

No. 611,817.

Patented Oct. 4, 1898.

E. S. MORKRE.
WIRE WINDING MACHINE.

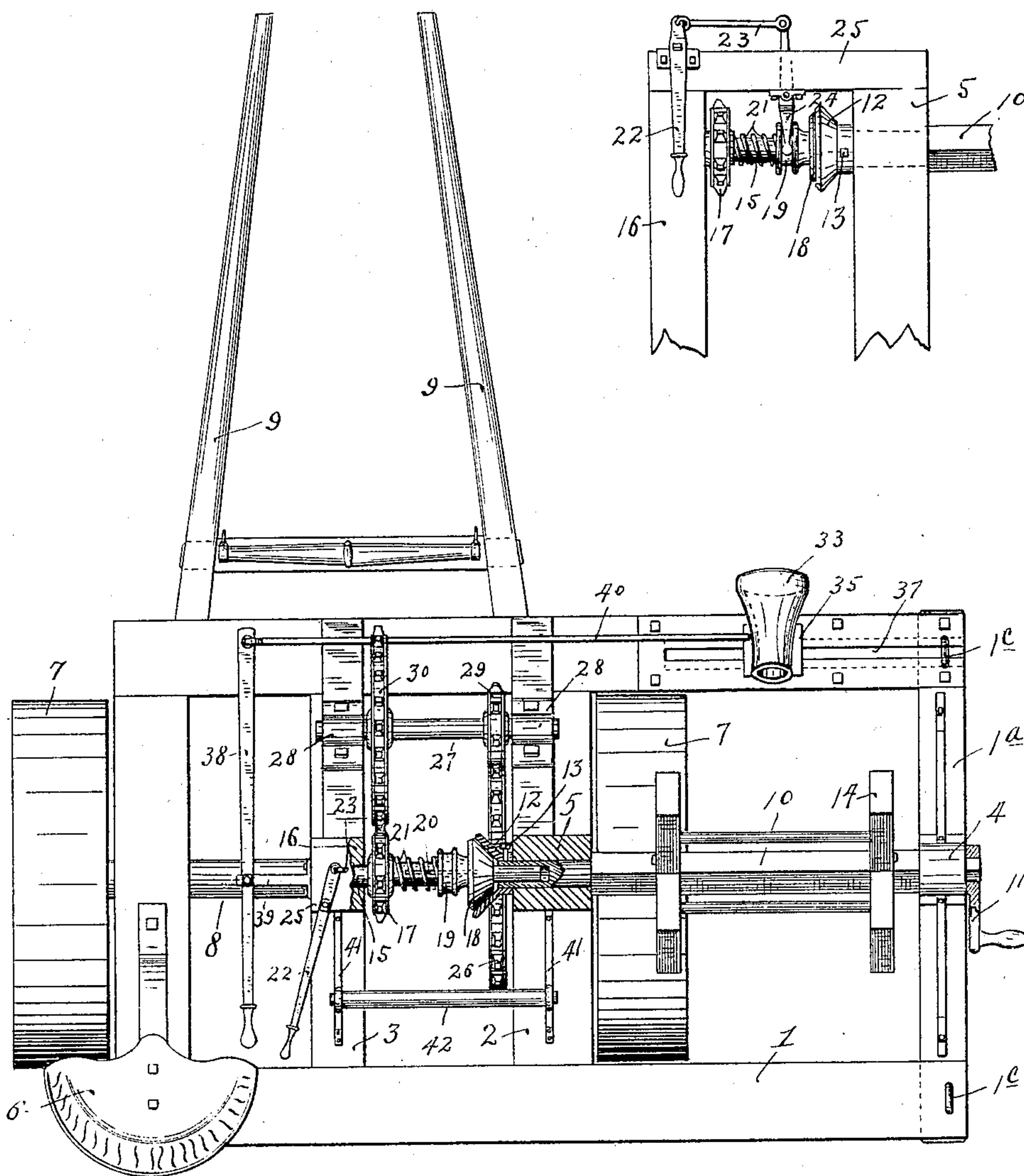
(Application filed Jan. 24, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

Fig. 2.



Witnesses.

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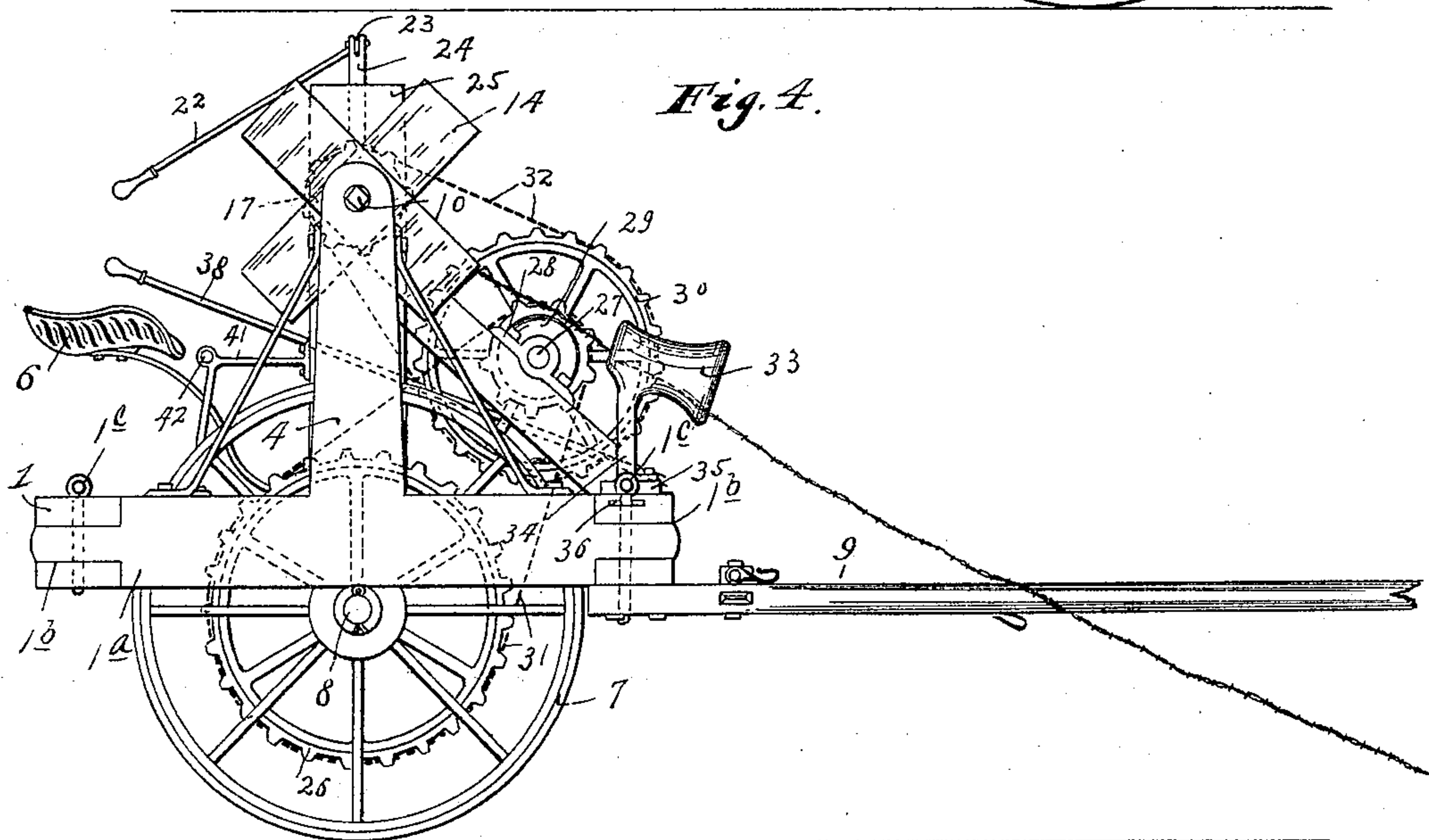
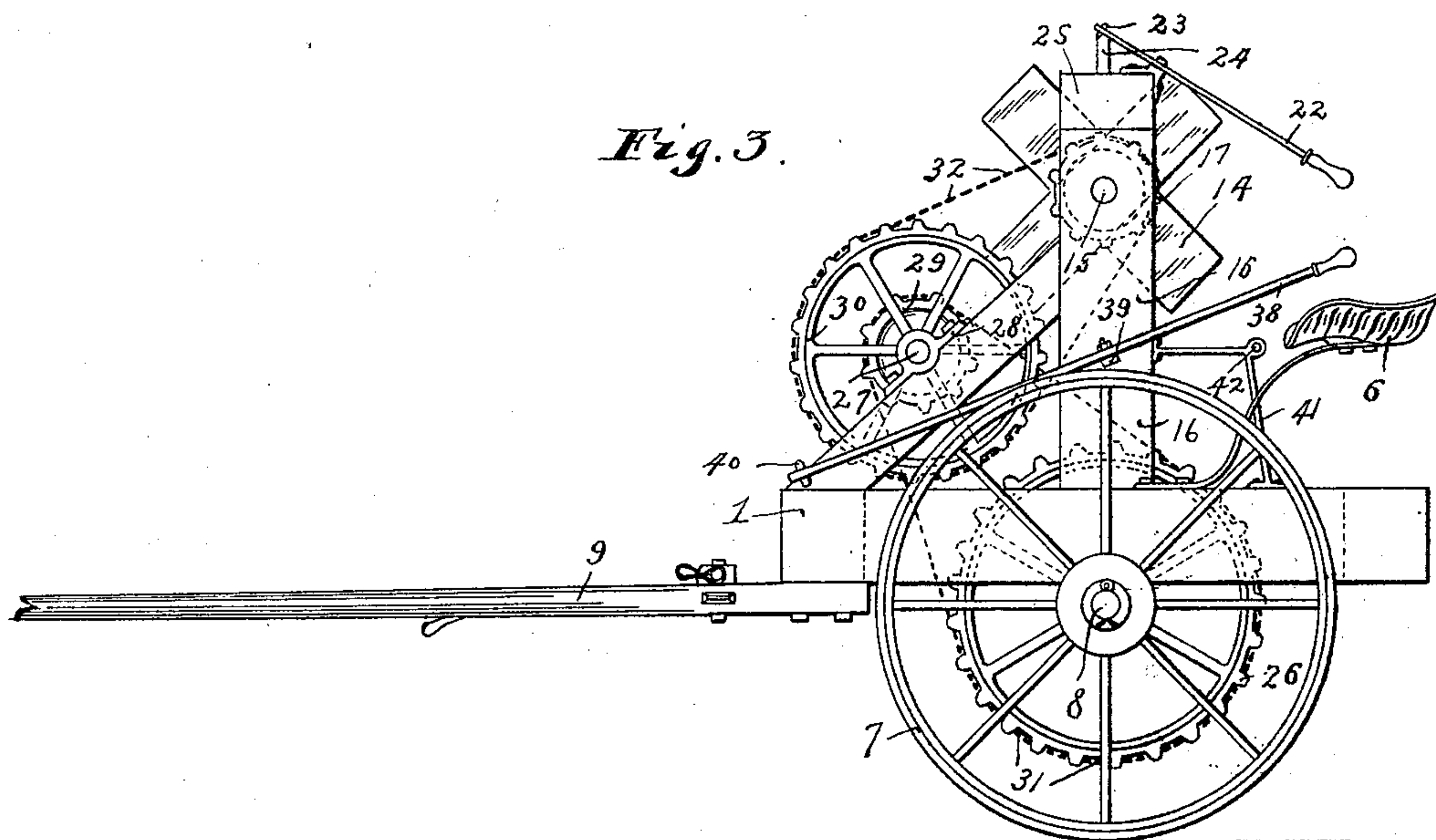
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UNITED STATES PATENT OFFICE.

ELI S. MORKRE, OF WANAMINGO, MINNESOTA.

WIRE-WINDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 611,817, dated October 4, 1898.

Application filed January 24, 1898. Serial No. 667,706. (No model.)

To all whom it may concern:

Be it known that I, ELI S. MORKRE, a citizen of the United States, residing at Wanamingo, in the county of Goodhue and State of Minnesota, have invented certain new and useful Improvements in Wire-Winding 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.

My invention has for its object to provide a simple and efficient machine of large capacity adapted to wind up loose wire—such, for example, as the detached wires of a wire fence.

To the ends above noted or indicated my invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The preferred form of my invention is illustrated in the accompanying drawings, wherein like numerals indicate like parts throughout the several views.

Figure 1 is a plan view of the entire device, some parts being shown as sectioned. Fig. 2 is a detail view, in rear elevation, showing a portion of the driving mechanism and in particular the clutch and its shifting lever; and Figs. 3 and 4 are views, respectively, in left and right side elevation, showing the entire machine.

The numeral 1 indicates a strong rectangular frame provided with a pair of parallel cross-beams 2 and 3. The beam 1^a, which forms the right-hand end of the rectangular frame 1, is removably secured to the parallel sides, this, as shown, being accomplished by mortise-joints (indicated at 1^b in Fig. 4) and removable pins 1^c, passed through the said joints. From the right-hand end or timber 1^a and from the cross-beam 2 rigidly-secured vertical standards 4 and 5, respectively, project, for a purpose which will hereinafter appear. 6 indicates the driver's seat, which is suitably supported, as shown, from the left-hand end timber of the frame 1.

The frame 1 is carried by a pair of traction-wheels 7, that are loosely mounted on the ends of the driving-axle 8 and run one close to the left-hand end of the frame 1 and the other just to the right of the cross-beam

2. The driving-axle 8 is rotatively mounted in suitable bearings carried by the frame 1, and its ends are connected to the driving-wheels 7 by pawl-and-ratchet devices, which cause the said wheels to rotate said axle when the machine is advanced, but permit the machine to be backed up without driving the winding mechanism, and also permit one of the driving-wheels to be driven faster than the other, as is necessary in turning curves or corners. Such pawl-and-ratchet devices are universally employed in mowers and many other kinds of agricultural machines, and hence, for the purposes of this case, the above statement is thought to be sufficient.

The machine is shown as designed to be drawn by one horse, and for this purpose the frame 1 is provided with the thills 9.

A reel-shaft 10, having a square central portion and rounded trunnions or ends, is mounted in the upper ends of the standards 4 and 5. At its extreme right end the reel-shaft 10 is shown as provided with a removable hand-crank 11, and its extreme left end has the hub of a funnel-shaped member 12 of a friction-clutch device rigidly secured thereto, as shown, by means of set-screws 13.

14 indicates a reel which is adapted to be slipped endwise onto the square portion of the reel-shaft 10 and upon which the wire is adapted to be wound.

15 indicates a loose counter-shaft, the right-hand end of which is loosely mounted in a seat formed in the end of the reel-shaft 10 and the right-hand end of which is loosely mounted in the upper end of the standard 16, that rises from the cross-beam 3.

17 indicates a small sprocket-wheel rigidly secured on the counter-shaft 15.

18 indicates the conical member of the friction-clutch, which coöperates with the member 12, above noted, is provided on its hub with an annular groove 19, and is mounted on said counter-shaft 15 with freedom for axial or sliding movement, as shown, by means of a feather-joint 20. A coiled spring 21 on the counter-shaft 15, compressed between the sliding clutch member 18 and the sprocket 17, normally holds said clutch member 18 in frictional engagement with the coöperating clutch member 12. The sliding clutch member 18 is adapted to be moved out of engage-

ment with the clutch member 12 or pressed into tighter engagement therewith by means of a shipper-lever 22, pivoted to the upper end of the standard 16 and connected by a link 23 with the upper end of a shipper-fork 24, which in turn is pivoted to a top board 25 and engages the annular groove 19 of said clutch member 18. The free end of the shipper-lever 22, it will be noted, stands within easy reach of the driver seated on the seat 6.

26 indicates a large sprocket-wheel that is rigidly secured on the driving-axle 8.

27 indicates an intermediate counter-shaft that is mounted in suitable bearings 28, secured one on each of the cross-beams 2 and 3. This counter-shaft 27 is provided with a small sprocket-wheel 29 and a large sprocket-wheel 30, that stand in line, respectively, with the sprocket-wheels 26 and 17.

In Figs. 2 and 3, 31 and 32 indicate, respectively, sprocket-chains that run over the sprocket-wheels 26 29 and 30 17.

Through the driving connections above described the advance movement of the machine will revolve the reel 14 in a direction to wind up the wire which extends in the direction of the machine's travel, and the timing of the said driving mechanism is such that the reel when given its maximum speed will take up the wire faster than the advance movement of the machine. The parts of the friction-clutch are held together by the spring 21 under sufficient friction to cause the wire to be wound under approximately the desired tension, but will slip whenever the winding resistance upon the wire is increased beyond the predetermined tension. If, however, it is desired to wind the wire under an increased tension, it is only necessary to force the members of the clutch into tighter engagement by means of the lever 22; or if, on the other hand, it is desired to stop the winding for any period of time or to decrease the normally set winding tension this may, as is obvious, also be readily accomplished by manipulating the said shipper-lever 22.

In order to properly guide the wire onto the reel, I employ a device which is preferably constructed as follows: 33 indicates a funnel-shaped guiding-head carried by a stem 34, that rises from a base 35. This base 35 is provided with a depending dovetailed flange 36, that works in a correspondingly-formed groove or channel of a guide 37, secured on the right-hand end of the forward frame timber. In this manner the base 35 and its funnel-shaped guide 33 are mounted for movement parallel to the axis of the reel 14. The adjustments of the said parts are accomplished by means of a lever 38, pivoted

to a bracket 39 on the standard 16 and connected at its forward end to the base 35 by means of a link 40. The rear end of the lever 38, as well as of the lever 22, stands within easy reach of the rider seated on the seat 6.

By means of the guiding device above described the roughest of wire, such as barbed fence-wire, may be properly guided to the reel while the machine is in motion.

When it is desired to remove or replace one of the reels 14 which has been filled, it is necessary, first, to remove the hand-crank 11, and then, after having removed the pins 1^c, to remove the end beam 1^a, together with its standard 4. When the hand-crank 11 is in place and the parts of the friction-clutch are separated, wire may be wound onto the reel by hand and while the machine is standing still. Preferably I also provide the machine above described with means whereby a filled reel may be loosely supported, so that the wire may be readily unwound and distributed along the course of the machine's travel. For this purpose brackets 41 are secured to the cross-beams 2 3 and their standards 5 16. 42 indicates a mandrel or spindle upon which the loaded reel may be placed.

It will of course be understood that various alterations in the construction above specifically described may be made without departing from the spirit of my invention.

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

1. A wire-winding machine, comprising a truck, a windlass carried by said truck, driving mechanism extending between the traction wheel or wheels of said truck and said reel, involving a friction-clutch normally set under spring tension, and a shipper-lever for operating the said clutch, so as to vary the frictional action of said clutch, from its set tension, substantially as described.

2. In a wire-winding machine, the combination with the truck-frame 1, with removable end beam 1^a, and vertical standards 4, 5 and 16, said beam 4 being secured to and movable with said end beam 1^a, of a reel-shaft mounted in said standards and provided with a removable hand-crank at one end, a reel adapted to be placed onto the angle end of said reel-shaft by endwise movement, and driving mechanism between the traction wheel or wheels of said truck and the said reel-shaft, substantially as described.

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

ELI S. MORKRE.

Witnesses:

OLE T. BERG,
E. S. PERSON.