

No. 716,627.

Patented Dec. 23, 1902.

M. DEILLER.

TOBACCO STRIPPING OR STEMMING MACHINE.

(Application filed Jan. 27, 1902.)

(No Model.)

7 Sheets—Sheet 1.

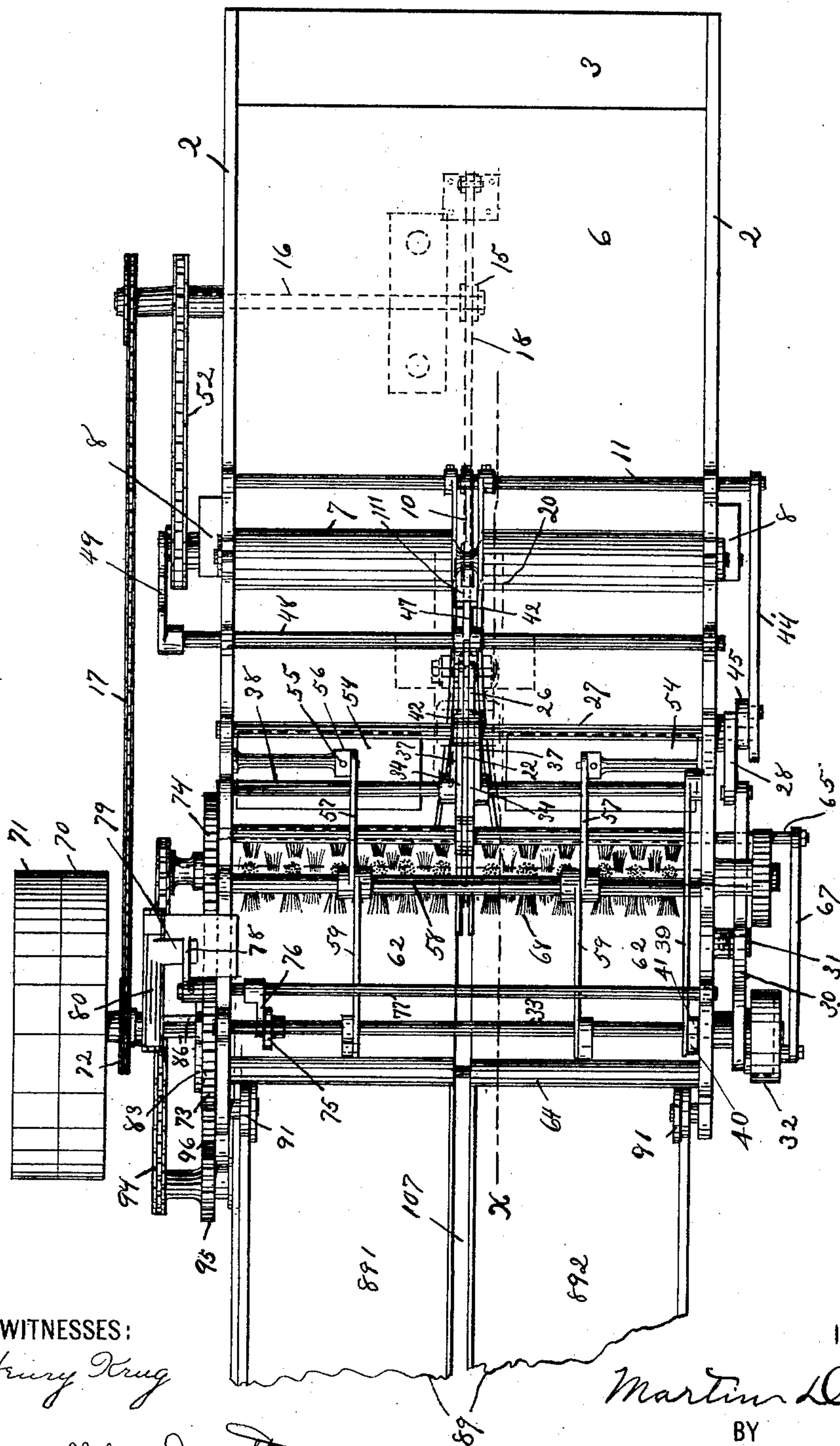


Fig. 1.

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**7 Sheets—Sheet 2.**

Fig. 2.

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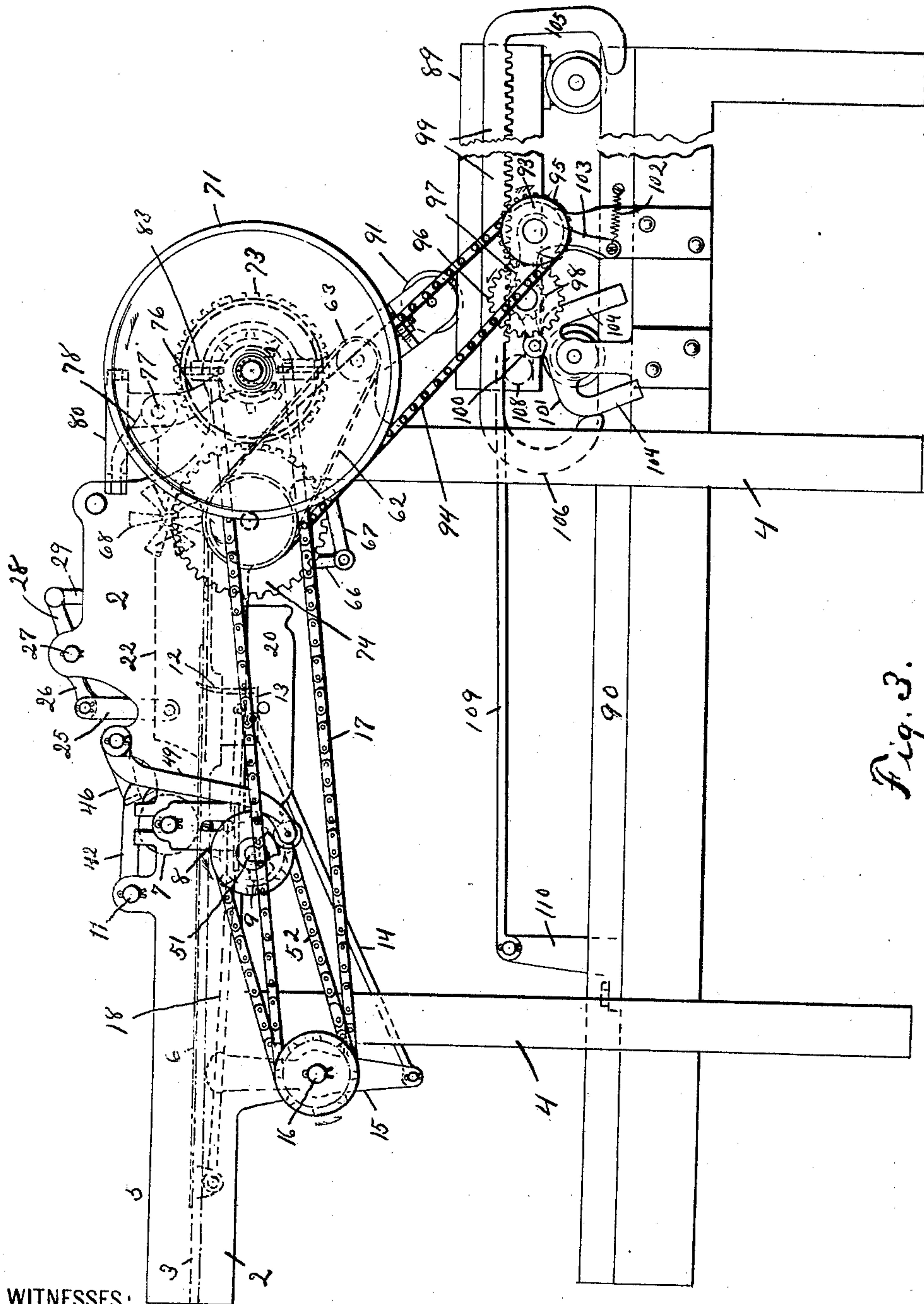


Fig. 3.

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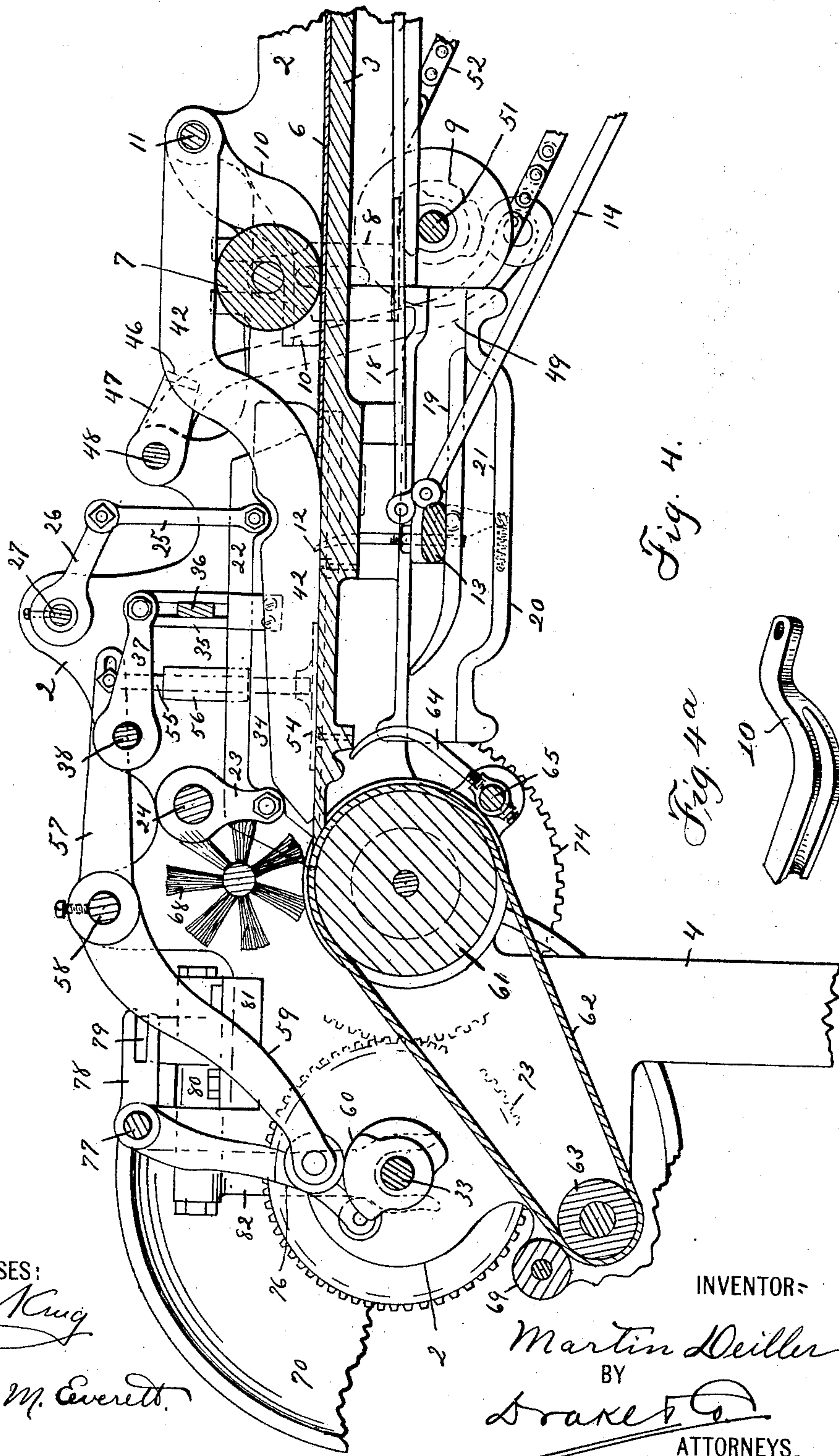
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7 Sheets—Sheet 4.



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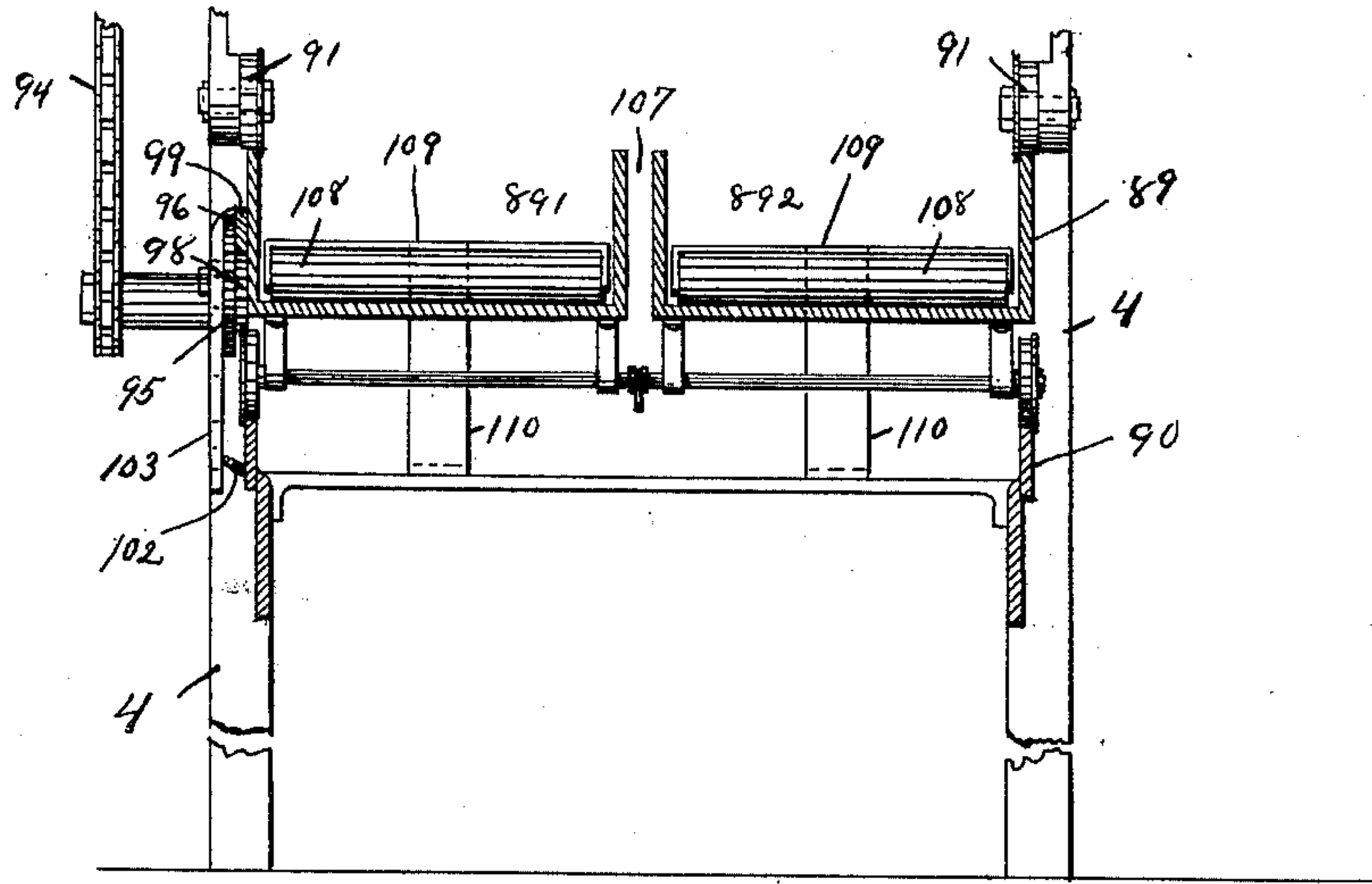
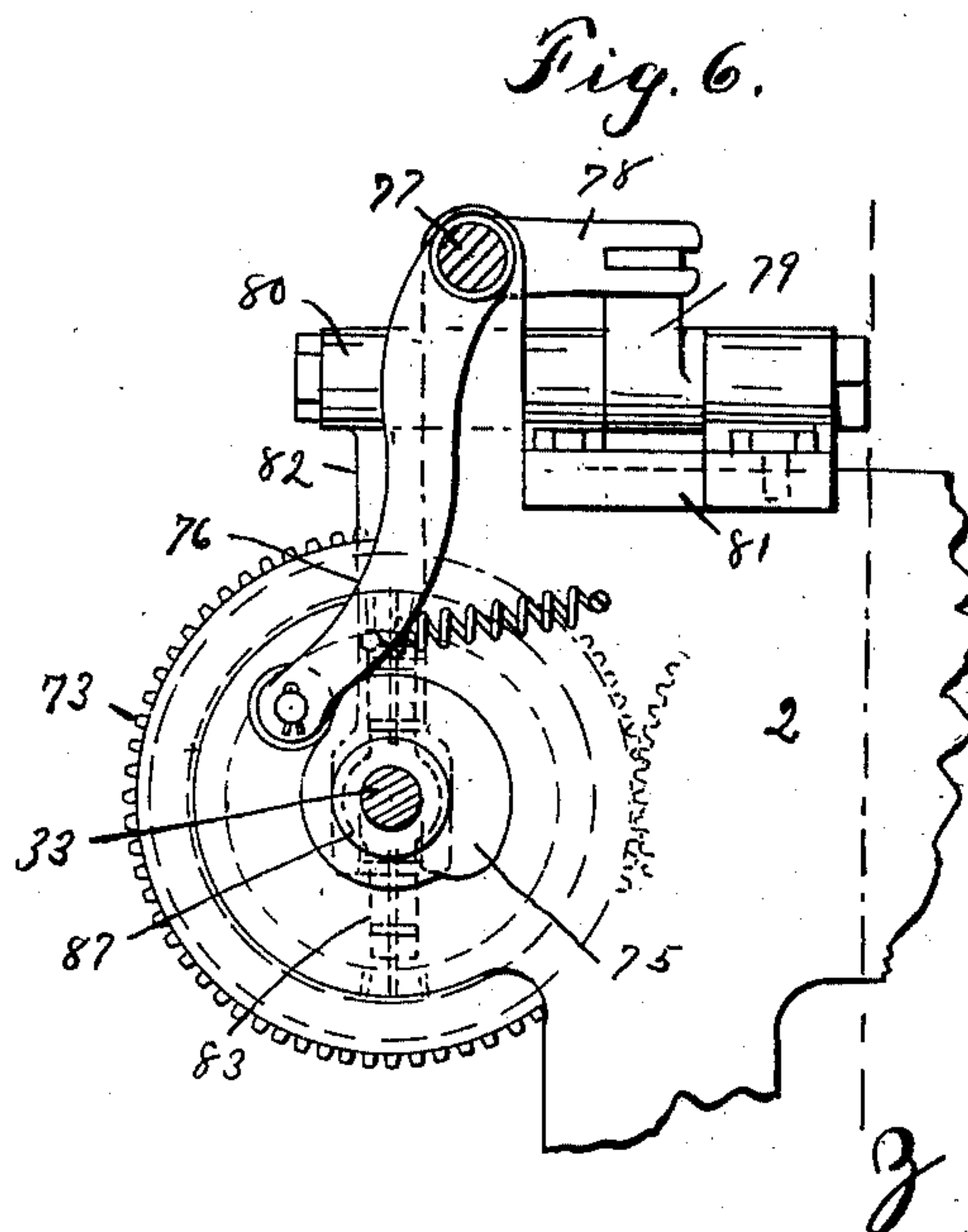
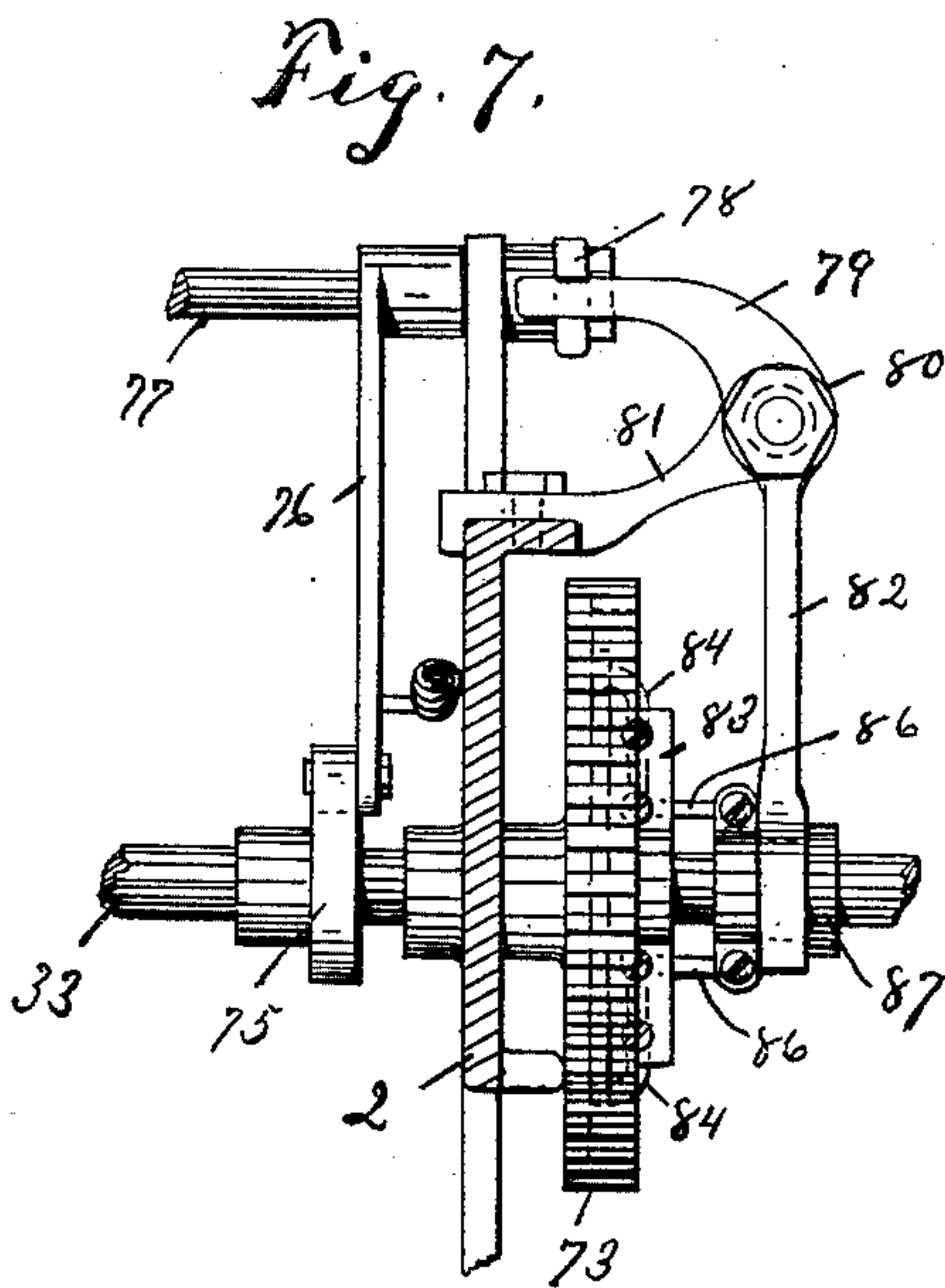


Fig. 5.



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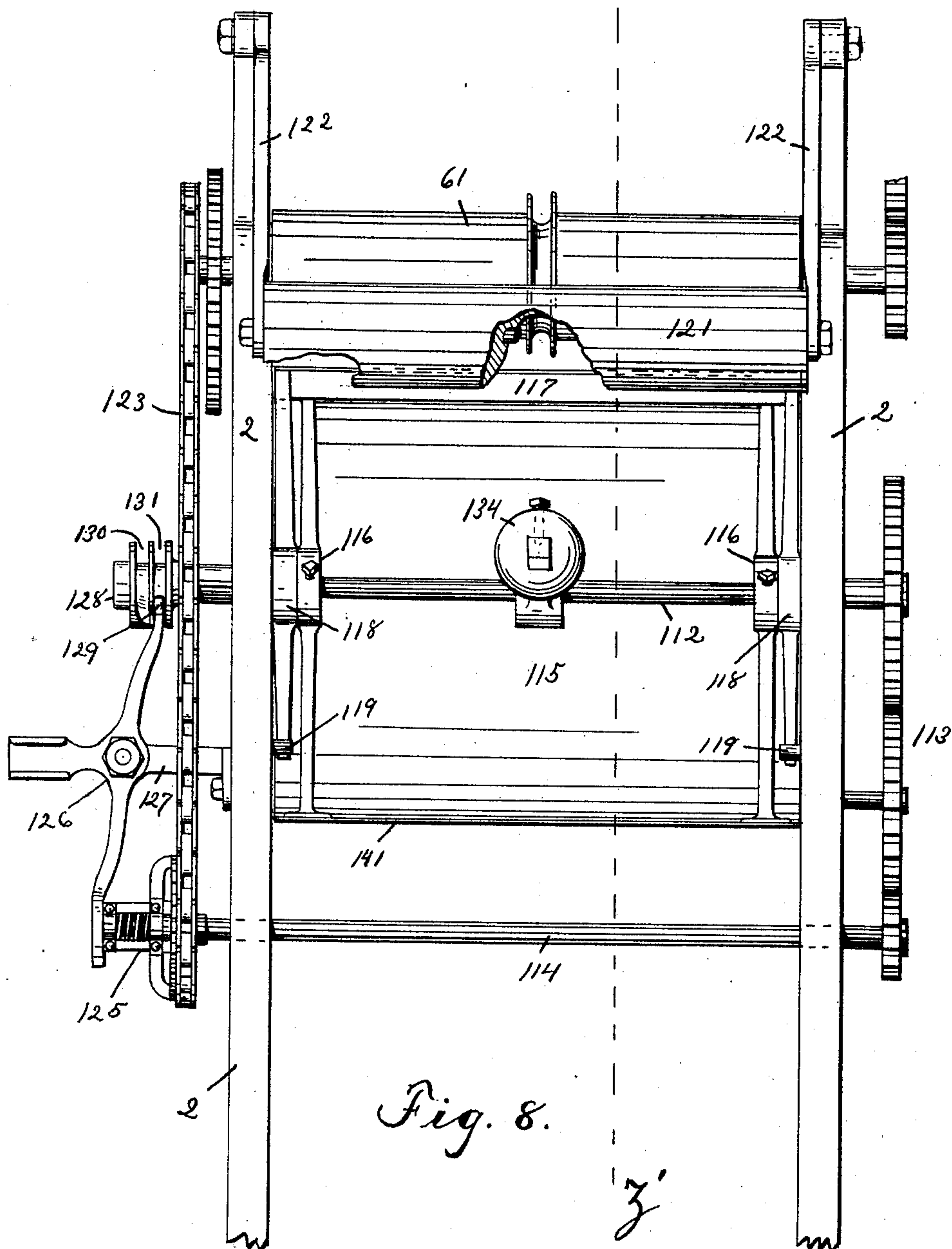
M. DEILLER.

TOBACCO STRIPPING OR STEMMING MACHINE.

(Application filed Jan. 27, 1902.)

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7 Sheets—Sheet 6.



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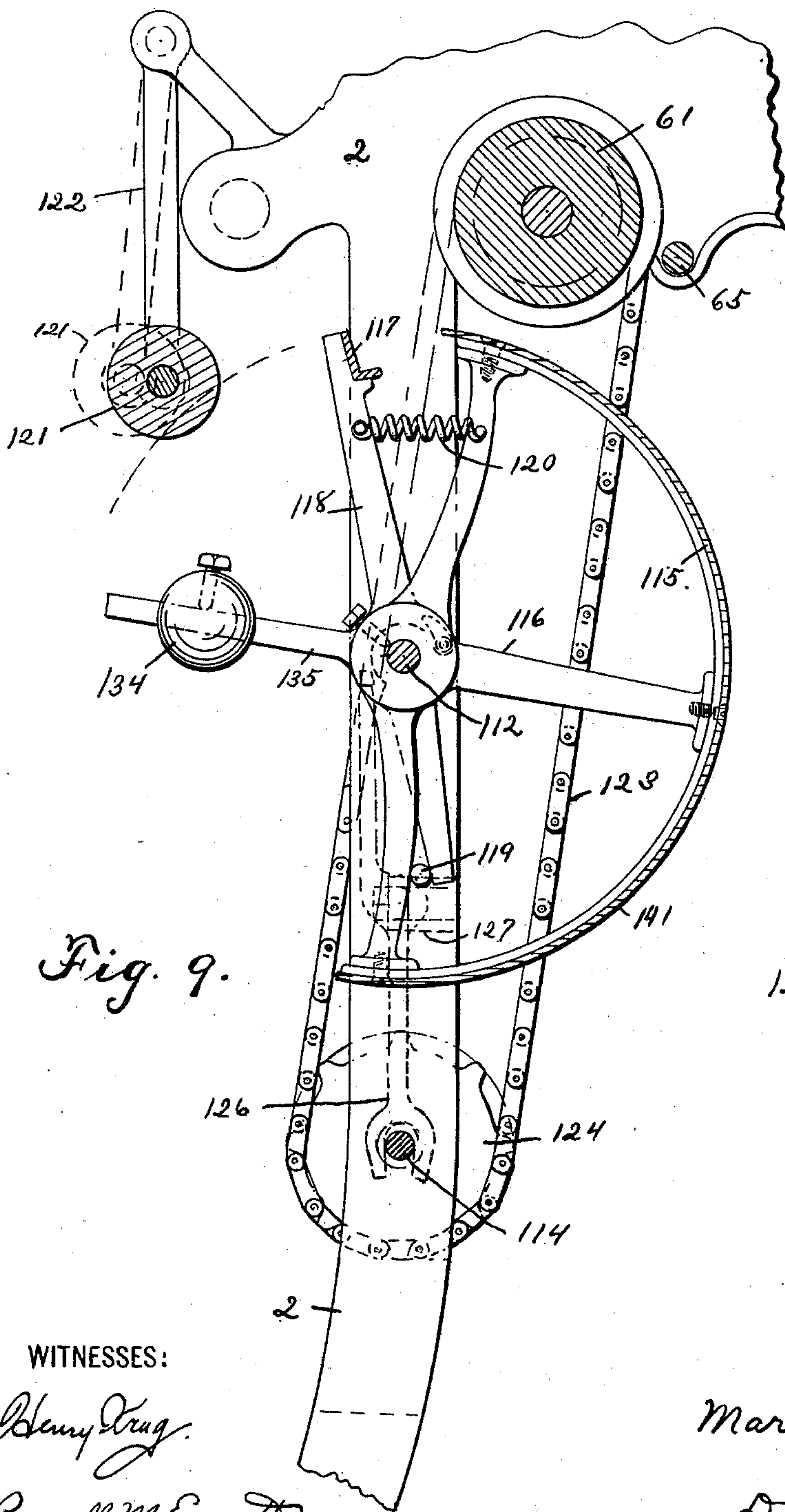


Fig. 9.

Fig. 10.

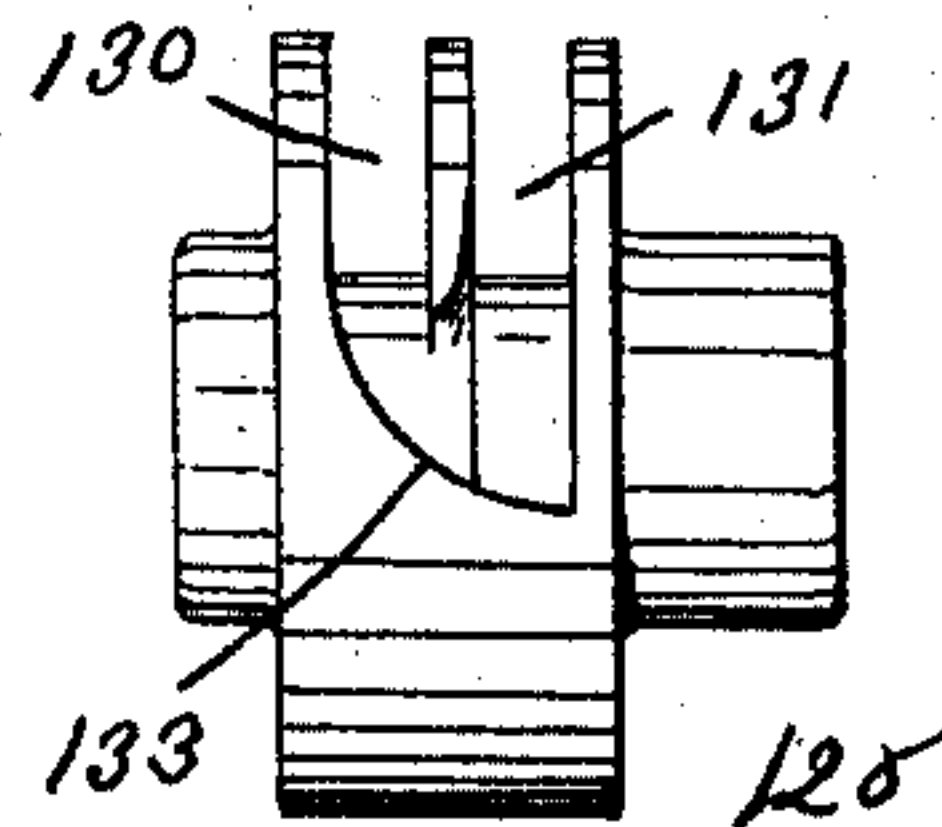
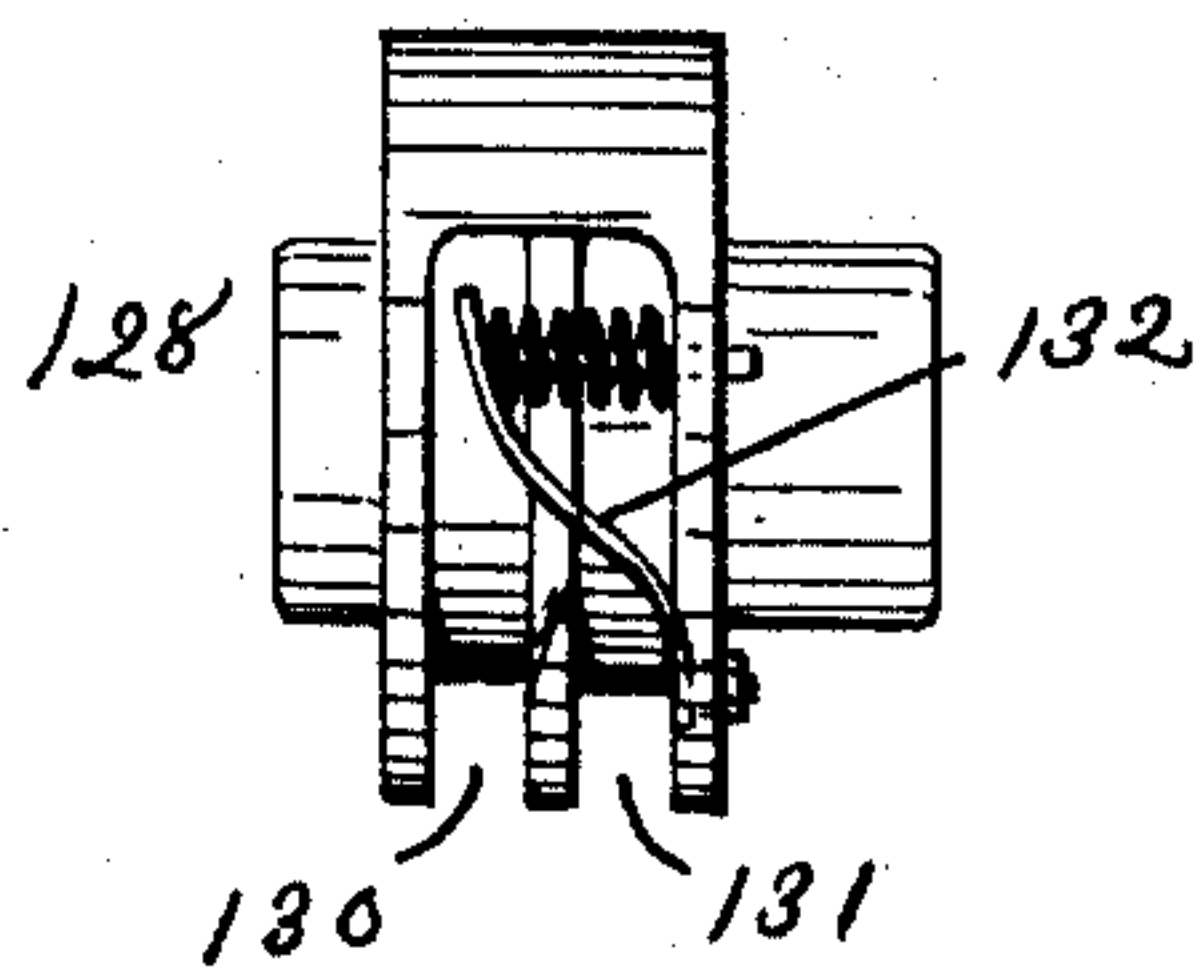


Fig. 11.



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# UNITED STATES PATENT OFFICE.

MARTIN DEILLER, OF NEWARK, NEW JERSEY.

## TOBACCO STRIPPING OR STEMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 716,627, dated December 23, 1902.

Application filed January 27, 1902. Serial No. 91,311. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN DEILLER, a citizen of France, residing at Newark, in the county of Essex and State of New Jersey, have  
5 invented certain new and useful Improvements in Tobacco Stripping or Stemming Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled  
10 in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to numerals of reference marked thereon, which form a part of this specification.

15 The objects of this invention are to facilitate the stemming or stripping of tobacco-leaves, to avoid tearing and wasting that portion of the leaf adjacent to the stem or rib, to secure a positive feeding of the leaf through  
20 the stemming devices, to obtain a delivery of the halves of the leaf in smooth outspread form and to automatically arrange them in the usual "books" or bundles, and to secure other advantages and results, some of which  
25 may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved tobacco stripping or stemming machine and in the arrangements and combinations of parts  
30 of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like numerals of reference indicate  
35 corresponding parts in each of the several figures, Figure 1 is a plan of my improved machine. Figs. 2 and 3 are side elevations from the opposite sides of the machine, respectively. Fig. 4 is a vertical longitudinal section a little to one side of the center, as on  
40 line *x*, Fig. 1. Fig. 4<sup>a</sup> is a detail perspective view of a certain guide. Fig. 5 is a transverse vertical section of the booker shown in Figs. 2 and 3, as on line *y*, Fig. 2. Fig. 6 is  
45 an inner side view of certain clutch operating means; and Fig. 7 is an end view of the same from the rear, as on line *z*, Fig. 6. Fig. 8 is a view in elevation from the front of the machine of a preferred form of booker. Fig.  
50 9 is a section of the same on line *z'*, Fig. 8; and Figs. 10 and 11 are detail views of a certain cam employed in said preferred booker.

In said drawings, 2 2 indicate the side pieces of the machine, which are placed a suitable distance apart to receive a tobacco-leaf between and are connected by a floor 3, the whole being supported at a convenient height upon legs 4. A sort of flat-bottomed trough is thus formed onto one end of which the tobacco-leaves are fed, as at 5, while at the other end are the devices for operating upon said leaves. In feeding the leaf is laid flat upon a thin sheet-metal plate 6, lying upon the floor 3 and slidable thereon. Said plate then moves forward by means hereinafter described, carrying the leaf with it under the smoothing and holding roll 7. Said roll 7 is journaled in boxes 8 8, vertically movable on the side pieces 2 2 of the machine, and when the plate 6 is moving forward with the leaf the roll rests by gravity upon said leaf, but when the plate returns backward, slipping beneath the leaf, rotary cams 9 9 at either side of the machine engage the sliding boxes 8 and raise the roll free from the leaf. The said roll 7 is annularly reduced at its middle to allow a stem-guide 10, loosely hung from a cross-shaft 11, at the rear of the roller and somewhat higher up to extend downwardly forward beneath the roller. Said stem-guide lies at its forward part upon the plate 6 and is longitudinally grooved or hollowed from beneath to receive the stem of a tobacco-leaf and hold the same in proper alinement. From the extremity of said stem-guide 10 the floor 3 of the machine is slotted, as at 11, to its forward end to receive the stem of the leaf. When the stem enters this slot, it is caught from beneath on the next forward movement of the plate 6 by a spur 12, projecting upward into said slot from a slide 13, which is given a proper reciprocatory motion beneath the floor 3 by means of a connecting-rod 14, extending backward to a crank disk or arm 15 on a suitable shaft 16, operated by a chain connection 17 with a source of power. An upper connecting-rod 18 also extends from said slide 13 back to the under side of the plate 6 to impart to the latter its reciprocating feed motion before referred to. The slide 13 on its forward stroke runs upon the upper track 19 of the slideway 20, said track being pivoted so that at the end of such forward movement it tilts and allows the slide



to return along the bottom 21 of the slideway, whereby the spur 12 is lowered out of contact with the leaf on the return stroke.

Above the slotted forward portion of the floor 3 and in the same plane with said slot is hung the knife 22, being pivoted at its forward end by an arm 23 to a transverse shaft 24 and adapted to be raised and lowered at its rearward end out of and into the slot 111. To accomplish such up-and-down movement, a link 25 connects the rear end of the knife to an arm 26 on a rocker-shaft 27, said rocker-shaft being oscillated by a fixed arm 28 thereon at the side of the machine, (see Fig. 2,) linked, as at 29, to one arm of a bent lever 30, fulcrumed, as at 31, on the outside of one of the side pieces 2 and having at the extremity of its other arm a friction-roller adapted to run in a track or groove on the inner face of a cam 32, fast on the end of the main driving-shaft 33 at the forward end of the machine. Said knife is timed to raise as the leaf is thrust forward and to drop as the plate 6 slips rearward from beneath the leaf, thus forcing the stem down through the slot 111 in the floor-bottom and cutting it out of the leaf. To prevent the leaf from being drawn downward into the slot with the rib or stem, holders 34 are arranged on either side of the knife 22 and closely adjacent thereto, comprising flat strips disposed edgewise to clamp longitudinally against the leaf, parallel to the knife. Said strips are each attached to an upright 35, slotted to receive a fixed guide 36, which compels vertical movement, and pivoted at its upper end to a fixed arm 37 of a rocker-shaft 38. From said rocker-shaft a forwardly-extending fixed arm 39 curves downward to the main driving-shaft 33 and carries a roller 40 to engage a cam 41 on said shaft, whereby at the proper instant the holders 34 are pressed downward onto the leaf at each side of the stem while said stem is cut out. After the knife has made a cut it is desirable to spread the side portions of the leaf so that the cut edges will not be again caught by the knife and mutilated. To effect this, I provide on each side of the knife 22 and outside the holders 34 spreaders 42, each comprising a thin resilient strip in edgewise position projecting from the transverse shaft 11 at the rear of the roll 7, forward over said roller, and downward against the floor of the trough at their lower edges. The said shaft 11 is connected at one side of the machine (see Fig. 2) by a rigid arm 44 with a similar arm 45 on the knife-rocker shaft 27, before described, one of said arms being slotted near its end to receive a pin on the other and permit angular movement. Thus as the knife is lowered the spreaders are pressed down against the leaf, and when this is done, the cutting out of the stem being accomplished and the holders 34 released, a wedge-like member 46 is forced down between the two spreader-arms 42, pushing them apart and carrying the two halves

of the cut leaf away from the knife on each side. Preferably said wedge-like member is a cross-piece on the end of an arm 47, projecting from a rocker-shaft 48 near the rear end of the knife, said shaft having at one side of the machine (see Fig. 3) an operating-arm 49, which extends downward and engages a cam 50 on the same shaft 51 which carries the cams 9, before described, to raise the feed-roll 7. Said shaft 51 is driven by a belt or chain 52 from the slide-operating shaft 16, before described.

To prevent the tobacco-leaf from being by any mischance drawn backward with the plate 6 in its rearward movement, I prefer to employ retainers for the forward end of the leaf, one at each side of the knife and each comprising a broad foot 54 at the end of a rod 55, adapted to slide vertically in a fixed bracket 56. The said rod 55 is then connected by a pivotal slot-and-pin connection with the rear arm 57 of a rocker-shaft 58, having a forward arm 59, engaging at its end a cam 60 on the main driving-shaft to receive motion therefrom.

At the forward end of the floor 3 is a roller or pulley 61, flush at its upper side with said floor of the trough and journaled at its opposite ends in the side pieces 2 of the machine. Around said roller runs a broad belt 62, of canvas or the like, inclined forwardly downward to another roller 63 at a lower point. Said belt is designed to receive upon itself the two halves of the stripped or stemmed leaf as they leave the trough, and to this end is divided longitudinally in the middle and the two halves separated to permit the stem to drop or pass between. The two rollers 61 and 63 are also annularly grooved at their middles for the same reason, as is also an auxiliary roll 69, which holds the tobacco-leaves upon the belt at its lower end, the said grooves being in alignment with the slot 111, before described, in the floor 3.

It may sometimes happen that the end of the stem is too flexible to readily introduce itself into the middle groove of the first belt-roller 61, and to assist in properly directing the stem at this point I may employ a hook 64, curving forwardly upward at the rear of the first belt-roller 61 from a transverse shaft 65 and adapted when said shaft is oscillated to strike forward at its upper end through the slot in the floor 3 into the groove of the belt-roller 61, thus urging the stem onward. Said shaft for the hook 64 is preferably oscillated (see Fig. 2) by an arm 66, linked by a connecting-rod 67 to the rotary cam 32 on the main driving-shaft to receive a crank motion therefrom. A rotary brush 68, above the first belt-roller 61 and geared thereto, serves to brush the tobacco-leaves down flat and smooth upon the belt 62 as they leave the trough, and a small idle roller 69 is similarly disposed at the lower end of the belt to hold the leaves flat thereon.

Power is applied to the main driving-shaft



33 by the usual fast and loose belt-pulleys 70 71 on one end of said shaft at the side of the machine. In from said pulleys, referring more particularly to Fig. 1, is a fast sprocket-wheel 72 for the chain 17, before described, and between said sprocket-wheel and the side piece 2 of the machine is a loose gear-wheel 73, meshing into a similar gear 74, fast on the main belt roller or pulley 61. Adjacent to said loose gear-wheel 73 is a clutch on the driving-shaft, and means, next to be described, are provided for automatically causing said clutch to alternately engage and release the gear-wheel, and thus impart to the belt-pulley 61 and belt 62 an intermittent motion. The necessity for this motion arises from the fact that the tobacco-leaf in passing through the machine is first thrust or slid forward by the forward movement of the carrier-plate 6 and then remains stationary while the stem is acted upon and the plate 6 slides backward for a fresh forward movement. As the leaf passes from the stemming-knife directly onto the belt 62 and may at times lie partly on both, it is therefore necessary that said belt shall have a movement corresponding with that of the plate 6, and to this end the gear-wheels 73 74 are adapted to drive the belt 62 only during the forward movement of the plate 6 and with an equal speed, so that there will be no strain to tear the leaf. To properly time such movements of the belt 62, the clutch for the gear-wheel 73 is operated by a cam 75 on the main driving-shaft engaging the forward arm 76 of a transverse rocker-shaft 77, having also a rear arm 78. Said rear arm 78 in turn engages a lateral arm 79 of a rotary shaft 80, disposed longitudinally of the machine or at right angles to the main driving-shaft 33, said rotary shaft being journaled in a fixed bracket 81 and having a second lateral arm 82 to engage the clutch of the main driving-shaft 33. Said clutch preferably comprises a cross-piece 83, fast on the shaft adjacent to the loose gear 73 and having at each of its ends a lever 84, pivoted to swing in a plane passed through said pivot and the shaft. The outer projecting end of each of said levers 84 is shaped to engage stops or teeth on the side of the gear-wheel, and the other end is connected by a link 86 to a collar 87, loose on the shaft and straddled by the forked end of the arm 82 of the longitudinally-disposed shaft 80, before described. In operation, therefore, the cam 75 moves the arm 76, which is held thereagainst by a spring 88, and so rocks the longitudinally-disposed shaft 80 and causes its arm 82 to slide the collar 87 and throw the levers 84 into or out of engagement with the loose gear-wheel 73.

To receive the stemmed leaves from the belt a booker is provided, which in its more extended form, as shown in Figs. 2, 3, and 5, comprises a car 89, adapted to run back and forth on a track 90 at the lower part of the machine-frame, said car being held

firmly upon its track by idle guide-wheels 91 at the top and being adapted when in position to receive a leaf to stand with its rear end just beneath the inclined conveyer-belt. As the leaf is delivered the car moves backward, so that said leaf is laid out on the floor of the car, with its end which is last to leave the conveyer-belt at the front end of the car. The car is then returned to its original position by a weight 92. To thus operate the car, a sprocket-wheel 93 is arranged at the side of its path and connected by a chain 94 with the first belt-roller 61, so as to turn therewith. On the shaft of said sprocket-wheel is a gear-wheel 95, meshing with a second gear-wheel 96, journaled in a yoke 97, adapted to swing on the sprocket-wheel shaft. By the side of said second gear-wheel 96 and adapted to turn therewith is a pinion 98, which engages a rack 99 on the side of the car when the pivoted yoke 97 is swung upward. The end of the yoke 97 is extended to carry a friction-wheel 100, which rests against a shifting lever 101 by the force of a spring 102, acting on an arm 103 of the yoke. Said lever 101 has its arms bent downward at the end, as at 104, and adapted to be engaged by tripping-arms 105 106 on the car and which may be the bent ends of the rack 99 for convenience, as shown. When a leaf has been received, the tripping-arm 105 engages the shifting lever and releases the pinion 98, when the weight 92 returns the car to initial position and the tripping-arm 106 throws the pinion in again. The booker or car 89 is divided longitudinally into compartments 891 892 for the two halves of the leaf, having between an open slot 107 for stems to escape. Rollers 108, supported by long arms 109 from a fixed support 110, press the leaves down into place as they enter the booker.

Where in setting up the machine there is not room for the booker described, (which projects considerably from the front of the machine,) I employ the more compact form shown in Figs. 8 and 9 and which I regard as in all respects a preferred construction. Here there is pivoted beneath the roller 61 at the forward end of the table or floor 3 a segmental cylinder 141 upon a transverse shaft 112, journaled at its ends in the sides 2 2 of the frame of the machine and being at one end connected outside said frame, by means of a train of gearing 113, with a lower driving-shaft 114. The said segmental cylinder is preferably formed of a sheet-metal shell 115, secured upon spiders 116, fast on the shaft 112. Said segmental cylinder, which is preferably a half-cylinder, normally stands with the plane of its edges vertically disposed and its open side forwardly presented, as shown in Fig. 9. This brings the upper edge adjacent to the delivery-roller 61, and as a leaf is delivered its end passes slightly down beyond said edge of the cylinder before the latter begins to move. In front of said edge of the half-cylinder stands a parallel gripping-piece



117, supported by arms 118, fulcrumed on the shaft 112 and adapted at their opposite ends to engage studs 119 on the frame 2 of the machine, whereby rearward motion of the gripping-piece 117 is limited, and it is held away from the front upper edge of the half-cylinder when the latter is in receiving position, so as to permit the forward ends of the leaves to enter therebetween. Springs 120, connecting the arms 118 to the half-cylinder, clamp said two parts together as soon as the half-cylinder begins to turn, and thus pinch the end of the leaf. Continued turning of the half-cylinder to carry its upper part forward spreads the leaf upon the outer curved surface of the half-cylinder as it is received from the roller 61, and as the half-cylinder turns it engages at such surface a retaining-roller 121, freely suspended, as by arms 122, from an upper part of the machine-frame and adapted to depress by gravity against the leaf or leaves on the half-cylinder to hold them in place. The half-cylinder turns, it will be noted, with the same intermittent or step-by-step motion as the delivery-roller 61, since the shaft 114 is connected by a chain belt 123 with said roller 61, and when the half-cylinder has turned far enough to entirely receive the leaf upon itself it is adapted to be reversed in movement and carried back to initial position to receive a succeeding leaf directly on top of the preceding one. In this way a book is built upon the segmental cylinder, or rather two books, simultaneously and side by side, one of rights and the other of lefts. To effect this reversal of the segmental cylinder, I mount the sprocket-wheel 124, which receives the driving-chain 123, loose upon the shaft 114 and arrange upon said shaft adjacent to the sprocket-wheel a clutch 125, preferably of the same construction as above described in connection with the main driving-shaft 33 of the machine for transmitting power to the roller 61. The clutch member on the shaft 114 is operated by a shifting lever 126, pivoted intermediate of its ends on a fixed bracket 127 from the machine-frame and having its opposite end adapted to be engaged by a cam 128 on the shaft 112 of the segmental cylinder. Said cam 128 has two parallel circumferential grooves or runways 130 131 for the head of the shifting lever, which preferably is provided with a roller 129 to lessen friction. When the shifting lever lies in the inner groove 131, the clutch 125 is in engagement and power is transmitted through the shaft 114, gearing 113, and shaft 112 to turn the segmental cylinder. When the cylinder has turned far enough to completely receive a leaf, the end of the shifting lever arrives at the end of the inner groove 131 and is guided by a resilient incline 132 (see Fig. 11) into the outer groove 130. This releases the clutch 125 or throws off the power, and the segmental cylinder returns to initial position by grav-

ity, the shifting lever traveling in the outer cam-groove 130. Simultaneously with the arrival of the cylinder at initial position the shifting-lever head reaches the inclined end 133 of the outer groove 130 and is guided into the inner groove 131, whereupon the cylinder moves forward again and the previous actions are repeated. The gravitation of the segmental cylinder 141 may be regulated by means of a weight 134, adapted to counter-balance it to a greater or less extent.

Having thus described the invention, what I claim as new is—

1. In a machine for stripping or stemming tobacco-leaves, the combination with a table on which the leaf may be spread, said table having a slot to receive the stem or rib of the leaf, of a vertically-operating knife adapted to enter said slot from above and means for reciprocating said knife into and out of said slot.

2. In a tobacco-stripping machine, the combination with a slotted table, of a knife or cutter-blade fulcrumed at one end in the slot and adapted to be raised and lowered at its other end out of and into said slot.

3. In a tobacco-stripping machine, the combination with a slotted table, of a knife having an edge adapted to substantially filling the slot and being pivoted at or near one end with its edge in said slot, and means for working the other end of the knife alternately up and down.

4. In a tobacco-stripping machine, the combination with a slotted table, of a similarly-slotted carrier-plate 6, a knife pivoted at one end and adapted to be raised and lowered with respect to the slot at the other end, and means for sliding said plate forward beneath said knife as it is raised and then withdrawing the plate while the knife is lowered.

5. In a tobacco-stripping machine the combination with the slotted table 3, and knife 22, working into and out of said slot, of a belt conveyer at the end of said table beyond the knife, and means for imparting motion to said conveyer while the knife is on its upstroke.

6. In a tobacco-stripping machine, the combination with a slotted table, a knife, and means for moving said knife alternately into and out of the slot, of a conveyer-belt at the end of said table adapted to receive intermittent motion, and means for causing said belt to travel while the knife is moving out of the slot and remain stationary while the knife moves into the slot.

7. In a tobacco-stripping machine, the combination with a slotted table, and a knife adapted to move into and out of said slot, of a conveyer-belt at the end of said table, slotted in alinement with the slot in the table, and means for intermittently imparting motion to said belt as the knife moves out of the slot in the table.

8. In a tobacco-stripping machine, the combination with the slotted table, a pivoted



knife, and means for raising and lowering said knife with respect to the slot, of a feed-plate 6, adapted to slide on said table, and means for connecting said plate to the same source of power which actuates the knife and effecting a simultaneous movement of the plate toward the slotted portion of the table as the knife is raised and away therefrom as the knife lowers.

9. The combination of the slotted table 3, the pivoted knife 22, adapted to move into and out of the slot, the feed-plate 6, adapted to slide toward the slotted portion of the table as the knife leaves the slot and then withdraw a receiving-conveyer at the opposite end of the table from said feed-plate adapted to travel intermittently as the feed-plate slides forward, and means actuated by a common source of power for operating said parts as described.

10. In a tobacco-stripping machine, the combination with a table, of a feed-plate 6, adapted to slide backward and forward thereon, a smoothing-roll arranged to press against said feed-plate, and means for moving said roll away from the plate on its backward movement.

11. In a tobacco-stripping machine, the combination with a table, or receiving-surface for the leaf, of a guide for the rib or stem of the leaf, said guide extending longitudinally of said receiving-surface and being grooved or channeled at its under part next said surface to admit a stem.

12. In a tobacco-stripping machine, the combination with a table 3, of a longitudinally-disposed stem or rib guide 10, and a roll 7, extending transversely of said guide and being divided or cut away at its middle to admit the said stem or rib guide.

13. In a tobacco-stripping machine, the combination with a table slotted to receive the stem of the leaves, and a feed-plate adapted to intermittently feed the leaves forward, of a fork or spur 12, in front of said feed-plate and moving therewith said fork projecting into the slot from beneath to engage a leaf stem or rib during its forward movement, and being lowered on its return movement.

14. In a tobacco-stripping machine, the combination with a table having a slot to receive a leaf stem or rib of a lower slideway 21, beneath said table and an upper tilting slideway 19, and a reciprocating slide adapted to travel forward on said upper way and return on the lower way, said slide carrying a fork 12, to enter the table-slot and engage a rib or stem therein.

15. In a tobacco-stripping machine, the combination with a slotted table, of a reciprocatory feed-plate, a fork carrier or slide connected to said plate, a lower way for the return movement of said slide and an upper way for its forward stroke, and a fork or spur on said carrier or slide adapted when said

slide is on the said upper way to enter the table-slot to engage a leaf-stem.

16. In a tobacco-stripping machine, the combination with the slotted table, and vertically-operating knife 22, adapted to enter the slot, of vertically-movable holders on opposite sides of said knife and slot, and means for pressing said holders against the table while the knife enters the slot.

17. In a tobacco-stripping machine, the combination with a slotted table and vertically-operating knife adapted to be lowered and raised into and out of the slot, of holders comprising flat strips arranged parallel to the knife on either side, and means for pressing said holders edgewise against the table when the knife is lowered.

18. In a tobacco-stripping machine, the combination with a table having a slot to receive the stem or rib of a leaf, and a knife 22, to enter said slot from above, of holders for clamping said leaf against the table on either side of said knife and preventing its wrinkling or drawing in to the slot.

19. In a tobacco-stripping machine, the combination with a slotted table and vertically-operating knife adapted to enter said slot, of spreaders 42, 42, on opposite sides of said knife, and means for pressing said spreaders against the table and at the same time moving them laterally away from the knife.

20. The combination with the slotted table 3, and vertically-operating knife 22, of spreaders on opposite sides of said knife comprising resilient strips extending in edgewise position from a shaft 11, said shaft, means for oscillating said shaft and causing said spreader to alternately rise and lower, and means for springing said spreaders laterally apart.

21. The combination with the table 3, having a slot adapted to receive the rib or stem of a leaf lying on said table, and a vertically-operating knife 22, of a shaft 11, spreaders comprising resilient strips fast on said shaft, and extending in edgewise position at opposite sides of the knife parallel thereto, a second shaft 48, a wedge-like member projecting from said second shaft, and adapted to be forced between the spreaders to spring them laterally apart, and means for oscillating said shafts 11 and 48, to press said spreaders against the leaf while the knife cuts out the stem and then force them apart to slide the cut sections of the leaf away from the knife.

22. The combination with the slotted table 3, vertically-operating knife 22, and reciprocating feed-plate 6, adapted to impart to a leaf an intermittent forward movement, of clamping-plates 54, adapted to press flatwise against the table 3, and hold the leaf during backward movement of the feed-plate, and means for operating said clamping-plates.

23. In a tobacco-stripping machine, the combination with a slotted table, a cooperating cutter and means for operating the same,



of a reciprocating feed-plate 6, a main shaft 33, from which said feed-plate is continuously operated, a conveyer-belt for delivering the leaf-section from the machine, and means for  
5 imparting to said conveyer a continuously-forward intermittent movement from the said main shaft.

24. In a tobacco-stripping machine, the combination with a slotted table and a cutter  
10 coöperating therewith to strip the leaves, a delivery-conveyer and a continuously-rotating shaft 33, of means for imparting to said conveyer an intermittent movement in forward direction, said means comprising a train  
15 of gearing terminating in a gear-wheel loose on the shaft and a clutch on said shaft automatically engaging said loose gear-wheel at fixed intervals.

25. In a tobacco-stripping machine, the  
20 combination with a slotted table presenting a plane surface, of a knife disposed in the plane of the slot of said table, means for reciprocating said knife into and away from said slot, and means for feeding tobacco-  
25 leaves along said table and beneath the knife.

26. In a tobacco-stripping machine, the combination of a slotted table, a vertically-operating knife disposed in the plane of the slot, means for feeding a tobacco-leaf along  
30 said table-top, and a grooved guide in alignment with the said slot and knife and adapted to receive the central rib or stem of the leaf.

27. In a tobacco-stripping machine, the combination with a slotted flat-topped table,  
35 of a knife arranged in the plane of said slot, means for reciprocating said knife up and down to secure a shearing action with the edges of said slot, and intermittent feed means adapted to slide a leaf beneath said knife  
40 when the same is raised.

28. In a tobacco-stripping machine, the combination with a flat-topped table having a slot therein, of a vertically-reciprocating knife in the plane of said slot, means adapted  
45 to intermittently feed a tobacco-leaf along said table with its central rib or stem in said slot, and vertically-reciprocating clamping means on either side of said knife adapted to clamp the leaf to the table while said knife  
50 makes a downstroke and then release the same.

29. In a tobacco-stripping machine, the combination with a knife having an up-and-down motion, and means for passing leaves  
55 through the machine with a step-by-step motion, of a booker to receive the leaves from said knife and having a corresponding step-by-step motion.

30. In a tobacco-stripping machine, the  
60 combination with a delivery-conveyer having an intermittent or step-by-step motion, of a semicylindrical booker, adapted to turn at the end of said conveyer at the same rate of

motion, clamping means adapted to press against said cylinder, and means for driving 65 the cylinder.

31. In a tobacco-stripping machine, a booker having a reciprocating motion whereby it receives each successive leaf directly on top of those previously received, and a  
70 pressure-roll yieldingly engaging the receiving-surface of said booker as it reciprocates.

32. In a tobacco-stripping machine, a booker comprising a semicylinder, a gripping-strip normally clamped against one edge of  
75 said semicylinder, means for holding said gripping-piece away from the said edge at one position of the semicylinder and means for oscillating said semicylinder.

33. In a tobacco-stripping machine, the  
80 combination with a delivery-roller, of a booker comprising a semicylinder driven from said roller, leaf-clamping means adjacent to said semicylinder, and means for intermittently releasing said semicylinder from its driving  
85 means and for returning it to initial position.

34. In a tobacco-stripping machine, the combination of reciprocatory means for feeding the leaves, a knife having an up-and-down movement to remove the leaf-stem, and a  
90 booker having a step-by-step forward movement to receive each leaf as it is stripped and a continuous return movement to initial position.

35. In a tobacco-stripping machine, the  
95 combination of a slotted table, a reciprocatory means for feeding the leaves over said table with a step-by-step motion, a knife working vertically into and out of the slot in said table, a booker moving with a step-by-step motion past the end of the table to receive each  
100 leaf therefrom, means for holding the leaves in place on said booker, and means for automatically returning said booker to initial position after each leaf has been received. 105

36. The combination with a shaft 112, and a semicylinder 141, mounted thereon and adapted when free to return to a given position by its weight, of a driving-shaft 112, geared thereto, clutch members on said driving-shaft one loose and being adapted to be  
110 driven by suitable power means and the other fast on said shaft, a shifting-lever adapted to throw said clutch members into and out of engagement, and a rotary cam fast on the  
115 cylinder-shaft and having parallel circumferential grooves communicating at points and adapted to guide the shifting-lever from one to the other.

In testimony that I claim the foregoing I  
120 have hereunto set my hand this 4th day of January, 1902.

MARTIN DEILLER.

Witnesses:

CHARLES H. PELL,  
C. B. PITNEY.