

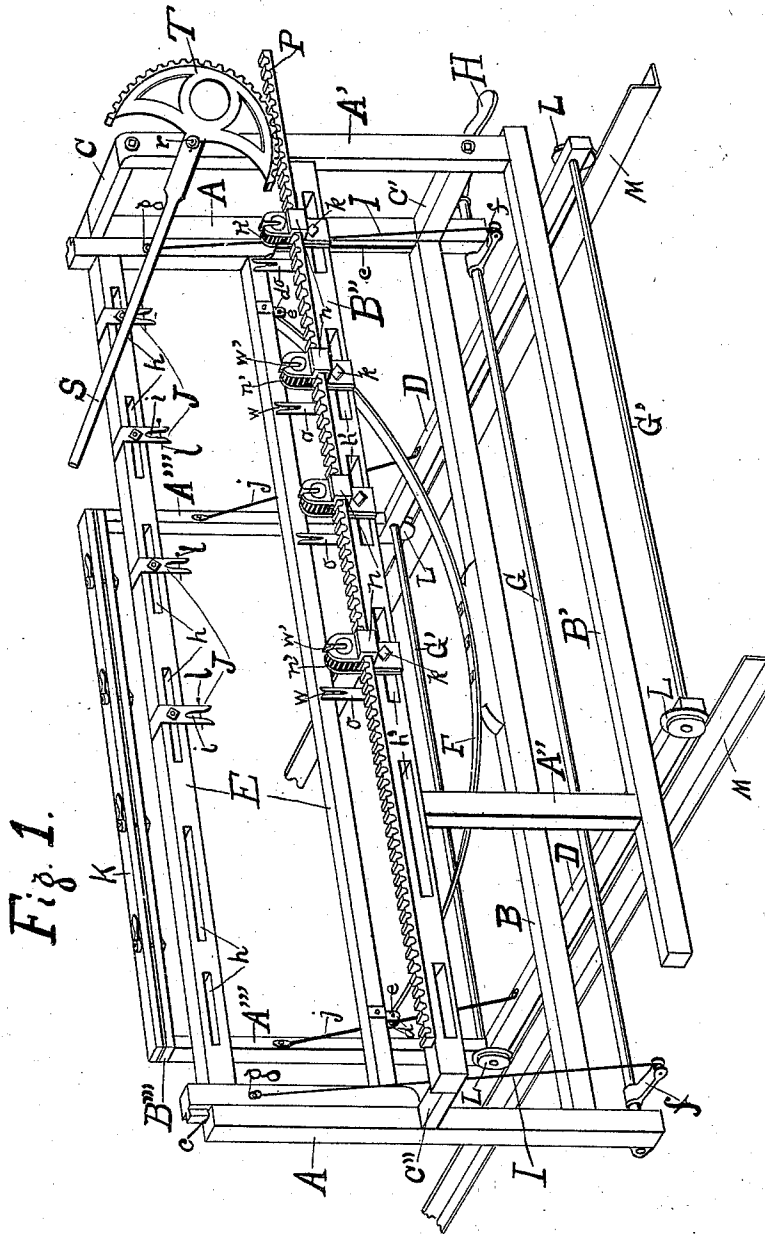
(No Model.)

2 Sheets—Sheet 1.

J. W. DWIGGINS.
WIRE FENCE MACHINE.

No. 545,854.

Patented Sept. 3, 1895.



WITNESSES:

S. E. Barnard.

G. A. Jopp.

INVENTOR

John W. Diggins.

BY

Heber S. Parmer,
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(No Model.)

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Fig. 2.

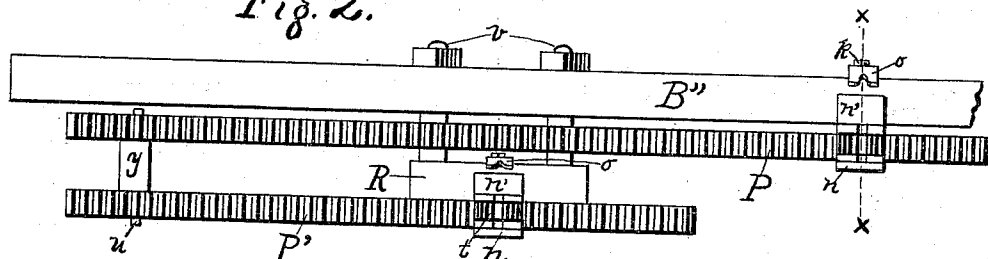


Fig. 4.

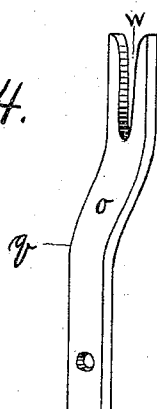
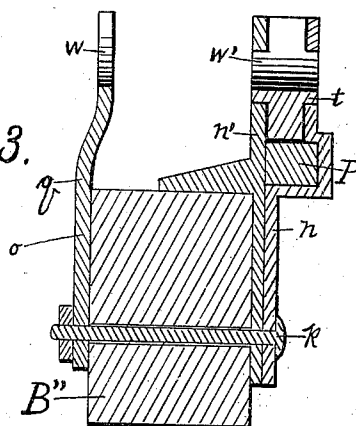


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN W. DWIGGINS, OF FRANKTON, INDIANA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF TWO-THIRDS TO LEROY URMSTON AND JOHN D. GOODING, OF SAME PLACE.

WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 545,854, dated September 3, 1895.

Application filed November 12, 1894. Serial No. 528,540. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. DWIGGINS, a citizen of the United States, residing at Frankton, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Wire-Fence Machines, of which the following is a specification.

My invention relates to improvements in wire-fence machines of that class which are provided with a horizontal rack-bar adapted to actuate twister-wheels for the purpose of weaving fence-pickets into a series of wires, and having a means for bringing the wires into contact with the twister-wheels; and the objects of my improvements are, first, to provide a means for bringing the wires into contact with the twister-wheels without raising the frame carrying the twister-wheels to the wire; second, to provide adjustable gages whereby the length of the twist may be regulated, and, third, a means for weaving in an additional picket at the top of the fence between the regular weaves at the same time and by the same movement of the rack-bar. I attain these objects by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a wire-fence machine embodying my improvements, except the supplemental rack-bar. Fig. 2 is a top plan view of the supplemental rack-bar, showing its connection to the main rack-bar. Fig. 3 is a vertical sectional view taken on the line *xx* of Fig. 2, showing the manner of attaching the gages and plates supporting the twister-wheels to the frame; and Fig. 4 is a perspective view of one of the gages.

Similar letters refer to similar parts throughout the several views.

The uprights *A A' A'' A'''*, with the connecting-pieces *C C' C''*, the cross-pieces *B B' B'' B'''*, and the sills *D*, constitute the framework of the machine. The lifting device, by means of which the wires are lifted out of contact with the twister-wheels, consists of the quadrangular frame *E*, the ends of which are adapted to slide in grooves *c* in the uprights *A*. The frame *E* is held normally in the elevated position shown in Fig. 1 by means of the spring *F*, which is attached at

its ends to the lower part of said frame by means of the bolts *e* passing through the ears *d*, which are attached to the frame, and through openings in the ends of the spring. The spring *F* is bolted centrally to the cross-piece *B*. A journal *G* is attached to the lower ends of the uprights *A*, and has the arms or levers *f* suitably attached thereto just inside the uprights *A*. The end of the journal extends past the upright *A* at the right to admit of the attachment of the treadle *H*. Rods *I* are fastened at the upper end to the end pieces of the frame *E* by means of staples *g*, and at the lower ends are connected with the ends of the arms *f* by means of a bolt passing through openings at the ends of the arms and an opening near the ends of the rods. The upper portion of the frame *E* has the slots *h*, and attached thereto by means of bolts are the wire-holders *J*. The wires are placed in the slots *i* of the holders *J* and are held therein by means of the pins *l*. The uprights *A'''* are mortised into the sills *D* at their lower ends, and their upper ends are connected by the cross-piece *B'''*, upon which lies a cleat *K*, said cleat being bolted loosely on said cross-piece and adapted to clamp a series of wires passing between the cross-piece and cleat. The braces *j* support the uprights *A'''*. The sills *D* are mounted on the journals *G'*, having the wheels *L*, which are adapted to travel on the track *M*. The cross-piece *B''* is supported by uprights *A'* and *A''* and has the slots *h'*, through which pass the bolts *k* and secure the plates *n* and *n'* and the gages *o*. The plates *n* are formed with shoulders which allow the rack-bar *P* to pass between the plates *n* and *n'* and below the twister-wheels *t*. The rack-bar *P* is operated and caused to slide back and forth between the plates *n* and *n'* by means of a lever *S*, pivotally bolted at *r* to the upright *A'*, said lever having the cogged disk *T*, the teeth of which engage the teeth of the rack-bar *P*. A short supplemental rack-bar *P'* (shown in Fig. 2) is adapted to be rigidly attached to the rack-bar *P* by means of a bolt *u*, and is held at the desired distance from the rack-bar *P* by a block *y* between said rack-bars and through which the bolt *u* passes. A slotted block *R* of the

same width and thickness as the cross-piece B'' is bolted to said cross-piece by the bolts *v*, and has attached to it the plates *n* and *n'* and the gage *o* in the same manner as shown in Fig. 3. The slots *w* in the gages *o* and slots *w'* in the twister-wheels are of sufficient width to admit a wire; but when two wires are brought into the slot, one above another, there is not sufficient space for them to pass each other within the slot, thereby causing the wires to twist when the twister-wheels are rotated. The gages *o* can be set at a greater distance from the twister-wheels, when desired, by placing a block of the required thickness between the cross-piece B'' and the gages *o*.

In operation the wires to be twisted, eight in number, are placed two and two together and are carried beneath the cleat K and clamped sufficiently to hold them in position. They are then passed through the slots *i* in the wire-holders J and the loose ends attached to a suitable reel placed in front of the machine. The wires are held within the slots *i* of the wire-holders by means of the pins *l*. The picket to be woven into the wire is placed between the wires in front of the twister-wheels. The operator places his foot on the treadle H, which rotates the journal G and causes the rods I, attached to the arms *f* and the lifting-frame E, to draw the frame downward until the wires carried by the wire-holders J are brought into the slots *w* and *w'* of the gages and twister-wheels. The operator then grasps the lever S and draws it toward him. The cogs of the disk T engage the cogs on the rack-bar P, causing it to travel between the plates *n* and *n'*, and thereby cause the twister-wheels *t*, which mesh with the rack-bar, to revolve and twist the wires within the slots *w'* of said wheels against the picket in front of the wheels *t* and behind said wheels to the gages *o*. The foot of the operator is then removed from the treadle H and the spring F causes the frame E to rise to its normal position, lifting the wires out of the slots in the gages and twister-wheels. The lever S is then thrown back into the position shown in Fig. 1. The machine is then moved backward on the track M a sufficient distance and another picket inserted between the wires in front of the twister-wheels, when the foot of the operator is again applied to the treadle and the above-described operation is repeated. The purpose of the gages *o* is to regulate the distance in which the wires may twist, and thus preserve a uniform twist between each picket.

When it is desired to weave a picket intermediate of the regular weaves, as is frequently done for the purpose of producing a more ornamental fence, I provide a supplemental rack-bar P', which is rigidly connected with the rack-bar P, and a supplemental block R, which is attached to the cross-piece B'' and carries plates *n* and *n'* and the gage *o*. This throws the supplemental rack-bar in front of the main rack-bar, and consequently the twist or

weave made by the twister-wheel on the supplemental block R will fall between the series of twists or weaves formed by the other twister-wheels on the main rack-bar P.

The slots *w* in the gages *o* are flaring at the top for the purpose of guiding the wires into the slots and have the bends midway of their length, so that by turning the gages around and causing the opposite side to rest against the cross-piece B'' the distance between them and the twister-wheels *t* may be increased without inserting a block between the gages and the cross-pieces.

It will be seen that the supplemental rack-bar P', being rigidly attached to the rack-bar P, will slide backward and forward between the plates *n* and *n'* on the block R at the same time the main rack-bar P is sliding backward or forward between the plates *n* and *n'* on the cross-piece B''. The slots *h* in the upper portion of the frame E and the slots *h'* in the cross-piece B'' are to provide for the lateral adjustment of the wire-holders J, the plates *n* and *n'*, and gages *o*. This lateral adjustment enables the operator to vary the distance between the wires into which the pickets are woven and also allows the slots *i*, *w'*, and *w* in the wire-holders, twister-wheels, and gages to be adjusted so as to be on a line, thereby bringing the wires into the slots in the twister-wheels and gages when the lifting-frame E is slid downwardly.

Having described my improvements, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a wire fence machine of the class described, the combination of the lifting frame E, adapted to be slid downwardly in the grooves *c* of the uprights A of the machine-frame by means of the treadle H attached to a journal G having arms *f* connected with the frame by rods I; and adapted to be raised upwardly by means of the spring F beneath said frame; and having the adjustable slotted wire holders J provided with the wire retaining pins *l*, substantially as set forth.

2. In a wire fence machine having rotary twister-wheels actuated by means of a rack-bar, the cogs of which mesh with the cogs of the twister-wheels, the combination of the rectangular lifting frame supported by the curved spring and having slotted wire holders provided with the wire retaining pins; the slotted adjustable gages for limiting the twist of the wires, and the supplemental rack-bar rigidly attached to the end of a main rack-bar, substantially as set forth.

3. The combination in a wire fence machine having rotary twister-wheels adapted to be actuated by means of a rack-bar, the cogs of which mesh with the cogs of the twister-wheels, of the rectangular lifting frame having adjustable slotted wire holders and supported by a curved spring, for the purpose of lifting a series of wires out of contact with the twister-wheels and gages, substantially as set forth.

4. The combination in a wire fence machine having rotary twister-wheels adapted to be actuated by means of a rack-bar, the cogs of which mesh with the cogs of the twister-wheels, of the adjustable slotted gages for the purpose of limiting the twist of the wire, substantially as set forth.

5. The combination in a wire fence machine having rotary twister-wheels adapted to be actuated by means of a rack-bar, the cogs of which mesh with the cogs of the twister-wheels, of the supplemental rack-bar connected with and parallel to the main rack-bar for the purpose of producing a weave or twist intermediate of the weaves or twists produced by the main rack-bar, substantially as described.

6. The combination with the framework of

a wire fence machine, of a rectangular lifting frame having laterally adjustable slotted wire holders bolted thereto, and adapted to be raised and lowered at the will of the operator, substantially as set forth.

7. The combination in a wire fence machine having a frame and means for operating wire twisting devices, of a vertically movable wire lifting frame, whereby a series of wires may be brought into contact with said twisting devices and withdrawn without moving said twisting devices, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

JOHN W. DWIGGINS.

Witnesses:

JOHN N. DEATON,
W. L. DAVIS.