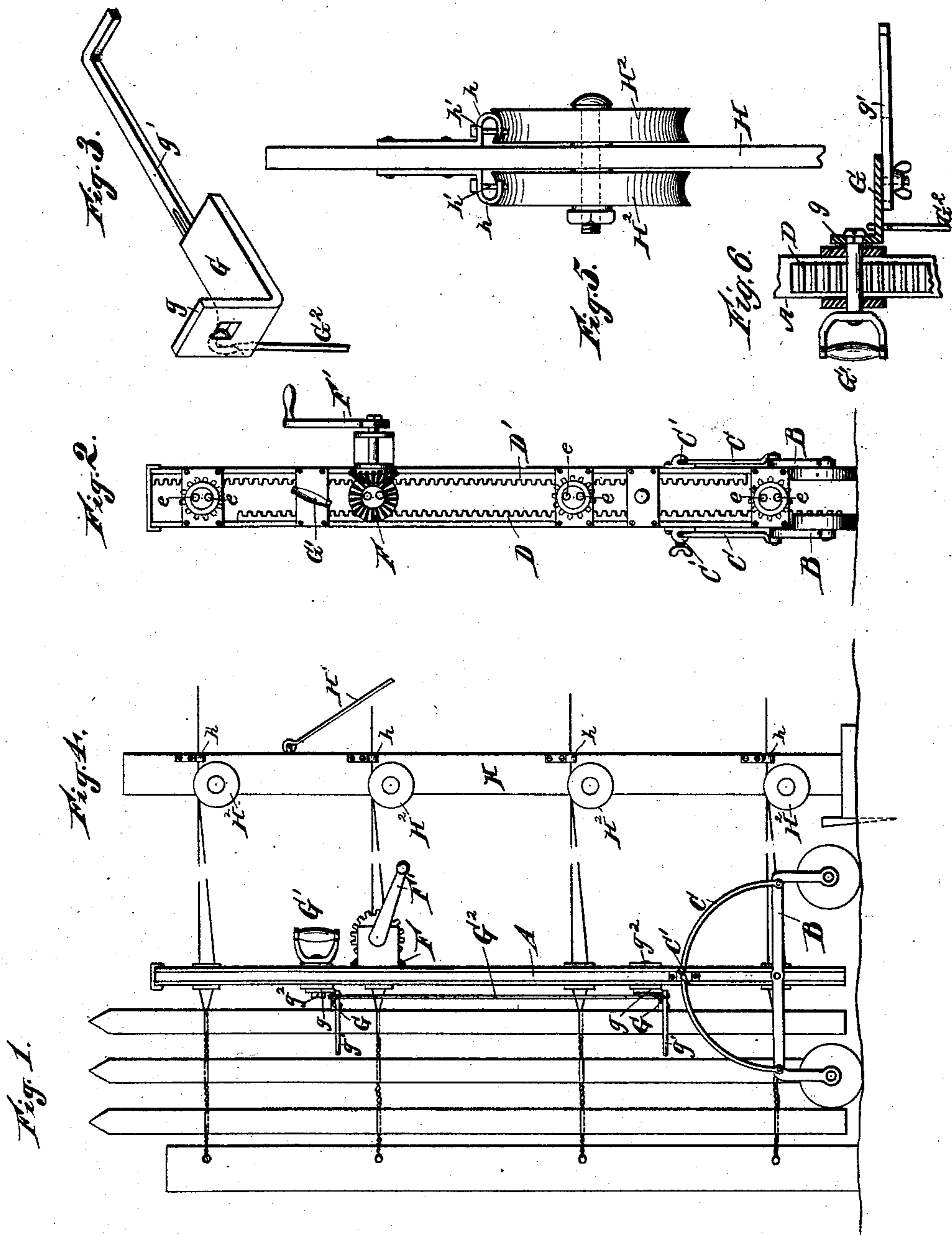


(No Model.)

J. & C. LANE.
WIRE FENCE MACHINE.

No. 389,751.

Patented Sept. 18, 1888.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOHN LANE AND CORNELIUS LANE, OF FLINT, MICHIGAN.

WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 389,751, dated September 18, 1888.

Application filed March 5, 1888. Serial No. 266,168. (No model.)

To all whom it may concern:

Be it known that we, JOHN LANE and CORNELIUS LANE, citizens of the United States, residing at Flint, county of Genesee, State of Michigan, have invented a certain new and useful Improvement in Wire-Fence Machines; and we declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it ap-
15 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention consists of the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a view in elevation of our improved machine in operation of building a fence. Fig. 2 is a front view of
20 our said machine. Fig. 3 is a separate view illustrating our improved picket-holder and spacer. Fig. 4 represents our tension device, and Fig. 5 a detail view of the tension device for one set of strands. Fig. 6 is an enlarged
25 detail view.

It is the purpose of this invention to produce a machine which shall be capable of twisting the wires in the manufacture of a combined wire and paling fence, the machine consisting
30 of a frame provided with two sliding rack-bars which engage upon opposite sides of the twisting-gears, the said rack-bars meshing with a pinion, and the pinion provided with a crank for reciprocating the rack-bars in opposite direc-
35 tions alternately up and down, thereby twisting the wires first in one direction, then in the opposite direction as the palings are inserted. By making the said rack-bars so short that as they are reciprocated up and down the extreme
40 twisting gears will ride off from one rack and be actuated solely by the other, this arrangement enables us to secure a long sweep of the rack-bars, and consequently a number of twists, if necessary, before the descending rack-
45 bar reaches the ground or the lowest point of its stroke, and whereby also we are enabled to produce several twists with the lower gear, as well as those above.

In carrying out our invention, A represents
50 the side pieces or frame of our machine. It is supported upon a truck, B, and through the

medium of a segmental bar, C, and any suitable clamp, C', is capable of being tilted forward or back, so as to maintain the vertical position of the pickets when going up or down
55 a slope.

D D' are rack-bars, located inside the frame, facing each other.

E represents twisting-gears, located between the said rack-bars and meshing with both of
60 them.

F is a driving-pinion, and F' a crank, whereby the device is operated. The twisting-gears have wire-holes through them, as shown at e, through which the strands of wire are passed.
65

Now, it will be observed that these rack-bars are each considerably less in length than the whole length of the frame, and that as one rises and the other descends the former will ride off from the lower twisting-gear, while the lat-
70 ter will ride off from the upper twisting-gear. Therefore it is apparent that the lower twisting-gear may be located close to the ground and yet be twisted a number of times, for it not only is revolved by the upward motion of
75 the ascending rack-bar, but as soon as this rack-bar is about to disengage therefrom the descending rack bar engages the same gear and continues its rotation. It will be apparent from this construction that the lower gear is
80 given half its turns by one rack-bar and the other half by the other rack-bar; or, in other words, if both rack-bars were simultaneously engaged with the gear and maintained thus in
85 engagement the descending rack-bar, in order to give to this gear the same number of twists, would project to a considerable distance below the end of the frame. This construction enables us to locate a strand close to
90 the ground and give to it a number of twists, whereas were both the racks constantly meshed with all of the twisting-gears it would be impossible to work so close to the ground, except by sacrificing the desired number of twists in the wire.
95

Our paling holder and spacer consists of a plate, G, having a heel, g, at an angle therewith and an adjustable arm, g'. The heel g is engaged with the shaft g², and to this is connected a handle, G'. The connecting rod or
100 cable G² serves to operate a similar appliance at the bottom of the picket. The operation

of this part of the mechanism is as follows: The handle G' being in its vertical position, the piling to be inserted is introduced, as shown in Figs. 2 and 3. The machine may then be drawn back until the hook on the arm g' limits its further movement, thus placing the piling or the picket the desired space or distance from the one last placed. One or more twists may then be made. The handle G' is then turned to the right and by means of the shaft g^2 , which is in engagement with the upper end of the heel g , the lower portion of the said heel and with it the adjustable arm g' are thrown out from engagement with the picket and into a vertical plane. The machine may then be drawn past the picket, which is in place and is ready to receive the next picket. This arrangement enables us to produce the first twist very close to the picket, and by thus working close to the picket the twists are made very close and firm.

This device is designed for use with any of the ordinary wire-tension devices.

Our tension devices, which we prefer to employ, consist of an upright, H , with a brace, H' . It is provided upon its opposite sides with pulleys H^2 , arranged in pairs, as shown. Each strand is passed once around its corresponding pulley, and cleats h with pins h' enable us to readily engage the wire upon the pulleys and hold the same in the cleat without threading the end of the wire through the said cleat, it being only necessary to open the cleat by removing the pin.

What we claim is—

1. A fence-machine comprising a frame, in

which are located a series of twisting-gears, and two rack-bars meshing upon opposite sides of said gears, a crank and pinion for operating the same, a support for the frame permitting the forward or backward tilting of said frame, and picket holding and spacing mechanism consisting of plate G , having heel g , adjustable arm g' , and means, substantially as described, for operating said picket holding and spacing mechanism.

2. The combination, with a twisting-machine for making wire fence, of the picket-holder consisting of the plate G and arm g' , eccentrically connected with an operating-shaft and handle G' , the construction being such that the picket may be held by the said device and the device disengaged free from the picket by turning the said handle, substantially as and for the purpose described.

3. The picket holding and spacing mechanism consisting of the plate G , having the heel g , the adjustable arm g' , and means, substantially as described, for operating the same.

4. The wire-tension device consisting of frame H , having sets of pulleys H^2 , and in combination therewith cleats h , with pins h' , adapted to hold the wire in engagement with the said pulleys, substantially as described.

In testimony whereof we sign this specification in the presence of two witnesses.

JOHN LANE.
CORNELIUS LANE.

Witnesses:

HENRY S. HADSALL,
GEO. E. NEWALL.