

No. 687,814.

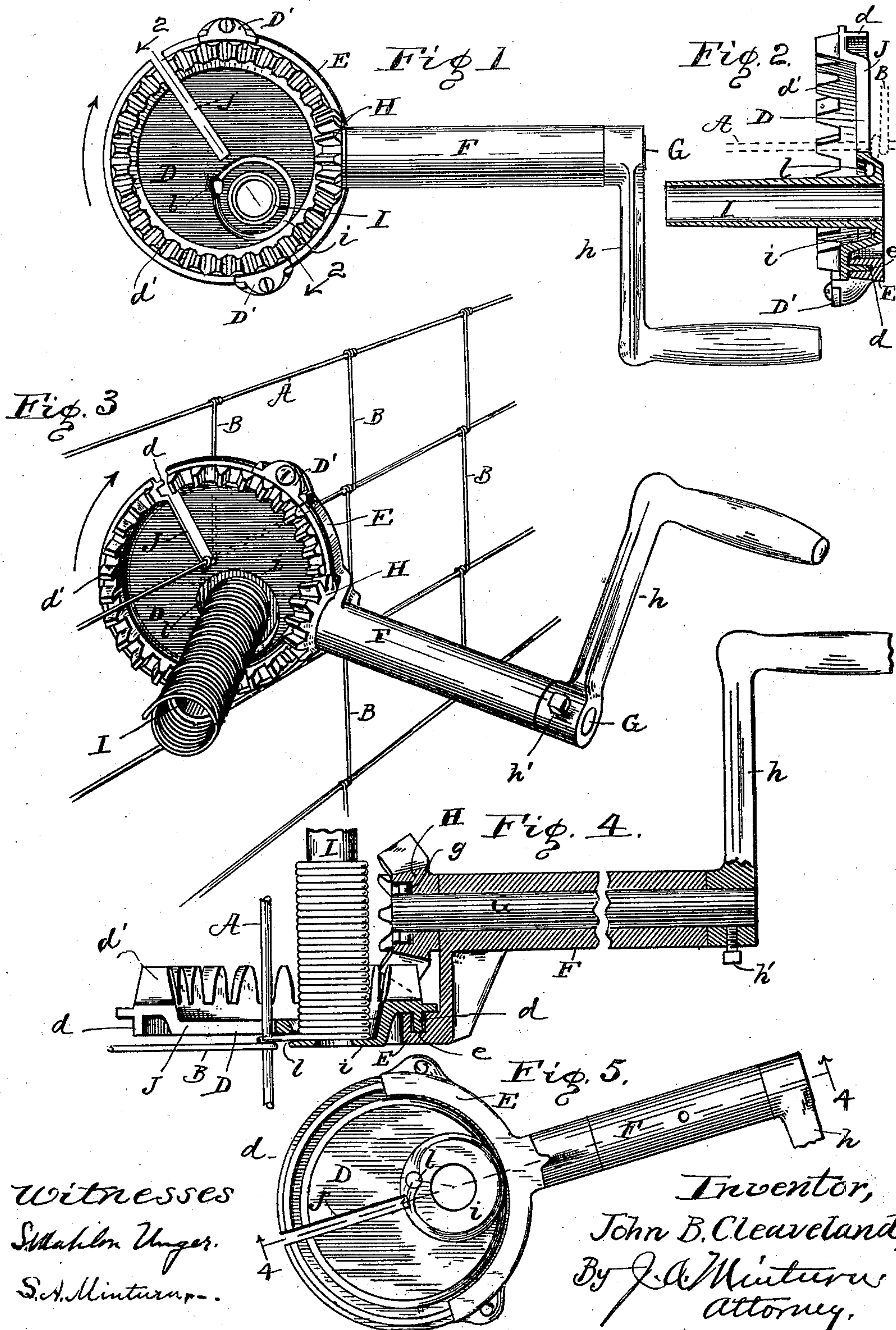
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J. B. CLEAVELAND.

TOOL FOR ATTACHING INTERMEDIATE FENCE WIRES.

(Application filed July 18, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN B. CLEAVELAND, OF INDIANAPOLIS, INDIANA.

TOOL FOR ATTACHING INTERMEDIATE FENCE-WIRES.

SPECIFICATION forming part of Letters Patent No. 687,814, dated December 3, 1901.

Application filed July 16, 1900. Serial No. 23,792. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. CLEAVELAND, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Tools for Attaching Intermediate Fence-Wires, of which the following is a specification.

This invention relates to machines for twisting the vertical or stay wires of a fence around the horizontal strands to unite said horizontal strands; and the object of the invention is to provide a light and portable hand machine or tool in which the stay-wire is fed in a coil to the twister and the twister is applied to the horizontal wires and is driven around the latter by means of a cogged-gear and hand-crank movement.

A further object is to provide a simple, durable, easy-acting, and inexpensive tool.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the tool when held in operative position. The coil to form the stay is not shown in this figure. Fig. 2 is a section on the dotted line 2 2 of Fig. 1; Fig. 3, a perspective view of my invention with a coil of wire for making a stay and showing the tool in the act of twisting the stay around one of the horizontal strands of a fence; Fig. 4, a section longitudinally and centrally of the crank-shaft and thence diametrically through the twister on the line 4 4 of Fig. 5; and Fig. 5 is an under side view of my invention, a portion of the crank being omitted.

Like letters of reference indicate like parts throughout the several views of the drawings.

A represents the longitudinal fence-strands, and B the transverse stays, which are wound with two or more turns around the longitudinal strands at each intersection therewith.

D is a circular disk having a lateral flange d . It is mounted on the semicircular track E on the end of the handle F. The track E has the groove e to receive the flange d , and the separation of the disk D from the track E is prevented by the plates D' , which are fastened by screws to the ends of the track E and overlap the disk D. The disk D is provided with the laterally-projected cogs d' on its side opposite to the flange d in an annular row near

the edge of the disk. The handle F has a longitudinal bore in which is the shaft G, and on the end of the shaft which is made to project over the disk D is the cogged wheel H, the teeth of which mesh with the cogs d' of the disk D. The shaft G has the transverse pin g , the ends of which project and, entering a suitable groove in the body of the wheel H, prevent the working of the wheel off of the end of the shaft and also compel the wheel to rotate with the shaft. The opposite end of the shaft, projecting beyond the handle at the outer end of the latter, is held by the crank h , which is fastened by the set-screw h' , as shown. By turning the crank h the disk D will be made to rotate.

Formed on the cogged side of the disk D, at one side of the center of the disk, is the spindle I at right angles to the side of the disk and preferably integral therewith. This is to support the coiled stay-wire, which is slipped upon the spindle in the manner as shown in Figs. 3 and 4. A slot J is formed in the disk, starting at the outer edge of said disk and terminating at or near the center of the disk. This slot will preferably follow a straight line, the continuation of which past the end of the slot will pass through the center of the disk and through the center of the base of the spindle. In applying the tool to a fence-strand the said strand is made to enter this slot, and the strand will be at the bottom of the slot during the operation of twisting the stay.

Around the base of the spindle I a cup i is formed in the disk, the spindle being in the concavity thus formed, and an opening l for the coiled stay-wire B to pass out is formed through the side and bottom of the cup adjacent to the slot J. The object in forming this cup is to enable the exit for the wire to be so placed as to allow the wire to pass in a direct line from the coil to the longitudinal fence-wire around which it is to be wound, whereby the friction which would be incident to a tortuous exit is avoided and a tool easy to operate is provided.

To prevent friction of the flange d against the stay-wire B, I prefer to cup the entire disk-surface inside of the annular row of cogs, so that the inside bottom of the cup is alined with the outer edge of the flange d , the out-

side bottom of the smaller cup *i* extending beyond the flange *d*.

The drawings so fully illustrate my invention that it is believed further description is unnecessary, and I will therefore proceed to point out the features which I specially claim as new and wish to secure by Letters Patent.

I claim—

1. A radially-slotted, circular disk, having a laterally-projected spindle at one side of the center of said disk, a cupped formation *i*, in the disk, said spindle being seated in said cupped portion of the disk and said cupped portion having an exit-hole through its side wall as and for the purposes described, and means for rotating the disk, substantially as described and shown.

2. A handle having a longitudinal bore, a shaft mounted in the bore having a crank at one end and a cogged wheel at the other, said handle having a curved track at the end where the cogged wheel is mounted, a circular disk mounted to rotate on said curved track and having an annular row of teeth to engage the teeth of the cogged wheel, said disk having a radial slot and a laterally-disposed wire-carrying spindle, said spindle being seated in a cup or depression *i* of the disk and said cup having an exit-opening through

its side for the exit of the wire carried by the spindle, substantially as described and shown.

3. A handle having a longitudinal bore, a shaft mounted in the bore having a crank at one end and a transverse pin at the other, the ends of said transverse pin projecting laterally from the shaft, a cogged wheel mounted on the end having the transverse pin, said wheel having a groove to form a seat for the projecting ends of the pin, a curved track integral with the handle and located under the cogged wheel, a circular disk mounted to rotate on said curved track having an annular row of cogs to engage the cogs of the cogged wheel, said disk having a radial slot, a cup *i*, opposite the radial slot, and a wire-carrying spindle seated in the cup, said cup having an opening through its side wall for the exit of the wire carried by the spindle, substantially as described and shown.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 9th day of July, A. D. 1900.

JOHN B. CLEAVELAND. [L. S.]

Witnesses:

JOSEPH A. MINTURN,
S. MAHLON UNGER.