

(No Model.)

2 Sheets—Sheet 1.

H. H. VAN ORMER.
WIRE FENCE MACHINE.

No. 524,657.

Patented Aug. 14, 1894.

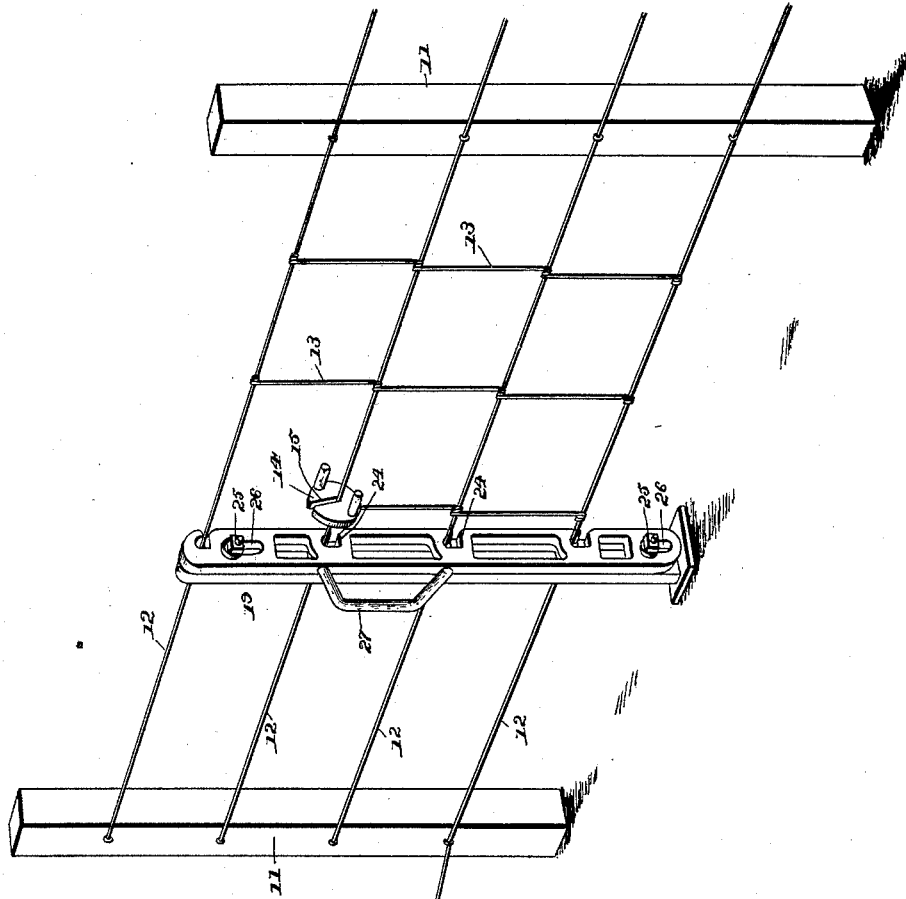
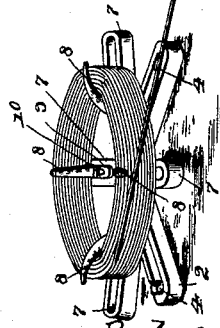


Fig. 1.



Witnesses

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2 Sheets—Sheet 2.

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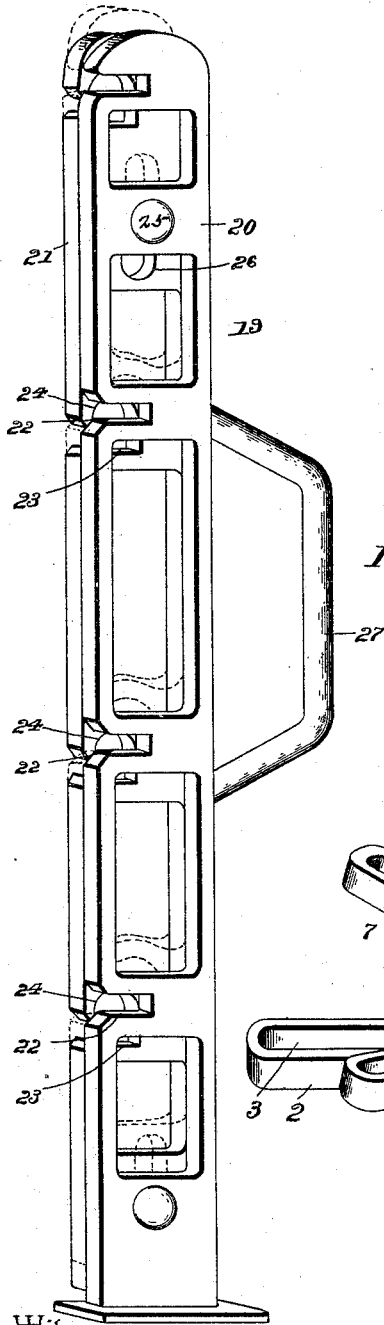


Fig. 2.

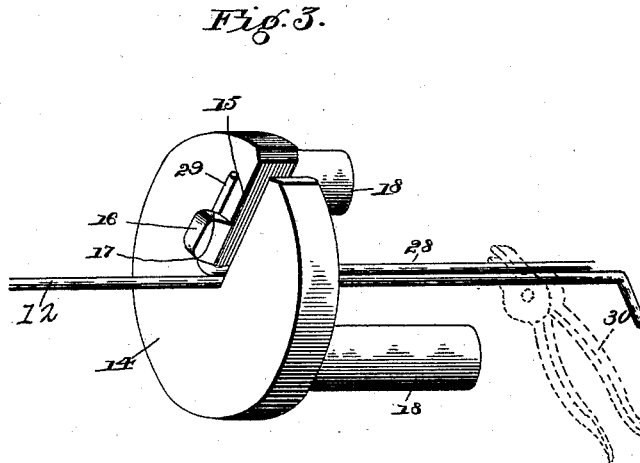


Fig. 3.

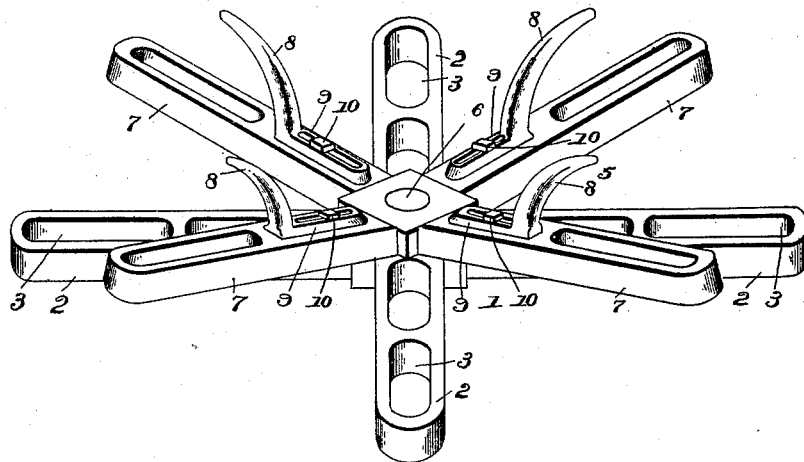


Fig. 4.

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UNITED STATES PATENT OFFICE.

HARRY H. VAN ORMER, OF EDWARDSBURG, MICHIGAN.

WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 524,657, dated August 14, 1894.

Application filed March 23, 1893. Serial No. 467,355. (No model.)

To all whom it may concern:

Be it known that I, HARRY H. VAN ORMER, a citizen of the United States, residing at Edwardsburg, in the county of Cass and State of Michigan, have invented a new and useful Wire-Fence Machine, of which the following is a specification.

My invention relates to improvements in wire fence machines, and refers particularly to means for supporting and feeding the wire, and means for holding the main-wires in position, and properly spaced during the operation of attaching the stay-wires.

The objects and advantages of my invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings: Figure 1 is a perspective view of a section of fence in the process of construction, showing my improved machine in the operative position. Fig. 2 is a detail view in perspective, of the gage whereby the main wires are held in position during the operation of the twister. Fig. 3 is a detail view, in perspective, of the twisting device, as seen when in position to form a splice. Fig. 4 is a detail view, in perspective, of the reel.

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

My improved fence building machine includes a reeling device, consisting of a supporting frame, 1, having radial arms, 2, provided with slots, 3, through which stakes, 4, may be driven into the ground, to hold the reel in place, and a rotary spider, 5, swiveled upon a central vertical spindle, 6, carried by the supporting frame, 1, and comprising radial arms, 7. The arms of the rotary spider carry retaining hooks, 8, which are provided with slotted arms, 9, engaged by bolts, 10, fixed to the arms of the spider. This construction enables the hooks, 8, to be adjusted, longitudinally, upon the arms of the spider to accommodate coils of wire of different sizes, or diameters.

In the portion of a fence which is illustrated in Fig. 1 of the drawings, 11 represents the posts, 12, the horizontal main-wires, secured in any approved manner to said posts, and 13, the vertical stay-wires, which are connected at their terminals, respectively, to the

top and bottom main-wires, and are twisted, at intermediate points, around the intermediate main-wires.

The device constituting a part of my improved fence machine, whereby the stay-wires are twisted around the main-wires at the points of intersection therewith, I have termed a twister, which, in the construction illustrated, consists of a disk, 14, provided with a radial slot, 15, which extends inward from the periphery of the disk and terminates at the center thereof. This disk is provided, adjacent to the inner or central termination of the radial slot, 15, with a lug, 16, having a notch, 17, and upon the opposite side of the disk are arranged the handles, 18, whereby the disk may be turned during operation. To use the twister, it is mounted upon one of the main-wires, with the latter extending through the radial slot, 15, at its inner end, and the adjacent portion of the stay-wire is engaged in the notch, 17, of the lug, 16, after which the disk is rotated, around the main-wire, by means of the handles, 18, thus carrying the stay-wire around the main-wire, until a sufficient number of coils have been formed.

To apply a stay-wire to a fence, the terminal of said wire is first attached in the manner described to one of the terminal main-wires, (either at the top or bottom of the fence) and after this portion of the operation has been completed the twister is removed from the terminal main-wire and applied to the adjacent main-wire and the twisting operation repeated, as described. It is also desirable, in order to hold the main-wires at certain prescribed intervals and prevent their deflection during the operation of applying the stay-wires, to provide a holding device, which, for convenience in description, I have termed a gage.

A gage constructed in accordance with my invention is shown at 19, and it consists, essentially, of two relatively slidable members or bars, 20 and 21. The member or bar, 20, is provided with a series of transverse, open-ended slots, 22, having flared inlet ends to facilitate application to the main-wires, such slots corresponding in number to the number of main-wires in the fence under process of construction, and being spaced at intervals corresponding with those between said

wires. The member or bar, 21, is provided with an equivalent number of similarly spaced recesses, 23, the upper walls of which are concaved or notched as at 24 to engage the main-wires, after the latter have entered the recesses through the similarly flared inlet openings. These members or bars comprising the gage are slidably connected by means of studs, 25, projecting from the side of the member, 20, and fitting in longitudinal slots, 26, in the member 21. The member 21 is also provided with a handle 27, for the use of the operator in disengaging the gage from the main-wires.

When the gage is held in a vertical position by means of its handle 27, as when about to apply the device to a fence, it will be seen that the member 20 will drop by gravity until the studs 25 are disposed at the lower ends of the slots 26, in which relative positions of the members the inlet openings of the notches in the member 21 are opposite or register with the inlet ends of the slots in the member 20, whereby the gage may be applied to the main wires of the fence without manipulation. When the main-wires have entered the inlet openings in the faces of the bars, the handle is released, thereby enabling the member 21 to drop by gravity until the wires are engaged in the upper concaved sides of the notches. In this position of the members of the gage the inlet openings are out of alignment and the wires are locked in place. To disengage the holding device from the wires, elevate the member 21 by means of the handle, as in applying, thereby bringing the inlet openings of the slots and recesses into alignment, as before.

In Fig. 3 I have illustrated the mode of operating the twister in forming a splice which is frequently necessary in the construction of a wire fence. To accomplish this, the adjoining terminals of the sections of wire to be spliced are over-lapped, as shown at 28 in Fig. 3, and the ends of the over-lapped portions are bent outward, perpendicular to the body of the wire, as shown at 29. The twister is now applied to the body portion of the wire, as before described in connection with the main-wire and shown in Fig. 1, and the notched lug carried by the twister is engaged with one of the perpendicular ends of the wire, after which the disk is turned around the body portion of the wire until the loose end is completely coiled; the over-lapped portions of the wire, meanwhile, being held in the proper relative positions by means of a pair of pliers, 30, or other suitable devices. After the completion of the coiling of one end, as described, the twister is transferred to the other end of the splice and the operation repeated in connection with the other end, as will be understood without further explanation.

It will be noted that the lug 16 is arranged contiguous to the inner end of the slot 15,

whereby it engages the terminal of the stay-wire at a point close to the intersection of said wire with the fence wire to prevent bending of said terminal between the point of engagement and the intersection with the fence-wire; and furthermore, the handles 18, which are perpendicular to the plane of the disk, are disposed at diametrically-opposite points of the latter, whereby, in operation, they lie upon opposite sides of, and are parallel with the fence wire, whereby the strain, in twisting the stay-wire, is equalized to prevent deflection of said wire. Furthermore, the improved twister may be turned by the operator while standing with his side to the fence, and with the twister arranged close to the plane of the gage to avoid deflection of the fence wires. This leaves the left hand of the operator free to manipulate the gage.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a fence machine, the combination with a twisting device for attaching the stay-wires to the main-wires, of a gage comprising relatively slidable members provided with slots arranged transversely to the direction of movement to receive the main-wires, such slots being normally out of registration, substantially as specified.

2. In a fence machine, the combination with twisting mechanism, of a gage comprising relatively slidable members provided, respectively, with transverse slots and notched recesses, the inlet openings of said slots and recesses being normally out of alignment, and means to operate said members to align the openings, substantially as specified.

3. In a fence machine, the combination with twisting mechanism, of a gage comprising a member or bar, 20, provided with transverse slots, and a member or bar, 21, provided with notched recesses, and means for connecting said members or bars whereby they are capable of independent longitudinal movement to cause the inlet openings of said slots and recesses to register, substantially as specified.

4. In a fence machine, the combination with stay-wire attaching mechanism, of a spacing device or gage provided with spaced openings to receive the main fence wires, and means to automatically lock the wires in such openings when said device is released, 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.

HARRY H. VAN ORMER.

Witnesses:

T. W. BEAN,
J. D. BEAN.