

No. 613,677.

J. W. HAWKINS.
LINK WINDER.

Patented Nov. 8, 1898.

(No Model.)

(Application filed Jan. 31, 1898.)

3 Sheets—Sheet 1.

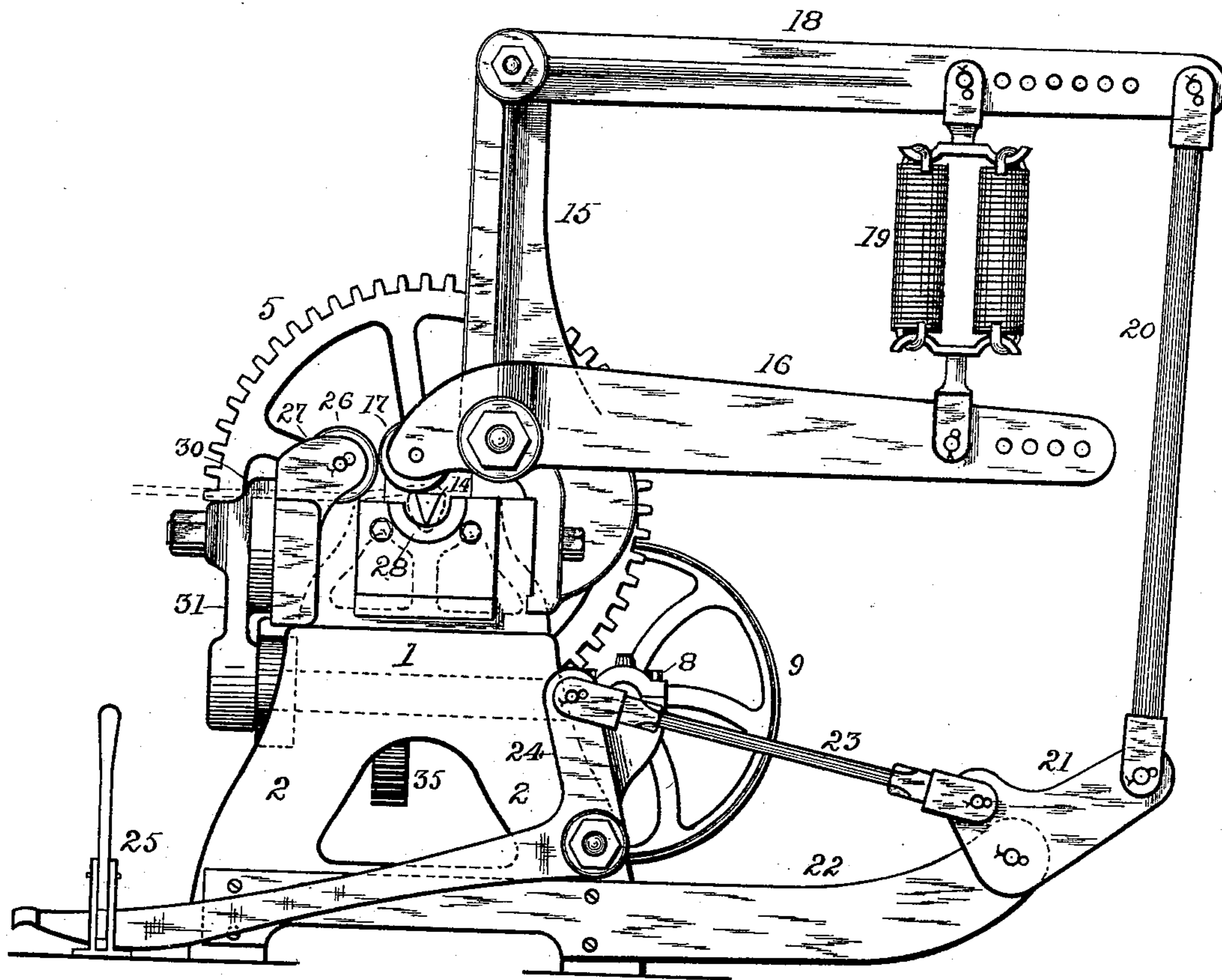


Fig. 1.

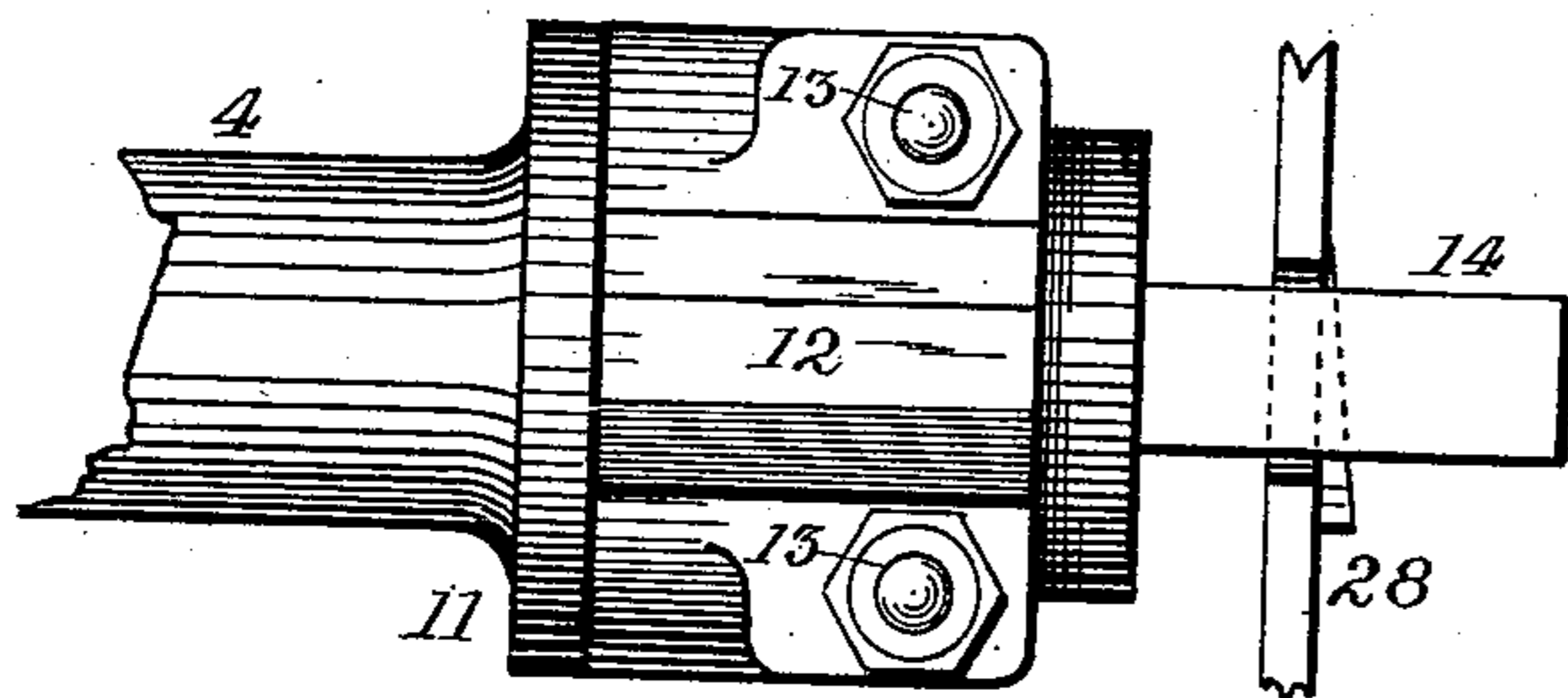


Fig. 5.

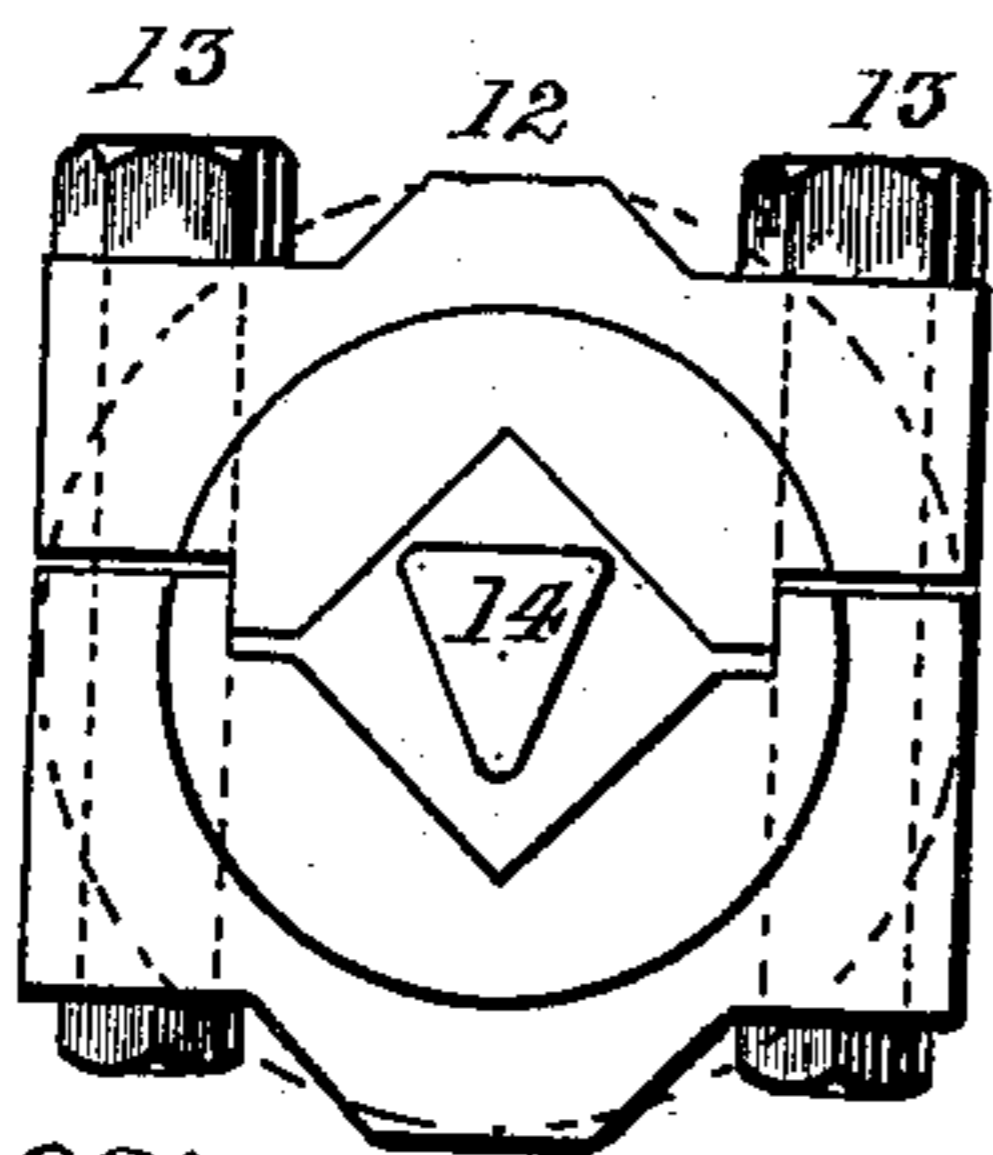


Fig. 6.

Witnesses:

A. G. Reese
A. F. Bantjes

Inventor:
John W. Hawkins;
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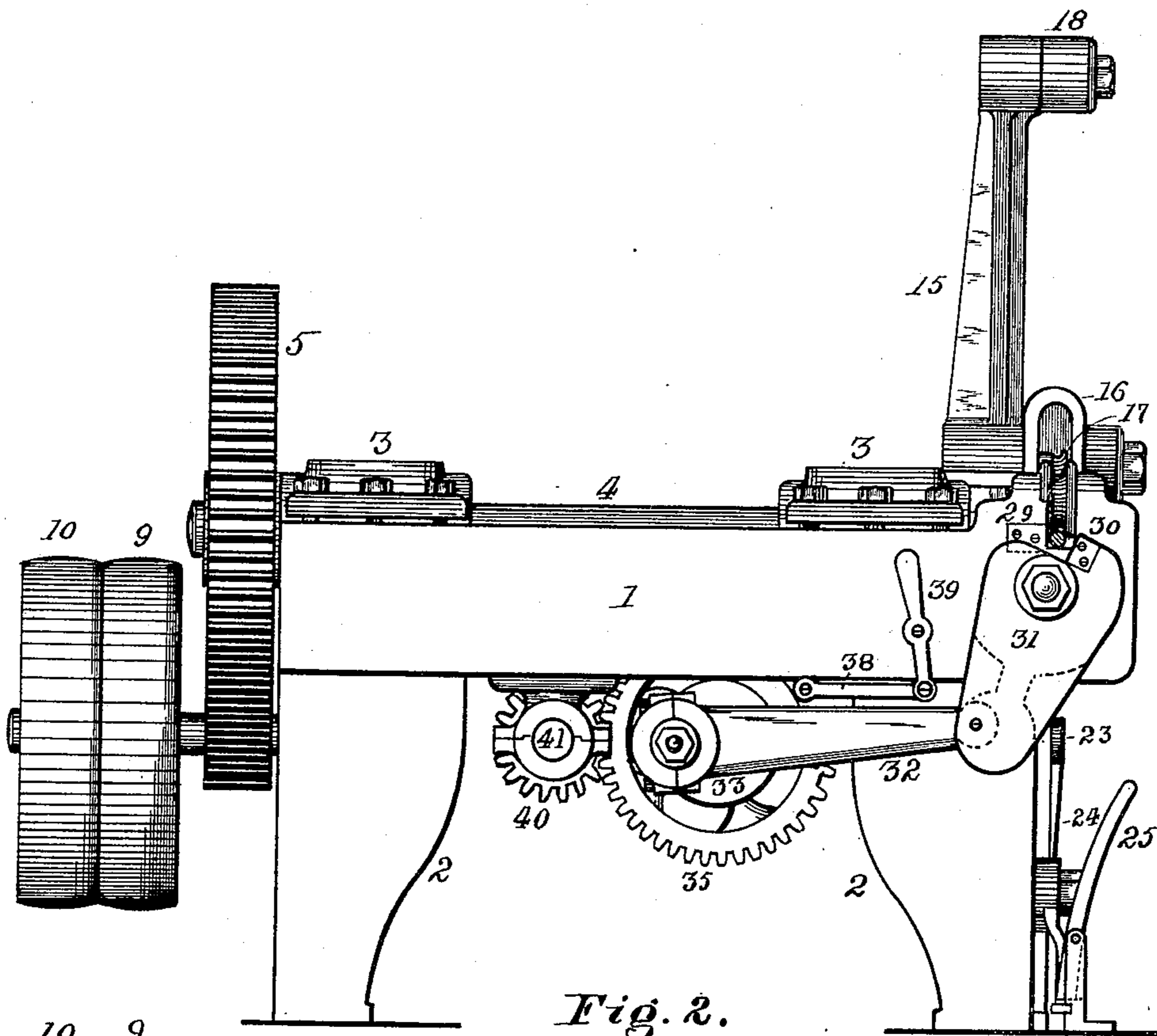


Fig. 2.

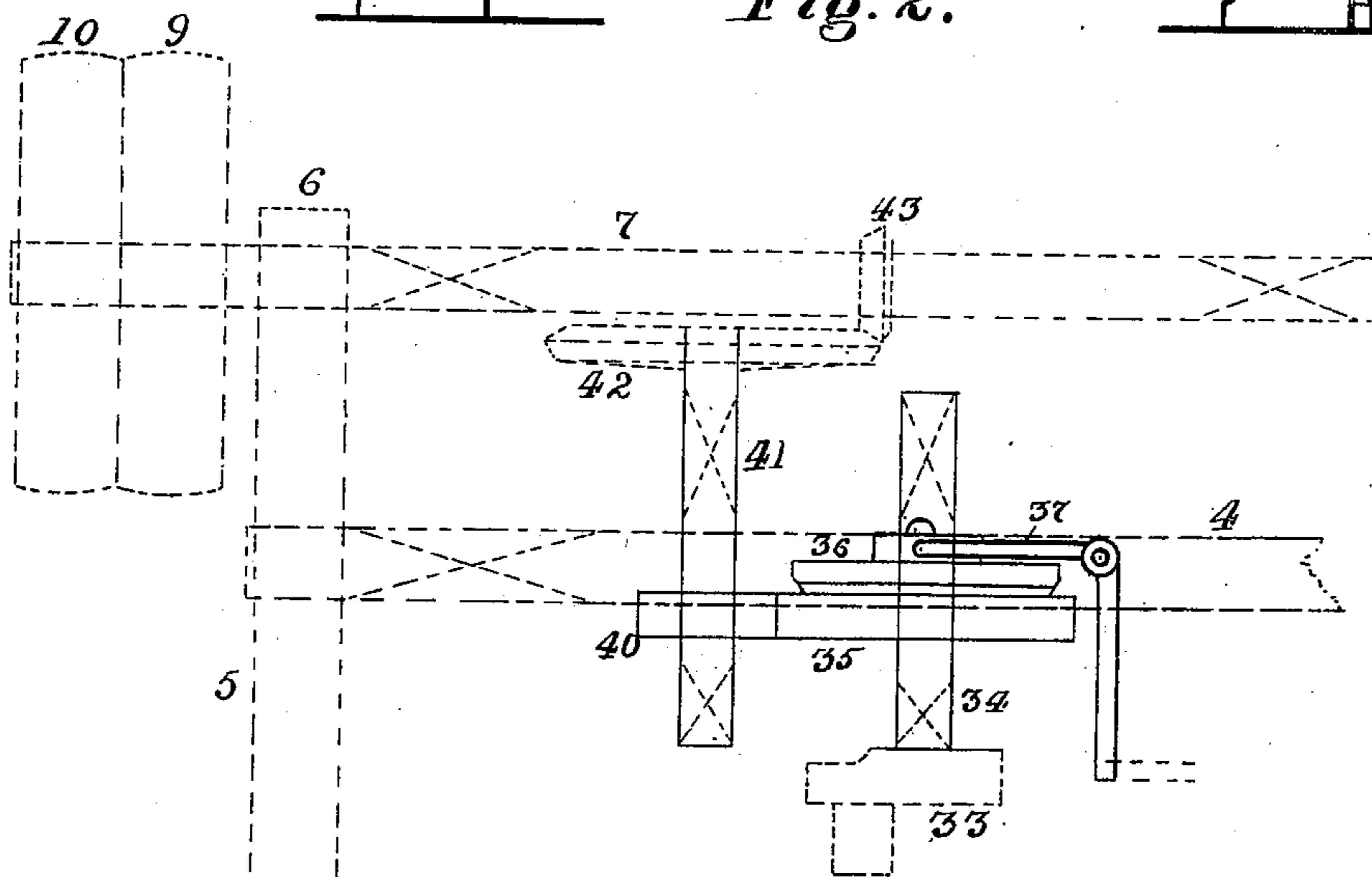


Fig. 4.

Witnesses:

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3 Sheets—Sheet 3.

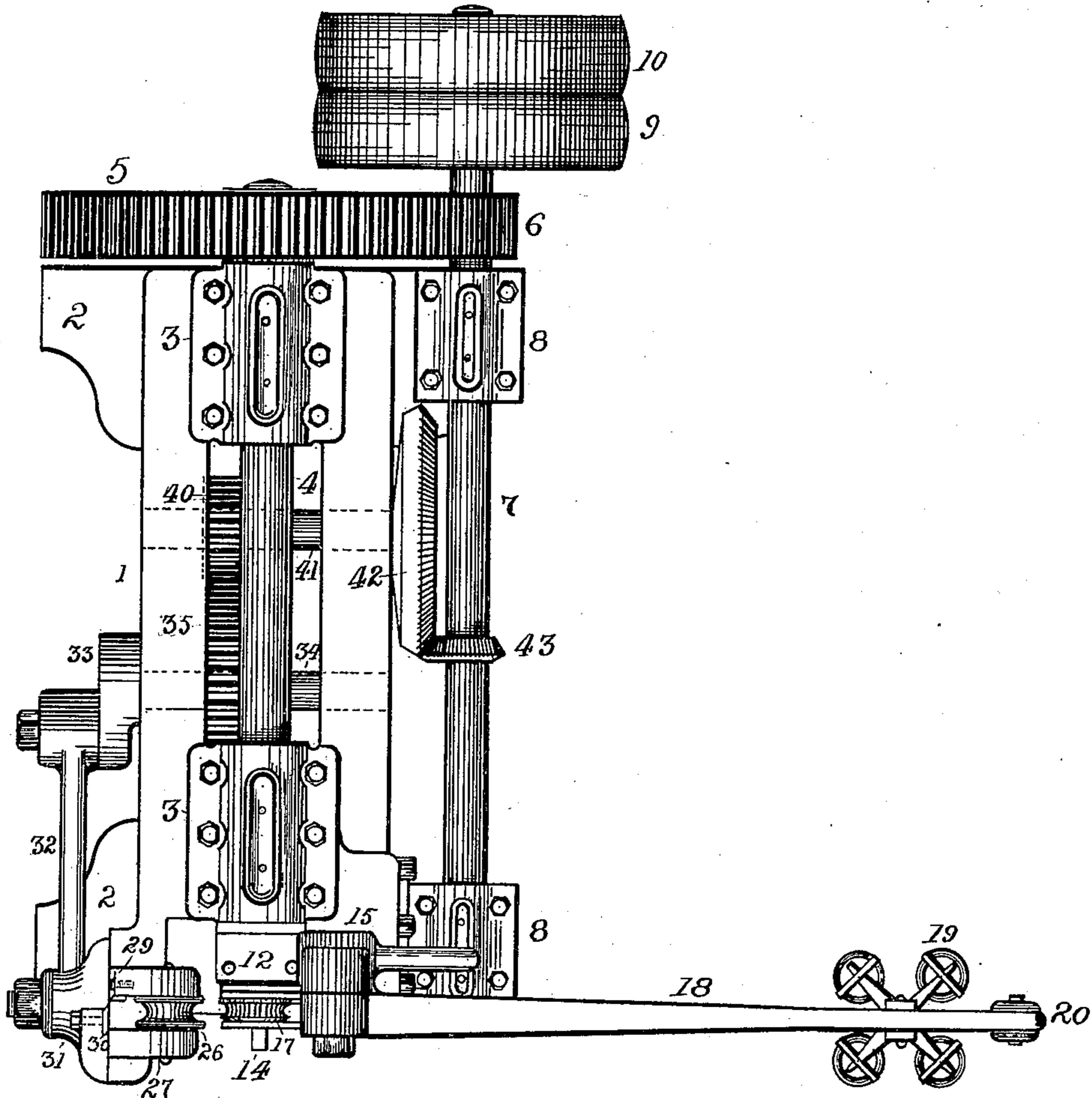


Fig. 3.

Witnesses:

A. G. Reese
A. H. Bantje

Inventor:

John W. Hawkins,
by Humphrey & Humphrey
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UNITED STATES PATENT OFFICE.

JOHN W. HAWKINS, OF CUYAHOGA FALLS, OHIO, ASSIGNOR TO THE
TURNER, VAUGHN & TAYLOR COMPANY, OF SAME PLACE.

LINK-WINDER.

SPECIFICATION forming part of Letters Patent No. 613,677, dated November 8, 1898.

Application filed January 31, 1898. Serial No. 668,578. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. HAWKINS, a citizen of the United States, residing at Cuyahoga Falls, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Link-Winders, of which the following is a specification.

My invention has relation to improvements in machines for coiling metallic rods to constitute, when cut apart, blanks for chain-links; and the object of my invention is to produce a machine of the kind referred to that shall be efficient for the coiling of rods of large size by the use and combination of mechanical agencies peculiarly arranged and adapted for the purpose; and its further objects are to provide devices for applying and releasing the pressure-roller and for severing the rod in the event of kinking or other obstruction to the rod in entering the machine or when sufficient rod has been coiled.

To the aforesaid objects my invention consists in the peculiar and novel construction, arrangement, and combination of parts hereinafter described, and then specifically pointed out in the claims, reference being had to the accompanying drawings, forming a part of this specification.

In the accompanying drawings, in which similar reference-numerals indicate like parts in the different figures, Figure 1 is a front elevation of my improved coiler. Fig. 2 is a side elevation; Fig. 3, a plan; Fig. 4, a plan in outline, showing the operative parts under the bed; and Figs. 5 and 6, an enlarged plan and end elevation, respectively, of the winding-arbor and shaft.

Referring to the figures, 1 is the bed, supported on legs 2 and bearing boxes 3 3, in which is journaled a shaft 4, bearing at one end a large gear 5, driven by a smaller gear 6 on a counter-shaft 7, journaled in boxes 8 8 at the side of the machine and bearing tight and loose pulleys 9 10. The front end of the shaft 4 is enlarged into a rim 11, from which it is substantially square, the upper part being cut away centrally and longitudinally and supplied with a cover 12, retained by bolts 13. In the adjacent faces of the cut portion and the cover are rectangular longitudinal grooves that register with each other and together

form a stock for the winding-arbor 14, as illustrated in Figs. 5 and 6. These arbors may be of any desired size and arranged to be interchangeable in the machine.

At one side of the bed is bolted an upright post 15, to which is pivotally fastened a rocking lever 16, the front end of which is forked and bears a grooved roller 17 that rests above the arbor 14.

To the top of the post 15 is pivotally attached an arm 18, and this arm is connected with the rocking arm 16 by a number of coiled springs 19, and the location of these springs is made adjustable along the arms 16 18 by means of a series of holes in each and yokes and pins on the springs by which they may be adjusted.

The outer end of the arm 18 is connected, by means of a rod 20, with one arm of a bell-crank 21, pivoted in the end of a bar 22, that is fastened to the front legs 2. The other arm of the bell-crank 21 is connected by a rod 23 with the upright arm of a bent lever 24, pivoted on a bolt extending from one of the front legs.

The longer arm of the lever 24 extends past the front of the machine and is provided with a foot-pedal by which it may be depressed and is arranged to be held down by a lever-latch 25, pivoted in uprights fastened to the floor.

Opposite, contiguous to, and in alinement with the grooved roller 17 is a grooved roller 26, journaled in a forked block 27, attached to the bed 1.

Attached to the front of the bed 1 and under the arbor 14 is a plate 28, having in its upper part a semicircular notch concentric with the axis of the arbor and having in its outer face, about said notch, a wedge-shaped rib increasing in thickness in the direction of the revolution of the arbor and commencing in the plane of the inner edge of the grooved roller 17. The rod is fed in through the forked block 27 and under the roller 26 and around the arbor 14 under the roller 17. By pressing down the lever 24 the arm 18 is raised and the lever 16 also raised by the springs 19, but with a yielding resistance that relieves the pressure of the roller 17 on the rod from actual rigidity and permits compensation for

slight irregularities in size of the rod. As the arbor revolves the rod is wound about it, being pressed down by the roller 17, and as it encounters the rib on the plate 28 it is
 5 pushed along toward the end of the arbor, thus making room for the next coil.

At one side of the notch in the block 27 is a shear-blade 29, properly faced with hardened steel. An opposite blade 30 is fixed to a rock-
 10 ing lever 31, the opposite end of which is connected by a connecting-rod 32 with a wrist on a crank-head 33, mounted on a shaft 34, journaled in suitable bearings under the bed 1. On this shaft 34 is a fixed member 35 of a pan-
 15 clutch (see Fig. 4) and a loose member 36, moved by a shifting-fork 37, operated by the connecting-rod 38 and lever 39. This loose member 36 is provided with gear-teeth that mesh in the pinion 40 on the shaft 41, which
 20 is driven by a large bevel-gear 42, that meshes in a bevel-pinion 43 on the shaft 7. Thus whenever it becomes necessary from accidental kinking or other cause to stop the feed of the rod the shear-blades 29 30 are actuated
 25 by means of the lever 39 and the rod severed.

I claim as my invention—

1. In a machine for coiling metal rods, the combination with the winding-arbor, of the pivoted lever carrying the bending-roller, a
 30 counter-pivoted lever connected with the roll-

carrying lever by a spring, and devices such substantially as shown for rocking said counter-lever to change the tension of said spring, substantially as shown and described.

2. In a machine for coiling metal rods, the 35 combination with the winding-arbor, of the pivoted lever carrying the bending-roller, the counter-pivoted lever connected with the roll-carrying lever; a bell-crank connected by a rod with said counter-lever, a second bell- 40 crank connected with the first bell-crank by a connecting-rod, and means for retaining and releasing said second bell-crank substantially as shown and described.

3. In a machine for coiling metal rods, the 45 combination with the winding-arbor, the guide-roller and the bending-roller, of shear-blades arranged on opposite sides of the path of the rod; mechanism for operating one of 50 said blades, from the driving mechanism, and a clutch to communicate and release said mechanism from the driving mechanism, substantially as shown and described.

In testimony that I claim the above I hereunto set my hand.

JOHN W. HAWKINS.

In presence of—

C. E. HUMPHREY,
 C. P. HUMPHREY.