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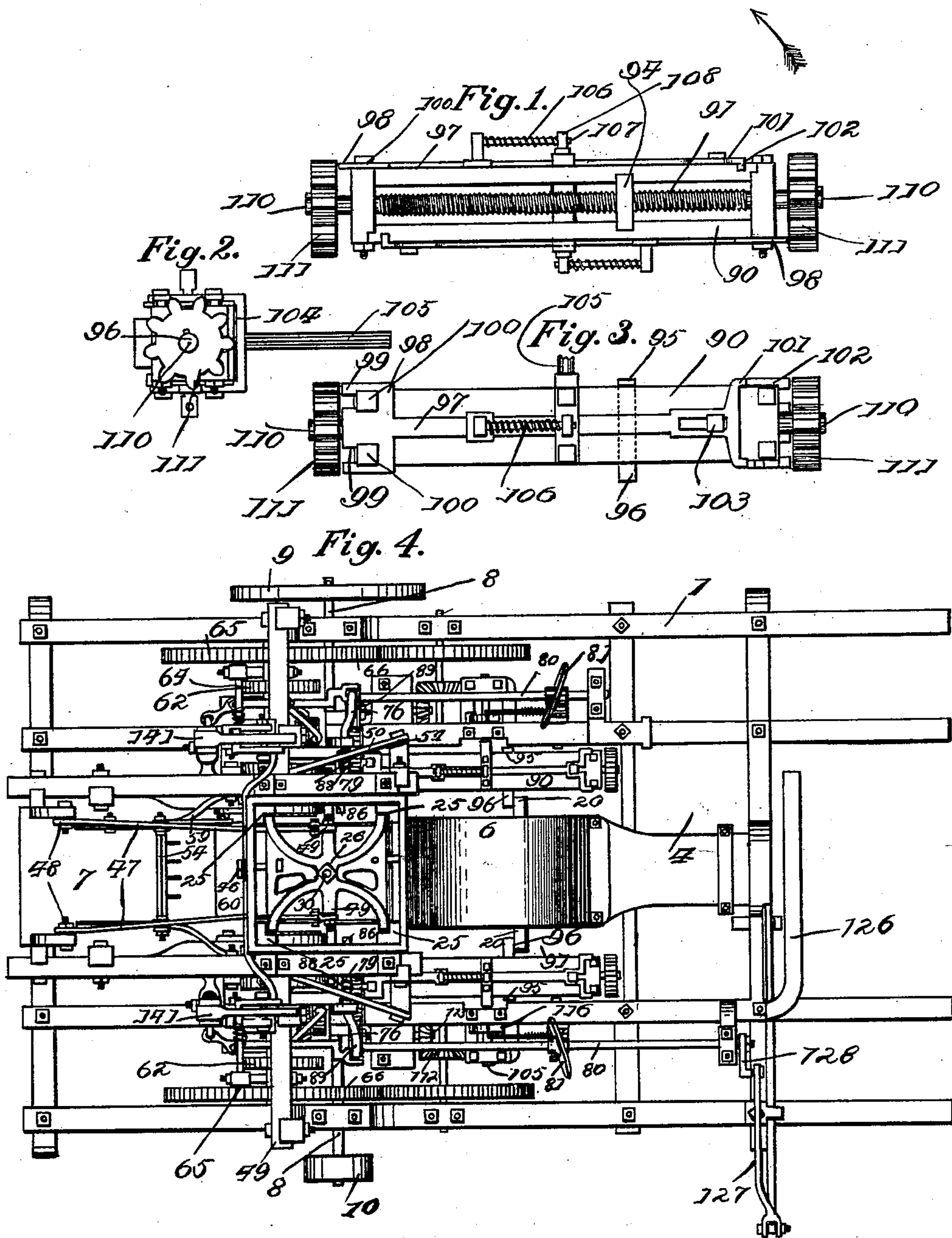
Patented June 18, 1901.

J. PEGG.
BALING PRESS.

(Application filed Oct. 11, 1900.)

(No Model.)

9 Sheets—Sheet 1.



Witnesses;
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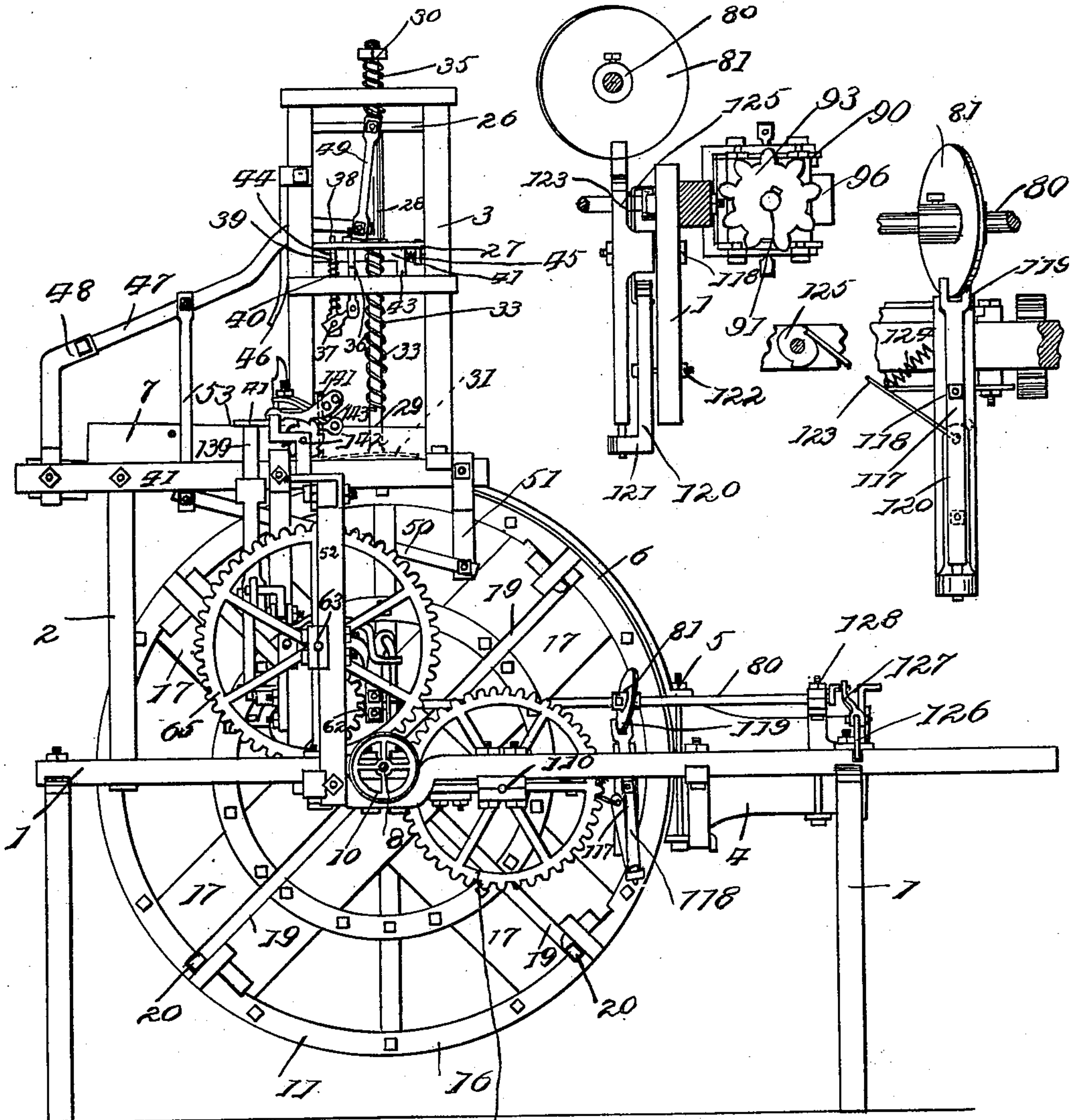
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Fig. 5.

Fig. 6.

Fig. 7.



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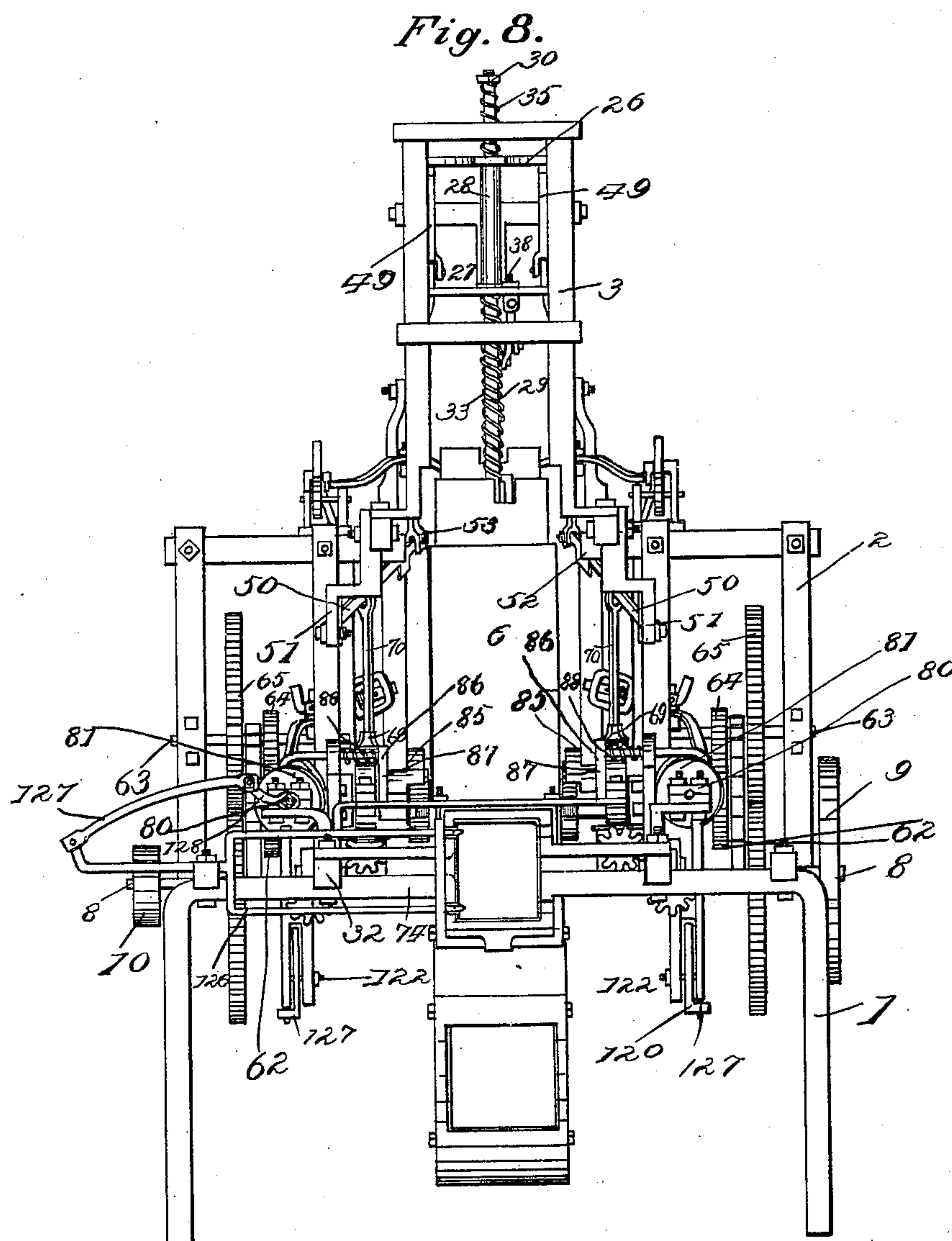
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9 Sheets—Sheet 3.



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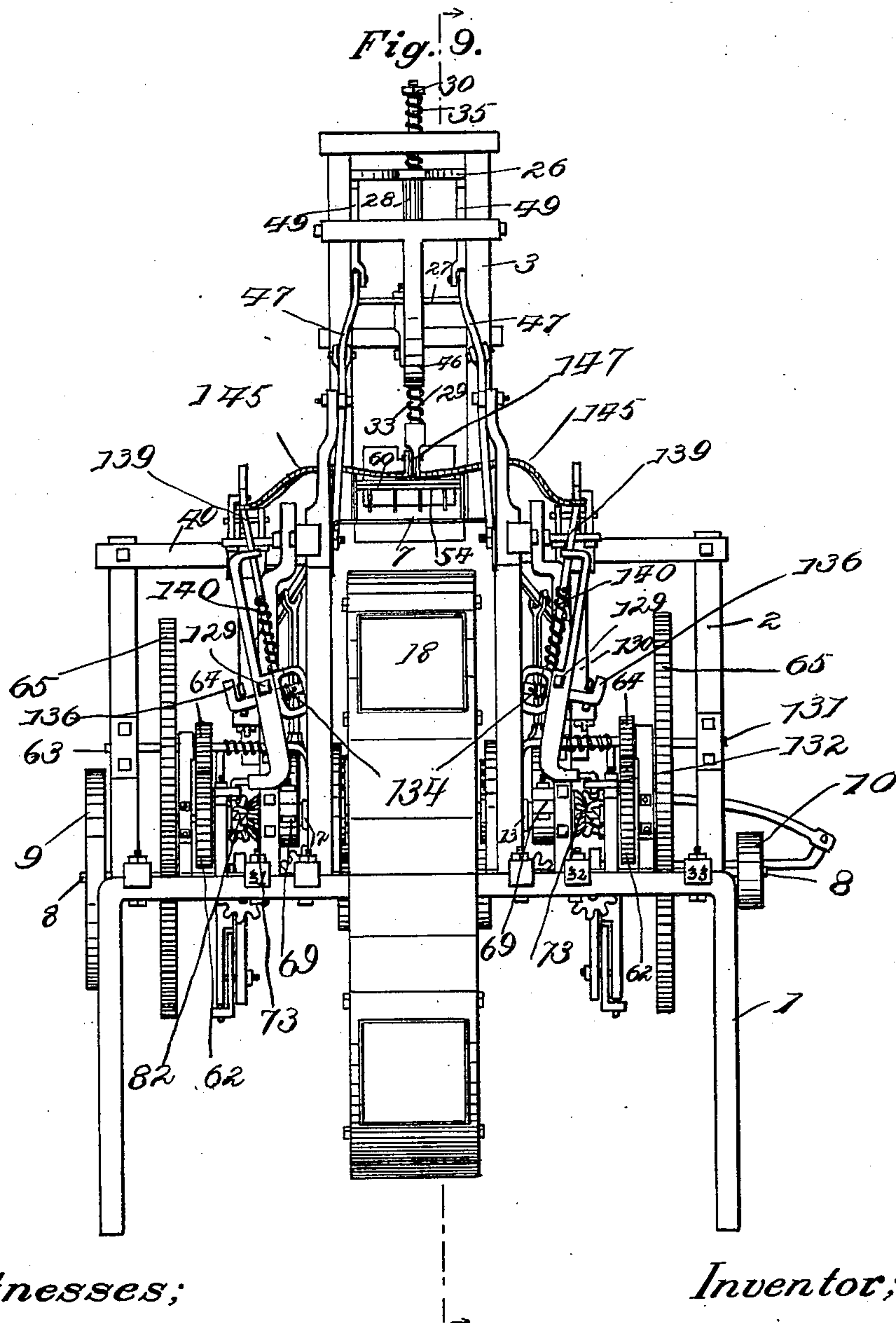
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9 Sheets—Sheet 4.



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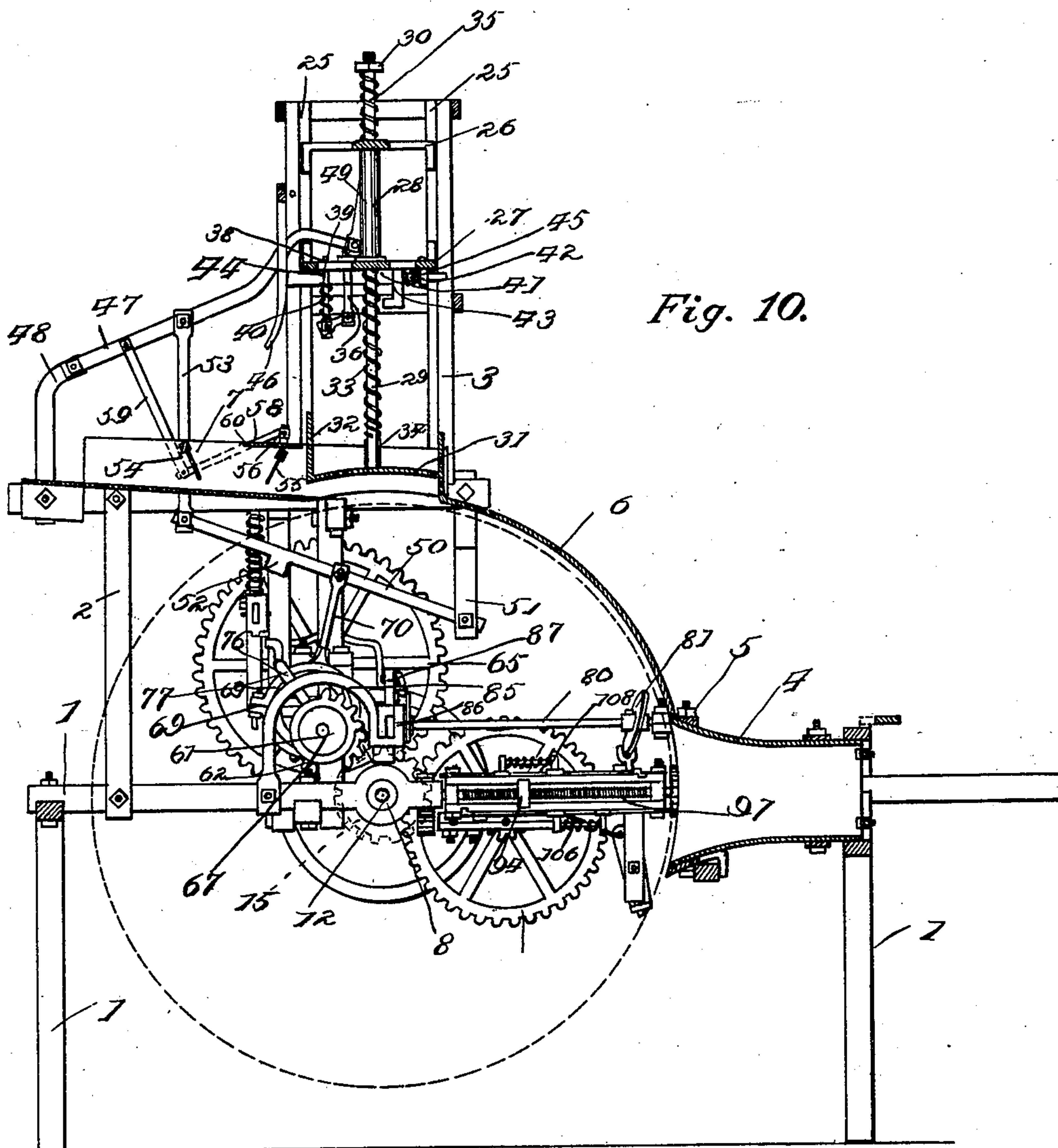


Fig. 10.

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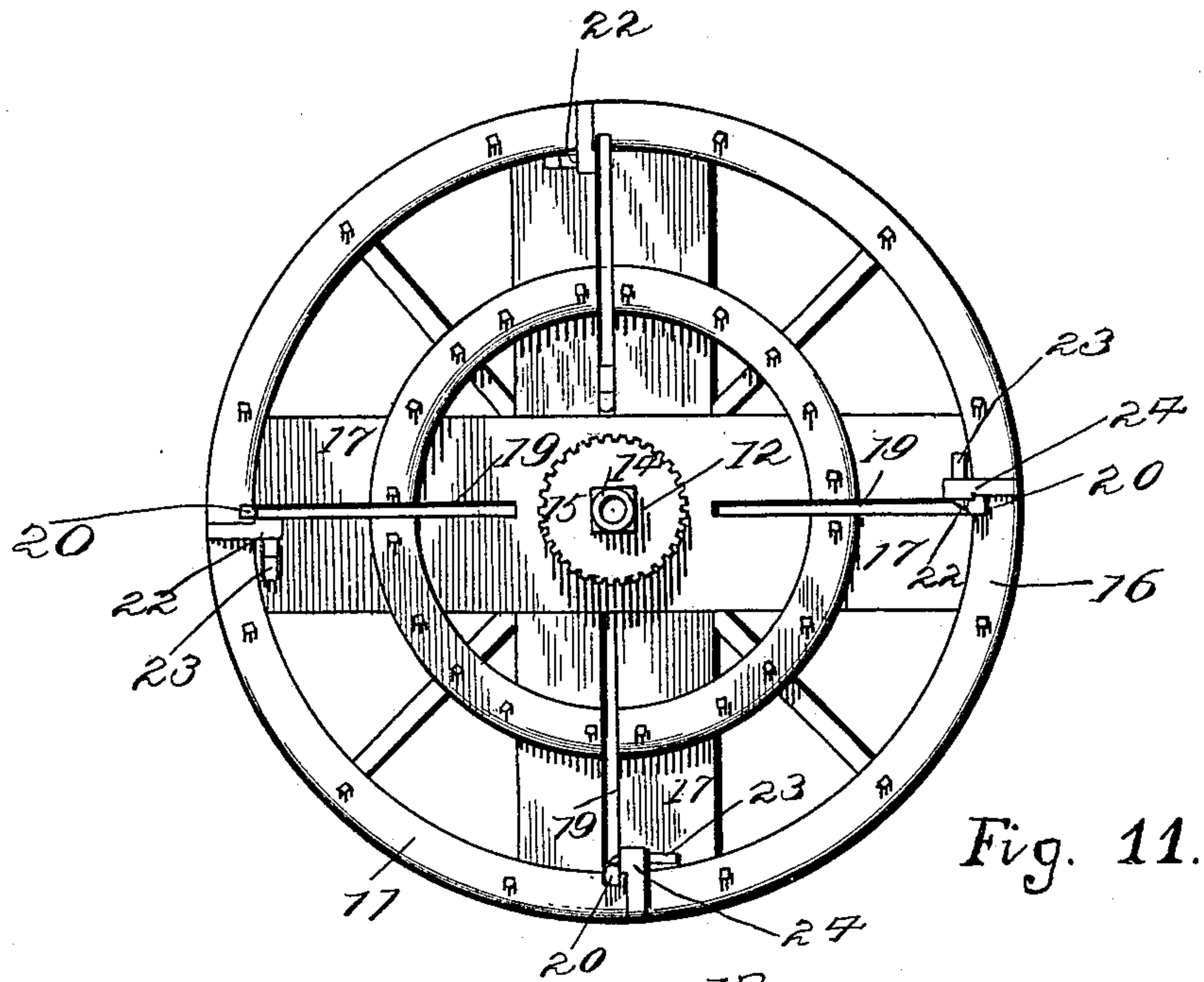


Fig. 11.

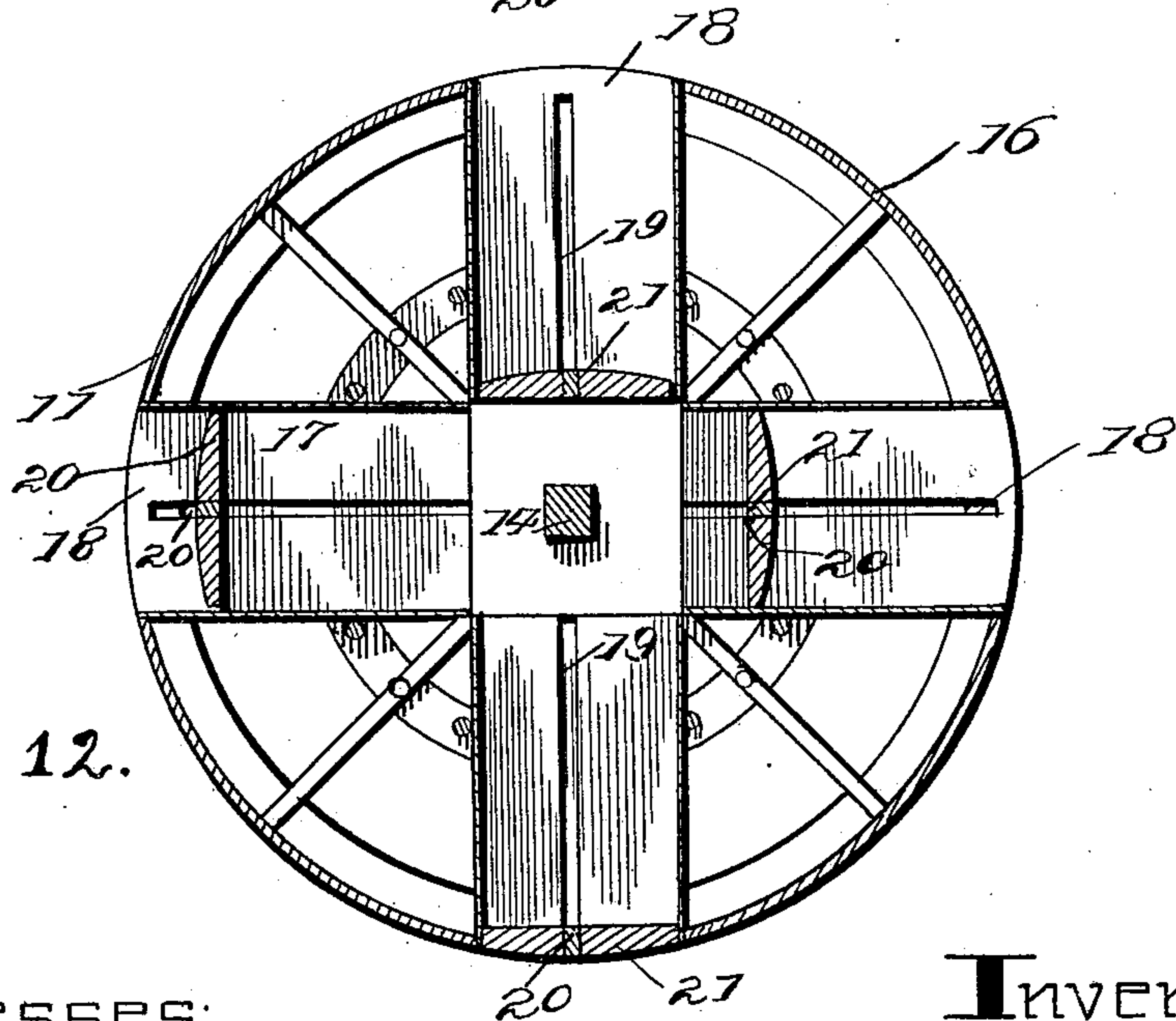


Fig. 12.

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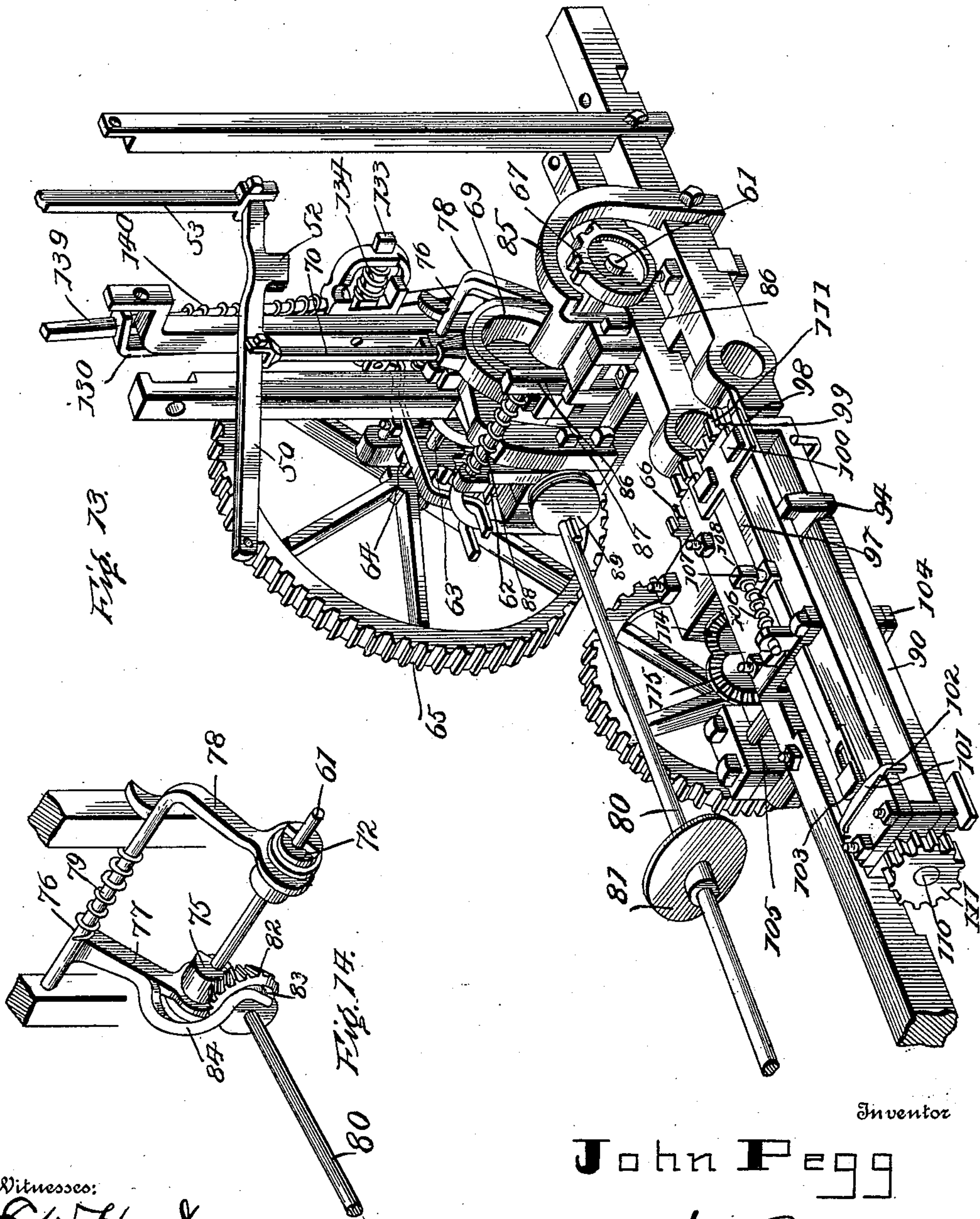
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9 Sheets—Sheet 7.



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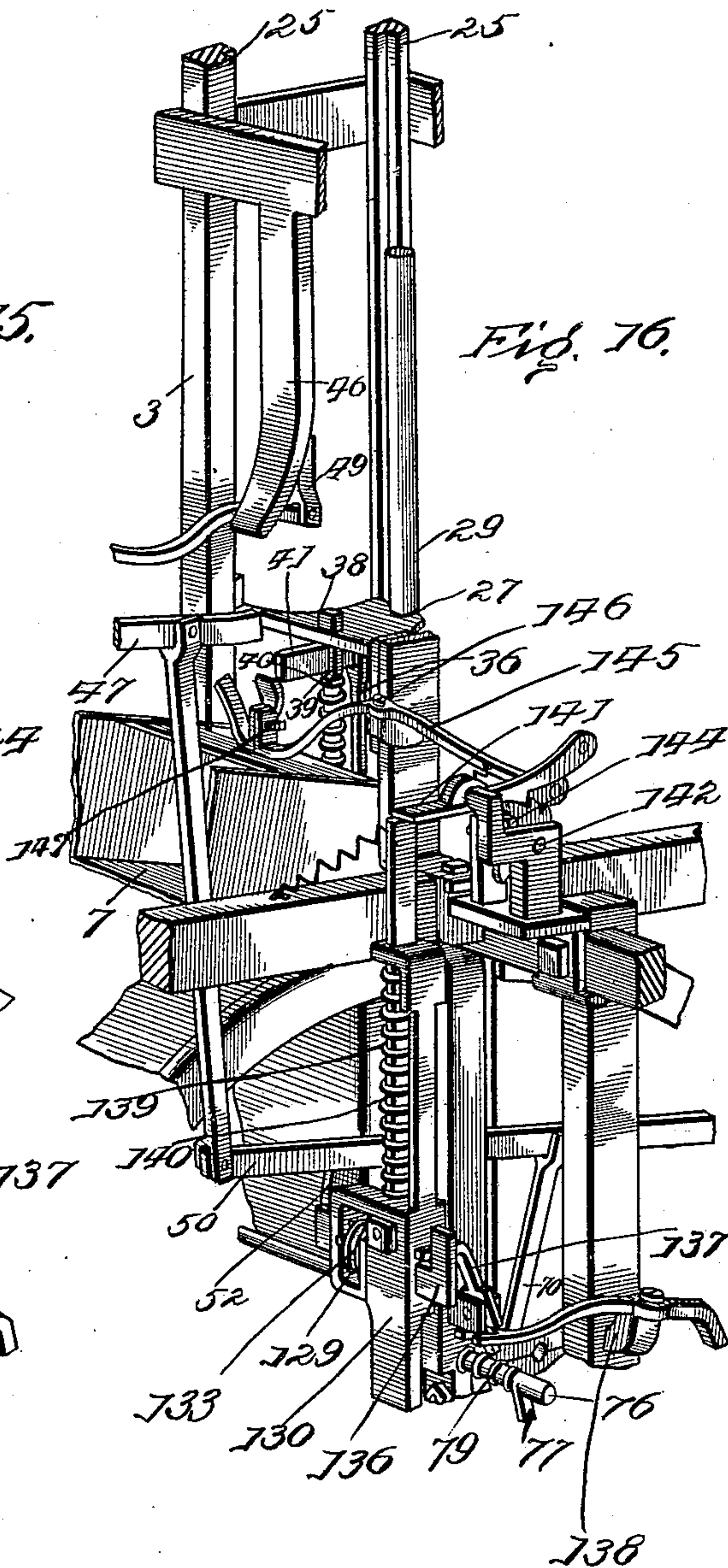
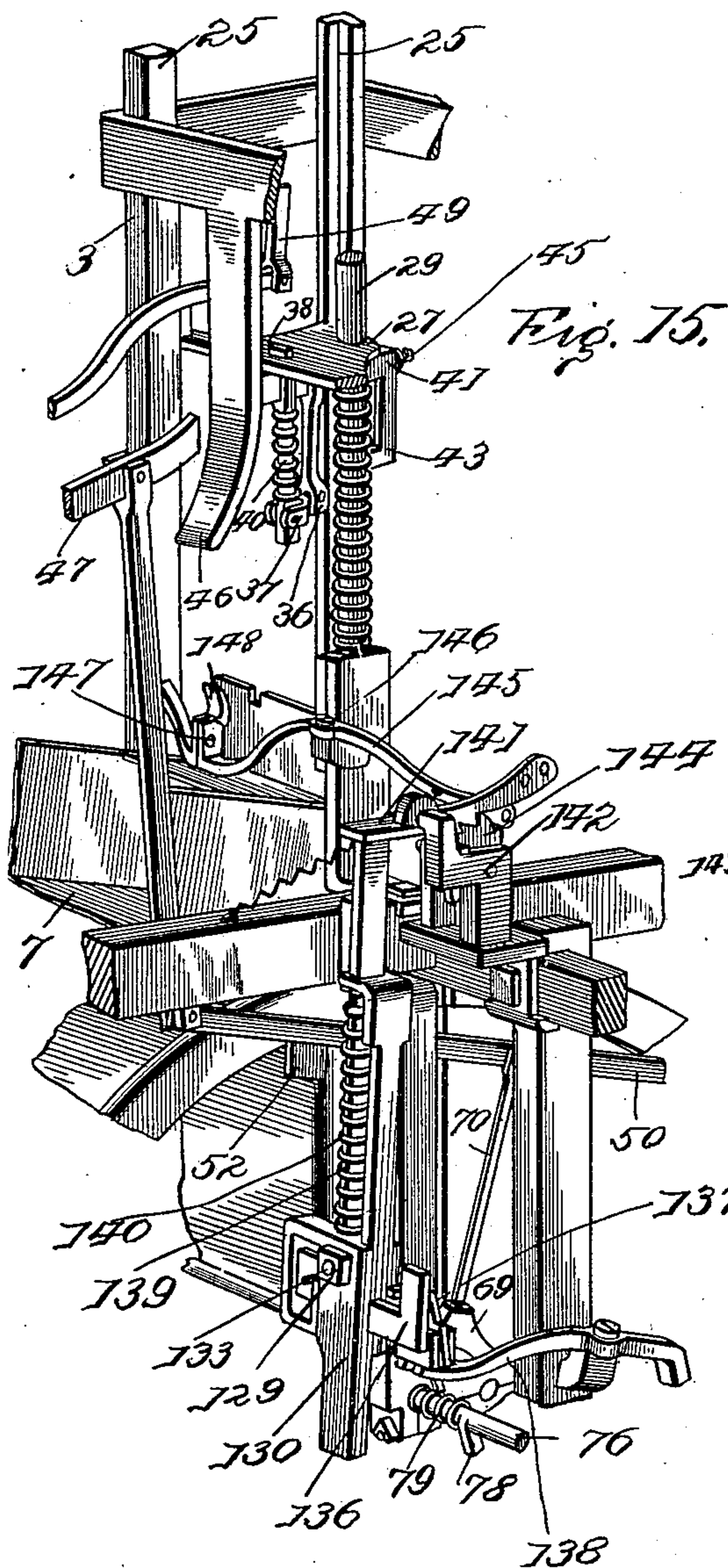
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9 Sheets—Sheet 8.



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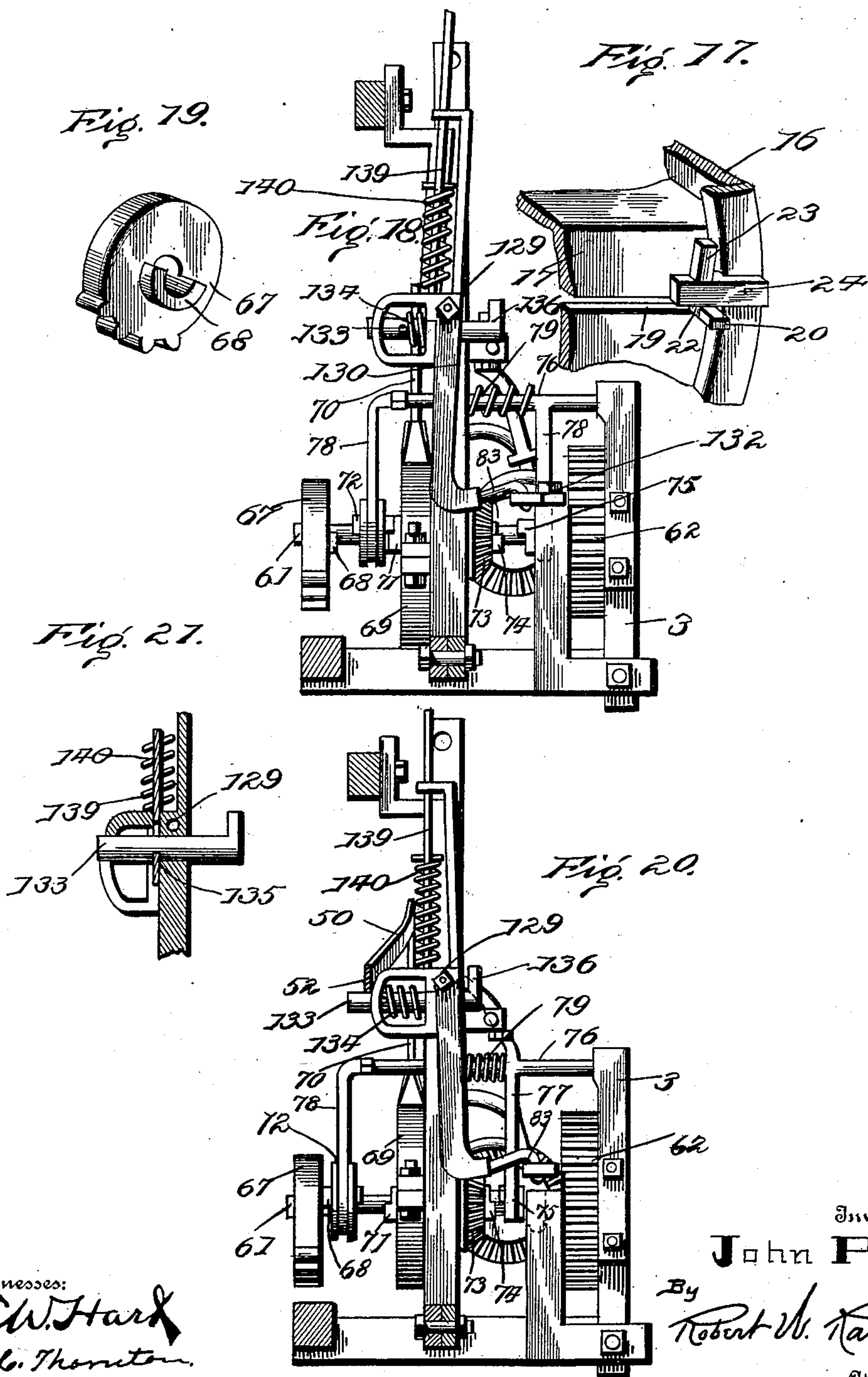
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9 Sheets—Sheet 9:



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UNITED STATES PATENT OFFICE.

JOHN PEGG, OF BLOOMINGPORT, INDIANA.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 676,511, dated June 18, 1901.

Application filed October 11, 1900. Serial No. 32,776. (No model.)

To all whom it may concern:

Be it known that I, JOHN PEGG, a citizen of the United States, residing at Bloomingport, in the county of Randolph and State of Indiana, have invented certain new and useful Improvements in Baling-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to automatic hay or straw balers.

The object of the present invention, broadly speaking, is the provision of an improved machine of the class described which will automatically take in the hay or straw, compress it into a bale, discharge the completed bale and wire it, and repeat these operations as long as kept in action.

To accomplish the foregoing object and others not specifically mentioned, I provide a baler-wheel provided with baling boxes or chambers and plungers or followers of improved construction, together with novel latches therefor, whereby the bales can be formed in succession and discharged after formation; also, improved feeding mechanism for taking in hay or straw in position for delivery into the baler-chamber in which the bale is to be formed and a peculiar and novel bale forming and packing device and allied mechanisms, together with improved and novel means for discharging or ejecting the formed bale after rotation of the baler-wheel and during the formation of a new bale, and various novel automatic mechanisms allied to and coöperating with those aforesaid whereby the entire action of the machine is automatic.

The details of the invention and the manner of operation of the different mechanisms will be fully set forth hereinafter and the novel features recited in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of one of the bale-discharging mechanisms; Fig. 2, an end view thereof; Fig. 3, a plan view thereof; Fig. 4, a plan view of the complete machine; Fig. 5, a side elevation of the complete machine; Fig. 6, an end view of the mechanism for operating the bale-discharging device; Fig. 7, a side

view thereof; Fig. 8, a front end elevation of the machine; Fig. 9, a rear end elevation thereof; Fig. 10, a vertical section on the line $x x$ of Fig. 9; Fig. 11, a side view of the baler-wheel, and Fig. 12 a vertical section therethrough; Fig. 13, a perspective view of several of the mechanisms on one side of the machine and looking outwardly; Fig. 14, a detail view of the clutch-shifter, showing how the wobble-cam shaft is locked; Fig. 15, a detail view of portions of the packing mechanism, the rocker, and trip mechanisms when ready to be tripped; Fig. 16, a similar view as Fig. 15, but showing mechanisms after they have been tripped, so that the rocker can be actuated; Fig. 17, a detail of one of the gravity-latches; Fig. 18, an end elevation in detail of the rocker and allied parts; Fig. 19, a detail of the mutilated gear; Fig. 20, a view similar to Fig. 18, but showing the eccentric unclutched and the mutilated gear clutched and other parts shifted; and Fig. 21, a detail showing the manner of locking the actuating-bolt of the rocker.

The frame 1 of the machine supports all of the different mechanisms, and from this rises a frame 2, carrying a plunger-frame 3. On the main frame is a bale-compressing box 4, which is of the same size at its receiving-mouth 5 as will be the bale in the baler-wheel, but is considerably smaller for the balance of its length, being suitably tapered, so that the bale is compressed and compacted before it is wired or wrapped and ejected from the machine.

The numeral 6 designates an arc-shaped guard-plate connecting the compressing-box to the feeding-chute 7 and which retains the bale in the baler-wheel until it arrives in position to be forced into the compressing-box.

The main or power shaft of the machine 8 is journaled in suitable boxes on the main frame and carries on one end a fly-wheel 9 and on the other end a band-pulley 10, by which the machine is driven.

The baler-wheel 11 is provided with short hollow shafts 12 and 13, projecting from its opposite sides, which are journaled in suitable bearings on the frame and through which the power-shaft 8 loosely passes. Squared portions 14 are provided on the shafts, and over them are fitted the gears 15,

through whose agency the baler-wheel is intermittently turned. This baler-wheel is composed of a rim 16 and a plurality—in the present instance four—of bale chambers or boxes 17, all suitably braced and connected to give the necessary rigidity and strength. The boxes or chambers are closed at their inner ends and open out through the rim at their outer ends in the mouths 18, through which the hay or straw is fed into them in the first instance to form the bale and through which the bale is afterward ejected into the bale-compressing box. In the sides of the bale chambers or boxes are slots 19, in which travel the arms 20 of plungers or followers 21, which are free to move in the boxes and which afford a bottom against which the hay or straw is pressed while the bale is being formed in the chamber or box and which are utilized to eject the completed bale afterward through the mechanism described hereinafter. Adjacent the mouth of each bale box or chamber and on opposite sides thereof are gravity locking-latches 22, having the heads 23 and slidable in guides 24. These latches are adapted to drop by gravity and engage the arms 20 to lock the plungers or heads 21 when opposite the bale-compressing box 4 after the bale has been discharged thereinto and will keep the plunger locked when it is at the bottom of the baler-wheel; but said catches drop back by gravity and unlock the heads or plungers before the box or chamber, in which they are located, reaches the top of the baler-wheel in order that the head may drop to the bottom of the box and the box be free to receive the hay or straw, which will then be compressed therein by the mechanism provided for that purpose.

Slidable up and down on suitable guides 25 in the plunger-frame 3 are two spiders 26 and 27, which are connected by a sleeve 28, within which slides the plunger-shaft 29, carrying an adjustable head 30 on its upper end and a packing-plunger 31 on its lower end, the latter having a vertical web or portion 32 and being of suitable size to snugly yet easily fit the boxes 17. A coil-spring 33 encircles the shaft 29 between the spider 27 and a catch 34 on the plunger, while another coil-spring 35 surrounds the said shaft between the spider 26 and the adjustable nut or head 30. The plunger is thus made free for movement not only with the spiders but independently of them, the springs cushioning the blows of the plunger on the material being baled as the bale increases in length, thereby preventing breakage during the formation of the bale, and not only this, but they provide means for restoring the plunger to its proper position after it has been tripped loose preparatory to the formation of a new bale. Depending from the spider 27 is a hanger 36, to which is pivoted a link 37, which in turn is pivoted to a catch 38, provided with a slot 39 and normally held downward by a spring 40, surrounding it and interposed between the

link 37 and a trip-bolt 41, sliding loosely through the hanger 36 and a guide 42, and provided with a catch 43. The trip-bolt 41 is provided with a notch 44, into which the catch 38 is adapted to snap when the trip-bolt is pushed toward the right against the action of a coil-spring 45, which has a tendency to urge it toward the left. Secured to the frame 3 is a trip 46, against which the end of the trip-bolt 41 strikes when the spiders are raised to the positions shown in Figs. 5 and 10, whereby the said trip-bolt is urged toward the right and locked by the catch 38. After the bale has been completed the plunger 31 will be operating at the mouth of the bale-box and the lower end of the catch 38 will ultimately strike the plunger 31, forcing the said catch upwardly and releasing the trip-bolt 41, which will thereupon snap to the left and the catches 34 and 43 will engage, thereby locking the plunger to the spiders, whereupon certain mechanisms to be described hereinafter will be brought into play and the reciprocations of the plunger stopped, the baler-wheel rotated a quarter-turn, so that the finished bale may be discharged, after which the bale-forming mechanism will be again made active and the spiders and plunger raised until the plunger is again tripped loose by the engagement of the trip-bolt 41 with the trip 46, whereupon the formation of the new bale will be commenced, a quantity of the hay or straw being fed meanwhile into the bale-box.

The mechanism for reciprocating the packing or compressing mechanism whose operation has just been described consists of duplicate levers 47, pivoted to suitable standards at 48, pitmen 49, connecting the free ends of the levers to the spider 26, levers 50, pivoted to hangers 51 and having ears 52, and pitmen 53, connecting the free end of the lever 50 to the levers 47. The specific means for actuating the lever 50 will be described hereinafter in connection with certain mechanisms which cooperate therewith.

In the feed-chute 7 are positioned the feeding-rakes 54 and 55, which have their heads pivoted in the sides of the chute. The rakes have the respective oppositely-disposed cranks 56 and 57 on their ends, said cranks being connected by a connecting-rod 58 and the crank 56 being also connected to one of the levers 47 by a connecting-rod 59. The reciprocations of the levers 47 therefore cause the feeding-rakes to oscillate in opposite directions—that is, toward and away from each other—whereby the rake 54 draws in the hay or straw and the rake 55 afterward pushes it into the bale-box in the baler-wheel which is undergoing filling. Above rake 55 the chute is provided with a guard 60 to insure the retention of the material in the chute while being fed therefrom.

The mechanisms now to be described are duplicated on opposite sides of the baler-wheel, differing from each other in immate-

rial particulars only, and hence a description of the mechanisms at one side of the machine only will be given.

The numeral 61 designates a shaft having
 5 a gear 62, by which it is driven from a counter-shaft 63, through the agency of a pinion 64. The counter-shaft 63 has a gear 65, which is in mesh with a pinion 66 on the driving-shaft 8. On the inner end of the shaft 61 is
 10 a mutilated gear 67, having a clutch member 68 and loose on the shaft. This gear is adapted to mesh with the gear 15 at times when the bale-box into which the hay or straw is being pressed becomes full, and as the mutilated portion of the gear 67 occupies three-quarters of its periphery and the teeth or spurs the remaining one-quarter this mutilated gear can only accomplish the turning of the baler-wheel through one-quarter of a complete revolution or until the bale-box which has been filled is opposite the bale-compression box 4. Loosely mounted on the shaft 61 is an eccentric 69, whose rod 70 is pivoted to the lever 50. This eccentric has a clutch member 71, facing
 25 the clutch member on the mutilated gear 67. On the shaft 61 and between the clutch members 68 and 71 is a slidable double clutch 72, said double clutch being slidable on a key or spline, so that it will always turn with the shaft 61. The distance between the clutches 68 and 71 is such that the double clutch 72 will be engaged with either, but not both, of them at a given time. A bevel-pinion 73, having a clutch member 74, is loosely mounted on the shaft 61, and said shaft carries a second sliding clutch 75, by which the said pinion is locked to the shaft or unlocked therefrom as said clutch 75 slides on a key and turns with the shaft. The clutches 72
 30 and 75 are shifted simultaneously through the agency of a clutch-shifter 76, having arms 77 and 78 connected to the clutches in the usual manner, said clutch-shifter being slidable in portions of the frame of the machine and being urged in a direction outwardly from the baler-wheel by a spring 79, whereby the clutch 72 is normally held engaged with the eccentric 69 and the clutch 75 is kept disengaged from the pinion 73.

50 Extending lengthwise of the machine and suitably journaled is a wobble-cam shaft 80, carrying a wobble-cam 81. On the end of said shaft is a bevel-pinion 82, which has notch or pocket 83. An arm 84, forming a part of the clutch-shifter 76, is normally received in said notch, thereby locking the wobble-cam shaft and pinion.

60 The numeral 85 designates an arm rising from the main frame adjacent the side of the baler-wheel. A baler-wheel lock-bolt 86 slides through the end of this arm in position to form an abutment for the arm 20 of the plunger, which is uppermost on the baler-wheel—that is, the arm of the plunger of the bale-box which is being filled. The baler-wheel is thus prevented from rotating forwardly while the bale is being formed. This lock-

bolt is provided with an arm 87, sliding through a suitable guide, and the bolt is held normally projected by a spring 88. The arm 70 87 extends down alongside of an eccentric wiper-cam 89, secured on the wobble-cam shaft 80. When therefore the bale has been finished and through the intermediate mechanisms now to be described the clutches 75 have been shifted to throw the eccentric out of engagement with its shaft, and the mutilated gear and the bevel-pinion in engagement with said shaft, the bevel-pinion on the wobble-cam shaft will become unlocked and 80 the wobble-cam shaft being thrown into rotation the wiper-cam will withdraw the locking-bolt, and the mutilated gear will then turn the baler-wheel one-quarter of a complete revolution, after which the said wheel 85 will again be locked.

Referring now more particularly to Figs. 1, 2, and 3, the numeral 90 designates a frame or body of the bale-compressor and bale-ejecting mechanism. This consists of an elongated open box-like frame having a screw-shaft 91 journaled in its ends and carrying pinions 92 and 93 on its extremities. A nut 94 is located on the threaded portion of the shaft, with its ends projecting through the 95 open sides of the frame, as at 95 and 96. It will be seen that any rotation of the shaft 91 will cause a movement of the nut longitudinally of the frame, and as the projecting end 96 is arranged to engage with the arm 20 of 100 the plunger of the box, which is in alignment with the bale-compression box 4, the plunger must advance toward the said box 4 with the nut, and consequently the bale will be forced into the box 4. On opposite sides—that is, 105 the top and bottom—of the frame 90 are located sliding catches 97, which are duplicates of each other, but are reversely arranged. Each catch has a locking-head 98, arranged to project over the end of the frame adjacent 110 the pinion and provided with slots 99 to loosely receive short bolts 100, screwed into the frame and holding the ends thereto, said bolts acting as guides to prevent lateral displacement of the locking-head. At the oppo- 115 site end of the sliding catch is a retracting head 101, having the fingers 102, which straddle the frame 90, and this end of the catch is guided by a slot-and-bolt construction 103.

The numeral 104 designates a yoke secured 120 to the frame 90 at its precise center or intermediate its ends, which is provided with a stub-shaft 105, suitably journaled in the frame 1. The catches 97 are kept normally urged in opposite directions by springs 106, surrounding rods 107, which are secured to the catches and slide loosely through the projections 108 on the yoke. The tendency of the springs is to keep the locking-heads 98 projected beyond the ends of the frame 90 at all 130 times except when the nut 94 is at the ends of the frame and engaged with the fingers 102, whereupon the locking-head will be retracted from its abutment on the stop por-

tions 109 of the frame 1, making it possible to rotate the entire bale compressing and ejecting mechanism in a counter-clockwise direction, so that the projecting locking-head 5 of the catch on the opposite side of the frame 90 can be made to assume the position formerly occupied by the retracted locking-head, and the nut 94 will then be in position to act on the succeeding bale-box plunger in a similar manner.

To provide for the rotation of the screw of the bale-compressing mechanism, the following gearing is used: A shaft 110, provided with a gear 111, in mesh with pinion 66, has 15 a bevel-gear 112, meshing with a bevel-gear on a short shaft 113, which carries a pinion 114, meshing with a pinion 115, which latter is in position to mesh with either the pinion 92 or the pinion 93 of the bale compressing 20 and ejecting mechanism. The rotation of the pinion 115 is such that its meshing with the pinions 92 and 93 tends to hold the locking-head 98 down on the stop portions 109, thus keeping the compressing mechanism in proper 25 position to do its work.

On the stub-shaft 105 is secured a double cam 116 of the wiper or trip type.

The numeral 117 designates an arm which is pivoted to frame 1 at 118 and has fingers 30 119 at its upper end, which embrace the edge of the wobble-cam 81, whereby it is oscillated. Another arm 120, provided with a head 121, through which the reduced lower end of the arm 117 projects, is pivotally mounted on the 35 frame at 122. An actuating-rod 123, sustained by a spring 124, fastened to the frame, is pivoted at one end to the upper end of the arm 120 and has its other end 125 bent and adapted to engage with the shoulders of the 40 cam 116, the spring keeping it on the cam. The action of this mechanism is such that when the wobble-cam shaft 80 is turned the bale-compressing mechanism will be completely reversed in a counter-clockwise direction by the coaction of the rod 123 with the 45 cam 116.

The bale tying or wiring device 126, which operates across the mouth of the bale-compression box 4, is of an ordinary type adapted 50 to the purpose and is reciprocated back and forth by a pitman 127, connected to a crank 128 on the end of the wobble-cam shaft at one side of the machine.

The numeral 129 designates a rocker which 55 is pivotally mounted on the frame at 130 and provided with an arm 131 at its lower end, which is pivotally connected to a pivoted lever 132, which has its other end adapted to bear against the clutch-shifter 76. This 60 rocker has a laterally-movable actuating-bolt 133, which is urged toward the baler-wheel by a spring 134, and it is provided with a notch 135 on its lower edge and a finger 136 at its outer end, which is engaged with a pivoted lever 137, in turn working in connection 65 with another lever 138, which has its end straddling the arm 87. The arrangement of

levers is such that when the arm 87 is pushed aside by the wiper-cam 89 the actuating-bolt 133 is pulled outwardly—that is, retracted 70 against the action of its spring. To secure the actuating-bolt in its retracted position, the sliding catch 139 is provided, the same having a slotted lower end, through which the actuating-bolt passes and which is ar- 75 ranged to engage the notch 135 as the catch is urged upwardly by a spring 140. When the actuating-bolt 133 is projected, it lies in the path of the ear 52 on the lever 50, so that the continued downward movement of the 80 lever will cause a movement in the rocker which will result in a shifting of the clutches 72 and 75, thus throwing the bale forming or packing mechanism out of operation and un- 85 locking and putting into operation the wobble-cam shaft and unlocking the baler-wheel, resulting in the bringing of the bale compressing and ejecting mechanism into operation. However, the actuating-bolt 133 is not 90 normally projected, and the levers 50 and bale packing or forming mechanisms operated thereby are left free to continue to operate until the sliding catches 139 are depressed, which is accomplished by the following mechanism: 95

The numeral 141 designates a dog which is pivoted to a bracket 142 and has one end resting on the upper end of the catch 139 and its other end provided with a tooth 143, which rests on a ratchet-wheel 144. 100

The numerals 145 designate levers which are pivoted at 146 and joined together by a loose connection at 147, where they are provided with an ear 148. Connected to the ends 105 of the levers are pawls 149, adapted to engage the ratchet-wheels. The ear 148 is located in such a position that at the time the trip-bolt 41 is released by the engagement of the catch 38 with the packing-plunger 31 it engages with said ear, and the action of its 110 impelling-spring, together with the continued downward movement of the spider, causes the levers 145 to be moved, which results in a turning of the ratchet-wheels and a lifting of the dog and downward movement of the 115 catches 139, thereby releasing the actuating-bolts 133, which are then engaged by the ears 52, whereupon the pressure of the levers 50 causes a movement of the rockers 129 and a shifting of the clutches and consequent 120 throwing out of operation of the packing or bale-forming mechanism and the throwing into operation of the other mechanisms, as previously explained. As these other mechanisms operate and complete their function 125 the actuating-bolts 133 are retracted and the parts return to their normal positions, whereupon the packing or bale-forming mechanism resumes its operation.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is— 130

1. In an automatic hay or straw baler, the combination with a baler-wheel having a plu-

5 rality of bale chambers or boxes, of plungers or followers in said boxes, and automatic catches for locking and unlocking said plungers or followers, said plungers being carried by the baler-wheel.

10 2. In an automatic hay or straw baler, the combination with a baler-wheel having a plurality of bale chambers or boxes, of plungers or followers in said boxes and carried by the wheel, and automatic catches for unlocking and locking the plungers which are also carried by the baler-wheel.

15 3. In an automatic hay or straw baler, a baler-wheel having a plurality of bale chambers or boxes, independent plungers or followers in the respective boxes and carried by the wheel, and gravity-latches for the respective plungers, which are carried by the baler-wheel and are adapted to lock and unlock the plungers.

20 4. In an automatic hay or straw baler, the combination with a baler-wheel adapted for rotation and having a plurality of bale chambers or boxes, of independent followers or plungers movable in said boxes, and automatic latches for the respective plungers which remain unlocked when the box is in position for filling and which lock the plunger after the bale has been ejected from the box.

30 5. In an automatic hay or straw baler, the combination with a baler-wheel having a plurality of bale chambers or boxes, of independent plungers or followers in said boxes, and automatic latches located at the mouths of the boxes and adapted for locking the plungers.

35 6. In an automatic hay or straw baler, the combination with a baler-wheel provided with a plurality of bale-boxes having slotted slides, of independent plungers freely movable in the respective boxes and having arms which slide in the slots, and automatic gravity catches or latches at the mouths of the boxes which are adapted to engage with the arms and lock the plungers.

40 7. In an automatic hay or straw baler, the combination with a baler-wheel having a plurality of bale chambers or boxes, and plungers or followers in the boxes, of a bale-compression box with which the bale-boxes are adapted to be brought into alinement by the rotation of the baler-wheel, and which are arranged to receive the bale after it has been ejected from the box, and means for locking the plunger at the mouth of the box from which the bale has been ejected, after the ejection thereof.

45 8. In an automatic hay or straw baler, the combination with a baler-wheel having a plurality of bale boxes or chambers, and plungers or followers in the boxes, of a bale-compression box with which the bale-boxes are adapted to be brought into alinement by the rotation of the baler-wheel, and which are arranged to receive the bale after it has been ejected from the box, and independent automatic latches carried by the baler-wheel which

are adapted to lock the plunger at the mouth of the box from which the bale has been ejected after the ejection thereof.

70 9. In an automatic hay or straw baler, bale packing or forming mechanism comprising a reciprocating frame, and a packing or forming plunger which is movable with the frame and also movable in relation to the frame.

75 10. In an automatic hay or straw baler, bale forming or packing mechanism comprising a reciprocating frame, and a spring-actuated plunger carried by and movable with the frame and also movable in relation thereto.

80 11. In an automatic hay or straw baler, bale packing or forming mechanism comprising a reciprocating frame, a plunger having a piston-rod extending loosely through the frame and permitting the plunger to move toward and away from the frame and also move with it, and a spring which actuates the plunger.

85 12. In an automatic hay or straw baler, bale forming or packing mechanism comprising a reciprocating frame, a plunger, a piston-rod carrying the plunger and extending loosely through the frame, and springs surrounding the rod and balancing its movements in relation to the frame.

90 13. In an automatic hay or straw baler, bale forming or packing mechanism comprising a reciprocating frame, a plunger carried thereby and movable independently of the frame in addition to being moved with the frame, and catch mechanism for locking the plunger to the frame when the bale is completed.

95 14. In an automatic hay or straw baler, bale forming or packing mechanism comprising a reciprocating frame, a plunger carried by the frame and movable independently of the frame in addition to moving with it, catch mechanism for locking the plunger to the frame when the bale is completed, and means for releasing said catch mechanism to unlock the plunger, preparatory to the formation of a new bale.

100 15. In an automatic hay or straw baler, bale forming or packing mechanism comprising a reciprocating frame, a plunger carried by the frame and movable toward and away from it, catch mechanism carried by the frame which is tripped into locking engagement with the plunger to hold the latter locked to the frame when the bale is completed, and means for disengaging said catch mechanism preparatory to the formation of another bale.

105 16. In an automatic hay or straw baler, bale forming or packing mechanism comprising a reciprocating frame, a plunger carried by the frame and having an independent movement toward and away from the latter, a catch on the plunger, a spring-actuated trip-bolt on the frame which carries a catch adapted to engage with the catch on the plunger, a spring-actuated catch on the frame which is adapted to lock the trip-bolt in retracted position and is arranged to be struck

by the plunger on the completion of the bale, to release the trip-bolt and cause the catch thereon to engage the catch on the plunger, and a trip adapted to engage the trip-bolt and retract it, to release the plunger, preparatory to the formation of a new bale.

17. In an automatic hay or straw baler, the combination with a reciprocating frame and a bale-forming plunger carried thereby, of pivoted levers connected to the frame, a feeding-chute for delivering the material to the plunger, swinging feeding-rakes in the chutes which are provided with oppositely-pointing cranks, a connecting-rod connecting the cranks, and a rod connecting one of the cranks to one of the levers.

18. In an automatic hay or straw baler, the combination with a reciprocating frame and bale forming or packing plunger carried thereby, of mechanism operating the frame and plunger, mechanism for rendering said operating mechanism inactive, and intermediate means, automatically thrown into action on the completion of the bale by the plunger, whereby the plunger-actuating mechanism is rendered inactive.

19. In an automatic hay or straw baler, the combination with a reciprocating frame and bale forming or packing plunger carried thereby, of mechanism for operating the frame and plunger, mechanism for rendering said operating mechanism inactive, and intermediate mechanism automatically thrown into action by the reciprocating frame and plunger on the completion of the bale, which thereupon coacts with and is operated by the plunger and frame-actuating mechanism so that the continued movement of said actuating mechanism for the plunger and frame automatically causes itself to be rendered inactive.

20. In an automatic hay or straw baler, the combination with a reciprocating frame and plunger carried thereby, of a lever for reciprocating said frame, an eccentric for moving the lever, a rocker for disengaging the eccentric or rendering it inactive, an actuating-bolt on the rocker which is adapted to be engaged by the lever when it is projected, a catch for holding the said actuating-bolt retracted, and mechanism actuated by the plunger and frame on the completion of the bale which disengages the catch from the actuating-bolt, whereby the engagement of the lever with the actuating-bolt rocks the rocker and stops the reciprocations of the frame and plunger.

21. In an automatic hay or straw baler, the combination with a reciprocating frame and plunger carried thereby, of a lever for reciprocating said frame, means for moving the lever, a rocker for rendering said lever-moving means inactive, an actuating-bolt on the rocker which lies in the path of the lever when it is projected, a catch for engaging said bolt and holding it retracted, a ratchet-

wheel, a dog adapted to be moved by the ratchet-wheel and which is arranged to disengage the catch from the actuating-bolt, a lever having a pawl adapted to turn the ratchet-wheel, and a device on the reciprocating frame adapted to engage the lever last named upon the completion of the bale, whereby the reciprocations of the plunger and frame are stopped, through the agency of the intermediate mechanism.

22. In an automatic hay or straw baler, the combination with a reciprocating frame and plunger for forming the bale, of a lever for reciprocating said frame, an eccentric for moving the lever, a rocker, a shifter operated by the rocker for engaging and disengaging the eccentric from its shaft, an actuating-bolt on the rocker, a catch for holding the bolt retracted, said bolt being adapted to be engaged by the lever when projected, mechanism actuated by the frame and plunger on the completion of the bale to release the actuating-bolt, whereupon the continued movement of the lever causes disengagement of the eccentric, a shaft having a wiper-cam, gearing for operating the shaft which is made operative by the shifter on the movement of the rocker, levers operated by the wiper-cam which are adapted to restore the actuating-bolt to its retracted position and a spring for restoring the shifter to normal position.

23. In an automatic hay or straw baler, the combination with a rotary baler-wheel provided with a gear, and having a plurality of bale boxes or chambers, of bale forming or packing mechanism, a shaft, an eccentric on said shaft which operates the bale forming or packing mechanism, a mutilated gear on the shaft which is adapted to mesh with the gear on the baler-wheel, a double clutch slidable on the shaft and adapted to engage with either the eccentric or the mutilated gear to render them active, and automatically-acting mechanism, rendered active on the completion of the bale, which shifts the clutch out of engagement with the eccentric and into engagement with the mutilated gear, whereby the baler-wheel is given a partial revolution.

24. In an automatic hay or straw baler, the combination with a rotary baler-wheel and a gear thereon, said baler-wheel having a plurality of bale boxes or chambers, of bale forming or packing mechanism, a shaft, an eccentric on said shaft which is adapted to operate the bale-forming mechanism, a mutilated gear on the shaft adapted to mesh with the gear aforesaid, a latch for locking the baler-wheel in predetermined positions, and automatically-acting mechanism adapted to unlock the latch and throw the mutilated gear into clutched engagement with the shaft, on the completion of a bale, whereby the packing mechanism is stopped and the baler-wheel given a partial rotation.

25. In an automatic hay or straw baler, the combination with a rotary baler-wheel and a

gear secured thereto, said baler-wheel having a plurality of bale boxes or chambers, of bale forming or packing mechanism, a shaft, an eccentric and a gear on said shaft, a mutilated gear on the shaft which is adapted to mesh with the gear on the baler-wheel, a double clutch on the shaft which is arranged to lock either the eccentric or the mutilated gear thereto, a second clutch on the shaft which is adapted to lock the gear thereto when the mutilated gear is clutched, a clutch-shifter for shifting said clutches simultaneously, means for keeping the shifter normally in position for the engagement of the clutch with the eccentric, automatically-acting mechanism for moving the shifter from normal position on the completion of the bale, a normally-projected latch for locking the baler-wheel in predetermined positions, a shaft having a gear meshing with the gear on the shaft aforesaid, means carried by the clutch-shifter for normally locking the gear last named, and means on said last-named shaft for retracting the baler-wheel latch on the completion of the bale.

26. In an automatic hay or straw baler, the combination with a rotatably-mounted baler-wheel having a bale box or chamber, and mechanism for filling said box, of bale-ejecting mechanism comprising a pivotally-mounted frame, a bale-ejector carried thereby, extraneous mechanism for advancing said bale-ejector along the frame, and means for turning said bale-ejecting mechanism and bringing it into operative coaction with said extraneous mechanism when the bale-box is in position for the ejection of the bale.

27. In an automatic hay or straw baler, the combination with a rotatably-mounted baler-wheel having a bale box or chamber, and mechanism for filling said box, of bale-ejecting mechanism comprising a pivotally-mounted frame, a bale-ejector carried thereby, extraneous mechanism for advancing said bale-ejector along the frame, and means for turning said bale-ejecting mechanism periodically in one direction to bring it periodically into operative coaction with said extraneous mechanism when the bale-box is in position for the ejection of the bale, said bale-ejector being adapted to always travel in one direction when advancing along the frame.

28. In an automatic hay or straw baler, the combination with a rotatably-mounted baler-wheel having a bale box or chamber, and mechanism for filling said box, of bale-ejecting mechanism comprising a pivotally-mounted frame, a bale-ejector carried thereby, extraneous mechanism for advancing said bale-ejector along the frame, means for turning said bale-ejecting mechanism periodically in one direction to bring it periodically into coaction with said extraneous mechanism when the bale-box is in position for ejection of the bale, and latching mechanism for keeping

said bale-ejecting mechanism in coöperative engagement with the extraneous mechanism and which is automatically released when the bale has been ejected.

29. In an automatic hay or straw baler, the combination with a rotatably-mounted baler-wheel having a bale box or chamber, and mechanism for filling said box, of bale-ejecting mechanism comprising a pivotally-mounted frame, a screw carried thereby, a bale-ejector engaged and advanced by the screw, extraneous mechanism for turning said screw, and means for turning said bale-ejecting mechanism periodically to bring the screw periodically into coaction with said extraneous mechanism when the bale-box is in position for ejection of the bale.

30. In an automatic hay or straw baler, the combination with a rotatably-mounted baler-wheel having a bale box or chamber, and mechanism for filling said box, of bale-ejecting mechanism comprising a pivotally-mounted frame, a screw carried thereby, pinions on the opposite ends of the screw, a bale-ejector engaged and advanced by the screw, gearing adapted to mesh with either pinion, when brought into position, and means for turning said frame periodically to bring the pinions into mesh with the gearing in alternation.

31. The herein-described bale-ejecting mechanism comprising a pivotally-mounted frame, a feed-screw, a bale-ejector engaged with the feed-screw, and spring-actuated latches at opposite ends of the frame having means for engagement by the bale-ejector, whereby they are retracted.

32. The herein-described bale-ejecting mechanism comprising a pivotally-mounted frame, a feed-screw carried thereby, a bale-ejector engaged with the screw, sliding latches having heads projecting beyond the frame at one end and retracting-fingers at the other end, and springs for keeping said latches normally projected, said latches being independent and arranged for independent retraction by engagement of the bale-ejector with the fingers.

33. In an automatic hay or straw baler, the combination with pivoted bale-ejecting mechanism, of a shaft, a wobble-cam on said shaft, an arm rocked by a wobble-cam, another arm which is pivotally mounted and actuated by the first arm, and an operative connection between the second arm and the bale-ejecting mechanism.

34. In an automatic hay or straw baler, the combination with a pivoted bale-ejecting mechanism, of a shaft, a wobble-cam on said shaft, an arm rocked by the wobble-cam, a second pivotally-mounted arm having one end loosely connected to the end of the first arm, and a rod connected at one end to the second arm and its other end free to intermittently actuate the pivoted bale-ejecting mechanism.

35. In an automatic hay or straw baler, the

combination with a pivoted bale - ejecting mechanism, of a shaft, a wobble-cam on said shaft, an arm rocked by the wobble-cam, a second pivotally-mounted arm having one end
5 loosely connected to the end of the first arm, a double wiper-cam on the bale-ejecting mechanism, a rod connected to the second arm and having a bent end adapted to engage the said cam, and a spring for sustaining the rod and holding it in operative position. 10

In testimony whereof I affix my signature in presence of two witnesses.

JOHN PEGG.

Witnesses:

ARTHUR V. PEGG,

R. E. RANDLE.