(No Model.) 2 Sheets—Sheet 1.

R. R. CARTER.

FENCE WEAVING MACHINE.

No. 412,069. Patented Oct. 1, 1889.

Fig. 1.

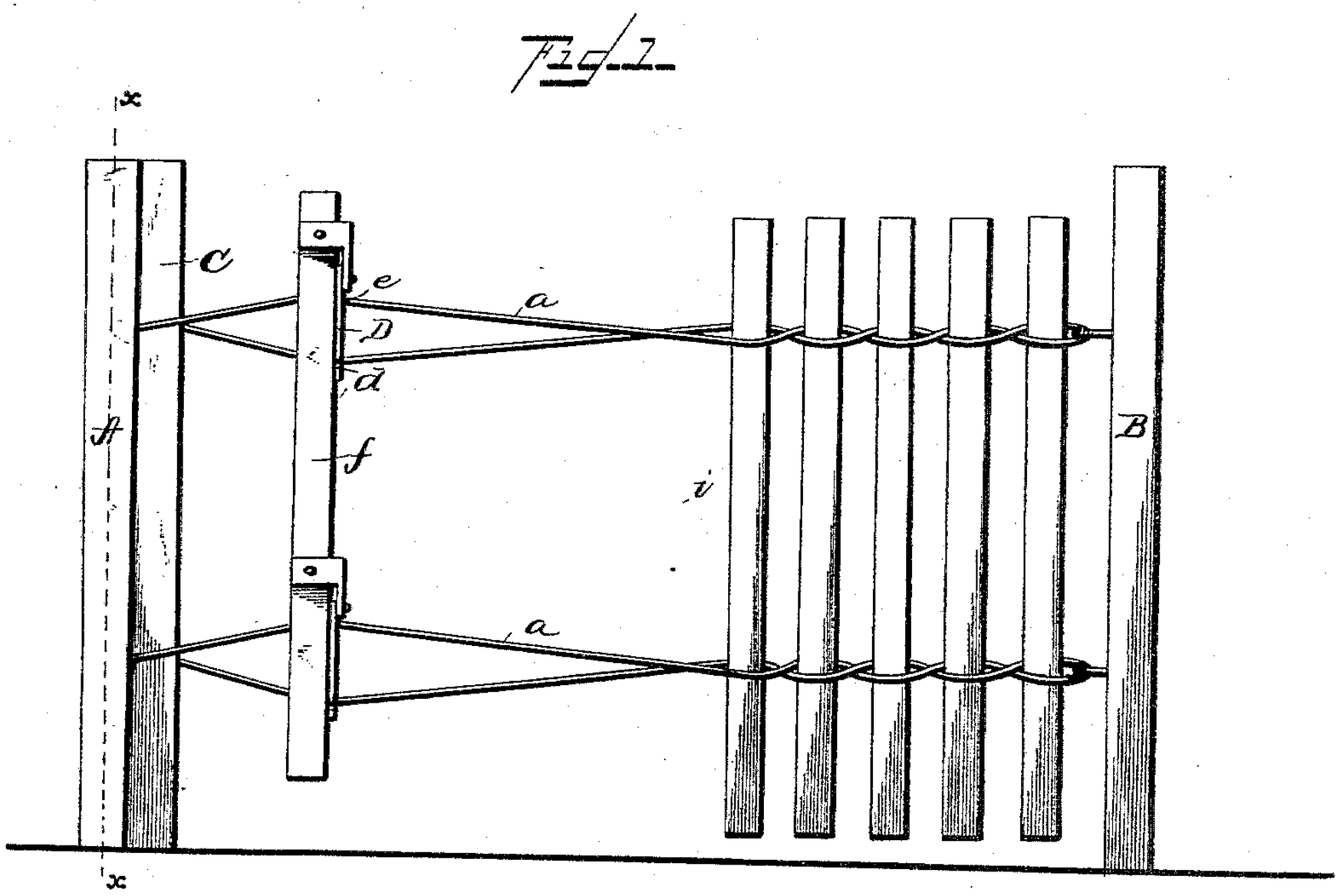
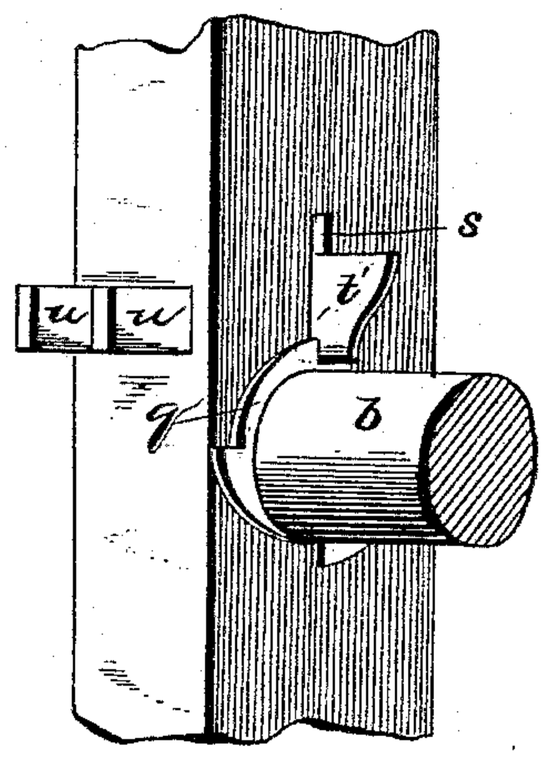


Fig. 3.



WITNESSES
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

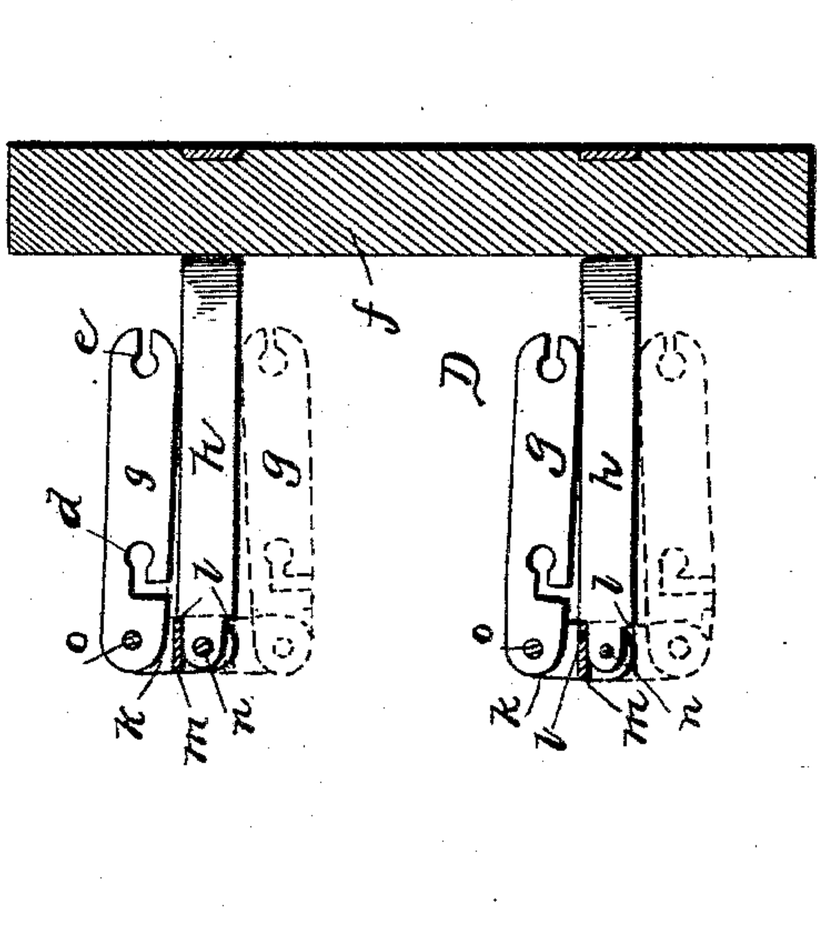

Fig. 5.

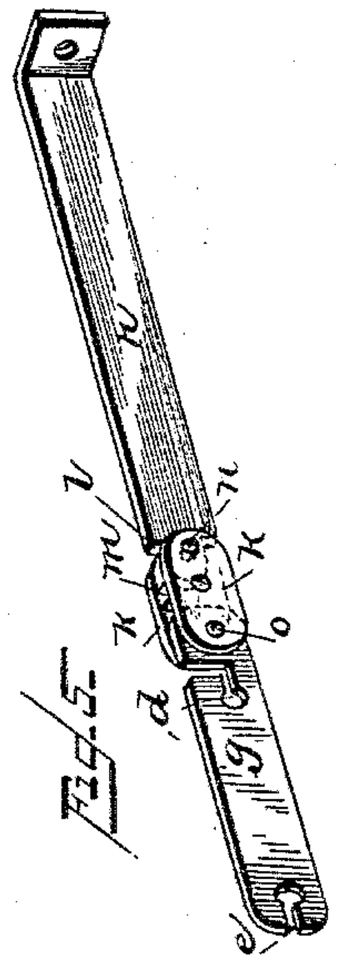

Fig. 1.

Fig. 2.

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UNITED STATES PATENT OFFICE.

RUFUS R. CARTER, OF BASIL, OHIO.

FENCE-WEAVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 412,069, dated October 1, 1889.

Application filed May 18, 1889. Serial No. 311,241. (No model.)

To all whom it may concern:

Be it known that I, RUFUS R. CARTER, a citizen of the United States, and a resident of Basil, in the county of Fairfield and State of Ohio, have invented certain new and useful Improvements in Fence-Weaving Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to fence-weaving machines, and has for its object to simplify the construction and also to increase the efficiency and facility of operation of that class of machines.

With these objects in view my invention consists in the improved construction and combination of parts of a machine of that class, which will be hereinafter more fully described and claimed.

Figure 1 represents a side elevation of the machine in operation. Fig. 2 is a vertical cross-section of the reel-frame on the line *x x* in Fig. 1. Fig. 3 represents one of the ratchet-wheels and pawls used in conjunction with and forming a part of my machine. Fig. 4 is a transverse sectional view of the twister. Fig. 5 is a detail view in perspective of the detached arm and wire-holder of the twisting device.

Like letters of reference denote corresponding parts in all the figures.

In operating the machine the wires *a* are first wound on the reels *b b'* (arranged in pairs) of the reel-frame A. A convenient way to fasten the wires *a* in beginning to wind is to run the ends through holes *c* in the reels *b b'*. These holes *c* should be near the inner ends of the reels *b b'* in order to bring the tension near the post C in unwinding. The free ends of the wires *a* are fastened to a starting-post B of the fence and the reel-frame A placed at a convenient distance against any other post C, where the tension of the wires *a* holds it in position.

At a short distance from the starting-post B the wires *a* are put into the slots *d e* of the twister D, the relative position of the parts of the twister D being either as shown in the heavy or as shown in the dotted lines of Fig. 4. The slots *d e* of the wire-holders *g* are narrow at their outer ends and enlarged at their inner ends to keep the wires *a* from slipping out when the twister D is being operated. The handle-bar *f* of the twister D is then moved laterally through a semicircle, bringing the slotted wire-holders *g* into a straight line with the arms *h*, which are fixed to the handle-bar *f* at right angles. This movement gives the wires *a* a single turn. A slat *i* is then placed between the wires *a* and the handle-bar *f* again moved through a semicircle, but in the opposite direction, giving the wire a single turn and bringing the slotted wire-holders *g* back to the relative position occupied at starting.

If it is desired to give the wires *a* a full twist between the insertion of slats *i*, the handle-bar *f* of the twister is made to describe a lateral circle, bringing the parts of the twister D from the relative position shown in the heavy lines in Fig. 4 to the relative position shown by the dotted lines in the same figure, or vice versa. It will be seen that the slotted wire-holders *g* are connected with the arms *h* by being pivoted to the hinge-pieces *k*, which in turn are pivoted to the arms *h*, forming a double hinge. The hinge-pieces *k* are made double, inclosing the hinged ends of the arms *h* and slotted wire-holders *g*. The hinged ends of the arms *h* have shoulders *l*, against which a stop *m* in the center of hinge-piece *k* strikes, thus allowing the hinge-piece *k* to turn only through a semicircle on the pivot *n*. The stop *m* also serves as a guard to wire-holders *g* and allows them to make but a semicircular turn on the pivot *o*.

As the slats are woven into the fence the twister D is moved along by sliding the wire-holders *g* along the wires *a*. The reels *b b'* are turned to wind on wire or to regulate the tension in weaving by long dowels *p*, which are driven through the reels *b b'* and form convenient opposite projecting levers.

To facilitate in operating the machine, it is necessary to have a convenient way to fasten the reels *b b'* when a desired amount of wire has been let off or when the tension has been regulated. This is accomplished by fixing to the inner end of each reel *b b'* a ratchet-wheel *q* and placing in the mortises *s* of the center stanchion *r* slotted pawls *t t'*, which slide up and down on rectangular bars *u*, driven longi-

tudinally through the stanchion *r* and through the slots *w* of the pawls *t t'*. If it is found in operating that the pawls *t t'* do not play with sufficient ease on the rectangular bars *u*, they may be replaced by oval or round bars, or the pawls may be pivoted in the usual manner.

It will be seen that in the reel-frame A two, three, or even more pairs of reels *b b' b²* may be inserted according to the number of strands of wire it is desired to weave into the fence. The number of arms *h* and slotted wire-holders *g* of the twister D must of course correspond with the number of pairs of reels *b b'* in use. If it is desired to avoid letting off each strand of wire *a* separately, the wire may all be wound on the lower pair of reels *b'*, the strands being kept separate by projecting dowels *x y*. The strands of wire *a* intended to be woven into the top of the fence will then be passed over the top reels *b*, which will be allowed to revolve whenever the bottom reels *b'* are let off and without using the pawls *t*, said pawls being permanently raised from engagement with the ratchets on the upper reels. When there are three sets of reels in use, the wires *a*, intended for the center of the fence, may in like manner be wound on the bottom reels *b'* and passed over the center reels *b²*.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a fence-machine of the type described, the twister having a wire-holder *g*, pivoted to a hinge-piece *k*, which in turn is pivoted to an arm *h*, secured to a handle-bar, forming a double hinge and adapted to give the wire a single turn or a whole twist, substantially as and for the purpose set forth.

2. In a hand-weaving fence-machine, the reel-frame combining the following elements: suitable uprights or standards, one of said standards being provided with transverse mortises, pawls passing through said mortises and provided with centrally-elongated slots and extending laterally from the upright, said lateral extensions being notched, rectangular bars passing longitudinally through the stanchions and also passing through the elongated slots of the pawls, the reels adapted to carry wire substantially in the manner described and provided with dowels to regulate the tension of the wire, and the ratchet-wheels attached to the inner ends of said reels, all constructed and combined to operate in connection with the wire and fence-posts substantially as set forth.

3. In a fence-machine of the type described, the twister consisting of the laterally-extending arm provided with a shoulder, the hinge-piece pivoted to said arm and provided with a central stop or guard, and the wire-holders articulating with the hinge-piece and provided with slots having enlarged inner ends, in combination with the handle-bar, substantially as set forth.

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

RUFUS R. CARTER.

Witnesses:
JOHN M. CRIPPS,
JOHN W. CHAPMAN.