(No Model.) 2 Sheets—Sheet 1.

J. R. KELLY.

MACHINE FOR TYING CROSS WIRES IN WIRE FENCES.

No. 490,442. Patented Jan. 24, 1893.

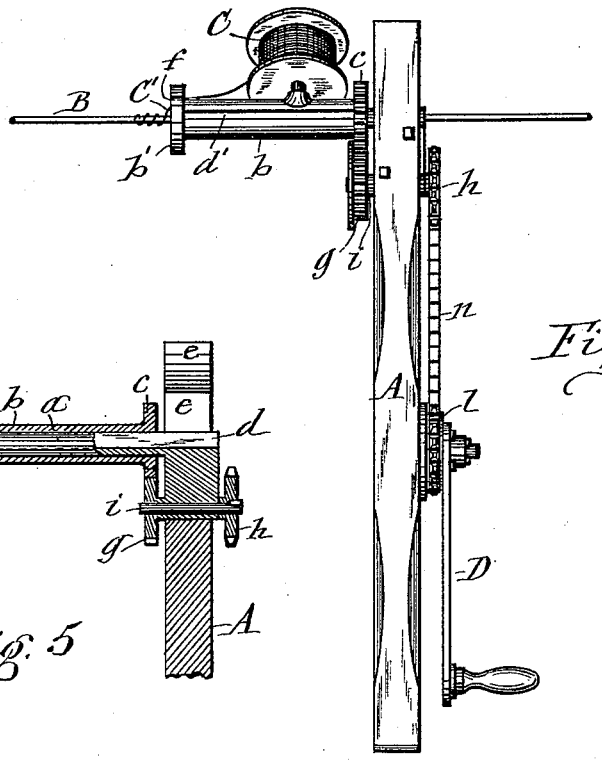

Fig. 1

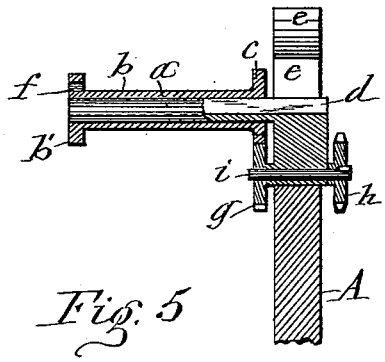

Fig. 5

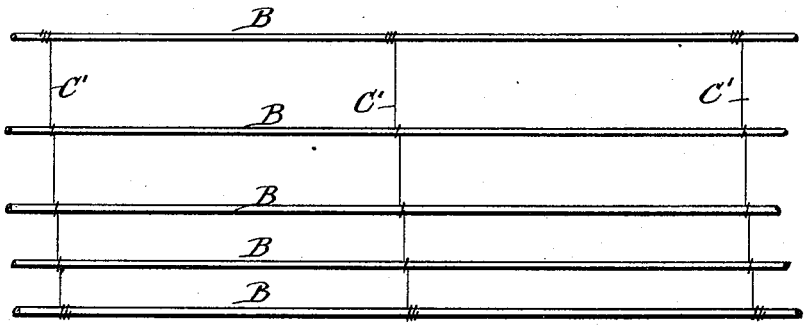

Fig. 4

WITNESSES:

E. L. Bendixon

J. J. Laass

INVENTOR:

James R. Kelly

By Dodd, Laass & Dodd

his ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

J. R. KELLY.

MACHINE FOR TYING CROSS WIRES IN WIRE FENCES.

No. 490,442. Patented Jan. 24, 1893.

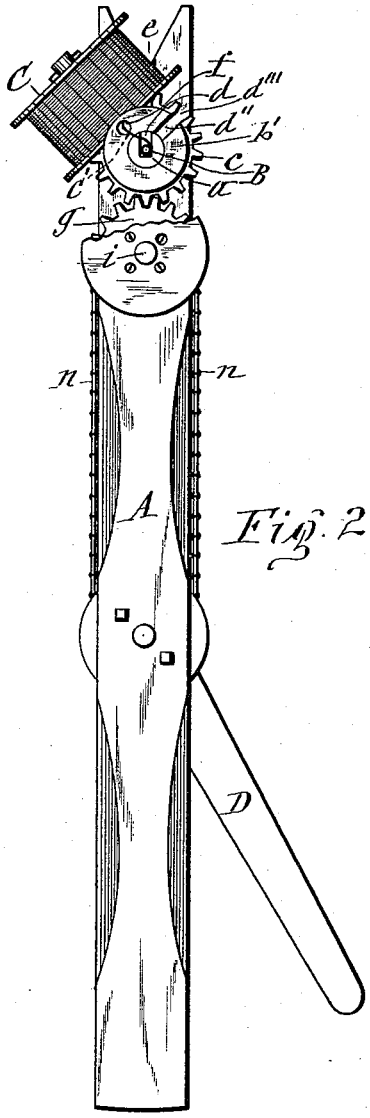

Fig. 2

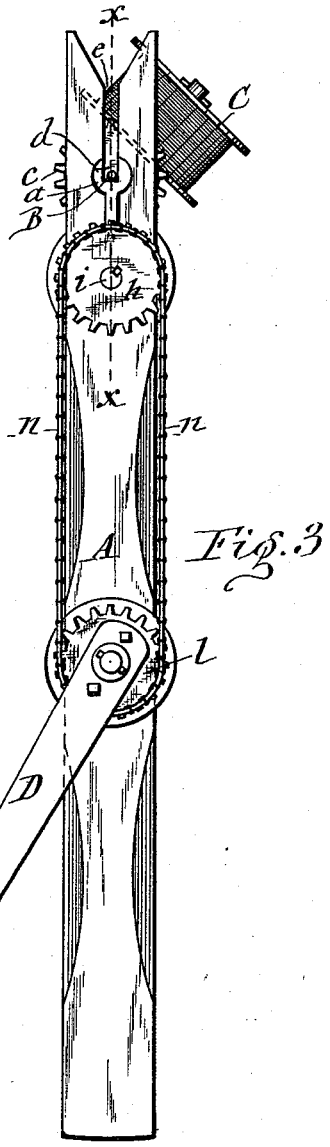

Fig. 3

WITNESSES:

C. L. Bendixon

J. J. Laass

INVENTOR:

James R. Kelly

By Dodd, Laass & Dodd

his ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES R. KELLY, OF WATERLOO, NEW YORK.

MACHINE FOR TYING CROSS-WIRES IN WIRE FENCES.

SPECIFICATION forming part of Letters Patent No. 490,442, dated January 24, 1893.

Application filed September 5, 1892. Serial No. 445,098. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. KELLY, of Waterloo, in the county of Seneca in the State of New York, have invented new and useful Improvements in Machines for Tying Cross-Wires in Wire Fences, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention is designed chiefly for tying wires transversely to stationary stretched wires or rods of fences, and the object of the invention is to accomplish the aforesaid in a convenient, expeditious and effective manner. And to that end the invention consists in the improved construction and combination of parts as hereinafter described and specifically set forth in the claims.

In the annexed drawings Figure 1 is an edge view of a wire-tyer embodying my invention, Fig. 2 is a side view of the same with a portion of the tool-stock broken away to better illustrate the means for transmitting motion to the wire-tyer or twister, Fig. 3 is a view of the opposite side of the machine, Fig. 4 is an elevation of a section of fence illustrating an exemplification of the work accomplished by my improved wire-tyer, and Fig. 5 is a longitudinal section on line *x*—*x* in Fig. 3.

Similar letters of reference indicate corresponding parts.

B—B— represent the stationary stretched wires or rods of a fence, and —C′— denotes the wire tied transversely to said stationary wires or rods. The tying of the wire —C′— to the wires or rods —B— I accomplish by my improved wire-tyer, which is constructed as follows:

A— represents the tool-stock which is provided in one end with a suitable seat by which it rests on the wire or rod —B. Said seat I preferably form of a slot —*e*— in the end of the tool-stock as shown in Fig. 3 of the drawings. In operating the machine the tool-stock is pushed with its slotted end onto the wire —B— so as to cause it to rest with the inner end of the slot —*e*— against said wire, while the opposite end of the tool stock is supported by the operator. At the inner end of the slot —*e*— is a spindle —*a*— rigidly secured to and extending laterally from the tool stock and provided with a longitudinal groove or seat —*d*— registering with the slot —*e*— so as to receive the wire —B. Upon said spindle is revolubly mounted a sleeve —*b*— which is provided with a longitudinal slot —*d*′— to receive through it the wire —B— in applying the tool-stock to said wire as aforesaid. On one end of said sleeve is a rigid collar —*b*′— which is likewise provided with a slot —*d*″— for the same purpose, and upon the opposite end of the sleeve is fastened a pinion —*c*— having also a slot —*d*‴— for the aforesaid purpose. The collar —*b*′— is provided with an eye or other suitable guide —*f*— through which passes the wire —C′— to be coiled tightly around the wire or rod —B. Upon the sleeve —*b*— is pivoted the spool —C— on which is wound the wire —C′.

To the tool-stock is journaled a shaft —*i*— to one end of which is fastened the pinion —*g*— which meshes with the pinion —*c*—, and to the opposite end of said shaft is firmly secured the sprocket-wheel —*h*— which is connected by a sprocket-chain —*n*— with a sprocket-wheel —*l*— pivoted to the tool-stock —A—, a sufficient distance from the slotted end thereof to prevent the wire —B— from interfering with the operation of the crank —D— which is fastened to the sprocket-wheel —*l*. I do not, however, wish to be limited to the use of the sprocket-wheels and sprocket-chain, as it is obvious that a train of gears may be employed in their stead.

In operating the described wire-tyer or twister the sleeve —*b*— is to be turned so as to cause its slot —*d*′— to register with the groove —*d*— of the spindle —*a*. Then the tool-stock is to be applied to the wire or rod —B— so as to cause the latter to lie in the groove —*d*. Then the free end of the wire —C′— which protrudes through the guide or eye —*f*— of the collar —*b*′— is to be held against the wire —B— while the operator turns the crank —D—, the motion of which imparts rotary motion to the sleeve —*b*— and collar —*b*′— by the medium of the sprocket-wheels —*l*— and *h*—, sprocket-chain —*n*—, and pinions —*g*— and —*c*—. The rotation of the collar —*b*′— causes the wire —C′— to be coiled around the wire —B. After this is effected the operator transfers the machine to the next wire —B— and in this operation the wire —C′— is drawn along, and then by

holding this wire against the latter wire —B— while turning the crank —D—, the wire —C'— becomes coiled around said wire —B— as represented in Fig. 4 of the drawings.

What I claim as my invention is:

1. A wire-tyer composed of a tool-stock provided with a seat by which it rests on the stationary wire or rod, a spindle fixed to said tool-stock and provided with a corresponding seat for said wire or rod, a collar mounted revolubly on said spindle and provided with a lateral slot for the passage of the stationary wire or rod, and with a guide for the wire to be coiled about the aforesaid wire or rod, and manually operated mechanisms imparting rotary motion to said collar, as set forth.

2. The within described wire-tyer consisting of a tool-stock, a spindle rigidly attached to said tool-stock and provided with a seat for the stationary wire or rod, a sleeve mounted revolubly on said spindle and provided with a slot for the passage of the aforesaid wire or rod, a wire-carrying spool pivoted to said sleeve, a collar on the sleeve provided with a guide for the wire from the spool to the stationary wire or rod, and manually operated mechanism imparting rotary motion to said sleeve, as set forth.

3. A wire-tyer consisting of a tool-stock provided with a seat by which it rests on the stationary wire or rod, the spindle —*a*— rigidly secured to said tool-stock and provided with the groove —*d*—, the sleeve —*b*— journaled on said spindle and provided with the slot —*d'*—, the collar —*b'*— provided with the slot —*d''*— and eye —*f*—, the spool —C— pivoted to the sleeve, the pinion —*c*— fixed to the sleeve and provided with the slot —*d'''*—, the pinion —*g*— meshing with the aforesaid pinion, and a hand-crank imparting rotary motion to said pinions, as set forth.

4. A wire-tyer consisting of the tool-stock —A— provided with the slot —*e*—, the spindle —*a*— fixed to said tool-stock and provided with the groove —*d*— registering with the aforesaid slot, the sleeve —*b*— journaled on said spindle and provided with the slot —*d'*—, the collar —*b'*— provided with the slot —*d''*— and eye —*f*—, the spool —C— pivoted to the sleeve, the pinion —*c*— fixed to the sleeve and provided with the slot —*d'''*—, the shaft —*i*— journaled to the tool-stock, the pinion —*g*— fixed to said shaft and meshing with the pinion —*c*—, the sprocket-wheel —*h*— fixed to the same shaft, the sprocket-wheel —*l*— pivoted to the tool-stock, the sprocket-chain —*n*— connecting said sprocket-wheels, and the crank —D— attached to the sprocket-wheel —*l*—, substantially as set forth.

In testimony whereof I have hereunto signed my name this the 12th day of August, 1892.

JAMES R. KELLY. [L. S.]

Witnesses:
STEPHEN A. D. SMITH,
PETER P. KELLY.