

F. STAMM & J. H. WEICHEL.
 O. L. MARSHALL, EXECUTOR OF F. STAMM, DEC'D.
 MACHINE FOR PARING COCOANUTS.
 APPLICATION FILED JULY 23, 1906.

952,998.

Patented Mar. 22, 1910.

5 SHEETS—SHEET 1.

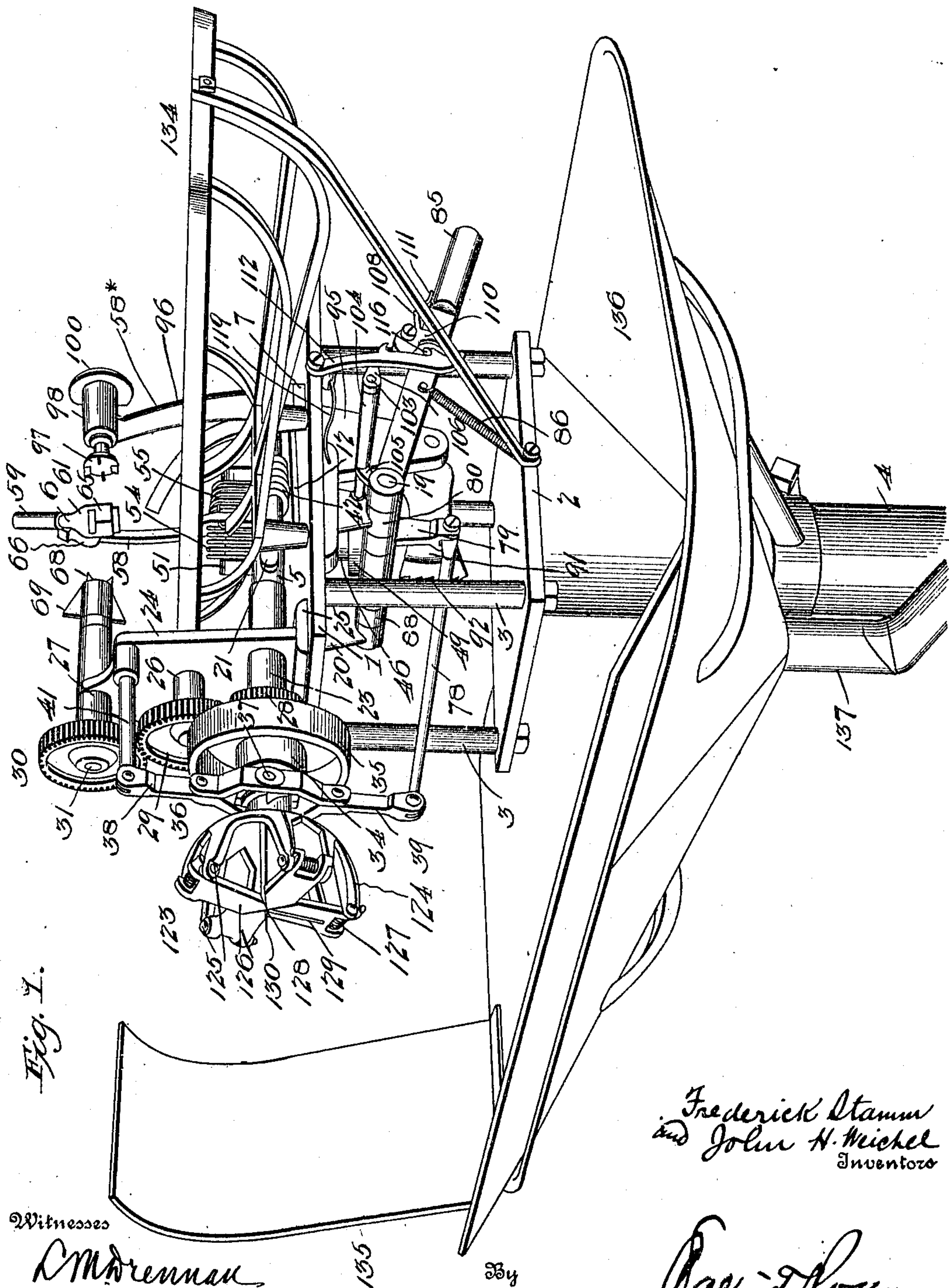


Fig. 1.

Witnesses

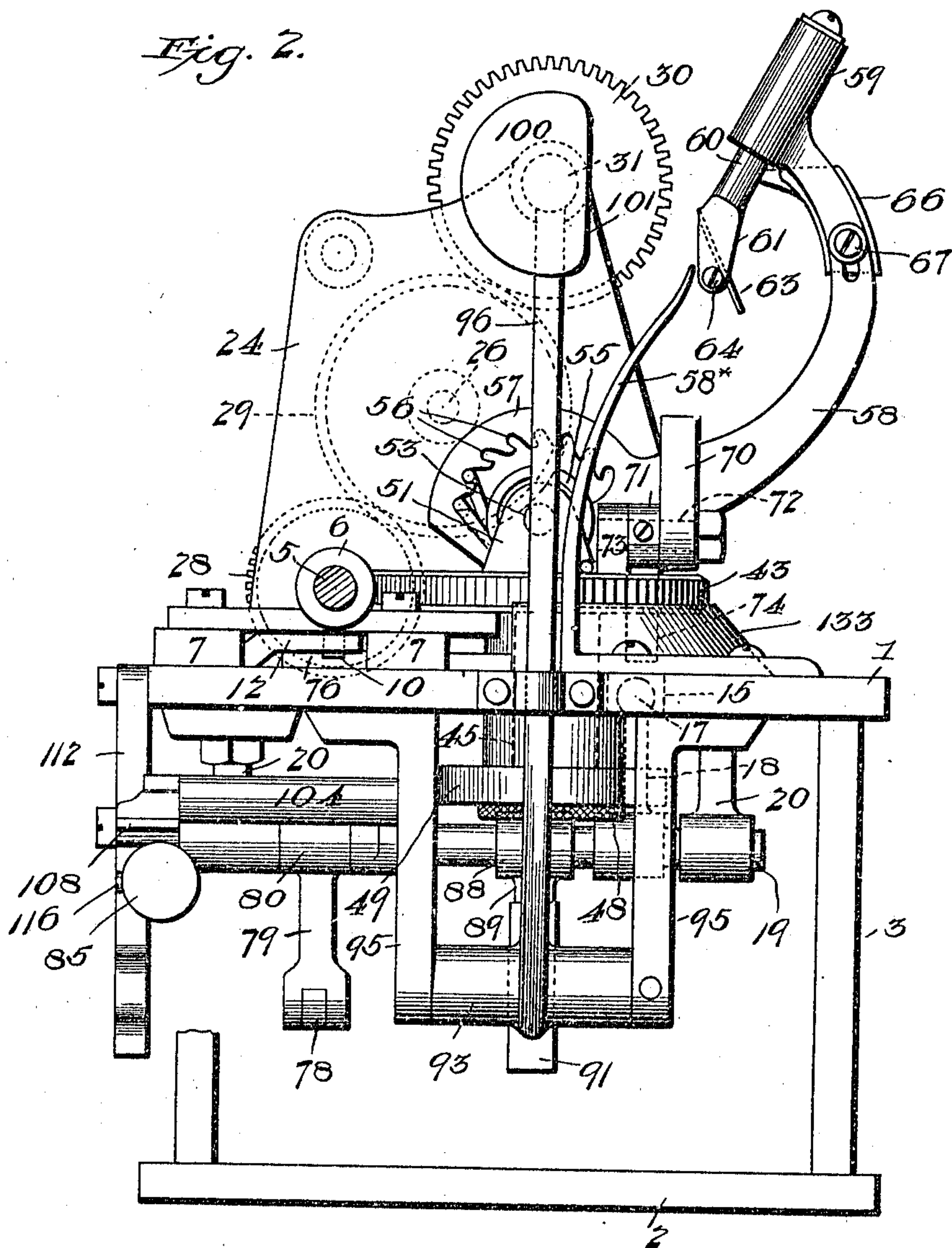
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5 SHEETS—SHEET 2.



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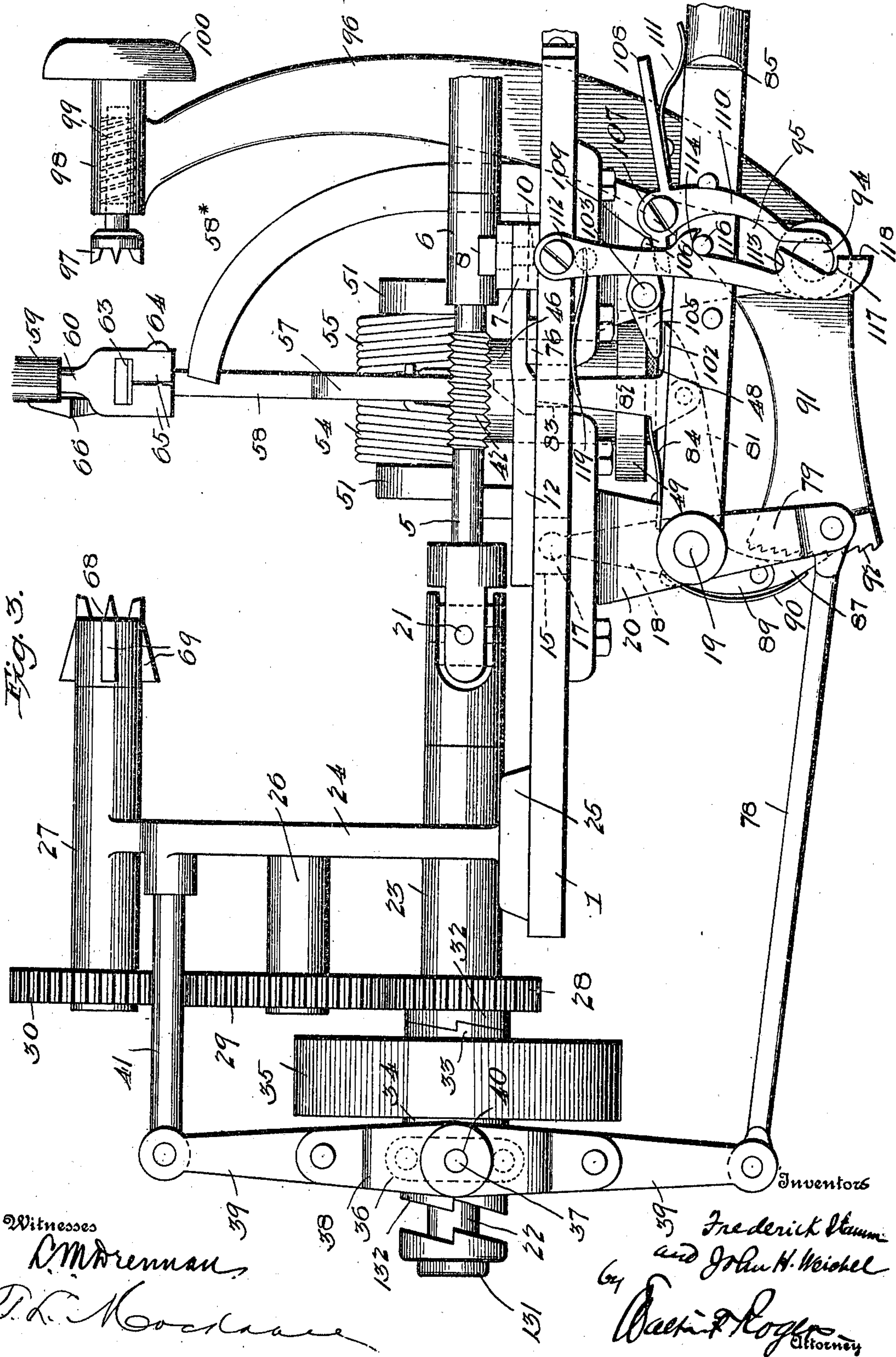
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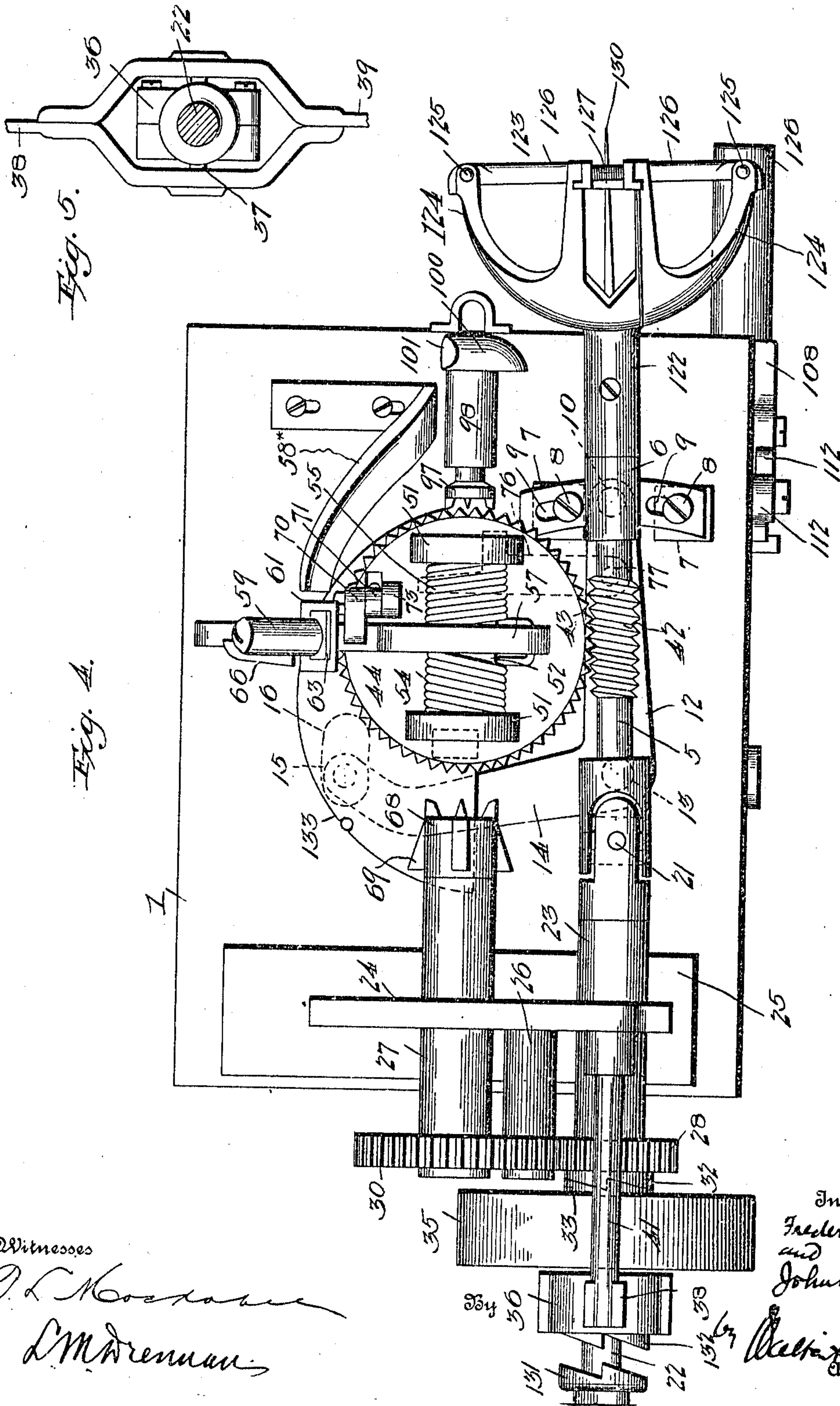


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Witnesses

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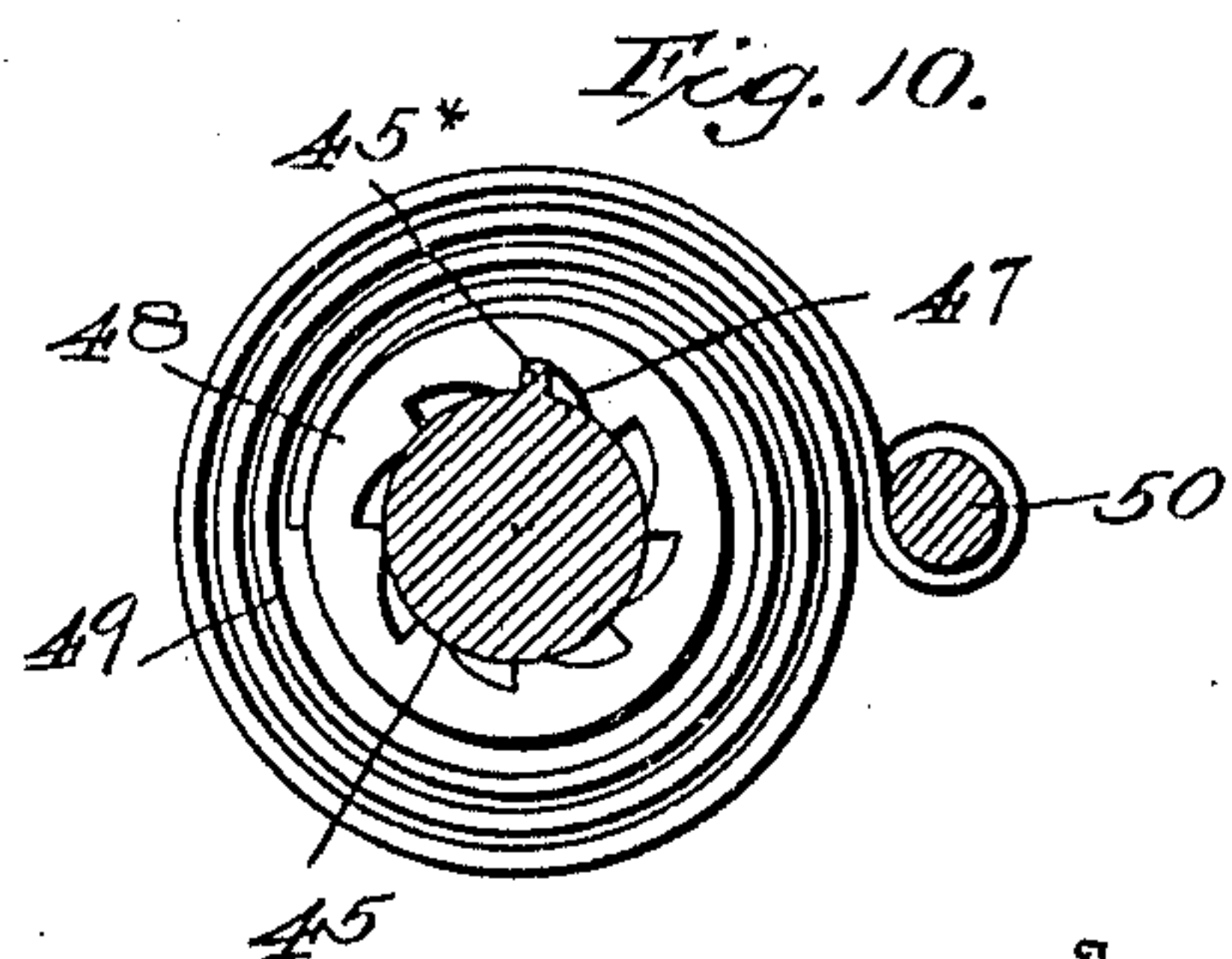
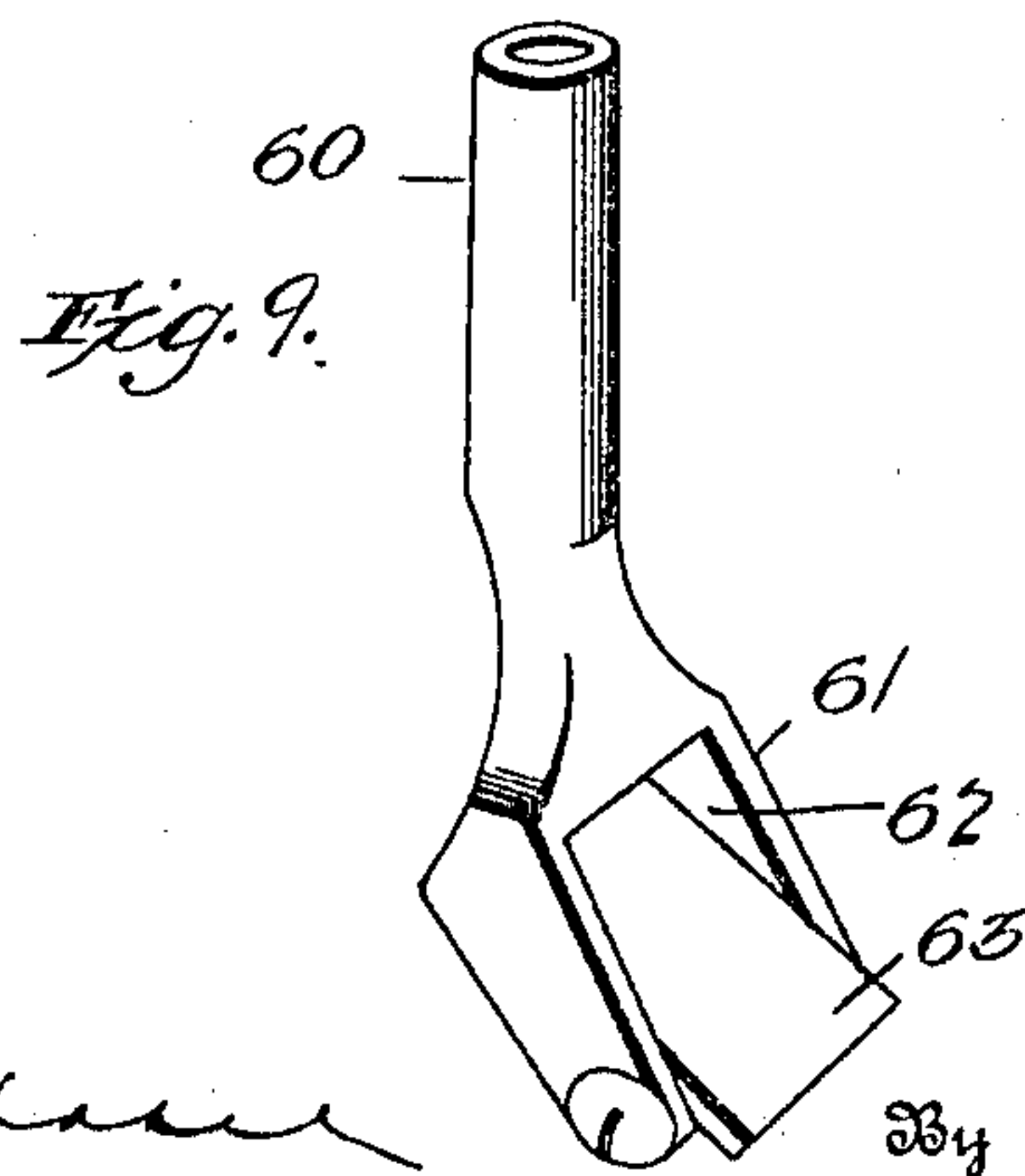
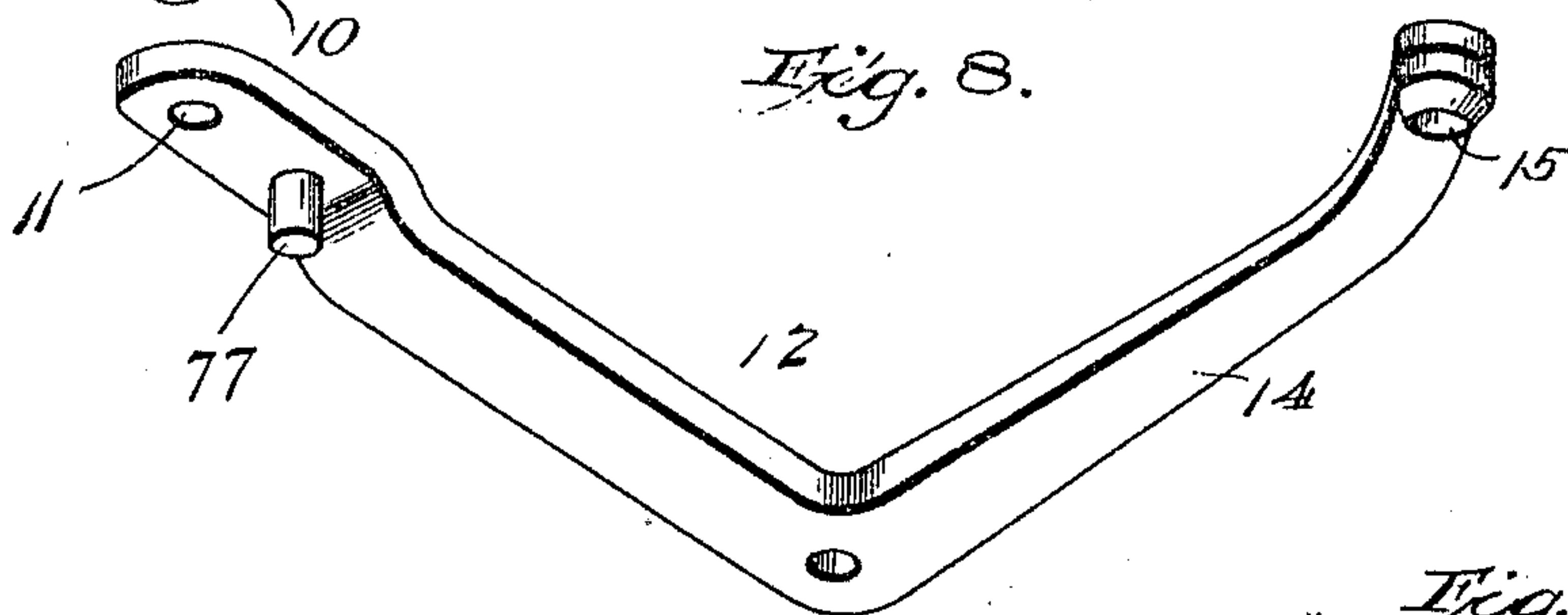
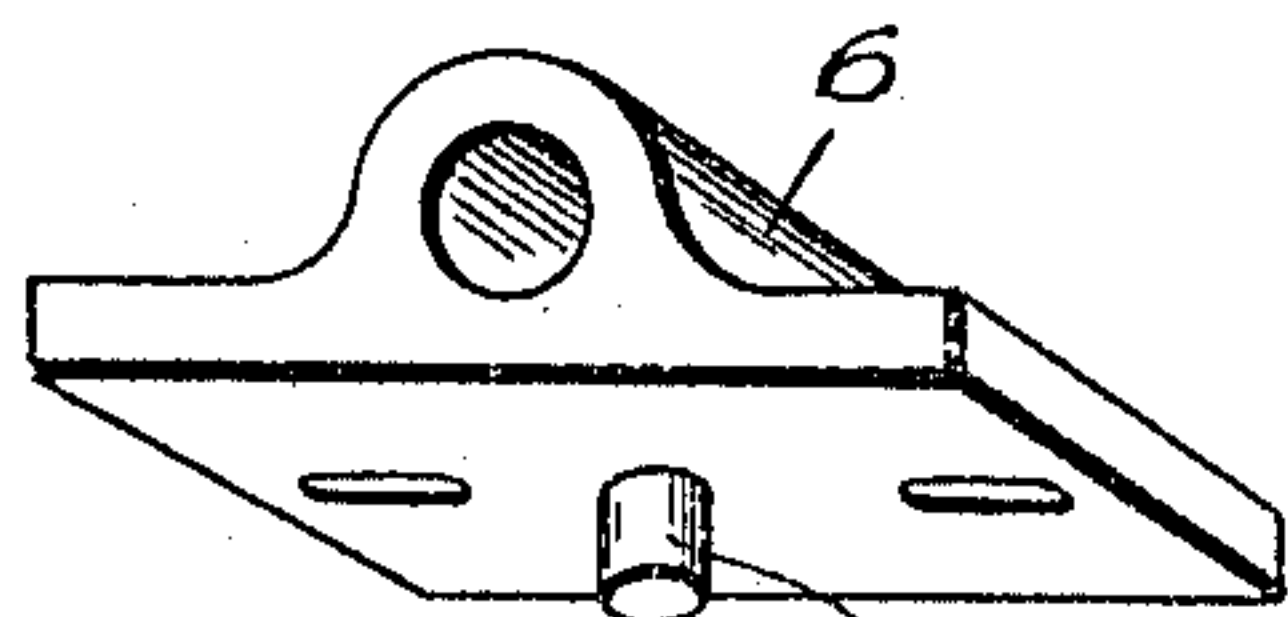
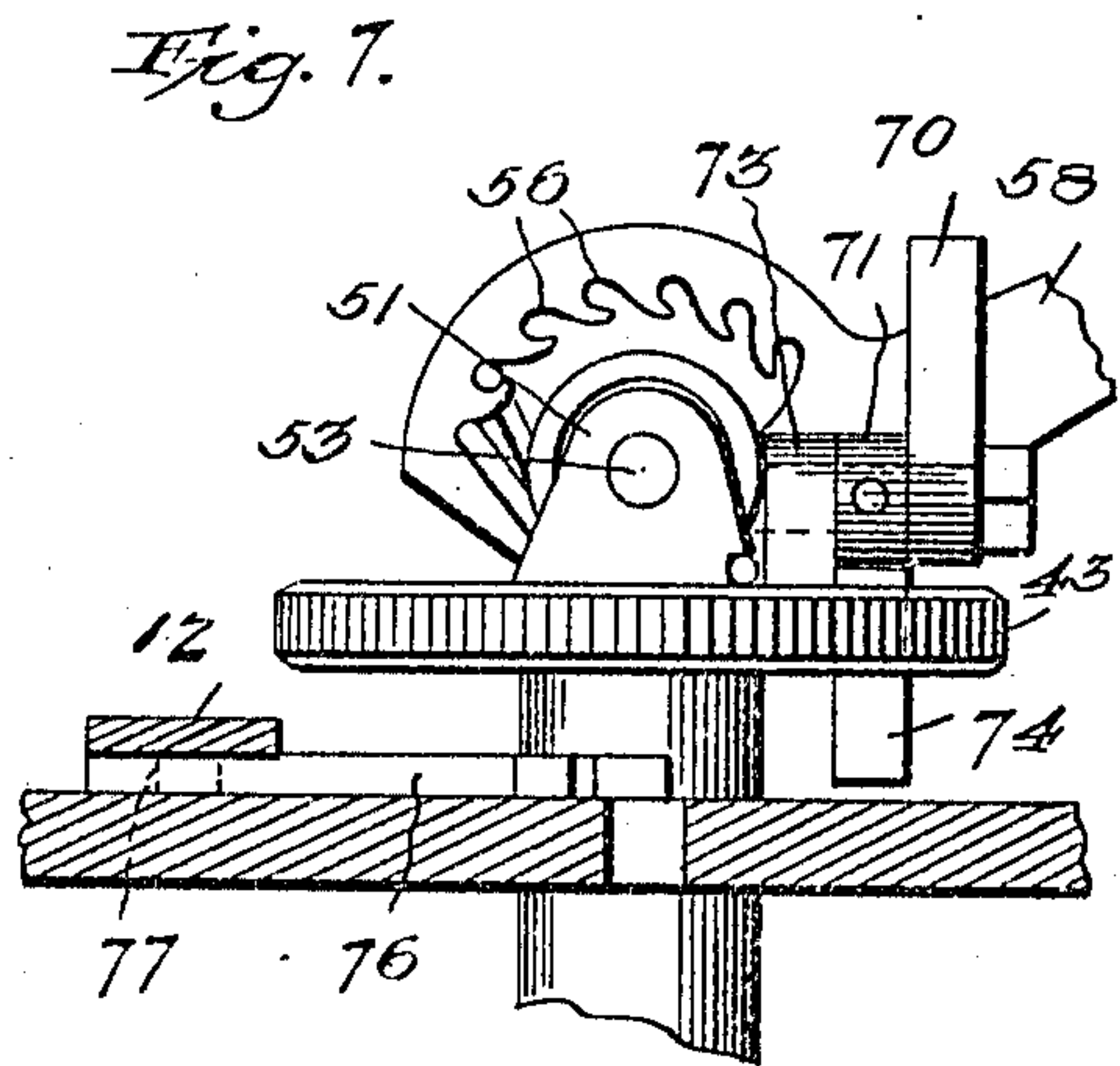
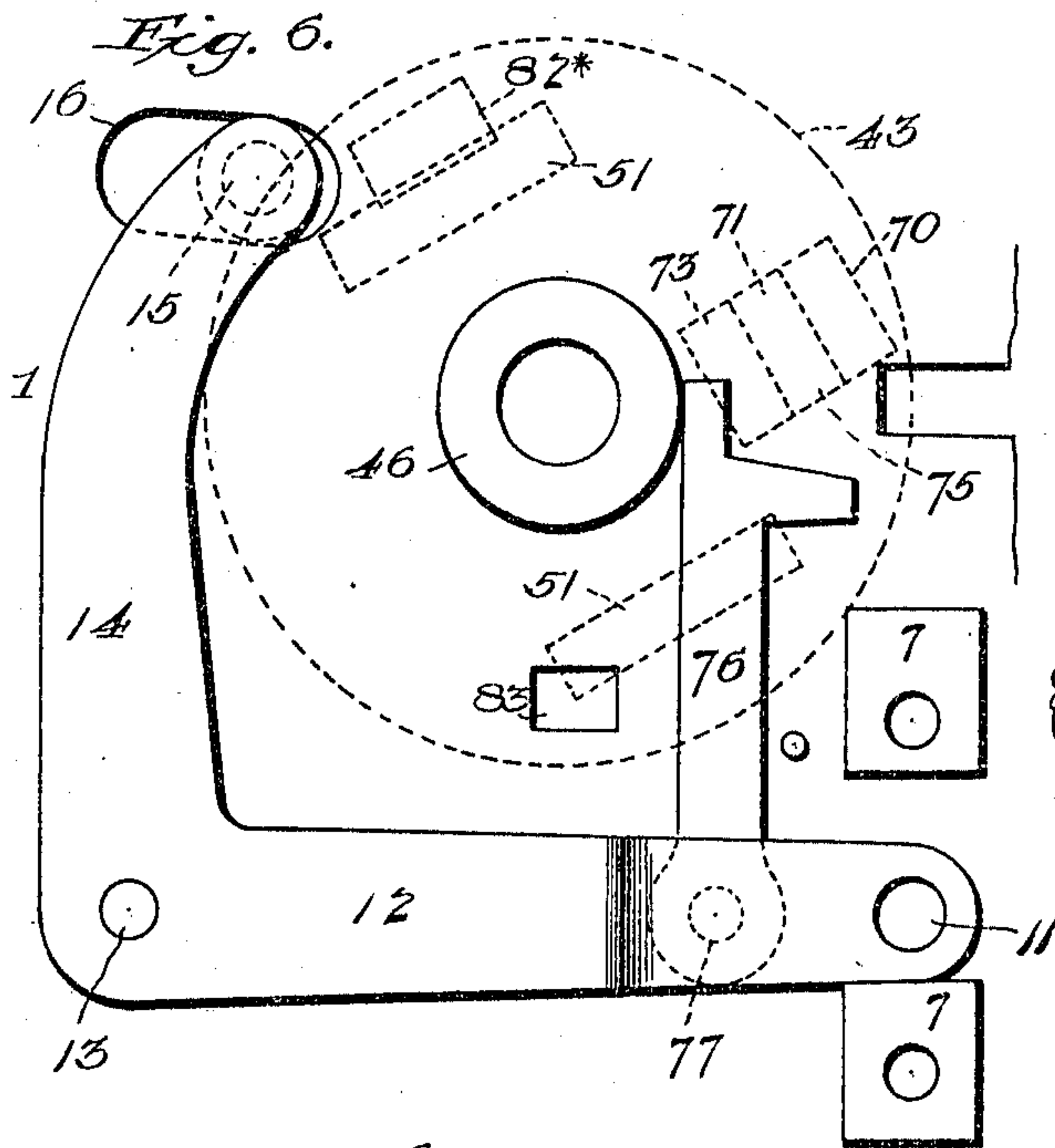
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5 SHEETS—SHEET 5.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR PARING COCOANUTS.

952,998.

Specification of Letters Patent.

Patented Mar. 22, 1910.

Application filed July 23, 1906. Serial No. 327,433.

To all whom it may concern:

Be it known that we, FREDERICK STAMM and JOHN H. WEICHEL, citizens of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Paring Cocoanuts; and we 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.

Our invention relates to machines for paring cocoanuts and similar objects after the shell has been removed.

It is well known that a cocoanut, for example, is peculiarly difficult to pare. It is frequently very irregular in shape, in many cases having substantially the form of a distorted oblate spheroid, and as a rule an object such as a cocoanut is incapable of being successfully pared by ordinary cutting or paring machines.

With the object of providing a machine which will completely and rapidly pare all sizes and shapes of cocoanuts and similar objects, we have devised a machine which embodies a mechanism by which we secure a practically automatic action of the several parts and the necessary relative adjustment for securing the cocoanut or other object, releasing it, etc., and at the same time we have devised a means for placing a knife at such an angle and in such relation to the rotating cocoanut or other object as to enable it to follow the contours thereof, however irregular and distorted.

The mechanism comprises, essentially, a rotating object bearing arm which, in this example, we have illustrated as projecting horizontally above the table, and a substantially vertical, curved knife-bearing arm, having a swiveled knife-head with means for swinging or revolving the knife-bearing arm, so that the knife blade may move substantially in an arc across the line of rotation of the object.

The machine comprises, also, devices for automatically pressing back the knife-bearing arm at the end of its operation upon the object, returning it to its initial position and at the same time throwing out of engagement the parts which revolve the knife-bearing arm.

We have also provided adjunctive devices

which may be employed in paring that part of the cocoanut or other object which is necessarily held by the spud or similar holder during the principal operation. We also may use these adjunctive devices for any operation of paring or cutting, and particularly for treating the fragments.

In the accompanying drawings,—Figure 1 is a perspective of the complete machine; Fig. 2 is an end elevation; Fig. 3 is a side elevation with some of the parts broken for the sake of clear illustration; Fig. 4 is a plan view; Fig. 5 is a detail illustrating the clamp lever-arms shown at the end of the driving shaft in Figs. 1, 3 and 4. Fig. 6 is a partial detail illustrating the relation of operating lever arms to some of the catches and trips; Figs. 7, 8, 9, and 10 are detail views, showing respectively the immediate connection and adjacent parts of the base of the knife-bearing arm, the relative location of the bearing-block and lever arms, knife head, and the spring connection for a cap piece upon a sleeve in which rests the swivel pin of the driving parts.

1 and 2 represent respectively table and bed-plates separated and connected by bolts or uprights 3, the bed-plate being secured to a standard post 4. (Fig. 1.)

5 is a driving shaft by which power is imparted to give motion to the cutting knife so that it may travel from end to end of the machine, moving substantially in an arc about the object being pared. The shaft 5 is journaled in a movable bearing-block 6, comprising a sleeve and lateral ears. The ears of the bearing-block rest on plates 7, which hold the block above the face of the table.

8 is a pin secured to each plate 7, there being one on each side of the bearing-block 6 and each pin passing through a slot 9 in the bearing-block, thus providing for the lateral movement of the bearing-block 6 with the purpose of swinging the shaft 5 toward and from the knife operating parts, as hereinafter described.

10 is a pin depending from the bearing-block 6 and engaged by an opening 11 in the end of a lever arm 12. (Figs. 3, 4, 8.) The lever arm 12 is pivoted to the table 1 at 13. 14 is an arm secured to or integral with the lever arm 12 and extended at right angles thereto and bearing on its outer end a socket pin 15 which plays in a groove 16

in the table 1 and takes over a ball head 17 of a lever arm 18. (Figs. 3, 4, 6.) The lever arm 18 is fixed upon a sleeve which is secured to a shaft 19, the shaft 19 being
 5 journaled in depending bracket arms 20 extending from the bottom of the table on each side. (Fig. 2.) The purpose of the parts 12, 14, 18 and the associated details is to shift the bearing-block 6 and the driving
 10 shaft 5 transversely.

The shaft 5 is journaled at the inner end in a member of a swivel or universal joint 21. The inner knuckle of the joint 21 is fixed upon a shaft 22 which turns in a sleeve
 15 bearing 23 secured at the base of the bracket plate 24 having a base 25 secured to the face of the table 1. Projecting from the back of the bracket plate 24 is a stub axle 26 and secured to the top of the bracket plate 24
 20 is a sleeve 27. A gear wheel 28 is secured to the shaft 22. 29 is an intermediate idler carried by the stub axle 26 and 30 is a gear wheel on the end of a shaft 31, which turns in the sleeve 27. 32 is a clutch member se-
 25 cured to one face of the gear-wheel 28, its opposing member 33 being formed on one end of a sleeve 34 which carries a pulley 35 which when not in clutch turns loosely on the shaft 28. 36 is a clamp loosely attached
 30 to the sleeve or collar 34, and has projecting pins on opposite sides at 37. (Fig. 5.) 38 and 39 are lever arms oppositely bent out so as to embrace the collar and clamp and having bearing openings at 40 which take
 35 over the pins 37, so that by this means the lever arms may reciprocate the collar and the attached pulley 35, thus setting the clutches. 41 is an arm to which the lever arm 39 is pivoted, the arm 41 being secured
 40 at the inner end to the bracket plate 24. The purpose of these parts, immediately hereinbefore described, is to impart a rotary motion to the stub shaft 31, which carries the
 45 coconut or other object to be operated upon, and to throw the parts into and out of active operation.

42 is a worm screw formed upon or fixed on the shaft 5 and engaging a worm gear 43 of a disk 44 which is held above the table
 50 by means of a depending swivel pin 45 resting in an upright cylindrical bearing or sleeve 46 secured to the table. (Figs. 2, 3, 4, 7.) The bottom of the pin 45 bears a projection 45* (Fig. 10) which in effect is
 55 a pawl taking into ratchet recesses 47 of a cap piece 48. To the cap piece 48 is secured one end of a coiled spring 49 which encircles the barrel of the cap piece, and is secured at the opposite end to a pin 50, which
 60 may be secured to the table or frame of the machine at any convenient point. The purpose of this spring is to constantly maintain the tension on the pin 45 and the disk 44 so that after the disk has revolved in the
 65 act of paring it will, as soon as released

from the operation of the worm screw 42, be turned backward to the initial position. The cap piece 48, ratchet 47 and pin projection 45 are provided so that the spring may be wound to the desired tension to
 70 properly operate the disk, and so that the tension may be regulated from time to time as may be necessary.

51 represents bearing blocks fixed on the face of the disk 44 and furnishing bearings
 75 for a cylinder shaft 52 which turns upon the fixed bearing shaft 53.

54, 55 represent two springs wound about the cylinder shaft 52, one end bearing against the disk 44 and preferably caught,
 80 as illustrated, in a notch in the corresponding bearing block, and the other end bent so as to take into notches 56 of a rack arm 57 of a knife-bearing arm 58. This arm 58 is, as illustrated, preferably curved in form and
 85 bears at the top a socket 59 in which is journaled a shank 60 of a knife which has a head 61 having a recess 62 in which is secured at an angle a draw knife blade 63, held in place, as indicated, by a screw 64 taking
 90 through the bottom of the head 61, the back of the head having opposing plates 65, the head being, in effect, bifurcated. It will be shown hereinafter that this relation of the curved arm and the angular adjustment of
 95 the knife with relation to the revolving cocoanut or other object are of the greatest importance in securing constant action of the knife as it moves across the line of rotation of the object. On one side of the knife-
 100 arm is a curved plate 66 adjustable as indicated at 67, and of a shape to be engaged by a moving part of the machine as hereinafter described. (Figs. 2 and 3.)

68 is a spud on the end of the shaft 31 upon
 105 which the cocoanut or other object is stuck. The spud has a series of wings 69 to engage the top of the plate 66 to carry down the knife-bearing arm 58, at the end of its operation, into engagement with a latch 70.
 110 This latch 70 is pressed in toward the knife-bearing arm 58 by a spring 71 and has a short shaft 72 which is journaled in a block 73 attached to the upper face of the knife-arm disk 44. (Figs. 2 and 7.) The latch
 115 70 has also a depending arm 74 which passes through an aperture 75 in the knife-arm disk and is engaged and operated by means of a trip-arm 76 mounted on a stud 77 attached to the lower side of the lever arm 12
 120 and lying upon the table 1, so that it may be reciprocated upon the face of the table by the action of the lever 12, it being intended that when the lever 12 moves in to carry the worm screw 42 into engagement with the
 125 worm gear 43 the lever arm 76 shall operate upon the depending arm 74, throwing back the latch 70 and releasing the knife bearing arm so that it may swing up into engagement with the cocoanut or similar object.
 130

78 is a connecting arm or link joining one end of the lever arm 39 with a lever arm 79 which has a sleeve 80 secured to the shaft 19, so that when the shaft 19 is operated motion will be imparted through the arms 79, 78 and 39 to the clutch mechanism hereinbefore described.

81 is a short arm secured to and extending from the shaft 19. Pivoted at its inner end is a latch 82 which passes up through an opening 83 in the table 1, its latch end at the desired interval engaging a shoulder of this opening 83 in the table.

84 is a spring which engages the latch 82 and normally tends to throw it forward into engagement with the shoulder of the opening 83 in the table when the latch has been pushed up through the opening so that its engaging end is free to move forward.

82* is a releasing lever on the bottom of disk 44 to strike and force back the latch 82. (Fig. 6.)

85 is a lever which may be worked by hand or treadle and which throws the driving parts of the machine into operation. 86 represents a spring normally drawing down this handle to hold the parts in the inoperative position. It will be observed that all the mechanism is so connected that a single operation of this lever brings into operation all the active parts of the machine.

87 is a pawl secured to a sleeve 88 which in turn is secured to the shaft 19, so that the pawl operates with the movement of the shaft 19. The pawl is pivoted to a projecting arm 89 of the sleeve and is spring pressed at 90, the arrangement being such that it is adapted to accommodate itself to various angles, while at the same time furnishing a secure control.

91 is a lever arm having a toothed face 92 which is engaged by the pawl 87. The arm 91 has a sleeve 93 carried on a shaft 94 journaled in a bracket arm 95 depending from the table. The arm 91 has, practically integral with it, an upwardly extending arm 96 which carries at the top a spud or holder 97 whose shank plays in a socket 98, being spring pressed as indicated at 99. The combined arms 91, 96 may be termed a tail-center, and it will be readily understood that the cocoanut or similar object will be held between the spuds 68 and 97, and that the arm 96 may be rocked on the shaft 94 to bring the spud 97 to the proper place and that when the machine is in operation the pawl 87 will engage the teeth of the face 92 of the lever arm 91 preventing any displacement of the spud during the paring operation.

At 100 is shown a head which will be found convenient in manipulating the spud. The head is cut away at 101 to avoid any interference with the knife head in action.

On the back of the latch 82 is a short arm or cam face 102. A shaft 103 is fixed in an

extension of one of the bracket arms 20 and extends out toward the operating lever or handle 85. (Figs. 1 and 3.) On the shaft 103 is a loose sleeve 104 which bears at the inner end a projecting arm or cam face 105 and at the outer end a projecting cam face 106. The sleeve 104 turns freely on the shaft 103, so that the inner cam face 105 may strike the arm or cam face 102 to depress it and thereby bear back and release the latch.

The handle or lever 85 bears a trip 107 which has a thumb piece 108, a cam strike or face 109 and a depending dog 110. The trip is spring pressed as indicated at 111 so that normally the cam strike or cam face 109 bears upon the face of the handle. When the trip is operated the cam face 109 will strike the cam face 106, lifting it and turning down the opposite cam face 105 until it bears on the cam face 102 carrying back the latch 82 so that the handle and the connected mechanism may fall.

Pivoted on the side of the table 1 is a catch piece 112 which has two projections making a catch 113 and a receiving notch 114 for a pin 116 on the handle 85. At the bottom of the catch piece 112 is a notch 117 which may receive the pin 116 when the handle is in its lowest position. The catch piece has at the bottom a straight face 118 that can be engaged by the dog of the trip. When the trip is pressed down the dog will strike the face 118 and throw back the catch piece 112, permitting the handle 85 to be pressed down, whereupon the catch piece will be thrown forward by its spring 119 so that the lower notch 117 will engage the pin 116 of the handle.

120 is a stop piece on the handle to limit the movement of the dog 110 having obvious functions. Ordinarily the handle will play within the space defined by the first notch 114 and the catch 113, the lower notch 117 of the catch piece being for the purpose of bringing into operation the adjunctive devices about to be described.

In practice it is found advantageous, in many instances essential, to provide adjunctive devices for paring the ends of the cocoanut which have been held between the spuds in the main operation of paring. These adjunctive devices may also be useful in paring fragments.

At the outer end of the power shaft 5 is a sleeve 122 which is secured to the shaft, which bears what may be termed a semi-spherical head 123, made up in this instance of a solid polar part and eight wings 124. In these wings are pivoted at 125 a series of guides 126, each being spring pressed as indicated at 127. In the form we have illustrated the guides are cut away at 128 so that they closely approach the center of the head. In the form we have illustrated one of these guides bears a knife 129, that being suffi-

cient in practice, though others may be employed. In the center of the head is a spud 130 which is especially adapted to securely hold a fragment or an incompletely pared object by cutting down a longitudinal rod on one side until brought to a point projecting somewhat beyond the face of the guides. It will be observed, also, that the wings 124 are so placed as to permit full play to the guides when they are pressed inward by the object which is forced upon the spud. At the outer end of the shaft 22 is a clutch member 131 which is adapted to engage a clutch member 132 on the outer end of the sleeve 34 which carries the pulley 35. It has already been explained that the movement of the handle 85 will, through the arms 79, 78 and 39, operate the clutch mechanism. It is obvious that the same movement will operate the outer clutch member 132. All that is needed is that the movement throwing the clutch out of gear shall be continued in the same direction until the clutch member 132 engages the clutch member 131. In this relation the main paring parts will be inoperative, while the adjunctive device will rotate, thus enabling the adjunctive devices to be used without necessarily bringing into operation the main paring devices.

In Fig. 1 we have illustrated a modified form in which the adjunctive device is applied directly to the end of the shaft 22 so that it will rotate constantly, thus enabling the same object to be achieved as already set forth with respect to the additional clutch mechanism.

At 133 we have shown a guard plate which prevents the oil and milk from the cocoanut, or any objectionable matter from other objects being pared, from running into the body of the machine, this guard, as illustrated, fitting closely around the knife disk 44. We have also illustrated in Fig. 1 a basket 134 which receives the cocoanuts after the main paring operation and stores them for the subsequent completion of the paring or other disposition. In practice it will be found necessary, also, to provide shields 135 and a basin 136 to catch the milk and oil, and, as indicated at 137, a pipe for leading off this material. The bowl may also, of course, receive the parings.

The parts hereinbefore described are sufficient for the average size of cocoanuts or similar objects. In case of smaller objects, however, it has been found that the knife bearing arm 58 will press inward. With the larger object this inward movement will be governed by the object itself, which will serve as a guide for the movement of the knife. With a smaller object, however, the knife would be pressed in so that it might come into the line of the spud 97 or into a line of action too far advanced. To guard against this we have provided a curved

guard arm 58*, which is adjustably secured to the table and bent outward so that when the knife arm first begins to move after being released from its latch the guard arm 58* will prevent the inward movement, bringing the knife up toward the object in the same way in which it would naturally be held if the object were larger.

The machine being inoperative, that is, the power shaft 5 being moved out so that the worm-screw 37 is out of engagement with the worm-gear 38 of the disk 44, the member 33 of the pulley-clutch out of engagement with the member 32, and the object-carrying shaft 31 is resting, a cocoanut is forced upon the spud 68 on the end of the shaft 31 and the arm 96 is forced in until its spud 97 enters the end of the cocoanut or similar object, the cocoanut then being held between the two spuds 68 and 97. The operator then lifts the handle 85 so that the pin 116 is brought up against the catch 114 on the catch piece 112. This movement of the handle rocks the shaft 19 so that the lever arm 18 is rocked outward, its ball head 17 playing in the groove 16 of the table, and by engagement with the socket pin 15 operating the lever arms 12 and 14. The consequent reciprocation of the arm 14 upon the table 1 carries the bearing block 6 in toward the disk 44 until the worm screw 42 engages the gear 43 of the disk. The same movement of the handle 85, by rocking the shaft 19, has carried inward the depending arm 79, drawing with it the link 78 and the arm 39, and through the arms 39, 38, collar 34 and clamp 36, the pulley 35 with its clutch member 33 until the clutches 33 and 32 are in engagement, whereupon power is imparted to the gear wheel 28 and through the idler 29 to the gear wheel 30, so that the object bearing shaft 31 rotates, carrying with it the impaled object. It will be observed that the spud 97 at the object side rotates freely within its journal so as not to interfere with the action in rotating the object. The upward movement of the handle or lever 85, which has put into motion the driving gear to rotate the object, forces in the trip arm 76 by the action of the lever arms 12, 14 as before described. As the trip arm 76 moves over the face of the table its end projection strikes the depending arm 74 which passes through the aperture 75 in the worm-disk, so that the latch 70 is carried back out of engagement with the knife-bearing arm 58.

By the operations previously described, the knife-bearing arm is being revolved by the action of the disk 44. With the medium size and larger cocoanuts and similar objects, the knife will now press up into the line of rotation of the object. The position of the knife upon the swiveled depending knife-head 60 is such that it engages the

object to the best advantage as it passes through an arc across the line of rotation of the object. If, however, a small cocoanut or similar object should be in place, some provision must be made to take the place of the body of the larger object, which ordinarily keeps the knife-bearing arm pressed out. In fact with a smaller object the spud 97 might be in the natural initial plane of action of the knife. To prevent the knife from pressing too far inward in such cases we have provided the guide arm 58*, which holds back the knife-bearing arm until it reaches an advanced position which will enable it to properly engage the smaller cocoanut without interfering with the other part of the mechanism. When the knife reaches the end of its action upon the object one of the rotating wings 69 of the spud 68 will operate upon the top face of the curved plate 66, pressing down the knife-bearing arm until the latch 70 springs forward and secures it in the downward position. The continued rotation of the disk 44 brings the releasing lug 82* into engagement with the head of the latch 82. It will be understood that when the lever 85 was lifted the latch 82 was carried up, the parts assuming the position shown in Fig. 3, the head of the latch caught over the shoulder 83 of the table and thus holding all of the parts locked in operative relation. Now when the releasing lug 82* strikes the head of the latch, the latch is pushed backward, and at once the handle 85 falls to the position indicated in Fig. 1. This movement reverses the movement previously described, rocks the shaft 19, and through the action of the arm 18 and the lever arms 12 and 14 carries back the bearing block 6 and with it the power shaft 5. This movement also, through the arm 79 and the link 78 and lever arms 34, 35, moves the pulley 35 and its clutch member out of engagement with the clutch 32, so that the gears 28, 29, 30 stop and the spud 68 no longer rotates. The machine is now in the inoperative position, excepting that in the form illustrated in Fig. 6, for example, that is, the form in which the auxiliary cutter is on the end of the power shaft 5, the auxiliary cutter may be brought in continued action or kept in continued action by continuing the downward movement of the handle 85. To do this the trip 108 is operated, its dog 110 operating against the face 118 of the catch-piece 112, forcing back the catch-piece so that the pin 116 of the handle or lever 85 may drop into the notch 117. This movement of the lever continues the outward movement of the link 78 and the lever 39 so that the clutch member 131 is brought into engagement with the clutch member 132, thus imparting power to the shafts 22 and 5 and rotating the auxiliary cutting de-

vice. The arm 96 being drawn back and the spud 97 removed from the cocoanut, the cocoanut is taken from the spud 68 and falls in the basket 134. The cocoanuts may be taken after the main paring and applied to the auxiliary cutting device by pressing them in upon the spud 130. The guides or plates 123 yield before the pressure of the cocoanut or other object and the rotating knife 129 removes the remainder of the skin.

In the form illustrated in Fig. 1 the auxiliary cutting device is constantly driven directly by the pulley shaft. It may be used at any time without reference to the rest of the operation.

Having fully described our invention, what we claim is:—

1. In a machine for paring or cutting cocoanuts and similar objects, the combination with means for holding and rotating the object, of a knife-arm pivoted substantially vertically below the object-holder and bearing a knife-head journaled in the knife-arm above the object-holder.

2. In a machine for paring or cutting cocoanuts and similar objects, the combination with means for holding and rotating an object, of a knife-arm pivoted substantially vertically below the object holder, and bearing a sleeve at the top and a depending knife having its shaft freely journaled in the sleeve of the knife-arm.

3. In a machine for paring or cutting cocoanuts and similar objects, the combination with means for holding and rotating the object of a revoluble knife-carrying arm mounted upon a support below the object-holder and extending above the axis of rotation of the object-holder and bearing a depending knife-head.

4. In a machine for paring or cutting cocoanuts and similar objects, the combination with means for holding and rotating the object of a revoluble knife-carrying arm journaled above and supported substantially vertically below the object-holder and bearing a swiveled knife-head.

5. In a machine for paring or cutting cocoanuts and similar objects, the combination of means for holding and rotating an object, a revoluble plate, an upwardly extending knife-bearing arm pivoted upon the plate and carrying at the top a depending knife-head.

6. In a machine for paring or cutting cocoanuts and similar objects, the combination with means for holding and rotating the object of a revoluble knife-carrying substantially arc-shaped arm with a sleeve at its upper end substantially straight and extending toward the center of the arc of the arc-shaped arm and on which is swiveled the knife-head.

7. In a machine for paring and cutting cocoanuts and similar objects, the combina-

tion with a revoluble, yieldingly mounted knife-bearing arm of a stationary guard-arm for preventing the knife from pressing too far inward when small objects are being
5 treated.

8. In a machine for paring or cutting coconuts and similar objects, the combination with means for holding and rotating the object, of a revoluble arm bearing a knife-
10 head, and means carried by the object holder for engaging the knife-head to throw it out of engagement with the object at the end of the operation.

9. In a machine for paring or cutting coconuts and similar objects, the combination of a revoluble knife-arm having a projecting arm and a rotatable object-holder having wings to engage the projecting arm at the end of the operation.

10. In a machine for paring or cutting coconuts and similar objects, the combination with an object-holder, of a knife-arm, a revoluble support for the knife-arm, an opening in the base of the knife-arm having notches, a coiled spring one end of which may engage any of the notches, and a knife-head at the top of the knife-arm.

11. In a machine for paring or cutting coconuts and similar objects, the combination with means for holding and rotating the object, of a curved knife-arm mounted on a support substantially vertically below the object-holder carrying at the top above the object-holder a knife-holder or sleeve, a
35 knife-head depending from the knife-holder to bear a blade in the line of rotation of the object, and means for moving the knife across the line of rotation of the object.

12. In a machine for paring or cutting coconuts and similar objects, the combination with a rotating shaft carrying the object, of a revoluble, yieldably mounted knife-carrying arm moving its knife across the line of rotation of the object, and means carried by
45 the rotating shaft to engage the knife arm and force it back into an inoperative position.

13. In a machine for paring or cutting coconuts and similar objects the combination of a horizontal rotating object-bearing shaft and a vertical revolving arm borne by a support located substantially vertically below the object-bearing shaft and bearing a depending swiveled knife head.

14. In a machine for paring or cutting coconuts and similar objects, the combination of a horizontal rotating object-bearing shaft and a substantially vertical revolving substantially arc-shaped arm supported substantially vertically below and extending above the object-bearing shaft and bearing a swiveled knife.

15. In a machine for paring or cutting coconuts and similar objects, the combination of a horizontal rotating object-bearing
65 shaft, an opposed rocking tail-center, and an intermediate, substantially vertical, revolving knife-bearing arm.

16. In a machine for paring or cutting coconuts and similar objects, the combination of a rotating shaft to hold the object, a revoluble knife, a swinging power shaft, and means common to the above-named elements for bringing all the parts into action.

17. In a machine for paring or cutting coconuts and similar objects, the combination of a horizontal object-bearing shaft, a vertical knife-bearing arm, a swinging power-shaft, and lever connections bearing
80 a latch to hold the parts in engagement until the latch is tripped.

18. In a machine for paring or cutting coconuts and similar objects, the combination of a table, an object-bearing shaft journaled above the table, a set of gears and a clutch device, clutch-operating levers, and a latch extending up through the table and catching upon the table to hold the parts in operating position until the latch is pushed
90 aside.

19. In a machine for paring or cutting coconuts and similar objects, the combination of a rotating object-bearing shaft, a power shaft bearing a worm, a worm-gear
85 carrying a knife-bearing arm, a sliding block in which the shaft is journaled, and lever connections for imparting power to the rotating shaft and moving the sliding block to bring the worm and worm-gear
90 into engagement.

20. In a machine for paring or cutting coconuts and similar objects, the combination of a rotating object-bearing shaft, a revoluble, yieldably mounted knife-bearing
95 shaft, the rotating arm bearing a projection which engages the knife-bearing arm after a rotation of the object and bears the knife-arm back out of operative position.

21. In a machine for paring or cutting coconuts and similar objects, the combination of a rotating object-bearing shaft, a knife-bearing arm, a swinging power-shaft, a lever-arm for moving the power-shaft into engagement with means for operating the
110 knife-bearing arm, a tail-center opposing the object-bearing arm, a latch for the knife bearing arm, a shaft upon which all the operating arms center, and a lever for simultaneously operating the several connections
115 and bringing the latch into locking position.

22. In a machine for paring or cutting coconuts and similar objects, the combination with a power-shaft, of a paring or cutting device arranged on the end of the
120 power-shaft and comprising a series of spring-pressed arms, one of which bears a knife.

23. In a machine for paring or cutting coconuts and similar objects, the combination
125 of a horizontal rotating object-bearing shaft, an opposed rocking tail-center, and an intermediate, substantially vertical, revolving knife-bearing arm.

24. In a machine for paring or cutting coconuts and similar objects, the combination
130 of a horizontal rotating object-bearing shaft, an opposed rocking tail-center, and an intermediate, substantially vertical, revolving knife-bearing arm.

tion with a power-shaft of a head at one end of the shaft bearing a central spud and opposed pivoted arms carrying knife-blades.

- 5 24. In a machine for paring or cutting cocoanuts and similar objects, the combination with a power-shaft of a semi-circular head at one end of the power-shaft, and knife-carrying arms pivoted to the head at the outer rim and meeting at the center.
- 10 25. In a machine for paring and cutting cocoanuts and similar objects, the combination with an object holding and a paring or cutting mechanism, of a jointed power shaft bearing on one end a set of clutches with
- 15 means for simultaneously shifting the power shaft and disengaging the clutches and throwing out of operation the object-holding mechanism and the paring or cutting mechanism.
- 20 26. In a machine for paring or cutting cocoanuts and similar objects, the combina-

tion with a rotary object-holding mechanism and a main paring or cutting mechanism, of a jointed power-shaft bearing at one end an auxiliary cutting device and at the 25 other two sets of clutches, one to engage the driving gear of the object-holding mechanism and the other to engage the power-shaft, and means for simultaneously shifting the power-shaft and throwing out of 30 engagement the object-holding mechanism and then throwing into engagement the shaft to independently operate the auxiliary paring or cutting device.

In testimony whereof we affix our signatures, in presence of two witnesses. 35

FREDERICK STAMM.
JOHN H. WEICHEL.

Witnesses:

JOHN W. APPEL,
T. ROBERTS APPEL.