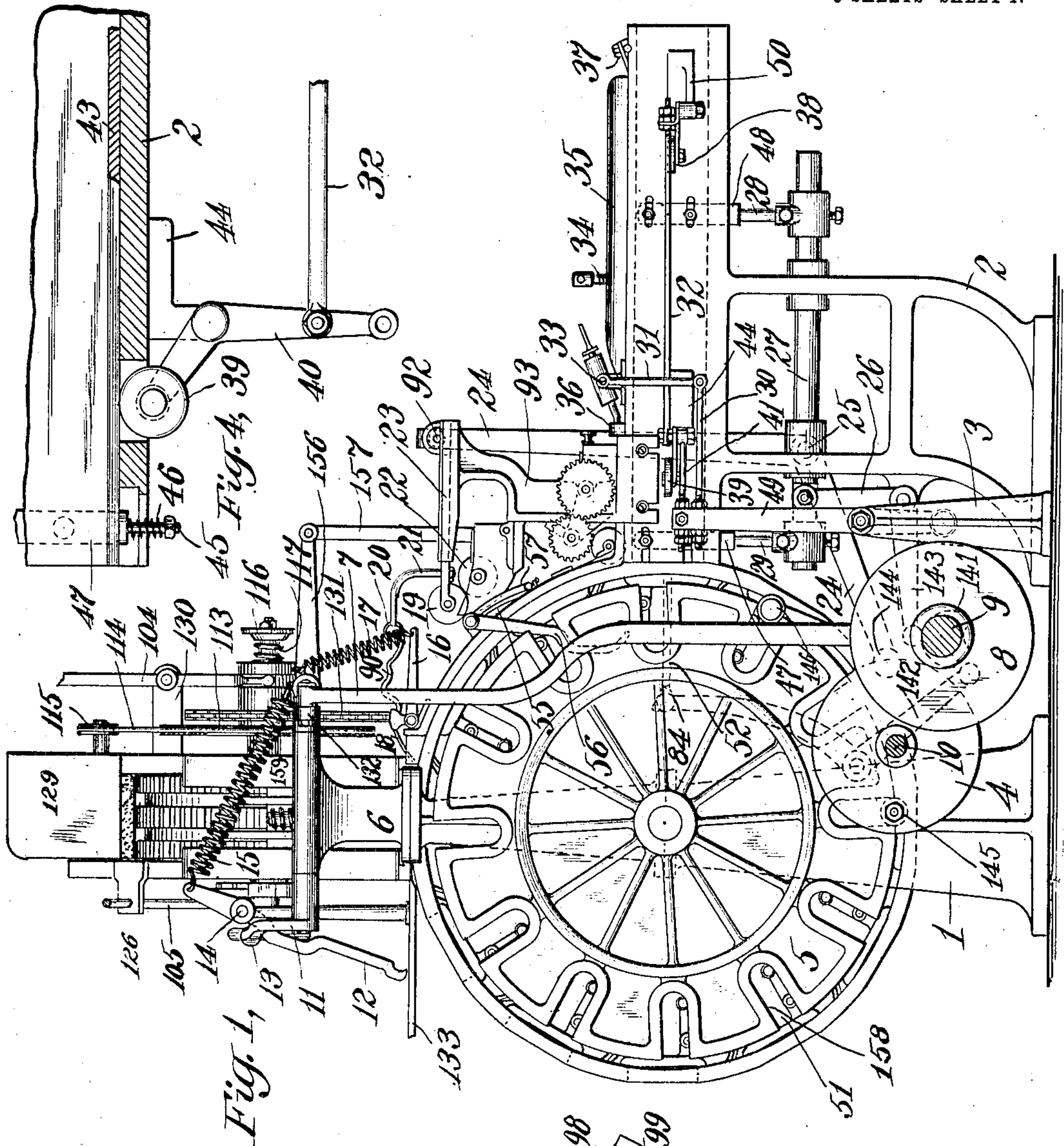


No. 843,323.

PATENTED FEB. 5, 1907.

E. L. BRACY.  
PACKING MACHINE.  
APPLICATION FILED DEC. 1, 1904.

5 SHEETS—SHEET 1.



WITNESSES:  
*Jessie B. Kay*  
*Joseph J. Collins.*

Fig. 5,

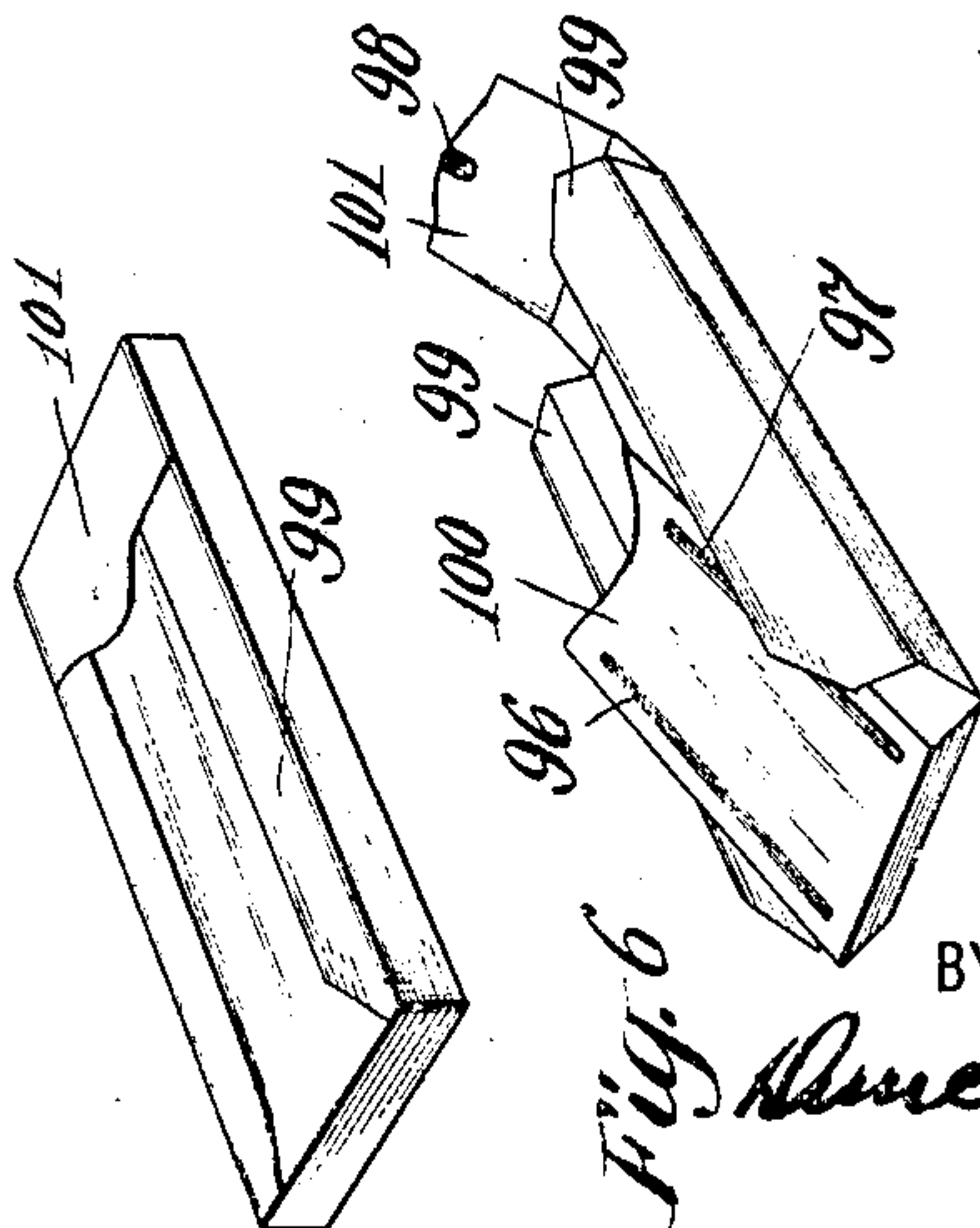


Fig. 6

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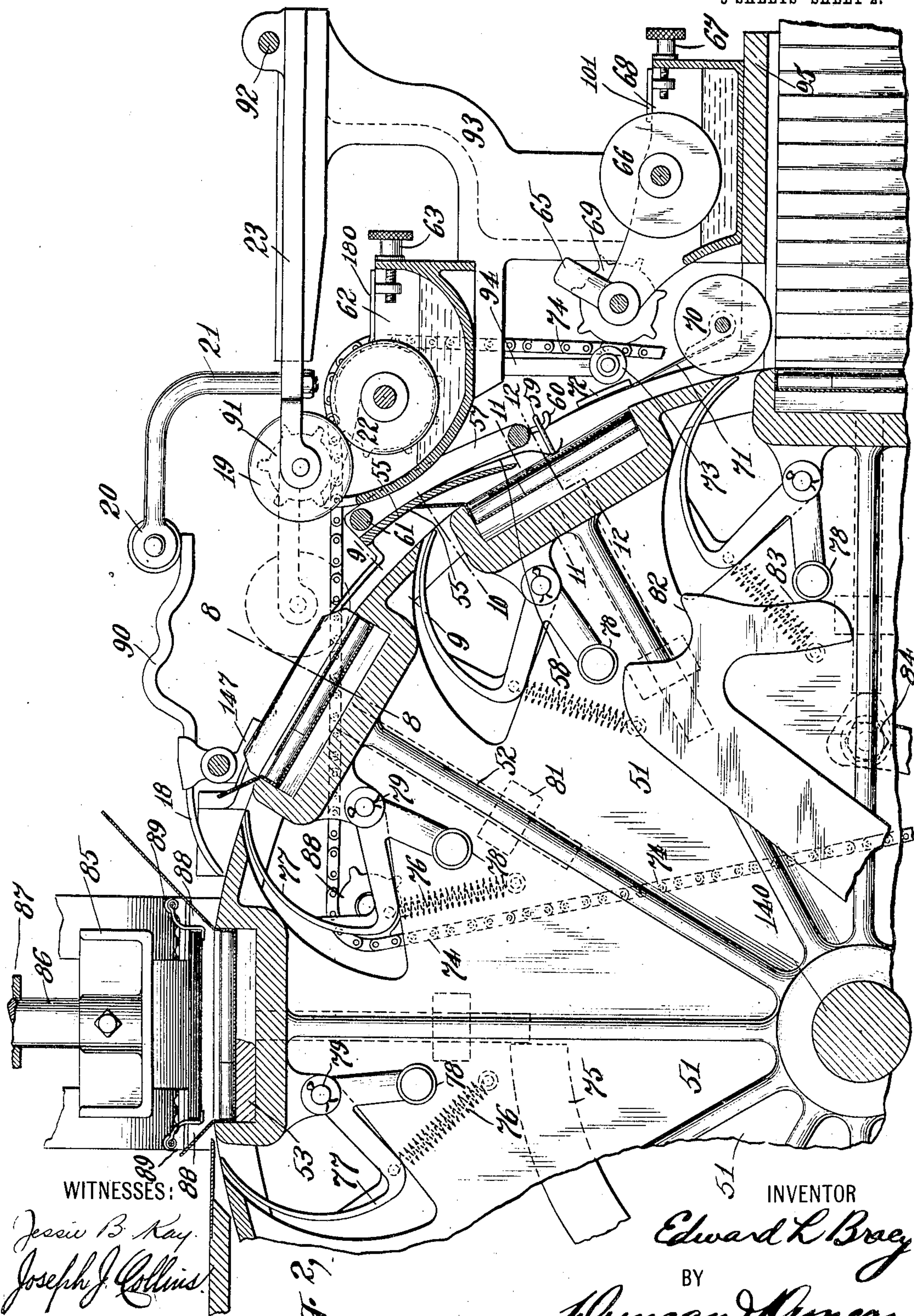


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5 SHEETS—SHEET 2.



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Fig. 2.

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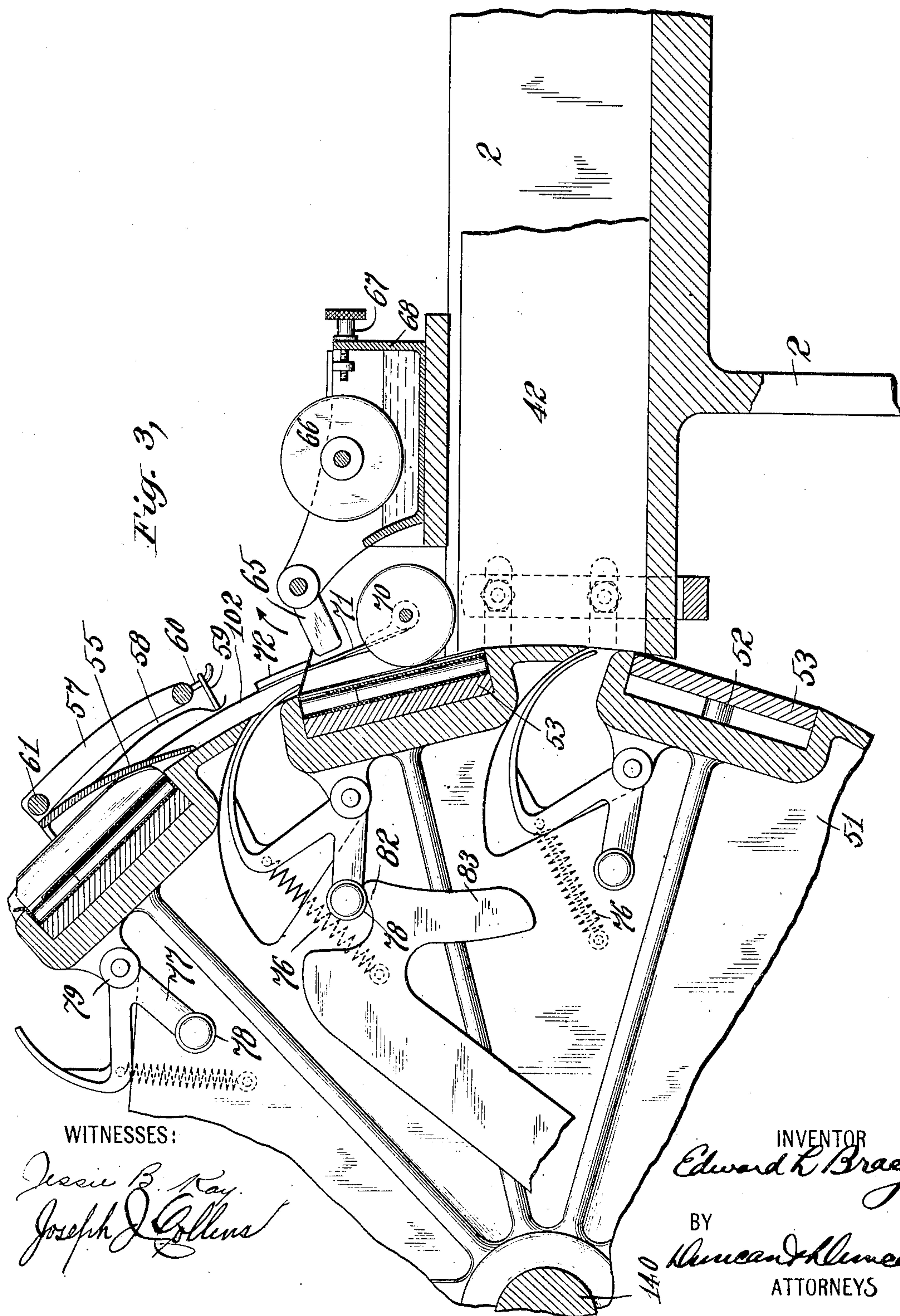
No. 843,323.

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PACKING MACHINE.

APPLICATION FILED DEC. 1, 1904.

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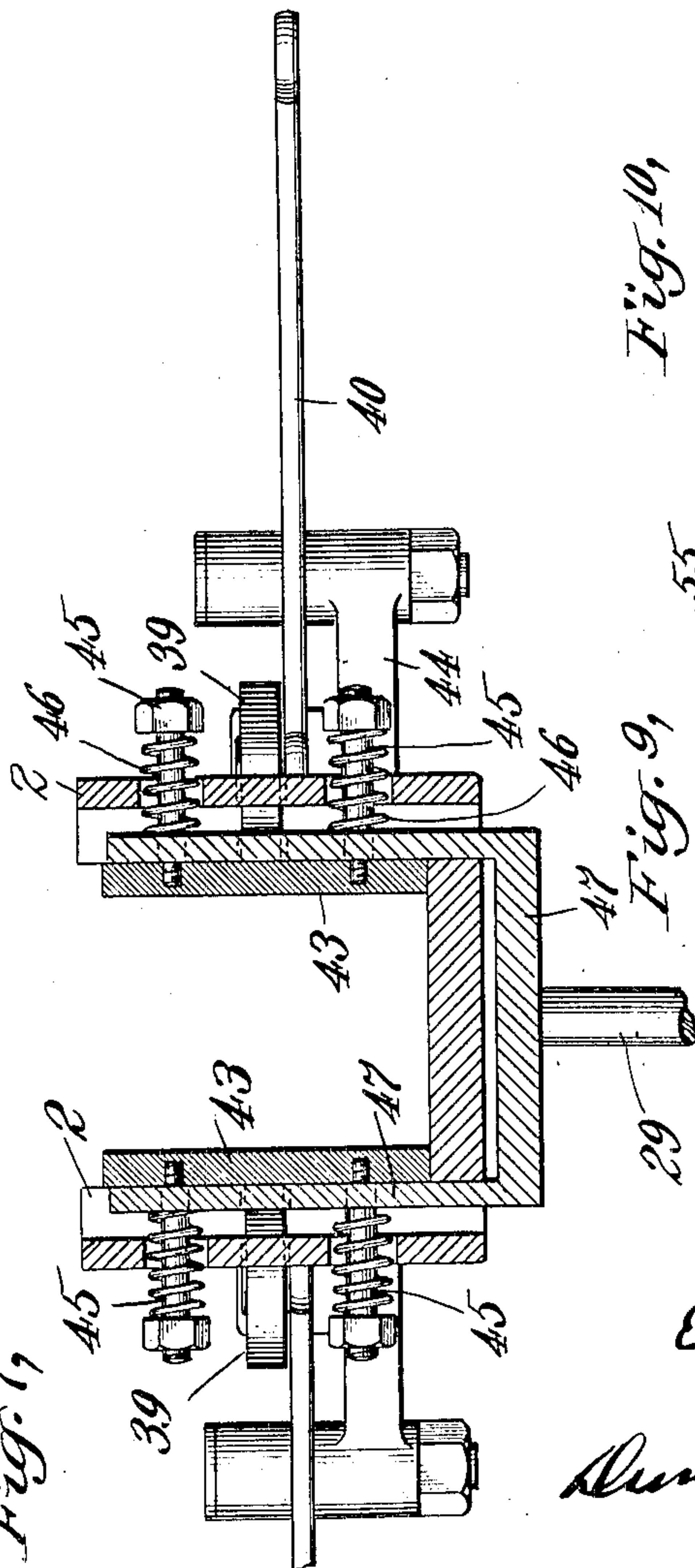
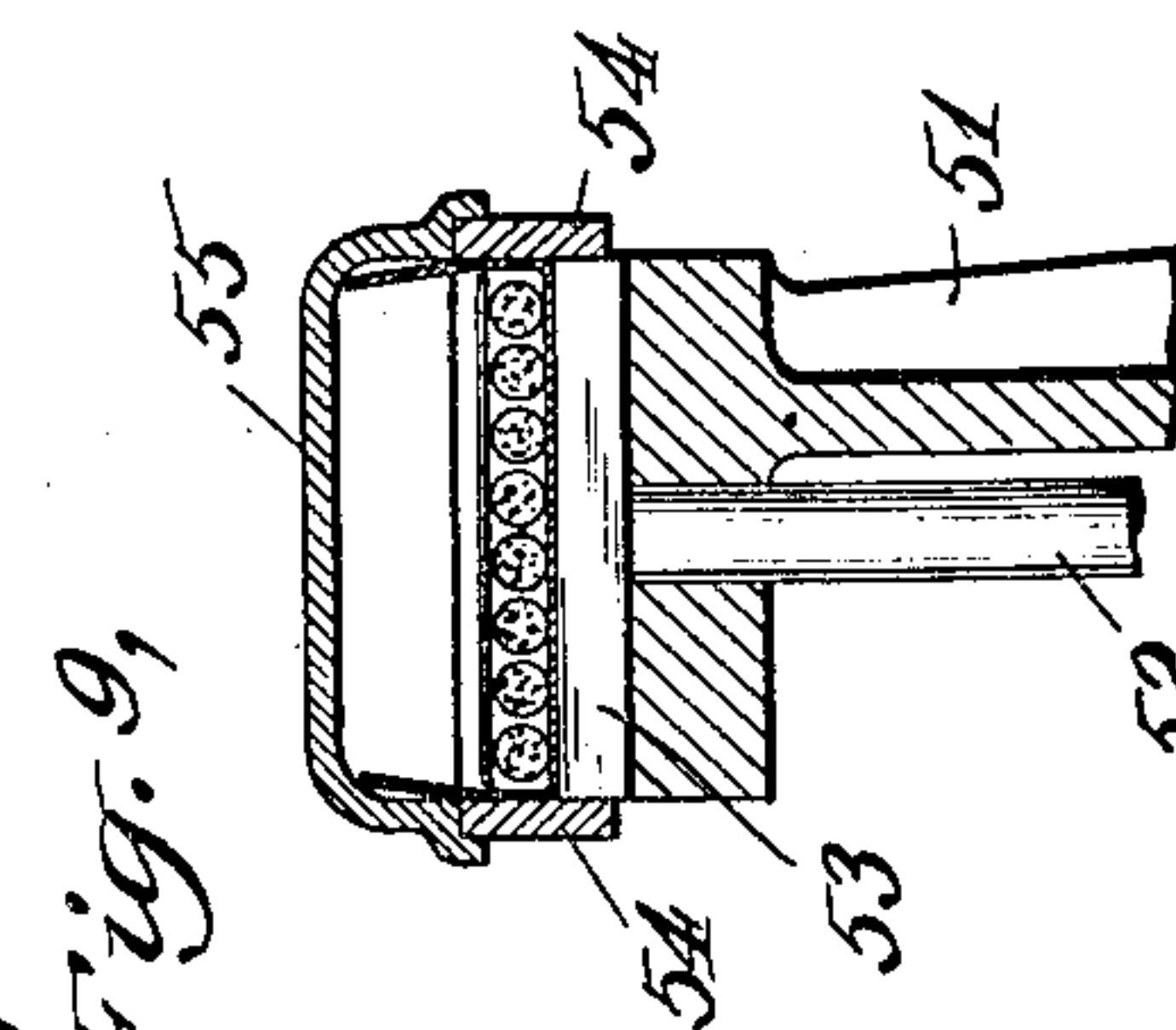
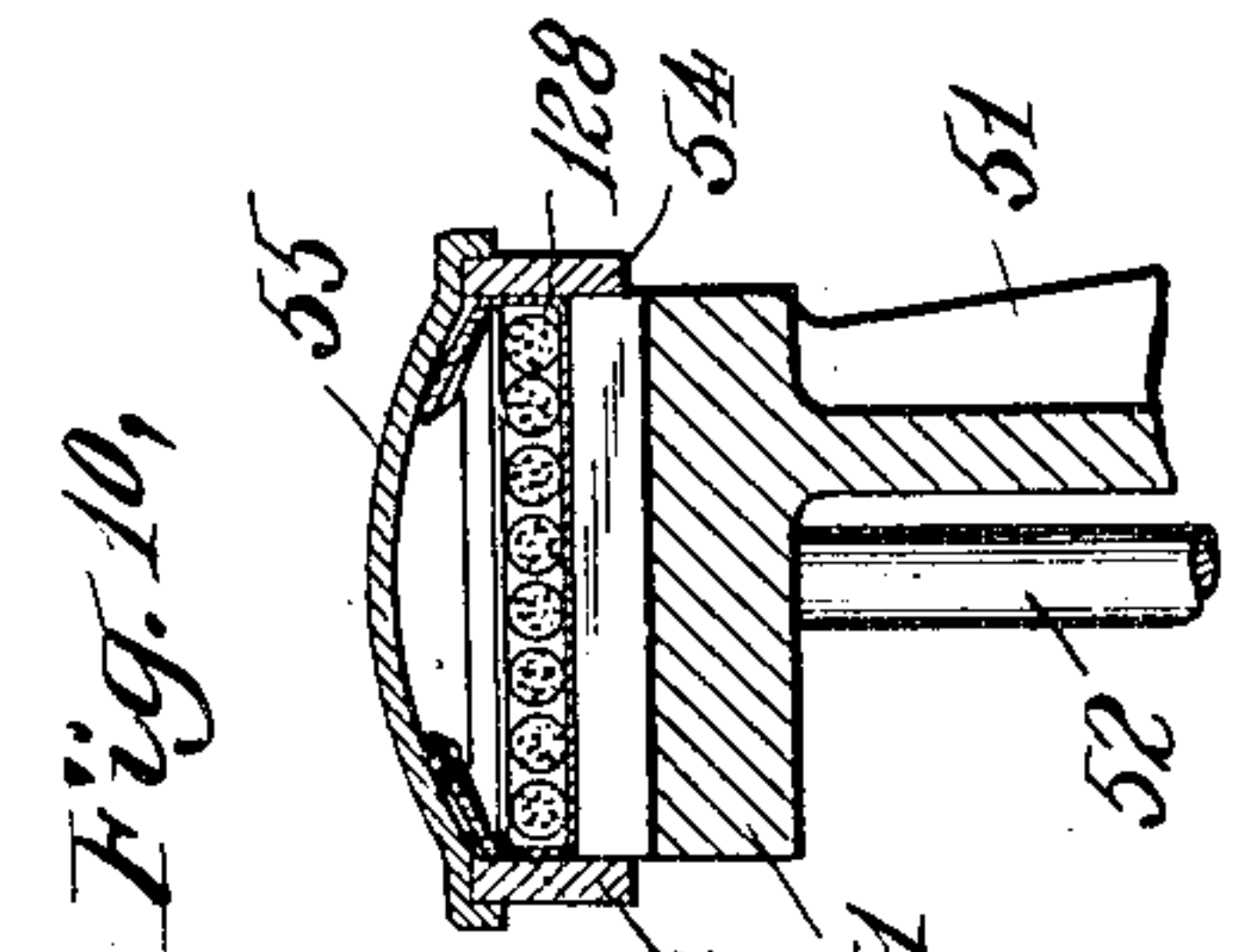
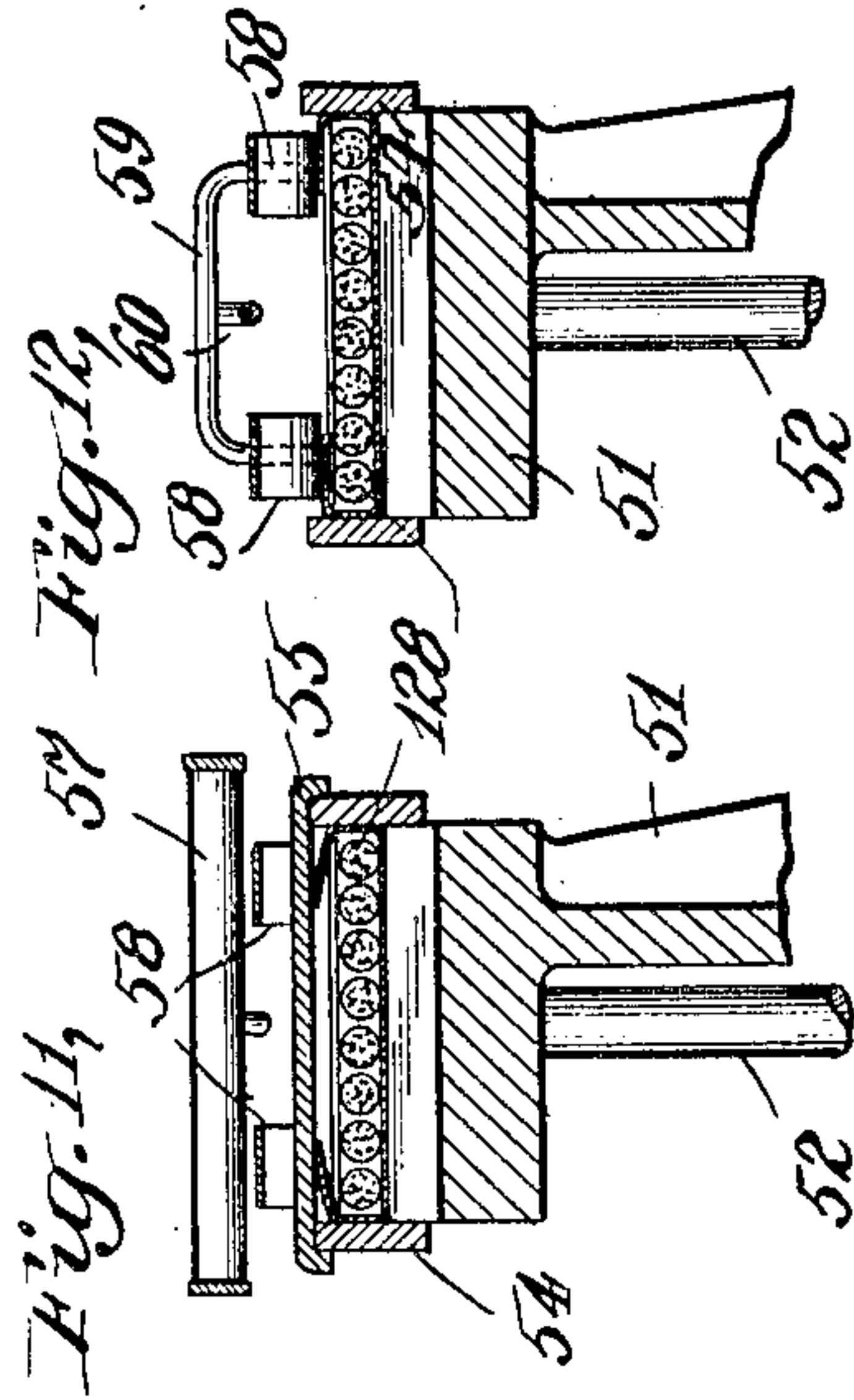
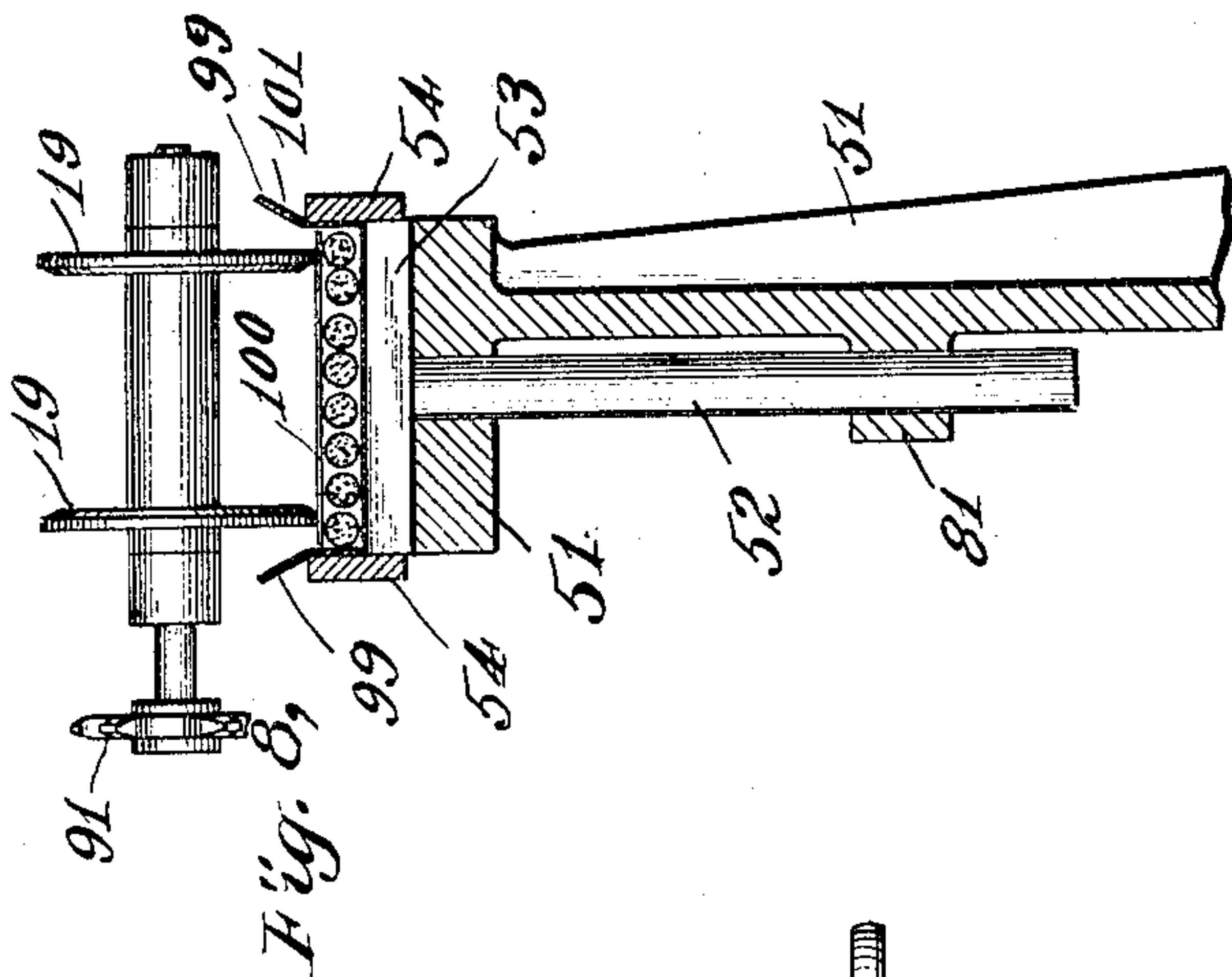
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No. 843,323.

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5 SHEETS—SHEET 4.



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Fig. 7

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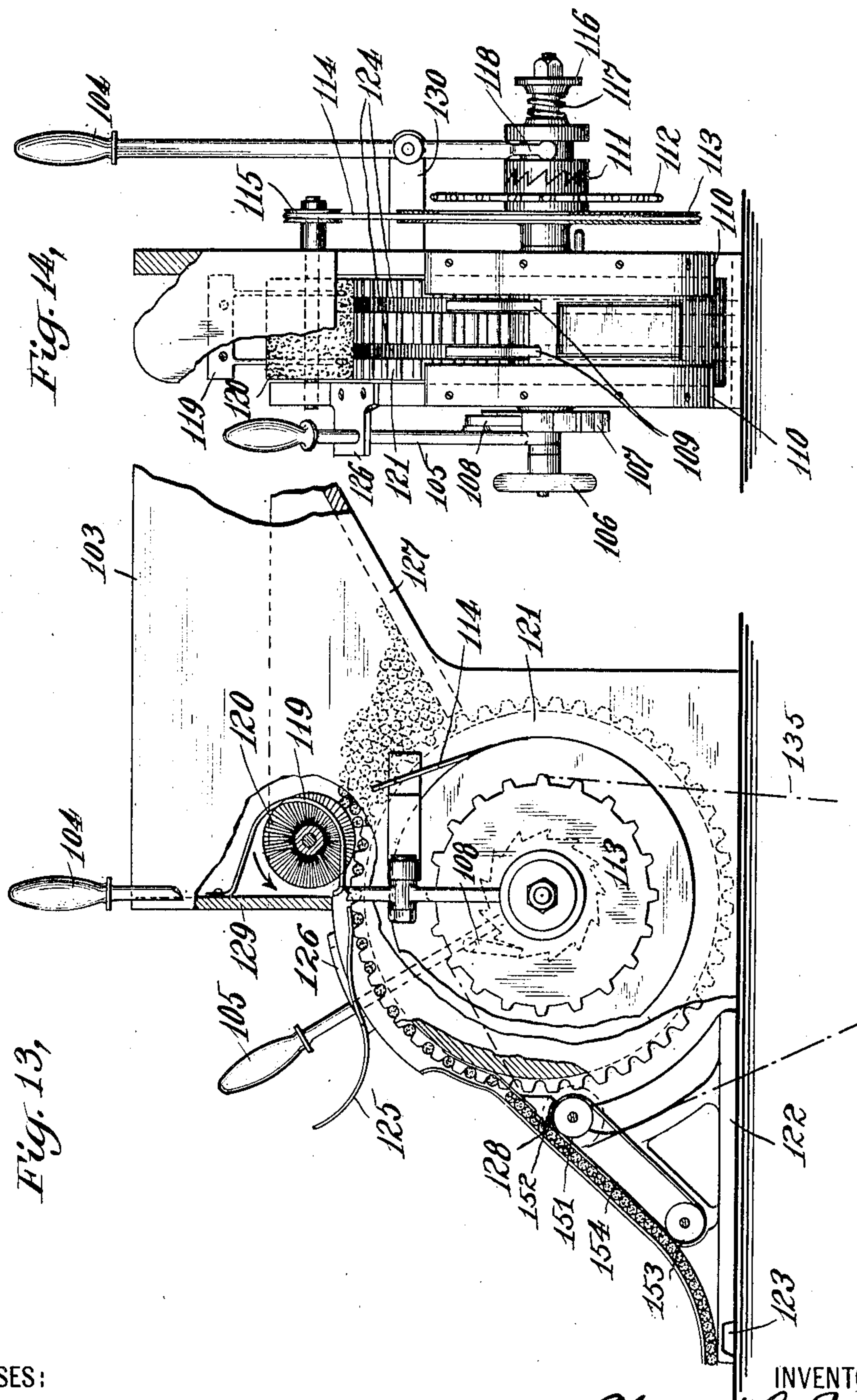


No. 843,323.

PATENTED FEB. 5, 1907.

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APPLICATION FILED DEC. 1, 1904.

5 SHEETS—SHEET 5.



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# UNITED STATES PATENT OFFICE.

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## PACKING-MACHINE.

No. 843,323.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed December 1, 1904. Serial No. 235,001.

*To all whom it may concern:*

Be it known that I, EDWARD L. BRACY, a citizen of the United States, and a resident of Scotland Neck, in the county of Halifax and State of North Carolina, have invented certain new and useful Improvements in Packing-Machines, of which the following is a specification, taken in connection with the accompanying drawings, which form a part of the same.

This invention relates to packing-machines, and relates especially to machines for packing cigarettes or similar articles and closing and sealing the package.

In the accompanying drawings, in which the same reference-numeral refers to similar parts in the several figures, Figure 1 is a side view of an embodiment of this invention. Fig. 2 is an enlarged side sectional view of part of the same. Fig. 3 is a similar view. Fig. 4 is a horizontal partial section. Figs. 5 and 6 are perspective views showing the package and the wrapper or cover. Fig. 7 is a transverse section through the discharge-chute. Figs. 8, 9, 10, 11, 12 are partial sectional views each taken along a substantially axial plane through the axis of a mold-wheel to coincide with the lines 8 8, 9 9, 10 10, 11 11, and 12 12 indicated in Fig. 2. Fig. 13 is a detail showing the feeding device. Fig. 14 is a transverse partial section of the same.

In the illustrated embodiment of this invention a rigid frame is formed of the standards 1, 2, and 3, firmly secured to a rigid base so as to properly support the working parts of the machine. The mold-wheel is mounted in suitable bearings in the standards 1 and rigidly secured to the mold-shaft 140, this mold-wheel 51 having, as is indicated in Fig. 3, a number of shallow molds or pockets around its periphery, and in each one of these molds there operates a suitable plunger 53, mounted on the plunger-rod 52, which engages a hole in the mold-wheel with sufficient friction to hold the plunger in any desired position without accidental displacement. Upon the mold-shaft 140 there is also rigidly secured a star-wheel 5, formed with a series of substantially radial slots 158, which are engaged by the feed-roll 145, mounted upon the feed-wheel 4. This wheel is rigid upon the shaft 10, which is geared to rotate in unison with the drive-shaft 9, which is also the cam-shaft of the machine. The stop-roll 146,

mounted upon a suitable bell-crank operated at the proper intervals by the cam-shaft, engages one of the slots 158, and thus rigidly holds the mold-wheel in alinement during the intervals between its intermittent rotation.

The cigarettes or similar articles which are to be wrapped in this machine may be arranged in a suitable hopper 103, supported at the top of the machine, and this hopper preferably has an inclined bottom 127 to assist in the feed of the articles. The feed-drum 121 is mounted in this hopper and may be rotated at the proper speed by the sprocket 112, which, as is indicated in Fig. 1, is driven by the sprocket-chain 131 from a suitable sprocket-gear, so that this feed-drum is timed to revolve in unison with the rest of the machine. A series of pockets are formed transversely across the face of this drum of the proper size, so that each accommodates one of the articles to be wrapped. A clearer, which may be in the form of a brush 120, faced with bristles or other suitable material, is mounted in the hopper to cooperate with the feed-drum and is rotated by the belt 114 and the grooved pulleys 113 and 115 in the direction indicated by the arrow in close proximity to the face of the drum. Suitable guards or wires 119 engage this clearer and positively disengage any of the articles which may be picked up thereby and also prevent these articles from getting in contact with the top of the clearer. These guards, as indicated, are secured by the plate 129 to the substantially vertical wall of the hopper, which extends downward close to the drum, a suitable slot being left at this point for the manual insertion of articles into the pockets of the drum or their removal therefrom, these articles being conveniently placed under such conditions in the tray 125.

The drum is preferably mounted so that it can be driven, as has been described, in unison with the rest of the machine or manually driven and accurately set. For this reason the sprocket-wheel 112 is loosely mounted on the shaft of the drum and is driven by a suitable clutch 111, one member of which is secured to this sprocket-wheel and the other is splined to the shaft of the drum and normally forced against its cooperating member by the spring 117, the outer end of which is supported by the collar 116 on the end of the



shaft. This clutch is preferably formed with the inclined interlocking teeth, which allow the drum to be positively driven through the sprocket-chain described and which also allow this drum to be manually operated by the ratchet-lever 105, which carries the pawl 108, meshing with the ratchet 107 on the drum-shaft. The hand-wheel 106 on the shaft also allows the accurate positioning of the drum when desired. The inclination of the teeth of the clutch 111 is preferably such that the drum may be manually rotated in a forward direction by forcing the clutch members one along the other, while at the same time the sprocket-wheel positively rotates the drum. The ratchet-lever 105 is supported by the plate 126, which is formed with a suitable slot to accommodate it, which serves to hold it in the position indicated in Figs. 13 and 14. If desired, at any time the automatic rotation of the drum may be interrupted by moving the clutch-lever 104, which is pivoted in the support 130 and provided at its lower end with the shifting-fork 118, which engages an annular groove in the splined clutch member.

The articles are disengaged from the feed-drum by the strippers 109 in the form of light springs or thin plates, which are properly supported, so that their free upper ends are substantially circumferential and rest in the stripper-grooves 124, formed around the drum, being, as indicated, slightly deeper than the transverse pockets therein. These strippers move the articles radially out of the pockets and guide them into the upper end of the skeleton runway 128. If desired, the feed of these articles down the runway may be regulated by the employment of a suitable feed-belt 154, which, as is indicated in Fig. 13, is mounted on the rollers 151 and 153, the roller 151 being driven by the sprocket-chain 135, which passes over a suitable sprocket 152, fast to the belt-drum. In this way the articles which are arranged in parallel position in the hopper naturally fall into the pockets in the feed-drum, and any of these articles which are not properly seated in the pockets as they pass under the rotating clearer are thrown aside, so that after the feed-drum passes the clearer each pocket is filled by one article, thus securing a positive feed of articles in desired numbers down the runway and into the machine.

The articles are inclosed in a suitable wrapper or cover which is pasted and sealed to form the complete filled package, these wrappers being preferably supplied to the machine after having been properly cut and scored, so that they can be readily folded in the manner indicated in Figs. 5 and 6. These wrappers, which are preferably of rather stiff paper, may be fed into the machine from the feed-table 133 by hand or otherwise, and at the proper intervals a

wrapper is positively fed forward over the top mold of the mold-wheel by the pivoted feeder 12, loosely mounted upon the pin 14 and normally held outward in the position indicated in Fig. 1 by the light spring 15. This feeder is moved inward at the proper intervals by the roller 13 on the end 11 of the bell-crank lever, which, as is indicated, is mounted in the standard 6. The other end 132 of this lever is connected with the rod 7, which is provided at its lower end with a suitable roller and reciprocated at the proper intervals by a cam on the shaft 9. In this way the wrapper is accurately fed forward over the upper mold, and the series of articles at the end of the runway are supported directly above this wrapper by the light spring-pressed pivoted platforms 88, which lightly engage the articles at either end of the same and hold them up with the desired force under the influence of the light spiral springs 89. The insert-plunger 85 is thereupon moved downward, forcing the series of articles and the wrapper beneath them into the mold, so that they assume the position indicated in full lines in Fig. 2, the platforms yielding during the downward movement of the plunger and at the same time properly supporting the articles at each end, so that they cannot become displaced. The plunger 53 is forced down in unison with the wrapper and articles and supports them properly from below, so as to maintain their alinement throughout the inserting operation. The plunger 85 is mounted on the plunger-rod 86 and is connected with the inner end of the rock-lever 156, actuated by the rod 157, driven from the cam-shaft, as is usual in these machines, the plunger being normally held upward under the influence of the spring 159. The insert-plunger forces the cigarettes into the mold upon the wrapper and also simultaneously forms the sides of the complete box by bending the wrapper along the proper lines, which, as indicated, may be previously creased in the wrapper-blank. During the next forward movement of the mold-wheel, which is given a step-by-step rotation by the described mechanism, the upstanding forward flap of the wrapper is engaged by the lifter 18, (indicated in Figs. 1 and 2,) this lifter being pivoted adjacent the mold-wheel and being provided with a curved lifter-arm 90, which is engaged by the slide-roll 20, this lifter being normally held in the position indicated by the light spring 17, which is connected with the arm 16, secured to the lifter-pin. The roll 20 is pivoted in the end of the bent rod 21, secured to the slide 23, this slide being mounted in suitable guideways in the upper end of the standard 93 and being engaged by the pin 92 in the end of the slide-lever 24, this lever being pivoted at the point 25 and its lower end being provided with the roll 144, which engages



and is actuated by a suitable cam on the shaft 9. In this way the slide 23 is moved forward at the proper time, and the roller 20 engages the lifter-arm and raises it so that the lifter 18 engages the upstanding forward flap of the wrapper at a considerable distance from the face of the mold-wheel, so as to properly fold it over, and thereafter when the roller retreats into the position shown in full lines in Fig. 2 the lifter descends and forces the forward flap into close engagement with the articles, so that it assumes the position shown at the point 8 8 of Fig. 2.

The paste-receptacle 62 is mounted in the support 93 and carries the paste-drum 22, which is mounted in suitable bearings and driven by the sprocket-chain 74. The scraper 180 is adjustably mounted on the receptacle and may be set by the screw 63, so that this roll is pasted to the proper extent. The paste-wheels 19 are fast on a shaft mounted in the slide 23 and driven by the sprocket-wheel 91 on this shaft, which meshes with the sprocket-chain 74, this chain being driven by a suitable sprocket on the drive-shaft of the machine and passing over the guide-pulleys 73 and 88. In this way the paste-wheels, which preferably have the narrow faces indicated in Fig. 8, are supplied with paste or similar material from the drum, and when they move forward into the dotted position indicated in Fig. 2 engage the front flap 100 of the wrapper and preferably apply the paste thereto in the thin lines 96 97. (Indicated in Fig. 6.) On the further movement of the mold-wheel the side flaps of the wrapper engage a suitable folder, which may take the form of the folding cover-plate 55, which, as indicated in Figs. 9, 10, and 11, connects with the side guides 54, which properly embrace the mold-wheel and hold the sides of the package in position. This cover-plate gradually moves the side flaps inward and downward upon the pasted front flap, the arched cover being gradually flattened out for this purpose. Beyond the folder suitable closers are preferably mounted, which may take the form of the light spring-fingers 58, (Indicated in Fig. 2.) These springs may be mounted on the cover-plate, and their forward ends are adapted to properly engage the side flaps 99 and force them down firmly into engagement with the pasted front flap 100 of the wrapper, this action being indicated in Figs. 2, 12, and 6. These closures are provided with suitable wire loops or similar device 59, which are loosely engaged by cooperating hooks or members 60 on the retractor 57, this retractor being rigid with the pivot 61, which also carries the retractor-lever 56, so that the closers may be removed from engagement with the wrapper at proper intervals to allow for the action of the tuckers 77.

The mold-wheel is provided with a series

of pivoted tuckers 77, which operate in suitable recesses in the wheel and are pivoted in the mold-wheel about pins located opposite one end of each mold and so positioned that the end of the tucker when rotated outward engages the upstanding rear flap 101 of the wrapper, closes it down and forces it home against the front flap 100, so as to bring the pasted portion of the rear flap into proper contact. Each tucker is provided with a roll 78 at its inner end, and also a suitable roller 79 is mounted loosely on each tucker-pin and projects outward laterally from the tucker, the tuckers being normally held in the retracted position indicated in Fig. 2 by the light springs 76, which are secured thereto. As the mold-wheel rotates the tucker-rolls 78 engage the fixed cam 82, as is indicated in Fig. 3, and are thereupon swung outward, forcing the rear flap of the article down, as has been indicated.

A paste-receptacle 68 is mounted on the support 95 and is provided with the paste-drum 66, dipping into the paste therein and receiving the proper amount of paste through the action of the adjustable scraper 101, which may be set as desired by the screw 67. Adjacent the paste-drum is mounted the rotating paste-finger 65, fast to the sprocket-wheel 69, which engages the chain 74, and the finger is rotated by this means into contact with the paste-drum 66, so as to receive paste therefrom, this drum also being rotated by suitable gears from the paste-finger, as indicated in Fig. 1, if desired. The paste-finger 65 having received paste or similar gummy material moves outward into the position indicated in Fig. 3 and engages the rear flap of the wrapper. At this instant the tucker and the finger are both simultaneously rotating and the flap is thus forced past the paste-finger and receives paste at the point 98, as is indicated in Fig. 6. As the tucker moves outward the closers are raised out of contact with the package, and for this purpose the retractor-lever 56 is engaged by the roll 79 on the tucker-pivot, as is indicated in Fig. 1, and thus the retractor and connected closers 58 are swung outward away from the package into the position shown in Fig. 3. The further movement of the mold-wheel brings the completed package under the spring-pressed closing-wheel 70, mounted on the light springs 71. The rear flap is thus pressed home as soon as the tucker is brought back into retracted position by the spring 76, when the tucker-roll 78 moves along the face 83 of the fixed cam 82. (Shown in Fig. 3.)

The completed packages are forced out of the mold-wheel into a discharge-chute. (Indicated in Figs. 1, 3, and 7.) This chute comprises the chute-frame 2, which may be cast integral with part of the frame of the machine and which is preferably provided



with the slots (indicated in Fig. 7) on either side of the fixed bottom. (Shown in that figure.) The discharge-yokes 47 and 48 are mounted on the rods 29 and pass through these slots in the chute-frame carrying the grippers 43, which form the movable sides of the discharger. These grippers are secured to the gripper-pins 45, which pass loosely through the holes in the yokes 47 and through suitable slots in the chute 2 and are engaged by suitable springs 46, which normally hold the grippers outward in the position indicated in Fig. 7. At the proper intervals the grippers are forced inward by the action of the gripper-rolls 39, mounted on suitable rock-levers 40 in the brackets 44 and 50 on each side of the chute-frame, the rock-shafts on the same side of the chute being connected by the gripper-rod 32, so that they rotate in unison. The outer ends of these rock-levers are operated by the connectors 41, adjustably secured to the lever 49, mounted in the standard 3 and operated at the proper intervals by a cam on the shaft 9, which coöperates with a roller at the lower end of this lever. The discharge-yokes are reciprocated by the discharger-rod 27, mounted in suitable bearings in the frame and adjustably connected to the rods 28 29, as indicated in Fig. 1. This rod 27 is reciprocated by the rock-lever 26, mounted in the frame and operated by a cam 141, which engages the roller at the end of the arm 143. To avoid confusion in the drawing, the other dotted line to indicate that the cam 141 is a closed cam has been omitted from the drawing.

A suitable retainer 35 is used in connection with the chute to hold the packages in proper position therein when they are not engaged by the grippers, and in this way the packages are held for a considerable time in proper closed position, and the gum or paste becomes thoroughly set. Through the mechanism described the grippers may be brought together to engage the series of packages in the chute, and thereupon the discharger-rod may move the whole series outward slightly, so as to give sufficient clearance to enable the next package to come into alinement, as is indicated in Fig. 2. Thereupon the roll on the end of the arm 143 may move inward, if desired, by engaging the depression indicated in the cam 141, so as to bring the series of packages into engagement with the package in the mold-wheel, and thereafter all the packages are simultaneously moved outward at the same instant that the package just formed is ejected from the mold-wheel by the ejector 84 engaging the inner end of the plunger-rod and forcing it outward. This ejector-rod 84 may be pivoted in the machine, as is indicated in dotted lines in Fig. 1, and its lower end 142 may be provided with a cam-roll and be operated by a suitable cam

on the shaft 9. In this way the ejected package, which is forced out of the mold-wheel and into the discharge-chute, does not meet any considerable resistance, due to the packages ahead of it, since these packages are positively moved forward at substantially the same rate as the last package by the grippers, as described.

It is of course understood that at the time the grippers are released the retainer 35, which may take the form of a suitable weight loosely secured at its outer end to the retainer-pivot 37, may be allowed to fall into holding contact with the series of packages. The inner end of this retainer is provided with the lug 36, which is engaged by the inner end 33 of the bell-crank lever 31, this inner end of the lever being preferably given a curved form, as indicated, and a suitable longitudinal adjustment being allowed to regulate the amount that the retainer is lifted. The lever 31 is operated by the connector 30, adjustably secured to the lever 49, so that at the time the grippers are forced inward, so as to engage the packages, the retainer is lifted out of engagement therewith, and at the time the retainer is allowed to fall into holding contact with the packages the grippers are released and can freely move longitudinally of the chute to assume another position. After the plungers 53 are forced outward, as has been described, during the ejection of the completed package they remain in this outward position until after they are disengaged from the alining-cam 75, (indicated in Fig. 2,) which positively brings them into the proper position at the top of the mold before the insert-plunger forces them downward.

It is of course understood that those familiar with this art may make many modifications in the number, size, and proportion of parts of this machine. Parts of the same may be omitted and parts may be employed in connection with other devices without losing the advantages of this invention or departing from the spirit of the same. I do not, therefore, desire to be limited to the details of the disclosure which has been made in this case; but what I claim as new, and what I desire to secure by Letters Patent, is set forth in the appended claims.

I claim—

1. In packing-machines, a hopper, a feed-drum having transverse pockets therein mounted in said hopper, a rotating clearer provided with guards adjacent said drum, strippers coöperating with said drum to remove articles therefrom, an intermittently-rotating mold-wheel having molds therein, plungers mounted in said molds, pivoted tuckers mounted in recesses in said mold-wheel, means to force wrappers and articles into said molds, folding and pasting devices to close and seal said wrappers around said



articles, means to rotate said feed-drum in unison with said mold-wheel and discharge devices comprising a chute, intermittently-operating grippers, a retainer, and means to operate said grippers and retainer to engage the wrapped packages alternately.

2. In packing-machines, a hopper, a feed-drum having transverse pockets therein mounted in said hopper, a clearer adjacent said drum, strippers cooperating with said drum to remove articles therefrom, an intermittently-rotating mold-wheel having molds therein, plungers mounted in said molds, pivoted tuckers mounted in said mold-wheel, means to force wrappers and articles into said molds, folding and pasting devices to close and seal said wrappers around said articles and means to operate said feed-drum in unison with said mold-wheel.

3. In packing-machines, a hopper, a feed-drum having pockets therein mounted in said hopper, a rotating clearer adjacent said drum, strippers cooperating with said drum to remove articles therefrom, an intermittently-rotating mold-wheel having molds therein, folding devices cooperating with said mold-wheel, means to rotate said feed-drum in unison with said mold-wheel and means to manually rotate said feed-drum and to accurately set the same.

4. In packing-machines, a hopper, a feed-drum having pockets therein mounted in said hopper, means to remove articles from said pockets, wrapping devices to receive and wrap said articles, disengageable means to rotate said feed-drum in unison with said wrapping devices and manual means to rotate said feed-drum.

5. In packing-machines, a hopper, a pocketed feed-drum in said hopper, wrapping devices to receive articles from said feed-drum, means comprising a spring-pressed disengageable clutch to rotate said feed-drum in unison with said wrapping devices and manual means to set said feed-drum and to move the same forward without disengaging said clutch.

6. In packing-machines, a hopper, a feed-drum provided with transverse pockets cooperating with said hopper, a clearer adjacent said drum to disengage therefrom articles not seated in said pockets, a stripper operating in a groove in said drum to remove articles from said pockets, a runway to receive said articles and a feed-belt in said runway operating in unison with said feed-drum.

7. In packing-machines, a hopper, a feed-drum having transverse pockets therein mounted in said hopper, a rotating clearer adjacent said drum, guards engaging said clearer to positively disengage articles therefrom, strippers cooperating with said drum to remove articles therefrom, a runway to receive said articles and a feed-belt cooperating

ing with said runway and operated in unison with said drum.

8. In packing-machines, a hopper, a feed-drum having transverse pockets therein mounted in said hopper, a rotating clearer provided with guards mounted adjacent said drum to disengage therefrom articles not seated in said pockets, strippers operating in circumferential grooves in said drum to remove articles therefrom.

9. In packing-machines, an intermittently-rotating mold-wheel having molds therein, plungers frictionally supported in said molds, pivoted spring-pressed integral tuckers mounted in recesses in said mold-wheel, a pivoted lifter to engage the forward upstanding flap of a wrapper and thereafter to move toward said mold-wheel to force said flap into position, pasting devices, means comprising spring-pressed closers to fold the side flaps of wrappers and a retractor to disengage said closers during the operation of said tuckers.

10. In packing-machines, a mold-wheel provided with molds, folding means comprising movable closers to engage the wrappers of articles in said molds and movable tuckers mounted in said mold-wheel to be projected therefrom and a retractor to move said closers out of the path of said tuckers.

11. In packing-machines, a mold-wheel provided with molds, tuckers mounted within said wheels to be projected therefrom, folding devices comprising a movable closer adjacent said drum, a retractor cooperating with said closer and means on said tuckers to operate said retractor and carry the same out of the path of said tuckers.

12. In packing-machines, a mold-wheel having molds therein, tuckers mounted in said mold-wheel to be projected therefrom, a movable paste-finger cooperating with said mold-wheel, means for moving the paste-finger and means to operate said tuckers to engage a wrapper-flap at the same time as said paste-finger to bend said flap around said finger and supply paste to the inner face thereof.

13. In packing-machines, a mold-wheel provided with molds, pasting and folding devices cooperating with said mold-wheel to wrap and paste packages of articles, a discharge-chute, intermittently-operating grippers adjacent said chute, a retainer cooperating with said chute to clamp articles thereon, means to operate said retainer and grippers to alternately engage packages in said chute, means to move said grippers longitudinally of said chute and means to eject packages from said mold-wheel into said chute to hold the same in position therein until set.

14. In packing-machines, pasting and folding devices to form pasted wrapped packages, a discharge-chute to receive said pack-



ages, intermittently-operating gripping devices adjacent said chute, a retainer adjacent said chute to hold packages thereon, means to operate said gripping devices and  
5 said retainer to alternately engage the packages, means to move said gripping devices longitudinally of said chute to positively feed packages along the same and means to discharge a new package into said chute  
10 substantially in unison with the movement of the series of packages therein to hold said packages in said chute under gentle compression until the paste thereon is set.

15 15. In packing-machines, pasting and folding mechanism to form wrapped pasted packages, a discharge-chute, an intermittently-operating gripping mechanism to receive said packages, means to periodically eject packages from said folding mechanism  
20 into said chute and means to move said gripping mechanism longitudinally of said chute substantially in unison with said ejected package to hold said packages in position until set.

25 16. In packing-machines, folding and pasting mechanism to form wrapped pasted packages, intermittently-operating gripping mechanism to receive a series of said packages, means to periodically discharge a  
30 wrapped package from said folding mechanism and means to operate said gripping mechanism substantially in unison with the movement of said ejected package to hold the same under gentle compression.

17. In packing-machines, folding and 35 pasting mechanism to form wrapped pasted packages, a discharge-chute discharge-yokes mounted adjacent said chute, grippers mounted in said yokes to move transversely of said chute, a retainer, means to operate 40 said grippers and retainer to alternately engage packages and means to move said yokes longitudinally of said chute.

18. In packing-machines, folding and 45 pasting mechanism to form wrapped pasted packages, means to periodically eject said packages, a discharge-chute, discharge-yokes mounted adjacent said chute, a gripper movably mounted in said yokes to move transversely of said chute, a movable retainer, 50 means to operate said gripper and retainer to alternately engage packages in said chute and means to move said yokes longitudinally of said chute substantially in unison with the means to eject said packages. 55

19. In packing-machines, means to form 55 wrapped packages, a chute-frame, discharge-yokes mounted adjacent said frame, grippers mounted in said yokes to move transversely of said frame, springs to normally hold said 60 grippers outward in operative position, means to move said yokes longitudinally of said frame and means to periodically force said grippers inward into operative position.

EDWARD L. BRACY.

Witnesses:

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FRANK LINABURY.