

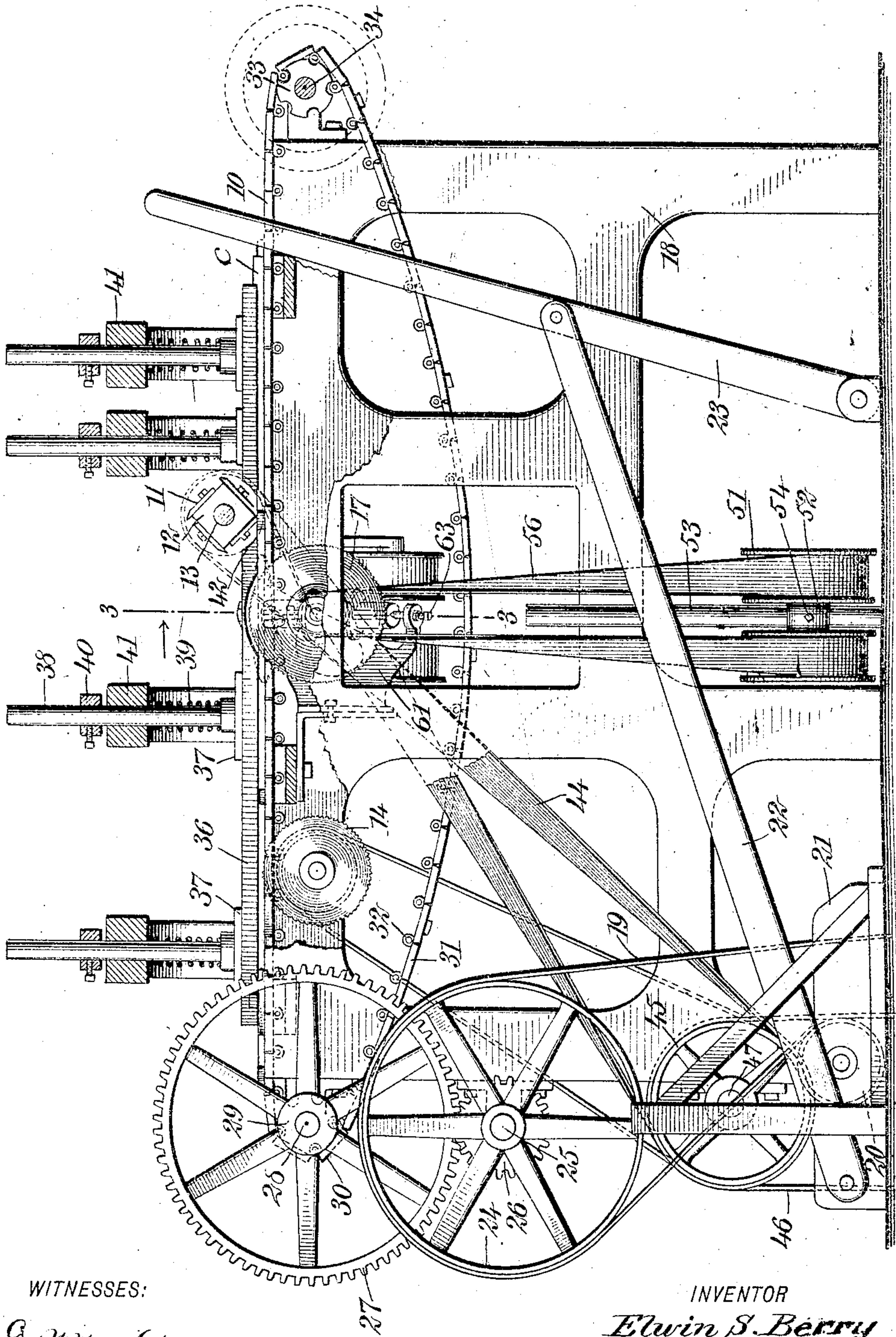
No. 835,347.

PATENTED NOV. 6, 1906.

E. S. BERRY.
WOODWORKING MACHINE.
APPLICATION FILED AUG. 29, 1905.

4 SHEETS—SHEET 1.

Fig. 1.



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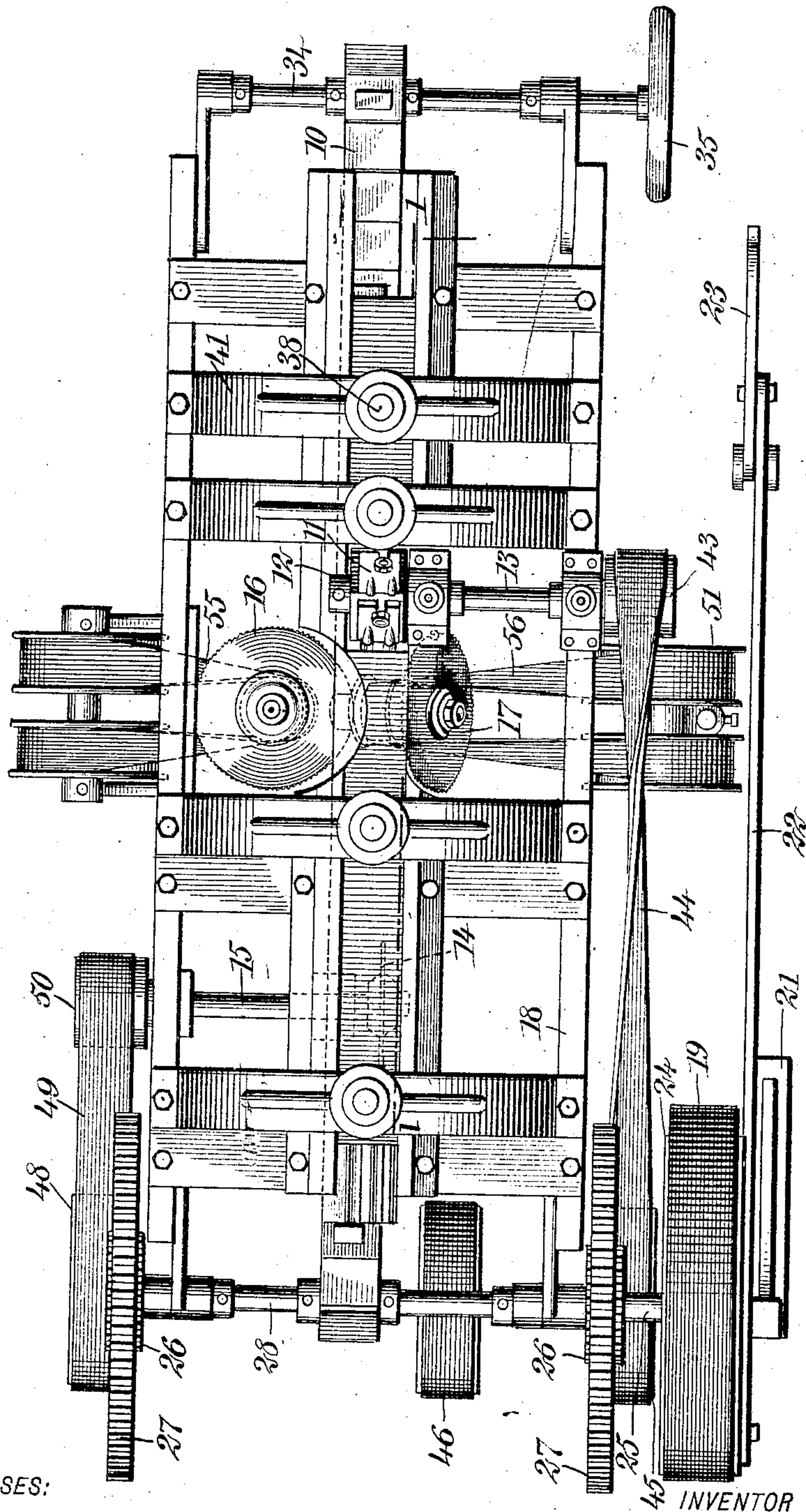
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4 SHEETS—SHEET 2

Fig. 2.



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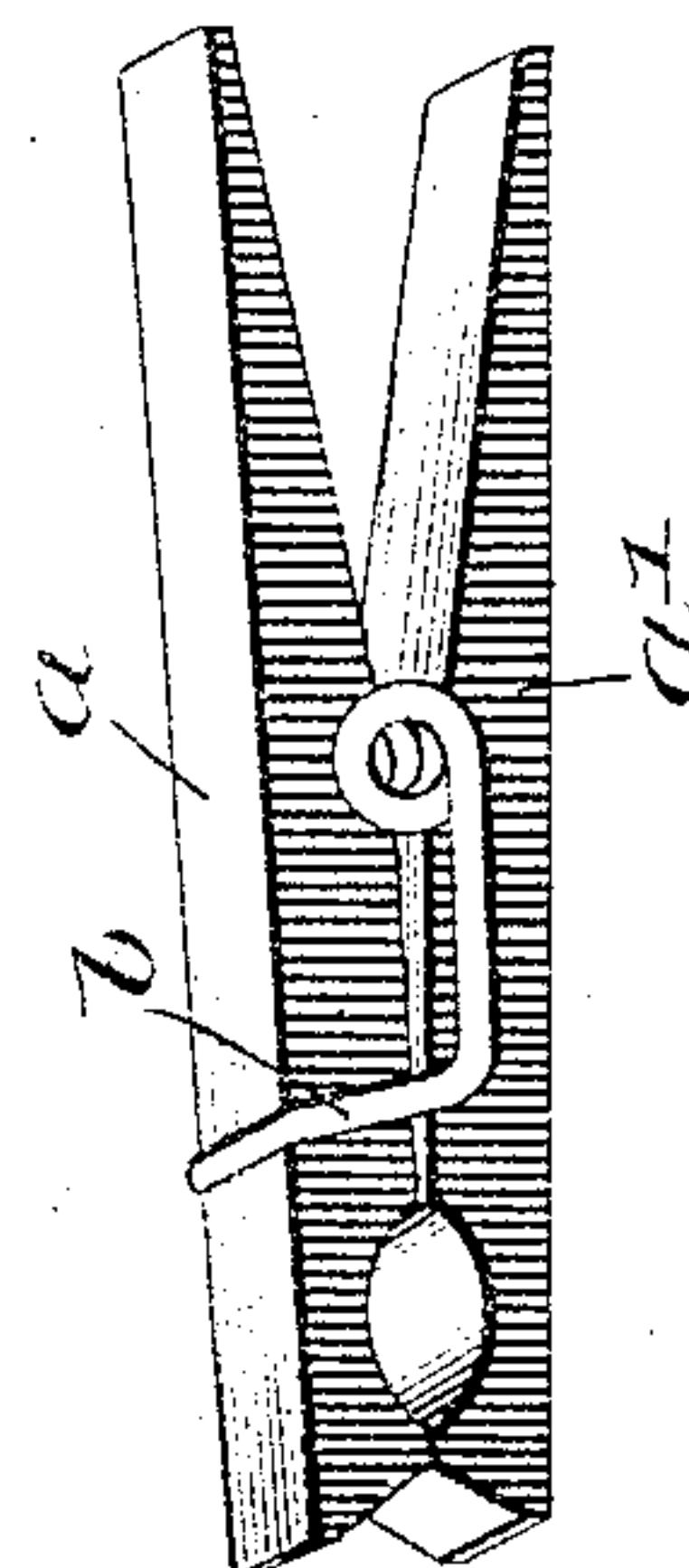
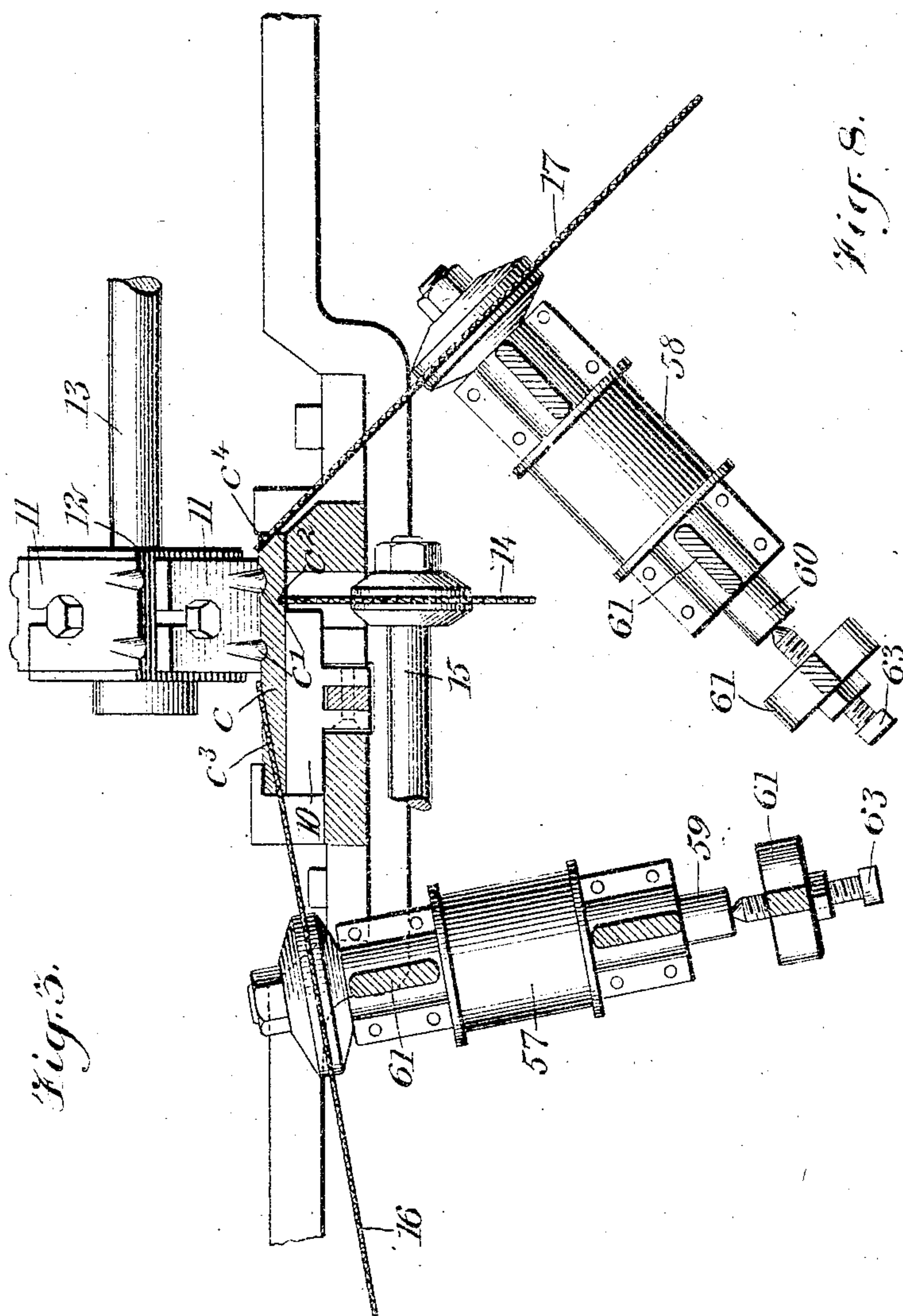
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4 SHEETS—SHEET 3.



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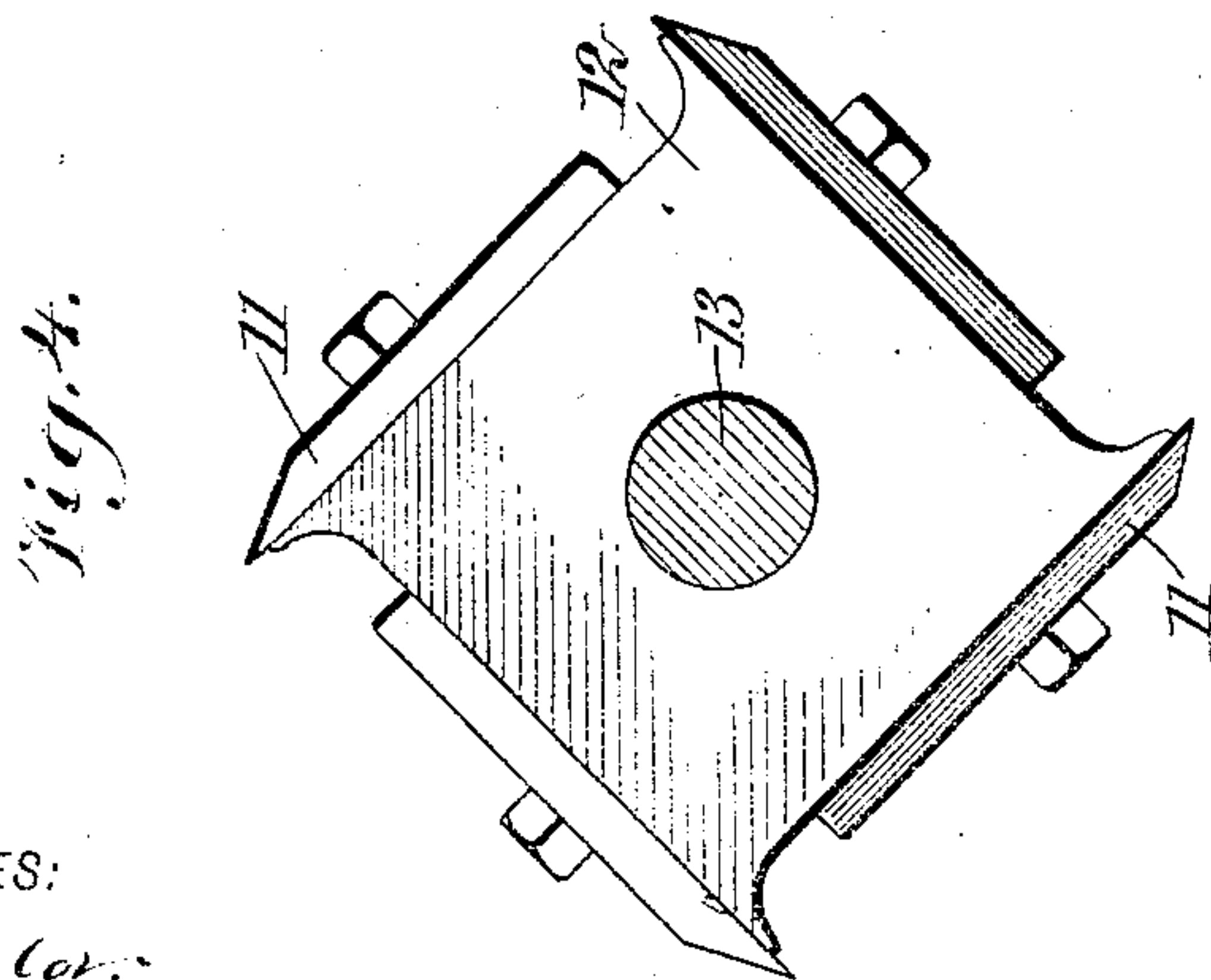
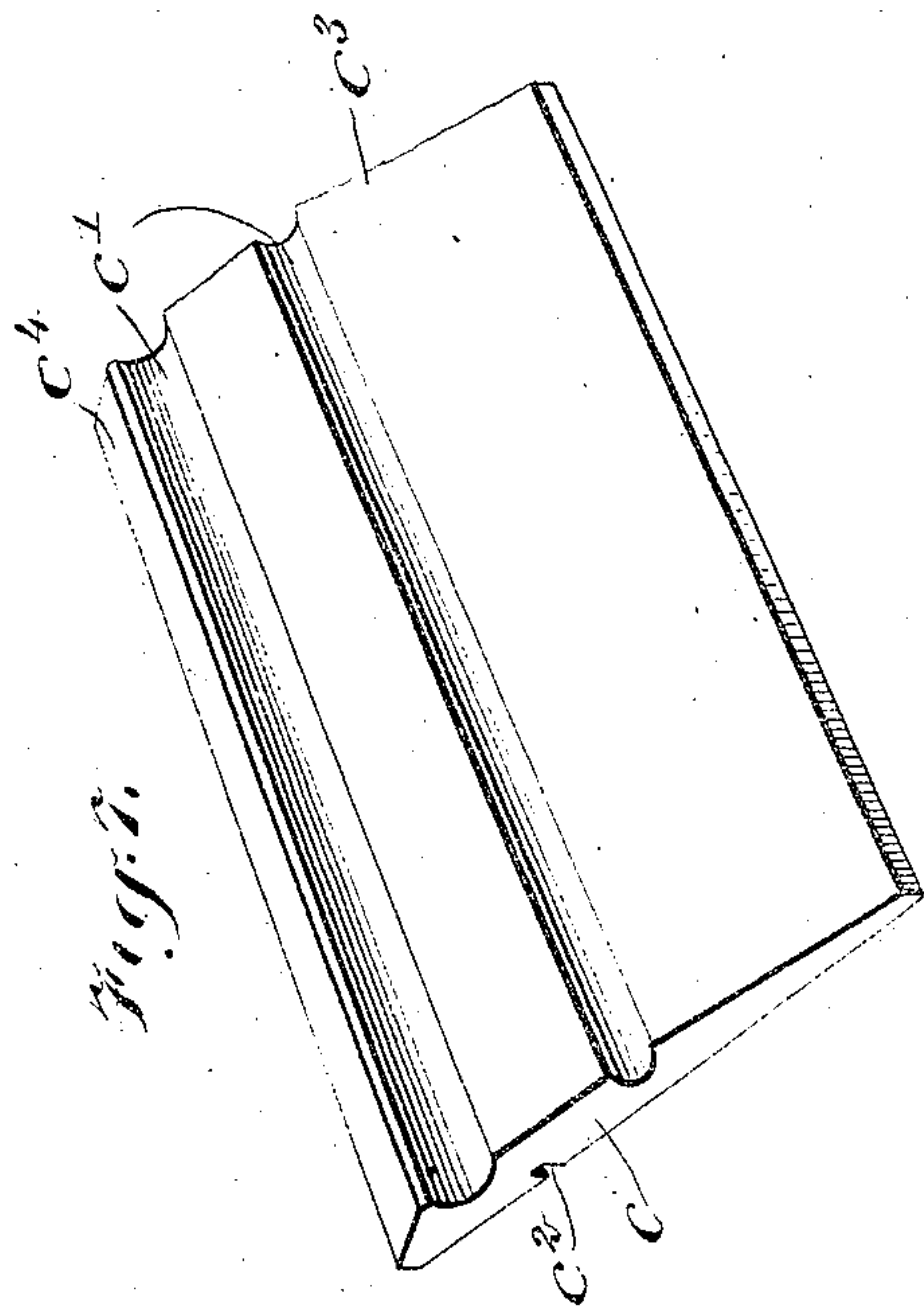
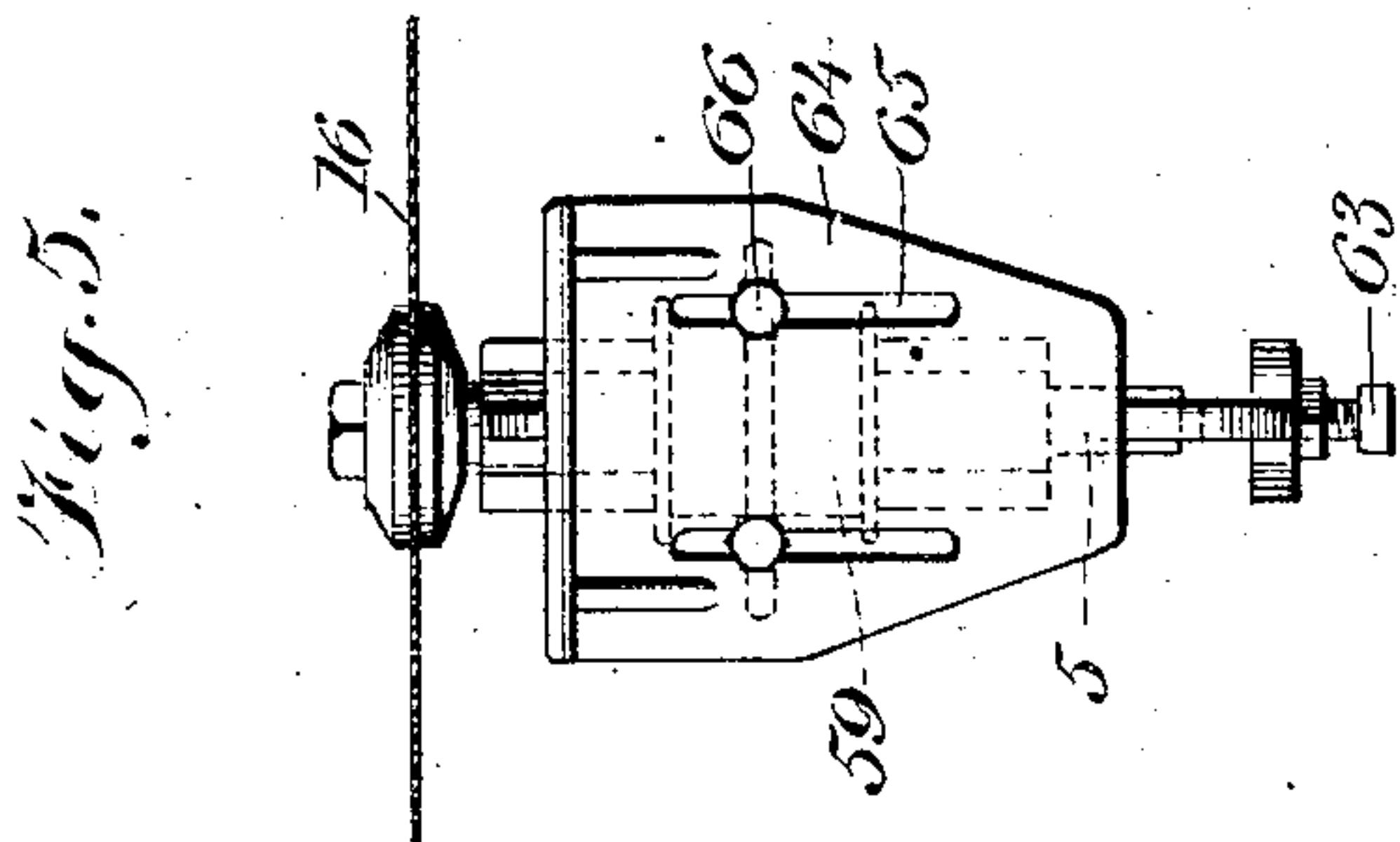
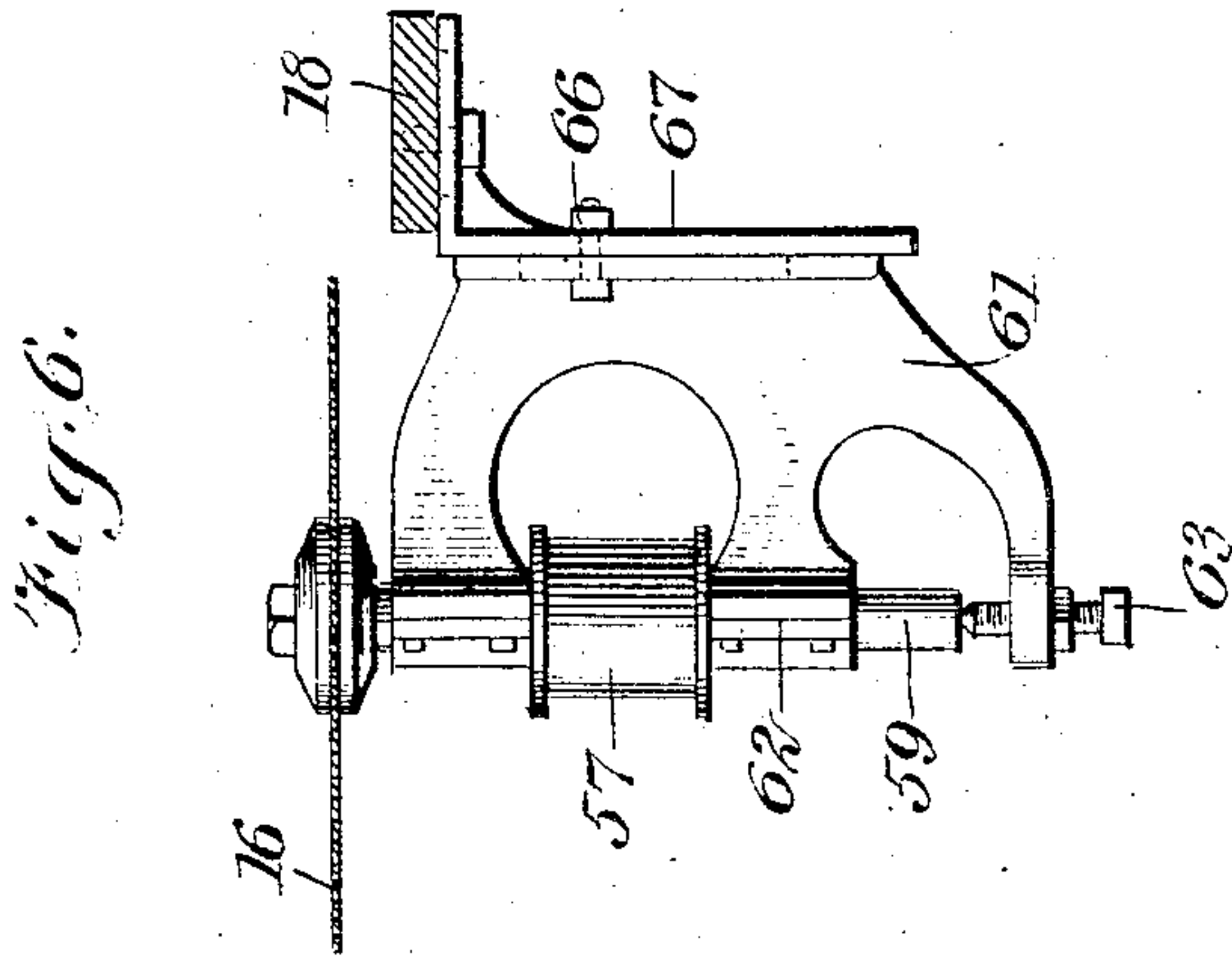
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

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WOODWORKING-MACHINE.

No. 835,347.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed August 29, 1905. Serial No. 276,205.

To all whom it may concern:

Be it known, that I, ELWIN S. BERRY, a citizen of the United States, and a resident of Putnamville, in the county of Washington and State of Vermont, have invented a new and Improved Woodworking-Machine, of which the following is a full, clear, and exact description.

My invention relates to a machine for operating upon wood and similar materials, and while capable of general use is especially adapted to making blanks from which clothes-pins are to be manufactured. It will therefore be described with particular reference to this manufacture.

The principal objects of the invention are to provide means for feeding and holding the blanks for grooving opposite surfaces thereof and for beveling the edges.

Further objects of the invention are to provide for certain adjustments and variations in the shape of the blank.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a machine, showing the principle of my invention, partly in section, on the line 1 1 of Fig. 2. Fig. 2 is a plan of the same. Fig. 3 is a sectional view, on an enlarged scale, on the line 3 3 of Fig. 1. Fig. 4 is an end view of a cutter-head. Fig. 5 is an end elevation of an adjustable saw-frame constituting part of the invention. Fig. 6 is a side elevation of the same. Fig. 7 is a perspective view of the blank formed by the machine when set up in the manner illustrated, and Fig. 8 is a perspective view of the clothes-pin which can be made from the blank.

Referring first to Fig. 8, it will be seen that the clothes-pin is composed of two halves $a a'$, connected together by a spring b , which passes across the top of one of the halves. These halves of the pin are formed from the blank c (shown in Fig. 7) by splitting it transversely. In order to provide for the configuration of the clothes-pin, this blank is in the present instance formed with two grooves c' on its upper surface and with a groove c'' on its lower surface, this latter groove being designed to provide for the reception of the wire b . The blank is also beveled upon inclines c^3 and c^4 on its opposite

edges, one to form the "line" end of the clothes-pin and the other the tail end. In manufacturing this blank a block is first cut of the width, thickness, and length required and is then put into the machine.

Referring to Fig. 3, the operation of the machine for producing the blank c will be described. The blank is fed longitudinally in the machine by means of a traveling bed 10. In the course of its passage through the machine it is operated upon by cutters 11 on a cutter-head 12, which in turn is mounted on a shaft 13. These cutters are provided with the necessary configuration at their edges to form the grooves c' . On the under side of the blank is located a saw 14 for cutting the groove c'' . This saw is mounted on a shaft 15. Upon the opposite sides of the path through which the blank passes are two saws 16 and 17, mounted on an incline for the purpose of cutting the inclined faces c^3 and c^4 .

With this general explanation of the operation of producing the blank shown in Fig. 7 in view I will now proceed to describe the means which I have illustrated for accomplishing the desired results.

The main part of the machine is mounted on a frame 18, under which is a shaft (not shown) from which a belt 19 is operated. This belt passes over an idler-pulley 20, mounted on a sliding block 21. This block is connected by a link 22 with a lever 23, pivoted to the lower part of the frame or floor. The manipulation of this lever is intended to slide the block 21 back and forth and increase or decrease the pressure of the idler upon the belt 19, and thus effect the operation of the belt upon a pulley 24, which it operates. This pulley is mounted upon a shaft 25, which carries a pinion 26, meshing with a gear 27. This gear is mounted on a shaft 28, which is provided with sprocket-wheels 29 for carrying an endless chain 30, which is composed of a series of plates 31, having projections 32 for engaging the sockets of the sprocket-wheels, and which constitutes a movable bed for supporting the work of the machine. This movable bed passes over a sprocket-wheel 33, similar in all respects to the sprocket-wheels 29, and mounted on a shaft 34.

The shafts 28 and 34 are mounted in bearings upon the frame, and the latter shaft is

provided with a hand-wheel 35, by means of which the movable bed can be operated when the power is not applied. For example, if the work in passing through the machine fails to move in the proper manner on account of the introduction of too large a blank or for any other reason the power can be thrown off and the movable bed moved to the rear by hand. The work is intended to be passed along by the movable bed under a press-plate 36. This press-plate extends throughout the length of the main portion of the machine and is composed of two alined sections spaced apart from each other for a purpose to be hereinafter described and is provided with one or more platens 37 for holding it against the work and holding the work in proper position for receiving the desired operations. Each platen is provided with a plunger 38, a spring 39, and an adjustable collar 40. The plunger is mounted to reciprocate in a frame 41, secured to the frame 18.

The parts of the machine so far described provide for feeding the work along in the machine and holding it in the proper position, also for feeding the work by hand to remove it from the machine when desired. The sections of the press-plate are spaced apart, as at 42, to provide a space for the cutter-head 12, which has been described above. The shaft 13, upon which this cutter-head is mounted, is provided with a pulley 43, driven by a belt 44 from a pulley 45, which receives power through a belt 46 from the shaft above mentioned as being below the floor. The pulley 45 is mounted on a shaft 47, which is also provided with a pulley 48, that drives, through a belt 49, a pulley 50 on the shaft 15. The shaft 47 therefore operates the cutter-head and the saw 14.

In order to provide for operating the saws 16 and 17, two pairs of mule-pulleys 51 are operated from a counter-shaft located under the center of the machine and in alinement with the saws. These pulleys are mounted on brackets 52, which slide up and down on standards 53 and are secured in adjusted position thereon by means of screws 54. These pulleys are provided with belts 55 and 56, respectively, designed to operate the saws

through the instrumentality of pulleys 57 and 58, which are mounted on the shafts 59 and 60, on which the saws are mounted. The object in making the mule-pulleys adjustable is to provide for adjusting the angle at which the saws cut the blank. In order to do this, the shafts upon which the saws are mounted are canted, and it will be readily seen that the mule-pulleys must be raised and lowered, so as to properly drive the belts passing to the pulleys 57 and 58.

The way in which the canting is provided for is shown in Figs. 5 and 6. In these figures one of the saws—as, for example, the saw 16,—which is mounted on the shaft 59—is located on a bracket 61. This bracket has bearings 62 for the shaft, and the shaft is adapted to slide longitudinally to a slight extent in said bearings. A screw 63 is provided for making a longitudinal adjustment. The bracket 61 is provided with a face-plate 64, having longitudinal slots 65. Through these slots pass bolts 66 into a stationary bracket 67 on the frame 18 of the machine. By loosening the bolts 66 the bracket 61 can be tilted in either direction or raised or lowered so as to provide for changing the thickness of the blank and the angle of the cut. The other saw is mounted in the same way and is provided with the same kind of adjustments.

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

A woodworking-machine comprising a traveling bed for carrying the work, a pressure-plate comprising alined sections spaced apart to form an opening, a cutter-head projecting through said opening, inclined saws upon each side of the traveling bed and in advance of the cutter for acting upon the sides of the work, a vertical saw arranged beneath the bed and in advance of the inclined saws, and means for operating said parts in unison.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ELWIN S. BERRY.

Witnesses:

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T. E. DOTY.