

Oct. 5, 1943.

C. J. MALHIOT

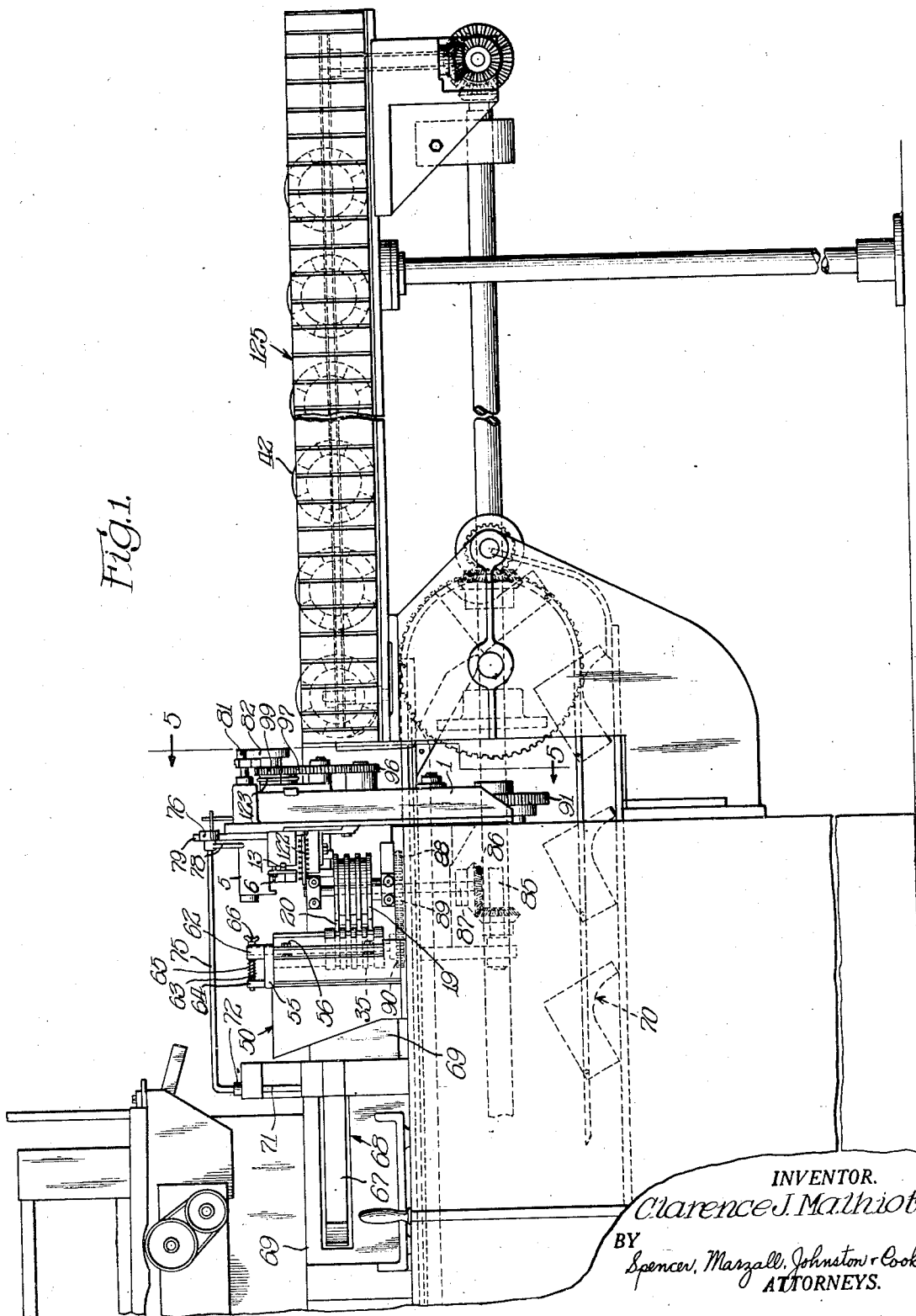
2,330,830

LABEL FEEDING AND APPLYING MECHANISM

Filed June 20, 1941

5 Sheets-Sheet 1

Fig. 1.



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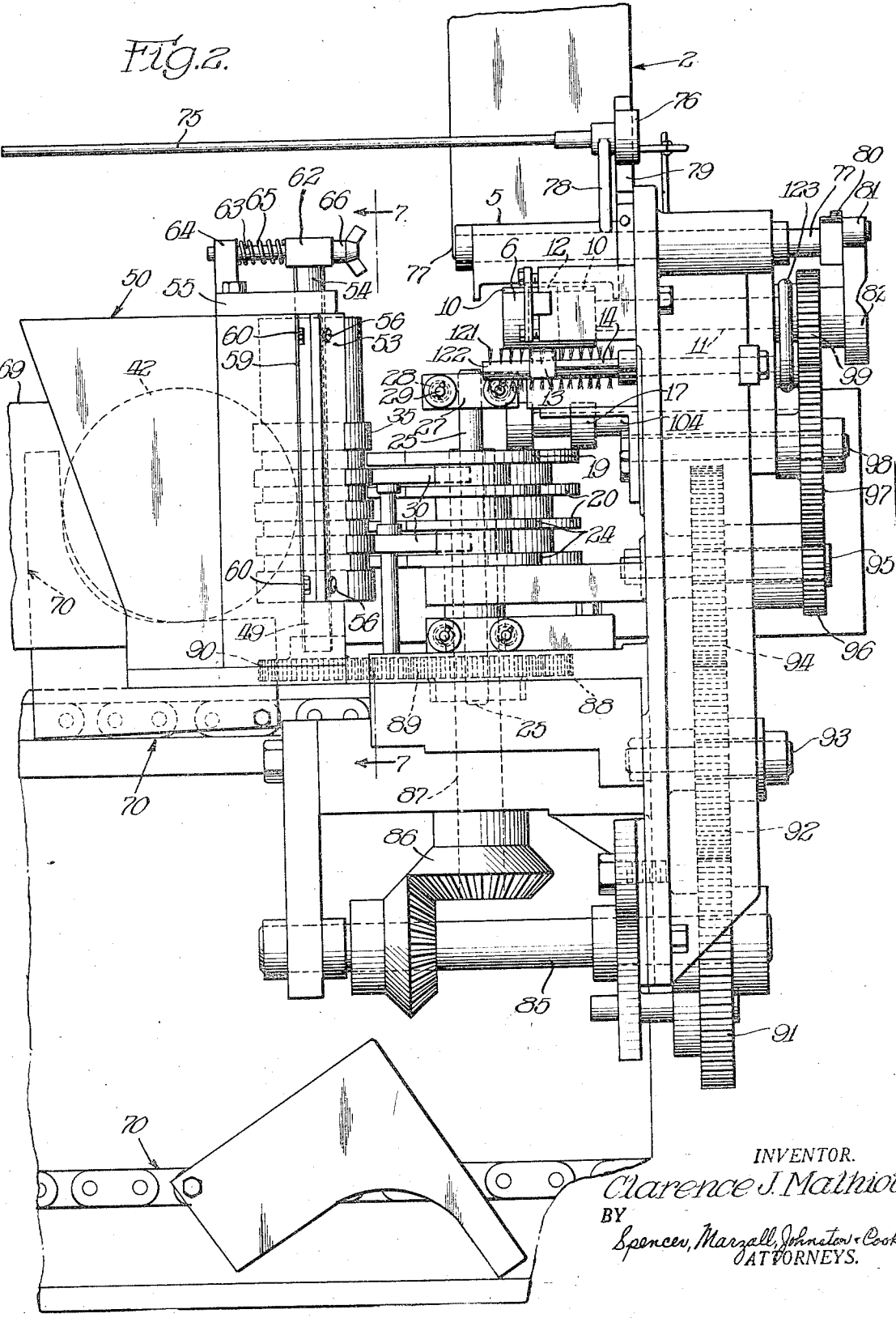
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5 Sheets-Sheet 2

Fig. 2.



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5 Sheets-Sheet 3

Fig. 3.

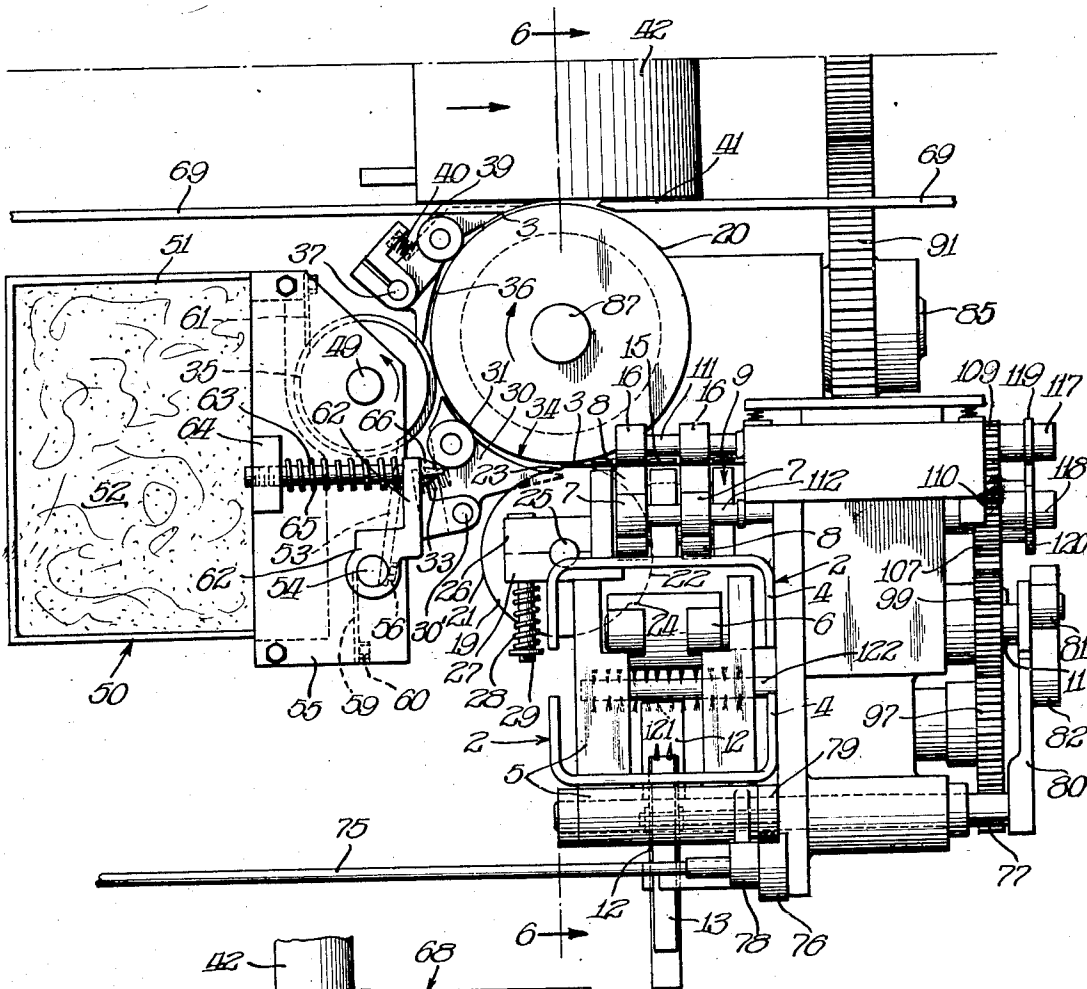
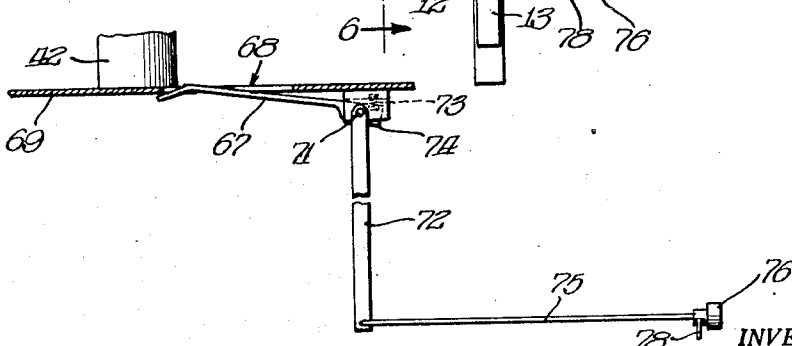


Fig. 4.



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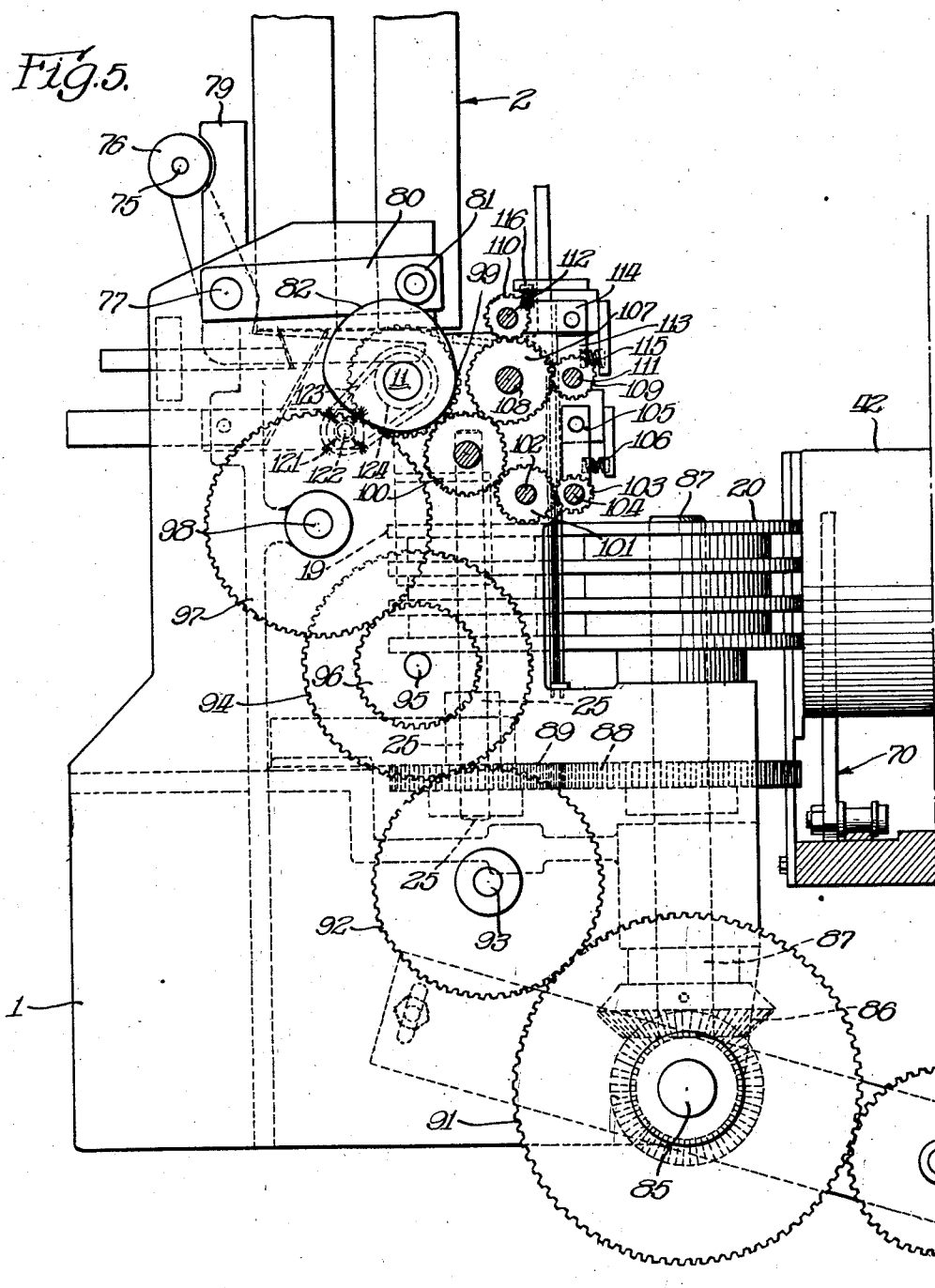
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LABEL FEEDING AND APPLYING MECHANISM

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5. Sheets-Sheet 4



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LABEL FEEDING AND APPLYING MECHANISM

Filed June 20, 1941

5 Sheets-Sheet 5

Fig. 5

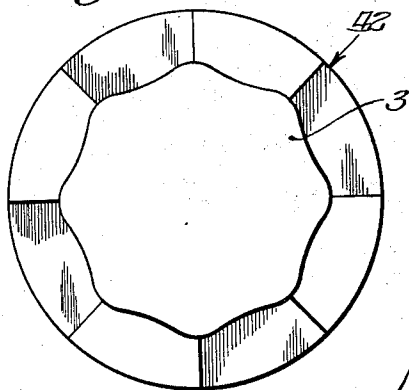


Fig. 6

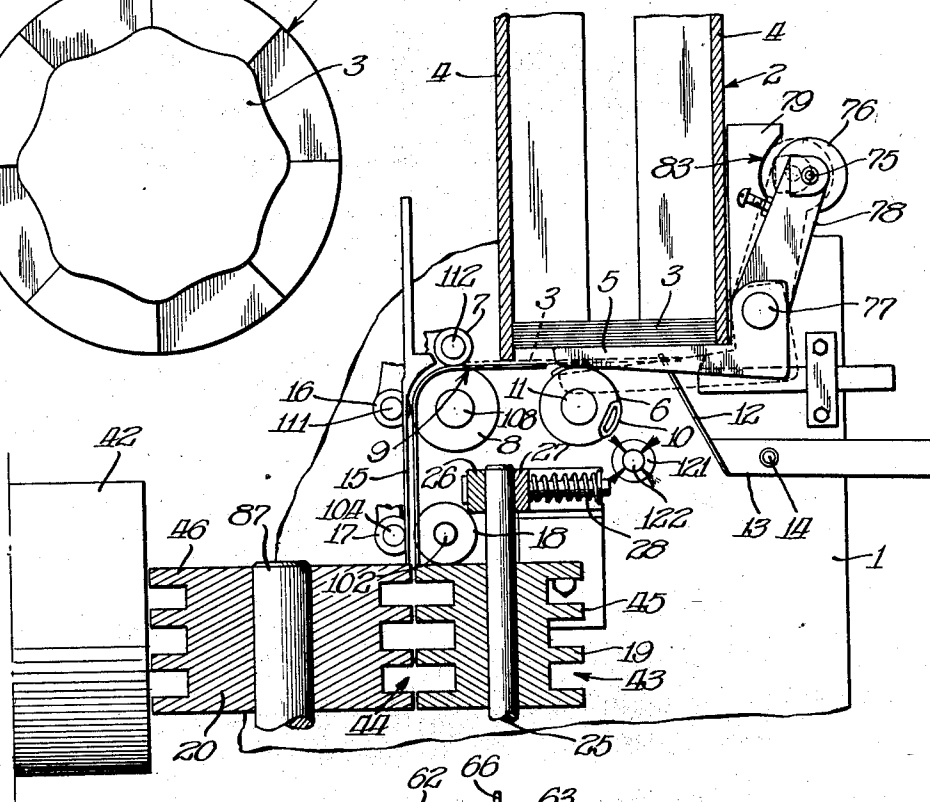
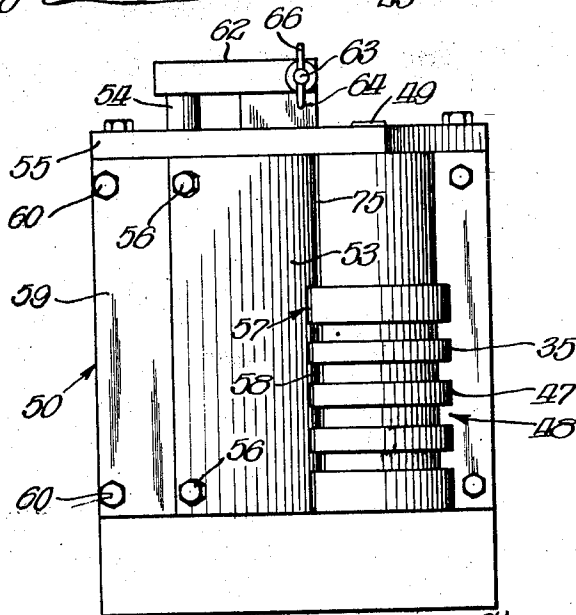


Fig. 7



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UNITED STATES PATENT OFFICE

2,330,830

LABEL FEEDING AND APPLYING
MECHANISM

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tion of Illinois

Application June 20, 1941, Serial No. 398,988

18 Claims. (Cl. 216—52)

This invention relates to a mechanism for feeding and applying seals or labels to articles. More specifically, the invention relates to seal or label feeding and applying mechanisms adapted to be applied to a wrapping machine of the type disclosed and claimed in the co-pending application Serial No. 398,987 filed concurrently herewith and assigned to the present assignee. This co-pending application relates to a machine for wrapping rolls of flexible material such as rolls of toilet paper, paper towels and other like and similar rolled materials.

An important object of the present invention is the provision of new and improved means for feeding seals or labels to a predetermined position with respect to a continuously moving article and then applying the seal or label to the opposite ends of the article.

Another important object of the invention is the provision of new and improved means for definitely and positively feeding seals or labels consecutively to a wrapped article to be applied to said article, there being means for preventing the feeding of a seal or label to the wrapped article when a wrapped article is not in proper position.

Another object of the invention is the provision of feeding means embodying a continuously rotating feed roller for starting the feeding of a wrapper to a predetermined position, there being means for lifting the entire stack of labels or seals if an article upon which the seal is to be applied is not positioned at a predetermined location.

A further object of the invention is the provision of an improved feeding mechanism whereby seals or labels are feed horizontally from the bottom of a stack and then fed vertically to a predetermined position where they are fed along a predetermined path and moved 180 degrees about a vertical axis so as to bring the seal or label in juxtaposition with respect to the ends of an article to which the seal or label is to be applied.

A still further object of the invention is the provision of new and improved detector mechanism whereby a lifting element is adapted to remove the stack of seals or labels out of the path of continuously operating feed starting mechanism so as to prevent the feeding of the seals or labels should an article not be in a proper predetermined position.

A still further object of the invention is the provision of a new and improved continuously rotating element for feeding seals or labels from a predetermined location to another location, the

seal being thereafter shifted so as to bring the same in proper position with respect to a continuously moving article upon which the seal or label is to be fed.

Another object resides in the provision of new and improved feed mechanism of a novel construction wherein the seals or labels are fed to a predetermined position to have glue applied thereto and then shifted to another predetermined position to be applied to the ends of a continuously moving article.

A still further object of the invention is the provision of seal or label feeding and applying mechanism which is adapted to be operated continuously for continuously feeding labels or seals through a predetermined path and positioning the seals or labels in a novel manner so as to have glue applied to the seals and then feed the glued seals to the ends of continuously moving rolls of material.

Numerous other objects and advantages will be apparent throughout the progress of the following specification.

The accompanying drawings illustrate a selected embodiment of the invention and the views therein are as follows:

Fig. 1 is a detail front elevational view of the improved seal or label feeding and applying mechanism;

Fig. 2 is a detail fragmentary front elevational view on a considerably larger scale than Fig. 1;

Fig. 3 is a detail top plan view of the mechanism shown in Fig. 2;

Fig. 4 is a top plan view on a reduced scale showing some of the detector mechanism;

Fig. 5 is a detail vertical sectional view on the line 5—5 of Fig. 1;

Fig. 6 is a detail vertical sectional view on the line 6—6 of Fig. 3;

Fig. 7 is a detail elevational view of the gluing mechanism looking in the direction of the arrows 7—7 of Fig. 2; and

Fig. 8 is an end view showing a roll of toilet paper having the end seal or label applied across the folded wrapper ends.

The particular seal or label feeding and applying mechanism herein shown for the purpose of illustrating the invention is adapted to apply end seals or labels over the ends of rolls of flexible material which have been previously wrapped by a wrapping machine of the type disclosed in the aforesaid co-pending application. The present seal feeding and applying mechanism comprises a suitable supporting frame or structure 1 which is adapted to be secured to a part of a wrapping

machine frame, or the supporting structure 1 may comprise a separate and independent support operatively positioned with respect to the wrapping machine in such a manner that wrapped articles will be fed continuously and successively along a predetermined path to have the seals or labels applied across the ends thereof to seal the end folds of the wrapper.

A magazine 2 for supporting a plurality of stacked seals or labels 3, Fig. 6, is operatively secured to a suitable part of the frame structure 1. The magazine comprises upstanding rigid members 4 operatively supported and of a proper size so as to receive and support a plurality of labels or seals 3 in stacked relationship. The labels or seals 3 are arranged within the uprights 4 of the magazine, and are arranged above a member 5.

A feed roller 6 to start the feeding of a lowermost seal or label in the magazine 2 is rotatively mounted immediately below the stack of seals in the magazine and is adapted to have physical contact with a lowermost seal or label to start the feeding thereof out of the magazine and feed it between two pairs of opposed feed rollers 7 and 8 positioned adjacent suitable slots in a feed guide 9.

The feed roller 6 for starting the feeding of a lowermost seal or label 3 is generally cylindrical in shape and carries an upstanding flexible element 10 which extends a predetermined distance above the normal periphery of the roll 6. The feed roll 6 is mounted on a transverse shaft 11 and is driven by the shaft 11 in any suitable manner, such as by the, variable speed, over-running clutch type of mechanism disclosed in applicant's co-pending application Serial No. 398,989 filed concurrently herewith and assigned to the present assignee. The feed roller per se and the flexible upstanding feeding part 10 thereof is of the type disclosed and claimed in the latter aforesaid co-pending application Serial No. 398,989. The feed roller 6 is adapted to rotate continuously and during every revolution the feeding surface 10 thereof engages a surface of a lowermost seal or label and feeds the seal or label along the guide 9 to position between the feed rollers 7 and 8. The trailing side of the label stack (to the left Fig. 5) rests on a pair of needles which are adapted to pierce one or more of the lowermost labels or seals to prevent accidental movement or displacement thereof. A scraper element 12 extends upwardly from a lever 13 pivotally mounted at 14 to a part of the supporting structure 1 for the purpose of smoothing out and pressing any tear or projection which may be caused in the seal by reason of any tearing action caused thereupon because of the needles.

After a seal or label has been fed along the guide 9 between the feed rollers 7 and 8, it passes along the vertical guide 15 which cooperates with and is preferably a part of the aforesaid guide 9. A second feed roller 16 cooperates with the feed roller 8 to feed the seal properly downwardly through vertical guide 15. The feed rollers 16 and 8 cause the seal or label to be fed between a pair of operatively positioned feed rollers 17 and 18 for feeding the seal or label 3 between a vertically positioned feed roller 19 and a relatively large feed roller 20.

The feed roller 19, while approximately circular in cross section, has two portions of different radius, a portion 21 of short radius and a larger engaging or feeding portion 22, the outer arcuate surfaces 21 and 22 being connected together by offset parts 23 and 24, Fig. 3. The roller 19 is

fixed upon a shaft 25 which is mounted between a fixed bearing 26 and a bearing 27 which is pressed toward the bearing 26 by a spring 28. The shaft receiving opening in the bearing 26 is provided with a small amount of play therein so as to permit proper operation of the roll 19 so as to maintain the peripheral part 22 of the roller 19 tightly against the periphery of the large feed roller 20. The spring 28 is arranged about a pin 29 which is rigidly connected to the fixed bearing 26 and passes through both bearings 26 and 27 as clearly shown in Figs. 3 and 6.

The roller 19, therefore, permits proper and easy feeding of a seal or label between the rollers 19 and 20, the label or seal first coming in engagement with the roller 19 at the straight portion 23 and then later pressed or pushed into operative physical contact with the periphery of the roller 20 when the peripheral part 22 of the roller 19 has been rotated a predetermined amount. This peripheral engagement of the periphery 22 of the roller 19 against the periphery of the large roller 20 will move the label or seal into position between guide shoe 30 and the periphery of the large roller 20 where it is fed between the roller 20 and a small feed roller 31.

Guide shoe 30 is pivotally mounted at 30' Fig. 3, and is urged toward the large roller 20 by means of a spring 33. This spring 33 causes the small feed roller 31 to have peripheral engagement with the periphery of the rotating large feed roller 20. The guide shoe 30 has an arcuate surface adjacent the periphery of the large feed roller 20 so as to conform therewith, but diverges away from the feed roller to provide a label receiving space 34, Fig. 3. The continued rotation of the large feed roller 20 in cooperation with the small feed roller 31 will cause the seal or label to be glued by a glue roller 35 and then fed between a second guide shoe 36 arranged adjacent the periphery of the large feed roll.

The guide shoe 36 is pivotally mounted at 37, and carries a small feed roller 39 which is urged toward the periphery of the roller 20 by means of a spring 40. The roller 39 has peripheral engagement with the periphery of the large roller 20 and assists in feeding a seal or label 3 against an end 41 of the roll of wrapped material 42, Fig. 3. The rolls 19 and 20 are provided with vertically spaced annular grooves 43 and 44 respectively, Fig. 6, so as to provide for the outstanding circular or cylindrically shaped projections 45 and 46 respectively, which are adapted for contacting relationship as clearly shown in Fig. 6.

The glue roller 35 is likewise provided with annular projections 47 and annular grooves 48 between the projections. The projections 47 on the glue roller 35 are located so that they will be in substantially the same horizontal plane as the annular grooves 43 and 44 in the feed rollers 19 and 20 respectively, whereby the projections 45 and 46 on the rollers 19 and 20 will be in substantially the same plane as the grooves 48 in the glue roller 35. The staggering of the projections 47 on the glue roller with respect to the projections 45 and 46 on the rollers 19 and 20 definitely prevents any glue from the glue roller 35 from coming into contact with the peripheral feeding surfaces 45 and 46 of the rollers 19 and 20.

The glue roller 35 is mounted on a vertical shaft 49 mounted in the glue housing or pot 50. The glue housing or pot 50 comprises a 3-sided structure 51 having a bottom 52 with an open side where the glue roller 35 is rotatively mount-

ed. A scraper plate 53 is fixed to an upstanding rigid shaft 54 which extends upwardly through a top plate 55 mounted on top of the side walls of the structure 51. One end of the scraper element 53 is rigidly secured to the vertical shaft 54 by means of bolts 56. The free end of the scraper element is notched out as indicated at 57, Fig. 7, so as to accommodate the annular ribs 47 projecting outwardly from the glue roller 35. Notching out of the scraper 57 provides inwardly extending teeth 58 which extend in the annular grooves 48 in the glue roller. The scraper is adapted to make relatively tight contact with the glue roller so as to prevent the glue in the glue compartment from running out.

Moreover, the scraper 53 permits only a proper amount of glue to be applied on the peripheral surfaces of the annular extensions 47 so that the seals or labels may be properly glued. A closing plate 59 of relatively springy material is fastened to a part of the glue pot as indicated at 60, Fig. 3, and is spring-urged against the upstanding shaft 54 by the inherent springiness or resiliency of the metal from which the member 59 is made. An oppositely disposed closing plate 61, Fig. 3, made of relatively resilient material, is provided to form a closing wall between the glue roller 35 and the end of the glue pot. This latter plate 60 is maintained tightly against the glue roller 35 because of the natural or inherent resiliency of the metal from which it is made. This plate 61 is provided with notches to accommodate the ridges 47 on the glue roller and maintains close enough contact with the glue roller so as to prevent the escape of glue, but is spaced far enough away from the roll to permit any glue remaining on the periphery of the glue roller 35 to reenter the pot 50.

An arm 62 is rigidly mounted on the upper end of the rigid shaft 54 and is provided with an opening on its free end through which a pin 63 extends. The pin 63 is rigidly secured to a lug 64 mounted on the upper plate 55 on the glue housing. A spring 65 extends about the pin 63 and is confined between the lug 64 and the bracket arm 62 and tends to urge the bracket arm in an outwardly direction. A thumb nut 66 engages the free threaded end of the pin 63 to lock the arm 62 with respect to the pin 63. The thumb nut may be screwed inwardly or outwardly to adjust the scraper arm toward and away from the glue roller so as to permit a greater or lesser amount of glue to be fed by the peripheral projections 47 on the glue roller. The adjustment of the thumb nut 66 permits relative adjustment of the scraper 53 toward and away from the glue pot because the scraper 53 is rigidly secured to the shaft 54 and the bracket arm 62 is also rigidly secured to the shaft 54.

A detector mechanism is provided to prevent the feeding of a seal or label when a roll upon which the seal or label is to be applied is not in proper relative position. This detector mechanism comprises a detector finger 67 which is adapted to extend through a slot 68 provided in the article guide rail 69 which guides rolls 42 as they are continuously moved successively along a predetermined path, Figs. 1 and 4, by a conveyor mechanism 70, Figs. 1 and 2.

The detector finger 67 is rigidly connected to a vertical rod 71, Figs. 1 and 4, to which a lever 72 is fastened. A spring 73, Fig. 4, is arranged behind a tail piece 74 on the detector finger to normally urge the detector finger inwardly of

the slot 68 in the guide rail 69. A link 75 is connected to the lever 72 and carries a collar 76 at its extreme end, Figs. 1, 2, 3, and 4. The link 75, therefore, is given longitudinal movement by the rocking movement of the detector finger 67. Thus when the detector finger is shifted in one position, the link 75 will be given longitudinal movement in one direction, and when the finger is moved in an opposite direction, the link 75 will be given opposite longitudinal movement, and inasmuch as the collar 76 is connected to the end of the link 75, the collar will be moved along with the link 75. The detector finger 68 is operated or not operated by the presence or absence of a roll to control the feeding of a wrapper.

The seal or label supporting member 5 is pivotally mounted on a shaft 77 and includes a rigid extension lever 78 through which the link 75 is supported and guided, Figs. 2 and 6. A lever 79 is adapted for cooperation with the collar 76 to effect raising movement of the supporting member 5 as shown in full line position in Fig. 6, when an article 42 is not in a proper position with respect to the depressor finger 67. This lever 79, Fig. 6, is mounted on the shaft 77 which also carries an arm 80 rigidly connected thereto, Figs. 2, 3 and 5. The arm 80 carries a cam roller 81 which is in contact with the peripheral surface of a cam 82. The cam 82 is mounted on the shaft 11 upon which the start-feed roller 6 is mounted and is adapted to be rotated by that shaft. Thus, during every revolution of the shaft 11 the lever 79 will be swung back and forth on its pivot 77. However, even though the lever 79 is given continuous rocking movement because of the cam and cam roller, the lever 79 normally has no effect on the lever arm 78 because the end of the lever 79 does not normally come into engagement with the collar 76 on the link 75. However, when a roll 42 is not in position, the detector finger 67 will be forced a predetermined distance inwardly through the slot 68 and cause the link 75 to be moved longitudinally to bring the collar 76 into the path of movement of the continuously rocking lever 79. Upon engagement of the rocking lever 79 with the collar 76 on the link 75 the lever 78 will be swung on its pivot 77, and inasmuch as the label or seal supporting members 5 are integral with the lever 78, the members 5 will be swung upwardly as shown in full lines in Fig. 6, and cause all the seals or labels 3 in the magazine 2 to be raised upwardly out of the path of the rotating start-feed roller 6. When the supporting member 5 is raised upwardly as shown in full lines in Fig. 6, no seal or label will be fed because the lowermost seal or label to be fed will be out of physical engagement with the start-feed roller 6.

When a roll 42 again comes into proper position, the detector finger 67 will be depressed by the roll 42 and swing the detector finger so as to give longitudinal movement to the link 75; therefore moving the collar 76 out of the path of the rocking lever 79. Therefore the rocking of the lever will have no effect on the member 5 and the member 5 will be in the position shown in dotted lines in Fig. 6. The lever 79 is cut away or curved as indicated at 83, Fig. 6, so that the rocking lever 79 will not come in contact with the link 75. The only time, therefore, that the rocking lever will operate the lever 78 is when the collar 76 is in the path of movement of the lever 79 when there is no roll 42 in proper position with respect to the detector finger 67.

The parts are all driven synchronously and in

proper timed relationship so as to effect proper operation of the various parts at the proper time. The driven elements are driven from a suitable drive shaft 85 which may be driven in any suitable manner from a driven element of the wrapping machine to which the present feeding and applying mechanism is applied. The drive shaft 85 carries a bevel gear which meshes with a bevel gear 86 on a vertical shaft 87 and drives this vertical shaft 87 upon which the large feed roller 20 is rigidly attached to drive the roller 20. A gear 88 on the shaft 87 meshes with and drives a gear 89 on the shaft 25 which drives the smaller feed roller 19. A gear 90 on the shaft 49 of the glue roller 35 also meshes with the gear 88 and is driven thereby, Fig. 2. The small rollers 31 and 39 also have gears at the lower ends of their shafts which mesh with gear 88 on shaft 87 for the purpose of driving these small rollers. The rollers 19 and 20, the glue roller 35 and the rollers 31 and 39 are thereby caused all to operate synchronously and in proper timed relationship by the shaft 87. The drive shaft 85 also carries a gear 91 which meshes with a gear 92 mounted on a shaft 93, Fig. 5. The gear 92 drives an idler gear 94 mounted on a shaft 95. A small gear 96 is rigidly secured to the gear 95 and meshes with and drives a gear 97 on a shaft 98. The gear 97 meshes with a gear 99, Fig. 5, on the shaft 11 which drives the start feed roll 6, the shaft 11 also carrying the cam 82.

The gear 99 drives an idler gear 100, Fig. 5, which drives a gear 101 mounted on the shaft 102 which carries the feed roll 18. The gear 101 on the shaft 102 has meshing engagement with a gear 103 on a shaft 104 which carries the cooperating feed roll 17. The shaft 104 which carries the gear 103 and the feed roll 17 is operatively mounted on pivoted lever arms 105 which are urged by springs 106 inwardly so as to maintain proper meshing engagement between the gears 101 and 103 and to maintain the feed rollers 17 and 18 in proper contacting relationship. The idler gear 100 also drives a gear 107 on a shaft 108 upon which the feed roller 8 is mounted. This gear 107 has meshing engagement with gears 109 and 110 mounted on shafts 111 and 112, respectively. The shafts 111 and 112 carry the feed roller 16 and the presser feed roller 7, respectively. The shafts 111 and 112 are carried by lever arms 113 and 114 respectively, and are spring pressed by springs 115 and 116 respectively, Fig. 5, so as to maintain the gears 109 and 110 in proper meshing relationship with the gear 107 and to keep the rollers 16 and 7 in tight frictional contact with the feed roller 8. The shafts 111 and 112 are relatively long and the spring pressed rollers 16 and 7 are mounted so that the springs 115 and 116 apply the pressure only on one side. Therefore, the opposite ends of the shafts 111 and 112 are provided with balancing rollers 117 and 118 which are provided with peripheral rims 119 and 120 respectively. These peripheral rims are spaced apart a distance equal to the thickness of a seal or label 3 and therefore as a seal or label 3 passes between the spaced feed rollers 7 and 16 and their cooperating feed roller 8, the parts will be in proper parallel relationship and in proper balance. Similar balancing rolls are provided on shafts 102 and 104 to maintain the rolls 17 and 18 in proper feeding relationship.

A brush 121, Figs. 2, 3, and 16, is mounted on a shaft 122 and is for the purpose of brushing the start feed roller 6 so as to keep this feed roll 6

clean at all times. The shaft 122 is driven by a belt 123 driven from a pulley 124 mounted on the shaft 11.

After a roll 42 has had the seal 3 applied there-
5 to over the ends thereof, the rolls are fed to a sealing mechanism in the form of a conveyor 125, Fig. 1, having means for pressing the seal against the end of the roll, and preferably hav-
10 ing wobbling presser members of the type disclosed in applicant's co-pending application Serial No. 398,990 filed concurrently herewith and assigned to the present assignee.

Operation

During operation of the herein disclosed seal
15 or label feeding and applying mechanism, seals or labels 3 are fed out of the magazine 2 by the start feed roller 6 which feeds a lowermost seal or label to the horizontal part of the guide 9 and
20 between the feed roller 8 and the presser roller 7. The label or seal is then fed downwardly passing between the feed roller 8 and the presser roller 16 through the vertical guide 15 in between the feed rollers 17 and 18. These latter
25 rollers 17 and 18 feed the seal or label between the ribbed feed rollers 19 and 20, there being a space between the surface of roll 20 and the undercut or smaller diameter part 21 of roll 19. The seal or label is then engaged by the larger
30 peripheral portion 22 of the feed roller 19 and fed in position between the periphery of the large feed roller 20 and the guide shoe 30. The seal or label is then fed by means of the large feed roller 20 and a roller 31 on the shoe 30 to proper position
35 with respect to the glue roller 35 where glue is applied thereto because of the frictional engagement of the glued ribs 47 on the glue roller 35. After glue has been applied to the seal it is fed
40 under the shoe 36 and then by means of the roller 39 and the large feed roller 20 to the end of the continuously moving article 42, and is maintained in contacting relationship with the roll 42 be-
45 cause of the guides 69. Should there be no article in proper position to have a label applied thereto, no label will be fed because a detector
50 finger 67 will be urged through the slot 68 in the guide 69 and cause longitudinal shifting of the link 75. This longitudinal shifting of the link 75 will move the collar 76 into engagement with
55 the continuously rocking lever 79 which is continuously operated by means of the continuously rotating cam on the shaft 11 of the feed start roller 6. The movement of the collar 76 into the
60 path of movement of the continuously rocking lever 79 will cause engagement of the lever 79 with the collar 76 and therefore move the lever 78 to the right, Fig. 6. This movement of the
65 lever 78 causes the supporting member 5 to be raised upwardly because the lever 78 is rigid with the members 5. As the members 5 are raised, all the labels or seals 3 in the magazine 2 will be raised upwardly out of the path of the
70 start feed roller 6. However, when a package is again in proper position the depressor finger 67 will be depressed by a package and move outwardly, again returning the parts to their normal position in which the collar 76 will be out of the path of movement of the rocking lever 79. In this latter position, the support 5 will be in its normal position as shown in dotted lines in Fig. 6 and the seals or labels will be in position to be engaged by the feeding surface 10 on the start feed roller 6.

The invention provides mechanism for feed-
75 ing and applying seals or labels to the ends of

packages and causes the labels or seals to be fed or not fed depending upon the presence or absence of a package in a predetermined position. The mechanism is compact and operates efficiently. It may be incorporated as a part of a wrapping machine or it is adaptable for use as a separate unit to be applied to existing machines. The detector mechanism is positive and efficient in operation and comprises relatively few and simple parts. The means for feeding the seals or labels comprises start feed rollers which feed the labels to a predetermined position where they are fed by other feed rolls to predetermined positions. The small feed roller 19 is spring-urged against its companion feed roller 20 and causes the seals or labels to be fed past the glue roller to have glue applied to the seal or label. The feed rollers 19, 20 and the glue roller 35 are provided with peripheral ribs or extensions so as to cause proper feeding and gluing. The peripheral extensions on the feed rollers 19 and 20 are adapted for contacting relationship while the peripheral extensions on the glue roller 35 are positioned so as to be in a plane out of the plane of the ribs on the rollers 19 and 20 so that any possibility of glue getting onto the feed rollers 19 and 20 is eliminated. The parts are all positively driven and are properly synchronized and correlated so as to provide proper operation.

Changes may be made in the form, construction, and arrangement of the parts without departing from the spirit of the invention or sacrificing any of its advantages, and the right is hereby reserved to make all such changes as fairly fall within the scope of the following claims.

The invention is hereby claimed as follows:

1. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, means for feeding said sheet members from said stack, a pair of feed rolls for receiving said sheet members from said feeding means and advancing the same, and an undercut portion on the peripheral surface of at least one of said rolls for receiving the sheet members longitudinally of the axes of said rolls.

2. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, means for feeding said sheet members from said stack, a pair of feed rolls for receiving said sheet members from said feeding means and advancing the same, an undercut portion on the peripheral surface of at least one of said rolls for receiving the sheet members longitudinally of the axes of said rolls, and a surface on said rolls for thereafter engaging said sheet members and advancing the same.

3. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, means for feeding said sheet members from said stack, a pair of feed rolls for receiving said sheet members and advancing the same, an adhesive applying roll for engaging said members while on one of said feed rolls, a plurality of spaced outwardly projecting article-engaging ribs on at least the one said roll, and a plurality of spaced outwardly projecting article-engaging ribs on said adhesive applying roll, said ribs on the adhesive applying roll being staggered with respect to the ribs of the feed roll so as to be positioned

adjacent the spaces between said first mentioned ribs.

4. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, rotatable means for normally engaging a sheet at the lower end of said stack and feeding the same from the stack, and means including a power driven element engageable under said stack to move the stack out of engagement with said rotatable feeding means.

5. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, rotatable means for normally engaging a sheet at the lower end of said stack and feeding the same from the stack, a member engageable under the lower end of said stack, and means including a power drive for raising and lowering said last mentioned member for effecting movement of said sheets into and out of engagement with said rotatable means.

6. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, rotatable means for normally engaging a sheet at the lower end of said stack and feeding the same from the stack, a member engageable under the lower end of said stack, means for pivotally mounting said member, an arm for rocking said member about said pivot, and power drive means for moving said arm to effect movement of said stack into and out of engagement with said rotatable feed means.

7. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, rotatable means for normally engaging a sheet at the lower end of said stack and feeding the same from the stack, a member engageable under the lower end of said stack, means for pivotally mounting said member, an arm for rocking said member about said pivot to effect movement of said stack into and out of engagement with said rotatable feed means, a rock arm on said apparatus, said rock arm being normally disconnected from said first named arm, and means operable to effect a driving connection between said rock arm and said first mentioned arm.

8. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, rotatable means for normally engaging a sheet at the lower end of said stack and feeding the same from the stack, a member engageable under the lower end of said stack, means for pivotally mounting said member, an arm for rocking said member about said pivot to effect movement of said stack into and out of engagement with said rotatable feed means, a rock arm on said apparatus, drive means for continuously rocking said rock arm, and shiftable means operable to effect a driving connection between said rock arm and said first mentioned arm.

9. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, a feed roll, friction means on a portion of the surface of said feed roll for normally engaging a sheet at the lower end of said stack and feeding the same from the stack, a member engageable with the lower end of said stack, means for pivotally mounting said member, drive means coordinated with the rotation of said feed roll for rocking said member about said pivot to move said stack

out of engagement with said friction means on the feed roll, and means operable to selectively connect and disconnect said drive means and said member.

10. Apparatus of the character described for applying sheet members to articles or the like comprising means for feeding said articles, means for supporting a stack of said sheet members, rotatable means for normally engaging a sheet at the lower end of said stack and feeding the same from the stack, a member engageable with the lower end of said stack, means for pivotally mounting said member, disconnectible drive means for rocking said member about said pivot to effect movement of said stack into and out of engagement with said feed means, shiftable means for connecting and disconnecting said drive means, and means for operating said shiftable means to provide a driving connection when an article is not in position to receive one of said sheet members and for disconnecting the drive means when an article is in position to receive a sheet member.

11. Apparatus of the character described for applying sheet members to articles or the like comprising means for feeding said articles, means for supporting a stack of said sheet members, rotatable means for normally engaging a sheet at the lower end of said stack and feeding the same from the stack, a member engageable with the lower end of said stack, means for pivotally mounting said member, disconnectible drive means for rocking said member about said pivot to effect movement of said stack into and out of engagement with said feed means, and means including a member engageable by said articles during feeding thereof for disconnecting said drive means when an article is in position to receive one of said sheet members and for connecting the drive means when an article is not in position to receive the sheet member.

12. Apparatus of the character described for applying sheet members to articles or the like comprising means for feeding said articles, means for supporting a stack of said sheet members, and means coordinated with the feeding of said articles for feeding said members comprising a rotatable member engageable with the lowermost sheet member in said stack, means for shifting the position of said sheet members to feed the same longitudinally between a pair of feed rolls, at least one of said rolls having an undercut portion on its peripheral surface providing for receiving the sheet member longitudinally of the axes of the rolls, means for applying adhesive to said sheet members while on one of said feed rolls, and means for applying said sheet members to said articles.

13. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, means for feeding said sheet members from said stack, a pair of feed rolls for receiving said sheet members from said feeding means and advancing the same, each of said rolls having ribs between which the sheet members are received and advanced, and the ribs on at least one of said rolls having portions of different radius to provide an undercut portion for receiving the sheet members longitudinally of the axes of said rolls and a portion for engaging said sheet members and advancing the same.

14. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, means for feeding said sheet members from said stack, a pair of feed rolls for receiving said sheet members from said feeding means and advancing the same, each of said rolls having ribs between which the sheet members are received and advanced, means including guide fingers extending into the spaces between said ribs of one roll for causing said sheet members to follow around the surface of the other of said rolls thereby to change the direction of feed of the sheet members, and a ribbed adhesive roll for gumming said sheet members while on the surface of said last named roll, the ribs on said last named feed roll and said adhesive roll being staggered and so spaced as to avoid contact therebetween when a sheet member is not positioned on the feed roll.

15. In feeding apparatus of the character described, a ribbed feed roll, a ribbed adhesive roll for gumming articles carried by said feed roll, the ribs on said feed roll and said adhesive roll being staggered and so spaced as to avoid contact therebetween when an article is not positioned on the feed roll.

16. In feeding apparatus of the character described, a pair of ribbed feed rolls, the ribs on one of said rolls having a portion of reduced radius providing for receiving sheets to be fed longitudinally of the axes of said rolls, the ribs of the other roll being of constant radius, and a ribbed adhesive roll for gumming said sheets while on said last named roll of constant radius, the ribs on said last named feed roll and said adhesive roll being staggered and so spaced as to avoid contact therebetween when a sheet is not positioned on the feed roll.

17. In feeding apparatus of the character described, a pair of ribbed feed rolls, the ribs on one of said rolls having a portion of reduced radius providing for receiving sheets to be fed longitudinally of the axes of said rolls, the ribs of the other roll being of constant radius, a ribbed adhesive roll for gumming said sheets while on said last named roll of constant radius, the ribs on said last named feed roll and said adhesive roll being staggered and so spaced as to avoid contact therebetween when a sheet is not positioned on the feed roll, and guide fingers co-operating with spaces between said ribs of the roll having portions of reduced radius to direct a sheet around the feed roll of constant radius and into the path of said adhesive roll.

18. Feeding apparatus of the character described comprising means for supporting a plurality of sheet members in a stack, means for feeding said sheet members from said stack, a pair of feed rolls for receiving said sheet members from said feeding means and advancing the same, at least one of said rolls having a plurality of spaced outwardly projecting ribs adapted to engage and advance the sheet members, guide means having portions extending into the spaces between the ribs of said one roll for causing said sheet members to follow around the surface of the other roll thereby to change the direction of feed of the sheet members, and means for applying adhesive to the sheet members while on said other roll.

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