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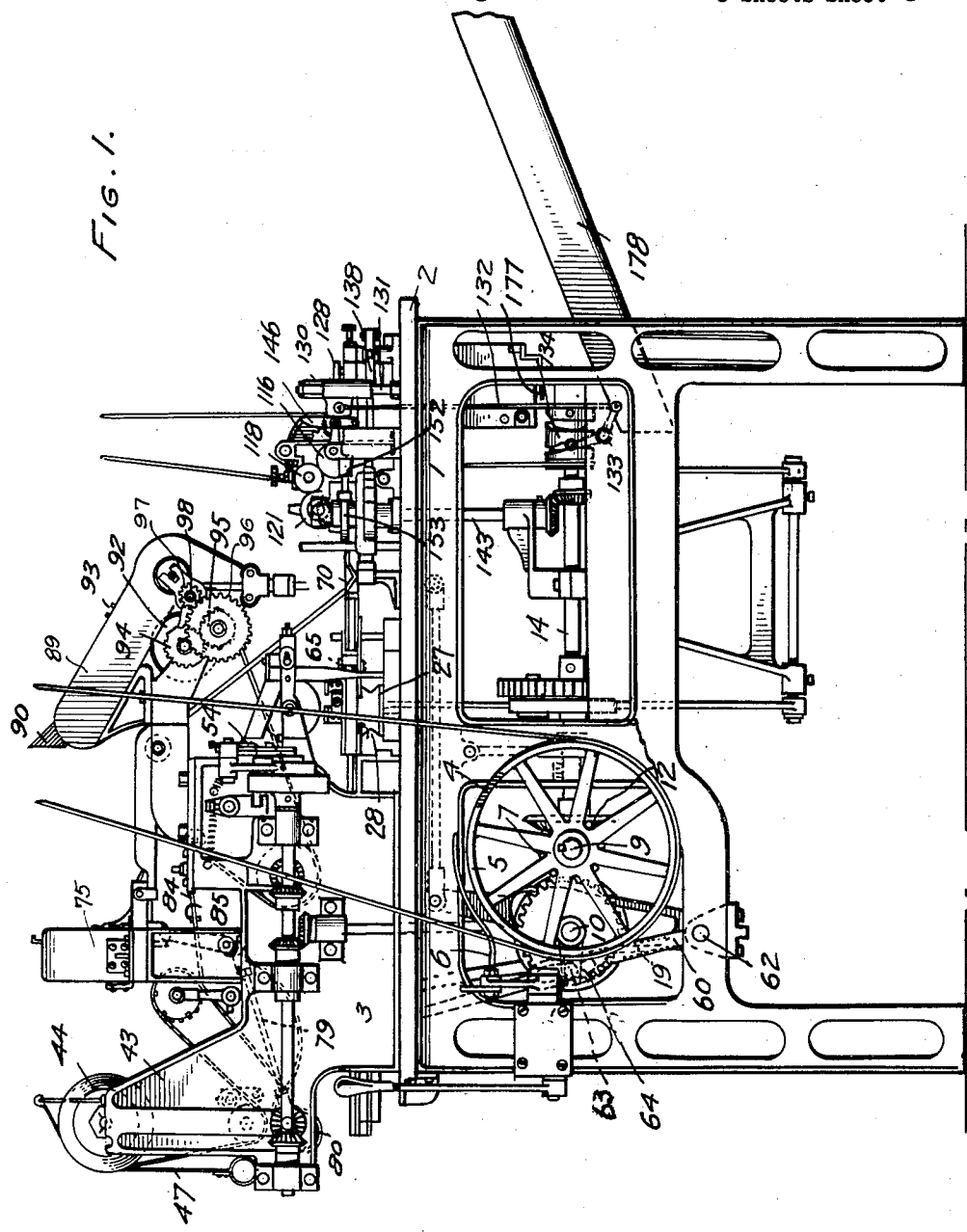
I. LAZAGA

MACHINE FOR PACKAGING ARTICLES

Filed Aug. 15, 1922

9 Sheets-Sheet 1

FIG. 1.



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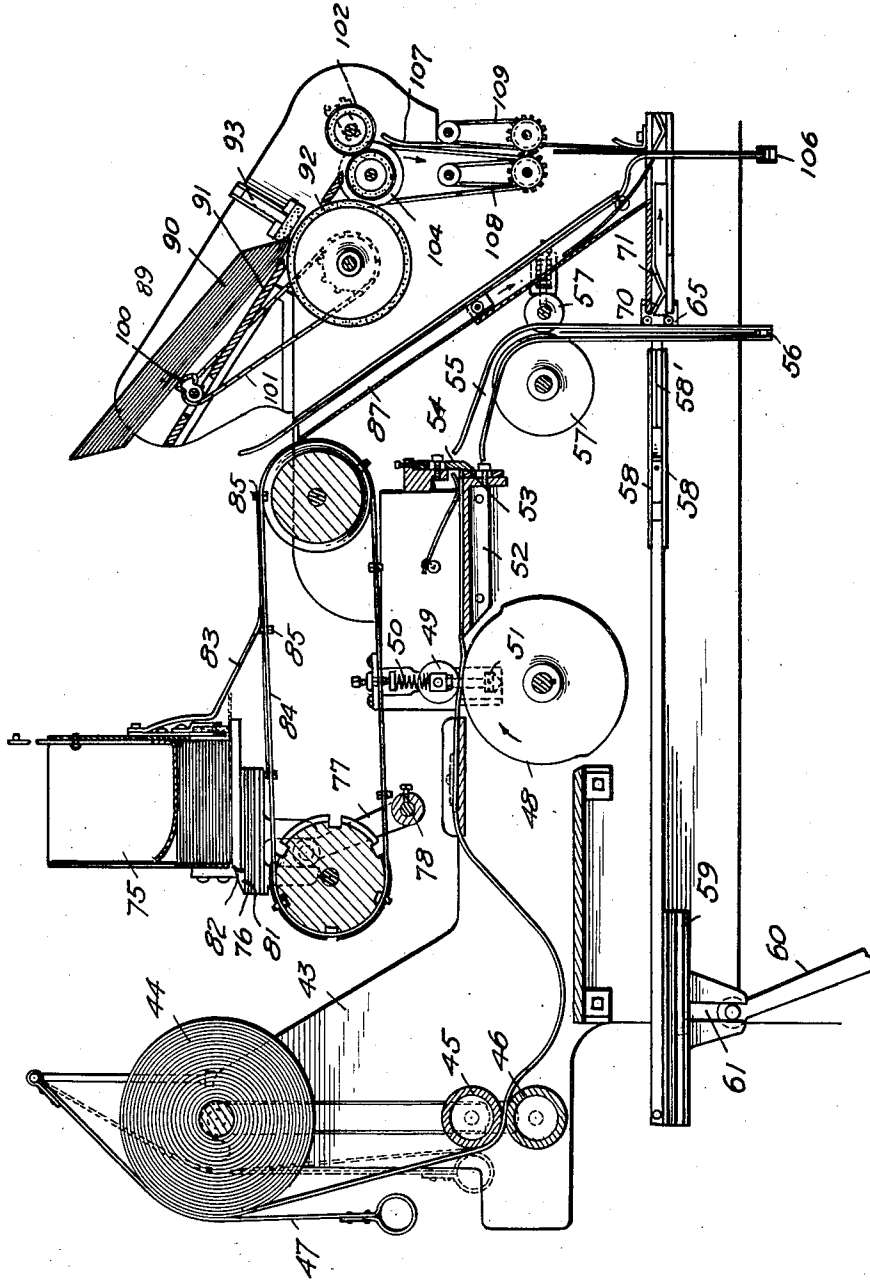
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FIG. 2.



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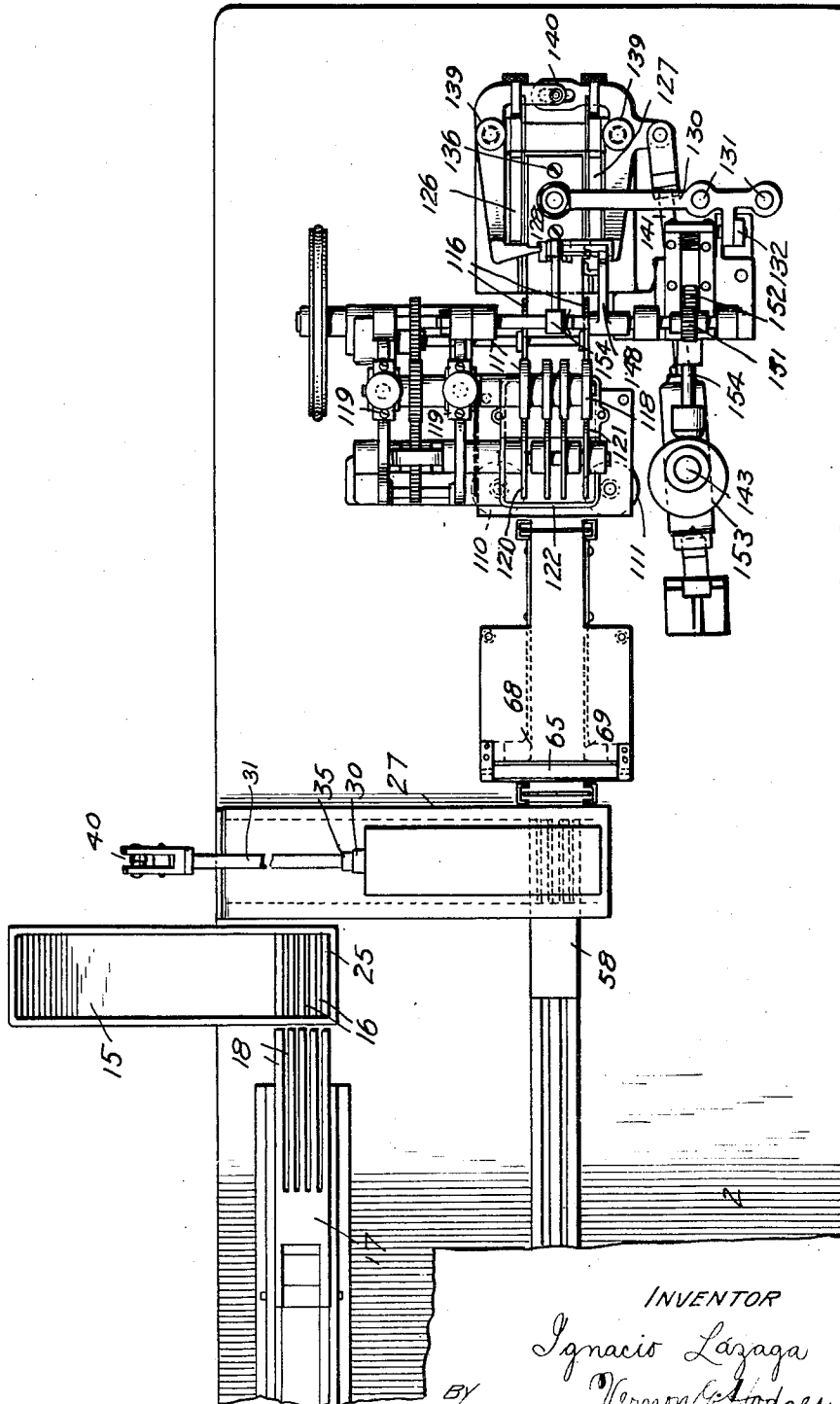
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9 Sheets-Sheet 3

FIG. 3.



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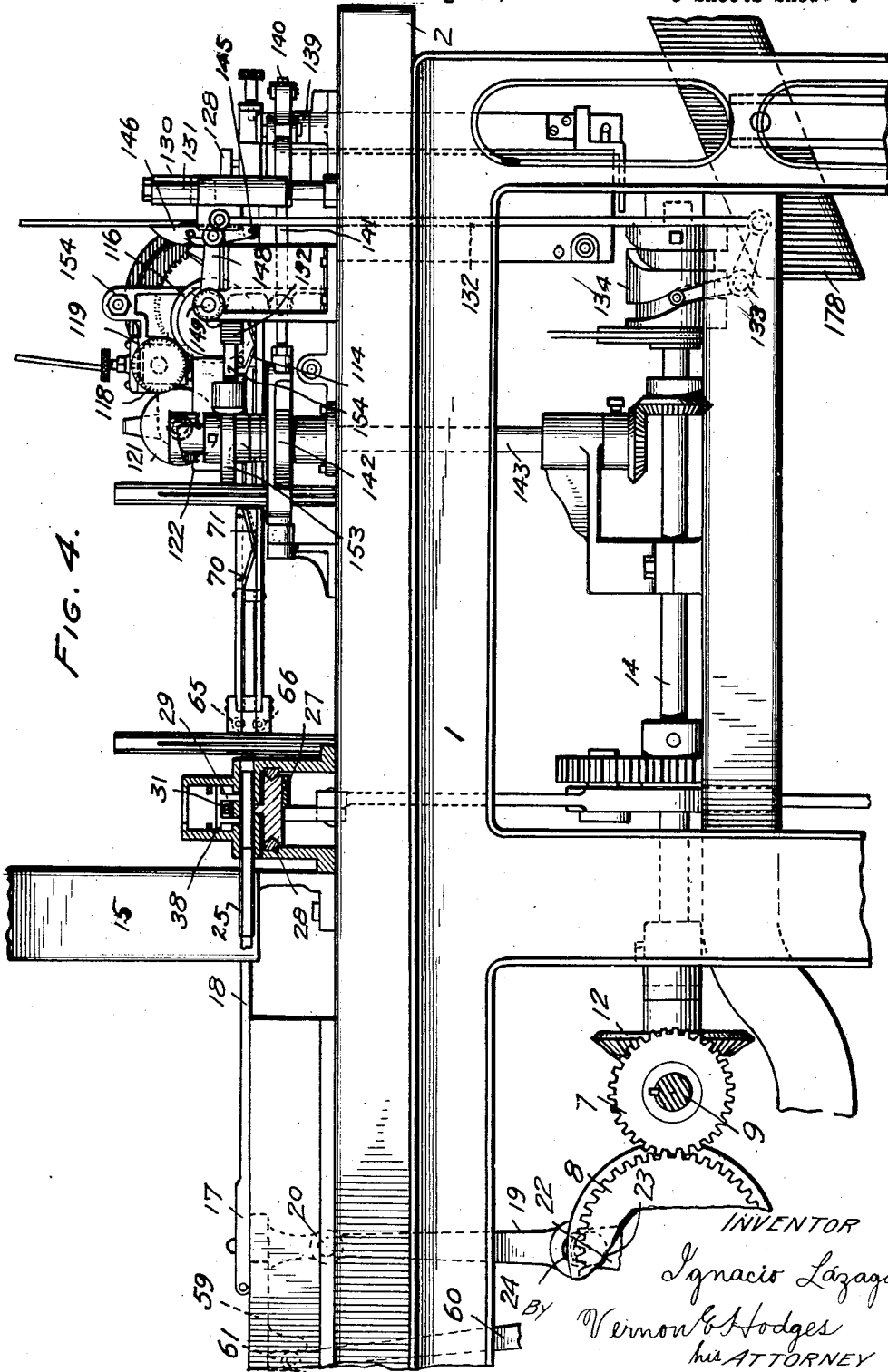
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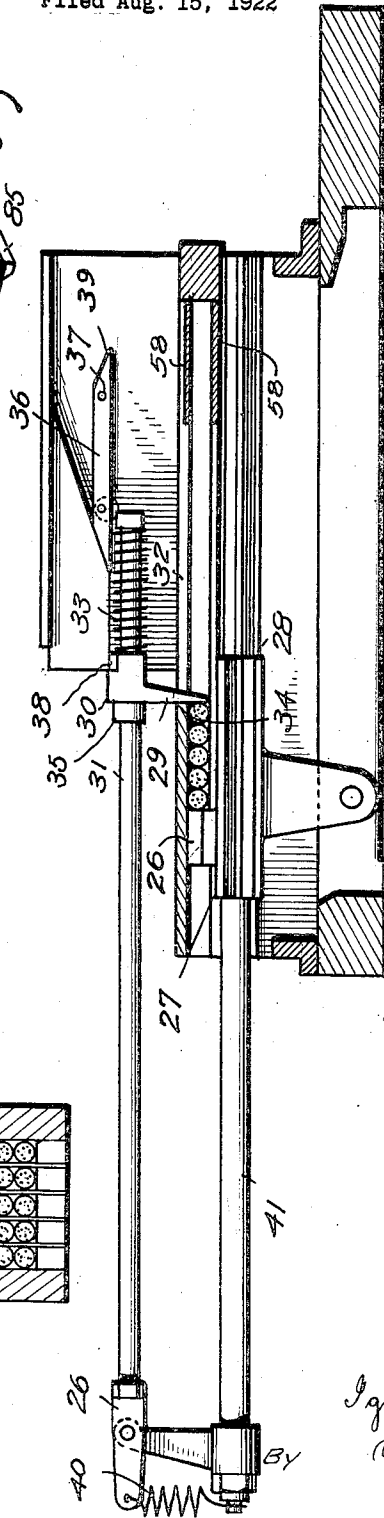
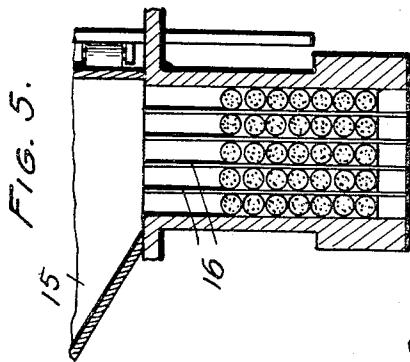
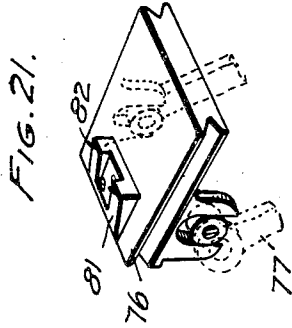
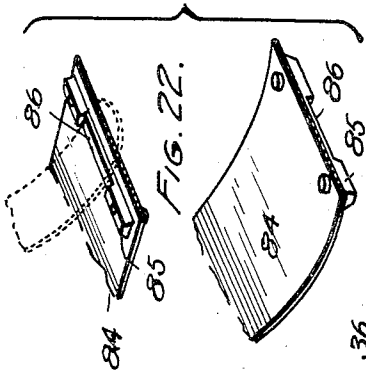


FIG. 6.

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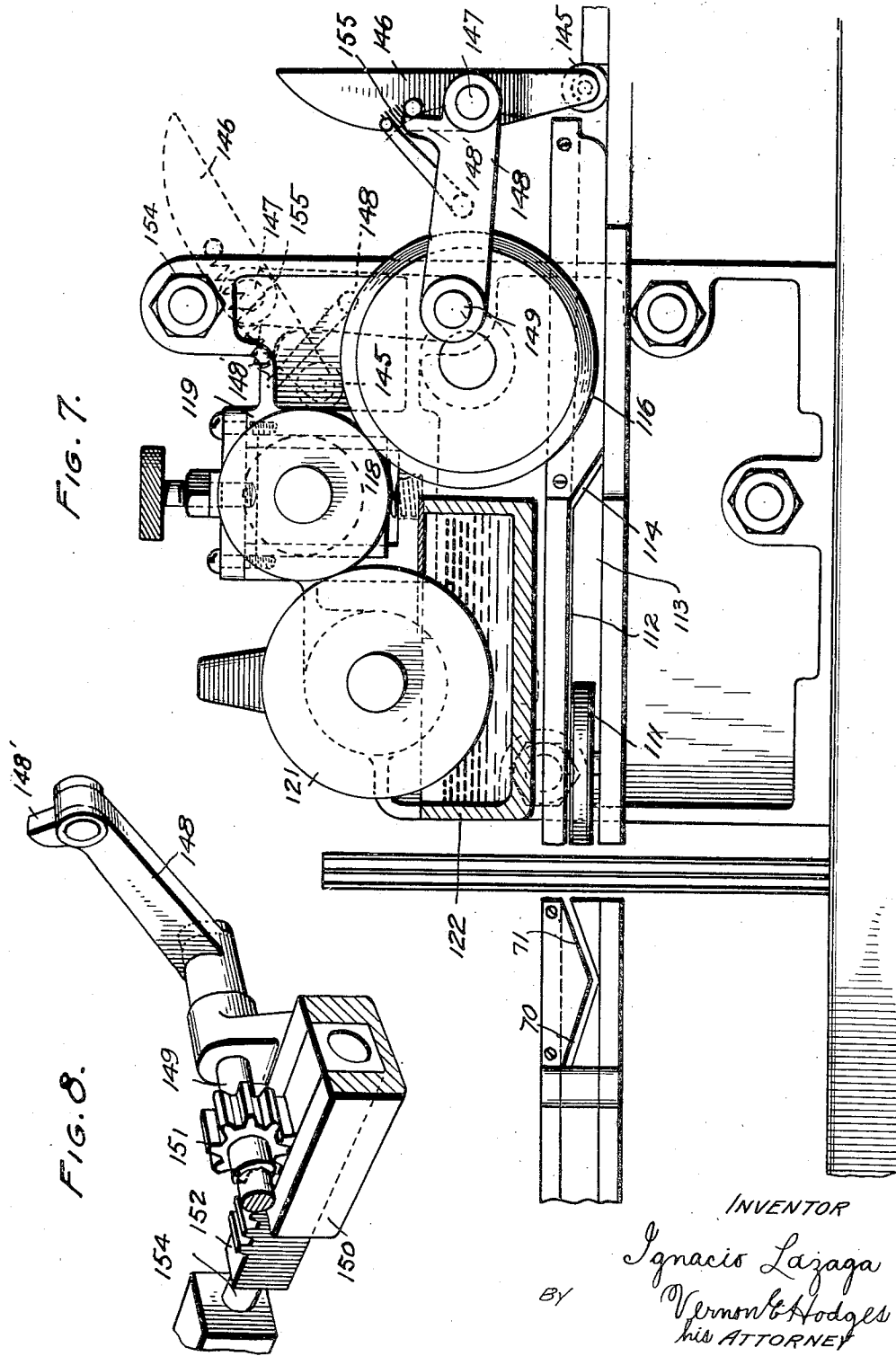
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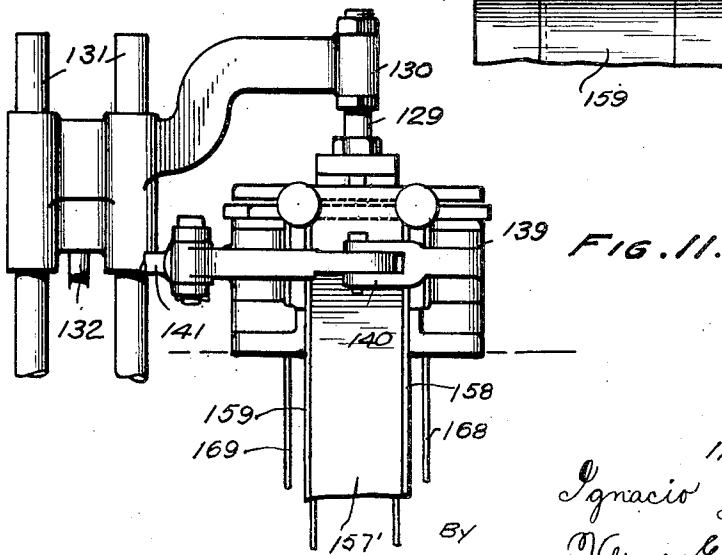
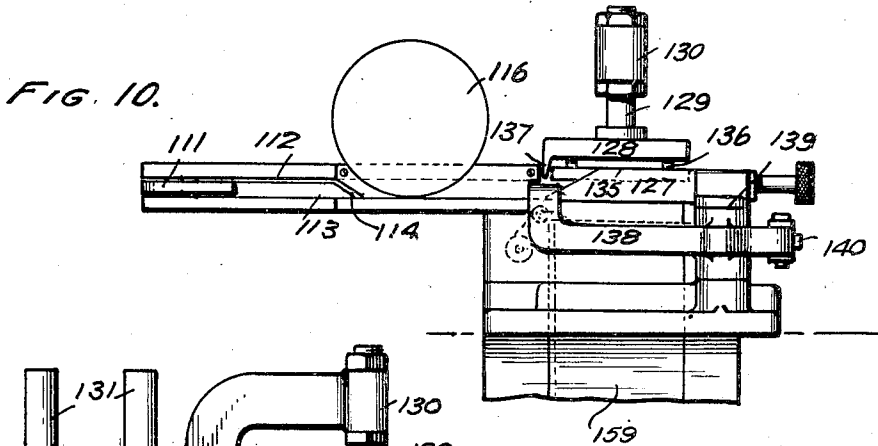
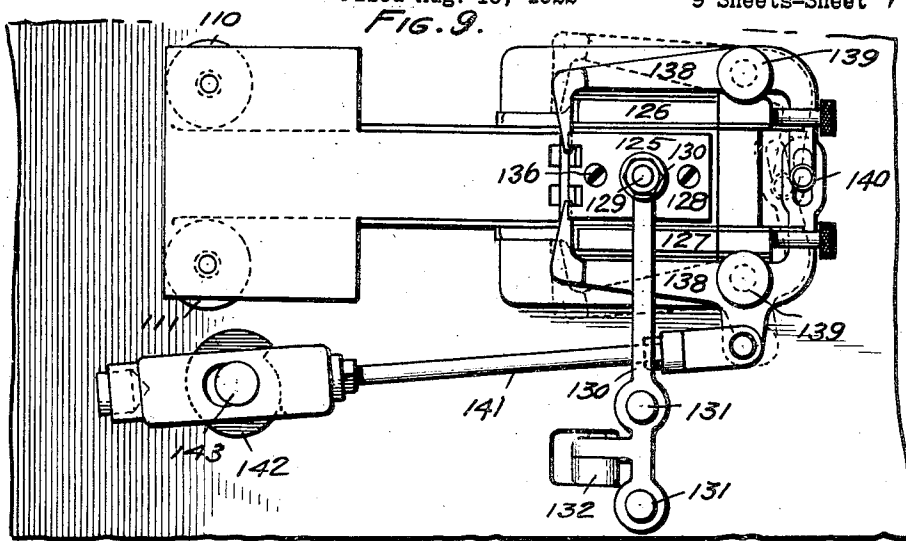
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9 Sheets-Sheet 7



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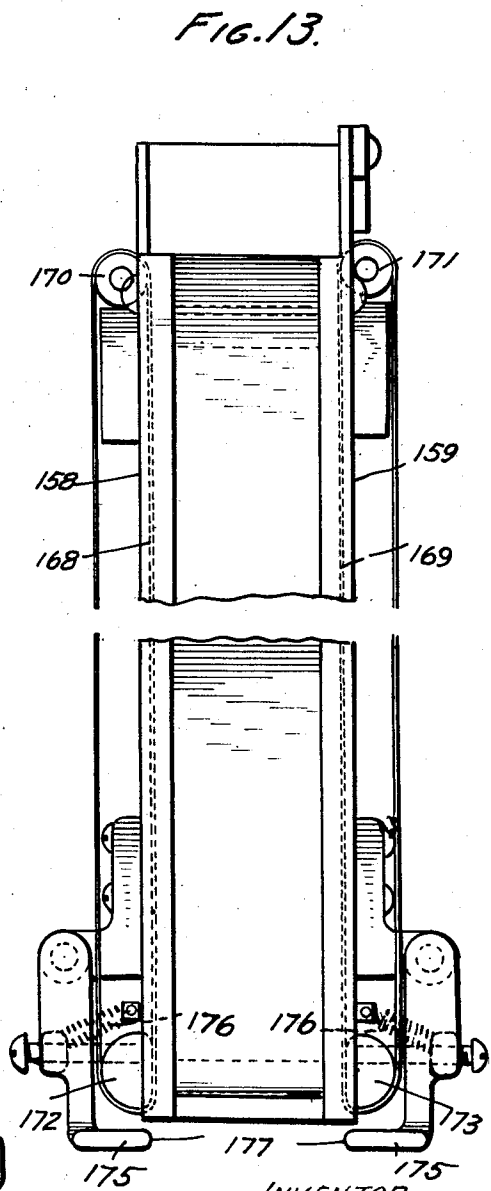
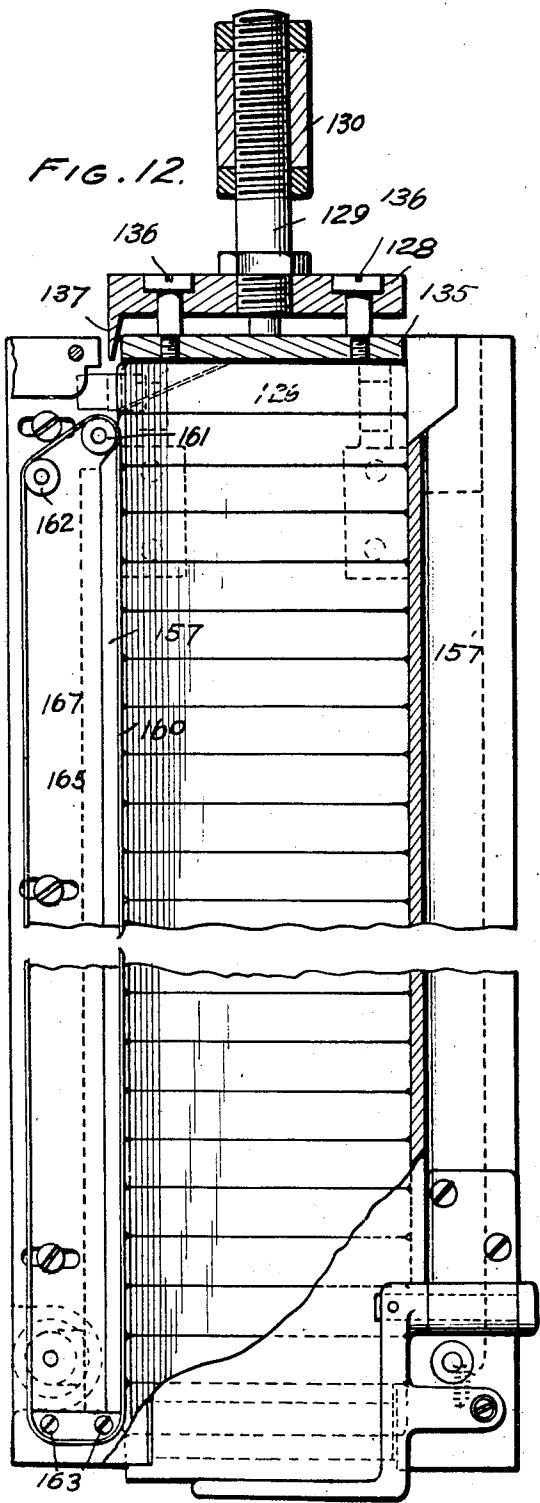
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9 Sheets-Sheet 8



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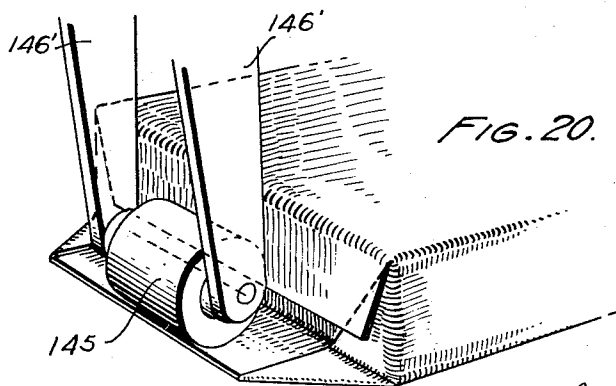
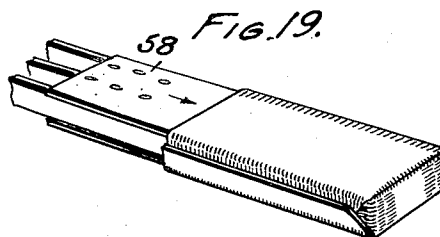
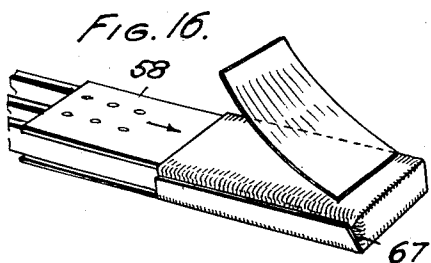
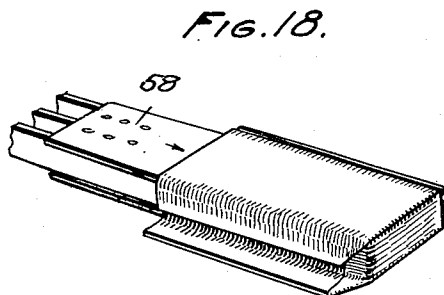
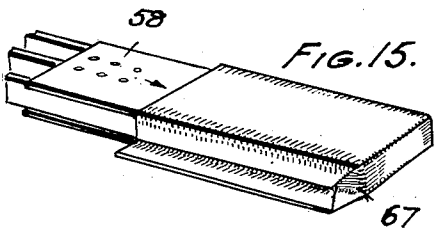
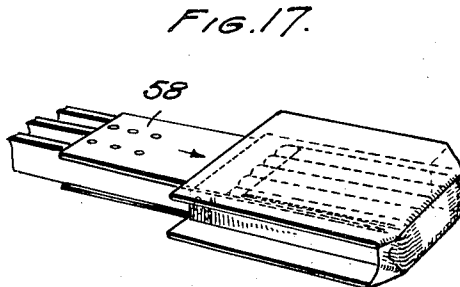
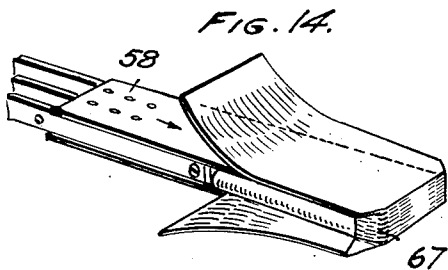
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MACHINE FOR PACKAGING ARTICLES

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9 Sheets-Sheet 9



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UNITED STATES PATENT OFFICE.

IGNACIO LÁZAGA, OF SALEM, VIRGINIA.

MACHINE FOR PACKAGING ARTICLES.

Application filed August 15, 1922. Serial No. 581,993.

To all whom it may concern:

Be it known that I, IGNACIO LÁZAGA, a citizen of the Republic of Cuba, temporarily at Habana, residing at Salem, in the county of Roanoke and State of Virginia, have invented certain new and useful Improvements in Machines for Packaging Articles, of which the following is a specification.

This invention relates to a machine for packaging articles, such, for example, as cigarettes.

One of the objects of this invention is a single machine which will rapidly and efficiently count off the articles to be packed, feed them into the path of an inside wrapper, preferably of tin foil, cut off a measured piece of material of just the proper size to form said inside wrapper, fold and wrap said inside wrapper around said articles, then feed an outside wrapper which may previously have been printed, and wrap and fold said outside printed wrapper around the already foil-wrapped charge, a coupon (if desired) having already been fed between the two wrappers, and finally dry the sealed package before delivery from the machine.

In the accompanying drawings:

Fig. 1 is a side elevation of the entire machine;

Fig. 2 is a longitudinal section of the rear half of the machine showing the foil supporting, feeding and measuring mechanism, the coupon support and feeder, and wrapper support and feeder;

Fig. 3 is a plan view showing the charging hopper, the several transfer plungers, the pasting mechanism, and folding mechanism;

Fig. 4 is an enlarged side elevation partly in section showing the folding means, the associating plunger, the pasting mechanism, and the final folding stacker and drying chute;

Fig. 5 is a cross section through the hopper with the door open;

Fig. 6 is a longitudinal section of the transverse transfer mechanism;

Fig. 7 is an enlarged sectional view of the pasting mechanism;

Fig. 8 is a perspective view of the end flap paster roll operating mechanism;

Fig. 9 is a detail top plan view of the packer;

Fig. 10 is a side elevation thereof;

Fig. 11 is a front view thereof;

Fig. 12 is an enlarged section through the stacker and dryer;

Fig. 13 is a front view of the stacker and dryer;

Fig. 14 is a perspective view showing the plunger as it has shoved the charge of cigarettes against the foil and just as the latter has been shoved partly into the folding mechanism (not shown);

Fig. 15 is a perspective view of the tin foil covered charge, after the upper edge has been wiped down to form one of the sides;

Fig. 16 is a perspective view of the same after the lower edge has been wiped upwardly to form the side, this view also showing the coupon just above the foil wrapper, in position to be shoved against the wrapper blank to fold the latter;

Fig. 17 shows the charge after the wrapper blank has been doubled over it, and the ends tucked in;

Figs. 18 and 19 are perspective views showing the package after the top and bottom edges have been wiped respectively downwardly and upwardly to form the ends;

Fig. 20 is a perspective view showing the manner of applying paste to the end flap prior to being folded upwardly;

Fig. 21 is a perspective view of the coupon-feeder;

Fig. 22 is a perspective view of parts of the coupon feeding belt;

Referring now to the details of the drawings by numerals, 1 designates the main frame of the machine comprising a bed 2 and the upper frame-work 3. Power may be supplied to the pulleys 4, 5, as shown, any form of belt shifter 6 being employed as desired. The fast pulley 4 drives the main shaft 9, which, through the gears 7 and 8, drives a transverse countershaft 10, and through bevel gears (one of which is shown at 12) a longitudinal countershaft 14. No invention is claimed in these driving and countershafts, and hence no further description thereof is needed; in fact they may be changed and modified as desired, and are shown as one way by which the various mechanisms, upon which the claims of invention are predicated, may be operated.

The numeral 15 indicates a hopper in which the cigarettes are placed, and in the bottom of the hopper transverse vertically

disposed partitions 16 are formed, between which the cigarettes are received as they feed down by gravity from the hopper as shown in Fig. 5. A plunger 17 having ejectors 18 is adapted to enter each compartment containing cigarettes. The plunger 17 with the ejectors 18 is given a reciprocating movement by means of a long link 19, the upper end of which is attached as at 20 to the plunger 17 and the lower end of which is pivotally supported on a stud 62 (Fig. 1). This link is given movement by means of a crank-arm 22 carried by the transverse countershaft 10 before-described, said crank-arm having its wrist-pin 23 movable in a slot 24 in said link 19. The ejectors 18 enter the spaces opposite, forcing the cigarettes in their paths forward endwise out at the lower end of the hopper, moving sufficiently far to advance the five cigarettes forward endwise through a passageway 25, shown in Figs. 3 and 4 to receive them, where it leaves them in the path of the transverse plunger 26, which is mounted on a cross-head 27 which travels transversely of the machine in suitable guides 28.

When the cigarettes are forced out of the hopper, the transfer plunger 26 is in such a position that the cigarettes are left between this transfer plunger and a pair of fingers 29 which depend from a collar 30 loosely mounted on the rod 31 through a guide-slot 32 into the path of the cigarettes.

A spiral spring 33 sleeved upon the rod 31 normally holds these fingers 29 in the position shown in Fig. 6 against the end 34 of the slot 32, which acts as a stop, and when in this position the fingers form a yielding wall against which the cigarettes are sufficiently compressed to hold them in compact formation.

The collar 35 is secured on the rod 31 in position to impinge against fingers 29 at the moment the cigarettes have been sufficiently compressed; and as the plunger continues across the machine, this relation of plunger and fingers is maintained, and continues to be maintained till the extreme end of the stroke is reached.

During this movement, the fingers 29 have been held in the path of the cigarettes by a switch 36 pivoted on a pin 37. Lugs 38 on the collar 30, bear against the under side of the switch 36 and on being forced back beyond the end 39 of the switch immediately withdraw or lift the fingers 29 out of the path of the cigarettes, leaving them walled in by the transverse plunger and the end of the chute, due to the action of a spring 40 at the outer end of the stem 41 extending from the cross-head 27, one end of which spring is connected with one end of the rod 31, to raise the rod and fingers the moment they are released by the lugs 38 passing beyond the switch.

When the cigarettes reach this position, they are aligned with the folding device. The mechanism for feeding the wrapper into position to be applied will now be described. The wrapper feeding device has been fully described in a separate Patent No. 1452692, April 24, 1923, therefore I shall only briefly describe the operation:—

At the rear of the machine, as shown in Figs. 1 and 2, there is an upper frame 43; supported in this frame is a reel 44 of tin-foil. Arranged beneath the roll of tin-foil are a set of feeding-rolls 45 and 46. The foil from the reel 44 passes downwardly, as shown in Fig. 2 and between the two rolls 45 and 46, the lower one of which is constantly driven, so that there is a constant feed given to the foil from the reel 44. In order to provide tension upon the foil and keep it taut, a weighted friction device 47 is used, as shown in Fig. 2.

From the feeding rollers 45 and 46, the foil is passed to a measuring device consisting of two rollers, 48 a measuring roll, and 49 a pressure roll. It is desirable that the feed rollers 45 and 46 constantly feed the foil so that there shall be an even and uniform pull upon the foil whereby it will not be subject to any jerks likely to tear or injure it, and therefore it is desirable to feed the foil so that there shall be slack between the feed roll and the measuring roll 48. To this end, the circumference of the measuring roll is preferably equal to twice the length of the foil that is to be fed, and in order to feed the foil during only part of the revolution of the measuring roll 48 the latter is formed with its circumference on two diameters as clearly shown in Fig. 2.

The pressure roll 49 is pressed downwardly upon the larger part of the measuring roll 46 by means of springs 50, but said pressure roll cannot be pressed downward upon the reduced part of the measuring roll owing to the fact that adjustable stops 51 are employed. Said measuring roll 48 is driven by bevel gearing. Hence the arrangement illustrated provides a steady uniform feed of the foil from the reel combined with an intermittent feed after it passes to the feed roll to the point where the measured length is to be severed. The measuring roll 48 and the pressure roll 49 deliver the foil onto a table or support 52, at the end of which are a ledger plate 53 and a movable cutter-blade 54, the cutting point of which is distant from a vertical line drawn through the axis of the rolls 48 and 49. The movable knife 54 is in its raised position while the foil is being measured and fed to the cutter, but after the rolls 48 and 49 cease feeding the foil the movable knife 54 is caused to descend to the position shown in Fig. 2 and sever the foil so that the measured length to the right of said cutters drops

downward through the chute 55 until it falls and rests upon the stop 56 shown in Fig. 2.

In order to insure proper feeding of the severed foil, feed rollers 57—57 are provided, the larger of which is driven, and the smaller one is spring-pressed, and the tension of its spring is just sufficient to feed the foil when it is released by the action of the cutters.

Reference has been made that the severed strip of foil rests vertically upon the step 56, as shown in Fig. 2. As there shown, it is ready to have the charge of cigarettes 58' or whatever article or articles are being packed, which have been transferred across the machine as described, having been shoved forward against the foil to be wrapped therein. This action is accomplished by means of longitudinally movable plates 58 operated from a cross-head 59, which latter and the plates 58 are given an extended backward and forward movement by means of a long link 60, the upper end of which moves in a slot 61 in the bottom of the cross-head 59, and the lower end of which is pivotally supported on the stud 62, see Fig. 1. This link is given movement by means of a crank-arm 63 carried by the transverse countershaft 10, said crank-arm having its wrist-pin movable in a slot 64 in said link 60.

It follows from this construction that during one part of the cycle the link 60 with its cross-head 59 and the plates 58 are moved longitudinally to the right as shown in Fig. 2 to move said plate and charge of cigarettes against the wrapper, as will be shortly described. During the time a new piece of foil is being measured and severed, said parts 60, 59 and 58 move back to the position shown in Fig. 2.

To return to the severed piece of foil which has been referred to as supported vertically upon the stop 56; the parts are now in the position where the feed rolls 45, 46, are feeding the foil to form a slack sufficient for another wrapper and the measuring roller 48, while rotating, is not feeding the foil (see Fig. 2) the link 60 is being moved to cause the cross-head 59 and its plates 58 and the charge of cigarettes to move slowly forward and shove said plates 58 and the charge against the foil vertically supported, as before recited, at 56, Fig. 2. This causes the plates 58 and the charge to shove the center of the foil between foil folding rollers 65, 66, doubling the foil into U-shape, as shown in Fig. 14, the doubled end being tucked in as indicated at 67 as the foil passes into the opening left by the walls 68, 69 of Fig. 3. As the plates 58 and the charge continue their shoving movement, the upper part of the U-shaped foil passes through the folder 70, Fig. 4, and folds it down as shown in Fig. 15, while the con-

tinued movement causes the folder 71 to act upon the lower side of the foil and fold it upwardly as shown in Fig. 16. At this point, the continued movement of the said plates 58 and the partially foil-wrapped charge will project it against the outside printed wrapper, but, if desirable, a coupon may be first fed onto the foil-wrapped charge, and hence this last operation will now be described.

At the upper part of Fig. 2 is shown a coupon receptacle and feeder. The receptacle is designated by the numeral 75 and the feeder by the numeral 76. This feeder 76 is given a reciprocating movement, so as to pass back and forth under the coupon receptacle 75, by means of a crank-arm 77 supported at 78, and the arm 77 is periodically moved by an eccentric rod 79 (see Fig. 1) on an eccentric 80 operated by the shaft carrying the aforesaid foil feed roller 46. Said feeder 76 has a wedge-shaped member 81 having two small needles 82 of just the proper height to strike on the under side of the lowest coupon only and move it forward as the feeder 76 is moved to the right in Fig. 2. This feeds the bottom coupon forwardly as shown by dotted lines in Fig. 2, the coupon being deflected downward by the deflector 83 until it falls upon a traveling belt 84 having slats 85 spaced apart just sufficient to retain a coupon between each two slats. The said slats 85 are cut away as shown at 86, see Fig. 22, and the deflector fits within said cut-away portion, as the belt and its slats pass by said deflector. This belt 84 is constantly moving, and as the coupons are delivered from the constantly moving belt 84, they, one at a time, drop through an inclined chute 87, the lower end of which is in just the proper position to drop the coupon upon the foil wrapped charge after the sides of the foil have been folded, see Figs. 2 and 16.

During the movements hereinbefore described, an outside wrapper has been fed so as to be in the path of the moving charge 58', Fig. 2, and it will be best to pause in the description of the movement of the charge, so as to describe the wrapper feeder. To the right of the coupon receptacle, as shown in Fig. 2, there is placed a wrapper holder and feeder. The wrapper holder 89 contains a pile of wrappers 90. The bottom 91 of the receptacle 89 has projecting through it a feed roller 92, and above said roller is a gravity acting stop 93 against which the cards rest. The feed roller 92 has fixed to it a mutilated gear 94 (Fig. 1) which is driven from a segmental gear 95 fast on a gear 96 driven from a gear 97 on a shaft 98. From this construction, it follows that while the gear 95 constantly rotates, it rotates the gear 94 and its feed roller 92 for a half revolution, and then said feed

roller is at rest until the gear 95 rotates during the other half revolution. Therefore the feed roller feeds a wrapper during one period and then rests for a like period before feeding the next wrapper.

In order to ensure a proper feed of the wrappers, a rotatable jogger 100 is arranged so that as it rotates it passes upward against the bottom of the lowest wrapper and "jogs" it until its front end projects between the feed roller 92 and the gravity stop 93, so that the feed of the wrappers will be ensured. The jogger 100 is driven by a sprocket chain 101 as shown in Fig. 2. The wrapper, after it is fed by the roller 92, is projected between two rolls 102—104, the second of which is fixed to and driven by the shaft 98. Hence the wrappers are intermittently fed by the intermittently driven feed roller 92 to constantly driven feed rolls 102—104. From said feed rolls, the wrappers fall downward by gravity until they rest upon the fixed stop or support 106 (Fig. 2). As indicated in Fig. 2, this stop is slightly lower than the stop 56 upon which the foil strips rest, for a purpose to be described. To prevent any static electric effect between the wrappers as they pass by the guides 107, positively driven feed-belts 108—109 are provided.

Returning now to the movement of the tin foil wrapped charge; as the plates 58 continue their movement longitudinally of the machine, they continue to press or shove the now foil-wrapped charge until they strike against the wrapper blank which has just previously dropped to the position shown in Fig. 2. As the charge moves under the coupon, the latter drops onto the top of the foil covered charge, and the charge, with the coupon, is pushed against the wrapper to double the same in the same manner as the foil was previously doubled. As the wrapper is passed through the rollers 110, 111, of Figs. 3 and 9, the wrapper is doubled and its ends tucked in as shown in Fig. 17.

Continued longitudinal movement of the charge and wrapper causes the upper projected edges of the wrapper to pass through the longitudinal slots 112—113 Fig. 10, causing the folder 114 to act upon the upper edges of the projecting wrapper and fold it downwardly as shown in Fig. 18, leaving the bottom flap projecting horizontally, as shown in the same figure. Just beyond the folder 114 are the pasters 116, for applying paste to the bottom flaps. As shown in Figs. 3, 4 and 7, paste is applied to the pasters 116 by the transfer rollers 117 and 118. Journalled in vertically adjustable boxes 119, the said transfer rollers are adapted to contact with a set of paste-delivering wheels 120, 121, the latter entering the paste receptacle 122. After the package passes beyond the pasters 116, the package is passed

under a vertical plunger or presser 125, the lower projecting flaps of the package striking the slanting edges of the members 126 and 127, thereby being folded upwardly against the package. The package is now complete except for tucking in the parts forming the free or open end shown in Figs. 19 and 20.

The plunger or presser preferably consists of a head 128 secured to a vertically arranged stud 129 supported by a bracket 130 mounted for vertical movement upon the studs 131, said bracket being connected by a rod 132 to a bell-crank 133 adapted to be actuated by a grooved cam 134 keyed to the shaft 14. Suspended from the plunger-head 128 is an auxiliary plunger plate 135, supported in spaced relation from head 128 by suitable headed bolts 136. Extending downwardly from the head 128 is a tucker-finger 137. It is desirable, however, to tuck in the sides of the extended end of the wrapper before the upper and lower flaps are folded. To accomplish this, I preferably provide a set of tucker-fingers 138, as clearly shown in Figs. 9, 10 and 11. These fingers are pivoted for horizontal movement upon studs 139, their rear ends being brought together and secured together as at 140 to move in unison. The fingers are connected together by any suitable means, preferably springs, for normally holding them in the position shown by full line in Fig. 9. A connecting-rod 141 is attached to one of said fingers, the opposite end thereof being actuated by a cam 142, and when released by the cam 142 (operated by the shaft 14 by means of the vertically-arranged shaft 143) the fingers are caused to spring inward to tuck in the ends as shown in Fig. 20. At this time, the plunger starts downwardly, the auxiliary head 135 remains stationary for the moment, while the tucker-finger 137 folds the upper horizontal edge downwardly.

While in this position, it is desirable to place a daub of paste upon the lower end flap, and to accomplish this there is associated with the pasting mechanism a paste-delivering roller 145, see Fig. 7, carried in the lower ends 146' of a pivoted arm 146, carried by a shaft 147 which in turn is carried by a rock-arm 148 keyed to a shaft 149 supported in a frame 150. Keyed to the shaft 149, is a pinion 151 adapted to mesh with a toothed rack 152 mounted for horizontal movement in the frame 150, being actuated by a cam 153 connected thereto by a connecting-rod 154, the cam being keyed to the vertical shaft 143. At a predetermined time, the shaft 147 and the arm 146 are moved upwardly, the arm 146 striking an abutment 154' causing the arm to swing inwardly against the tension of the spring 155, bringing the paste-roller 145

against the transfer roller 118. The movement is immediately reversed, the arm 146 swinging to an outward position, its movement being limited by a stop 148' on the arm 146, the paste-roller 145 being in such a position as to contact with the protruding lower flap of the package. The head 128 is now moved down, forcing the package downwardly, the lower protruding flap striking the edge of a chute, causing it to be folded up against the end of the package.

The completed package is now in alignment with a vertical stacker, wherein it is desirable to dry the package, before final delivery. The stacker preferably consists of front and back walls 157—157' and two side walls 158 and 159. An endless belt 160 passing over upper rollers 161 and 162, and lower guides 163 surrounding the front 157 serves as a frictional element between the package and the back wall. Arranged outside of the front wall is a heating element 165 being supported by suitable walls 167—167. This heating element may be of any suitable construction, and may be adapted for use with either hot air or electricity, or any other means. Each of the side walls are likewise surrounded with endless belts 168—169 adapted to pass over suitable rollers 170—171 at the top, and suitable guides 172—173 at the bottom. The packages as they are fed downwardly in the stacker are thoroughly dried before reaching the bottom, assuring the sealing of the packages. Arranged at the bottom of the stacker are a set of pivoted stops 175 held normally in the path of travel of the packages by means of springs 176. The feet 177 of the stops protrude just far enough into the path of the packages to let them out, one at a time, as they are forced downwardly, they in turn being received in a conveyor 178 where they are carried from the machine.

From the foregoing and the accompanying drawings, it will be seen that I have provided an organized machine which will automatically feed, measure, cut and fold an inside delicate wrapper around a charge as cigarettes, and either with or without a coupon, feed, wrap and paste an outside printed wrapper to form a complete package, no attention to the machine being necessary except to see that the articles to be wrapped, and the material for the wrappers, shall be properly supplied.

It will be obvious that various changes and modifications may be in the machine without departing from the spirit of the invention, the scope of which may be determined from the appended claims.

I claim:

1. In a packaging machine, the combination with a hopper, of means for ejecting a plurality of articles therefrom, a transfer-

ring plunger and fingers connected therewith for receiving the articles, and means for packaging said articles.

2. In a packaging machine, the combination with a hopper, of means for ejecting a plurality of articles therefrom, a transferring plunger, and fingers connected therewith for receiving said articles, a switch for holding the fingers in contact therewith, means for moving the fingers out of contact with the articles, and means for packaging said articles.

3. In a packaging machine, the combination with a hopper, of means for ejecting a plurality of articles therefrom, transferring means and packaging means, said transferring means including a plunger and fingers connected therewith for receiving the articles from the hopper and transferring them to the packaging means.

4. In a packaging machine, the combination with a hopper, of means for ejecting a plurality of articles therefrom, transferring means, packaging means, folding means, means for feeding a wrapper to the folding means, pasting means, secondary folding means, drying means, and means for transferring the articles from the transferring means to the packaging means, to the first-mentioned folding means, to the pasting means, to the secondary folding means and thence to the drying means.

5. In a packaging machine, the combination with a hopper, of means for ejecting a plurality of articles therefrom, transferring means, packaging means and drying means, and a single means for transferring the articles from the transferring means, to the packaging means and thence to the drying means.

6. In a packaging machine, the combination with a hopper, of means for ejecting a plurality of articles therefrom, transferring means, packaging means, drying means comprising a plurality of vertically arranged endless belts having a heating unit associated therewith, and means for transferring the articles from the transferring means to the packaging means and thence to the drying means.

7. In a packaging machine, the combination with a hopper, of means for ejecting a plurality of articles therefrom, transferring means, packaging means, folding means, means for feeding a wrapper to the folding means, pasting means, secondary folding means, drying means comprising a plurality of vertically arranged endless belts having a heating unit associated therewith, and means for transferring the articles from the transferring means to the packaging means, to the first-mentioned folding means, to the pasting means, to the secondary folding means, to the drying means, and thence from the machine.

8. In a packaging machine, the combination with a hopper, of a reciprocating plunger for ejecting a plurality of articles therefrom, a transferring reciprocating plunger, and fingers connected therewith, packaging means, a reciprocating plunger movable therethrough, said second-mentioned plunger adapted to move the articles into the path of the last-mentioned plunger, folding means, means for feeding a wrapper to the folding means, pasting rolls adjacent to said folding means for applying paste to the side flaps of the package, tucker fingers, means for actuating said tucker fingers, a paste roll for applying paste to the end flap of the package, and a drying means adapted to receive the package from the tucker fingers.
9. In a packaging machine, the combination with a hopper, of a reciprocating plunger for ejecting a plurality of articles therefrom, a transferring reciprocating plunger, fingers connected therewith, packaging means, a reciprocating plunger for moving the articles through said packaging means, folding means, means for feeding a wrapper to said folding means, pasting means, and cam-actuated tucker-fingers in position to fold the ends of the package.
10. In a packaging machine, the combination with a hopper, of a reciprocating plunger for ejecting a plurality of articles therefrom, a transferring reciprocating plunger, fingers connected therewith and adapted to receive the articles from the hopper, packaging means, folding means, means for feeding a wrapper to the folding means, pasting rolls for applying paste to the side flaps of the package, tucker fingers in position to fold the ends of the package, a roll for applying paste to the end of the package, and drying means comprising a plurality of vertically arranged endless belts having a heating unit associated therewith and arranged beneath the tucker fingers.
11. In a packaging machine, the combination with a hopper, of means for ejecting a plurality of articles therefrom, transferring means, packaging means, folding means, means for feeding a wrapper to said folding means, pasting means, and vertically and horizontally actuated tucker fingers in position to fold the end of the package.
12. In a packaging machine, the combination with packaging means, of a drier including endless belts, a heating unit connected therewith for drying the paste on the package, and a plunger for forcing the package into the dryer.
13. In a packaging machine, the combination with packaging means, of a drier including endless belts, a heating unit connected therewith for drying the paste on the package, and stops therebelow for limiting the downward movement of the packages.
14. In a packaging machine, the combination with pasting and folding means, of vertically and horizontally actuated tucker fingers for folding the end of the package, and drying means located substantially below the tucker fingers.
15. In a packaging machine, the combination with pasting and folding means, of vertically and horizontally actuated tucker fingers for folding the end of the package, cams for operating said fingers, means for operating said cams, and drying means located substantially below the tucker fingers.
16. In a packaging machine, the combination with folding means, of pasting means including a glue pot, delivering wheels operating therein, pasters for applying paste to the package and transfer rollers for delivering paste from the delivery wheels to the pasters, means for operating said wheels, pasters and rollers, a delivery roller for applying paste to the end of the package, and means for moving said delivery roller into and out of contact with the transfer rollers.
17. In a packaging machine, the combination with a reciprocating transfer plunger, a stem moving therewith, a rod pivotally connected with the stem, a spring extending from the stem to the rod, spring-actuated fingers slidably connected with the rod, a pivoted spring-actuated switch, an incline, lugs connected with the fingers in position to move along one edge of the switch when the rod is moved in one direction, and between the incline and switch when its movement is reversed.
18. In a packaging machine, the combination of a hopper, means for ejecting a plurality of articles therefrom, a transferring plunger, and slidable fingers between which fingers and plunger the articles are held.
19. In a packaging machine, the combination of a hopper, a plunger for ejecting articles therefrom, a transferring plunger, slidable spring-actuated fingers between which and the transferring plunger the articles are temporarily held, and a plunger for removing the articles therefrom.
20. In a packaging machine, the combination of a hopper, a plunger for ejecting articles therefrom, a reciprocating transferring plunger, slidable spring-actuated fingers between which and the transferring plunger the articles are temporarily held, a switch for holding the fingers in contact with the cigarettes, and a plunger for removing the articles therefrom.

In testimony whereof I affix my signature.

IGNACIO LÁZAGA.