

No. 700,203.

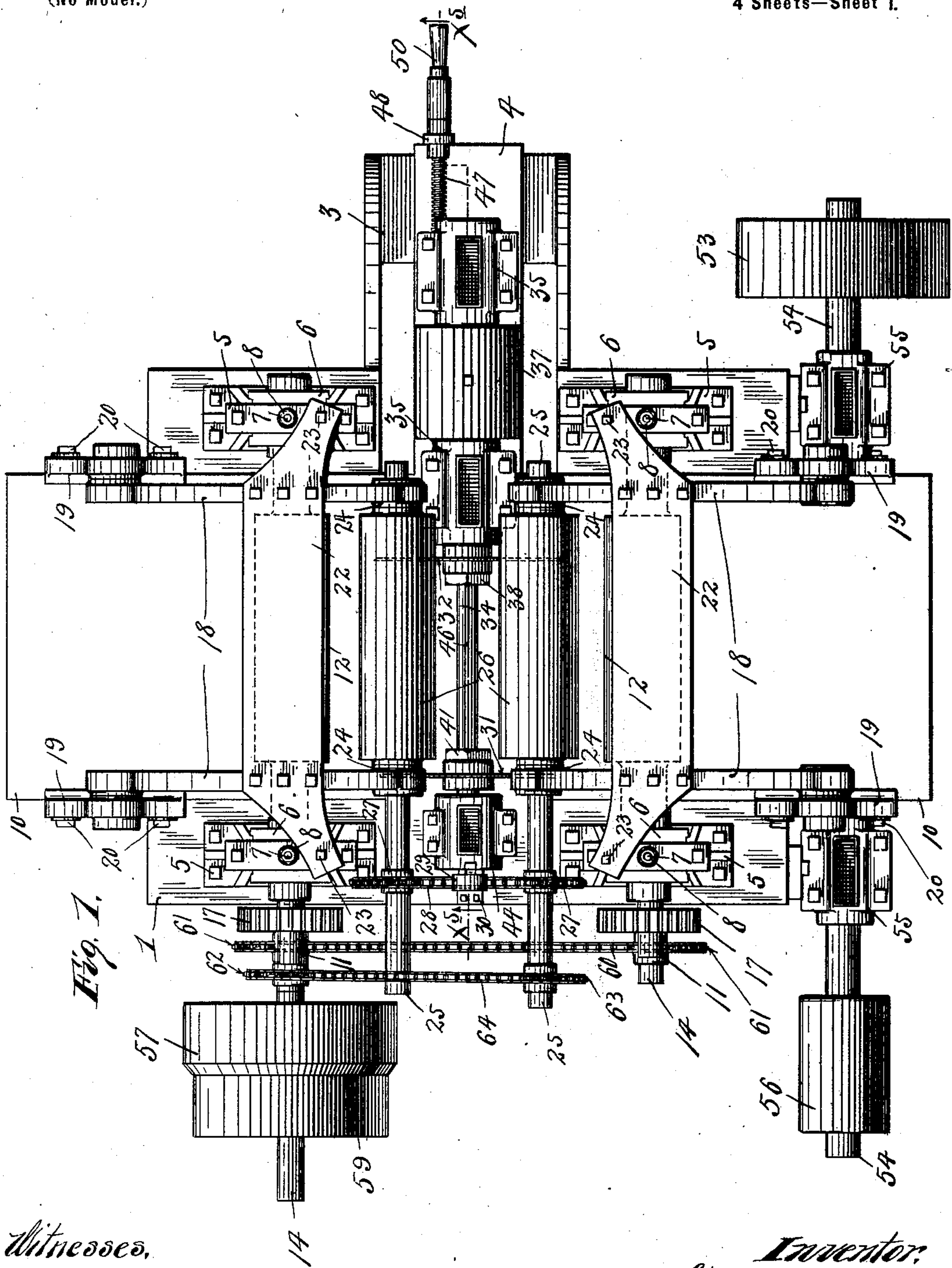
Patented May 20, 1902.

C. JOHNSON.
GANG EDGER.

(Application filed Nov. 5, 1901.)

(No Model.)

4 Sheets—Sheet 1.



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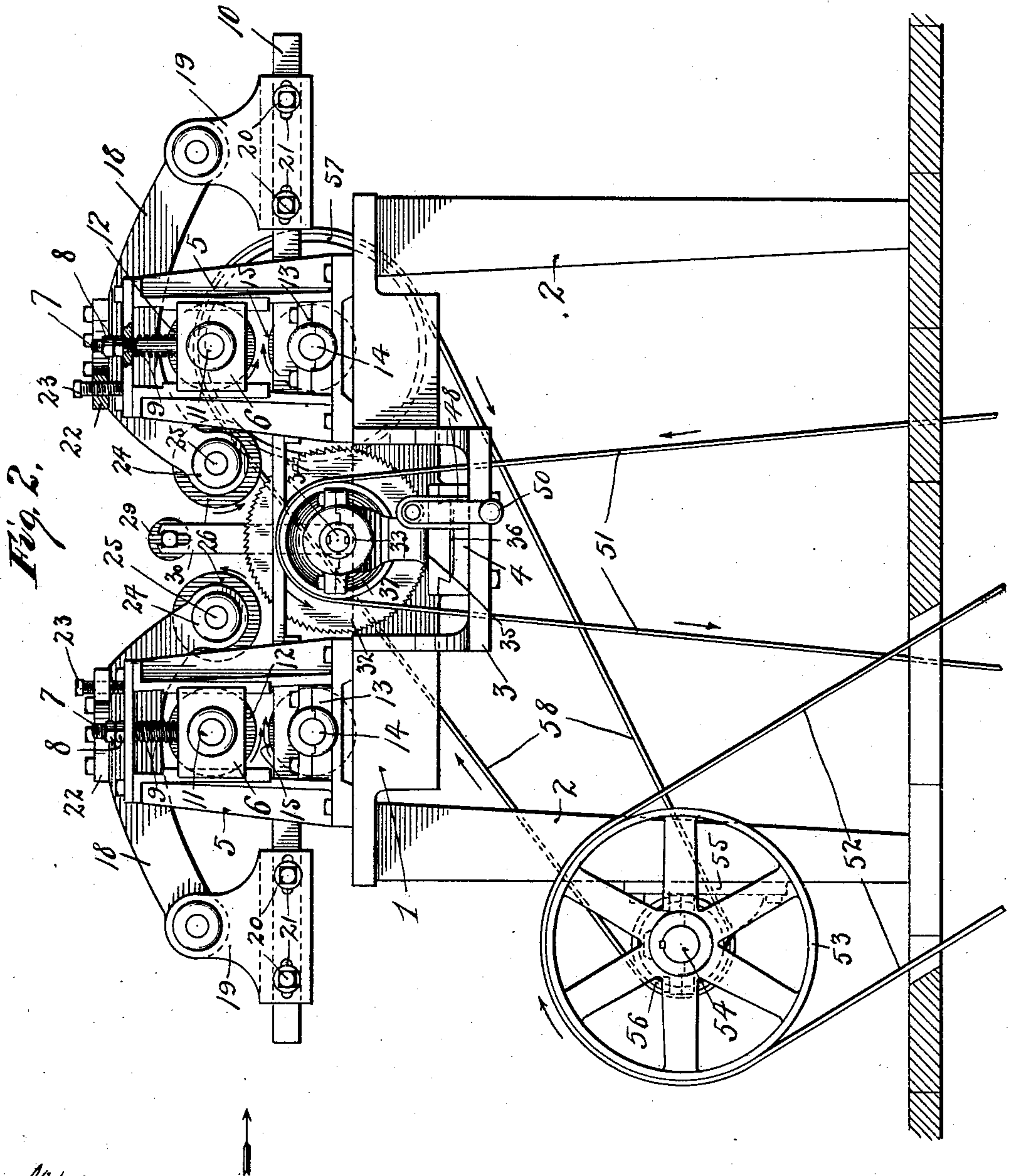
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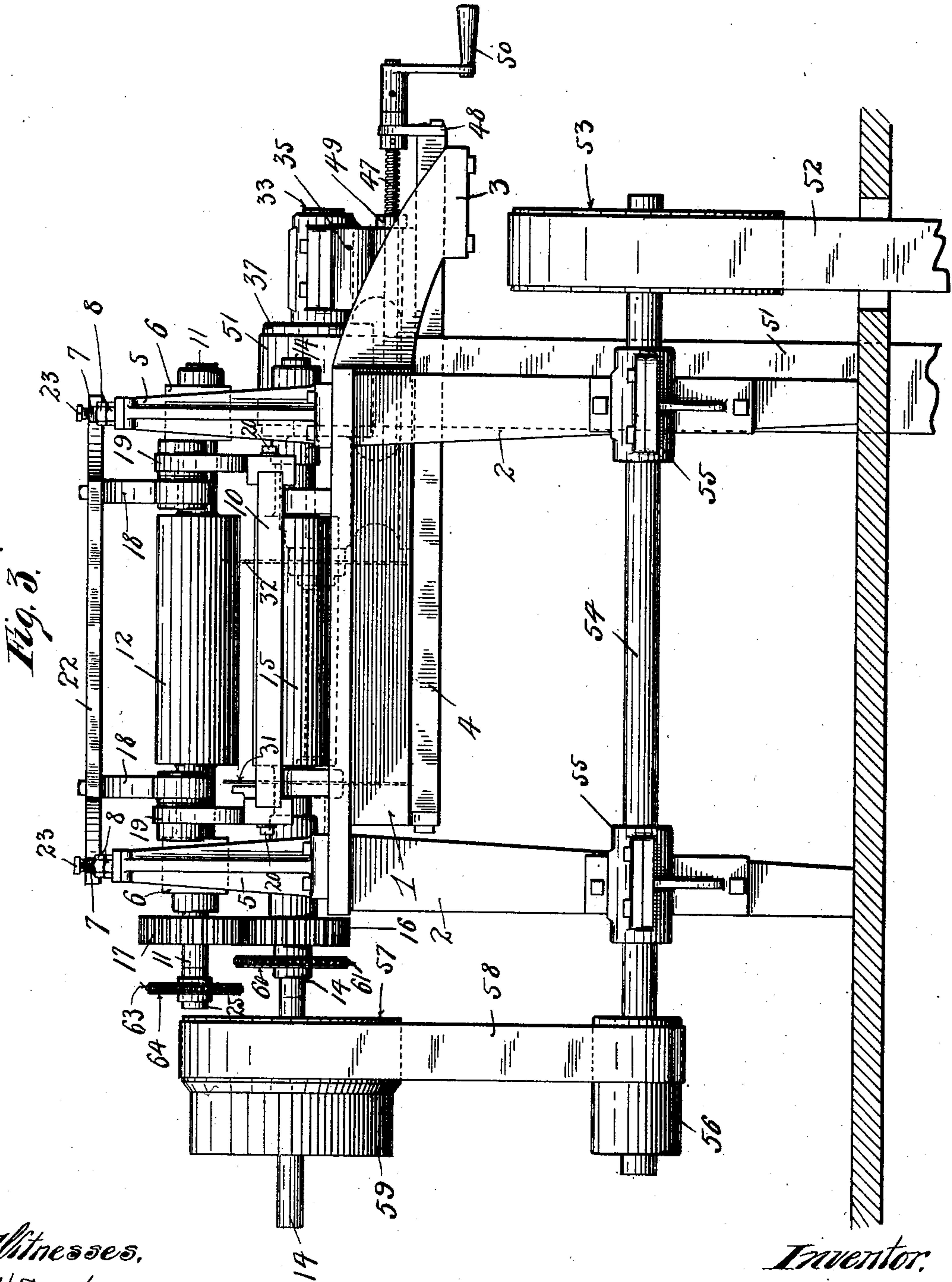
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4 Sheets—Sheet 3.



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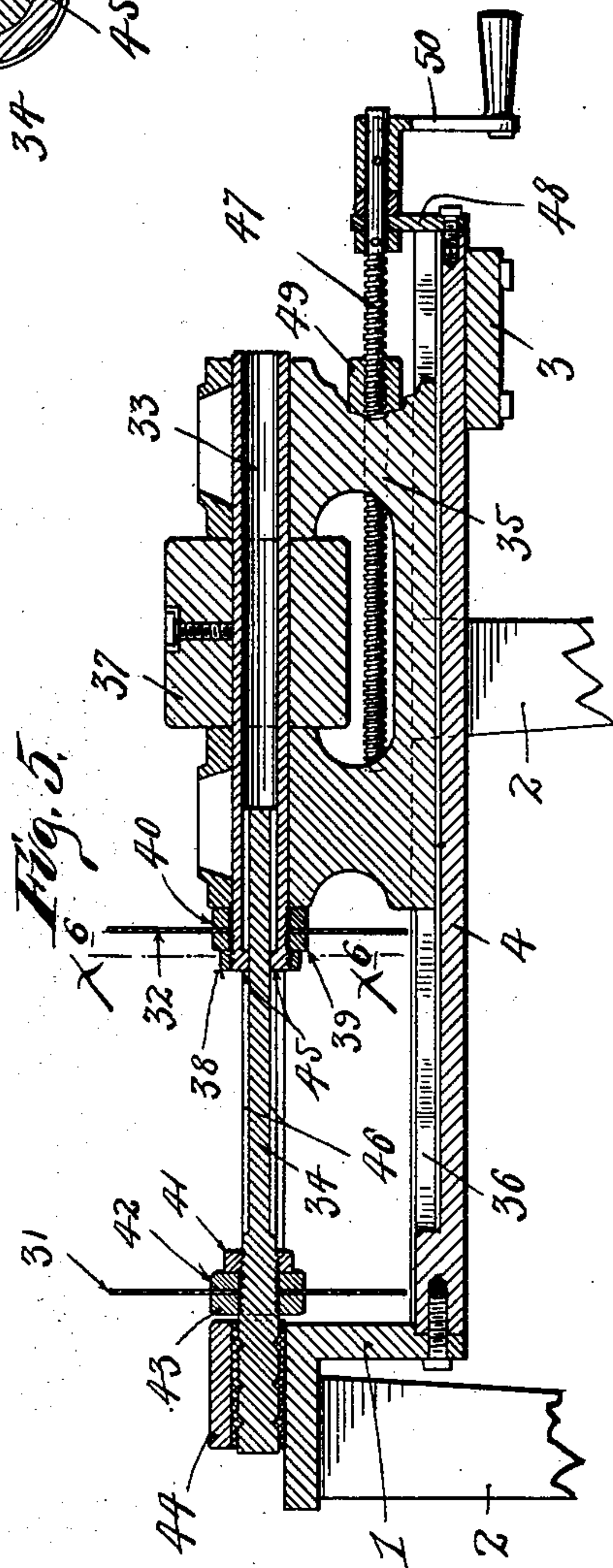
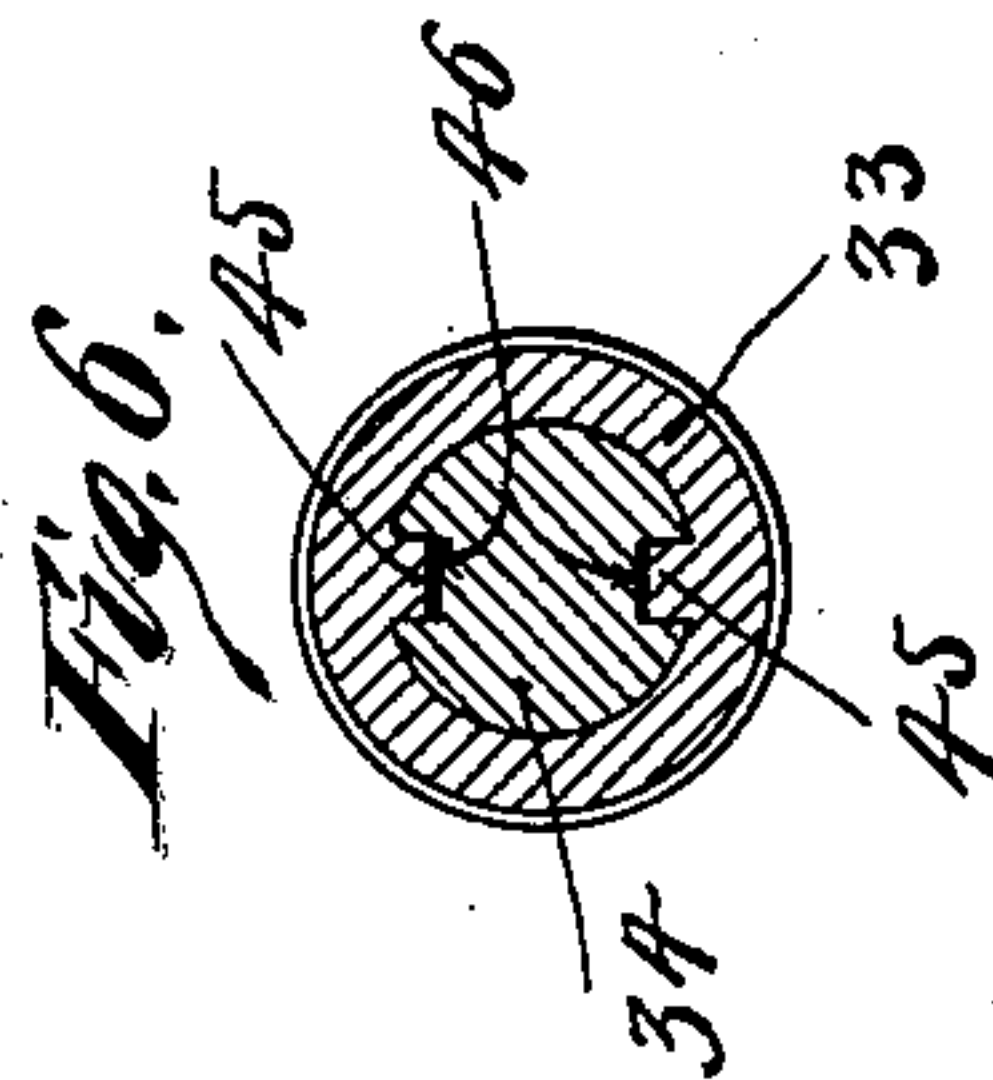
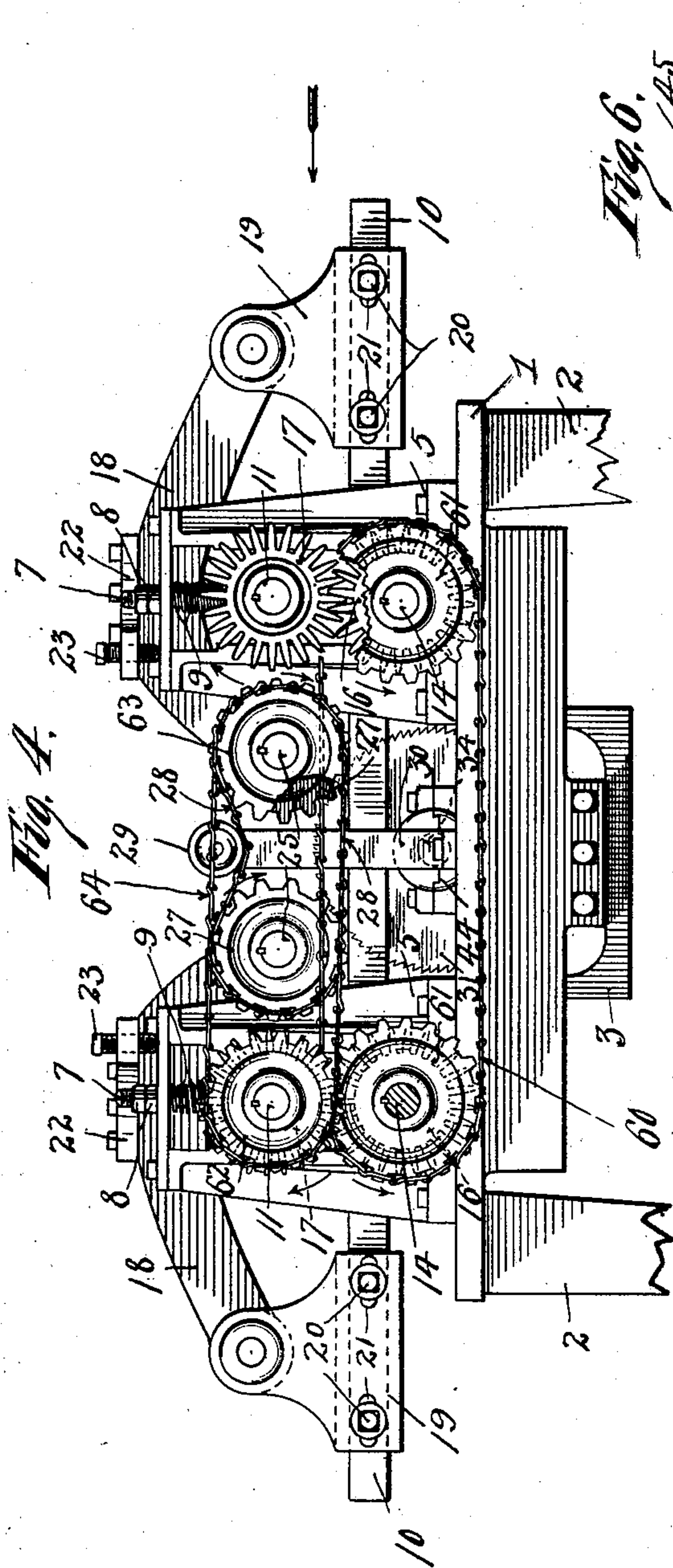
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4 Sheets—Sheet 4.



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UNITED STATES PATENT OFFICE.

CHARLES JOHNSON, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF TO ARTHUR R. ROGERS, OF MINNEAPOLIS, MINNESOTA.

GANG-EDGER.

SPECIFICATION forming part of Letters Patent No. 700,203, dated May 20, 1902.

Application filed November 5, 1901. Serial No. 81,174. (No model.)

To all whom it may concern:

Be it known that I, CHARLES JOHNSON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Gang-Edgers; 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 present invention relates to gang-edgers, and has for its object to improve the same in the several particulars hereinafter noted.

The invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The principal objects of my invention are to provide, first, means whereby one of the saws may be adjusted laterally with respect to the other, and, second, to provide bed-rollers and floating overhead or presser rollers, the latter of which as well as the former may be positively driven, while free for vertical movements.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a plan view of a gang-edger embodying the several features of my invention. Fig. 2 is what may be termed a front elevation of the machine. Fig. 3 is an end elevation of the same looking from the left toward the right with respect to Fig. 2. Fig. 4 is a rear elevation of the machine, some parts being broken away. Fig. 5 is a vertical section approximately on the line $x^5 x^5$ of Fig. 1. Fig. 6 is a detail in transverse vertical section on the line $x^6 x^6$ of Fig. 5.

The bed-plate 1 of the machine is shown as supported by legs 2. At its forward central portion the bed 1 is provided with a projecting yoke-like bracket 3, to which is rigidly secured one end of a guide-bar 4, the rear end of which bar is secured to the depending portion of said bed 1. On the bed 1 are rigidly secured two pairs of vertically-extended guide yokes or brackets 5, in which bearing-blocks 6 are mounted for vertical adjustments. Said blocks 6 are provided with screw-threaded

stems 7, which work freely through the top bars of said yokes 5. Above said bars the said stems 7 are provided with stop-nuts 8, and below said bars they are provided with springs 9, which assist gravity in yieldingly holding said bearing-blocks 6 pressed downward. A face-plate 10 is suitably supported from the bed 1.

In each pair of bearing-blocks 6 is mounted the shaft 11 of a heavy presser-roller 12. Mounted in suitable bearings 13, just below each roller 12, is the shaft 14 of a similar roller 15. The shafts 14 are provided at their rear ends with spur-gears 16, which mesh with similar gears 17 on their roller-shafts 11. Said gears 16 and 17 have very long teeth, which adapt them to stay in mesh when the rollers 12 are raised or lowered to a considerable extent, as will be necessary in their feeding action on lumber of different thicknesses.

Heavy roller-supporting arms or levers 18 are pivoted at their outer ends to brackets 19, which, as shown, are adjustably secured to the projecting ends of the face-plate 10 by the bolts 20, that work through slots 21 in said brackets and are screwed into said face-plate. The intermediate portions of the transversely-opposite levers 18 are rigidly connected in pairs by tie-bars 22, which are provided at their projecting ends with set-screws 23, and which screws engage the tops of the brackets 19 and serve as stops to limit the downward movements of said levers. At their inner free ends the levers 18 are formed with a bearing 24. In the bearings 24 of each pair of levers 18 is mounted the shaft 25 of a heavy floating presser-roller 26. The shafts 25 on their rearwardly-projecting ends are provided with sprocket-wheels 27, over which a sprocket-chain 28 is mounted to run.

29 indicates a chain-tightening wheel for the chain 28, which is supported by a post 30, that rises from the bed 1.

The saws 31 and 32 are carried by a telescopically-adjustable spindle 33 34. The exterior spindle-section 33 is loosely journaled in longitudinally-spaced bearings of a sliding head 35, the base of which is dovetailed and slides in a dovetailed groove or runway 36 of the previously-noted guide-bar 4. A pulley 37, rigidly secured on the spindle-section

tion 33, holds the said spindle-section against endwise movement with respect to the adjustable head 35. The saw 32 is, as shown, detachably held in position on the inner end of the sleeve-section 33 by a nut 38, which presses against a washer 39 and forces the saw against a collar 40, fixed on the spindle-section 33. In a similar manner the saw 31 is detachably secured on the spindle-section 34 by a nut 41, which presses the washer 42 against said saw and in turn presses said saw against a fixed collar 43 on the said spindle-section 34. Said spindle-section 34 has annular grooves at its outer end, which are adapted to be engaged by a bushing of Babbitt or other device to hold said spindle against endwise movement, but free for rotation, within a bearing 44, secured on the bed 1. The outer and adjustable spindle-section 33 telescopes over the section 34 and is provided with key-lugs 45, which work in longitudinal grooves 46, cut in the spindle-section 34. In this manner the two spindle-sections are caused to rotate together.

The bearing-head 35 is adapted to be adjusted by a screw-rod 47, which is free to rotate, but fixed against endwise movement, in a bearing-plate 48, secured at the end of the supporting-bracket 3 of the bed 1. This rod 47 works through a nut 49 on the bearing-head 35, and at its outer end it is provided with a hand-crank 50, by means of which it may be turned.

The saw-spindle is given its motion from a belt 51, which runs over the pulley 37 and is driven from a suitable source. (Not shown.) A wide-faced pulley would usually be employed to drive the belt 51 and permit of such lateral movements thereof as are necessary under the adjustments of the bearing-head 35.

Motion is imparted to the feed-rollers from a power-driven belt 52, which runs over a pulley 53 on a counter-shaft 54, mounted in suitable bearings 55 on the left-hand legs 2. This shaft 54 is provided with a wide-faced pulley 56, over which and a pulley 57, secured on the shaft 14 of one of the lower feed-rollers 15, runs a belt 58.

59 indicates a loose or idle pulley mounted on the said roller-shaft 14 by the side of the pulley 57, and onto which the belt 58 is adapted to be thrown when it is desired to throw the rollers out of action.

The two lower feed-rollers 15 are caused to rotate in the same direction by sprocket-chain 60, which runs over sprocket-wheels 61, secured on the shaft 15. The shaft 11 of one of the rollers 12 is provided with a sprocket 62, over which and a sprocket 63 on the shaft 25 of one of the floating rollers 26 runs a sprocket-chain 64. By the connections just described positive motion is im-

parted to all of the feed-rollers and the adjustments of the adjustable members are not interfered with.

By means of the set-screws 23 and the nuts 22, respectively, the overhead rollers 26 and 12 may be adjusted for proper action on the particular boards which are being fed to the saws.

As has already been made clear, the adjustable saw 32 may be moved to and from the saw 31 at will and while the machine is in action, so as to adapt the saws to vary the width of the boards which are to be sawed. The means for accomplishing this result is simple and efficient.

The above statements are based upon the use of a full-sized working machine.

It will of course be understood that while I have used specific terms and have described the machine in detail that the same is capable of many modifications within the scope of my invention.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with means for feeding the boards, of a spindle formed by two shaft-sections which telescope one into the other and are connected for common rotation, independent bearings for said two shaft-sections, a saw carried by each shaft-section, and means for adjusting one of said shaft-sections with respect to the other to variably space the saws.

2. In a gang-edger, the combination with means for feeding the boards, of a telescopically-adjustable rotary spindle, one section of which is fixed against endwise movement, a saw carried by each spindle-section, and an adjustable bearing-head in which said adjustable spindle-section is mounted, means for adjusting the bearing-head, and means for driving said spindle, substantially as described.

3. In a gang-edger, the combination with means for feeding the boards, of a telescopically-adjustable rotary spindle, the sections of which have sliding spline-and-feather engagement and one section of which is fixed against adjustment, a saw carried by each spindle-section, a pulley on the adjustable spindle-section, an adjustable bearing-head in which said adjustable spindle-section is mounted, and a screw for adjusting the said head, substantially as described.

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

CHARLES JOHNSON.

Witnesses:

ELIZABETH KELIHER,
F. D. MERCHANT.