H. REYNOLDS.

Machine for Barbing Fence Wires.

No. 230,439. Patented July 27, 1880.

Fig. 1

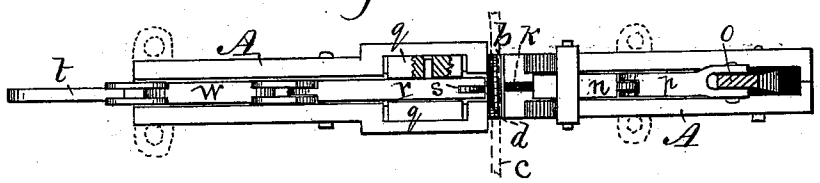


Fig. 2

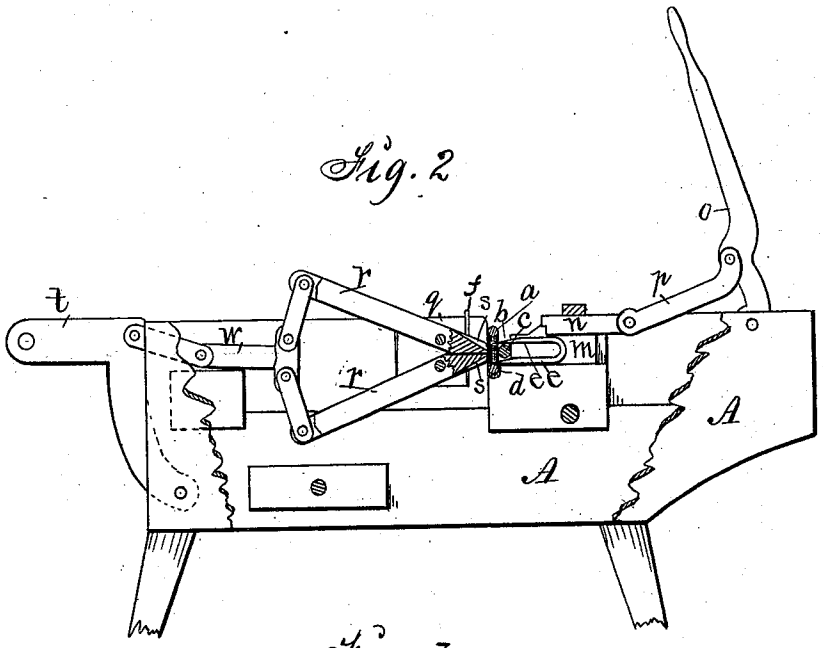
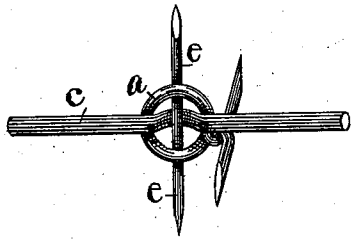


Fig. 3



Witnesses:

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UNITED STATES PATENT OFFICE.

HIRAM REYNOLDS, OF MARSHALLTOWN, IOWA, ASSIGNOR, BY MESNE ASSIGNMENT, OF ONE-HALF OF HIS RIGHT TO NEIL & AURINGER, AND HIS REMAINING ONE-HALF TO G. F. AURINGER, ALL OF SAME PLACE.

MACHINE FOR BARBING FENCE-WIRES.

SPECIFICATION forming part of Letters Patent No. 230,439, dated July 27, 1880.

Application filed May 31, 1880. (No model.)

To all whom it may concern:

Be it known that I, HIRAM REYNOLDS, of Marshalltown, in the county of Marshall and State of Iowa, have invented an Improved Machine for Barbing Fence-Wire, of which the following is a specification.

My invention consists in constructing a machine adapted for applying and uniting a staple-shaped barb-piece and a ring-shaped barb-piece to a fence-wire to produce the four-pointed barb for which the United States Patent No. 203,779 was issued to me May 14, 1878, as hereinafter fully set forth.

Figure 1 of my accompanying drawings is a top view of my machine. Fig. 2 is a side view, in which a portion is broken away to show the construction and combination of the movable and adjustable parts. Fig. 3 is a perspective view of a section of fence-wire, showing one of the barbs formed and applied by means of my machine. Together they clearly illustrate the construction, operation, and utility of my complete invention.

A represents a side plate, to which the operative mechanism is attached. Two corresponding sides, A, are bolted together to form a complete base, upon which the mechanism is mounted and operated. This base is preferably made of cast-iron, and may vary in size and weight as desired. It can be clamped in a vise, or it may have lugs, through which bolts are passed to fix it upon a portable bench.

b is a tranverse slot cut through the top edges of the side pieces, A, to admit the fence-wire *c*, that passes through the said slot at right angles, and rests therein while the barb-pieces are being attached thereto.

d is a slot extending downward from the slot *b* to form a pocket, into which the ring *a* of the ring-shaped barb-piece is placed, as indicated.

k is a longitudinal slot in the center of the complete base A, intersecting the slots *b d* at right angles, and is designed to receive the staple-shaped barb-piece, as indicated.

m is a pusher-bar, having a concave in its front end designed to engage the convex end of the staple-shaped barb-piece. It is carried by a block or bar, *n*, that slides in suitable bearings formed in or attached to the base-pieces A.

o is a hand-lever hinged to the rear end of the base A. It is connected with the combined pusher-bar and block *m n* by means of a link or pitman, *p*.

q q represent a pair of adjustable blocks fitted into corresponding openings formed in the base-pieces A, to form bearings for my device used to spread apart the staple-shaped barb-pieces as required, to clamp the ring *a* of the ring-shaped barb-piece against the fence-wire *c* after the ends *e e* of the staple have been pressed through the ring *a* by means of the pushing device *m n o p*. These blocks *q* may be fastened in their places by means of wedges *f* or in any suitable way.

r r are mating bars pivoted to the adjustable bearing-blocks *q*. They have tapering slots *s s* in their front ends to admit the ends *e e* of the staple-shaped barb-piece as the said ends are pressed through the ring *a*.

t is a bent hand-lever pivoted to the rear end and under side of the base A. It is connected with the rear ends of the mating barb-spreading bars *r r* by means of the toggle-jointed links *w* in such a manner as to impart a varying force to the bars, and to operate them like jaws of pinchers to alternately meet and part at their front ends, as required, to receive and spread the ends *e e* of the staple-shaped barb-piece.

In the practical operation of my machine I pass the fence-wire into the slot *b* of the base A, drop the ring-shaped barb-piece *a* into the pocket or slot *d* and a staple-shaped barb-piece, *e e*, into the slot *k*. By then operating the pushing device *m n o p*, I force the staple astride over the fence-wire and the ends *e e* through the ring *a*, and by the same motion press a crimp or short bend into the fence-wire at the point where the closed end of the staple rests against it. I next operate the lever *t* at the opposite end of the base A to actuate the barb-spreading device *w r s* and to turn the

ends *e* of the staple from a horizontal position to stand vertically in opposite directions, and to clamp the ring *a* rigidly to the fence-wire, and thus lock all the parts together to produce four-pointed wire-barbs at regular intervals upon the fence-wire as it is passed through the machine by means of reels or in any suitable way.

I claim as my invention—

1. In barb-forming mechanism, the base A A, having the intersecting slots *b*, *d*, and *k*, substantially as and for the purposes shown and described.

2. The pushing mechanism *m n o p*, in combination with the base A, having the intersecting slots *b d k*, substantially as and for the purposes set forth.

3. The barb-spreading device *r s w t*, in combination with the base A A, having the slots *b d k*, substantially as and for the purposes shown and described.

4. The barb-forming machine composed of the base A A, having the slot *b* for receiving a fence-wire, the slot *d* for receiving a ring or washer, the intersecting slot *k* for receiving a staple-shaped barb-piece, the pushing mechanism *m n o p*, and the staple spreading and barb-fastening mechanism *q r s t w*, substantially as shown and described.

HIRAM REYNOLDS.

Witnesses:
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