

(No Model.)

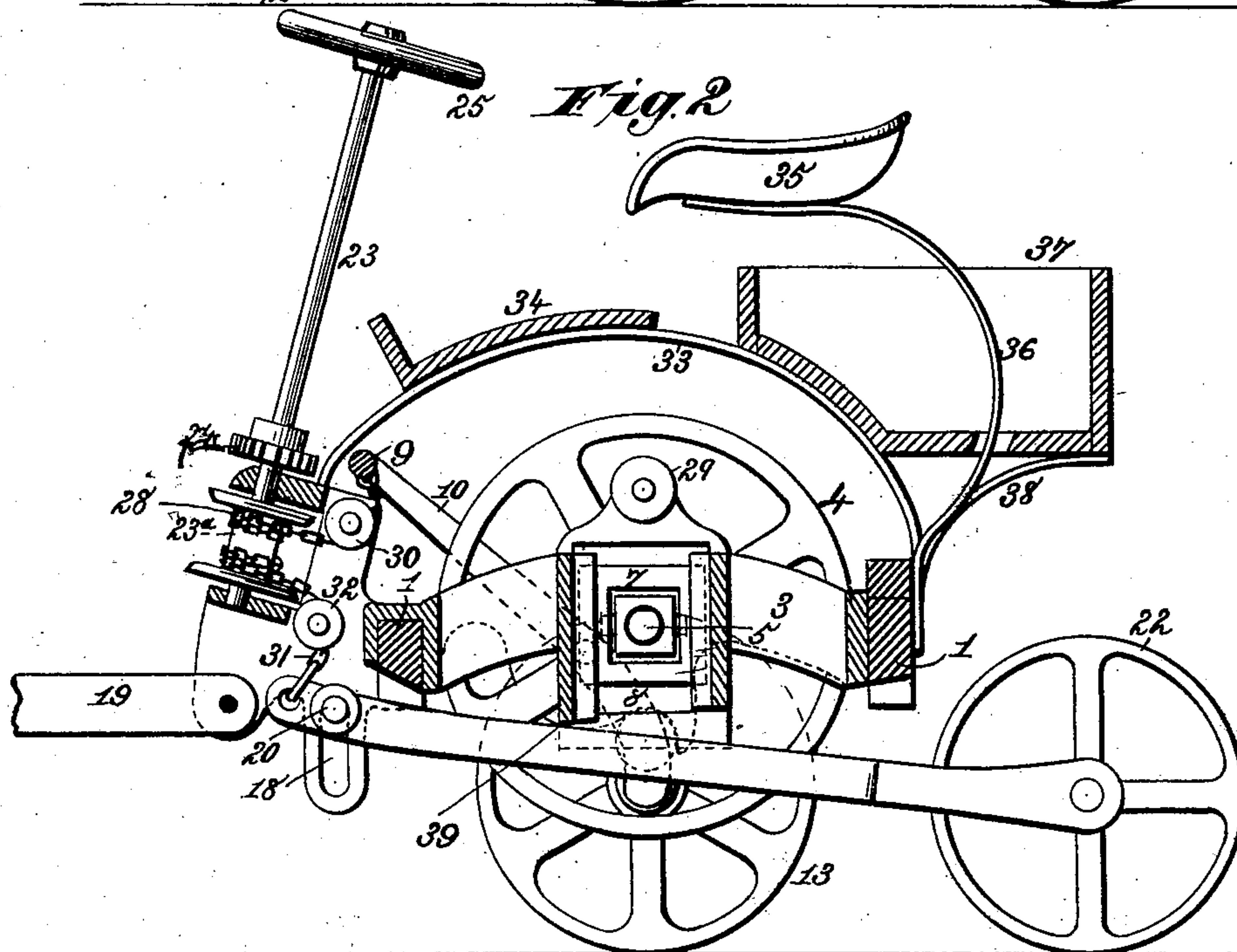
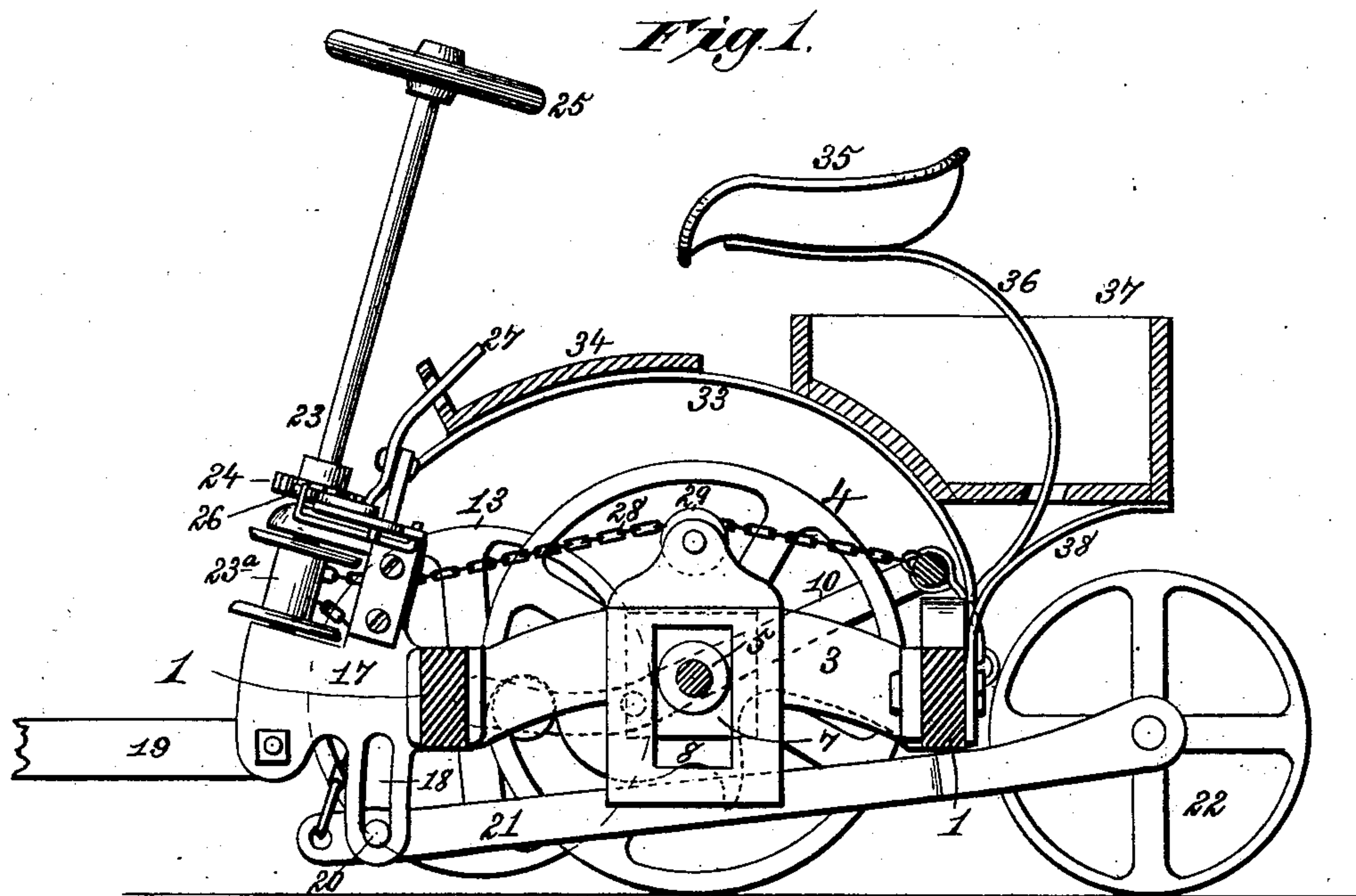
C. HELM & J. NICKENICH.

2 Sheets—Sheet 1.

LAND ROLLER.

No. 337,264.

Patented Mar. 2, 1886.



Witnesses.
Robert Everett.
Demas Lumby.

Inventors.
Charles Helm
Jacob Nickenich.
By James L. Norris.
Atty.

(No Model.)

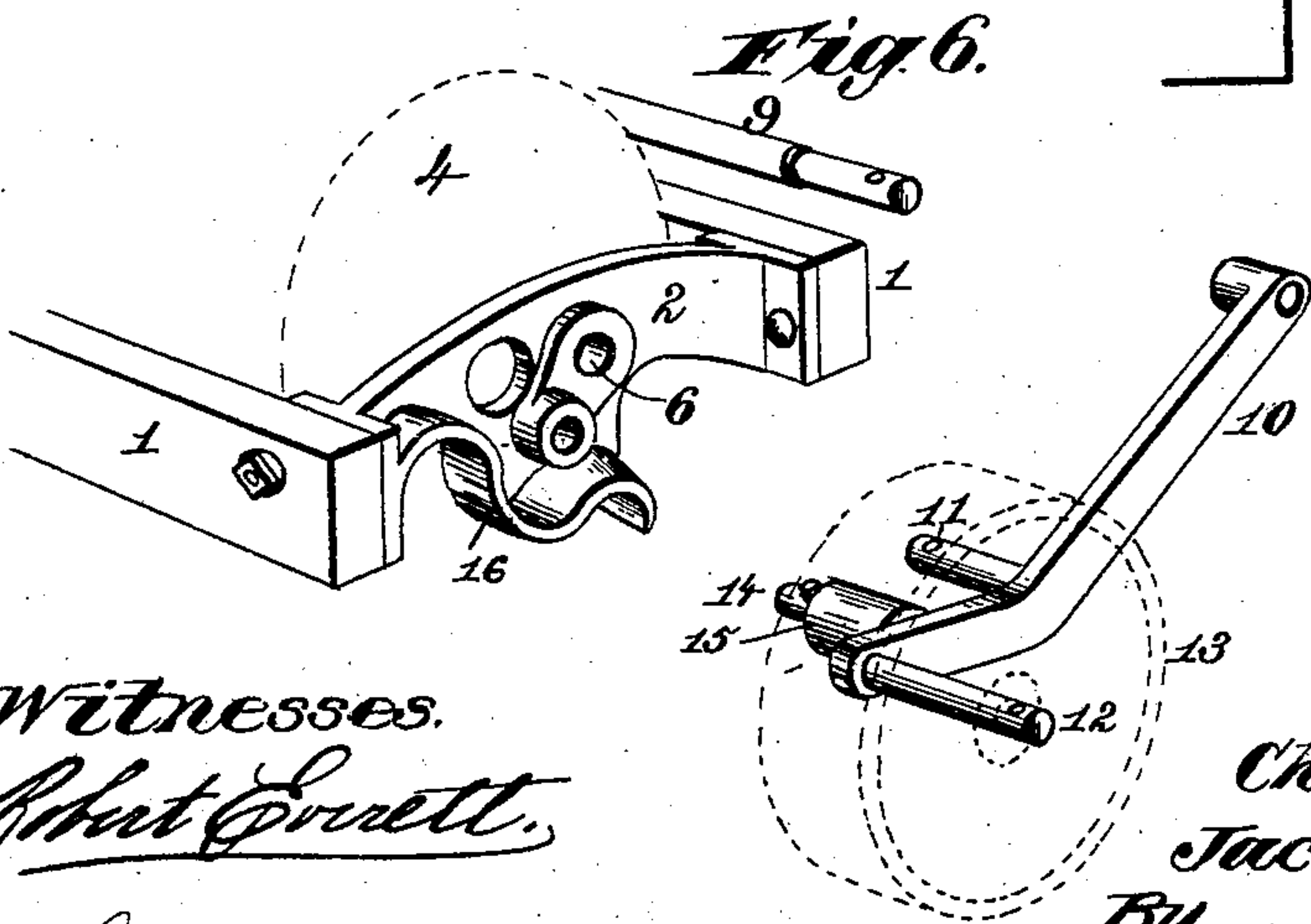
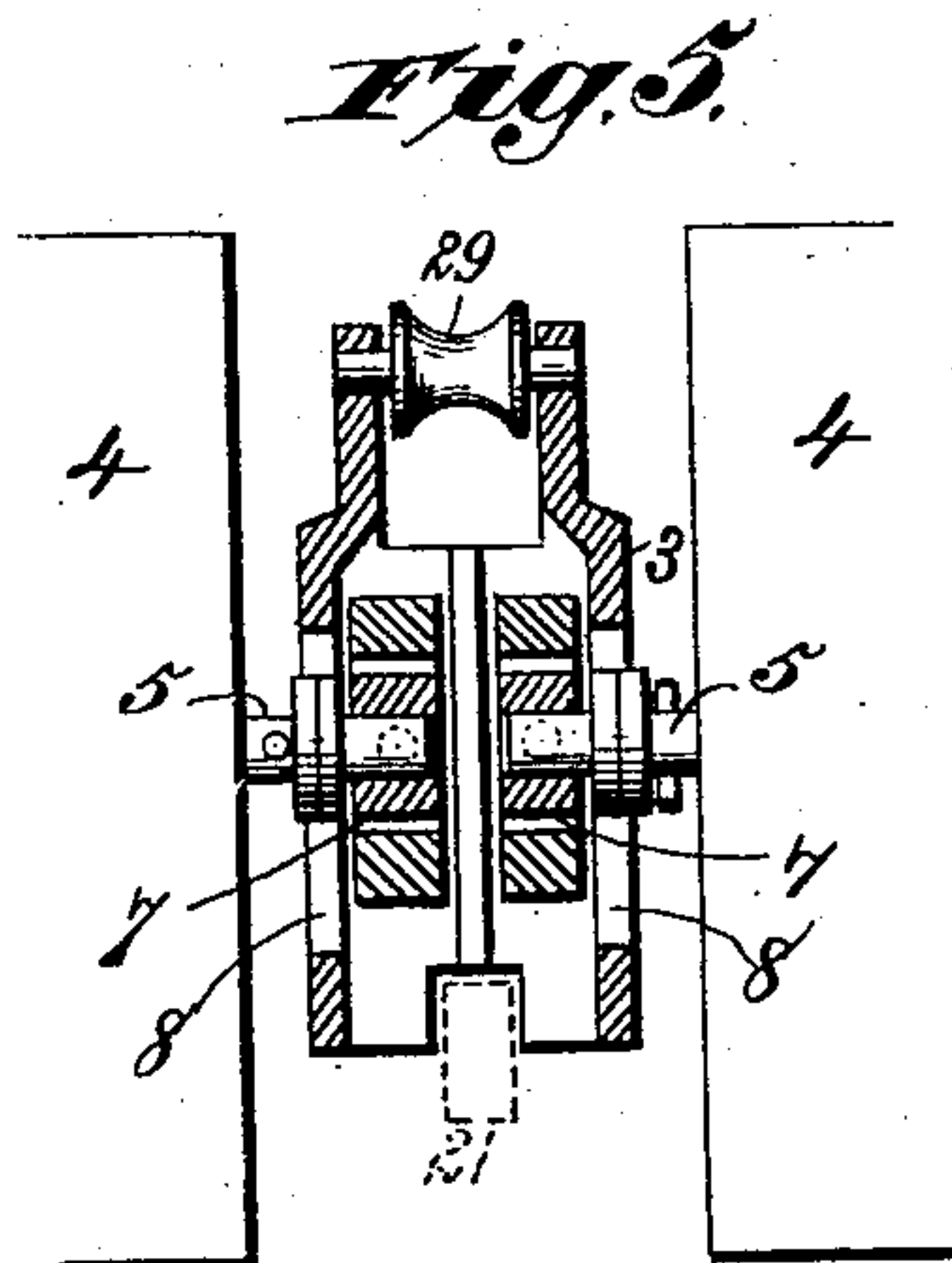
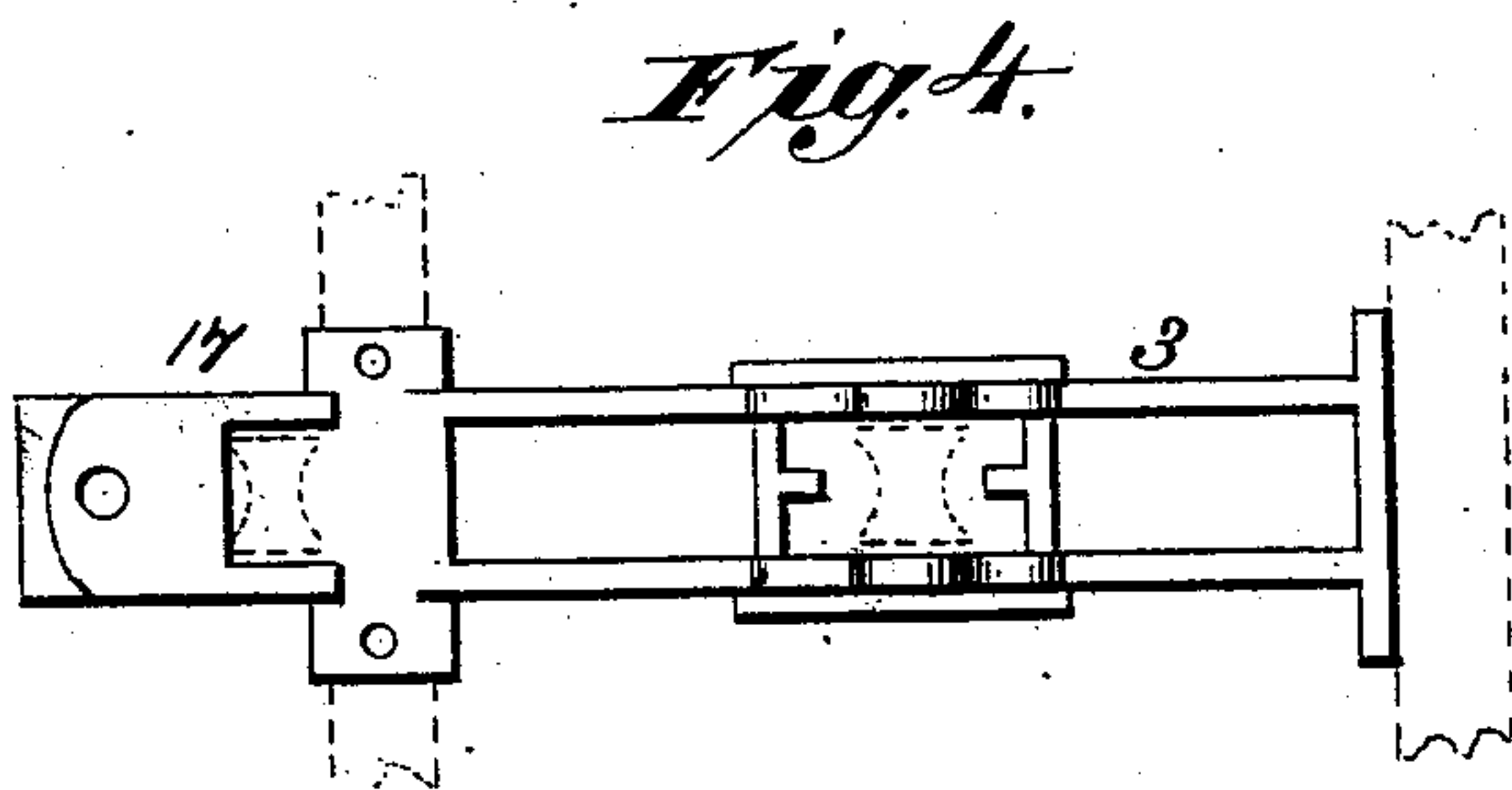
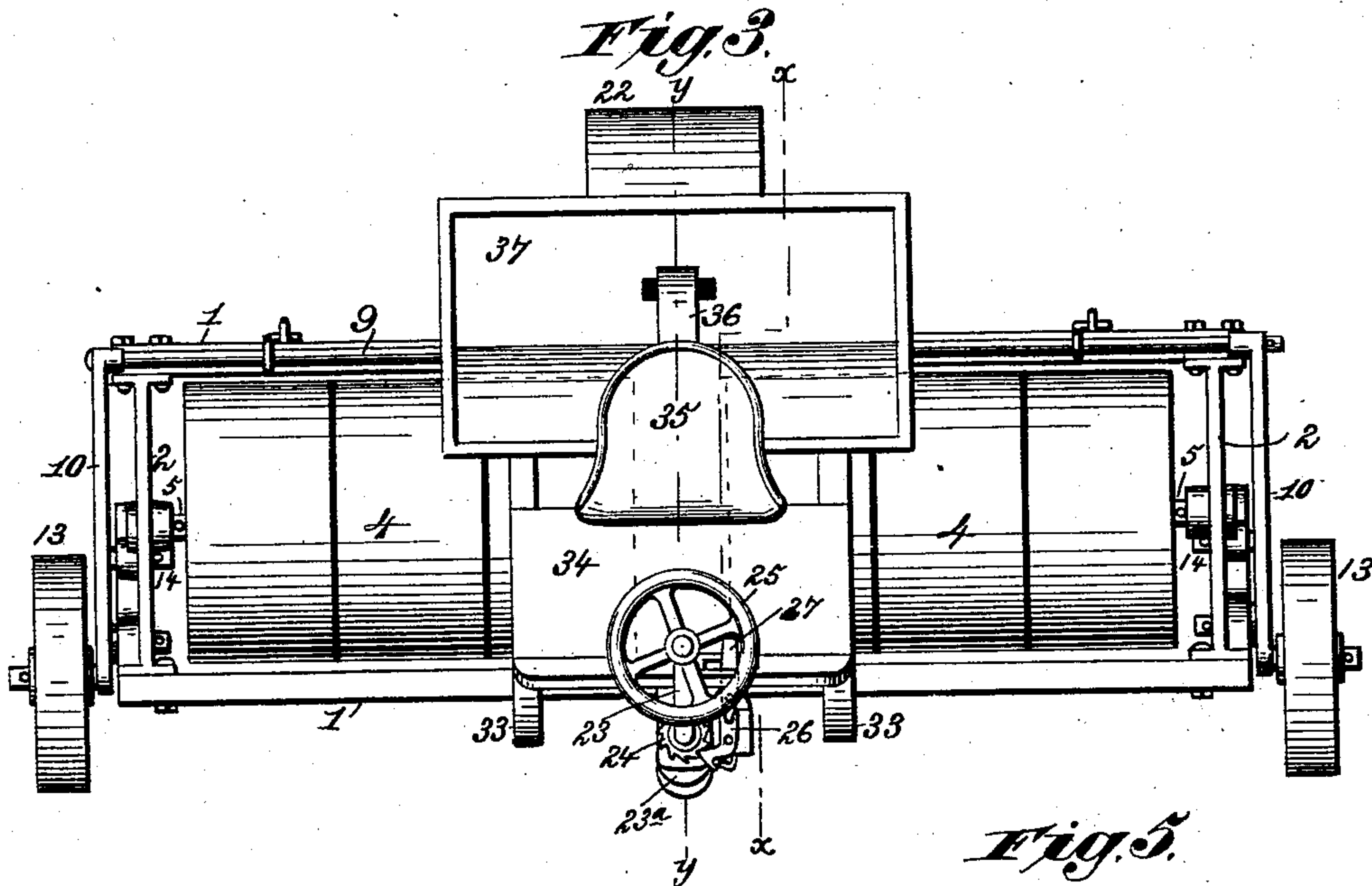
2 Sheets—Sheet 2.

C. HELM & J. NICKENICH.

LAND ROLLER.

No. 337,264.

Patented Mar. 2, 1886.



Witnesses.
Robert Everett.

Dennis Sumby.

Inventors
Charles Helm.
Jacob Nickenich.

By *James L. Norris.*
Atty.

UNITED STATES PATENT OFFICE.

CHARLES HELM AND JACOB NICKENICH, OF TOLEDO, OHIO.

LAND-ROLLER.

SPECIFICATION forming part of Letters Patent No. 337,264, dated March 2, 1886.

Application filed July 24, 1885. Serial No. 172,555. (No model.)

To all whom it may concern:

Be it known that we, CHARLES HELM and JACOB NICKENICH, both citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented new and useful Improvements in Land-Rollers, of which the following is a specification.

This invention relates to land-rollers for crushing clods and leveling fields and roads. The objects of our invention are to provide novel means for lifting and supporting the crushing and leveling roller or rollers clear of the surface traversed during transportation, and to provide novel means whereby the rollers will adjust themselves to the surface traversed.

The objects of our invention we accomplish in the manner and by the means hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a transverse sectional view, taken on the line *x x* of Fig. 3, showing the roller in contact with the ground; Fig. 2, a sectional view, taken on the line *y y* of Fig. 3, showing the roller lifted from the ground to be transported on truck-wheels; Fig. 3, a top plan view of the machine, and Figs. 4, 5, and 6 detail views.

In order to enable those skilled in the art to make and use our invention, we will now describe the same in detail, reference being made to the drawings, where—

The numbers 1 indicate beams connected at each end by a metallic casting, 2, and centrally between their ends by a hollow casting, 3, the whole constituting the frame of the machine. The axle of the rollers 4 is made in two parts, 5 5, journaled at their outer ends in bearings 6 on the end castings, 2, and at their inner adjacent ends in separate journal-boxes, 7, which are mounted in and guided vertically by the central casting, 3, the latter having vertical slots 8 to permit the rising and falling movements of the two-part axle, whereby the rollers in action can accommodate themselves to the character of the surface traversed.

To raise and lower the frame and rollers we provide a rocking frame composed of a rod, 9, having at its ends the attached levers 10,

provided between their extremities with pintles 11, journaled in the end castings, said levers having at their forward ends short axles 12, carrying truck-wheels 13, and between the pintles 11 and axles 12 are studs 14, carrying friction wheels or rollers 15, adapted to travel upon the curved lower edges, 16, of the end castings.

The center casting, 3, is extended forward, as at 17, and provided with a slot, 18, and to such extension is attached the draft tongue or pole 19, while in the slot is located a pin, 20, secured to the forward end of a beam, 21, that extends rearward beneath the frame, and is provided at its rear extremity with a loosely-mounted truck-wheel, 22.

In the forward extension, 17, is journaled the lower end of an upwardly-projecting shaft, 23, provided with a drum, 23^a, a ratchet-wheel, 24, and a handle, 25, by which to turn the shaft, a pivoted pawl, 26, engaging the ratchet-wheel and being operated by a pivoted lever, 27, for throwing it into and out of engagement with the ratchet-wheel.

The rod 9 of the rocking frame is connected with the drum 23^a by a chain or cable, 28, passing over roller 29 and under roller 30, and the forward end of the beam 21 is connected with the drum by a chain, 31, passing over a roller, 32, in such manner that by turning the shaft 23 in the proper direction to rotate the drum and wind up the two chains the rocking frame will be swung forward on the pintles 11 and the forward end of the beam 21 will be raised.

To the beams 1 are secured the ends of two arched bars, 33, which carry a foot-rest, 34, for a person occupying the seat 35, that is supported by springs 36 or otherwise from the main frame, and to such arched bar is attached a box or receptacle, 37, braced to the main frame by a brace-rod, 38, which box serves to receive and carry off stones found in the field.

In operation, to crush clods and level the surface of the ground the several parts of the machine occupy the position shown in Fig. 1, and when it is desired to lift the crushing and leveling roller from the surface traversed for transporting the machine from one place to

another, the drum-shaft is rotated to wind up the chains or cables 28 and 31, thereby moving the swinging frame forward and forcing the truck-wheels 13 downward, while the forward end of the beam 21 will be elevated, and by contact at 39 with the center casting, 3, forcing the rear truck-wheel, 22, downward. By this means the main frame and crushing-rollers are lifted bodily, to clear the latter from the surface traversed, and during the movements of the parts to bring about this end the friction wheels or rollers 15 ride upon the curved lower edges of the end brackets until they reach a point in rear of the pintles 11, the latter are released from strain and the strain is also removed from the ratchet-wheel and pawl.

Having thus described our invention, what we claim is—

1. The combination, with a main frame, of levers pivoted intermediate their extremities at the ends of the frame, and provided at one extremity with truck-wheels, a rod connecting the other extremities of the levers, a beam carrying at its rear end a wheel and connected at its forward end with the main frame, a winding mechanism, and chains connecting the rod and the forward end of the beam with the winding mechanism, to bodily elevate the main frame, substantially as described.

2. The combination, with a main frame and a crushing and leveling roller mounted thereon, of the beam located beneath the frame and carrying a truck-wheel at its rear end and connected at its forward end with the main frame, a winding mechanism, a chain connecting the forward end of the beam with the winding mechanism, and a swinging frame carrying end truck-wheels, substantially as described.

3. The combination of the frame consisting of two beams, the end brackets and central bracket having a front extension, with the levers pivoted intermediate their extremities to the end brackets, and provided at one ex-

tremity with truck-wheels, a rod connecting the other extremities of the levers, a beam connected at its forward end with the said front extension, and provided at its rear end with a truck-wheel, a winding mechanism, and chains connecting the rod and the forward end of said beam with the winding mechanism, substantially as described.

4. The combination, with a main frame and a crushing and leveling roller therein, of a swinging frame carrying end truck-wheels, a beam carrying a rear truck-wheel, and a mechanism for moving the swinging frame and lifting the forward end of the beam, substantially as described.

5. The combination of the main frame composed of beams, end brackets, and a central bracket having a front extension, with crushing and leveling rollers, the axle composed of two parts having their inner ends mounted in boxes vertically movable in the central bracket, a beam provided with a wheel at its rear end and having its forward end loosely connected with the front extension of the central bracket, and a swinging frame having end truck-wheels, substantially as described.

6. The combination, with the main frame having end brackets provided with curved lower edges, of levers pivoted to said brackets and provided with truck-wheels and friction wheels or rollers bearing against the said curved lower edges, and means for swinging the levers on their pivotal attachment to bodily elevate the main frame, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

CHARLES HELM.
JACOB NICKENICH.

Witnesses:

JOSEPH N. CLOUSE,
C. S. CURTIS.