(No Model.)

A. BROWN.

WIRE FENCE MACHINE.

No. 563,737. Patented July 14, 1896.

Fig. 1.

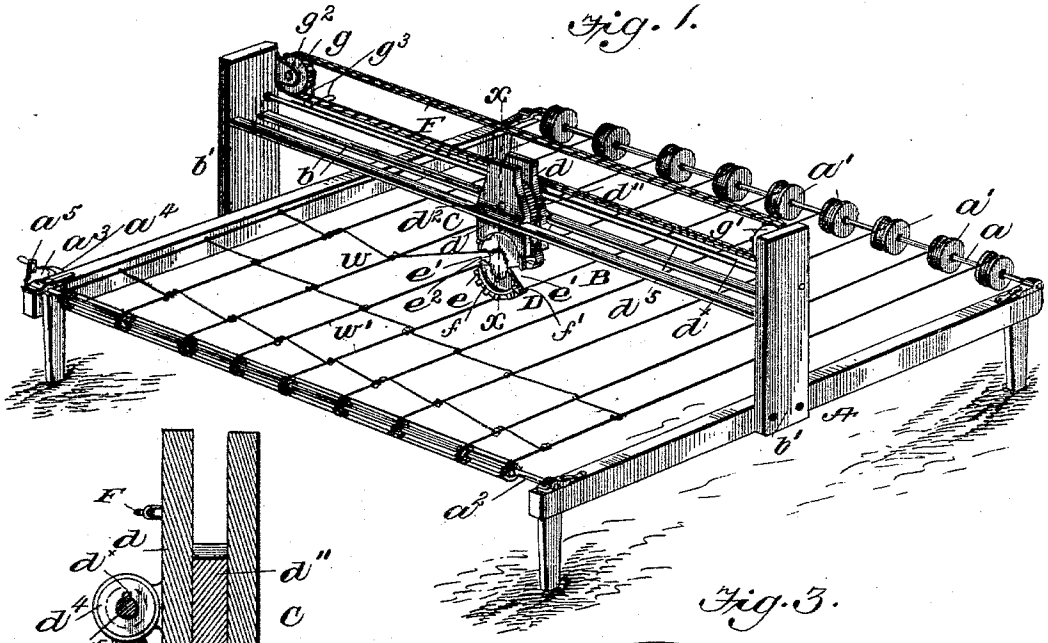


Fig. 2.

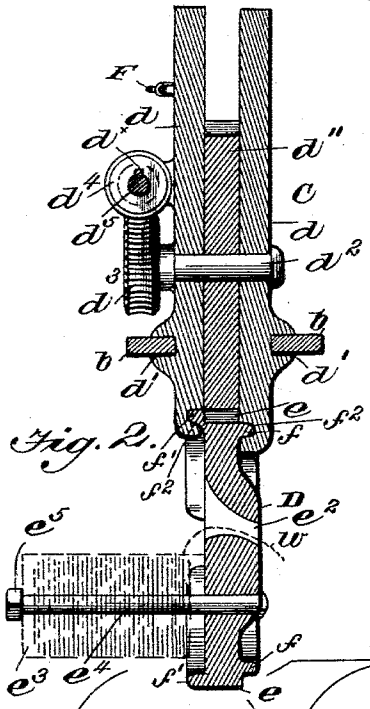


Fig. 3.

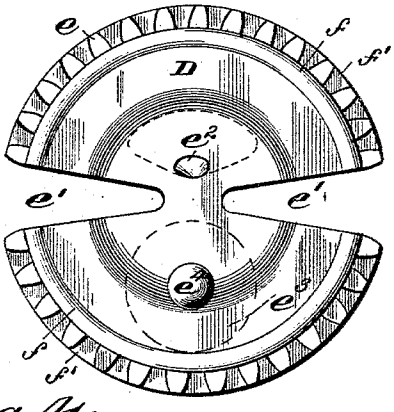


Fig. 1a.

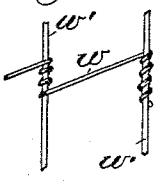
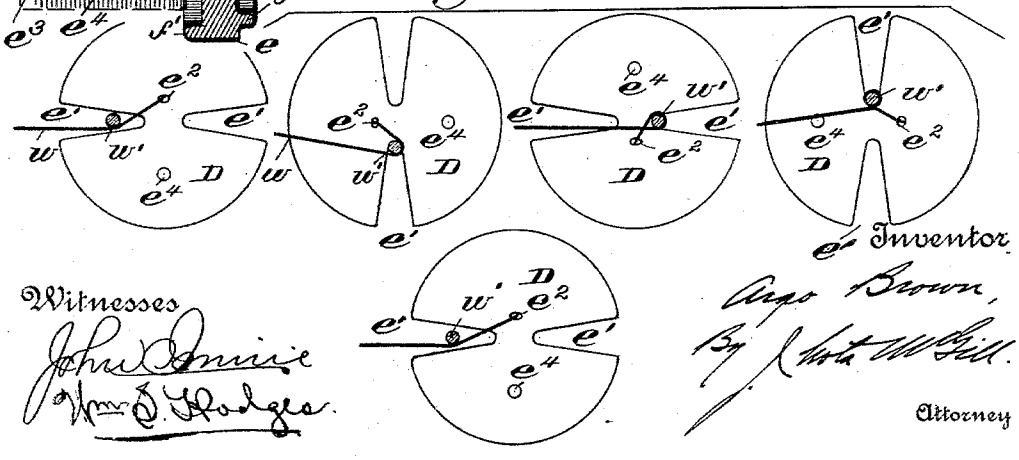


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

ARGO BROWN, OF LYONS, INDIANA.

WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 563,737, dated July 14, 1896.

Application filed July 9, 1895. Serial No. 555,402. (No model.)

To all whom it may concern:

Be it known that I, ARGO BROWN, of Lyons, in the county of Greene and State of Indiana, have invented certain new and useful Improvements in Machines for Making Wire Fences; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This is an improved machine for making wire fences, and the object of the invention is to provide a simple and inexpensive machine of this kind whereby the cross-wires may be alternately wound or twisted around the main or longitudinal wires in opposite directions.

A further object is to simplify the construction, render the machine capable of easy operation, and make the same strong and durable.

The invention comprises the novel features of construction, and also the detail combination and arrangement of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective. Fig. 1^a shows portions of the completed fence. Fig. 2 is a transverse sectional view on the line x x, Fig. 1. Fig. 3 is a face view of the twisting-head section. Fig. 4 shows five different positions of the twisting-head in the course of fence making.

Referring to the drawings, A designates a frame of any suitable size; a, a shaft at one end of said frame upon which are mounted the spools of wire a', the wires being extended longitudinally over the frame, and a^2 a second shaft at the other end of said frame having a ratchet-wheel a^3 secured thereon and engaged by a pawl a^4, pivoted to one side of frame A, an operating-handle bar a^5 being designed to effect the rotation of said ratchet-wheel and its shaft. The completed wire fence is designed to be wound upon this shaft a^2, the ends of the wires being connected thereto.

B designates a guideway located at about the center of frame A. It comprises two parallel bars b, extending across the frame and supported at their ends by posts or uprights b'. Between these guide-bars is designed to move a carriage C, carrying the wire-twisting heads and the operating mechanism therefor. This carriage comprises two parallel hangers d, having on their outer sides grooves d', designed to accommodate the edges of guide-bars b. Between these hangers is located a sprocket-wheel d'', whose shaft d^2 is fitted in holes or openings in said hangers. Upon one end of this shaft is a gear-wheel d^3 with which is designed to engage a worm d^4, mounted on a shaft d^5, journaled at its ends in bearings supported on posts b'. This worm is designed to rotate with said shaft and is also free to move longitudinally thereon, it being held in place by a spline $d^\times$ of said shaft. The rotation of this shaft by any suitable means will effect the rotation of sprocket-wheel d''.

D is the wire-twisting head. It is made in the form of a wheel, having on its periphery cogs or teeth e, and also provided with two opposite jaws or V-slots e', extending to near the center or axis of said wheel. In this wheel, near its center, is a hole or opening e^2, through which the wire w wound on a spool e^3 is designed to be passed. This spool is supported on a holder, which consists of a rod e^4, extending from the exterior or rear side of the twisting-head. A nut e^5 on the outer end of this rod serves to hold the spool in place. The wire-twisting wheel has on its front face a circular flange f on a line with the inner ends of the cogs or teeth, and on its rear face a second flange f' about on a line with the outer ends of said cogs or teeth. These flanges are designed to fit in curved grooves or recesses f^2 in the inner faces of the hangers b', the flange f' describing a greater circle than the flange f. The groove f^2 of the hanger in which it fits is of correspondingly greater curvature than the groove in the other hanger which accommodates the other flange f on the front of the twisting-wheel. Hence the rotation of the sprocket-wheel d'' will effect the revolution of the twisting-wheel, the latter being supported by the hangers. The slots in the twister-wheel are designed to receive and accommodate the longitudinal wires w', around one of which the twister-head revolves in twisting the wire w thereabout. By reversing the rotation of the op-

erating-shaft d^5 the twisting-head D can be alternately moved in opposite directions, so that the twists of the wire w on the adjoining wires w' will be in alternate opposite directions.

The carriage is moved back and forth on its guideways by a chain F, connected thereto and passed over sprocket-wheels g g', supported by posts or uprights b', the shaft g^2 of wheel g being extended and provided with an operating crank-handle g^3.

From what has been said it will be seen that I have provided exceedingly simple and highly efficient means whereby the position of the carriage can be readily changed at pleasure by the simple turning of a single shaft, and that by the turning of a second shaft the wire-twisting head can be caused to revolve around any one of the longitudinal wires of the fence, effecting the twisting of the cross-wires around the latter. The parts are extremely simple in construction and are not liable to readily get out of order or be deranged.

I claim as my invention—

1. In a machine for making wire fences having the wires extending longitudinally thereover, a carriage designed to travel transversely over said wires and having hangers, a wire-twisting wheel mounted between said hangers, a second wheel engaging said wire-twisting wheel, and means for operating said wire-twisting wheel from one side of the machine, substantially as set forth.

2. In a machine for making wire fences having wire strands extending longitudinally thereover, a carriage designed to move transversely over said wires and having hangers, a wheel mounted between said hangers, a wire-twisting wheel supported by said hangers, and means for operating said former wheel from one side of the machine, substantially as set forth.

3. In a machine for making wire fences having wires extending longitudinally thereover, guideways extending transversely over said wires, a carriage movable in said guideways and having hangers, provided at their lower ends with curved grooves or recesses, a wire-twisting wheel having circular flanges designed to fit in said grooves or recesses, a second wheel mounted between said hangers, and means for operating said latter wheel, substantially as set forth.

4. A machine for making wire fence having wires extending longitudinally thereover, a guideway extending transversely over said wires, a carriage movable in said guideway and having hangers provided at their lower ends with circular grooves or recesses, a wire-twisting wheel having circular flanges designed to fit in said grooves or recesses, and also having opposite slots or openings, a second wheel mounted between said hangers and designed to engage said twisting-wheel, a gear-wheel on the shaft of said second wheel, and an operating-shaft having a worm movable thereon engaging said gear-wheel, substantially as set forth.

5. In a machine for making wire fences of the character herein described, a twisting-head having a wheel provided with opposite inwardly-extended slots or openings and a hole near the inner ends of said slots or openings, and a rod extending from one side of said wheel, to which it is secured, serving as a spool-holder substantially as set forth.

6. In a machine for making wire fences of the character herein described, a twisting-head having a wheel provided with opposite inwardly-extended slots, and a hole or opening near the inner ends of said slots, a rod extending from one side of said wheel and having a removable nut thereon, said rod being designed to serve as a spool-holder, substantially as set forth.

7. The herein-described improved machine for making wire fences, comprising the frame having rotary shafts at its ends, posts or uprights at the sides of said frame, guide-bars supported by said posts or uprights, the carriage having hangers fitted between said guide-bars, a sprocket-wheel having its journal supported by said hangers, a gear-wheel on said journal, a lower twisting-wheel supported by said hangers and engaging said sprocket-wheel, said twisting-wheel having opposite slots and a hole or opening, a spool-holding rod carried by said wheel, an operating-shaft having a sliding worm engaging said gear-wheel, and the operating-chain connected to said carriage, and the shaft therefor, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ARGO BROWN.

Witnesses:
S. M. BENHAM,
MYON BROWN.