(No Model.)

J. H. ROGERS.

WIRE SPACER AND TWISTER.

No. 529,807. Patented Nov. 27, 1894.

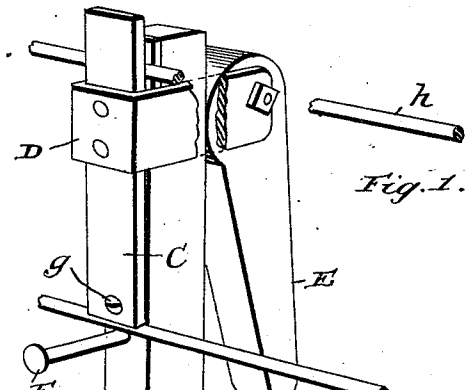


Fig. 1.

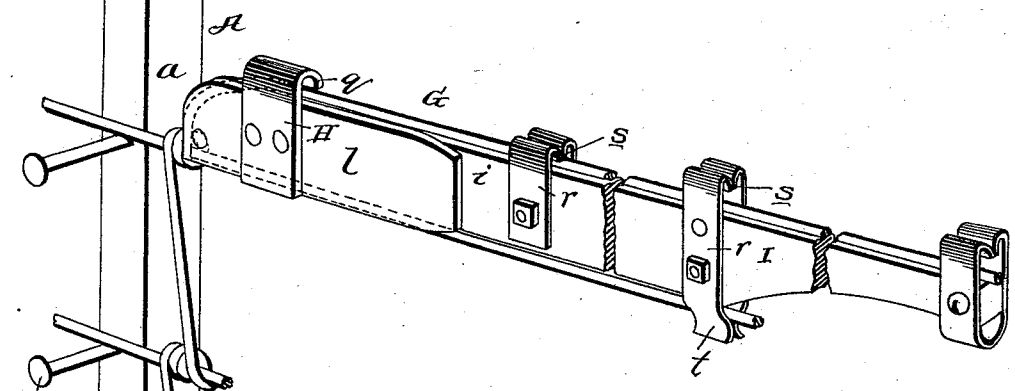


Fig. 2.

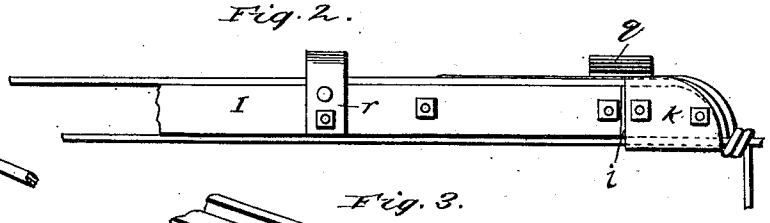
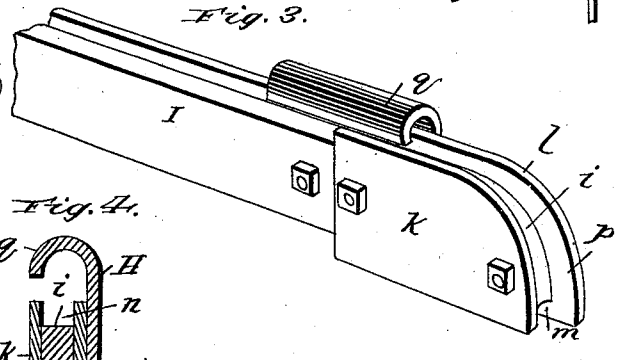


Fig. 3.



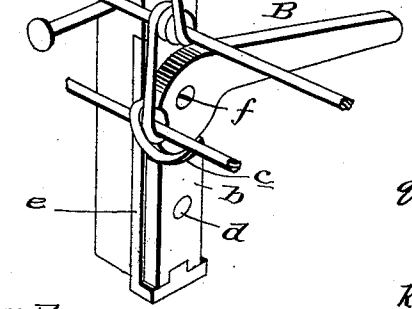
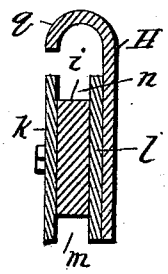


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN H. ROGERS, OF FAIRLAND, MICHIGAN.

WIRE SPACER AND TWISTER.

SPECIFICATION forming part of Letters Patent No. 529,807, dated November 27, 1894.

Application filed March 14, 1894. Serial No. 503,619. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. ROGERS, a citizen of the United States, residing at Fairland, in the county of Berrien and State of Michigan, have invented certain new and useful Improvements in Wire Twisters and Spacers; 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.

This invention has relation to improvements in devices for applying the cross wires or stay wires to the horizontal wires or runners of a wire fence, and it has for its prime object to provide at a comparatively small expense, an effective implement by which the stay wires can be twisted around the runners a suitable number of times; the stay wire being held in a position parallel with the runners, and the implement clamped or held upon the runners during operation.

A further object of the invention is to provide a spacing device by which the runners or horizontal wires may be held at a pre-determined distance apart, while the stays or cross wires are being applied thereto.

Other objects and advantages will appear from the following description and claims when taken in connection with the annexed drawings, in which—

Figure 1, is a perspective view of my improved spacing device and twisting device, with parts broken away, and illustrating the same in an operative position in connection with a part of a wire fence. Fig. 2, is a side view of the twister partly broken away, illustrating a stay wire and a runner or horizontal wire in position therein. Fig. 3, is an enlarged perspective view of the twister with the handle portion or arm partly broken away; and Fig. 4, is a cross sectional view of the head of the twister.

Referring by letter to said drawings:—A, indicates the spacing device. This spacing device comprises a bar *a*, of wood or other suitable material, and as here illustrated, of a rectangular form in cross section, although it may be of any suitable shape, and is of a suitable length and width; being greater in length than the height of the fence to be operated upon. This spacer is provided at its lower end on one side with a bearing to seat one end of the cross or stay wire. This bearing may comprise a plate *b*, having a curvilinear seat *c*, to receive the wire, and is secured to the bar *a*, by means of a bolt *d*, or otherwise. A plate *e*, may be interposed between the bearing plate *b*, and the bar *a*, and may extend above the curvilinear seat, as shown, so as to furnish a bearing for a cam or eccentric lever B, which is pivoted by a bolt *f*, or the like. This hand lever has its cam or eccentric portion, arranged so as to co-operate with the curvilinear bearing *c*, in holding or confining one end of the stay wire to be operated upon.

I would have it understood that I do not wish to limit myself to the particular construction of bearing or clamping device, which I have here specifically described, as I am aware that many changes can be made to serve equally as good purpose.

C, indicates a metallic plate, which is secured to one side of the bar at its upper end and in a position relatively at right angles to the clamp, before described. This plate C, is loosely connected by means of a bolt *g*, near its lower end so as to allow the upper and opposite end an inward and outward play. At a suitable distance from the upper end of said plate, is a yoke or frame D, which straddles the bar *a*, and has journaled in the free end of its branches a cam lever E, the cam or swell of which is designed to engage the opposite side of the bar *a*. This clamp, which is held to the upper portion of the bar, as described, is designed to confine the upper wire *h*, against the bar *a*, and the plate C, of the clamp is designed to bear against the adjacent top of the fence, as shown.

F, indicates pins, which are arranged in the bar *a*, at points to serve as stops for each runner, and they may be arranged at such distances apart as may be found necessary according to the number of or space between the runners.

G, indicates the twister. This twister comprises the head composed of a central plate *i*, preferably composed of steel, and two outer plates *k*, and *l*, arranged one on each side of the central plate and secured together by bolts and nuts or other suitable fastening devices.

The plates *k*, and *l*, are curved or rounded at their outer ends on one edge, as shown, and the central plate is similarly curved. The center plate is of less width than the two outer plates, so as to form between them, a groove or passage *m*, for the runners or horizontal wires, and a groove or passage *n*, for the stay wires. The outer end of the plate *l*, is carried sufficiently beyond the intermediate plate, and the outer plate *k*, to form a lip or flange *p*. This lip or flange *p*, is designed and adapted to bear against the stay wire as better shown in Fig. 1, so as to coil the said wire around the runner when the twister is turned upon the same.

H, indicates a guard. This guard which is of a hooked shape is suitably secured to the outer side of the plate *l*, and has its hooked or curved portion *q*, overlapping the respective plates at one of their longitudinal edges. The plate *l*, is sufficiently long for the attachment of a bar or handle I, which may be composed of strong wood, or other suitable material. This bar or handle is provided with a suitable number of clamps or guides for holding the stay wires in proper position and for also holding the twister upon the runners. It will be observed that the plate *l*, is also of greater width than the bar or handle so as to furnish a bearing for the respective wires. In the present illustration I have shown these guides on the handle as composed of two flat strips of spring steel or the like, and said strips *r*, are secured one to each side of the handle, and their ends extended and curved over one of the longitudinal edges of said handle, and they may slightly touch each other as shown at *s*, so as to permit the stay wire to be sprung between them and allowed to draw from under them during the operation of twisting. The opposite ends of these spring strips may extend beyond the opposite longitudinal edge of the bar or handle, and be curved outwardly, as shown at *t*, so as to furnish a spring clamp and guide for the runners, as better shown in Fig. 1, of the drawings, or the clamps may be formed from a single piece, as illustrated on the end of the handle, and made with a loop below the lower longitudinal edge. In operation, the spacer is first clamped to the upper horizontal wire of the fence, by the manipulation of the lever E, and the other wires arranged each over its respective pin F, and the lower horizontal wire below the lower pin, next to the lower clamp. The stay wire which has been cut to the proper length, is then fastened in the lower clamp by the manipulation of the lever B, after which the free end of the stay wire, is passed through the clamps on the twister. The twister is placed on the horizontal wire in the position shown in Fig. 1, of the drawings, when the stay wire passing over the outer curved end of the intermediate plate of the twister head, and between the outer plates, by turning the twisting device around the runner, a suitable number of times, the stay wire will be firmly wrapped or twisted thereon, after which the twisting device can be lifted from the runner, but without removing the stay wire is lifted up to the next runner and placed thereon in a similar manner and the operation repeated, until the stay wire has been wrapped or twisted around every runner, beginning at the bottom and going upwardly.

With a device of this character, the stay wires can be very securely and quickly applied to the runners, with but little exertion and at a comparatively small expense, and I attach importance to the fact that there is nothing about the construction to get out of order. I am aware that many of the parts may be altered, by skilled mechanics, and I therefore do not wish to confine myself to the precise construction and combination of parts which I have very specifically described.

Having described my invention, what I claim is—

1. A spacer for the runners of wire fences, comprising an upright bar, having clamps at opposite ends to receive a runner, and a stay wire respectively and stops at intermediate points, substantially as specified.

2. A spacer for wire fences, comprising a bar or upright having clamps for a runner and stay wire respectively arranged at opposite ends of said bar and relatively at right angles to each other, substantially as specified.

3. A spacer for the runners of wire fences, comprising a bar having a clamp at its upper end, a series of stops arranged below said clamp at pre-determined intervals, and a clamping device at the lower end of the bar relatively at right angles to the upper clamp, substantially as specified.

4. An upright bar, having a clamp at its upper end adapted to engage a runner of a wire fence, and a clamp at its lower end adapted to receive and hold one end of a stay wire to be secured to the runners, substantially as specified.

5. A stay wire twister for wire fences comprising a bar or arm having a head provided with grooves or recesses in its opposite sides to receive a runner and a stay wire respectively, and adapted to twist the stay wire around the runner.

6. A device for applying stay wires to the runners of wire fences, comprising a bar or arm, having a grooved or recessed head to receive the stay wire and runner, respectively, and also having guide clamps to receive the respective wires on opposite sides of said arm, substantially as specified.

7. The arm carrying the twisting head comprising the intermediate plate, and the two outer plates arranged to form seats or receivers for the runners and stay wires, and one of the plates having a projecting lip or flange to hold the wire while being wrapped or twisted, substantially as specified.

8. The bar or handle I, having the intermediate plate *i*, the outer plate *k*, and the

opposite outer plate *l*, secured thereto so as to receive a runner and a stay wire respectively, and also having the guard H, and the guide clamps for the runner and stay wire, substantially as specified.

9. The combination of a stay wire twister having grooves or recesses for a stay wire on one side and a runner on the other and adapted to carry the stay wire in a position parallel with the runner, with a spacing device adapted to hold the lower end of a stay wire while the same is being applied, substantially as specified.

10. The combination of a spacer for the runners of wire fences comprising a bar having a clamp at its upper end, a series of stops arranged below said clamp at predetermined intervals, and a clamping device at the lower end of the bar to receive and hold one end of a stay wire, with a twisting device adapted to wind or twist the same around the runners while its lower end is held in or by the spacer, substantially as specified.

11. The combination of a twisting device adapted to wind or twist the stay wires of a wire fence around the horizontal wires or runners, with a spacing device having stops to hold the said runners at a predetermined distance apart, a device to engage with one or more of said runners, and a clamp to receive and hold the lower end of a stay wire while the same is being applied, substantially as specified.

12. The combination of a spacer for the runners of wire fences adapted to hold the same by means of stops at predetermined distances apart and to engage with one of said runners and also to receive and hold one end of a stay wire, with a twisting device adapted to wind or twist the same around the runners while its lower end is held in or by the spacer, substantially as specified.

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

JOHN H. ROGERS.

Witnesses:
L. J. MORGAN,
F. C. SMITH.