

No. 844,899.

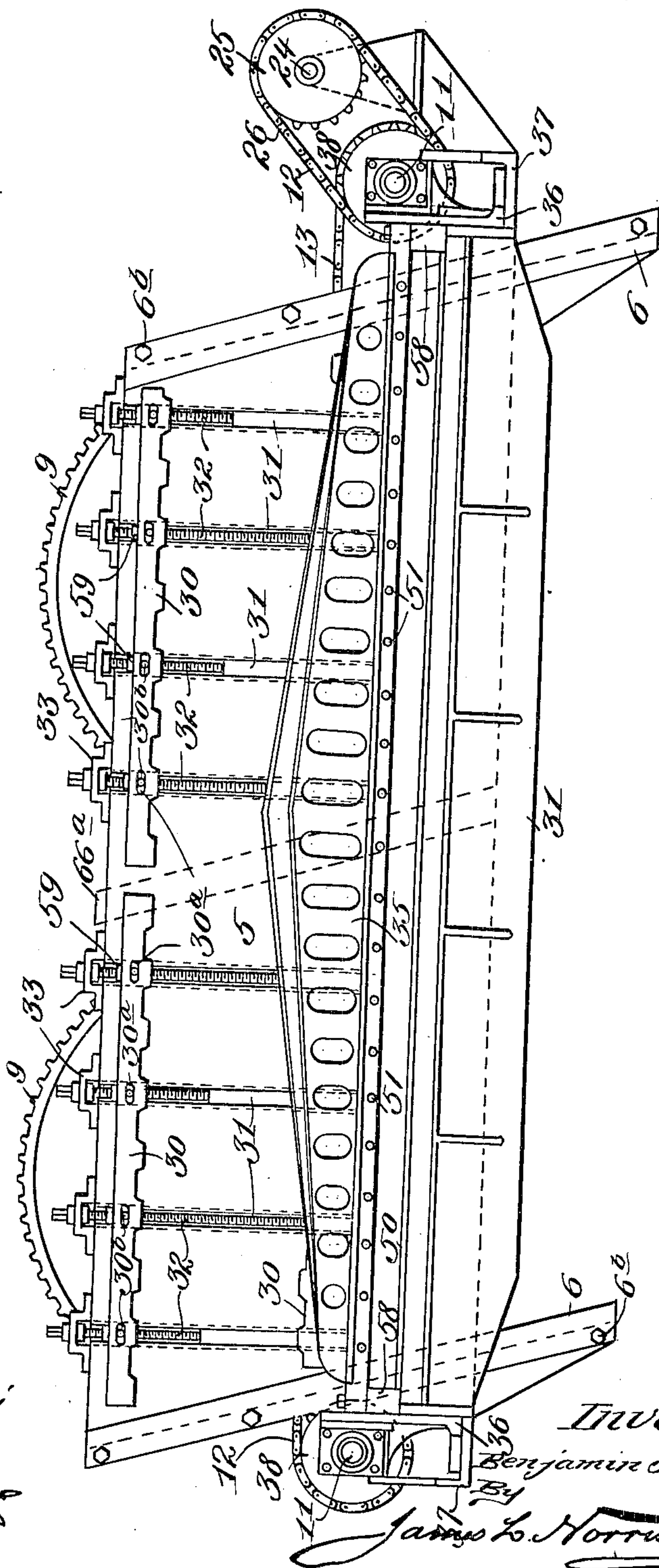
PATENTED FEB. 19, 1907.

B. J. SITTON.  
VENEER CUTTING MACHINE.

APPLICATION FILED AUG. 8, 1906.

5 SHEETS—SHEET 1.

Fig. 1.



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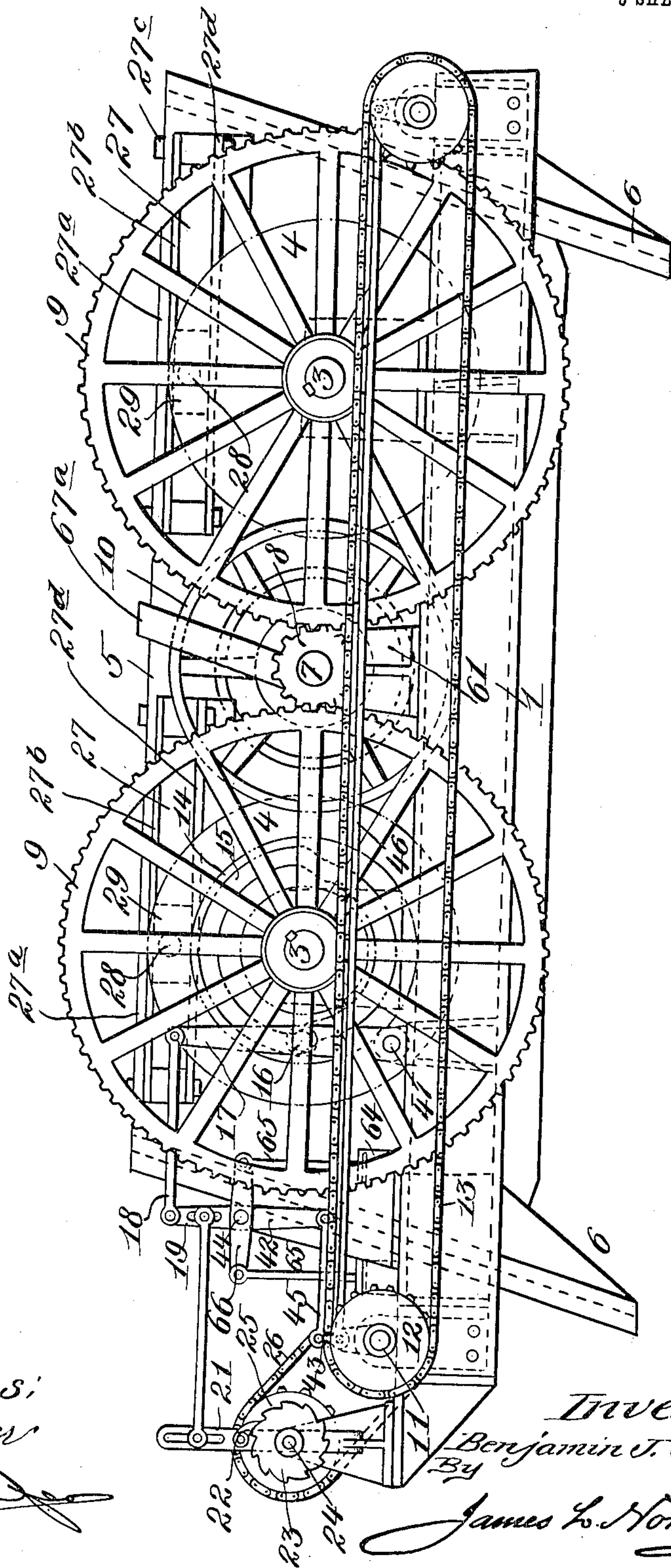
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5 SHEETS—SHEET 2.

Fig. 2.



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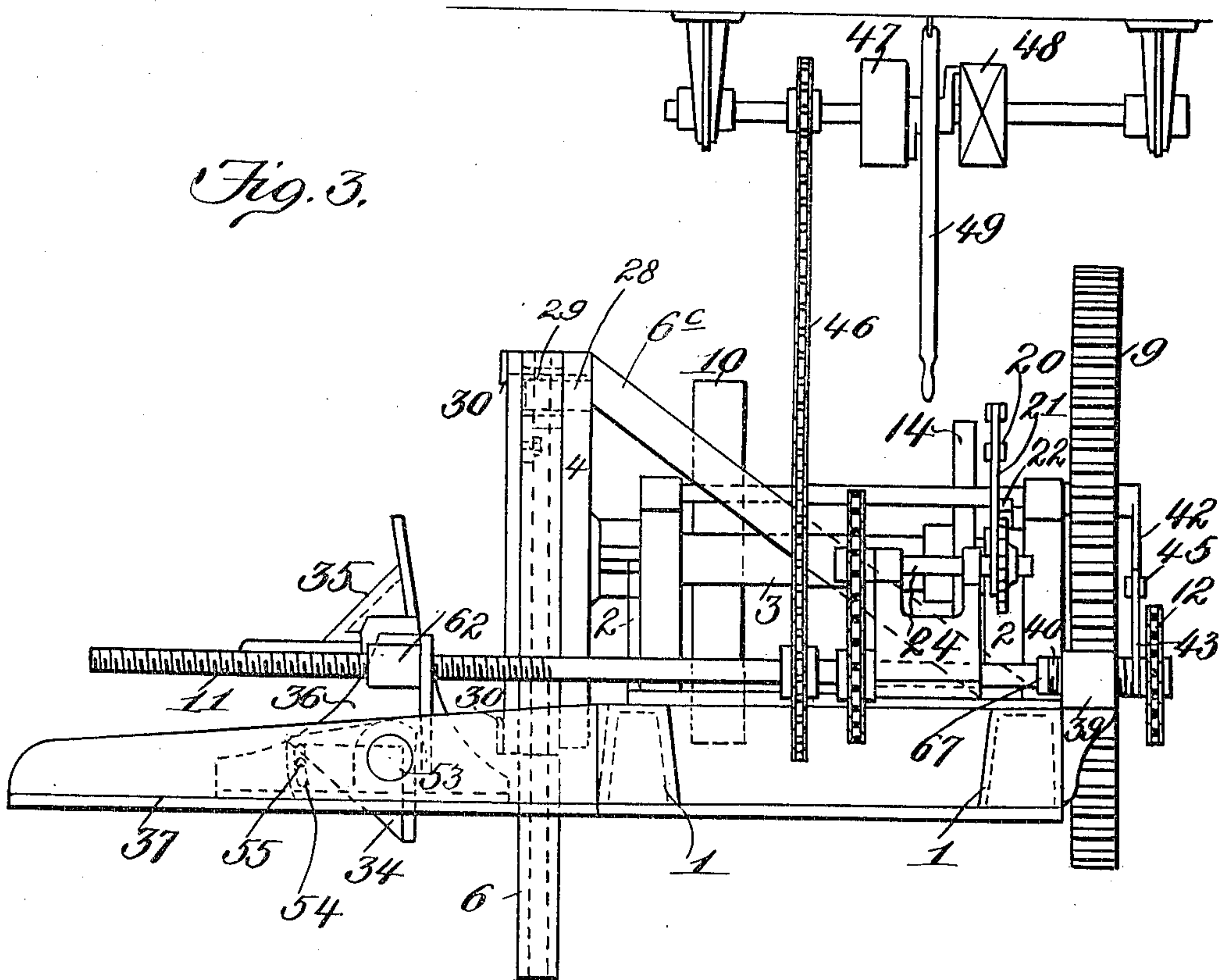
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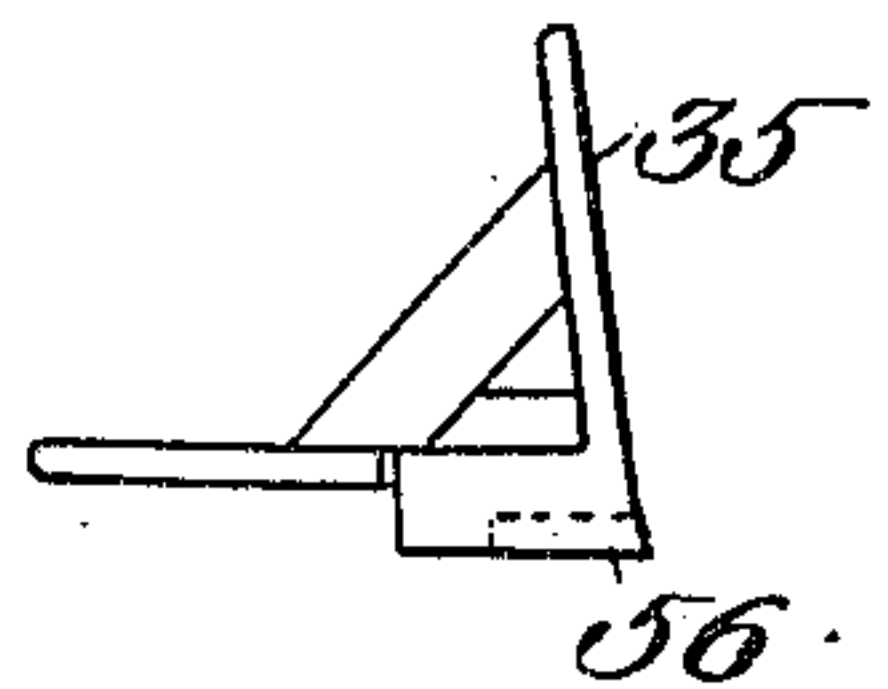
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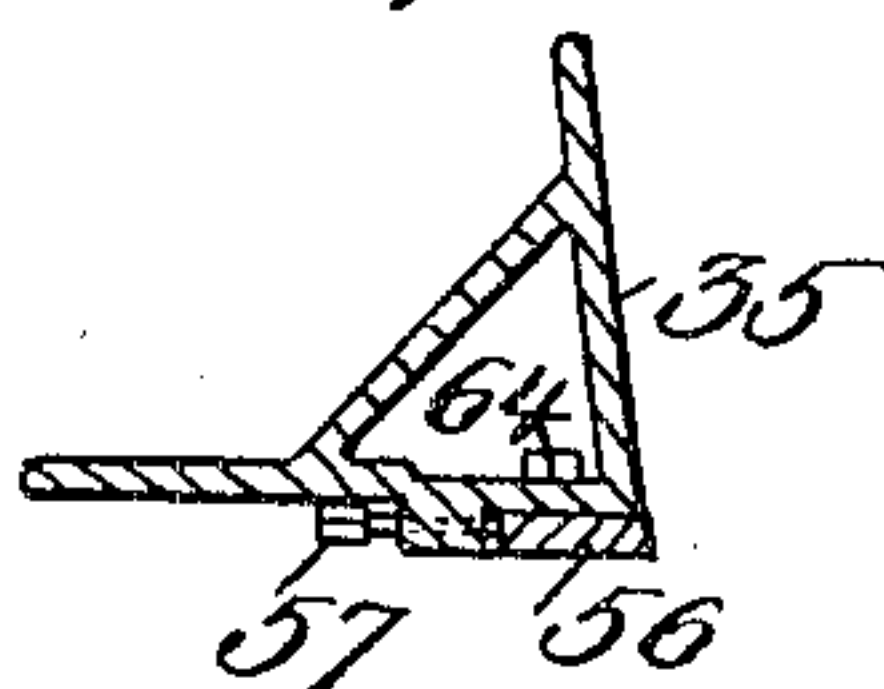
5 SHEETS—SHEET 3.



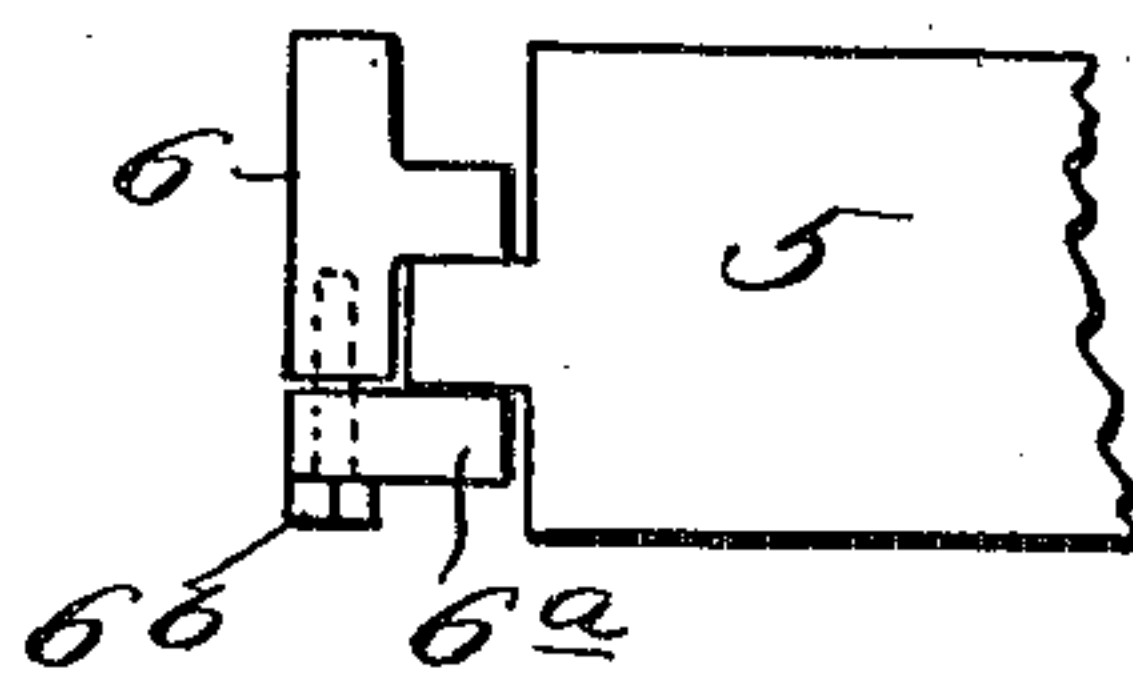
*Fig. 4.*



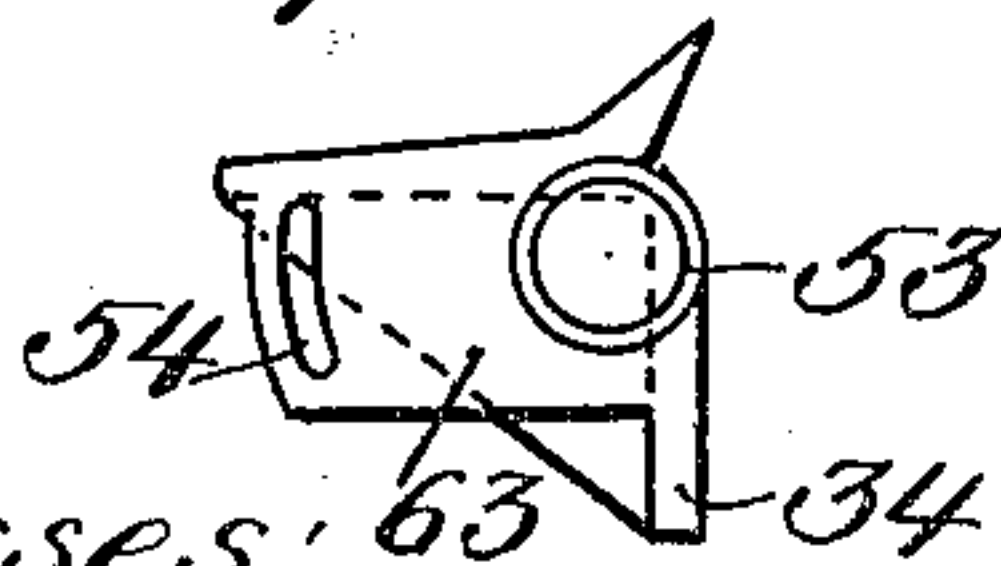
*Fig. 5.*



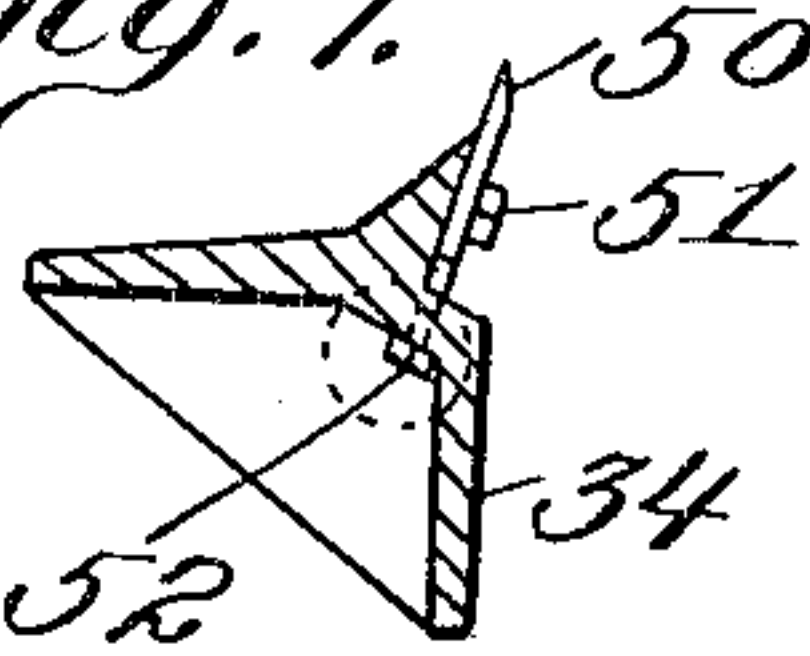
*Fig. 8.*



*Fig. 6.*



*Fig. 7.*



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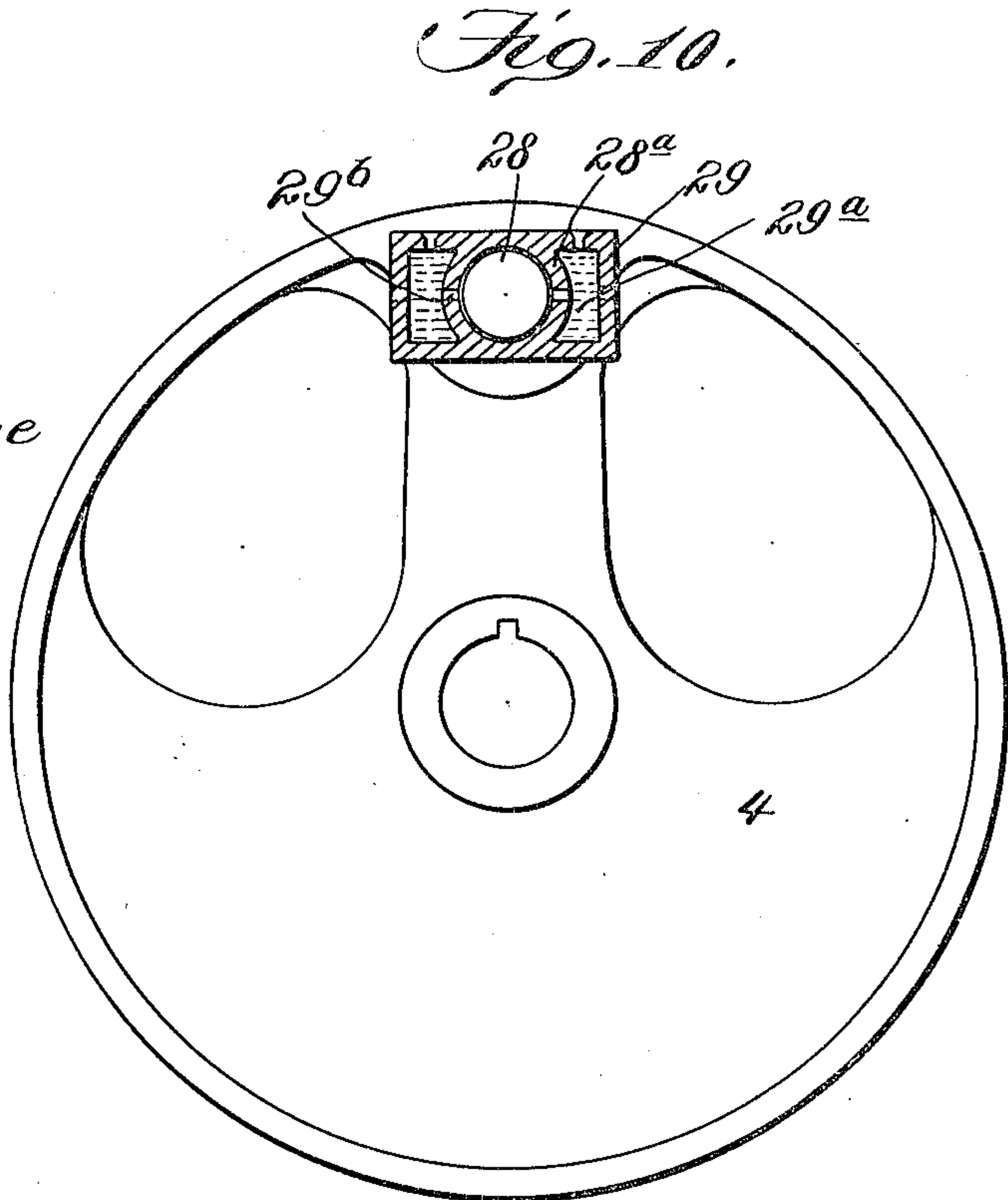
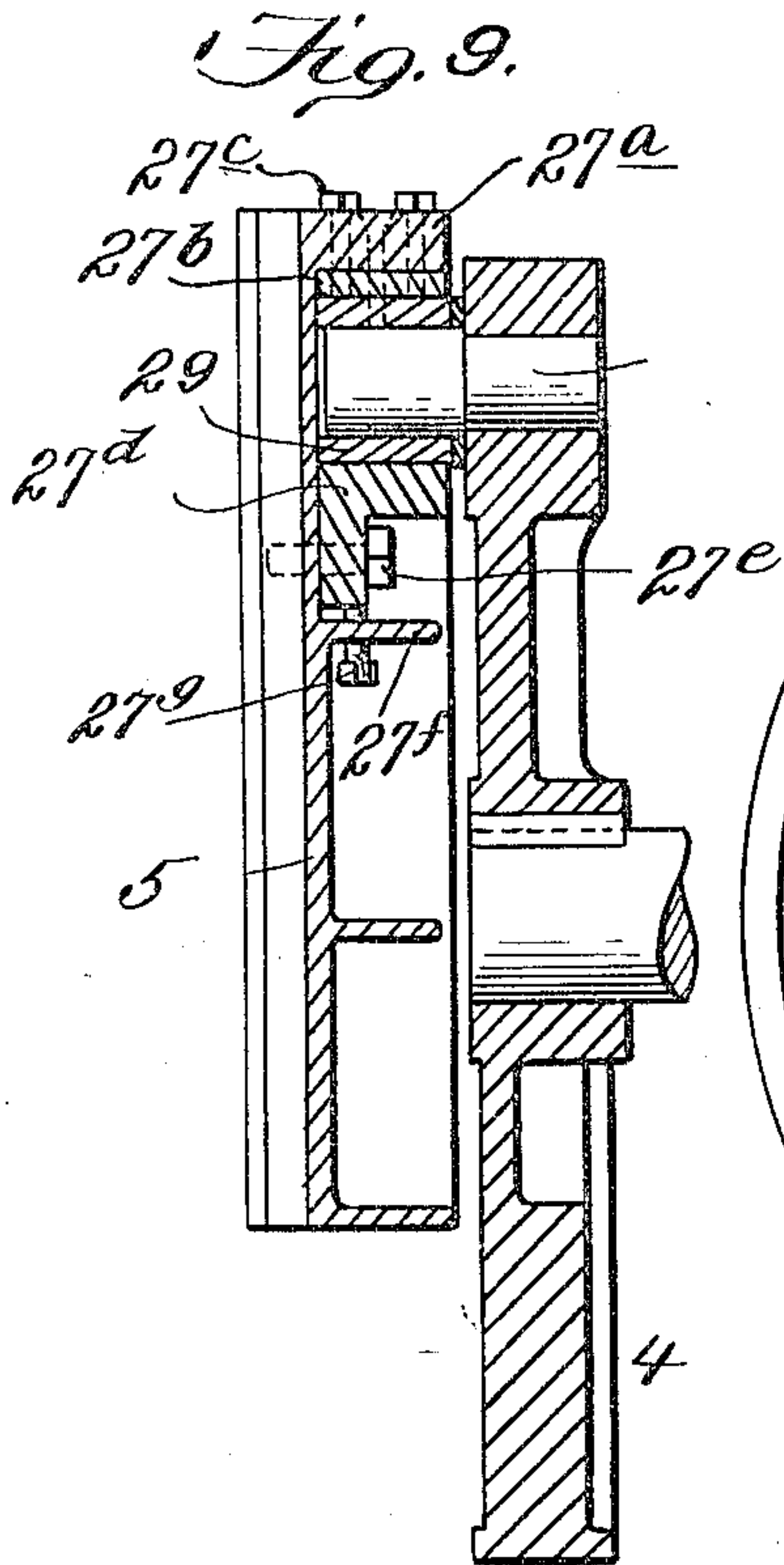
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5 SHEETS—SHEET 4.



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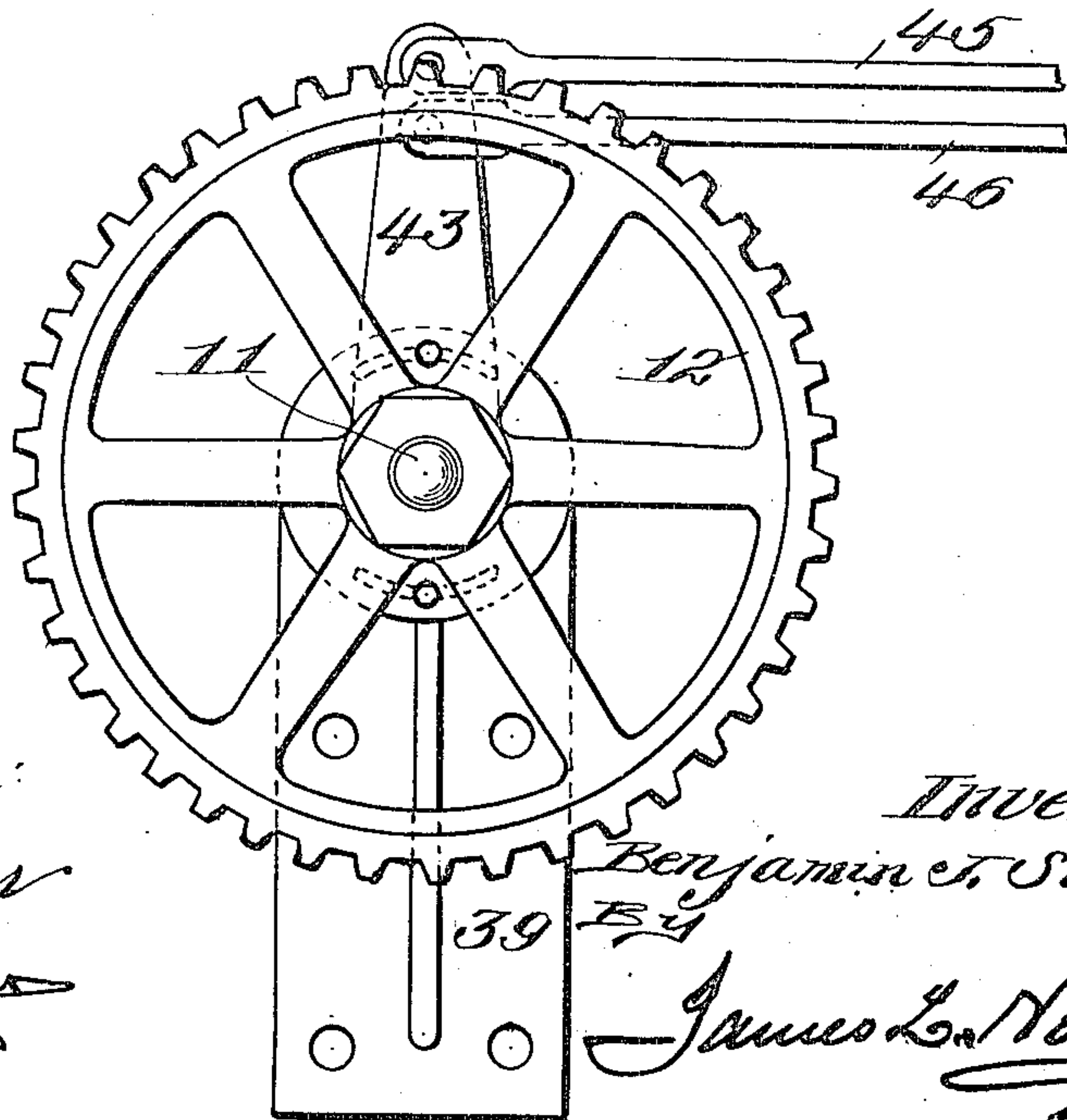
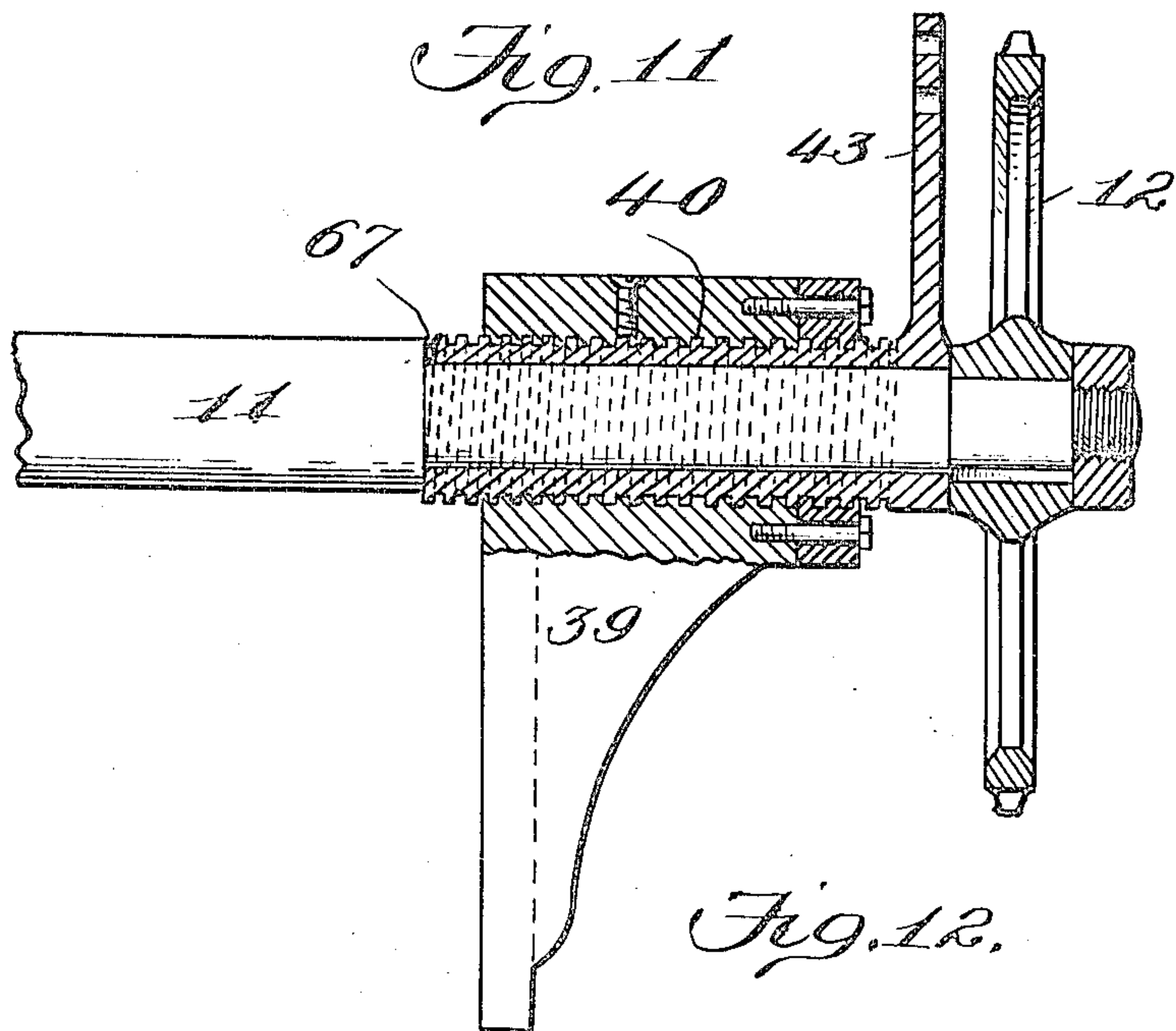
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APPLICATION FILED AUG. 8, 1906.

5 SHEETS—SHEET 5.



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# UNITED STATES PATENT OFFICE.

BENJAMIN J. SITTON, OF SALISBURY, NORTH CAROLINA, ASSIGNOR OF ONE-SIXTH TO EDWIN R. OVERMAN AND ONE-THIRD TO JOSEPH J. KINCAID, OF SALISBURY, NORTH CAROLINA.

## veneer-cutting machine.

No. 844,899.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed August 8, 1906. Serial No. 329,718.

*To all whom it may concern:*

Be it known that I, BENJAMIN J. SITTON, a citizen of the United States, residing at Salisbury, in the county of Rowan and State of North Carolina, have invented new and useful Improvements in Veneer-Cutting Machines, of which the following is a specification.

The invention relates to veneer-cutting machines, and the object of which is to provide a machine of this character for cutting veneer from quartered oak or other woods which shall be simple in construction, durable, efficient in operation, and inexpensive in the manufacture and in which the necessary adjustments for cutting a veneer of predetermined thickness may be made with readiness, and, further, such a machine which shall possess such firmness and rigidity of the operating parts as will make the machine durable in use.

A further object of the invention is the provision of means for lubricating the wearing parts of the machine and also the reduction of the wearing qualities of such parts.

With these and other objects in view the invention consists in the construction, combination, and arrangement of parts, as will be hereinafter described and as illustrated in the accompanying drawings, embodying the preferred construction of the invention. However, changes, variations, and modifications may be made as come properly within the scope of the claims hereunto appended without departing from the spirit of the invention.

In the drawings, Figure 1 is a front view of the machine embodying my invention. Fig. 2 is a rear view thereof. Fig. 3 is an end view thereof looking toward the right of Fig. 2. Fig. 4 is an end elevation of the pressure-bar. Fig. 5 is a transverse section thereof. Fig. 6 is an end elevation of the knife-bar. Fig. 7 is a transverse section thereof. Fig. 8 is a fragmentary plan view of the end guide-standard and the log-bed. Fig. 9 is a sectional view of the log-bed and crank-disk connected thereto. Fig. 10 is a face view of the crank-disk, disclosing the slide-block having the oil-receptacle. Fig. 11 is a central sectional view of Fig. 12, showing one of the feed-screws having the short release-screw. Fig. 12 is an end view of Fig. 11.

Similar reference characters relate to corresponding parts throughout the several views.

In the drawings the numeral 1 indicates a suitable bed-plate forming the base or foundation of the machine and upon which the several parts are mounted and the said base-plate being secured in place by any suitable fastening means. Extending upwardly from said bed-plate 1 are four pedestals 2, arranged in pairs and in alinement with each other near opposite ends of the bed-plate, and the same are provided with suitable bearings in which are journaled two shafts 3, extending transversely of the said bed-plate. Each of said shafts is provided with a crank-disk 4, carrying a crank-pin 28, arranged near the periphery of the latter and engages a slide-block 29, having a compartment 29<sup>a</sup> for receiving oil, the latter in communication with an outlet-port 29<sup>b</sup>, so that oil can be fed to the crank-pin 28 through the hub portion 28<sup>a</sup> of the block 29. Said block 29 is adapted to reciprocate in a slot 27 in the back of the log-bed 5, whereby as the crank-disk rotates the said bed 5 is caused to reciprocate vertically in accordance with the throw of the crank-pin.

The slot 27 is formed by an overhanging ledge 27<sup>a</sup>, integral with the log-bed 5, and at the inner upper face thereof is a wearing-plate 27<sup>b</sup>, held in position for adjustment by bolt members 27<sup>c</sup>, passing through the said ledge 27<sup>a</sup>. The bottom of the slot is formed by a guide-plate 27<sup>d</sup>. Adjustably secured to the log-bed 5 by bolt members 27<sup>e</sup> and for decreasing the width of the slot to take up wear caused by the movement of the block 29 is provided an outlet-extending flange 27<sup>f</sup>, the latter having adjustable bolt members 27<sup>g</sup>, adapted to engage the guide-plate 27<sup>d</sup> and to hold the same in a fixed adjusted position. The shafts 3 project sufficiently to the rear of the machine to receive spur-gears 9, which mesh with a pinion 8, carried by a driving-shaft 7, mounted in suitable bearings carried by the pedestals 61, supported on the bed-plate of the machine. This driving-shaft carries a belt-pulley 10 for imparting motion to said shafts and can be provided with any well-known means for starting and stopping the machine at any desired point. Therefore I have not shown the same for the rea-



son that any well-known type of friction-clutch may be instituted, so such disclosure is not deemed necessary.

The log-bed 5 is slidably mounted in inclined guides 6, the latter having a wearing-plate 6<sup>a</sup>, secured to the guides 6 by bolt members 6<sup>b</sup>, thus forming detachable wearing-plates, and for bracing the said guides is provided brace members 6<sup>c</sup>, secured in any suitable manner to the guides and to the frame of the machine, secured to the sides of the bed-plates, so that when the log-bed is raised and lowered by the rotation of the crank-disks through the medium of the crank-pins 28 and blocks 29 the said guides will impart a movement in a diagonal direction to said log-bed with respect to a plane parallel to the knife, and consequently as the block of wood carried by the log-bed is moved across the stationary knife the latter will cut the veneer therefrom by what is known as a "draw-cut."

Extending across the back of the log-bed is a series of undercut grooves 31, in which are slidably mounted blocks 39, through which pass adjusting-screws 32. A plurality of the latter are adapted to adjust the lowermost blocks 30 and the remaining number for adjusting the uppermost blocks, so as to position the log on the log-bed at an inclination with respect to the longitudinal extent of the stationary knife and that when the log-bed is moved to bring the log into position to be acted upon by the knife the latter will cut the veneer therefor in a more positive draw-cut manner. The upper ends of the adjusting-screws 32 are journaled in suitable bearings 33 on top of the log-bed, and to said blocks are attached metal plates 30, preferably steel, having their inner edges beveled so as to grip the block or fletcher of wood firmly between them when said plates are adjusted by the said screws 32 to the position desired for clamping and securing the block to said bed. Furthermore, said plates 30 are provided with slots 30<sup>a</sup>, and slidably engaging the same are bolt-fastenings 30<sup>b</sup>, so that when the blocks 30 are moved by the screws 32 the plate 30 will be allowed to assume a proper position for gripping firmly the wood and also when moving will not bind the opposing screw. Thus it will be free to slide on the slidable bolt member 30<sup>b</sup> throughout the extent of the slot 30<sup>a</sup> in said plate, thereby can be shifted to an inclination with respect to the alinement of the movement of the screws 30 in the log-bed.

Secured to the front of the bed-plate 1 on each side of the machine is a bracket 37, forming slideways for guide-brackets 36, upon which are mounted the pressure-bar 35 and the knife-bar 34, the latter of which is held stationary in the desired adjusted position during the cutting operation, while the log-bed moves diagonally downward to carry

the log in cutting contact with the knife 50 on said bed. Each of the guide-brackets 36 is provided with a nut 62, through which one end of the feed-screws 11 passes, the opposite end passing through a short release-screw 40, rotatably mounted in a nut 39, secured to the back of the bed-plate and acting against a collar or stop 67 on said feed-screw.

The opposite ends of the knife-bar 34 are provided with journals 53, which are mounted in corresponding bearings carried by the guide-plates 36, and end flanges 63 on said knife-bar are provided with slots 54, through which pass adjusting-screws 55, said screws passing into the guide-brackets 36, and thus providing means for adjusting the angle of the knife-bar. The knife 50 is supported upon the knife-bar by set-screws 51 and bears against a series of adjusting-screws 52, whereby the knife may be properly aligned and adjusted upon the knife-bar. The pressure-bar 35 rests upon ledges 58 on the guide-brackets 36 and is clamped or bolted thereto in any suitable manner. The lower edge of said pressure-bar is provided with an adjustable pressure-strap 56, which is seated in a recess in said lower edge and is held therein by suitable screws 64. This strap may be laterally adjusted by adjusting-screws 57, which bear upon the edge of the strap and are readily accessible for the adjustment of said strap with relation to the block.

The feed-screws 11 are connected together through the medium of sprocket-wheels 12 and a sprocket-chain 13, so that both screws may be caused to turn simultaneously in the same direction, and the proper feed motion is imparted to one of the screws by means of a cam-disk 14, mounted upon one of the shafts 3, as shown in Fig. 2, where it will be seen that said cam 14 is provided with a groove 15, in which is confined a roller 16, carried by a vibrating lever 17, fulcrumed to the bed of the machine at 41 and connected by a link 18 with an arm 19 on a rock-shaft 44. The arm 19 is connected to a ratchet-lever 21, journaled on a short shaft 24, mounted in suitable bearings on the bed-plate, upon which shaft is also fixedly mounted a ratchet-wheel 23, adapted to be engaged by a ratchet 22, carried by the arm 21. A sprocket 25 is also mounted on said shaft 24 and serves to transmit motion to one of the feed-screws 11 by means of a sprocket-chain 26 and a sprocket-wheel 12, mounted on said feed-screw. As the shafts 3 rotate, and the bed returns to normal position, prior to its cutting or descending motion, the cam-disk 14 will, through the lever 17, the pawl and ratchet 22 and 23, and the cooperating parts, cause the feed-screws 11 to turn a predetermined amount, and thus move the pressure-bar and knife-bar the required distance, according to the predetermined thickness of the veneer to be cut on the next cutting motion, and for



which the knife has been adjusted with relation to the block or log-bed and the block or log carried thereby. The rock-shaft 44 is also provided with an arm 42, connected by a link 45 with an arm 43, journaled on the feed-screw 11, and connected to or integral with the short release-screw 40. This arm 43 is connected to a similar arm 43 on the other feed-screw shaft 11 by a rod 46, so that movement of one of the arms 43 and likewise the short release feed-screw 40 will cause a similar movement of the other short release feed-screw which release-screws, it will be observed, bear against the collars 67 on the feed-screws 11 and work independently of the feed-screws 11. Hence when the cut has been finished and the bed moves upwardly to the position for another cut a slight and quick motion will first be imparted to the feed-screws 11 through the mechanism just described, thereby causing the knife-bar to move back quickly a slight distance sufficiently to clear the wood on the back or return motion of the bed.

In order to impart a quick back-and-forward motion of considerable extent to the guide-brackets carrying the knife and pressure bars when the cutting of a particular block is finished or to be started, I connect one of the feed-screws 11 with two friction-clutch pulleys 47 and 48, driven by open and cross belts, the lever 49 of the clutch being manipulated to throw either pulley into operative connection with the counter-shaft on which they are mounted, this shaft being connected by a sprocket-chain 46 with a sprocket on said feed-screw, such mechanism being conventionally shown in Fig. 3.

I preferably cushion both the back and forward motions of the feed-screws and the cooperating parts by suitable dash parts 64, having their plunger-rods 65 connected to the opposite ends of an arm 66 on the rock-shaft 44.

From the foregoing description the mode of operation of my improved machine will be readily understood, and it should be noted that I provide three distinct sets of mechanism for operating the feed-screws—one for the normal operation, whereby the knife-bar is moved at the proper time to determine the thickness of the veneer, a second to impart a quick motion and of slight extent as the log-bed returns, so as to remove the block of wood clear of the knife on the back stroke of the bed, and the third for imparting a quick motion forward or back and of considerable extent when starting and stopping the cutting of a given log-block. Furthermore, it will be apparent that to prevent the log-bed 5 from springing in the center there is provided center bearings 66<sup>a</sup>, which work against short guides 67<sup>a</sup>, bolted on the face of main frame 1, the same extended to prevent the log-bed 65 from centrally swaying and to give the proper

movement thereto during the operation thereof and also to brace the said log-bed.

Having described the invention, what is claimed is—

1. In a veneer-cutting machine, the combination with a bed-plate and a stationary knife, of inclined guides arranged centrally and in proximity to the ends of the bed-plate and having detachable wearing-plates, a log-bed slidably mounted in said guides and provided with slots, counter-shafts journaled on the bed-plate, crank-pins carried by the shafts and having slide-blocks provided with oil-compartments for distributing oil to the said pins, said blocks engaging said slots, a drive-shaft having connections for operating said counter-shafts, mechanism for actuating the knife to bring the same into operative position with respect to the log-bed and for returning the same to an inoperative position at predetermined distances, adjustable screw members mounted in the body of the log-bed, clamping-plates for the log actuated by the screw members, and means for adjusting the knife.

2. In a veneer-cutting machine, a bed-plate forming a base, a plurality of pedestals arranged in pairs and in alinement with each other near opposite ends of the bed-plate and extending upwardly therefrom, shafts extending transversely of the bed-plate and having their bearings in the pedestals, a crank-disk fixed to said shafts, a crank-pin arranged near the periphery of the disk, a log-bed having slots formed therein, movable blocks arranged in the slots and having oil-compartments, the latter provided with openings, said crank-pins in engagement with the movable blocks and the oil contained therein being adapted to be fed to the crank-pins, inclined guides for the log-bed arranged at the ends and intermediate the same, brace members for the guides, the latter for directing a diagonal movement of the log-bed when actuated, means cooperative with the log-bed for supporting material thereon to be operated upon, brackets supported on the bed-plate, pressure-bars cooperative with said brackets, a knife-bar carried by the brackets, feed mechanism for actuating the pressure and knife bars to bring the same into operative position and also for returning said knife to an inoperative position at predetermined distances, adjustable wearing-plates for the guides and the slots formed in the log-bed, and means for actuating the shafts to impart movement to the crank-disks.

3. In a veneer-cutting machine, the combination with a bed-plate and adjustable knife, of a log-bed, inclined guides for the log-bed and having wearing-plates, rotary shafts supported on the bed-plate, crank-disks fixed to said shafts and having crank-pins, said log-bed provided with elongated slots, blocks having oil-compartments mov-



able in said slots, said crank-pins on the said disks in engagement with the blocks, the latter adapted to distribute oil to the crank-pins, driving mechanism coöperative with the shafts, mechanism for actuating the knife to bring the same into operative position with respect to the log-bed and for returning the same to an inoperative position at predetermined distances, means on said log-bed for clamping the material to be acted upon thereto, an inclined guide intermediate the log-bed, and braces for the respective inclined guides.

4. In a veneer-cutting machine, the combination with a bed-plate and knife, a log-bed, means on the log-bed for supporting material to be operated upon, inclined guides centrally of and at the ends of the log-bed to guide the latter diagonally with respect to a plane parallel to the knife, said log-bed having slots in one face thereof, rotary shafts supported on the bed-plate, disks fixed to said shafts, crank-pins carried by the disks, blocks slidable in the slots and provided with oil-compartments for distributing oil to the crank-pins, a pressure-bar having an adjustable strip on its lower edge, movable brackets for supporting the pressure-bar above the knife, said pressure-bar adapted to bear against the material on the log-bed, said brackets also supporting the knife, feed-screws to cause the pressure-bar and knife to move in unison into operative position with respect to the log-bed and for returning the same to an inoperative position at predetermined distances, mechanism for simultaneously actuating the feed-screws, and means for imparting movement to the rotary shafts.

5. In a veneer-cutting machine, the combination with a bed-plate, of horizontal guides thereon, guide-brackets slidably mounted on said guides, a knife-bar having a knife carried by said brackets, a pressure-bar above said knife-bar and movable with the brackets, inclined guides on said bed-plates, a log-bed movable in said guides, said log-bed having slots near its uppermost edge, blocks movable in said slots and having oil-compartments, rotary shafts mounted on said bed-plate, crank-disks carried by the shafts and having crank-pins for engagement with the blocks, said oil-compartments in the blocks adapted to distribute oil to the crank-pins, means for clamping a log to the log-bed, feed-screws extending transversely

of the bed-plate and engaging the guide-brackets, and mechanism for actuating the feed-screws to cause the knife-bar and pressure-bar to move in unison into operative position with respect to the log-bed and for returning the same to an inoperative position.

6. In a veneer-cutting machine, the combination with a bed-plate, of horizontal guides thereon, guide-brackets slidably mounted on said guides, a knife-bar having a knife carried by said brackets, a pressure-bar above said knife-bar and movable with the brackets, inclined guides on said bed-plates, a log-bed movable in said guides, said log-bed having slots near its uppermost edge, blocks movable in said slots and having oil-compartments, rotary shafts mounted on said bed-plate, crank-disks carried by the shafts and having crank-pins for engagement with the blocks, said oil-compartments in the blocks adapted to distribute oil to the crank-pins, means for clamping a log to the log-bed, feed-screws extending transversely of the bed-plate and engaging the guide-brackets, mechanism for actuating the feed-screws to cause the knife-bar and pressure-bar to move in unison into operative position with respect to the log-bed and for returning the same to an inoperative position, and means for imparting movement to the rotary shafts.

7. In a veneer-cutting machine, the combination with a bed-plate and a stationary knife, of inclined guides having detachable wearing-plates, a log-bed slidably mounted in said guides and provided with slots in its back portion, counter-shafts journaled on the bed-plate, crank-pins-carried by the shafts and having slide-blocks provided with oil-compartments for distributing oil to the crank-pins, said blocks engaging said slots, a drive-shaft having connections for operating said counter-shafts, mechanism for actuating the knife to bring the same into operative position with respect to the log-bed and for returning the same to an inoperative position at predetermined distances, adjustable screw members mounted in said slots of the log-bed, and clamping-plates for the log actuated by the screw members.

In testimony whereof I have hereunto set hand in presence of two subscribing witnesses.

BENJAMIN J. SITTON.

Witnesses:

F. T. SMITH,  
MARY PORTER.