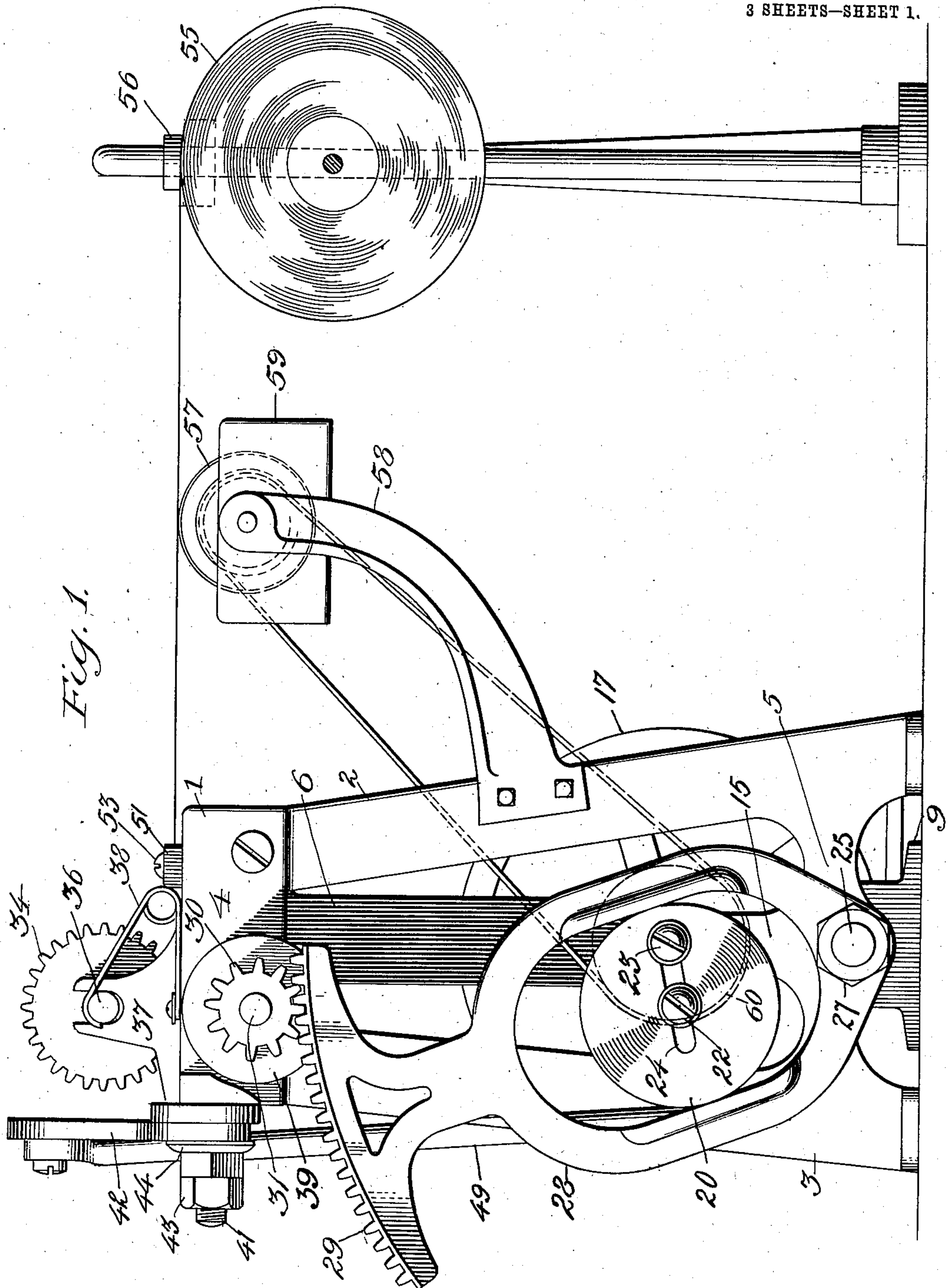


No. 841,834.

PATENTED JAN. 22, 1907.

O. A. WEBBER.
STRIP SEVERING MACHINE.
APPLICATION FILED MAR. 21, 1906.

3 SHEETS—SHEET 1.



Witnesses

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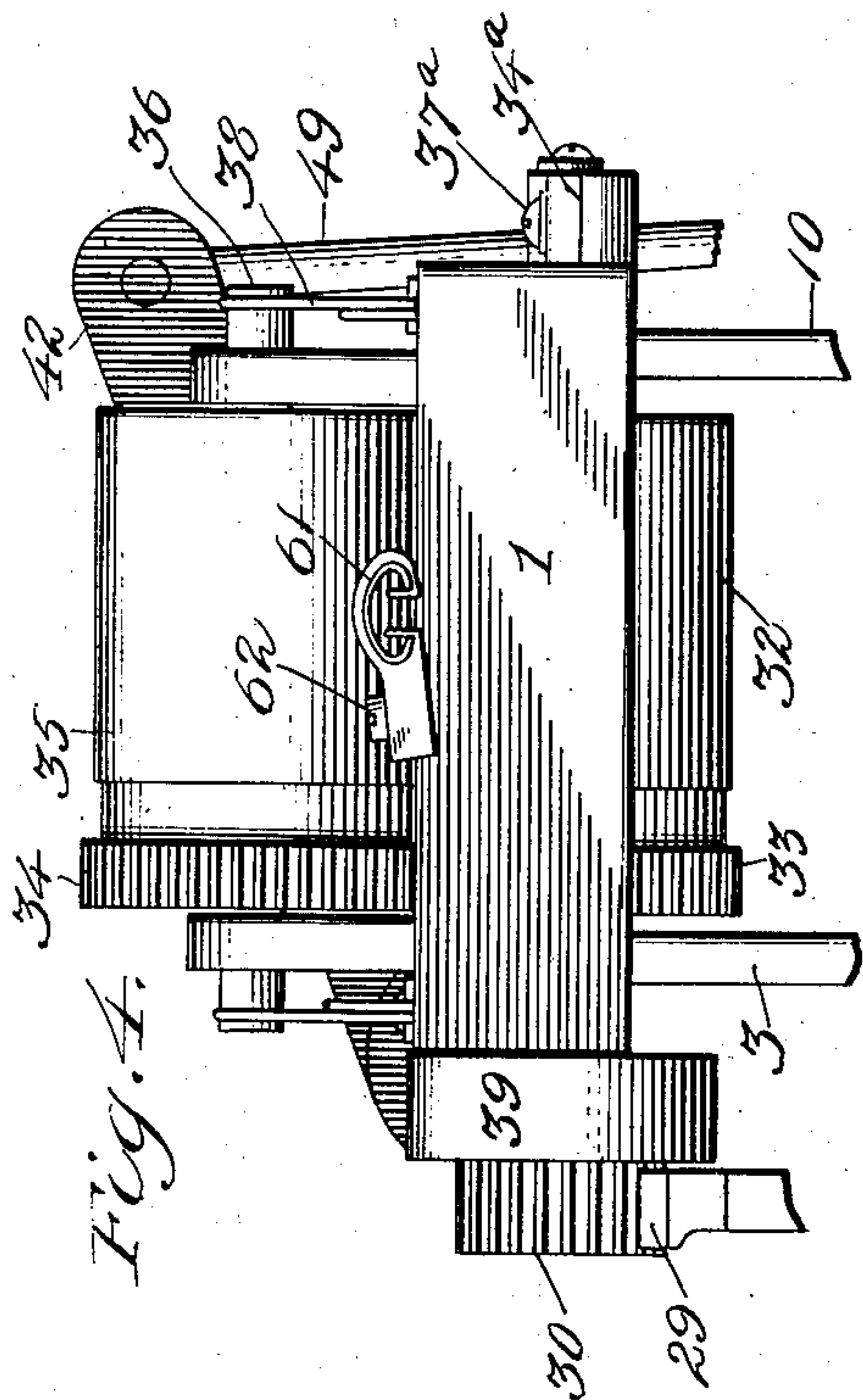


Fig. 4.

Fig. 5.

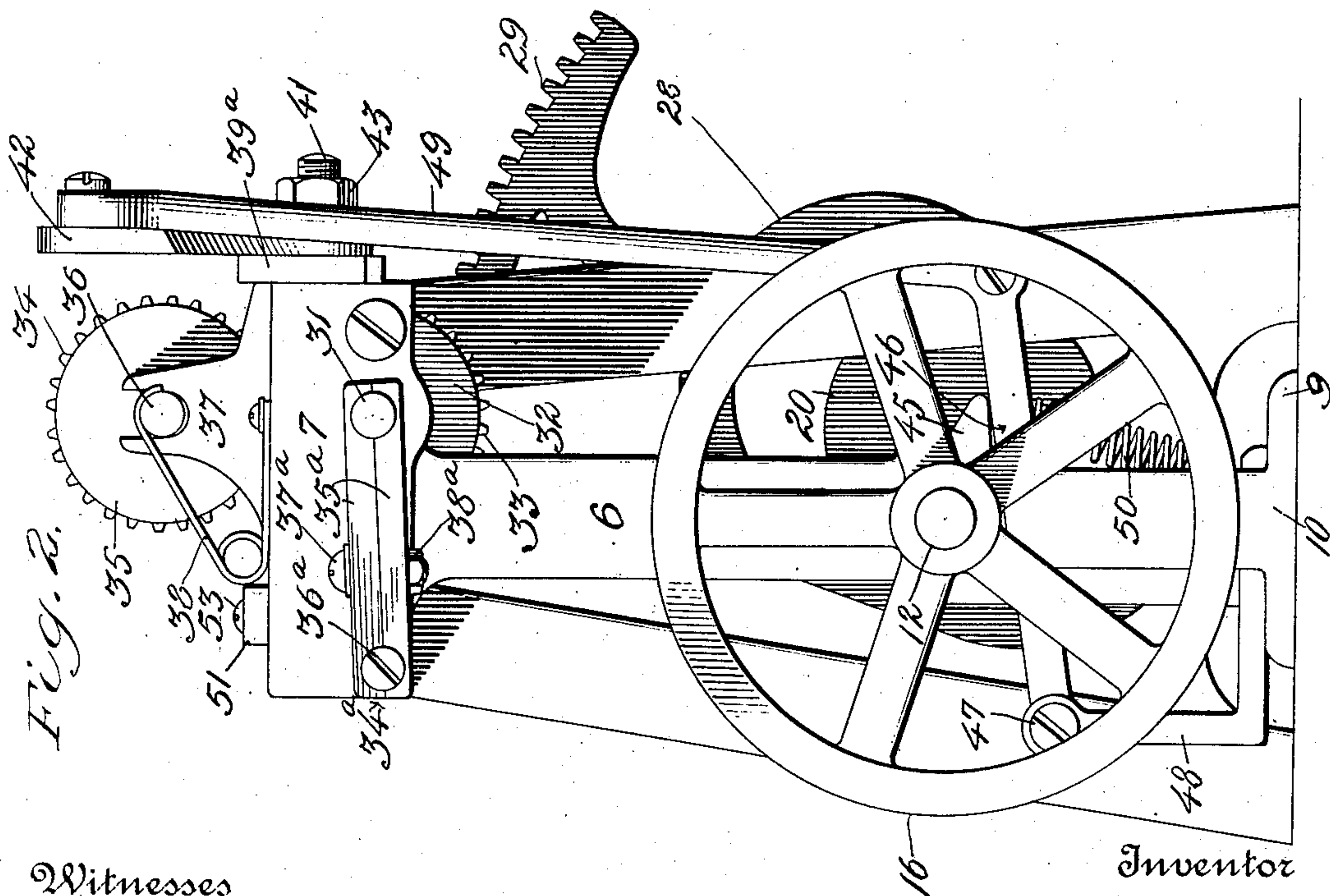
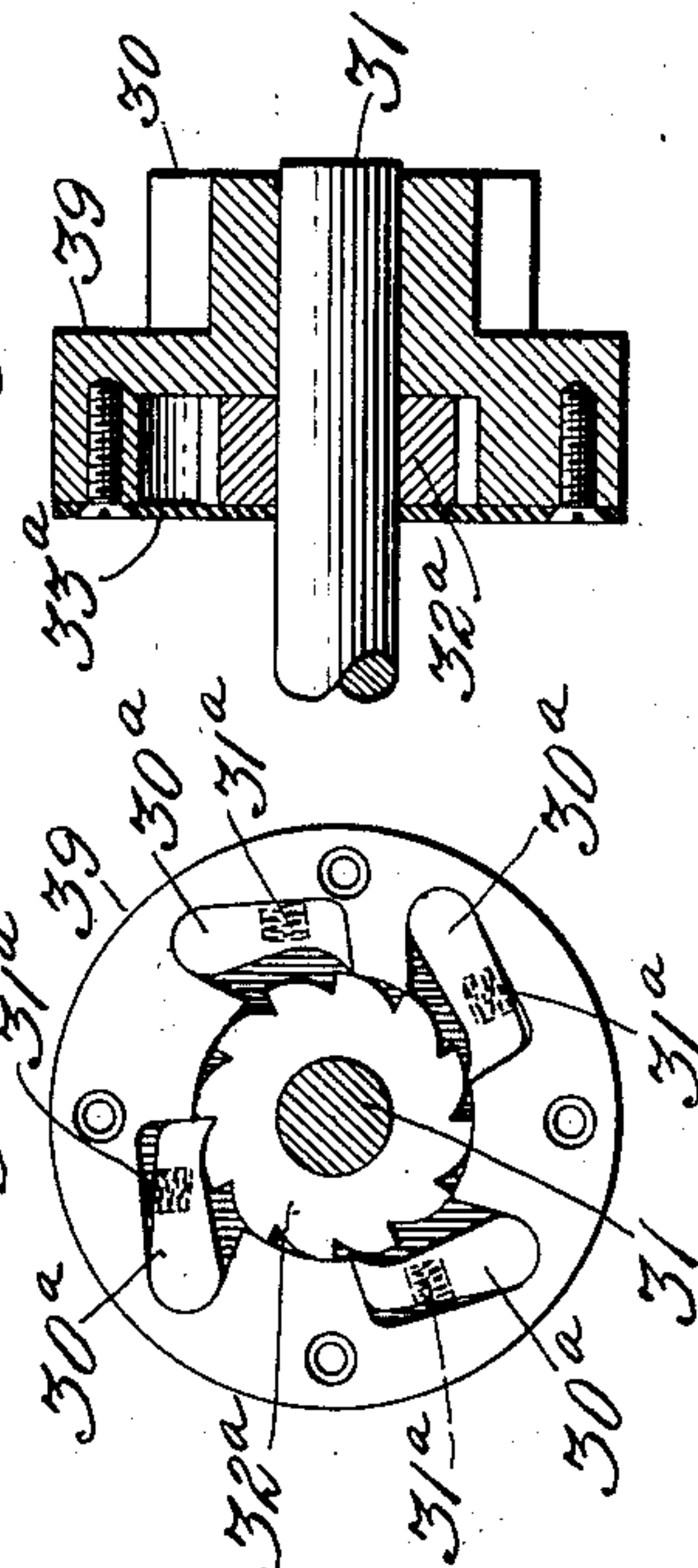


Fig. 6.

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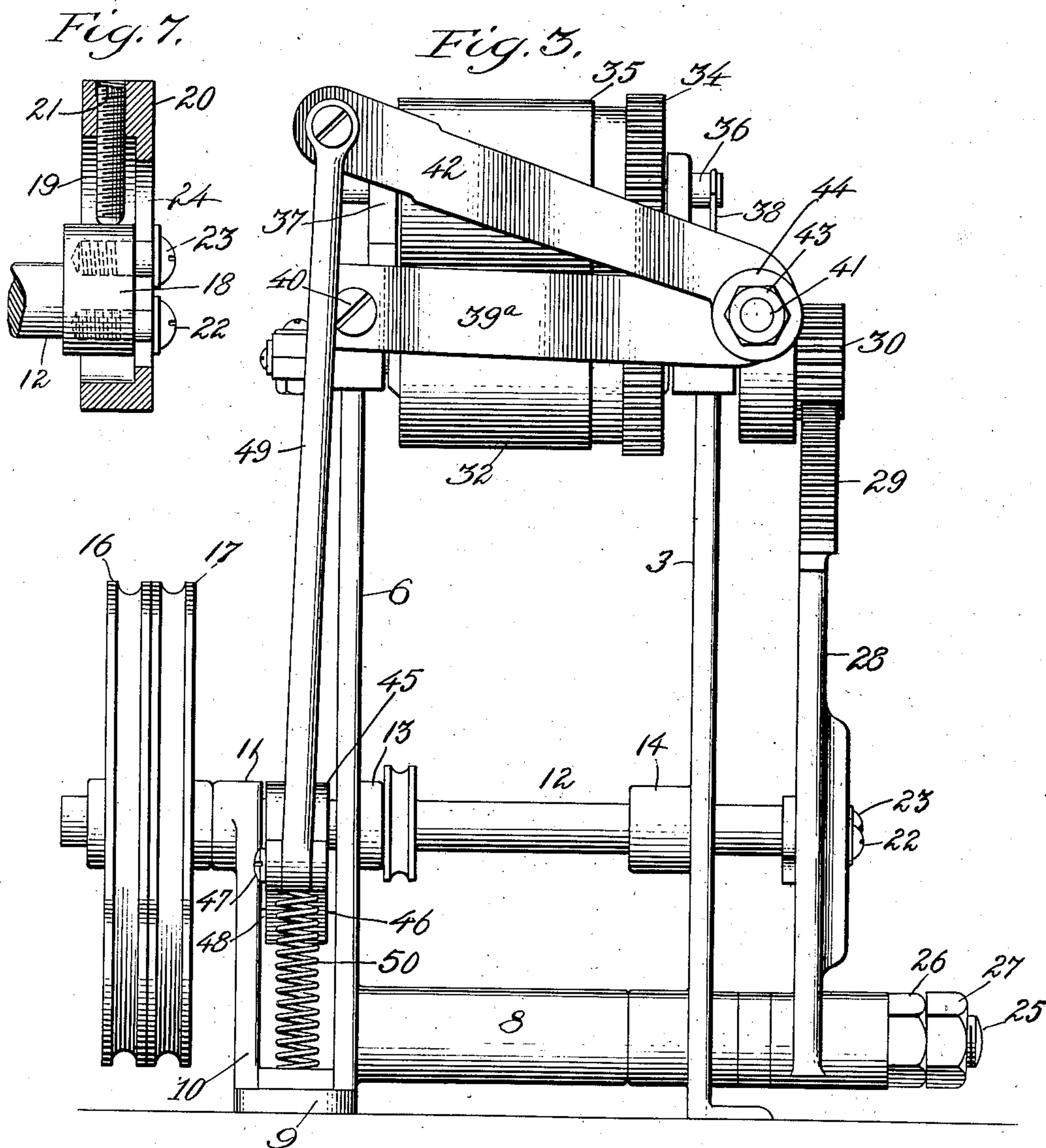
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

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STRIP-SEVERING MACHINE.

No. 841,834.

Specification of Letters Patent.

Patented Jan. 22, 1907.

Application filed March 21, 1906. Serial No. 307,290.

To all whom it may concern:

Be it known that I, OAKMAN A. WEBBER, a citizen of the United States, residing at Manchester, in the county of Hillsboro and State of New Hampshire, have invented certain new and useful Improvements in Strip-Severing Machines; 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.

This invention relates to an improved machine for cutting or severing into predetermined length tape, ribbon, and the like, a feature of the machine being a means whereby the parts are readily adjusted to vary the throw and obtain different lengths of the material by the feeding and severing operations, which are accomplished automatically. Another feature of the machine is a means by which the movements of the feeding mechanism and severing mechanism are timed relative to each other.

Another feature of the machine is a tape, ribbon, or the like cementing and folding attachment operating to cement and fold the material previous to the severing operation, pressure to cause the folds to properly adhere being obtained by the rolls employed to feed the folded material to the severing means.

These and other features of the invention are set forth in detail in the following description, in connection with which reference is to be had to the accompanying drawings, illustrating the invention in its preferred form of embodiment, it being understood that various modifications may be made therein without departing from the scope of the concluding claims.

In the drawings, Figure 1 is a side elevation of a machine embodying the invention. Fig. 2 is an elevation of the opposite side of the machine. Fig. 3 is a rear elevation. Fig. 4 is a front elevation of the upper portion of the machine. Figs. 5 and 6 are detail views of the pawl-and-ratchet means for imparting intermittent motion to the feeding means. Fig. 7 is a detail view of the means for adjusting the throw of the parts. Fig. 8 is a detail view of the strip-guide.

Referring to the drawings by numerals, 1 represents the table of the machine supported upon a base-frame consisting of a pair of legs 2 3, cast, preferably, integrally with upper and lower connecting-braces, the upper brace being secured to one side flange 4 of

the table and the lower brace 5 being integral with said legs toward their lower ends and of a leg 6, secured at its upper end to the other side flange 7 of the table and connected toward its lower end with the brace 5 by a cross-brace 8. The legs 2 3 are provided with feet having holes whereby they may be secured to a suitable support, and 9 is the foot of the leg 6, from which is erected a standard 10, terminating in a bearing 11 for a drive-shaft 12, which is also journaled in bearings 13 14, respectively, provided in the leg 6 and on an extension 15 of the brace 5. On one end of the shaft 12 are fixed and loose pulleys or sheaves 16 17, the pulley or sheave 16 having belt connection with a source of power. (Not shown.) On the other end of the shaft 12 is a head 18, entering an elongated recess 19, provided in an adjustable eccentric 20, the adjustment to vary the throw of the latter being obtained by turning a screw 21 in the eccentric against the head 18. Set-screws 22 23, passing through a slot 24 in the eccentric and entering the head, serve to maintain the eccentric in any adjusted position relative to the axis of the shaft.

Extending laterally from the lower brace 5 is a pin 25, on which is pivoted and confined by nuts 26 27 an arm 28, having a slot receiving the eccentric, whereby a rocking movement is imparted to the arm by the rotative movement of the eccentric. Obviously the throw of the arm and extent of movement of the parts operated by the latter is determined by the adjusted position of the eccentric. At the upper end of the arm 28 is a curved rack or sector 29, meshing with a pinion 30, loose on the shaft 31, journaled in bearings in the side flanges of the table. Fixed on the shaft 31 is a lower feed-roll 32, having at one end teeth 33, meshing with teeth 34 at one end of an upper and companion feed-roll 35, said rolls cooperating to feed forward the strip of material, as will presently be more fully explained. The upper feed-roll is fixed on a shaft 36, the ends of which enter slots in bearings 37 37, erected from the table, and 38 38 are springs fastened at one end to the table and bearing at their other end on the shaft ends, whereby to press the upper roll against the lower roll, as will be understood.

The rolls are intermittently rotated in a direction to feed forwardly the strips by pawl-and-ratchet means, the construction of which

will now be described. Fixed to or integral with the pinions 30 is a housing 39, in which are pivoted a plurality of pawls 30^a 30^a—preferably four in number—equipped with springs 5 31^a, acting to press them against the teeth of a ratchet-wheel 32^a, fixed on the shaft 31, the pawls being confined in the housing by a plate 33^a, fastened by screws against the outer face of the housing. The engaging 10 ends or points of the pawls by the locations of the latter tend to minimize lost motion in the feeding movement of the rolls.

By reference to Fig. 5 it will be observed that the points of the pawls are by their relative positions brought successively into engagement with a tooth-shoulder, said points being spaced apart to obtain each engagement in a movement equal, for example, to one-fifth of the distance between two of the 20 teeth.

In operation the shaft 12 and eccentric 20 are constantly rotated, and the arm 28 is rocked to rotate the pinion and housing alternately in opposite directions. In the 25 clockwise movement of the pinion the pawls ride over the ratchet-wheel, whereas in the reverse movement the engagement of a pawl with the ratchet-wheel effects the rotation of the rolls to feed the strip forward, reverse rotation of the rolls being prevented by the employment of a brake 34^a, consisting of two 30 arms 35^a 35^a, secured at one end to the table-flange 7 by a screw 36^a and bearing at their other recessed ends against the shaft 31, the requisite brake-pressure being obtained by the employment of a bolt 37^a, passed through 35 both arms, and a tightening-nut 38^a.

The mechanism for severing the strips into predetermined lengths consists of a stationary 40 blade 39^a, secured to the rear end of the table by a screw 40 and bolt 41. The bolt 41 also serves as the pivot for the movable blade 42, which is held in cutting relation to the blade 39^a by nuts 43 on the bolt and an interposed spring-washer 44. Severing movement of the blade is obtained after each feeding movement of the rolls by a cam 45, fixed 45 on the shaft 12, which cam engages and depresses an arm 46, pivoted at one end by a screw 47 in a bracket 48 on the foot 9 and connected at its other end with the free end of the blade 42 by a rod 49. The retracting 50 movements of the arm 46 and blade 42 are obtained by the action of a coiled spring 50, interposed between the arm and the foot 9. 55

The strip is fed between the rolls at the front end of the machine, and to properly direct the strip a guide 51 is provided, which consists of a plate having a slot 52, through 60 which is passed a set-screw 53, whereby the plate is laterally adjustable to guide the strip to any desired point between the rolls. The plate has a guide-opening 54 for the strip.

There is shown in connection with the 65 above-described parts strip cementing and

folding means, whereby vamp-stays and the like are presented to the cutting means for obtaining predetermined lengths. The strip material is supplied, preferably, from a roll 55, properly tensioned by a weight 56, and in 70 its traverse to the feeding and cutting mechanism the strip contacts at its under side with a cement-applying roll 57, mounted in brackets 58 and rotating in cement contained in a receptacle 59. The roll 57 is rotated by 75 belt connection with a sheave 60, fixed on the shaft 12. The strip after receiving the cement coating passes through a folding device 61, secured by a screw 62 on the table in front of the rolls. In passing between the 80 rolls the folds of the strip are flattened and are caused to closely adhere to the body portion of the strip, and thus the rolls have the double function of finishing and feeding the folded strips to the severing mechanism. 85

I claim—

1. In a strip-severing machine, the combination with strip-severing means, of a pair of strip-feeding rolls, one of said rolls being 90 mounted in open bearings and a spring for holding said last-mentioned roll in contact with the other roll, gears carried by the rolls and adapted to intermesh, a shaft on which one of said rolls is mounted, a ratchet-wheel 95 fixed to said shaft, a pinion loose on said shaft and carrying a pawl in engagement with said ratchet in one direction of rotation of the pinion, a pivoted arm carrying a curved segment meshing with said pinion, a drive-shaft, an 100 eccentric adjustably connected to said drive-shaft and means for adjusting the eccentric on the drive-shaft whereby its throw may be varied, a slot in said pivoted arm into which said eccentric extends, an arm pivoted to the 105 frame and connected to said severing means, and a cam on the drive-shaft for operating said arm.

2. In combination with an intermittently-operated strip-severing means, a pair of geared-together strip-feeding rolls, a shaft 110 fixed to one of said rolls, a pinion loose on the shaft, pawl-and-ratchet means between the pinion and shaft to rotate the rolls in one direction of rotation of the pinion, a pivoted 115 arm carrying a curved segment meshing with said pinion, a drive-shaft, an eccentric on said drive-shaft and adapted to engage a slot formed in the arm, an elongated recess formed in the eccentric, a head formed on the drive-shaft and set-screws entering the elongated 120 recess to engage the head whereby the eccentric may be adjusted and held in adjustable position.

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

OAKMAN A. WEBBER.

Witnesses:

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THOMAS F. THORPE.