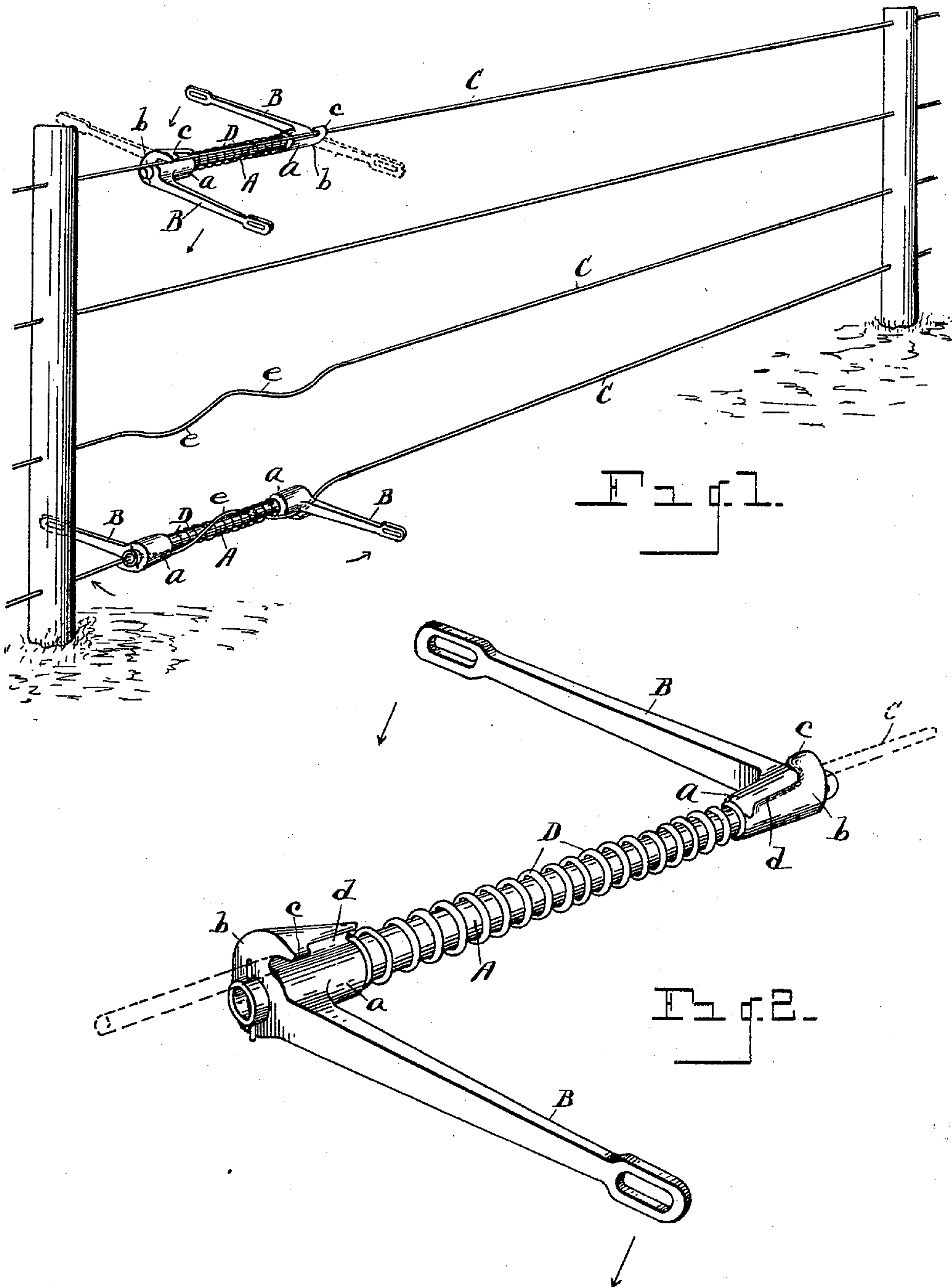


(No Model.)

J. B. VAIL.
DEVICE FOR TIGHTENING WIRE.

No. 606,178.

Patented June 21, 1898.



WITNESSES

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JAMES B. VAIL, OF WESTON, MICHIGAN, ASSIGNOR OF ONE-HALF TO
WELLINGTON C. SMITH, OF SAME PLACE.

DEVICE FOR TIGHTENING WIRE.

SPECIFICATION forming part of Letters Patent No. 606,178, dated June 21, 1898.

Application filed November 18, 1897. Serial No. 658,904. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. VAIL, a citizen of the United States, residing at Weston, in the county of Lenawee, State of Michigan, have invented certain new and useful Improvements in Devices for Tightening Wire; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a device for tightening the longitudinal or lateral wires of a wire fence and at the same time render said wires longitudinally elastic, so as to provide for expansion and contraction.

In the construction of wire fences it is desirable that provision be made for permitting the lateral wires to expand and contract longitudinally and at the same time maintain a proper tension thereon. One manner of accomplishing this result is by forming in any or all of said lateral wires, at any desired point therein, a spiral twist or crimp, which exerts a spring-tension upon the lateral wire, maintaining the proper stress upon said wires, yet rendering them longitudinally elastic. This form of tension, after being in use for some time, may become exhausted through the straightening of said spiral twist or crimp, necessitating a replacing of said crimp in order that the wire may carry the proper tension and possess the requisite elasticity. The placing and replacing of this crimp, so as to properly tighten the wire, is accomplished through the medium of my improved device, illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view showing a section of a wire fence and the application of my improved device for tightening the lateral wires thereof. Fig. 2 is an enlarged perspective view of the tightening device.

Referring to the letters of reference, A designates a shaft which may be a hollow tube of any desirable length. Journaled on the opposite ends of said shaft are the levers B,

having hubs *a*, through which said shaft passes. One side of each of said hubs is eccentric, as at *b*, in which is formed an engaging hook *c* and a confining-shoulder *d*, running longitudinally of said hubs, forming a continuation of said hook.

In their normal position the levers B stand in opposite directions, thereby causing the engaging hooks and shoulders upon the hubs of said levers to stand opposite, as shown in Fig. 2, although lying in the same horizontal plane. The hooks *c* on the hubs of said levers are designed to engage the lateral wires C of the fence, and the shoulders *d*, leading from said hooks, are adapted to support said wires and prevent the hooks from making a short bend therein.

In the operation of this improved device the levers of the tightener are placed in the position shown in Fig. 2, with the hooks *c* uppermost or in such other position as will enable the device to be placed upon the lateral wire C of the fence, as shown at the top of Fig. 1, with the hook *c* engaging said wires. When in this position, both levers B are swung in opposite directions, as indicated by the arrows, thereby reversing the position of said levers, as shown by solid lines at the bottom of Fig. 1, and forming in the lateral wire C, between the points of engagement of the hooks of said levers, a spiral crimp or twist *e*, whereby the slack of the wire is taken up and an elastic tension applied thereto.

It will be observed that by means of this device all of the slack in the lateral wires may be taken up and any desired tension placed upon said wires, rendering said lateral wires taut, but at the same time imparting longitudinal elasticity thereto.

In the operation of this improved tightener to place the spiral twist in the lateral wires, if desired, but one lever may be turned, one lever being held stationary, while the twisting of the wire is accomplished by the turning of the opposite lever.

Mounted upon the shaft A between the hubs of the levers B is a coiled spring D, which prevents the levers B from sliding toward each other upon said shaft and maintains them yieldingly in place.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device for crimping and tightening
5 wire, the combination of the supporting-shaft, a shoulder at one end of said shaft adapted to engage a lateral wire, a pivoted lever at the opposite end of said shaft having a reversed
10 shoulder also adapted to engage said wire whereby a spiral twist may be placed in said wire by a rotation of said lever.

2. In a wire-tightening device, the combination of a supporting-shaft, opposed engaging shoulders on the opposite ends of said
15 shaft adapted to receive a lateral wire, and means for rotating one of said shoulders to crimp the lateral wire spirally around said shaft.

3. In a wire-tightening device, the combination of a supporting-shaft, the opposed le-

vers pivoted on opposite ends of said shaft, the opposed engaging hooks carried by said levers adapted to engage a lateral wire whereby said wire may be wound spirally around
25 said shaft by a reverse movement of said levers.

4. In a wire-tightening device, the combination of a supporting-shaft, the opposed levers pivoted on the opposite ends of said shaft, the engaging hooks upon the hubs of
30 said levers standing in opposite directions, and the coiled spring surrounding said shaft between the hubs of said levers.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES B. VAIL.

Witnesses:

H. C. RETAN,
R. A. DICKENS.