

No. 635,365.

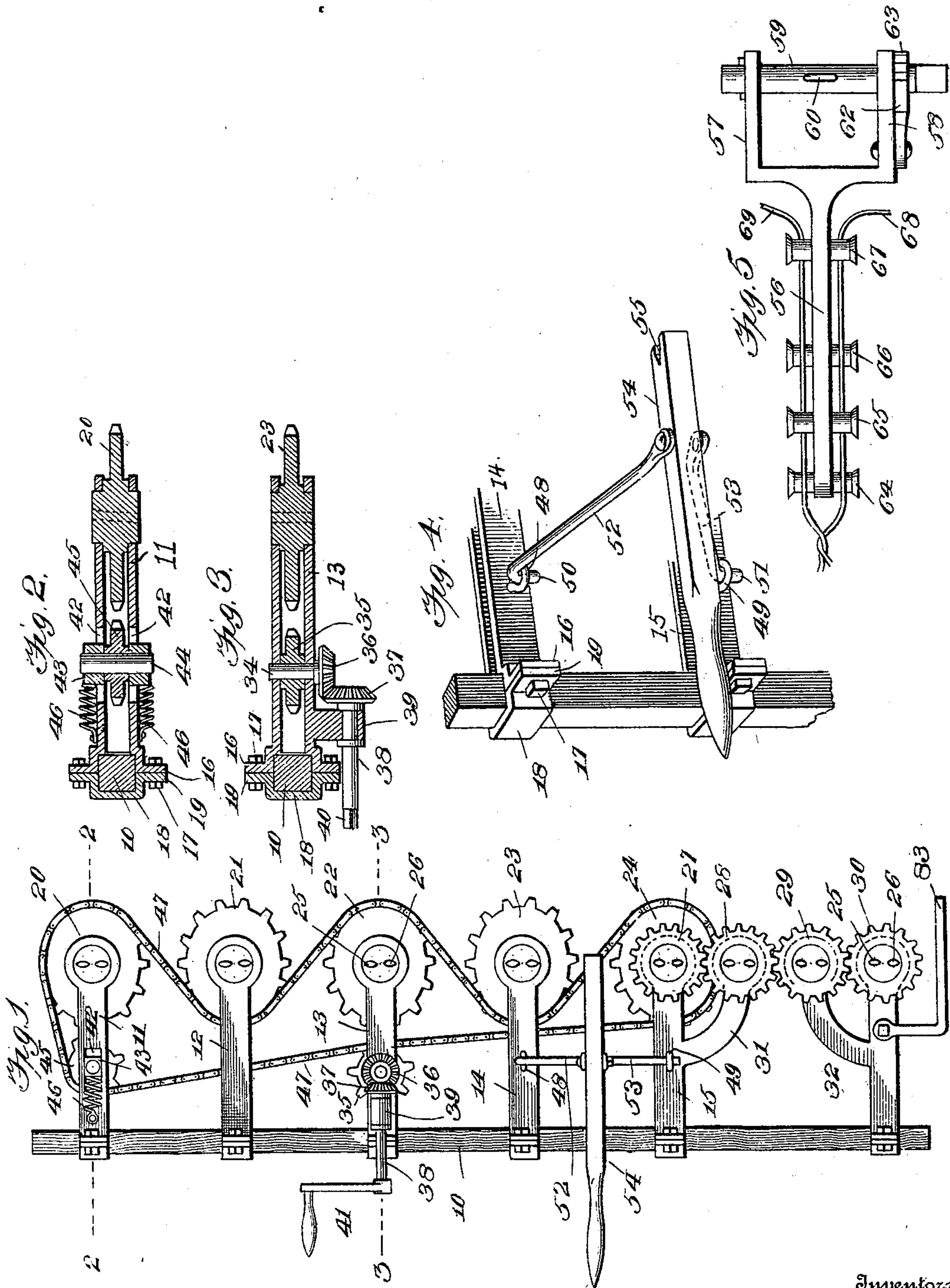
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G. P. A. WEISENBORN.

FENCE MACHINE.

(Application filed Mar. 22, 1898.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE P. A. WEISENBORN, OF ATTICA, INDIANA.

FENCE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 635,365, dated October 24, 1899.

Application filed March 22, 1898. Serial No. 674,819. (No model.)

To all whom it may concern:

Be it known that I, GEORGE P. A. WEISENBORN, a citizen of the United States, residing at Attica, in the county of Fountain and State of Indiana, have invented a new and useful Fence-Machine, of which the following is a specification.

My invention relates to fence-machines, and particularly to that class of machines used for inserting vertical wire pickets in double-strand wire fences.

The object of my invention is to generally improve the construction and extend the usefulness of such machines.

The particular object of my invention is to provide means in machines of this class whereby greater power is obtained at the time that greater power is needed—namely, at the first crossing of the fence-wires in the operation of twisting them around the pickets.

The further object of my invention is to provide in a machine of this class, in which the amount of power is variable, means for accommodating the various parts during their operation to the variations in the power.

With these objects in view my invention consists in providing in a machine of this class elliptical sprocket-wheels through which the fence-wires are passed, whereby the power necessary to turn these wheels and twist the wires is applied on the long diameters at the moment of first crossing the wires in the operation of twisting.

My invention further consists in a wire-fence machine of this class provided with elliptical sprocket-wheels, through which the fence-wires are passed, in combination with a continuous drive-chain engaging all of the sprocket-wheels and means for taking up the slack of the drive-chain during the operation of twisting.

My invention further consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the appended claims.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying

drawings, forming part of this specification, in which—

Figure 1 is a view in side elevation of my improved fence-machine. Fig. 2 is a horizontal sectional view on the line 2 2 of Fig. 1. Fig. 3 is a similar view on the line 3 3 of Fig. 1 with the crank-handle omitted. Fig. 4 is a detail perspective view especially illustrating the means for holding the machine close to the last-inserted picket. Fig. 5 is a top plan view of one of the tension devices.

Like numerals of reference mark the same parts wherever they occur in the different figures of the drawings.

Referring to the drawings by numerals, 10 indicates a post or standard upon which are adjustably mounted bearing-plates or supports 11, 12, 13, 14, and 15 for the wire-twisting wheels. Each of these supports consists of two plates having lateral rear flanges 16, which are connected by bolts 17 with caps or brackets 18, the bolts 17 passing through the rear flanges 16 and similar flanges 19 of the brackets 18. By loosening the bolts 17 the supports may be raised or lowered and fixed at any desired positions on the standard 10.

In the outer ends of the supports 11, 12, 13, 14, and 15 are journaled sprocket-wheels 20, 21, 22, 23, and 24, which are elliptical in form and are provided through their hubs and trunnions with openings 25 and 26, through which to pass the line-wires of the fence. The trunnion on one side of the sprocket-wheel 24 is extended and is provided with a gear-wheel 27, which meshes with a gear-wheel 28, which in turn meshes with a gear-wheel 29, and that with a gear-wheel 30, all of which gear-wheels are provided with the openings 25 and 26, through which to pass the wires of the fence. The gear-wheel 28 is journaled in the outer ends of curved arms 31, depending from the support 15, the gear-wheel 30 being journaled in the outer end of a support 32 and the gear-wheel 29 in the outer end of curved arms projecting from the upper edge of support 32.

Between the two members of the support 13 is journaled a short shaft 34, upon which is secured a sprocket-wheel 35, said shaft being connected by bevel-wheels 36 and 37 with a shaft 38, journaled in a lug 39, secured on

one side of the support 13 or formed as part thereof, said shaft being provided on its outer end with a square head 40 to receive a crank-handle 41.

5 The sides of the support 11 are provided with slots 42, in which are mounted sliding bearing-blocks 43, in which is journaled a shaft 44, carrying a sprocket-wheel 45. Springs 46, secured to the sliding bearing-
10 blocks 43 at one end and to the support 11 at the other, tend to draw the sliding bearing-blocks toward the standard 10. A drive-chain 47 passes between the two arms or members of the supports 11, 12, 13, 14, and 15, engag-
15 ing with the teeth of the sprocket-wheel 35 on the side nearest the elliptical wheel and with the teeth of the sprocket 45 on the side farthest from the elliptical sprocket-wheels. The chain after passing over the sprocket-
20 wheel 45 passes around the outside of the sprocket-wheel 20, thence around the inside of the sprocket-wheel 21, again passing between the two members of the support 12, thence around the outside of the sprocket-
25 wheel 22, thence around the inside of the sprocket-wheel 23, again passing between the members of the support 14, and thence around the outside and inside of sprocket-wheel 24 and between the members of the support 15.
30 48 and 49 indicate eyes or staples projecting laterally from the sides of the supports 14 and 15 to receive the hook ends 50 and 51 of rods 52 and 53, between which, at their outer ends, is pivoted a lever 54, provided with a
35 vertically-arranged notch 55 in its outer end.

In Fig. 5 I have illustrated my improved tension device to be used with my machine. It comprises a vertically-arranged flat bar 56, having its end bifurcated, forming arms 57
40 and 58, in which is journaled a rod 59, which serves as a drum to wind up an attaching-wire (not shown) which is to be passed through a slot 60 and secured therein and attached at its opposite end to the fence-post, the length
45 of the attaching-wire being adjusted by winding a portion of it upon the drum or rod 59 by means of a crank-handle (not shown) upon the square outer end of the drum. The attaching-rod when wound up is held against
50 being unwound by means of a pawl 62, pivoted on the outside of the bar 58 and engaging the teeth of a ratchet-wheel 63 on the drum or rod, and thus preventing the drum from being turned backward. Projecting
55 laterally from the flat bar 56 are spools or pins 64, 65, 66, and 67, the spools 65 and 67 being in a different plane from the spools 64 and 66, so that the double strands of wire 68 and 69 composing a single line-wire of the
60 fence may be passed alternately under and over the spools or pins 64, 65, 66, and 67 to regulate the tension of the wires while being twisted by the machine.

The construction of my invention will be
65 readily understood from the foregoing description, and its operation may be described as follows: The line-wires of a fence having

been secured at their proper heights to the end post, suitably braced, and having been in the meantime passed through the openings 25
70 and 26 in the sprocket-wheels 20 to 24 and gear-wheels 27 to 30, or as many of them as may be desired, according to the number of line-wires to be placed in the fence, the end post occupying a position in front of Fig. 1,
75 as here drawn, a picket is placed between the wires resting in the notch 55 of the lever 54, when the operator places his leg against the outer end of the handle, pressing it forward and bringing the machine and picket in close
80 proximity. The crank 41 is now turned, which, through the medium of the shaft 38, the bevel-gears 36 and 37, and the sprocket 35, causes the drive-chain 47 to be moved. The first movement of the drive-chain is when
85 the elliptical gears are in the position shown in Fig. 1—that is to say, with the chain engaging the teeth at the extremities of the longest diameters of said gears. This causes a greater leverage in the application of the
90 power, whereby greater power to give the first bend to the wires in the operation of twisting is attained. The rotation of the elliptical sprocket-wheels causes the wires to be twisted about each other, and on account
95 of the form of the sprocket-wheels the chain will be alternately tight and slack as it engages the wider or narrower portions of the sprocket-wheels. This alternating slack and stretch is compensated for by causing the
100 same to pass around the sprocket-wheel 45, which, being normally drawn toward the post 10 by the spring 46, will always keep the drive-chain stretched. The operation hereinbefore described is repeated as each picket is
105 inserted, the lower end of the picket resting upon an arm or bracket 83 until secured in the line-wires, thus insuring regularity in their height.

While I have illustrated and described the
110 best means now known to me for carrying out my invention, I do not wish to be understood as restricting myself to the exact details of construction shown and described, but hold that any slight changes or variations such as
115 might suggest themselves to the ordinary mechanic would properly fall within the limit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by
120 Letters Patent of the United States, is—

1. A fence-machine provided with a series of sprocket-wheels having openings for the passage of the double line-wires of the fence, said sprocket-wheels being elliptical in con-
125 tour, in combination with a drive-chain engaging all of the wheels and passing over an additional sprocket-wheel mounted in spring-impelled bearings, substantially as described.

2. The combination in a fence-machine, of
130 a standard, a series of bearing-bars or supports adjustably secured thereon, a pair of rods provided with hooks at their inner ends to engage staples in two adjacent bearing-

bars or supports, and a lever provided with a V-shaped notch in its outer end, and pivotally mounted on a vertical pin between the outer ends of the rods, substantially as described.

5 3. The combination in a fence-machine, of a standard, a series of wire-twisting sprockets journaled in bearing-bars adjustably secured to the standard, the two members of the upper bearing-bar being provided with longitudinal slots, a pair of sliding bearing-blocks located in said slots, a pair of springs attached to the sliding bearing-blocks and tending to

normally hold them in their positions nearest to the standards, a pin or shaft projecting through the bearing-blocks, a sprocket-wheel 15 mounted on the said pin or shaft, and a drive-chain engaging the series of wire-twisting sprockets and the spring-impelled sprocket, all substantially as described.

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