends by a folding rod 140. The other extremities of said members 138 are provided with rollers 141 which travel on a track 142, and a spring 143 connects each of the members 138 with the sliding block 139 so as to normally maintain the rollers 141 in engagement with said track. The device 137 is advanced toward the article 29 at the same time that the blade 111 is advanced and as the latter is lifted by its engagement with the article 27, it contacts the folding rod 140 and thereby raises the device 137 against the tension of the spring 143, as illustrated in Figure 7. As the folding rod rides over the blade, the lifter 120 is lowered to the position of Figure 8 and allows the blade 112 to lower into contact with the article so as to press the end of the label thereagainst. At this instant, the folding rod 140 is beneath the end of the label engaged by the blade 112 and further movement of said rod then engages said end, folds it back to the position of Figure 8 to form the flap 136, and then passes over said flap and onto the blade 112 as shown in the latter figure, the blade 112 cooperating with the rod 140 to define the folding line of said flap. The advancement of the folding device, just described, is accomplished as follows. Extending from the sliding block 139 are two rods 144 slidable in suitable bearings and connected at their ends remote from the device 137 by the cross rod 145. This rod is connected to an operating lever 146 pivotally mounted on the shaft 123 and operated by a link 147 which joins said lever with a rocking arm 148 pivoted on the shaft 101 and actuated by an eccentric 149 on the shaft 17.

Also operated by the lever 146 is an apparatus for applying an adhesive to one end of the label. The actual application of the adhesive to the label occurs immediately following the formation of the flap 136 and, as shown, the adhesive is applied to the underlying end of the label. The apparatus for accomplishing this result comprises a reservoir 150 mounted upon the frame of the machine and adapted to contain the adhesive. Two rollers 151, 152 are utilized for the application of the adhesive to a wiper 153 which engages the roller 152 at the beginning of a label affixing operation. This wiper 153 is carried by one end of a rod 154 the other end of which is secured to a mounting 155 pivotally connected to the upper end of the lever 146. For the purpose of rocking said mounting 155 about its pivot there is provided a small crank 156 connected to the mounting, and joined to this crank is the upper end of an operating rod 157 the lower end of which carries a roller 158 engageable with a stationary cam 159. Said roller is maintained in engagement with the cam by a coil spring 160. As the lever 146 is swung to the right to advance the folding device 137 a similar movement is imparted to the wiper 153 causing the same to wipe over the roller 152 so as to be coated with a sufficient supply of adhesive. From the position of Figure 6 the wiper advances through the position of Figure 7 and to that shown in Figure 8 and as it approaches the latter position the cam 159 acts to exert an upward pressure on the rod 157 which causes the wiper to move downwardly into engagement with the underlying end of the label as in Figure 8, thereby applying the adhesive to said label adjacent the folding line of the flap 136. The lever 146 now starts its return movement under the control of the eccentric 149 and, in so doing, restores the wiper to its starting position. At the same time the folding device 137 starts its return movement from the position of Figure 8. In so doing, the folding rod 140 rides upwardly on the blade 112 and engages beneath the flap 136. The wiper 153 now being out of contact with the label, the rod 140 will fold the flap over into overlapping relation with the other end of the label and since the spring 143 of the folding device is continuously exerting a downward pull upon the rod 140, the latter will press the overlying flap 136 into engagement with the other end of the label and over the area which has been coated with the adhesive. In order that the entire flap may be pressed into place, the rod 140 is permitted to assume the position of Figure 9 where it is partially recessed between the adjacent guide 27 and the article 29. This lowering of the rod to this position is accomplished by forming a recess 161 in the track 142. The roller 141 of the device 137 enters said recess and after the rod 140 has reached the position of Figure 9 the roller 141 rides upwardly out of the recess 161 to again raise the rod 140 after which the retraction of the device 137 continues until the operating lever 146 reaches its extreme left-hand position. When a smaller article is being labeled, a guide indicated in dotted lines at 162 may be placed on the track 142 over the recess 161 and said guide may be provided with a recess 163 which will permit entrance of the roller 141 to accomplish the same result as above described. As the parts reach the position of Figure 9 and the blade 112 starts its retracting movement, it is desirable to lift said blade from engagement with the label so as to avoid frictional contact therewith. For this purpose the lifting rod 120 is actuated the second time, as previously described, by the cam 132 and said rod is immediately lowered by said cam as soon as the blade 112 has cleared the article 29.

As previously mentioned, the guides or jaws 27, 28 are adjustable toward and away from each other to accommodate different sized articles therebetween and said guides are also spring pressed so as to yieldably engage the article 29. Referring specifically to Figures 4 and 5, the guides 27, 28 are shown as slidably mounted on the frame part 113 and two pairs of rods 114, 115 have a bearing in said frame part. The mechanism for exerting yielding pressure upon the guides and for adjusting the same to the dotted line position shown in Figure 5 is identical for each guide and, therefore, a description of one mechanism will suffice. As shown in Figure 5 each of the rods 115 associated with the guide 28 is slidably mounted in the frame part 113 and the end of said rod remote from the guide passes through a longitudinal slot 164 formed in a cam member 165 which has its ends mounted in the machine frame, and said cam member is slidably adjustable transversely of said frame. For this purpose one end of the cam member is provided with a handle 166 by means of which said member may be moved back and forth across the frame. A sleeve 167 is mounted upon the reduced end of each rod 115 adjacent the cam member 165 and interposed between said sleeve and another portion of the rod 115 is a coil spring 168 which exerts a yielding pressure upon the guide 28. Should it be desired to adjust the guide 28 to the dotted line position of Figure 5, a pull is exerted upon the handle 166 of the cam member and its cam surfaces will then force the sleeves 167, and consequently the rods 115 and the guide 28 toward said dotted line position.

In Figures 10 and 11 there is shown another embodiment of the plunger mechanism for forcing an article 29 downwardly from the hopper 36 to the label affixing position. In this embodiment, there is provided a standard 169 mounted upon the frame of the machine and carrying a housing 170 at its upper end. In this housing there is slidably mounted a rack bar 171 which is engageable with a pinion 172 mounted upon one end of a shaft 173. Said rack bar is connected at one end to the slotted end of the operating lever 97 so as to be reciprocated thereby when the article escapement and the plunger mechanisms are operated. In a vertical guide 174 formed on the housing 170 there is slidably mounted a rack bar 175 which is engaged by a gear 176 carried by the end of the shaft 173 remote from the pinion 172, and the lower end of said rack bar 175 carries the plunger 177. Thus as the rack bar 171 is moved to the right, as viewed in Figure 10, by the operation of the lever 97 the shaft 173 will be rotated so as to lower the rock bar 175 and its plunger 176 into engagement with the article 29 in the hopper 36, and upon return movement of the lever 97 said plunger will be raised preparatory to the next operation.

What is claimed is:

1. In a label affixing machine, means to support an article in position to have a label applied thereto, said label having a flap thereon, cooperating elements for extending the ends of said label about said article with said ends in overlapping relation, means cooperating with one of said elements to initially fold said flap away from one end of said label and to thereafter extend said flap about the article in overlying relation to said

end, and means to apply an adhesive to said end before said flap is extended thereover.

2. In a label affixing machine, means to support an article in position to have a label applied thereto, said label having a flap thereon, oppositely reciprocating blades for extending the ends of a label about an article in overlapping relation, reciprocating means cooperating with one of said blades to initially fold said flap away from one end of said label upon movement of said means in one direction and to extend said flap over said end, when moving in the opposite direction, and means to apply an adhesive to said end prior to the extension of said flap thereover.

3. In a label affixing machine, means to support an article in position to have a label applied thereto, said label having a flap thereon, two oppositely reciprocating members controlling the extension of the ends of said label about said article in overlapping relation, blades pivoted to end movable with said members for engagement with said ends as said members are moved toward each other, a folder movable in the direction of movement of one of said blades and over the other to cooperate with the latter in folding said flap away from one end of said label, means to apply an adhesive to said end, and means to move said folder in a direction opposite to its first movement to lay said flap over the coated surface of said end of the label.

4. In a label affixing machine, means to support an article in position to have a label applied thereto, said label having a flap thereon, two oppositely reciprocating members controlling the extension of the ends of said label about said article in overlapping relation, blades pivoted to and movable with said members for engagement with said ends as said members are moved toward each other, a folder movable in the direction of movement of one of said blades and over the other to cooperate with the latter in folding said flap away from one end of said label, means to apply an adhesive to said end, and means to move said folder in a direction opposite to its first movement to lay said flap over the coated surface of said end of the label, and means to lift the second named blade from engagement with said label after said flap has been laid over said coated surface.

5. In a label affixing machine, means to support an article in position to have a label applied thereto, said label having a flap thereon, cooperating elements for extending the ends of said label about said article with said ends in overlapping relation, means cooperating with one of said elements to fold said flap away from one end of said label and to thereafter extend said flap about the article in overlying relation to said end, and means to apply an adhesive to said label adjacent one end thereof before said flap is extended over the first named end.

6. In a label affixing machine, means to support an article in position to have a label applied thereto, said label having a flap thereon, oppositely reciprocating blades for extending the ends of a label about an article in overlapping relation, reciprocating means cooperating with one of said blades to fold said flap away from one end of said label upon movement of said means in one direction and to extend said flap over said end when moving in the opposite direction, and means to apply an adhesive to said label adjacent one end thereof before said flap is extended over the first named end.

7. In a label affixing machine, an article support, a periodically operated conveyor for feeding articles onto said support one at a time, means to position a label beneath each article prior to being fed onto said support, said label having a flap thereon, cooperating elements for extending the ends of said label about said article with said ends in overlapping relation, means associated with one of said elements to fold said flap away from one end of said label and to thereafter extend said flap about the article in overlying relation to said end, and means to apply adhesive to one end of said label before said flap is extended to said overlying relation.

8. In a label affixing machine, an intermittently operated conveyor, a support, means to feed articles one at a time from said conveyor toward said support, a plunger acting upon each article to move the same onto said support, means actuated by said plunger for controlling said feeding means, means to position a label beneath each article prior to being fed onto said support, having a flap thereon, cooperating blades for extending the ends of said label about said article in overlapping relation, means associated with one of said blades to fold said flap away from one end of said label and to thereafter extend said flap around said article in overlying relation to said end of the label, and means to apply an adhesive to one of the overlapping ends of the label before said flap is extended around the article.

9. In a label affixing machine, a movable article support, means to feed a label to a position beneath an article before it is positioned on said support, said label having a flap thereon, opposed guides between which an article passes onto said support and which act to extend said label partially around said article, cooperating elements for extending the ends of said label about said article with said ends in overlapping relation, means associated with one of said elements to fold said flap away from one end of said label and to thereafter extend said flap about the article in overlying relation to said end, and means to apply adhesive to one end of said label prior to said flap being extended about the article.

10. In a label affixing machine, a movable article support, means to feed a label to a position beneath an article before it is positioned on said support, said label having a flap thereon, opposed guides between which an article passes onto said support and which act to extend said label partially around said article, a conveyor for feeding individual articles to a position above said guides, a plunger operable to move each article between said guides and onto said support, cooperating elements for extending the ends of said label about said article with said ends in overlapping relation, means associated with one of said elements to fold said flap away from one end of said label and to thereafter extend said flap about the article in overlying relation to said end, and means to apply adhesive to one end of said label prior to said flap being extended about the article.

11. In a label affixing machine, means to partially extend a label about an article, two cooperating elements for successively extending the ends of said label about said article, means operable between the successive operations of said two elements for folding one end of said label away from the other end to expose a surface of the latter end and for thereafter extending the first named end in overlapping relation to the other end, and means to apply adhesive to one of said ends before the same are overlapped.

12. In a label affixing machine, means to partially extend a label about an article, two cooperating reciprocating blades, one operable to completely extend one end of said label about said article and the other blade operating to partially extend the other end of the label about the article, a reciprocating member operable to fold back said other end, and means to apply adhesive to one of said ends, said reciprocating member thereupon operating to extend said other end about said article into overlapping relation to the first named end of the label.

13. In a label affixing machine, means to engage the intermediate portion of a label with a cylindrical article, means to completely extend one end of said label about said article, means to partially extend the other end of the label about said article, means to fold back the latter end when in its partially extended position, and means to apply adhesive to one of said ends, said folding means thereupon operating to overlap said other end onto the first named end.

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