

W. LOWDEN.
FENCE WEAVING MACHINE.

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WILLIAM LOWDEN, OF MIDDLEVILLE, MICHIGAN.

FENCE-WEAVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 485,418, dated November 1, 1892.

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To all whom it may concern:

Be it known that I, WILLIAM LOWDEN, of Middleville, in the county of Barry and State of Michigan, have invented a new and Improved Fence-Weaving Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of machines which are used for weaving together a series of fence-pickets and their supporting-wires; and the object of my invention is to produce an extremely-simple machine which will run upon the wires, thus obviating the necessity of separate tracks, and which may be very easily and rapidly operated and will weave the fence in a very substantial manner.

A further object of my invention is to construct a machine of the character described which will be extremely durable and cheap and which will not easily get out of repair.

To this end my invention consists in a fence-weaving machine the construction of which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view showing the application of the machine to fence-building. Fig. 2 is a side elevation of the machine. Fig. 3 is a front elevation of the same, but with the driving-chain removed. Fig. 3^a is a sectional plan on the line 3^a 3^a in Figs. 2 and 3. Fig. 4 is an enlarged plan of the hollow sprocket-wheel which forms an essential feature of the invention. Fig. 5 is a longitudinal section of the same on the line 5 5 in Fig. 4, and Fig. 6 is a cross-section on the line 6 6 in Fig. 4.

A main feature of the invention is in the sprocket-wheel 10, which is shown in Figs. 4 to 6. This sprocket-wheel has an elongated hollow hub 11, on the inner and diametrically-opposite sides of which are parallel ribs 12, which form ways or channels for the wire and which merge at one end of the hub in parallel lips 13, which protrude from the end of the hub and between which are journaled the rollers 14. The rollers are adapted to run upon and spread the fence-wires 16, and an aperture 15 is left between the rollers and the

adjacent end of the hub 11, so that the wires may pass readily through the hub, being held and guided by the ribs 12. It will be seen that the parallel ribs form channels in which the wires are held, and the ribs by bearing against the wires enable them to be very easily twisted. The rollers 14 separate the wires, so that a picket may be easily dropped between them, and they also enable the machine to be very easily moved along the wire. In practice the sprocket-wheels are carried in a frame comprising the two parallel side pieces 17, which are secured together by suitable bolts 18, and the sprocket-wheels are journaled in these side pieces, as shown in Fig. 3, so that the wheels will turn between the side pieces and the hub will protrude slightly through both side pieces. There are as many sprocket-wheels journaled one above the other in the frame as there are wires in the fence, and it will be understood that any desired number may be used. The frame has a forwardly-extending bracket 19, which carries a gear-wheel 20, which is turned by a crank 21, and the gear-wheel drives a chain 21^a, which extends over all the sprocket-wheels, as shown in Fig. 2, so that by turning the crank the sprocket-wheels may be simultaneously operated. The frame has on one side a lever 22, which serves as a handle and which has at its upper and lower ends curved arms 22^a, the inner ends of which extend opposite the side of the frame and at right angles to the direction of the wires, as best shown in Fig. 3^a, these arms being centrally fulcrumed in supporting-lugs 22^b, which are secured to the frame. It will thus be seen that the free or inner ends of the arms 22^a extend into the paths of the pickets of the fence, and consequently by throwing the lever 22 forward the inner ends of the arms 22^a are thrown backward and beat the picket firmly into place, after which the wires are twisted, as herein-after described. The frame has also laterally-extending gage-arms 23^a, having gages 23 thereon, which are used in the usual manner to properly space the pickets.

In using the machine the wires 16 of the fence are arranged in pairs in the usual way, and the strands of each pair are passed through the sprocket-wheel, as best shown in Figs. 5 and 6, the strands being held in the

opposite channels of each sprocket-wheel, and the wires are secured to the ordinary supporting-posts and are tightened by any suitable device, such as shown at 24 in Fig. 1.

5 The pickets 25 are dropped one by one between the strands of wire and adjacent to the outer end of the lips 13, and after each picket is put in place the operator swings forward the lever 22, thus throwing the inner

10 ends of the arms 22^a against the picket and beating it to place, and turns the crank 21, thus simultaneously revolving the several sprocket-wheels and twisting each pair of wires, so that the picket will be held firmly in

15 place. The lever 22 when it is swung to beat the picket in place will also move the whole machine forward on the wires, so as to put it in position for the next picket, and the arms of the gages resting against the opposite side

20 of the fence steady the machine, and the gages 23, catching the opposite picket, allow the machine to move the required distance only and hold it firmly in position for twisting. The operation is repeated after each picket is in-

25 serted, and it will be seen that the apparatus may rapidly leave the pickets in place and easily advance the machine along the wires. It will be noticed that by having the arms 22^a at the upper and lower ends of the lever 22

30 they are thus brought into position to strike the upper and lower portions of a picket, so as to crowd it bodily and evenly into the meshes of the wires.

Having thus described my invention, I claim
35 as new and desire to secure by Letters Patent—

1. In a fence-weaving machine, a sprocket-wheel having a hollow hub with channels

within it and on opposite sides and rollers journaled at one end of the hub, substantially 40 as described.

2. In a fence-weaving machine, the sprocket-wheel having a hollow hub with parallel ribs within and on opposite sides of it, said ribs merging at one end of the hub in pro- 45 truding lips, and rollers journaled between the lips and near opposite sides thereof, substantially as described.

3. A fence-weaving machine comprising a frame, a series of sprocket-wheels journaled 50 in the frame and provided with hollow hubs having longitudinal channels within them and on opposite sides, spreading-rollers journaled near the ends of the channels, and a crank-and-chain mechanism for simultaneously re- 55 volving the sprocket-wheels, substantially as described.

4. The combination, with the frame having wire-twisting mechanism thereon, of the swinging lever parallel with the frame and 60 having inwardly-extending arms at its upper and lower ends pivoted to the frame and adapted at their inner ends to strike the fence-pickets, substantially as described.

5. The combination, with the frame having 65 wire-twisting mechanism thereon, of the swinging lever held on one side of the frame and curved arms arranged at the upper and lower ends of the lever, the arms being fulcrumed on the frame and arranged to extend 70 opposite the fence-pickets, substantially as described.

WILLIAM LOWDEN.

Witnesses:

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BELLE THROOP.