I. R. WHITEMAN.

Tension Apparatus for Wire-Barbing Machine.

No. 226,946. Patented April 27, 1880.

Fig. 1.

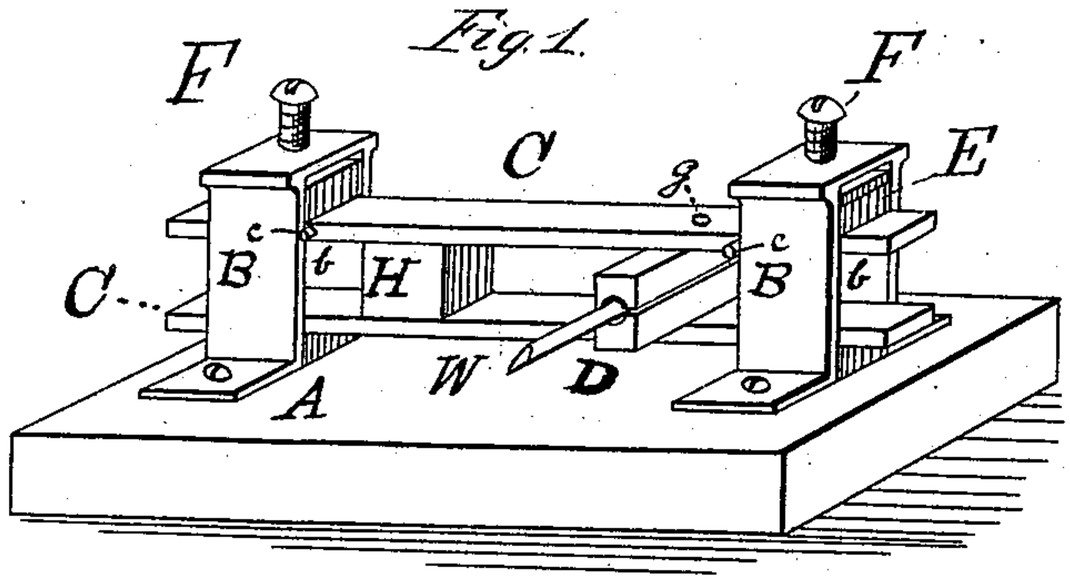


Fig. 2.

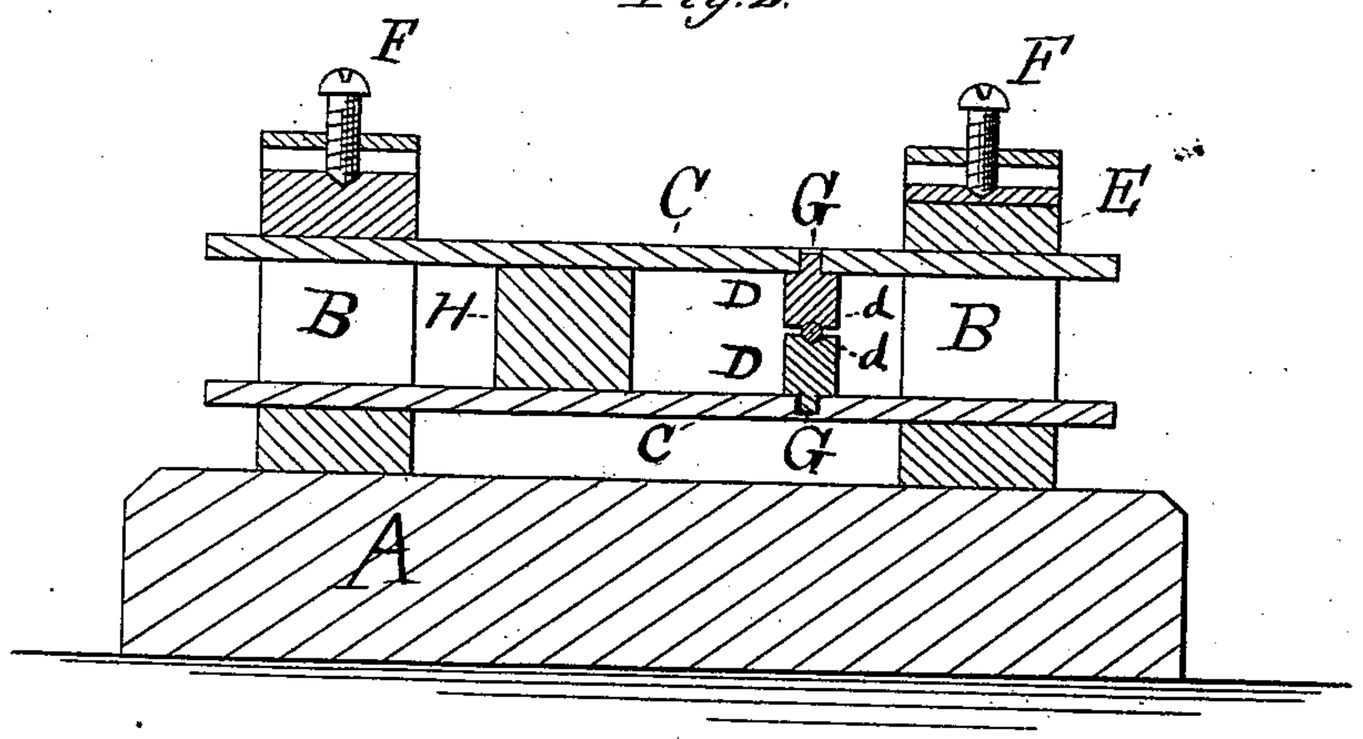
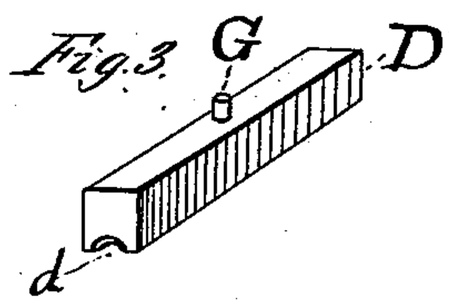


Fig. 3.



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UNITED STATES PATENT OFFICE.

ISRAEL R. WHITEMAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO EDWIN A. BEERS, OF SAME PLACE.

TENSION APPARATUS FOR WIRE-BARBING MACHINES.

SPECIFICATION forming part of Letters Patent No. 226,946, dated April 27, 1880.

Application filed January 20, 1880.

To all whom it may concern:

Be it known that I, ISRAEL R. WHITEMAN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Tension Apparatus for Machines for Manufacturing Barbed Fence-Wire, of which the following is a specification.

The invention relates to devices in barb-fence machines for regulating the feed of the wires and keeping the same under proper tension while the barbs are being formed and fixed upon the fence wire or wires.

Heretofore this has usually been effected by passing the fence wire or wires between two guide-rolls situated in front of the barbing mechanism, the same being provided with milled guide-grooves for the wire or wires, so as to prevent the wire or wires slipping between the rolls, which are pressed together by means of a spring and set-screw, so as to cause the necessary resistance to the wires being drawn forward; but in practical operation it is found necessary to press these rolls together with such force that the milled or roughened guide-groove very much scarifies or roughens the surface of the fence-wire, causing serious injury to it, making it less salable and less durable, especially in the case of galvanized wire, which is not generally pointed after the barbs are fixed upon it. Besides this objection, these rolls are comparatively expensive, and even when made of the best and hardest steel they cannot be used more than one or two days until the milled guide-grooves will become worn so smooth as to permit the fence-wires to slip, occasioning irregularity in the operation of the machine and in the product manufactured by it, thus necessitating that the rolls be taken out and returned and the guide-grooves milled over again or roughened.

The object of my invention is to provide a cheaper and more durable device for accomplishing the said purpose, and one which will not injure the wires by indenting and roughening their surface; and my invention consists in the particular construction, combination, and arrangement of the mechanism hereinafter described.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a perspective view of a device embodying my invention. Fig. 2 is a central vertical longitudinal section of the same, and Fig. 3 is a detail view of one of the grooved guide-blocks.

A is a portion of the table or frame of a barb-fence machine, and B B are slotted standards secured thereto by bolts or otherwise. The lower one of the two bars or beams C rests upon the bottom of the slots *b* in the standards B, while the upper beam, C, which is capable of adjustment vertically, is pressed down upon the grooved guide-blocks D by the spring E and set-screws F.

The beams C are held in place longitudinally by means of projections *c*, which fit against the side of standards B. The guide-blocks D, which should be made of chilled steel and some three or four inches in length, are provided with longitudinal grooves *d*, through or along which the fence-wire is drawn. The guide-grooves *d* are only sunken deep enough in the blocks D to bury a part of the fence-wire therein, and the grooves *d*, at the front end or end facing the reel from which the fence-wire is unwound, are made for a short distance conical or flaring, so as to allow a freer passage of the wire and to prevent the same being broken in case of kinks or enlargements therein.

The guide-blocks D are held in place between the beams C by means of the pivots G, which fit in holes *g* in the beams C. The blocks D can turn on these pivots, and thus adjust themselves to the direction of the fence-wire so that the grooves *d* will always remain precisely parallel to each other, and the pivots G also should have some little play in the holes *g*, in order to insure that the grooves *d* be always the one directly above the other.

As shown in the drawings and model, the spring E is made of rubber; but I prefer to use a spiral spring. The set-screws F should be provided with a small crank instead of an ordinary screw-head for facility in adjustment.

H is a rubber spring inserted between the beams C for the purpose of raising the end of the upper beam C off the guide-blocks D when

the set-screw F is loosened. In case it is desired to use two sets of guide-blocks, one for each of two fence-wires, this rubber spring H should be placed in the middle, and the other set of guide-blocks should occupy its position. W is the fence-wire.

The operation is briefly as follows: The device occupies the same relative position in the barb-fence machine as the old and ordinary devices for the same purpose. The set-screw F is loosened, and the fence-wire then placed in the grooves *d* between the blocks D, and the set-screw F is then screwed down until the resistance of the wire slipping between the blocks D in the grooves *d* will produce the necessary tension upon the fence-wire.

What I claim is—

1. The means of producing tension upon the wire or wires in a barbed-fence machine, consisting of grooved, swiveling, and yielding guide-blocks, in combination with the described devices for producing an adjustable pressure upon the wire or wires, substantially as specified.

2. The grooved guide-blocks D, in combination with beams C, slotted standards B, spring E, and set-screw F, substantially as and for the purpose set forth.

3. The combination of grooved guide-blocks D, provided with pivots G, beams C, provided with holes *g*, spring H, slotted standards B, spring E, and adjusting-screw F, substantially as described, and for the purpose set forth.

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