

(No Model.)

2 Sheets—Sheet 1.

W. T. SUPINGER.
FENCE MACHINE.

No. 513,371

Patented Jan. 23, 1894.

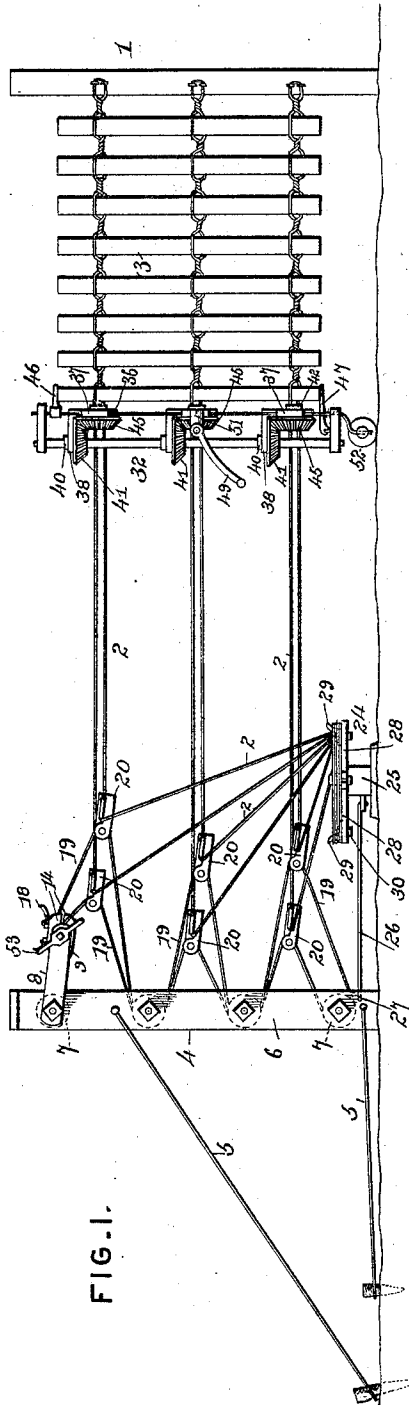


FIG. 1.

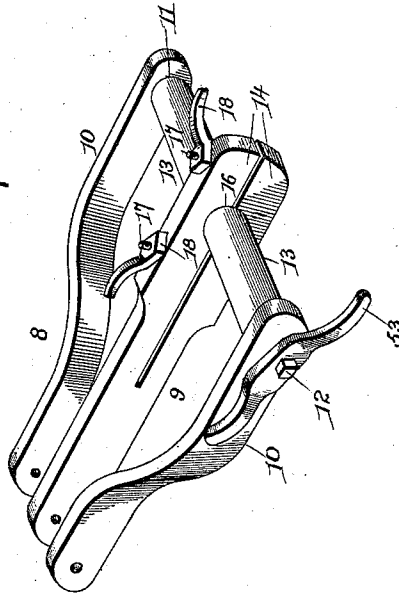


FIG. 7.

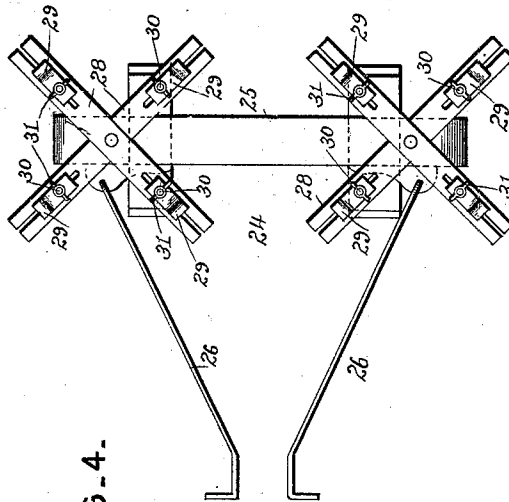


FIG. 4.

Witnesses

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W. T. Supinger

By *his* Attorneys.

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(No Model.)

W. T. SUPINGER.
FENCE MACHINE.

2 Sheets—Sheet 2.

No. 513,371.

Patented Jan. 23, 1894.

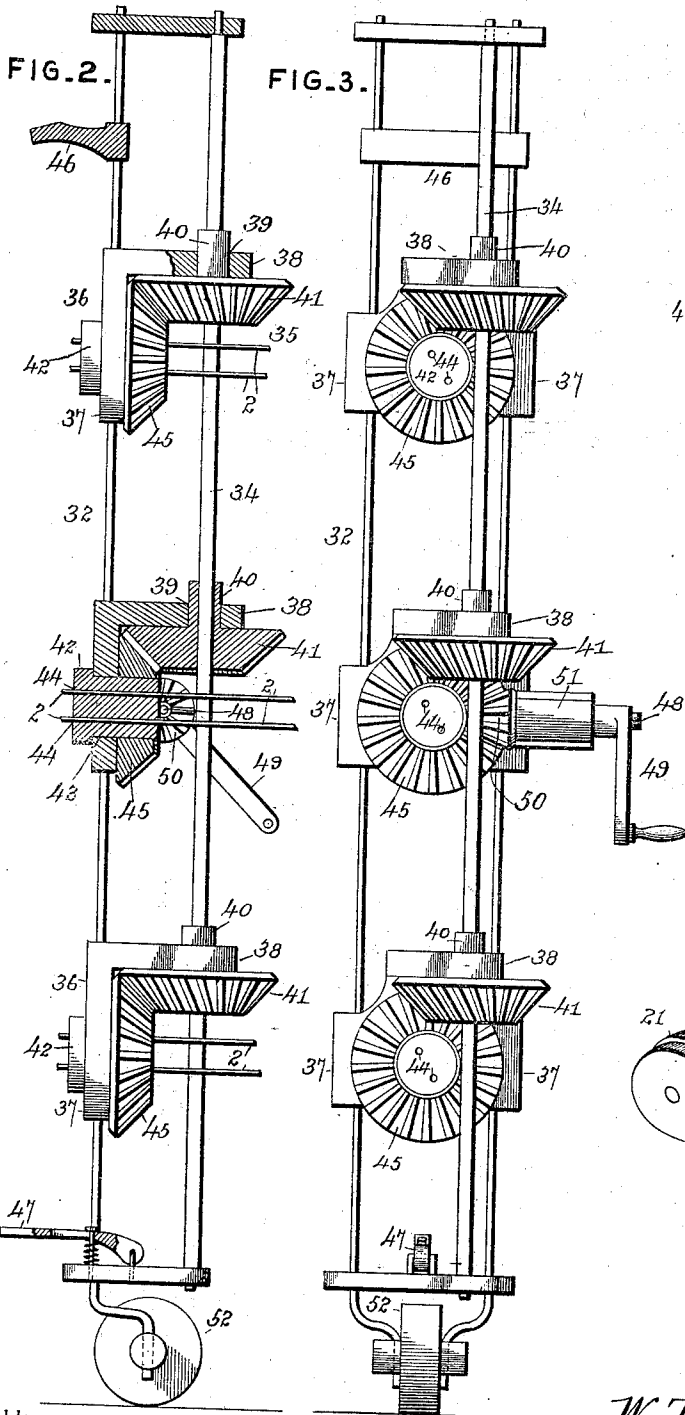


FIG. 5.

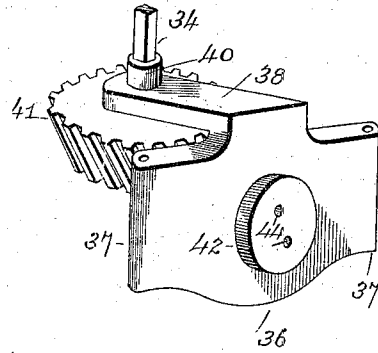
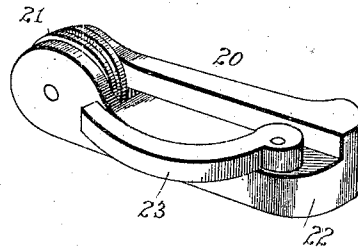


FIG. 6.



Witnesses

Jas. K. McEachran
[Signature]

By His Attorneys.

W. T. Supinger
[Signature]

UNITED STATES PATENT OFFICE.

WILLIAM THOMAS SUPINGER, OF NORTH STAR, OHIO.

FENCE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 513,371, dated January 23, 1894.

Application filed July 18, 1893. Serial No. 480,841. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM THOMAS SUPINGER, a citizen of the United States, residing at North Star, in the county of Darke and State of Ohio, have invented a new and useful Fence-Machine, of which the following is a specification.

My invention relates to fence machines, and it has for its object to provide a construction whereby the twistors may be adjusted readily to the intervals between the wires, and whereby additional twistors may be attached when a greater number of wires is required; to provide means for supporting the pickets during the operation of twisting the wires, and for aligning the upper ends of the pickets; to provide simple and direct means for stretching and feeding the wire, whereby the stretching operation may be carried on as the pickets are secured in place to avoid the necessity of stretching a great length of wire preparatory to attaching the pickets; and to provide certain other features of construction and arrangement to facilitate the connection of the pickets to the wires, and which will be fully described hereinafter in connection with the drawings, and particularly pointed out in the claims.

In the drawings: Figure 1 is a view of a fence in process of erection showing the parts of the fence machine embodying my invention arranged in the operative position. Fig. 2 is a vertical sectional view of the twisting mechanism. Fig. 3 is a front view of the same. Fig. 4 is a plan view of the reel. Fig. 5 is a detail view of the twisting mechanism. Fig. 6 is a detail view of one of the clamps. Fig. 7 is a view of the stretching drum and its supporting yoke.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a post of the proposed fence, 2 the wires which are arranged in pairs, and 3 the pickets which are arranged at right angles to the wires and are adapted to be held in place by the twisting together of the latter.

4 represents a standard forming a part of the stretching mechanism and movable along the line of the fence as the parts thereof are connected and arranged in operative position. The standard is provided with upper and

lower anchoring devices 5, as clearly shown in Fig. 1, and between the parallel bars 6, which form the standard, are arranged pairs of anti-friction rollers or pulleys 7. Pivotaly connected to the standard near its upper end is a yoke 8, comprising the intermediate straight bar or clamp 9, and the duplicate side bars 10, the bars 10 being provided with terminal bearings 11, in which are mounted the trunnions 12, of the drum 13. The intermediate bar or clamp is split or bifurcated to form the parallel arms 14, and is also provided near its free extremity with an opening 16 to receive the center of the body-portion of the drum. The arms of the bifurcated bar or clamp are connected by screws 17, and upon said screws, at the upper side of the uppermost arm, are threaded the adjusting-nuts 18, whereby said arms may be adjusted to clamp and hold the drum against rotation. The stretching cable 19 is reeled at opposite ends upon the drum upon opposite sides of the intermediate bar or clamp and is thence carried successively around the anti-friction rolls or pulleys which correspond in position, approximately, to the number of wires to be employed in the construction of the fence. Small clutches 20, provided with rolls 21, are arranged upon the stretching cable between adjacent sets of anti-friction rolls or pulleys, and are also provided with shoulders 22, and coacting cam-levers 23, to clamp the several wires of the fence and hold the same during the stretching operation.

The reels 24, which I employ in connection with my improved fence machine, are carried in a horizontal position by the bar 25, which is adapted to be arranged across the line of the fence, whereby the reels are located upon opposite sides thereof. Said bar 25 is provided with the retaining hooks 26, which are engaged at their rear ends in perforations 27, near the lower end of the standard. These reels consist, essentially, of radially-disposed arms 28, which are slotted longitudinally, and adjustable blocks 29, provided with screws 30, operating in said slots, and thumb-nuts 31 threaded upon the screws to enable the blocks to be arranged at any desired separation to accommodate reels or coils of wire of any ordinary size.

It will be understood that the wire from the

reels extends directly through the clutches and hence there is no necessity for stretching the wires except as needed, or slightly in advance of the twister.

- 5 The twisting mechanism consists of a carriage or framework 32, having a vertically-disposed rotatable shaft 33, which is angular in section, and parallel guide-rods 34, upon which are slidably mounted the twisters 35.
- 10 Such twisters comprise vertical plates 36, provided with vertically-perforated ears 37, to receive the guide-rods and horizontal arms 38 having terminal bearings 39 in which are mounted the trunnions 40 of the bevel gears
- 15 41. Said trunnions are provided with angular bores to receive the angular shaft, and communicate rotary movement thereto, while at the same time incapable of sliding vertically thereupon.
- 20 42 represents the twisting cores, which are rotatably mounted in central bearings 43, of the vertical plates, and are provided with parallel horizontal perforations 44, to receive the wires composing the fence. Said twister-
- 25 cores are operatively connected by means of beveled pinions 45, to the above-described slidable pinions. In order to prevent the angular shaft from interfering with the direct position of the wires of the fence, the horizontal arms 38 are angularly disposed with
- 30 relation to the twister-carrying plates, thus causing said shaft to stand at one side of the plane of the fence-wires, and hence in order that the bevel gears 41, which are slidably
- 35 mounted upon the angular shaft, may mesh properly with the twister-carrying gear, the teeth of the gear 41 are inclined to the axis of the gear.
- Slidably mounted upon the guide-rods at
- 40 their upper ends is a head-gage 46, which is adapted to regulate the positions of the upper ends of the pickets, and connected to the lower end of the framework of the twisting mechanism is a spring-actuated foot gage or
- 45 rest 47, upon which the lower ends of the pickets are adapted to be placed and by which said pickets are held in contact with the head-gage during the twisting operation. Motion is communicated to the twister-shaft
- 50 by means of an operating-shaft 48, provided at one end with a crank 49, and at the other end with a pinion 50, to mesh with one of the twister-carrying gears. This operating shaft is mounted in a bearing 51, carried by one of
- 55 the slidable plates. A roller 52 is arranged at the lower end of the framework of the twister mechanism, upon which said frame is supported at a uniform distance from the surface of the ground, and whereby the movement of this device as the fence is constructed is facilitated.
- This being the construction of my improved fence machine, the operation thereof, briefly stated, is as follows: The ends of the
- 65 wires being connected to a terminal post, the standard of the stretching mechanism is arranged at a suitable interval from the terminal

post, the wires are engaged by the clutches provided for that purpose, and the drum upon which the stretching cable is reeled is turned 70 by means of a hand-bar 53, to produce the desired tension. When such tension is attained the clamp is operated to lock the drum in its adjusted position. The pickets are rested at 75 their lower ends upon the foot gage or rest and are thereby held with their upper ends in contact with the head-gage, the twisters being rotated in one direction or the other after the arrangement of each picket in order to twist the twin wires in the ordinary man- 80 ner around the same. If the tension caused by the twisting of the wires becomes too great it may be relieved readily by loosening the clamp holding the stretching drum.

It will be understood that the twisters are 85 freely slidable upon the twisting-shaft and the guide-rods, to accommodate any desired arrangement of wires; and furthermore, the head-gage is similarly adjustable upon the guide-rods to accommodate pickets of differ- 90 ent lengths.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of 95 this invention.

Having described my invention, what I claim is—

1. In a fence machine, the combination with a standard, of a series of spaced rollers or pul- 100 leys corresponding in number to the number of fence-wires, a stretching drum and means for operating the same, a cable reeled upon said drum and extending around the spaced rollers or pulleys, and clutch devices carried 105 by the portions of the cable between said rollers or pulleys, substantially as specified.

2. The combination with a standard provided with spaced rollers, or pulleys, of a pivotal yoke, a stretching drum mounted in bear- 110 ings in said yoke, a bifurcated clamping-bar engaging said drum, a stretching cable reeled upon the drum, and clutches provided with rollers or pulleys and engaged with the cable at points between the spaced rollers or pul- 115 leys, substantially as specified.

3. The combination with a standard and stretching devices carried thereby, of reels, a transversely-disposed bar supporting said reels terminally, and stay-rods pivotally con- 120 nected to the said bar and engaging perforations in the lower end of the standard, substantially as specified.

4. In a fence machine, the combination with a stretching mechanism having independent 125 automatically adjustable clutches, connected by a common stretching cable, and means for reeling the cable, of a twisting mechanism having vertically-adjustable twisters, and means for simultaneously operating the same, 130 substantially as specified.

5. The combination with parallel guide-rods, and an angular shaft, of plates slidably mounted upon said guide-rods, twister cores

rotatably mounted in the plates and provided with gears, the intermeshing bevel gears provided with angularly-bored trunnions slidably fitted upon the angular shaft, whereby the twister-cores are automatically adjustable to suit the intervals between the fence wires and means for operating said shaft, substantially as specified.

6. The combination with a supporting framework provided with vertical guide-rods, and twisters slidably mounted upon said guide-rods and capable of independent vertical adjustment, of an adjustable head-gage,

slidably mounted upon one of said guide-rods and capable of rotary adjustment a spring-actuated foot gage or rest, and means for supporting said frame at a uniform distance from the ground, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM THOMAS SUPINGER.

Witnesses:

JAMES HOPPER,
S. H. LIGHT.