

2 Sheets—Sheet 1.

FENCE MACHINE.

Patented Dec. 27, 1887.



Fig. 8.

Witnesses

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(No Model.)

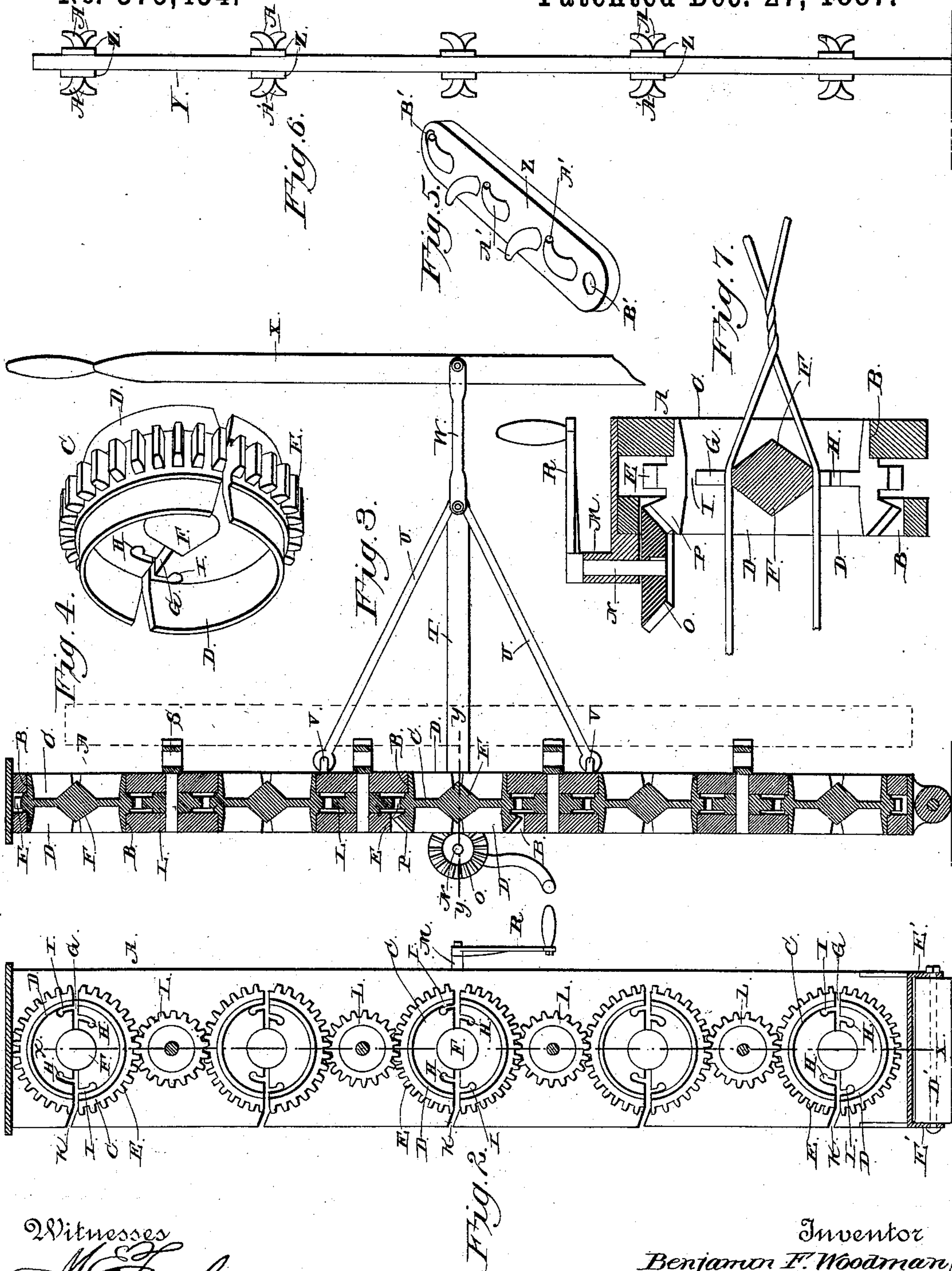
2 Sheets—Sheet 2.

B. F. WOODMAN & L. H. EVANS.

FENCE MACHINE.

No. 375,434.

Patented Dec. 27, 1887.



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UNITED STATES PATENT OFFICE.

BENJAMIN F. WOODMAN AND LYMAN H. EVANS, OF PARSONS, KANSAS.

FENCE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 375,434, dated December 27, 1887.

Application filed October 7, 1887. Serial No. 251,748. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN F. WOODMAN and LYMAN H. EVANS, citizens of the United States, residing at Parsons, in the county of Labette and State of Kansas, have invented a new and useful Improvement in Fence-Machines, of which the following is a specification.

Our invention relates to an improvement in fence-machines; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of our improved fence-machine, illustrating the manner of using the same to build a fence. Fig. 2 is a vertical sectional view of our improved fence-machine. Fig. 3 is a similar view taken on the line $x x$ of Fig. 2. Fig. 4 is an enlarged detail view of one of the twist-ers. Fig. 5 is a similar view of one of the tension-plates. Fig. 6 is an edge view of the tension-bar, showing the tension-plates attached to opposite sides thereof. Fig. 7 is a horizontal sectional view taken on the line $y y$ of Fig. 3. Fig. 8 is a detail view showing the manner of arranging the wires.

A represents a hollow frame or case, which is of the form shown, and is provided in its front and rear sides with a vertical series of aligned openings, B.

C represents a series of circular twist-ers, which are provided on opposite sides with projecting circular flanges D, which are journaled in the openings B. The said twist-ers are also provided with peripheral gear-teeth E, which are arranged between the flanges D. The twist-ers are further provided at their centers with cones F, which project in opposite directions.

G represents a pair of radial open slots which are made in the webs of the twist-ers, and extend from the cones F through the peripheries of the twist-ers, the said slots being arranged at diametrically-opposite points in the twist-ers.

H represents short curved open slots which extend in opposite directions from the slots G at a suitable distance from the inner ends thereof, and I represents similar short curved open slots, which also extend from opposite

sides of the slots G at suitable distances beyond the slots H. In one side of the case A are a number of openings, K, which are adapted to register with the slots G at each semi-rotation of the twist-ers.

L represents a series of gear-wheels, which are also journaled in the front and rear sides of the case A, one of the said gear-wheels being arranged between each pair of the twist-ers and meshing with the spur-teeth thereof. To the front side of the case A is secured a bearing-box, M, in which is journaled a shaft, N. This shaft is provided at its inner end with a miter gear-pinion, O, which meshes with miter gear-teeth P on the front side of the central twister. To the upper end of the said shaft is attached a crank, R, by means of which the said shaft may be rotated so as to cause the pinion O to impart rotary motion to the central twister and from the same to the remaining twist-ers in the box or case.

S represents a series of horizontal arms which project from the rear side of the case A, and have their outer ends bifurcated, as shown in Fig. 1.

T represents an arm which projects rearwardly from the case A and is braced in position by means of rods U, the front ends of which are pivotally connected to eyebolts V on the rear side of the case. To the outer end of the arm T is pivoted a link, W, and to the outer end of the said link is pivoted a handle, X, the lower end of which is adapted to engage one of the pickets in the fence while the same is being constructed.

Y represents a tension-board, to the opposite sides of which are secured a series of horizontally-arranged tension-plates, Z, one pair of the said tension-plates being employed for each rotary twister in the case A. The said tension-plates are provided on their outer sides with projecting fingers A', which are inclined in opposite directions alternately. The said tension-plates are further provided at their ends with openings B', through which screws are passed to screw the tension-plates firmly to the tension-board.

The operation of our invention is as follows: Posts a are secured in the ground at suitable distances apart, and at a suitable distance beyond one end of the proposed line of fence is

anchored a frame, *b*, in which is journaled a series of bobbins, *c*, having wires *d* such as are to be employed in making the fence. The tension-board *Y* is arranged in a vertical position at the inner end of the frame *b* and beyond the end of the proposed fence, and the wires are drawn over the bobbins and passed between the fingers of the tension-plates, which stretch along the fence-line and have their ends secured to the starting-posts by means of staples or in any other manner. The said wires are arranged in pairs, as shown. The operator then causes the twisters in the case *A* to turn until the slots *G* on one side of the twisters register with the openings *K* in the case, and he then forces one of the wires of each pair into the said slots *G* through the openings *K*, and causes the twisters to move through half a rotation by turning crank *R* until their opposite slots, *G*, register with the openings *K*, when the remaining wires are inserted in the said slots *G*, two of the wires being thus passed through the slots in each twister. The machine is then moved to within a slight distance of the starting-post, and the crank is turned so as to cause the twisters to rotate and twist the wires together in pairs. The machine is then moved forward a slight distance, and a picket, *e*, is passed downward between the bights of the wires and caused to bear against the rear bifurcated ends of the arms *S*. The crank is then turned in a contrary direction, so as to cause the twisters to rotate and twist the wires together in advance of the picket, and the machine is then moved forward a slight distance and another picket inserted and twisted between the wires, and so on until a few pickets have been secured in place, after which the operator causes the lower end of the hand-lever *X* to engage the front side of each picket in succession, and he moves the machine forward a suitable distance after inserting each picket in place by means of the said lever *X*, as will be readily understood. By forcing the upper end of the lever *X* rearward, as each picket is inserted in the bights of the wires, the machine is caused to move rearward on the fence-line, and the arms *S* press the picket rearward in the bights of the wires, and thus arrange the pickets at the proper distance apart.

In order to facilitate the movement of the machine along the fence-line, we journal a roller, *D'*, between a pair of ears, *E'*, that de-

pend from the lower end of the machine, and place a plank or board, *f*, on the ground to serve as a track for the roller. The fingers of the tension-plate exert a sufficient tension on the wires to keep the same stretched to the desired extent while the pickets are being secured between the wires.

When the wires are at the inner ends of the slots *G*, they are arranged at only a slight distance apart. If it is desired to arrange the wires at a greater distance apart, they are caused to enter the slots *H*, and if it is desired to still further widen the spaces between the wires this may be accomplished by arranging the wires in the slots *I*.

Having thus described our invention, we claim—

1. The combination, in a fence-machine, of the casing *A*, the rotary twisters journaled thereon and having the peripheral gear-teeth, the radial open slots *G*, and the slots *H* and *I*, communicating therewith, one of said twisters being also provided with beveled gear-teeth *P*, the pinions *L*, arranged intermediately of the twisters and working therewith, the box *M*, secured to the case, and the shaft *N*, journaled in said box, having the beveled pinion *L* at its inner end meshing with the teeth *P*, and the crank at its outer end, substantially as described.

2. The rotary twisters having the radial open slots *G*, and the curved slots *H* and *I*, extending from opposite sides of the said slots *G* and communicating therewith, substantially as described.

3. The combination, with the case *A*, having the projecting arms *S* and the twisting devices, of the arm *T*, secured to said case, the link *W*, pivoted to the outer end of said arm, and the hand-lever *X*, pivoted to the said link, substantially as described.

4. The combination of the tension-bar and the plates *Z*, secured thereto on opposite sides thereof, the said plates having the fingers *A'* projecting therefrom in opposite directions alternately, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

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Witnesses:

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